Digital business strategy

- The driver for change in internal and external business environment

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# Abstract

**Title**  
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**Keywords**  
Digital technologies, business strategies, IT strategies, digital business strategies, strategic alignment model and IT-business alignment (ITBA).

**Background**  
The effects resulting from a more intense use of digital technologies in companies is visible in the integration between business and IT strategies which creates an urge for digital business strategies to emerge.

**Thesis aim**  
The aim is to investigate the current state of digital business strategies which includes highlighting benefits and challenges. By doing that we also are aiming towards answering, in what way ITBA can be questioned due to DBS.

**Methodology**  
A qualitative research based on a multiple case study by conducting semi-structured interviews. All the selected case companies are using digital business strategies as a part of their internal and external business environment (IEBE). The respondents have a role in the chosen case companies of being responsible for the implementation and use of strategies, digital business strategies and digital technologies.

**Findings**  
This study identifies that there exits a linkage between business strategy and ITBA. The main finding about the current state of DBS involves both internal and external DBS activities. Further findings show that benefit of digital business strategy to be the opportunity to levering costumers and challenges to be connected to the different IT maturity levels of the employees. The way that digital business strategy can question ITBA is based on that it is the driver for change for the case companies.
Acknowledgement

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✓ A warm thank you, goes to all our classmates and teachers in SMIO without you all this would not be possible.

✓ We want to thank each other for contributing to this thesis, without the support from each other this would not be possible.

✓ We want to send our warmest gratitude to all the companies that has participated in this study.

✓ Finally, we must express our appreciation to our families for providing us with unfailing support and continuous encouragement throughout the two years of study and through the process of researching and writing this thesis.

Sumera Magsi

Sarah Shaaban

Linköping 14th of August 2019
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<th>Full Form</th>
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<tbody>
<tr>
<td>IEBE</td>
<td>Internal and external business environment</td>
</tr>
<tr>
<td>ITBA</td>
<td>IT- business alignment</td>
</tr>
<tr>
<td>IS</td>
<td>Information System</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>DBS</td>
<td>Digital Business Strategy</td>
</tr>
<tr>
<td>DT</td>
<td>Digital transformation</td>
</tr>
<tr>
<td>SAM</td>
<td>Strategic Alignment Model</td>
</tr>
<tr>
<td>IoT</td>
<td>Internet of Things</td>
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</table>
“You can’t stop the waves, but you can learn how to surf”

- John Kabat-Zi
1. Introduction

The first part of the chapter provides a brief background about digital technologies, ITBA and digital business strategy. Further, we describe the phenomenon of digital business strategies and its relevance. The second part presents the research problem & research questions of this study. The chapter will end by us presenting the outline of the thesis.

1.1 Background

People has been creating technologies for generations now, and by time those technologies are being modified and used to find solutions for problems all over the world. In almost every company digital technology have turned out to be crucial for business survival (Levin & Barnard, 2008; Mithas & Lucas, 2010). A business survival that has become dependent on information technology (IT) because of its impact on business strategies (Kahre, Hoffmann & Ahlemann, 2017). Mithas and Lucas (2010) adds that the use of IT have created opportunities for companies to improve their business models. Making use of IT opportunities and generate new improved business models has highlighted a need for a more effective technology management. Previous research has found that the focus on effective technology management have been on the integration in business through various departments and activities (Levin & Barnard, 2008). This integration between IT and business, commonly known as, IT-business alignment (ITBA) has been an important topic for researchers and practitioners for many decades (Yeow, Soh & Hansen, 2018). The importance of alignment of business and IT has been increased due to companies struggle for survival and their efforts to gain competitive advantage in diverse and changing marketplaces (Luftman & Brier, 1999). Henderson and Venkatraman (1999) identified a linkage between IT and business in 1989 and proposed a Strategic Alignment model (SAM), which has become a base for most of ITBA studies (Afandi, 2017). Kahre et al. (2017) declare that ITBA has been regarded, and look upon since the 1990s, as the most proper organizational frame related to business- and IT strategies. On the other hand, an important change has occurred to this organizational frame and according to Kahre et al. (2017) it involves digital technologies and its contribution to higher benefits regarding performance and competitiveness for companies. The excitement that digital technologies have triggered is a fusion of business – and IT strategies which has resulted in a new concept called digital business strategies (DBS). An emerged concept worth further attention due to that it exposes new challenges for both researches and practitioners in modern companies (Kahre et al., 2017).
1.2 The phenomenon of digital business strategies & its relevance

The fusion of DBS and IT-business strategies have detected digital technologies to be a key driver of modern business processes and are appreciating that IT is embedded in those processes that ultimately will form new business models (Peppard & Ward, 2016; Kahre et al., 2017). The phenomenon of DBS is derived from this acknowledgement and was first introduced in 2010 by Mithas and Lucas. The authors highlighted a need for modern companies to start question, manage and develop their digital resources. In this early stage of DBS there existed no clear definition about the concept, it was more like an extension of a traditional business strategy in a way that the only thing added was that it was involving leveraging digital resources and in turn create a new kind differentiated value for companies (Bharadwaj Sawy, Pavlou & Venkatraman, 2013).

The concept of DBS was further extended by Bharadwaj et al. (2013) where they mentioned that it is time to look beyond IT-business strategies and perceive them as a fusion that are depending on each other. The first clear definition and relevance of DBS was made by Holotiuk and Beimbron (2017), as an “emerging concept which is often a fusion of business and IT strategy and the integration of digital technologies in business strategy” (p. 991). DBS is described to be connected to how modern companies differentiate themselves regarding services, products and performances from other competitors in their marketplace (Wunderlish & Beck, 2018). A differential effort with the aim to gain value and have competitive advantage (ibid). That has increased the demand on management to take charge in the development activities needed to create an awareness of the external environment that will result in an internal insight how to be able to continue to succeed in business (Wunderlish & Beck, 2018). The current state of DBS is according to Wunderlish and Beck (2018) to function as a channel between the external and internal environment. Companies must thereby understand, manage and develop their ITBA and DBS which creates new kind of value (Gerow, Grover, Thatcher & Roth, 2014).

1.3 The starting point

We started the study by having the concepts of DBS and SAM in mind, based on a personal interest in them. We searched for literature by using databases such as; Microsoft Academia, Science Direct, EBSCO, ACM Digital Library, Associate for Information system, Google Scholar and Linköping University Library. The searched literature is mostly from academic journals, conference papers and e-books. Conference papers were mostly used based on the motivation that they are more visible online and relevant with latest updates when it comes to our emerging topic of DBS. Key words used: digital technologies, business strategies, IT strategies, digital business strategy, digital business strategies, strategic alignment model and strategic ITBA. The data found and used were published between 1989 and 2018.
Our first step was to search and present previous studies regarding DBS. Due to DBS being a relatively new concept our belief was therefore that it would be an easy task. After a first search on Google Scholar we realized that we had to narrow it down. A decision was therefore made, to only look at the most cited studies within a timeframe from 2010 when the concept was first mentioned until 2018 (see section 2.1). It was in this stage of going through previous research that we decided to do an historical literature review on the concept on DBS. The meaning of conducting a historical literature review is that it can focus on a specific topic, DBS, throughout a chosen timeframe by starting from the time when the topic emerged the first time.

The second and last step for us in the literature review was to show if SAM had been used as an assessment tool in studies investigating DBS. The reason to only look for studies having the connection between DBS and SAM, was because SAM is an ITBA model that have been used for three decades by researchers. The aim we had with this-two step literature was to find a relevant research gap that would result in a topic and research questions for this study.

1.4 Introducing the research problem

The motive behind this thesis is based on two purposes, which are connected to each other. The first purpose came from reviewing literature connected to the concept of DBS. We noticed that the majority of the previous studies have had their focus on the positive outcomes of using DBS, we therefore saw a lack of studies about what kind of challenges that can come from implementing and using DBS. From the lack of studies made on the challenges of DBS, we drew the parallel that the focus in the positive outcomes had created a misleading current state about the internal and external business environment (IEBE) in companies which needs to be addressed. When we looked at different models to use to assess the DBS, we first looked if we could use any DBS model. Due, to that the DBS is still relatively new as a concept we felt it would be more appropriate to use a model that has been used frequently as an assessment tool in ITBA studies and we found the strategic alignment model (SAM). SAM will be described further in the theoretical framework (see chapter 3).

The second purpose came from reading previous literature about SAM where we noticed that there only had been one previous study conducted were SAM is used as an assessment tool when it comes to investigating the concept of DBS. With the use of SAM in this study we aim to assess the current state of DBS by evaluating the actual IEBE in the case companies which also creates an opportunity for us to question ITBA due to DBS. Based on these two purposes we hereby present the following research questions:

- What is the current state of DBS?
- What are the potential benefits and challenges of DBS?
- In what way can ITBA be questioned due to DBS?
1.5 Thesis scope

The empirical part of this thesis has had its attention on the six participating case companies chosen from different kinds of industries with the criteria to be semi-digital or fully digital companies. To answer the research questions, we conducted semi-structured interviews with one or two respondents, representing the top management furthermore also the whole company, with the authority of implementing, maintaining or controlling the digital actions in the company. We conducted the empirical investigation in several companies with the intention to reveal findings that would be based on a broader spectrum regarding the concept of DBS. The empirical investigation was carried out through a comparative research approach conducted with an interview guide based on questions connected to the concept of DBS but also questions based on SAM, as an assessment tool. The coding of data had a thematic analysis approach. The analysis focused on similarities and differences between the case companies which created the foundation for doing the discussions and conclusions.

1.6 Contributions to the field

1.6.1 Theoretical contribution

The phenomenon of DBS is quite new and emerging but relevant in this digital economic era (Kahre et al., 2017). However, the interest in ITBA and strategic alignment models are not new. The emerge of digital technologies and DBS has change the IEBE which has become a challenge for companies to balance in order to successes. This study aims to contribute to the field of strategic alignment and DBS with new knowledge in how companies currently are working with the balance of business strategies, IT strategies and DBS in their IEBE. A contribution that may create opportunities for new business models and processes to arise.

1.6.2 For the participating case companies

For our six-participating case companies the study can contribute towards creating insights about how they work with their IT- business strategies when including digital technologies and DBS, in their IEBE. This study may result in a new awareness about the implementation and use of business strategies, IT strategies and DBS which may provide the case companies with new significance knowledge how, fully and semi-digital companies, can proceed in creating new business models and processes with the intent to gain competitive advantage.
## 1.7 Thesis outline

<table>
<thead>
<tr>
<th>Thesis chapter</th>
<th>Chapter description</th>
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<tbody>
<tr>
<td><strong>1. Introduction</strong></td>
<td>This first part of the chapter has provided the reader with a brief background about the topic of interest, DBS and ITBA. Thereafter we described DBS by enhancing its relevance. During the second part the research problem, research questions, research scope and contributions were presented.</td>
</tr>
<tr>
<td><strong>2. Literature review</strong></td>
<td>Presents what has been done in previous research regarding DBS. Moreover, also if there has been any research conducted about DBS with the use of SAM. With the aim of creating an understanding of what has been missed and are still in need of further investigation. Additionally, it gives this study a base which support the research gap, questions and findings.</td>
</tr>
<tr>
<td><strong>3. Theoretical framework</strong></td>
<td>The chapter of theoretical framework is highlighting the relevant theories used in the study. Theories such as: digital technologies, DBS, SAM and ITBA. In the end of this chapter, we tie all the theories together with a theoretical model that explain the connection between the chosen theories and research questions.</td>
</tr>
<tr>
<td><strong>4. Methodology</strong></td>
<td>Will start by describing the empirical data collection method of this study. It will thereafter be followed by the research design. A description on how we conducted and analyzed the empirical data collected will be presented. In the end, a reflection is made over reliability and validity and ethical considerations of this study.</td>
</tr>
<tr>
<td><strong>5. Empirics</strong></td>
<td>Will present the empirical findings of this study based on the answers received from the interviews.</td>
</tr>
<tr>
<td><strong>6. Analysis &amp; Discussion</strong></td>
<td>Will analyze and discuss the empirics in relation to the theoretical framework of this study, with the purpose to find answer to our research questions.</td>
</tr>
<tr>
<td><strong>7. Conclusions &amp; Future research suggestions</strong></td>
<td>The aim with this last chapter is to answer our research questions. Further also to mention what kind of limitations we encountered during the way. Future research suggestions will thereafter be presented.</td>
</tr>
</tbody>
</table>

Table 1. Thesis outline.
2. Literature review

This chapter gives a deeper insight to our literature review search which lead us to find the research gap and questions by reviewing and presenting facts about previous research regarding what others have done that are of relevance in our chosen research area of DBS. Furthermore, also to use the data found to create a solid theoretical framework. A solid theoretical framework that after the empirical investigation would make the analysis and discussion of findings worthwhile.

2.1 Previous DBS studies

We hereby present an historical literature review on the concept on DBS.

2010
The concept of DBS was first introduced by Mithas and Lucas (2010) in a short article called “what is your digital business strategy”. They proclaimed that a new challenge for companies was to evaluate how digital resources would create new opportunities but also threats on company business models. Their motivation behind this new challenge risen was because, at that time, a reality for companies was to have focus on return of IT investments instead of questioning themselves in what way to use IT as an asset, strategically to enable new competencies or as a step towards maintaining competitive advantage. A challenge consisting of the senior manager’s role to define company digital business strategies (DBS). Moreover, the new way of using IT demanded, according to Mithas and Lucas (2010), of senior management to develop and implement digital business strategies (DBS) in order to have a chance to benefit from IT investments. The focus on DBS were on, how to synchronize IT and business, Govern IT effectively and how to manage IT with discipline. For the future, they claimed that management needed to be aware of the responsibility of IT and strategic decision made by an individual possessing the skill of IT.

2013
Further, the concept of DBS was elaborated by Bharadwaj et al. (2013) where they described that IT strategy previously was seen as a subordinate strategy to business that created alignment between both strategies, whereas today many companies which are using the digital technologies are transforming their business strategies, processes, products, services and organizations capabilities (Bharadwaj et al., 2013). They argued that it is time to rethink IT strategy and business strategy as a fusion that are depending on each other, because it is this fusion that creates DBS. Further, they identify four different themes that can guide the future of DBS. Four themes of the DBS that provides insight for the next generation are scope, scale, speed and value creation. Their intention with building the DBS framework was based on their vision that DBS is not tangled with business strategies, because DBS would be the business strategy. That vision is ahead but the current state of DBS is according to Bharadwaj et al. (2013) only in its initial stage and therefore there exists a need for researchers to investigate what kind of impacts DBS has for companies.
The next research of interest was by Kahre et al. (2017), where they linked DBS with the ITB. In their paper “beyond business-IT alignment- digital business strategies as a paradigmatic shift”, they recognized that ITBA has been an organizational frame appropriate since the 1990s. They proclaimed that the concept of DBS has risen due to the importance of digital technologies for company performance and competitiveness. DBS has therefore created a need for both researchers and practitioners, to further understand the concept. Additionally, they state that DBS should be seen as a new competitive strategy, where the boundaries between business and IT strategies should not exist, it should be based on that both business and IT, are mutual drivers for change and value creation that results in competitive advantage. The aim with their research is to create an understanding about what kind of current DBS knowledge exits. To be able to study the current state of DBS and reveal the knowledge base they look at previous research done about DBS in order to uncover gaps that will reveal what still can be of interest for future research. Based on this research approach they identified a number of future research areas connected to DBS that are in need of further investigation. The main DBS gap found where that it still exists lack regarding research connected to the new strategizing processes. Strategizing processes due to DBS where the effects of internal and external environmental factors in companies needs to be brought to light.

Next research of interest is by Holotiuk and Beimborn (2017), were the digital evolution is mentioned to have an impact on companies’ strategy development. They also, like Kahre et al. (2017), state that the alignment of business and IT but also DBS to be the foundation that creates new opportunities for companies to build up digital business models. The background behind that statement comes from their opinion that DBS is a concept that can be used to explain the merge of business and IT strategy in companies but also how to add digital technologies to business strategy. The aim by merging business strategies, IT strategies and DBS are to focus on levering internal actions within the company rather than having focus on external actions. Based on this background and statement by Holotiuk and Beimborn (2017) they proclaim that previous research still has gaps that needs further investigation. The first one is about the development of DBS and how it opens up for new digital business models are still insufficient. Further, the way companies implement and use DBS is also inadequate. The need for this kind of research are pressing because companies are trying to survive in a time where digital technologies are affecting both IEBE. That creates a demand for the companies to develop digital capabilities. The merge of business strategies, IT strategies and DBS, is the new way for companies to be able to deliver competitive advantage, but that implies that companies must see past the traditional view of ITBA. This is an area of interest for future research because there exists a lack of research about the new way for companies to combine business strategies, IT-strategies and DBS. The research that Holotiuk and Beimborn (2017) investigated was about critical success factors of DBS which resulted in a DBS framework. The framework is showing 8 generic dimensions consisting 40 success factors for DBS. The result of their study shows that by using DBS to build new digital business models in companies can increase revenues, cost efficiency and capital productivity.
The last research that got our attention is written by Wunderlich and Beck (2018). The authors demonstrate that digital eco-system rapidly changes environmental settings including IT and business strategy and ultimately organizational structures. The research they conducted was linked with the concept of DBS which leads to organizational innovativeness and firm performance. The IT capabilities contributes to innovativeness and encourages the role of CIO in enabling business innovation. The outcome of the research reveals that innovation in companies to be boosted by employees having knowledge of IT and having DBS as important strategy. Furthermore, they also identified, regarding top management, that IT knowledge plays an important part when DBS is not prioritized. The future research purposed by the authors are about acknowledging the role of CIO and the increased influence of CIO on information technology in the setting of DBS.

Table 2 below shows a summary over what is still is missing regarding research based on the above historical literature review on the concept of DBS.

<table>
<thead>
<tr>
<th>DBS studies</th>
<th>What is still missing regarding research</th>
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<tbody>
<tr>
<td>Mithas &amp; Lucas (2010)</td>
<td>They propose for the future that management need to take more responsibility regarding business and IT which demands of individuals to possess IT skills needed to create this awareness throughout the company.</td>
</tr>
<tr>
<td>Bharadwaj et al. (2013)</td>
<td>They highlight that future researchers need to investigate their four themes presented, in order to recall what kind of impact DBS can have for companies.</td>
</tr>
<tr>
<td>Kahre et al. (2017)</td>
<td>New strategizing processes due to DBS. Where factors such as internal and external environmental factors effected by DBS are of interest.</td>
</tr>
<tr>
<td>Holotiuk &amp; Beimborn (2017)</td>
<td>The authors mention that there exists a lack of knowledge about how companies implement and use DBS. That reveals that the development of DBS has been neglected in a sense where the current state of DBS is unclear which is shown in the insufficient knowledge about digital business models.</td>
</tr>
<tr>
<td>Wunderlich &amp; Beck (2018)</td>
<td>The authors refer that role of CIO can be further investigated in order to see the influence of top management in the setting of DBS.</td>
</tr>
</tbody>
</table>

Table 2. Overview of what’s missing in research.
2.2 Studies conducted on DBS by using SAM as an assessment tool

*When searching for previous studies that focuses on the concept of DBS by using SAM as an assessment tool, we found only 1 study that had been conducted 2017 and it was a master thesis by Karlsson and Wåhlin (2017).*

2.2.1 Karlsson and Wåhlin (2017)

In their background, they specify that digitalization and its effect in the use of digital technologies are affecting companies work environment and change are needed to stay competitive in the market, adaptation is therefore something important. Karlsson and Wåhlin (2017) therefore proclaim that both small to medium sized enterprises (SMEs) and the industry of their interest, the manufacturing industry, are not up to date with this adaptation compare to bigger companies and industries.

The study was performed in six different SMEs in the manufacturing industry with the criteria that they needed to be affected by digital technologies. The purpose of the study was to investigate digital business strategies (DBS) in the case companies and to see if DBS was aligned with the overall business strategies. The study was conducted through a qualitative strategy by doing interviews with key executives in these case companies.

The main result of their study showed that the case companies were deficient in their use of digital strategies (DBS) and also that their strategic alignment was low. The result was based on their use of different theoretical models such as SAM and Strategic maturity model. Even do they had deficient DBS and low strategic alignment other results of the study shows that the case companies used digital technologies as a tool in their work environment and to achieve different goals.

Due to that this is the only study that we have found that are using the concept of DBS and SAM made it important for us to see, in what way and what kind of obstacles, occurred during the study based on the authors own reflections of what was good and bad. Karlsson and Wåhlin (2017) wrote that the use of SAM enabled them answers that was directed towards their second purpose of their study, the alignment between different strategies. Furthermore, they reveal that the motive behind using SAM was based on their intention to see the usefulness of SAM in the chosen context. Different weaknesses or issues that they found with using SAM as a model to assess were that the purpose with SAM is originally meant for use of assess alignment concerning IT strategy and business strategy not digital strategy. That created a problem in their study because the chosen case companies did not work accordingly to what SAM proposed theoretically to assess which made it hard for Karlsson and Wåhlin (2017) to use SAM.

When it comes to future research topics, Karlsson and Wåhlin (2017), suggest that there is a need for a similar investigation like they did, but under different criteria. First criteria are that
it would be better to investigate several larger companies. Second criteria, to interview executives direct responsible for digital strategies and business strategies. Moreover, also interview other respondents in the companies to get a broader perspective. They also suggest that investigate different industries can be of interest. Lastly, they show an interest of a qualitative and a quantitative study to be conducted.

Karlsson and Wåhlin (2017) also recommend that future studies need to focus on doing a revised SAM model that can be applicable on smaller companies when it comes to investigating digital strategies. To be able to accomplish that, an important driver is to investigate what defines a digital strategy in reality, in what shape they exist in the companies but also how to measure and analyze them.

To conclude and create an insight about what this literature review has exposed regarding research gaps and what is still lacking regarding both DBS and DBS & SAM, will be presented below.

2.3 The findings of the literature review

From above studies, we have identified that there are only a few studies which have investigated DBS and the linkage to ITBA. It is shown from previous research that there has been more focus on studies that show the benefits of DBS. This implies that challenges regarding DBS in companies is neglected, which shows a misleading IEBE. This demands for more investigation about the current state of DBS in companies. Furthermore, the assessment tools used in DBS research are not fully developed and tested, contrary to the mature ITBA studies were there exists several models to use as an assessment tool. By reading about these models, we found that SAM is the most used assessment tool in the field of ITBA and found it interesting to use SAM to investigate DBS for our study. What we found by doing a connection between DBS and SAM, in this literature review, that only one previous study has been conducted with SAM in assessing DBS. These literature review findings create our base which we build our research gap, research questions and theoretical framework on.
3. Theoretical framework

The chapter provides the theoretical foundation for our research and research questions. It is divided into two sections. In first part, we explain digital technologies and the new emerging concept of digital business strategy. Whereas, in the second part we describe the ITBA and the chosen strategic alignment model. In the last part of the chapter we describe the relevance of the chosen theories and connect them to the research purposes and questions.

3.1 Digital Technologies

The notion of digitalization has been recognized as one of the more important trends, which is changing both society and business (Parviainen, Kääriäinen, Tihinen & Teppola, 2017). The term ‘digitalization’ in business context means to “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” (Gartner, 2015). Urbach, Ahlemann, Böhmann, Drews, Brenner, Schaudel and Schutte (2018) define digital technologies as innovative technologies which includes social media, cloud computing, internet of things and much more. Digital technologies create different approaches for companies to influence customers, to improve processes and create new ecosystems and networks (Murawski, Martensen, Bühler, Rademacher & Bick, 2018). Digital technologies create the digital innovations that includes the development and implementation of digital solutions based on digital and physical components and can also create business processes, market offerings and business models (Wiesboeck, 2018).

Further, Urbach et al. (2018) state that to be successful in the dynamic increasing competitive world, companies must recognize and unfold the importance and potential of digital technologies in their business strategies. Woodard, Ramasubbu, Tschang & Sambamurthy (2013) state that IS scholars need to have a new strategic framework that will embrace the capabilities of digital technology which are entrenched into products to increase competitive advantages. Moreover, digital technologies have become more influential which urges companies to move towards digital business strategies (Liferay, 2019). Furthermore, over the past decade’s advances in digital technologies and the way that they are being infused with businesses, products, customer services and processes are challenging the implication of business strategy (Woodard et al., 2013).

To explore digital technologies and reap benefits from them, almost every company is therefore conducting some kinds of initiatives which involves transformations of main business operations, strategies, processes and organizational structures (Matt, Hess & Benlian, 2015; Reis, Amorim, Melão & Matos, 2018). The companies make the transitions from the current state towards the future state by planning and implementing the digital change (Schwertner, 2017). Every company view digital transformation differently based on what type of business
they have (Schwertner, 2017). The use of these digital technologies effect three organizational
dimension: externally, emphasis on the creating digital experience with customers; internally,
impacting firms’ organizational structure, business operations and decision making and lastly
holistically, effecting overall business functions, such as leading to new models and strategies
(Ismail, Khater & Zaki, 2017). Digital transformation has created the crucial strategic
importance, (Henriette et al., 2016). A clear strategy for executing and exploiting digital
technologies is important for the success of future business (Hess, Matt, Benliam & Wiesböck,
2016).

Additionally, digital transformation strategies are seeking to coordinate among different
business activities and should be aligned with other business strategies (Matt et al., 2015). Matt
et al. (2015) argue that it is difficult to gain close fit between digital transformation strategies,
IT strategies and other functional and organizational strategies. Bharadwaj et al. (2013)
proposes a comprehensive solution in form of “digital business strategy”, which mainly
discusses the possibilities and effects of digital technologies for companies. Thus, digital
business strategy frequently discusses the “desired future business opportunities and strategies
for firms that are partly or fully-based on digital technologies” (Matt et al., 2015, p. 340).
Digital platforms are developing the new cross-boundary business interruptions, which needs
new kind of business strategies (Bharadwaj et al., 2013). Moreover, digital technologies are
redesigning the old strategy for IT and assimilates into IT and business strategy, which has
given rise to new concept of DBS (Kahre et al., 2017).

3.2 Digital business strategy

Business strategy and IT strategy have always been recognized as important strategies within
companies, however, due to digital technologies the role of traditional business and IT strategies
are changing and are becoming more cross-functional, modular and disseminated (Bharadwaj
et al., 2013). Thus, the traditional role of IT-business strategy has merged with the new concept
of digital business strategy which according to Mithas, Tafti & Mitchell (2013) is the degree to
which companies conduct IT related activities. The digital business strategy is considered as
business strategy which is articulated and implemented by leveraging digital resources to gain
differential value (Bharadwaj et al., 2013). Furthermore, to achieve competitive advantage,
DBS creates dynamic synchronization between IT and business (Mithas et al., 2013).

DBS assimilates the entire business eco-system including the corporate and IT strategies
(Bharadwaj et al., 2013). The differences between traditional IT strategy and DBS is that it
serves as cross-functional strategy and it surpasses old functional areas and IT enabled business
processes (ibid). The trans-functional role of DBS helps functional and process strategies to
pass under DBS with the connecting node of digital resources (Bharadwaj et al., 2013). Further,
DBS are gaining rich information via the digital platforms within and outside the company
which allow multi-functional strategies and processes to be linked with IT capabilities (ibid).
Furthermore, the key drivers that Bharadwaj et al. (2013) defines as, the external digital trend, includes digital technologies, development of cloud computing, advent of big data, and global supply chain. Due, to growing number of companies using digital infrastructures, DBS has therefore become important and it has opened the practical as well as theoretical opportunities in IT and business sector (Wunderlich & Beck, 2018). The four key themes which assisted as the framework for DBS include scope, scale, speed and value creation and capture were introduced by Bharadwaj et al. (2013).

3.3 The framework of DBS

With the intent to create an awareness in companies about DBS, Bharadwaj et al. (2013) developed a framework for DBS based on four themes: Scope, scale, speed and value creation.

Scope of DBS: Is defined by the products, services and activities that the company makes to improve their performance and revenues. That implies that the scope of DBS to be based on the companies use of digital technologies which impacts the business scope. The meaning behind having an understanding about the scope of DBS are about its connection to IT infrastructure and the external environment with the aim for companies to improve their efficiency in different kind of settings. According to Bharadwaj et al. (2013) the scope of DBS raises questions related to how, when and why digital technologies have an impact on DBS.

Scale of DBS: The difference today is not to look to scale of business as a physical factor, the emerged need is to look at scale has something both physical and digital that has been risen due to the effect of digital technologies. Bharadwaj et al. (2013) reveals that when these digital products and services becomes more interconnected, a vital part of the value creation of the companies are becoming more depended on alliances and partnerships. In future, this new way of scaling and DBS will depend on how this companies are developing the new strategic dynamic capabilities needed to be able to change continuously. The way for companies to further develop is to make use of their digital assets but also to start evaluating them to get an understanding about where it can take them regarding their business processes.

Speed of DBS: Based on above interconnectivity between companies raises the time aspect for companies. A time aspect that are becoming crucial in creating competitive advantage and DBS are increasing the speed of product launches (Bharadwaj et al., 2013). The company ability is therefore to identify and respond to the fast-changing pace of technology and innovations which are fundamental to create competitive advantage and survival for digital businesses (Bharadwaj et al., 2013). To have speed as a company and by having products or services that are multi-layered increases their chances to achieve their goals. Bharadwaj et al. (2013) state that value is not only derived when companies invest in new digital technology, value are also derived based on how companies are accessing and using data and information on which they base their decisions on. One speed driver that has become vital and crucial for companies according to Bharadwaj et al. (2013) is to work with cloud.
Value creation of DBS: When it comes to value creation the challenge for companies is about leveraging their tangible resources. The use of DBS adds additional value for companies if it is used correctly in a way that it improves products and services which also will result in better performance and profit for companies. DBS has accordingly to Bharadwaj et al. (2013) opened for a power shift that allows companies to look past their old sources of gaining profit towards involving new sources which captures and creates value for the companies. For companies to be successful demands for an awareness about what digital technologies and DBS can alter but that involves a complex and dynamic coordination of internal and external environments. The aspect of IEBE will further be extended below regarding benefits and challenges of DBS.

3.4 Benefits & challenges of DBS

DBS has merged with business strategies and IT strategies, and it has been highlighted that companies now need to figure out how they work and perceive their physical products and services further also where the digital fits in to this equation of business environments (Holotuik & Breimborn, 2017). The challenge that has risen for companies according to Holotuik and Breimborn (2017) is to find a balance related to their IEBE based on their tangible and intangible resources. If companies find a suitable balance between the IEBE, contributes towards turning a challenge into a benefit (ibid). An IEBE that is enclosed around companies’ ability to respond to customer demand and experiences but also how they respond to their internal constraints (ibid). This is a balance that are unique for all companies which demands integration and presence in both physical and digital channels (ibid). Moreover, it requires strategic dynamic capabilities within the companies in order to survive in rapid changes of a digital era (Holotuik & Breimborn, 2017; Bharadwaj et al., 2013; Luftman, 2000). The challenge is therefore for companies in their use of different channels to create fast feedback loops that can create opportunities for improvements but this is a constant ongoing activity for companies that can be looked at as an iterative process to be able to determine actions that can lead to success (ibid). One way of connecting IEBE’s today involves alliances and partnerships. The topic of alliances and partnership has already been mentioned above in the theme of scale by Bharadwaj et al. (2013). By evaluating the topic further and looking at both challenges and benefits it is shown that the most challenging for companies is to work over different kind of boundaries (Bharadwaj et al., 2013; Luftman, 2000) but the benefit is that this new way of doing business makes companies connected through a digital business ecosystem. An ecosystem that also are benefiting with raising companies’ knowledge base which may result in new learning and innovations that they can use to gain competitive advantage (Bharadwaj et al., 2013).

In our empirical investigation, we have chosen to use SAM as an assessment tool to investigate DBS and therefore we will continue this theoretical framework by describing SAM which are built on the concept of ITBA. Therefore, we will start by briefly explaining ITBA and thereafter SAM. We will in the end explain and how we look at the connection between all the theories mentioned in this chapter.
3.5 Strategic Alignment Model

To understand SAM proposed by Henderson and Venkatraman (1989), it is important to clear the concept of ITBA. ITBA is described by Charoensuk, DoBa and Wongsurawat (2014) as implementing information technology with business strategies in timely and appropriate way. ITBA is seen as a linkage among IT and business in order to meet the IT plan, mission, objectives along with the business objectives, plans and missions (Charoenul et al., 2014). Furthermore, Attaran (2003) define IT as “capabilities offered to organizations by computers, software applications, and telecommunications to deliver data, information and knowledge to individuals and processes” (p. 442). Thus, ITBA focuses on the aligning business strategies with IT strategies (Charoenul et al., 2014). Furthermore, IT researchers have examined the alignment between four IT and business components namely, business strategy, IT strategy, business infrastructure and processes and IT infrastructure and processes (Gerow et al., 2014). In order to assess the alignment between these four components, a model was created in 1989 by Henderson and Venkatraman.

![Diagram](image)

Figure 1. *The strategic alignment model* (Henderson & Venkatraman, 1989, p.14).

The authors developed SAM based on two fundamental dimensions - Strategic fit and functional integration (Henderson & Venkatraman, 1989). **The Strategic fit** involves the integration of strategy formulation and implementation. It is also relating the alignment among
external (marketplace) and internal (organization) domains. Further, strategy is a combination of external and internal planning (ibid). IT strategy is corresponding to business strategy in external domain which defines the position of the company in IT marketplace (ibid). Similarly, I/S infrastructure and processes are equivalent to company infrastructure and processes as they are defined in internal domain (ibid). More precisely, how IT functionality shape and support business strategy, as IT is always viewed as an important source of creating strategic advantage for companies (Henderson & Venkatraman, 1999). **Functional integration** is developed based on information system that emphasizes on IT management integration with other management functional areas (Henderson & Venkatraman, 1989). IT is relating integration among business and IT domains. This is dependable with the current trend towards the integration of different functions to accomplish competitive advantage (Henderson & Venkatraman, 1989). In order to fit the model in both domains, cross-domain relationship must be created (Henderson & Venkatraman, 1999). **Cross-Domain integration** is linking the relationships among domains that stay along the two diagonals of a matrix implied by the two dimensions mentioned above (Henderson & Venkatraman, 1989). These two dimensions are being represented by four strategic perspectives which are the base for SAM (see table 3 below). These four perspectives are: Business strategy, Information Technology Strategy, Organizational Infrastructure & Processes and Information System Infrastructure & Processes. Furthermore, to be able to use SAM as an assessment tool, each of the four perspectives consist of three components (in total twelve components) which further elaborates ITBA (Luftman, 2003). The four perspectives of SAM by Henderson & Venkatraman (1989), and the twelve components by Luftman (2003) is described below in detail.

<table>
<thead>
<tr>
<th>The four perspectives of SAM</th>
<th>The twelve components of ITBA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Strategy</strong></td>
<td><strong>Business Scope</strong> - Includes the markets, products, services, groups of customers/clients, and locations where a company competes as well as the competitors and potential competitors that affect the business environment.</td>
</tr>
<tr>
<td>Is referred to “choices pertaining to the positioning of the business in the product-market arena” (Henderson &amp; Venkatraman, 1989, p. 9). Business strategy is set by looking at three other factors. Business scope deals with the choices of product and market and certain orientations to participate in the chosen market (Henderson &amp; Venkatraman, 1989). Further, orientation strategy has two attributes, distinctive competences and governance structure. Distinctive competences are attributes that are distinctive over other competitors in terms of product-market whereas, governance structure includes articulating of collaborative system to gain competitive advantage (Henderson &amp; Venkatraman, 1989).</td>
<td><strong>Distinctive Competencies</strong> - The critical success factors and core competencies that provide a firm with a potential competitive edge. This includes brand, services, research, manufacturing and product development, cost &amp; pricing structure, sales and distribution channels.</td>
</tr>
<tr>
<td><strong>Business Governance</strong></td>
<td><strong>Business Governance</strong> - How companies set the roles and relationship between management, stockholders, and the board of directors. Also included are how the company is affected by government regulations and how the firm manages its relationships and alliances with strategic partners.</td>
</tr>
</tbody>
</table>
Organization Infrastructure & Processes
Is referred to choices to certain internal arrangements that backup organization’s selected position in the product-market ground (Henderson & Venkatraman, 1989). The three components of this domain are administrative infrastructure that defines the roles and responsibilities important to execute strategy, work process defines the articulation of work flow, relates to information flow that helps to execute the strategy and lastly, skills that refers to capabilities and knowledge of firm in implementing strategy (ibid).

Administrative Structure - The way the companies organizes its businesses. Examples include central, decentralized, matrix, horizontal, vertical, geographic, federal, and functional.

Processes - How the company business activities (the work performed by employees) operate or flow. Major issues include value-added activities and process improvement.

Skills - H/R considerations such as how to hire/fire, motivate, train/educate, and culture.

IT Strategy
Is referred to “choices pertaining to the positioning of the business in the information technology marketplace” (Henderson & Venkatraman, 1989, p. 10). This domain also consists the same three attributes including technology scope, distinctive competences and governance structure. Technology scope refers to different kinds and range of IT functionality that will be available for firms. While distinctive competences define the choices that affect the capacity of the firms to distinguish its IT infrastructure (ibid). IT-Governance focuses on problems of privacy and security (ibid).

Technology Scope – The important information applications and technologies.
Systemic Competencies – Those capabilities (e.g., access to information that is important to creation/achievement of a company’s strategies) that distinguishes the IT services.

IT Governance – How the authority for resources, risk and responsibility for IT is shared among business partners, IT management, and service providers. Project selection and prioritization issues are included.

IT-Infrastructure & Processes
Is referred to “choices pertaining to internal arraignments and the processes that determine the range and types of IS product and services delivered to the organization” (Henderson & Venkatraman, 1989, p. 12). The three components of this domain include infrastructure, processes and skills. IT infrastructure relates to organizational infrastructure. It represents definitions, policies and rules for three main areas application, data and technology configuration (ibid).

Architecture - The technology priorities, policies, and choices that allow applications, software, networks, hardware, and data management to be integrated into a cohesive platform.

Processes - Those practices and activities carried out to develop and maintain applications and manage IT infrastructure.

Skills - IT human resource considerations, such as how to hire/fire, motivate, train/educate, and culture.

<table>
<thead>
<tr>
<th>IT Strategy</th>
<th>IT-Infrastructure &amp; Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is referred to “choices pertaining to the positioning of the business in the information technology marketplace” (Henderson &amp; Venkatraman, 1989, p. 10). This domain also consists the same three attributes including technology scope, distinctive competences and governance structure. Technology scope refers to different kinds and range of IT functionality that will be available for firms. While distinctive competences define the choices that affect the capacity of the firms to distinguish its IT infrastructure (ibid). IT-Governance focuses on problems of privacy and security (ibid).</td>
<td>Is referred to “choices pertaining to internal arraignments and the processes that determine the range and types of IS product and services delivered to the organization” (Henderson &amp; Venkatraman, 1989, p. 12). The three components of this domain include infrastructure, processes and skills. IT infrastructure relates to organizational infrastructure. It represents definitions, policies and rules for three main areas application, data and technology configuration (ibid).</td>
</tr>
</tbody>
</table>

Table 3. The four strategic perspectives of SAM (Henderson & Venkatraman, 1989, p.474) & The twelve components of alignment (Luftman, 2003, p. 18).

3.7 The relevance of the chosen theories

The choice of theories is made due to the evolution of digital technologies that has created an urge for digital business strategies. Therefore, we turned our attention to, SAM as an assessment tool for ITBA in a quest to use SAM to investigate the current status of DBS, in the selected case companies. Further, also to investigate what kind of potential benefits and challenges that can come from use of DBS. Additionally, by assessing DBS in an actual business environment contributes to see in what way ITBA can be questioned due to DBS? Based on above
explanation about the relevance of the chosen theories we present a theoretical model (see figure. 2) in order to visualize how we perceive the connection between the theories. The theoretical model below, are created based on the literature review of this study, will be the link between the chapters by showing how everything is connected and relevant to each other. The visualization will also show the relevance of the chosen structure for the theoretical framework. A theoretical framework that is connected to our methodological choices and discussions conducted in the study. In the end, we will use the theoretical model in the conclusion and future research chapter where we will answer the research questions of this study.

![Theoretical Model Diagram]

Figure 2. *The theoretical model.*
4. Methodology

This methodology chapter will start by describing the research strategy & research design of this study. This will be followed by the research context. Thereafter, a description of the data collection process will be made. In the end, we reflect over the validity and reliability of the study.

Figure 3. Methodology sequential logic.

4.1 Research strategy & research design

A qualitative research approach is according to Fejes and Thornberg (2015) a way for the researcher to collect data that examines social phenomena in its natural setting from the actor’s point of view. The data in this thesis was collected by using qualitative strategy, by addressing business objectives through techniques that allows elaborated interpretations of the phenomena without depending on numerical measurement. The purpose by using a qualitative method is described by Zikmund, Babin, Carr and Griffin (2011) to be a method that allows the researcher to discover true inner meaning and new insights. When it comes to the qualitative method, we intend for the research to have a comparative research design by adopting a multiple case study by conducting semi-structured interviews. The motivation behind the chosen research method comes from the decision to do a comparative research. When it is coming to comparative research a quantitative method is more common but according to Esser and Vliegenthart (2017) it is a trend that now has been changed and more studies are now being conducted based on a qualitative method. Further, they explain that both qualitative and quantitative research method can help each other with the goal to take future research to another level. Esser and Vliegenthart (2017) highlights that regardless of what type of research method, both methods have the purpose of explaining similarities and differences based on the chosen context. Due, to this availability of methods to use, we choose to look at which method would suit us best for this study. Therefore, the reason why we are using qualitative method and not quantitative method is the accessibility that we have to the case companies but also based on a personal interest of doing a qualitative research study. One important factor that is vital when it comes to conducting a comparative research, is that all cases used need to be based on the same theoretical framework (ibid). This has been adopted by us in this study because the interview guide is based on the theoretical framework, and all case companies through the respondents
have during the interviews been asked questions based on the interview guide.

Additionally, when it comes to the logic behind the construct of our thesis, we have chosen an abductive way of reasoning. Abductive reasoning is described by Lindgren (2014) as a method where you use both an inductive and a deductive reasoning of conducting research. The reason why we are using abductive reasoning are based on the description by Fejes and Thornberg (2015), because it is a way of reasoning that allows a simultaneous process of going back and forward between theory and the empirical data collected, in an iterative process of working on both of them simultaneously. This is a way of reasoning that shares light and contributes to finding patterns that will allow a deeper understanding about the phenomena in question (ibid). The limitation of using an abductive approach according to Fejes and Thornberg (2015) is that the results of the approach is only of temporary nature and therefore can be revised if new data would appear to show more recent understanding about the phenomenon.

4.2 Research context

Our specific context consists out of six different companies (see table 4) and our seven participants holds a role in the chosen companies by being responsible for the implementation and use of business strategies and digital technologies. Saunders, Lewis, and Thornhill (2009) elaborates that the use of multiple case studies focuses on comparing the different findings and generalize from them. The aim for us, by having several companies and participants to conduct interviews with, was to be able to get a deeper understanding about the purpose of this thesis and do an investigation that may answer our research questions. We have, by having several companies and participants, the mission to compare and look for similarities and differences between the companies.

<table>
<thead>
<tr>
<th>Company</th>
<th>Employees</th>
<th>Size of the company</th>
<th>Digital?</th>
<th>Location</th>
<th>Product/Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6</td>
<td>Small</td>
<td>Fully digital</td>
<td>Linköping</td>
<td>Creating automated manufacturing of custom products</td>
</tr>
<tr>
<td>B</td>
<td>24</td>
<td>Small</td>
<td>Fully digital</td>
<td>Lidköping</td>
<td>Food delivery service</td>
</tr>
<tr>
<td>C</td>
<td>2500</td>
<td>Large</td>
<td>Semi-digital</td>
<td>Linköping</td>
<td>Consulting and recruiting</td>
</tr>
<tr>
<td>D</td>
<td>20.400</td>
<td>Large</td>
<td>Fully digital</td>
<td>Stockholm</td>
<td>Telecom operator</td>
</tr>
<tr>
<td>E</td>
<td>2500</td>
<td>Large</td>
<td>Semi-digital</td>
<td>Linköping</td>
<td>Consulting and recruiting</td>
</tr>
</tbody>
</table>
4.3 The data collection process

This section will consist of the data collection process of this thesis concerning: The sample of case companies and participants, the interview guide, the interviews and finally the transcriptions & thematic analysis process.

4.3.1 The sample of case companies and participants

In the preparation stage of the primary data collection, we wrote and sent an information letter about our research (see appendix 1) which was e-mailed out to the companies of our interest. We reached out to serval companies through private contacts and online searches by using different kind of social media, however, did not succeed. Then we changed our approach and decided to use LinkedIn. The LinkedIn approach was that we sent a friend request to CEO and others with high position in technological companies, when the contact was added, we sent a message in Swedish (see appendix 3), the response was overwhelming. The LinkedIn approach was the breakthrough we needed empirically. Our sample of participants where not randomly made and are according to Walle (2015) a typical sample when conducting multiple case studies by doing semi-structured interviews. The sample was established by the use of both the company and participant criteria (see below).

The criteria for participating in the interviews: The sample approach that we used is called a purposeful sample selection where we targeted respondents with the role description of CEO, CFO, business strategy managers and IT professionals. The motivation behind that was that we wanted participants with a role description of being in charge for the implementation and management of business strategies and digital technologies. Our choice of sampling is described by Bryman (2002) as a ‘systematic selection’ of participants and by Tracy (2013) as a ‘purposeful sample’, the meaning of them is the same. A purposeful sample is described to be when the wish of a particular data to receive is about choosing the right kind of sample (Tracy, 2013).

The criteria for the case companies. We selected the case companies based on different industries, including the IT- Telecom, online business, consultancy, IT etc. The common factor between the companies is that they are using digital technologies as a big part of their IEBE. Furthermore, the reason behind this selection was to investigate differences and similarities.

Table 4. Overall review of the case companies.

<table>
<thead>
<tr>
<th>Case Company</th>
<th>Size</th>
<th>Type of Technology</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>6</td>
<td>Small</td>
<td>Fully digital</td>
<td>Stockholm</td>
</tr>
</tbody>
</table>
among the chosen companies of their use of DBS. Due to the expertise role of the participants in each of the companies, allowed each company to be considered as a case. Therefore, with this intention behind the chosen sample we can motivate the choice of doing a multiple-case study. A review of our chosen participants can be found in table below.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Position</th>
<th>Company description</th>
<th>Date of interview/ Duration/ In what way</th>
<th>Referred to as</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CEO</td>
<td>Software company</td>
<td>2019-04-16/ 16 min/ Face-to-face</td>
<td>Company &amp; Interviewee A</td>
</tr>
<tr>
<td>2.</td>
<td>COO</td>
<td>Online food delivery company</td>
<td>2019-04-18/ 64 min/ Face-to-face</td>
<td>Company &amp; Interviewee B</td>
</tr>
<tr>
<td>3.</td>
<td>CEO</td>
<td>Consultant and recruitment company</td>
<td>2019-04-25/35min/ Face-to-face</td>
<td>Company &amp; Interviewee C</td>
</tr>
<tr>
<td>4.</td>
<td>Head of Architecture &amp; Senior Project Manager 2 participates</td>
<td>Telecom company</td>
<td>2019-04-26/54 min/ Skype/ Conference call</td>
<td>Company D and Interviewee D &amp; E</td>
</tr>
<tr>
<td>5.</td>
<td>Head of HR business unit</td>
<td>Consultant and recruitment company</td>
<td>2019-04-29/36 min/ Face-to-face</td>
<td>Company E and Interviewee F</td>
</tr>
<tr>
<td>6.</td>
<td>CEO &amp; Senior business manager and IT consultant</td>
<td>Advertising company &amp; private educational company</td>
<td>2019-04-30/41 min/ Normal phone call</td>
<td>Company F and Interviewee G</td>
</tr>
</tbody>
</table>

Table 5. Overview of the sample of participants.
4.3.2 The interview guide

For the semi-structured interviews, we created an interview guide (see appendix 2). An interview guide constructed based on SAM and the data we have collected about the concept of DBS along with digital technologies. The steps to make the interview guide valid is vital according to Tracy (2013) because the questions included in the guide must be planned and generated by us. The steps below, are showing the creation of the interview guide of this thesis in more detail;

**Step 1:** Preparing for conducting the interviews, began by forming the guide for the interviews. Due to that the research being based on the “Strategic Alignment Model” by Henderson and Venkatraman’s (1999) we read the article in depth in order to create an understanding of the model.

**Step 2:** The “Strategic Alignment Model” is based on four different areas (domains) which themselves are constructed to cover all needed to be able to answer the research question. The areas are based on the perspectives; By looking further to the SAM model and seeing each of the perspective, the SAM model additionally had three main domain integrations; the external, internal and cross-domain. In the external integration or strategic intellectual alignment is the degree to which companies’ missions, objectives and plans are contained in business strategy which are supported and shared by IT strategy. In internal integration or operational alignment: which is integration of IT, business alignment infrastructure and processes creates the link among the organization infrastructure and processes. Lastly, the important integration is the cross-domain integration where strategies can be aligned with the infrastructure and processes (Henderson & Venkatraman, 1999). Furthermore, Henderson and Venkatraman (1999) recognize that for this model to reach is maximum and reveal the best economic performance, depends on that both the external and the internal integration domains creates a cross-domain relationship. These three domains will show the degree of fit and integration among the business strategy, IT strategy, business infrastructure and IT infrastructure.

The above three domains and the concept of DBS are our main categories for our interview guide. Along with this we also asked some questions about digital transformation and digital change. Each of category will represent questions that after the interviews will be the foundation in how we will analyze.

**Step 3:** The process of making the questions in each category, came by reading the article by Henderson and Venkatraman’s (1999) repeatedly. By doing that we went deeper into the SAM model and the theoretical frame of reference, in this thesis. At the same time as creating the questions in each category we questioned ourselves what we wanted to receive by asking these questions. The reflection of the questions by our opinion helped us to develop a good foundation for how we wanted to conduct the analysis of the interviews.
**Step 4:** Before sending the interview guide to the participants, we first sent the interview guide to a nonparticipating individual to see if the questions were hard to understand. By doing so we needed to do some corrections from the feedback that we received. This nonparticipating individual had previous knowledge about IT, similar as the chosen respondents, therefore we are by the belief that we received valued feedback that created a better interview guide.

**Before the interviews,** we sent the interview guide, to our participants, because most of the participants asked for it. It can be questioned if it was appropriate to send the interview guide in beforehand to the respondents because it can create misleading and not trustworthy answers. The motivation we had, to still send the interview guide was that most of them had requested it based on that the interview were going to be held in English and they wanted to understand the questions. One other purpose we had was that the participants only had limited time to be interviewed which demanded a pre-understanding of the questions.

**After the interviews,** we drew the conclusion that by providing the interview guide in beforehand resulted in faster completed interviews but not necessary getting more elaborated answers. From the perspective of the sample group, fast interviews were good due to other business engagements.

### 4.3.3 The interviews

All participants were asked if it was fine to record the interviews. Furthermore, we also asked if they or the company wanted to be anonymous. Due to mixed answers regarding anonymity we decided to keep the both participants and company names anonymous. The duration between the interviews shifted from 16 minutes to 63 minutes. We will refer, in the analysis and discussions, to the participants as; interviewee A, B, C, D etc. We will do the same regarding company: company A, B, C etc. After the interviews, we asked for permission to come back if we needed more information if there was anything that was unclear, which all companies agreed to.

### 4.3.4 The transcriptions & thematic analysis process

The transcription process started by converting the recorded interviews into text. According to Krag Jacobsen (1993) the conversion from record material to written material can be hard. The way of proceeding is not to write down the interview as it is ‘spoken’ because we do not write like we speak (Krag Jacobsen, 1993). The right way of doing the transcriptions is to just write what was said during the interviews (Krag Jacobsen, 1993). This will keep the transcriptions clear and if needed deeper understanding a second contact with the participants can be made (Krag Jacobsen, 1993). For the analysis of this study we decided to conduct a thematic analysis approach. The definition of a thematic analysis is; “the process of identifying patterns or themes within qualitative data” (Maguire & Delahunt, 2017, p. 3352). The intension we have behind doing a thematic analysis are based on knowledge received by reading Braun and Clarke (2006)
which are the founders of thematic analysis. Therefore, we can proclaim that our intention with conducting a thematic analysis is because it is shown to be suitable for analyzing case studies. Further, it is also one kind of analysis form which is more manageable for us as students doing a study. Last, according to Braun and Clarke (2006) to be an analysis form that does not need a pre-existing theoretical framework, which also are beneficial for us because we are the ones constructing the theoretical framework for this study.

The thematic analysis process began after converting the recordings of the interviews into texts and we started to ‘overread’ them. The purpose behind ‘overreading’ is according to Braun and Clarke (2006) that it gives a first impression of the texts to see if there already is possible to reveal different meanings and patterns. We hereby describe and visualize the different steps we took during the thematic analysis process, which are according to Bryman and Bell (2015) a technique of enlisting the material into computer analysis. Our analysis process was conducted in a software program called MAXQDA Analytics Pro2018. Data reduction is the process of choosing, directing, simplifying, conceptualizing and transforming the written data or transcriptions (Miles & Huberman, 1994). The data reduction can be done through different approaches such as coding, making clusters, summaries, writing memos (Miles & Huberman, 1994). We decided to do the data reduction through coding by breaking down data into parts. The choice of using MAXQDA Analytics Pro2018 as our code book was based on online comments from researchers about MAXQDA Analytics Pro2018 and the software program called NVivo. Saillard (2011) have highlighted that MAXQDA Analytics Pro2018 supports the interrelation between the data, code and memos better than NVivo, that made us take the final decision to use MAXQDA Analytics Pro2018. The process of coding was started by inserting the transcripts of the interviews in to the “document” section of MAXQDA. We named our interviews, company A, company B etc. in order to separate each company and their answers (see figure 4).

Figure 4. Inserting the transcripts.
Once the transcripts were inserted, the text appeared on the right-side (see figure 5). The transcriptions from our interviews conducted showed the answers of the interview guide thus, we created a structure to follow each question of the interview guide and we looked at the answers carefully.

Figure 5. First step of coding.

The coding process started by reviewing the first question of the interview guide, covering each company answers reading carefully and inserting the response from answers before proceeding to the next. This process made us concentrate on one topic at the time and use the similar code for each company. The codes were created by choosing the text from the data segment, highlighting the important text and dragging it to the code system. We divided the codes and sub-codes based on our themes and interview questions. The code system in MAXQDA generates the numbers automatically in order to keep the track. Altogether, there were 158 codes that we created in the program. The codes included both main themes and sub themes of the study and an example is depicted below with codes in MAXQDA.

Figure 6. Last part of the coding.
The software made it easy to see the relevant answers through codes and creating the analysis in a MS word document.

4.4 Reliability & validity

In this section, we reflect and present the aspects of reliability and validity of the study. Reliability is a measurement about if the research would give the same results if performed another time under the same circumstances. In this study, we have considered both external and internal reliability. By questioning the reliability and validity of this study we also critically evaluate our methodological choices.

4.4.1 Reliability

Regarding external reliability, the issue of replication was of interest. According to Bell, Bryman and Harley (2019) replication can sometimes in qualitative research be hard to establish due to its context. In our study, we have worked with the issue of replication by describing the theoretical and empirical part of the study as detailed and visualized as possible, which enhances the external reliability. Detailed descriptions of the whole process by highlighting what choices we made regarding the search and use of theory, methodology, analysis and findings. The most important for us was, in the methodology chapter, to show our reflections regarding the criteria of the selection of both case companies and respondents, we are still standing by that participants with a role of being responsible for the implementation and use of business strategies and digital technologies, was a criterion for this study. Furthermore, regarding the company criteria’s, to choose companies using digital technologies as a big part of their IEBE, created a foundation for us to not be dependent on the size of the companies. Another way of ensuring reliability was when we conducted the semi-structured interviews. The choice we made where to have an interview guide (interview guide is placed in appendix to create transparency), record the interviews (with consent from the respondents) and during the analysis strive towards doing correct interpretations. One way of reaching correct interpretations is to show them to the respondents and give them opportunities to come with corrections or something that they want to add. Further, these choices which increased our reliability also indicates the trustworthiness of the study.

Internal reliability on the other hand, is about the researcher (us) and what we are contributing with to the study (Bell et al., 2019). This study had two students (not yet researcher) that conducted this study as a part of their master thesis. We have both been active throughout the whole process from conducting the study and writing the thesis which creates a sufficient internal reliability.
4.4.2 Validity

The meaning of validity is according to Bryman (2002) one of the most important research criteria because its purpose is to evaluate if the research is measuring what it is supposed to measure. To reach validity there are two aspects that needs to be considered, credibility and transferability (Bryman & Bell, 2015). We took two steps to increase the credibility (internal validity) in this study. The first one was that, we during the whole thesis process of conducting this study, received feedback from our supervisor but we were also fortunate to be a part of a bigger team with fellow classmates were the purpose was to give each other feedback. The second step was that we have presented our findings of the empirical research of this thesis to the readers of this thesis and to the participating companies. By taking these two steps we have increasing the credibility that shows accuracy and truthfulness of this thesis.

Regarding the second step, transferability (external validity), is according to Bryman and Bell (2015) an aspect connected to the findings in the study and if they can be generalized to other contexts. Due to that we have explained and written down the procedure of the whole study and shown the criteria’s for both the case companies and the sample regarding respondents, we are by the opinion that our study can be generalized to other studies and contexts. Moreover, one limitation we had about the validity in the study was, if the findings could represent a whole company based on one interview per company. This was a limitation that were with us from the start and due to it we decided that we needed to choose an expert, in our study, someone with the role description of higher management with the task of implementing and managing DBS in the company. By providing this sample of respondents we argue that their role provides us with a valid foundation to draw conclusion on that can work as enough evidence based on the whole company. The final step to ensure validity in the study were done through triangulation technique during the data collection process further also during the construction of the analysis and discussion. The first action in the triangulation was done when we sent the interview guide to a nonparticipating individual with the purpose to have understandable questions and to have well thought through questions. Second action taken was to have an ‘observer’ during the interviews. Last, during the analysis and discussion we reflected on the findings by looking at the theoretical framework of the thesis. According to Bryman and Bell (2015) a triangulation is a technique that refers to the use of different methods, the use of different sources of data, the use of several researchers and to back to the theoretical framework to validate findings. By taking the two steps (credibility & transferability) concerning validity and by conducting a triangulation we conclude that this study has an acceptable validity.

4.5 Ethical considerations

The ethical aspects tell about respecting the privacy of the participants in the process of before and after interviewing. It is very important in research, not to harm the participants thus one should consider the confidentiality of records. In our study, we received requests from the case companies to be anonymous regarding both name of respondents and company name which resulted in a decision by us to keep all the company names and respondents name
anonymous. Therefore, we will refer to them as company A, B, C etc. The anonymous factor regarding the company name and the participates names can in the thesis be considered to create confidentiality. Personal information was thus handled through the highest possible confidentiality and all of the participants were unspecified. The other confidentiality feature that we used was when the interviews had been transcribed, we saved them in separated word-processed files for each interview. Further, the files were named so they couldn’t be connected to either company or respondents. We mentioned that the data collected from the companies would only be used for research purposes.
5. Empirics

In this chapter, we are presenting the empirical findings of this study regarding what the case companies had to say about DBS but also what came from evaluating the case companies based on SAM. The structure of presenting the empirical findings are case company by case company.

5.1 Case Company A

5.1.1 Digital business strategy

The case company A consider themselves to be fully digital, use digital platforms (e-commerce) to connect the robots and make custom products. The entire business model of the company revolves around easy to use. Further, they develop tools and products based on digital strategy. Due to modern digital strategy company has changed old software’s and adopted more efficient tools. They claim that in Swedish industry today, companies must adopt the digital strategies to follow digital instructions. The main challenge for DBS is to develop right digital strategy based on selection of right digital tools. As challenge within their business is to get people signup through the digital platforms. They mentioned that all their employees are familiar with digital tools and understand the digital strategies while their customers are very traditional yet, but their strategy involves them to adopt digital change. Moreover, companies claim that they are born in digital era and they have digital mind-set, therefore they have not faced huge transformation of being digital and having digital strategies. One more benefit that they mentioned is that due to digital strategies they have leveraged their customers.

5.1.2 Strategic alignment model

External Domain - Business strategy

Business Scope: Is to provide online 3D configuration, CAD, Drawing tools. Auto generation of PDF/DXF drawings or Import of customers own drawings. Further, they have the tools and expertise to make automated manufacturing of custom-made products. Additionally, they also help their customers to automate custom manufacturing. The business idea of the company is help customers to go “digital”.

Distinctive Competencies: Company has been working with online digital tools and is operating fully with digital business strategy. They have their own value added-services such as Cloud-services, instead of selling CD or installation files to their customers, company use online configurations, CAD, auto-generation of PDF/DXF or customization. Company uses the digital
platform to sell their products to their customers.

Business Governance: The business creates the partnership with other firms including their manufacturing customers. Their future aim is to create long term partnerships with SME’s. Furthermore, company also focus on internal collaborations, to fit their digital solutions in big digital eco-system.

**External domain - IT Strategy**

Technology Scope: The company technology scope revolves with latest digital technologies. The company helps in shaping and forming the description of products by using cloud services, CAD system, online ERP and file storage system. Companies also possess the auto-generation software, it allows customers to customize their product.

Distinctive Competencies: I/T infrastructure provides the distinctive competences in market by working on cloud services. The IT infrastructure has created the flexibility and shift in the work structure.

> I think its possibility to shift who does the work, is more open for more people to do the work instead of single individual with the most experience so that’s kind of good for companies.

[Interviewee A]

Furthermore, it also has reduced the number of tasks. As soon in their business model, customer select their dynamic online tools which are transferred directly through customized web including the software's such as, DXF, PDF, STP and BOM to the Manufacturing.

IT Governance: The technical advantage is taken by the having the partnerships and collaborations with different manufacturing companies. They make the software's according to the need of their customers. If their customers are not digital, company help them to transform into digital and become part of digital ecosystem. Their customers are production companies and they use automated robots connecting digitally to the end users and making the workflow digital.

**Internal Domain - Business strategy**

Administrative Infrastructure: At Company A, the roles and responsibilities which are necessary to execute business strategy is communicated through mentorship programs by seniors to juniors. They don’t take much in writing. Senior officials showcase to juniors on how it’s done. As the company is fully digital so they keep it paperless and all the roles and
responsibilities being communicated to everyone via a mentorship program. Here below is a quote from interviewee A about how the roles and responsibilities are defined in the company:

I think so but more in culture than in paper, we don’t take much in writing, it is more by mentorships those seniors should showcase how is done because we have very few read the papers, so it kept to minimum.

[Interviewee A]

Processes: At company A the whole business model revolves around easy to use, do it yourself and able to sell all around the world through digital platforms.

Skills: It requires people with expertise in Online digital tools, CAD, 3D Configuration, Automated tools and should know how to work in security infrastructure. At Company A they all have engineers, and everyone is tech giant. They all are very aware of how to get things done as per planned by implementing strategies.

**Internal Domain - IT strategy**

I/S Infrastructure: Company A has been fully digital since beginning and till now they have maintained Up-to-date IT infrastructure including Hardware, Software, Database & Networks by investing a considerable portion of their sales.

Processes: A lot of focus is provided on monitoring the solution. Their products are fully digital and can see every order going out to every factory that they work with and for that they have dashboard in the main room, so they can see what their customers do. Company also has time; everybody puts in time how much they work, and they use this to measure efficiency.

Skills: Company’s human force has got all what it requires to maintain infrastructure and execute the process to get end results. Everybody working in a company is engineer by profession and possess the IT skills. At company A, everybody knows how to work in security infrastructure and due to this everybody is allowed to change & modify the IT Infrastructure.

**Cross-domain Alignment**

According to the company they don’t see themselves to be aligned.

I don’t think so we are aligned with all domains because I think we are too small for that.

[Interviewee A]
5.2 Case Company B

5.2.1 Digital business strategy

In relationship to digital, company consider itself young. The company claims that they do not have any old IT or business strategy, since start of their business they are digital. For making the digital strategies, they first adopt the new digital technologies and then create the strategy accordingly in order to integrate that in the digital ecosystem. They business model is created via digital platform where they conduct most of their business. The main challenge for initiating new strategies for them is continuously changing digital pace and the amount of information and analytics. However, they see digital strategy as an important survival tactic in a digital era. Interviewee B says, “Without digital strategy, we would have zero presence, and nobody would know”.

5.2.2 Strategic alignment model

**External Domain - Business strategy**

Business Scope: They provides the online services to their customers; it operates their business through the application software which connected to the different clients of the company. Company is born digital and have all digital business strategies and digital operations.

Distinctive Competencies: Company has been working with online platform and they have their digital business strategy. The strategy that they have is cost effective as compared to their competitors. Additional their strategy is also to increase the market by reaching to different parts of Sweden. Company also charge less from their customers as compared to other competitors in the market. Further, they claim that if “there is no digital strategy”, there is zero presence in the market, and no one will know about their business.

Business Governance: The business creates the collaborations with different restaurants, currently they have partnership with one international pizza restaurants which they think they have distinctive competencies. Further, they claim that still they are in phase of start-up they will create the alliances and more partnerships in near future.

**External domain - IT Strategy**

Technology Scope: Company B operates in Sweden as an Online food delivery service. For placing an order, they have developed an application which can be downloaded through app store. In detail, the company didn’t reveal about their Infrastructure due to privacy concerns.
Distinctive Competencies: Company do use three distinctive software which create business advantage for the company over their competitors however the company did not disclose the name of software and their advantages to company due to privacy concerns. The reason comes from interviewee B that revealed themselves to have secrets “we have three things that no one has and have been very beneficial to us”.

IT Governance: They are still in start-up zone and till now has not made any alliances with vendors for outsourcing of any kind of software. They have their own programmer responsible for the development of system as per business need. Company mostly depend on social media as it is easier to handle, and everyone can do it.

**Internal Domain - Business strategy**

Administrative Infrastructure: The administrative infrastructure that company uses are online. They have the analytical tools through which they control their data. The Hotjar software of the company provides them to keep record of their customers feedback. Further, for payment they allow users the latest online system including Swish and Klarna.

Processes: The work process of the company is carried out through their designed software application which is developed easy to operate by any customer. The app is connected to a GPS system and their collaborated restaurants. Further, they claim that there is no need of having physical offices that handles complex tasks and processes, digital technologies have created flexibility to conduct work from anywhere.

Skills: The mix of IT and non-IT professionals work at company. IT professionals only helping with some complex coding for developing the software whereas all other business can be handled by non-IT professionals. They have number of delivery employees who deliver their products to customers and can operate their app with ease and without having any IT skills.

**Internal Domain - IT strategy**

I/S Infrastructure: Company use social media services (Facebook & YouTube) for product marketing, Hotjar for understanding their customers feedback, Klarna, Swish for payment, iCloud services for taking order from customers.

Processes: They develop and maintained IT operations by their own. They don’t hire any third-party services. Company’s major focus on social media and such related technologies because it's easy and everyone can control it. Company has two skilled persons who maintain IT systems.
Skills: Every system today is built so easy that anyone can operate, however IT coding like SQL that need a skilled person because one single error will rupture all things. Moreover, due to internet small companies can learn online or companies like google provide some trainings also.

Every system today is built so easy that anyone can operate, however IT coding like SQL that need a skilled person because one single error will rupture all things. Moreover, due to internet small companies can learn online or companies like google provide some trainings also.

[Interviewee B]

**Cross-domain Alignment**
The IT and digital strategy and the infrastructure and processes are aligned within our business.

5.3 Case Company C

5.3.1 Digital business strategies

Company C is semi digital, they see themselves very traditional, however they are adopting the digital transformation and digital strategies to compete in the marketplace. The challenge for implementing the DBS in the company culture is, old mind-sets. As they see young and old people different in perceiving and adopting the digital technologies, they conclude that “*it is easier to change the processes to young people*” (Interviewee C).

5.3.2 Strategic alignment model

**External Domain - Business strategy**

Business Scope: The business scope offers the unique holistic approach which deals with staffing, recruiting, training and product solutions. Company is in the phase of digital transformation but yet not fully digital. The merge of traditional and digital strategies and processes gives company a unique position within the industry.

We don’t focus much on competitors because we are afraid of doing same things. We think its maybe not the best way but it’s our own way. Adopt the technologies with time.

[Interviewee C]
Company structure is quite simple; the CEO of the company is responsible for making the strategies with collaboration to sister companies and other employees are involved in the main goal of the purpose.

Distinctive Competencies: As a part of strategy, company is expanding their business and is active in more than 50 locations and consist of estimated 25,000 employees. Further the holistic approach with creativity and high quality contribute in the long-term profitability and growth.

Business Governance: The company has number of partnerships with the companies that they recruit for. Furthermore, they also have collaborations with their sister companies in different departments such as marketing, software consulting etc. They also create collaboration with other groups in the market.

**External domain - IT Strategy**

Technology Scope: Company is engaged in the services of recruitment, training and other product solution for their partner companies. To remain perfectly aligned with their business strategy the company used a latest Recruitment System, CRM, Digital Advertisement, Social Media. Company is not yet fully digital and still depend on some traditional approach like as to conduct interviews person to person.

Distinctive Competencies: Presently, the company use a software which is being used by companies located in Norway. Their Company is only Swedish based company which uses this System Software in region. Company did not disclose the name of company due to privacy concerns.

IT Governance: It is a subsidiary of Swedish-Owned Group & owner has perhaps the Partnership in 30 more companies as well. For all kind of system software’s, hardware the company depend on outsourcing. They have collaborations and partnerships with external vendors.

**Internal Domain - Business strategy**

The administrative infrastructure of company supports the main strategy of the business which is to “hire best candidates”. They have traditional strategy to conduct business however, they are at the beginning of digital change, they have digital channels through which they advertise and promote their company. The infrastructure is designed in a way that all the responsibilities are outspoken within the team and all teamwork is carried with the collaboration.

Processes: The work process is carried out through the traditional process of hiring but they the company use new technologies to conduct work processes such as digital HR helps employees to find, sort and select best fit for their partner companies.
Skills: The company possess both IT and non-IT professionals that work closely to achieve the main objective of the company.

**Internal Domain - IT strategy**

I/S Infrastructure: The company’s IT infrastructure perfectly aligned with their IT and business strategy. Company has developed IT infrastructure with the help of external vendors in such a way that it supports company’s business strategy and provide the candidate with right skill set.

Processes: It has its own IT company as well. For continuous Development, Maintenance & Operations of IT Infrastructure they have outsourced the services of their own IT Company.

Skills: The company has the human force with the right set of skills that they have outsourced. Company has people with background in Software & technology. As company’s major business strategy is to provide assistance with recruitment, crew, warehousing & logistic, training or smart production solutions therefore they have also got the teams which is working on Digital Marketing & Digital HRM.

**Cross-domain Alignment**

Company is not fully aligned.

5.4 Case Company D

5.4.1 Digital business strategies

Due to nature of the business, company always have been digital with technologies time by time. However, digitalization has changed the digital tools and business processes has been automated. Company possess IT technologies and strategies as well as tactical roadmap. They claim that they create the check points where they check their plans which are fitting in modern world or not. Further, they claim that IT is becoming the supporting business, where IT cannot change the direction of business. Furthermore, they are creating the new operating models that involves the digital strategies yet, for them learning curve is yet undefinable. The challenge adopting digital business strategies and new technologies are embedding the digital culture within the company.
5.4.2 Strategic alignment model

**External Domain - Business strategy**

Business Scope: The business scope provides the network connectivity and telecommunication services to millions of people. The major services include broadband, fixed line communication and TV services. The major business strategy focuses on continues improvement of business core functions and expand the market.

Distinctive Competencies: The company creates the distinctive competencies by their products which are based on their speed, quality, reliability and coverage.

Business Governance: The company comes in top ten in telecom business in Europe, and it has number of partnerships and collaborations with different companies. However, the interviewer did not answer this question in detail.

**External domain - IT Strategy**

Technology Scope: It is operating in Telecom Industry. Company has all the latest technology to support their business strategy. Presently company uses Cloud Service Provided by American Company, Digital HR Process and Mobile Apps and a few more which kept confidential by the company.

Distinctive Competencies: Company knows that today everyone wants to go digital and keeping in view, the company launched a service in Finland and company claims that it’s a first Digital Mobile Plan and application in Finland that support digital wellbeing. Although Finland has been pioneering in mobile technology but so far mobile plans available in the country are very conventional.

IT Governance: Due to being digital company has separate they has separate IT Department who is responsible to develop the system which supports business strategy and IT Strategy in best possible way. Company had collaborations in past for outsourcing but now when the company has grown significantly and digitalize their operation since then they develop systems by their own.

**Internal Domain - Business strategy**

Administrative Infrastructure: The administrative infrastructure of the company is being changed with the time. Previously company was outsourcing their skilled labour from aboard, but currently they are doing that in-house. Further, the company works in small teams to be
efficient and develop new features.

Processes: The processes focus on the maintained of quality which are setup according to the standards. The participants did not answer in detail.

Skills: company did not answer.

**Internal Domain - IT strategy**

I/S Infrastructure: The company has designed and developed the infrastructure in such a way that it supports the IT and Business Strategy and formulate polices in such a way that drive system integration of applications, Software, hardware with business. For implementing the digital strategy, one must select the right target, as the consistently changing technologies. However, investment in technologies cost but companies must adopt the most needed.

   It’s like betting in a game. You need to select right target because you can’t afford all technologies. Some technologies like 5G is really a need for our company now so we can’t escape that.
   
   [Interviewee D]

Processes: The company focuses on Quality more & consider it as one of their business strategy elements. So, to remain efficient & effective they have this monitoring off course when it comes to networks. Apart from that they have service processes assurances, they have different monitoring tools, and IT systems and billing systems as well. All are controlled.

Skills: As a telecom industry, they need to maintain competitive IT infrastructure and for this company has Telecom engineers, software engineers & good IT professionals. Company’s human force has strong set of IT capabilities which create synergy.

**Cross-domain Alignment**

Company is still in the journey, so they claim that they are yet not aligned.

5.5 Case Company E

5.5.1 Digital business strategies

The company is in the phase of digital transformation and they are trying to change their business systems and models. Currently company see the gap between innovative strategy, however the local business units of the company is interested in developing new digital strategies. Company has one main business strategy at top level that meets the goals whereas,
other small strategies are also developed at business units. For digital business strategy, the challenge is to keep the pace of digital tools, there are so many choices.

5.5.2 Strategic alignment model

External Domain - Business strategy

Business Scope: The business provides recruitment and staffing services to their customers from different industries. The company seek experts in both professional and civil servant sectors. Company reach to local skills, with their wide range of network and fair local knowledge.

Distinctive Competencies: Company creates a unique profile with local skills for recruitment and staffing within the region. Their business strategy focuses on recruiting the best skills, utilizing the best cost-effective tools and expanding their business. They consider themselves “Sweden’s most local partner”. They possess digital communication channels, cost engineers and HR managers for the assisting their customers.

Business Governance: The business governance is created via synergies and partnerships with different industries. They work with economists, production managers, warehouse workers, administrators, freight forwarders and welders in many different industries.

External domain - IT Strategy

Technology Scope: Company’s technology scope depends on the business scope of a company as all the technology being adopted by company is to support business strategy. It uses latest cloud services & the database system for maintaining the record of candidates and clients. Apart from that the company also uses Social media including Facebook, Instagram. They also use LinkedIn and Blocketjob for recruitment. For Project Management, they use a Project Management Software called Monday.com.

Distinctive Competencies: Right now, company doesn’t have any distinctive competency in IT that makes them unique.

I am not sure what others have but we are very fast. I have one tool that only publish questions three years back that only we had in this area but now others are also having this but at that point only we had system software.

[Interviewee E]
IT Governance: For IT Governance, the company has collaborations with their in-house sister concern company and that fulfil company’s IT Requirements.

**Internal Domain - Business strategy**

Administrative Infrastructure: the strategies are created at top level and forwarded down. The titles are important in company, which somehow explains who does what. Further, the description of rules is also circulated step by step within the company.

Processes: Clear work process helps company to check who does what.

Skills: logical and analytical abilities are important to see the complexity, further, today everyone should be open minded and adopt new technologies and strategies to compete in competitive world of business.

**Internal Domain - IT strategy**

I/S Infrastructure: The IT infrastructure of the company has the description of tasks and description of each role, which is in steps to make work easier.

Processes: The tasks are reviewed continuously, and systems is assigned to each consultant. The IT system is shared within the team to see ongoing recruitment process. Company uses Excel sheets for keeping customers profile. The general rules and roles are written down.

We review sometimes and we check the who supports to do those parts who supports to do this part and we also have it in system who’s responsible for which consultant to whom. we have in system and also in my team we have team system where you can see every ongoing recruitment process and we have face and mark each task we have done. Also, for leads and sales and also use excel for customers profile. But the general rules and roles are written down.

[Interviewee E]

Skills: IT is getting complex; more IT skills are needed to manage the systems. However, doing marketing, such as advertisement through social media is easy and getting feedback is easy.

**Cross-domain Alignment**

Company E is not aligned because themselves proclaim that. “I don't think so its 100% aligned” (Interviewee E).
5.6 Case Company F

5.6.1 Digital business strategies

Company provides digital solutions and have digital business strategy, but they claim that due to fast moving digital pace it's hard to have one digital strategy and keep pace of digitalization. The benefit of having digital is to be reaching up with fast flow and create the cohesive work.

5.6.2 Strategic alignment model

**External Domain - Business strategy**

Business Scope: The main business of company F is to provide digital marketing and printing services. The company is present in Sweden and Turkey. Company main business strategy is digital business strategy.

Distinctive Competencies: It creates marketing campaigns and printing materials for their customers including Toyota, Saab, Sigma Technology, Segula, Volvo Trucks and Volvo Cars. Company's commitment is rooted in the development and knowledge in optimization the products and creating digital marketing. The important products that the company offers are web development, E-commerce, content marketing, analytics etc.

Business Governance: The company creates long-term relationship with their customers which are based on honest and transparency and commitment.

**External domain - IT Strategy**

Technology Scope: Company possess the digital marketing technologies, social media, design software's and graphic designs.

Distinctive Competencies: Company creates the digital marketing with the help of latest digital technologies and their expert employees in digital marketing, social media and design.

IT Governance: The company has in-house IT specialists that create the digital tools.
**Internal Domain - Business strategy**

Administrative Infrastructure: It claims that it is important for management to be flexible and adaptation of digital technologies is very important.

Processes: Company did not answer this question.

Skills: Company see the in digital era one must adopt the changes and proper digital technologies. Competences regrading skills is not a bigger matter, because anyone can use digital tools. It needs a matching mind-set and must have right person for right job.

**Internal Domain IT strategy**

I/S Infrastructure: the technical infrastructure is maintained by IT specialist, the structure is clearly defined and written down.

Processes: Company did not respond to this question.

Skills: I/S infrastructure can be maintained by both IT and non-IT professionals. Company see digital era as a puzzle which need a proper open minded and hungry for developments. Further, company said it is difficult to develop IT competences if the company structure is rigid.

**Cross-domain Alignment**

Due consistently moving pace of digitalization, company see themselves not aligned.
6. ANALYSIS & DISCUSSION

This chapter will consist of analysis and discussions accordingly to the purposes of the study and the research questions by comparing similarities and differences between the case companies. The findings will thereafter be compared with already presented knowledge from the theoretical framework chapter in quest of gaining new relevant knowledge for this study. The chapter outline is visualized with the theoretical model for this study to show the purpose for every section. This analysis & discussion chapter consist out of three different section which all are connected to the research questions of this study.

6.1 Analysis of DBS in the case companies

Company A and B show similarities in benefiting from digital business strategy due to that both are leveraging their customers by using DBS. Another similarity is about automating the work processes, was seen in almost all the companies. Companies A, B, C, E and F stated that by having DBS as their strategy, it has created automation at the work process and created a new kind of workflow. However, none of the case companies are clearly showing any big differences about the benefits of DBS because all the case companies were answering similarly.

The empirics exposes similarities among the case companies regarding what kind of challenges DBS contributes towards during the conversion from traditional to digital or digital to continue being digital. Two of the companies are born in this digital era (company A & B) and they are both claiming that they are not encountering any major challenges related to having and using DBS. Contrary to case company A and B, the rest of the case companies reveal themselves to face different kind of external challenges by having to many different digital tools to handle correctly which require them to take help from external sources because they perceived them to be too expensive and time-consuming. Despite that, company A are proclaiming that they are not encountering any major external challenges, but they disclose that they are facing some internal challenges with their online customer signups. Internal challenges have also been spotted in company C, where they say that the employees are contributing to a big challenge while adopting the digital transformation mainly because of different IT maturity level. Further internal challenges are also shown by company C, D and E, where they state challenges to be about hiring and training employees so they will possess relevant IT skills.

One other thing that was noticeable and can be labelled as a difference between the case companies regarding challenges of DBS, was that some of the case companies felt that investing in digital technologies were too time consuming and expensive and that lead them to aim towards being more standardize in their already existing digital processes. Other case companies said that ‘taking chances’ regarding digital investments, to be something important even if they are expensive and time-consuming because they contributed to open up for further
improvements in performance, returns and competitive advantage.

6.2 The discussion about the current state of DBS in the case companies

We base the following discussion on the already above comparison analysis on similarities and differences found about DBS in the case companies. Furthermore, this discussion will also consist of Bharadwaj et al. (2013) DBS framework (see section 3.3) and on our reflections of the theoretical framework of this study. The aim with this section is to reveal the current state of DBS in the case companies which are our first research question.

Figure 7. The part of the DBS in our theoretical model.

Scope of DBS
When it comes to the scope of DBS, we see that all companies are doing both internal and external DBS activities but based on the findings the most challenging activities to be connected to the internal environment of the case companies. Bharadwaj et al. (2013) are by the opinion that DBS activities to be an important part of modern companies for them to be able to improve both performance and profits, which concludes that DBS activities has an impact on the overall business scope of the companies. This makes us draw the conclusion that the case companies have an awareness about their IT infrastructure but are still not fully successful in their DBS activities connected to their internal business environment.
Scale of DBS: When it comes to looking at findings from the case companies regarding how we interpret their answers regarding scale of DBS, we see that all companies are aware and are actively working with the physical and digital aspect of scaling. This leads to the result that we can proclaim that all the case companies are having scaling abilities but on different levels based on if they are fully or semi-digital companies. Regarding alliances and partnerships, we also conclude that all case companies are included in what Bharadwaj et al. (2013) calls for the new kind of digital business ecosystem were the aim for companies is to work across boundaries to gain competitive advantage. The new way of scaling also demands of the companies to develop the strategic dynamic capabilities needed to keep up with this new way of doing business across boundaries. In the case companies, it is shown that this is an internal challenge that the companies are actively working with hiring and educating in order to gain employees that possess capabilities needed.

Speed of DBS
The question about the speed of DBS in the case companies was found related to challenges of DBS, where the case companies had different kind of opinions about time and investment opportunities of digital technologies. All case companies have the ability to identify and respond to the fast pace of technology and innovation. Not all case companies had multi-layered products and services which created a hesitation for them to invest in expensive new digital technologies that would be time-consuming. Their solution, of the speed aspect, is to be standardize in their already existing digital processes. The other half was on-board and had the opinion that investments in digital technologies and use of DBS is what creates competitive advantage. Regardless of the split of opinions in the case companies Bharadwaj et al. (2013) highlight that value is not only derived through these investments in digital technologies, value is also something that can be created when companies use data and information to their advantage. Therefore, we draw the conclusion that it is up to every company, with its own uniqueness, to propose a comprehensive solution to speed.

Value creation of DBS
Regarding value creation, we are also looking at the other themes above to base a discussion on. We have seen that the case companies are using their tangible resources in a profitable way also that DBS is used by them all which creates additional value creation. Bharadwaj et al. (2013) state that this new way of capturing and creating value for companies to be based on an awareness in the case companies how to use different kinds of tangible and intangible resources to gain profitability and competitive advantage. Further, Bharadwaj et al. (2013) are claiming that new way of doing business with using digital technologies and DBS has become both beneficial and challenging for companies. This has also been seen in the findings from the case companies and been discussed above and shows that the case companies have an awareness about both their use of digital technologies and DBS which makes them work on finding a balance between IEBE.
To end the above analysis and discussion, we provide a summary of what we found to be the most important findings (see figure 8).

**Figure 8. Summary of the current state of DBS.**

The DBS framework (the four themes) above is accordingly to Wunderlish & Beck (2018) a way of extracting how DBS is working in companies IEBE. We have by using and analyzing, discussing and summarized the DBS framework evaluated the current state in our case companies. The findings that we have noticed regarding the current state of DBS will be presented in the conclusion chapter (see section 7.2).

### 6.3 The discussion about benefits & challenges of DBS

*The aim of this section is to answer our second research question (see figure 7) by doing a comparative analysis based on looking at similarities and differences regarding both benefits and challenges of DBS.*

We can extract that all case companies are engaging in IT activities which Mithas et al. (2013) proclaim as a key factor for DBS to even exist. Levering customers can be connected to the understanding that companies are using their digital resources which enables them to improve the work processes so they can be carried out in different ways and boundaries which often result in increasing companies' ability to create differential value (Bharadwaj et al., 2013;
One another internal challenge which was brought up to light by almost all the companies was about the need of automatization of the work processes. Holotuik and Beimborn (2017) lay emphasis on automatization of the work processes as companies’ attention and awareness towards customer demand to anticipate and react which increases speed and efficiency, based on DBS which allows velocity to the company processes and services. The third and fourth internal challenges are connected to each other and are about employees and their different IT maturity levels which creates a need according to the case companies to hire and training employees to have relevant IT skills. This implies according to Luftman (2000) that the organizational infrastructure and processes is not fully working. Not working at its full capacity when it comes to organizational processes because of the different levels of IT maturity levels (Luftman, 2000). The companies claim this to depend on different ages of the employees. Some of them claim it is easier to work with youth others stated that it is easier to work with the older generation, but the hardest is to work with a mix of them. Additionally, it is also revealed that there exists a dysfunction about organizational skills, due to the internal challenges of hiring and training employees. This can indicate according to Luftman (2000) that the case companies are still in the initial stage of aligning their business and IT. The need for IT skills even called digital skills is not uncommon according to Holotuik and Beimborn (2017), because that is a challenge that exists for almost all existing companies. To overcome this challenge and be able to design and implement and use DBS, companies must work with the issue of training their employees but also to work with its incentives system and further investment in human capital development regarding IT (Holotuik & Beimborn, 2017). Wetering, Mikalef and Pateli (2017) concludes that the findings regarding the internal challenges that companies often fail when it comes to aligning their organizational infrastructure and processes and IT as a result of their inability to work with organizational needs which shows that it exists a misalignment between business and IT.

6.4 SAM in the case companies

*This section consists of both an analysis and discussions which are done by the use of SAM (see figure 9, below) regarding the evaluation of the ITBA in the case companies. Further, the discussions will be connected to the theoretical framework of this study. The theoretical model (see figure 10, below) visualizes the focus of this section.*
Figure 9. *The strategic alignment model* (Henderson & Venkatraman, 1999, p. 476).

Figure 10. *The part of the SAM in our theoretical model.*
6.4.1 The analysis of external domain

The answers, from the respondents, has carefully been analyzed in a way where we have compared similarities and differences regarding the external domain of the SAM model (see figure 10, above). As described by Henderson and Venkatraman (1999) external domain is the linkage among the business strategy and IT strategy.

External domain – Business strategy

Business Scope: When it comes to similarities in business scope, every case company's products are leveraged through digital technologies. A, B, D and F have digital business strategy. The differences in company C and E is that they have old traditional strategies as their main strategy. Company C and E have similar scope of business, both companies are recruiting consultants.

Distinctive Competencies: Company A, B, D and F are similar in competencies as they all run their operations through digital platforms. Company C and E are different than others as they are more focused on cost and quality aspects for creating distinctive competencies.

Business Governance: When it comes to similarities in business governance, all companies except company F has partnerships and collaborations with other companies. Furthermore, company A, C and E also have collaboration with their sister companies. The differences have been spotted in company F where they try to create partnership with their end customers.

External domain – IT strategy

Technology Scope: Similarities among the participating companies regarding technology scope is shown due to that almost all companies have digital technologies. The common one in all companies is cloud system, except company F. All the companies are using social media platform except company D, but this is because of company size, and department. One last similarity that we can see is that all companies are using digital tools. However, when it comes to digital tools there’s a difference in what kind of digital tool and it is based on what kind of products and services that the case companies are providing.

Distinctive Competencies – IT: The positive pattern that emerged that are similar when comparing between the case companies is regarding the creating distinctive competencies, that digital technology has on the workplace environment. The improvements that the case companies are highlighting is a more improved and connected workplace were the workflow, increased efficiency, higher flexibility, communication and quick feedback are key elements. One benefit that is mentioned by company F is a decreased cost of doing work. The second benefit is described similarly from both company A and D and that is that the positive factors mentioned are generating revenue and value. One factor that was different between the
participating companies was mentioned by company D and was about the important of choosing the right kind of technology and that that choice can contribute towards an increased technological development. Findings regarding the negative effects of digital technologies was made by company A and B, not considered to be a problem because according to them nothing is bad about digital technologies. Contrary from the rest of the companies, that had a more negative approach to digital technologies and were implying that the negative factor of digital technologies to be both costly and time consuming in the way that it requires learning new systems and processes.

**IT Governance:** Regarding similarities, company A and C have partnerships with external companies with which they create IT governance. Whereas, B, D, E and F has in-house software developers and IT people who governance information technology management. The information technology governance component describes the authority behind the information technology and how the resources, risk and responsibility, are distributed between the business partners, information technology management, and the service providers.

6.4.2 Discussion about external domain

**Business Scope:** When it comes to similarities in business scope, every case company’s products are leveraged through digital technologies which result in that A, B, D and F are using DBS. The differences are that company C and E are using traditional business strategies as their main but are still using DBS to some degree. Company C and E have similar scope of business, because both companies are recruiting consultants. Luftman (2000) highlight that the importance with business scope to be about in what way the companies are thinking about how they compete within their industry. This has been seen in all case companies which shows that the they have found their own unique way of building up their strategies, digital, traditional or a mix, to be able to meet customers’ expectations and needs with their products and services.

**Distinctive Competencies:** Company A, B, D and F are similar in their distinctive competencies as they all run their operations through digital platforms. Company C and E are different than others as they are more focused on cost and quality aspects for creating distinctive competences. Regardless of which way is taken towards creating and the use of the competences in the company, they are vital factor for success that can result in competitive advantage for companies (Luftman, 2000).

**Business Governance:** When it comes to similarities in business governance, all companies except company F has partnerships and collaborations with other companies. Furthermore, company A, C and E also have collaboration with their sister companies. The differences have been spotted in company F where they try to create the partnership with their end customers. Business governance according to Luftman (2000 about role distribution within the companies. Which all case companies have claimed to be outspoken and, in some cases, also written down.
**Technology Scope:** Involves what type of technologies that support the business strategy (Henderson & Venkatraman, 1999). We extracted from the empirics that all case companies are using digital technologies, and the most commonly used technology to be cloud system and social media. The case companies perceive social media and cloud system to be a source of gaining new customers and markets.

**Systematic Competencies – IT:** Digital technologies are used in all the case companies which has improved their efficiency, further also created a more connected workplace, higher flexibility, more communication and quicker feedback. As mentioned by Henderson and Venkatraman (1999) systemic competencies are the attributes that create interconnectivity, system reliability and flexibility.

**Governance of IT:** The governance of IT is about the selection and use of mechanism for obtaining IT capabilities (Luftman, 2000), which shows that all our case companies have strategic alliances that helps them to fit into the digital ecosystem. Except one company that believes in creating the competencies needed by adapting a learning by doing process by themselves.

6.4.3 The analysis of internal domain

The answers, from the respondents, has carefully been analyzed in a way where we have compared similarities and differences regarding the internal domain of the SAM model (see below). As described by Henderson and Venkatraman (1999) **internal domain is the linkage among the organizational infrastructure with IT infrastructure and processes.**

**Internal domain – Business strategy**

**Administrative Infrastructures:** While looking at the similarities about administrative infrastructure, all company's administrative infrastructure is maintained by their senior management through different channels, company A, B and C maintained through mentorships and communication within the teams. The differences are seen in company C where they have traditional way of administration.

**Processes:** The similarities regarding the business processes has been seen in company A and B, where they claim that their processes are based on easy to use and operate. While company C and E business processes are mixed with old way of doing business with new digital way of conducting business. While the differences have been seen in Company D whose business process focuses on quality.
Skills: When it comes to skills for maintaining the business scope, company A, B, and C shows the similarities regarding skills that one must have IT skills and have professionals. Whereas, differences have been pointed out by company E and F says that one must have open mindedness with analytical and logical skills.

**Internal domain – IT strategy**

**IT Infrastructure:** When looking at the similarities among companies about their technical infrastructure, roles, responsibilities and authority structure, the finding suggests that, company A and B’s technical infrastructures including hardware, software, database and networks are maintained by IT engineers and programmers within the company. Company C and E’s IT infrastructure is maintained by their parent and partner companies which are situated at other locations. One more similarity that has been noticed is about the roles, responsibilities and authority structure is, all the companies are well informed in their written documents as well it is spoken down within the companies. However, a difference was seen in company D technical infrastructure has gone through the change from outsourcing to more in-house by using the small teams that develops the features for the company.

**IT Processes:** The similarities regarding the system development, all the companies maintain their system online, internally. When it comes to maintenance of social media which is one of the common technologies in every company, the findings show that social media can be monitored, maintained and controlled by non-IT professionals. When it comes to differences every company has their own systems accordingly to their products and services.

**IT Skills:** When it comes have skills regarding the IT, similarities have been noticed in company B, C and F, where they think to handle IT capabilities today anyone from IT professional as well as non-IT background can work with IT. On the other hand, the differences have been noticed in companies A, D and E, they think IT skills are must needed in digital era to work.

6.4.4 Discussion about internal domain

**Administrative Infrastructure:** When it comes to authority structure, all the company's administrative infrastructure is maintained by senior management. The administrative infrastructure is defined by Henderson and Venkatraman (1999) as a way for companies to deal with certain roles, responsibilities and authority structure. Further, the roles and responsibilities are delivered to employees through communicating within the team.

**Business Processes:** The business processes are defined as how the activities are conducted and operated (Coleman & Papp, 2006). Company A and B’s work processes is developed on easy to use digital tools. Whereas, company C and E’s business processes are carried out with
the traditional way of working with some of the digital tools. Uniqueness is seen in company D whom business processes are focused on quality, as mentioned by Coleman and Papp (2006) as value-added activities and improvements that are the components of business processes.

**Business Skills:** When hiring the skills, three out of six case companies hire IT professionals who have vast knowledge of new technologies. As described by Coleman and Papp (2006) human resource skills involve the hiring of the employees within the company. The important point is seen in company E and F who claims that today it is important to have human power with analytical and logical skills.

**IT Infrastructure:** Additional empirics extracted from the analysis of the companies shows that technical infrastructure is maintained by their organizational infrastructure. The technical infrastructure is defined by Henderson and Venkatraman (1999) to be about applications, software's and data architecture. For the all the case companies, it is supported by either their IT engineers or programmers within the company or other partner or sister companies. The important role of IT manager as a technology architect, who implement information system efficiently and effectively that need the information system which is consistent with IT scope, competencies and governance (Henderson & Venkatraman, 1999). The case companies articulate this in their administration by clearly defining the roles, responsibilities and authority structures. However, fully digital companies gave us an interesting insight, that due to digital tools, the paperwork is almost zero. One of the interesting insights was extracted from company D that stated that the company before was outsourcing their applications and personnel from abroad, due to their traditional strategy but that is now changed and they have created a linkage within the company and are focusing on in-house small teams to carry out the same tasks.

**IT Processes:** Revealed a vital finding about I/S processes. It has been seen that all the companies maintained their system development online within their companies. Further, the technology transformation includes the assessment of chosen business strategy through appropriate IT strategy and reflection of I/S infrastructure and processes (Henderson & Venkatraman, 1999). When asking about how the companies are maintaining their technology transformation (digital technologies) I/S processes today most of the case companies said that social media can be maintained, monitored and controlled by everyone it does not requires the IT professionals to operate.

**IT Skills:** The last crucial insight came from the internal domain and are about skills, trainings and capabilities that are required to maintain the IT infrastructure. The important result that has been seen is almost all case companies is that they are claiming, that to deal with IT today, companies need to have IT professionals who know and understand IT infrastructure because IT is costly and time-consuming, while two of the fully digital companies claim that they don’t need and have IT professionals to deal with digital technologies because it is easy to use and handle. Employees can train themselves by watching some online trainings, as mentioned by Henderson & Venkatraman, 1999, IT skills is choice pertaining to train, develop and acquire new capabilities that manage and operate IT infrastructure.
6.4.5 The analysis & discussion of Cross-domain alignment

The answers, from the respondents, has carefully been developed and analyzed in a way where we have compared similarities and differences. The concept of Cross-domain alignment consists in the context of both external and internal domain.

The similarities and differences that we extracted from cross domain alignment in case companies shows that, all companies except company B answered that they are not 100% aligned with the two domains external and internal. The main reasons for not having aligned were, the changing pace of technologies and secondly companies are too small to create the alignments. The differences were seen in company C only who claims that they are aligned with their external and internal domains.

The cross-domain is the links which explain the essential for the business to take corrective decisions that will help them to position in the marketplace (Coleman & Papp, 2006). The two fits defined by to Henderson and Venkatraman (1999) are strategic fit and functional integration. Strategic fit is defined as use of strategy to regulate the infrastructure of the business whereas, functional integration is integration among IT and alignment of the business. According to Henderson and Venkatraman (1999) an inadequate fit between two domains may create a failure of gaining benefits from IT investments. In the case companies the alignment among domains is not present, when we asked them about DBS. Further Bharadwaj et al. (2013) claim that the role of IT strategy is changing and shifting towards a fusion with business strategy. SAM, as an alignment model is developed on the basis of the alignment among IT and business strategy, while DBS is an emerging strategy that is a fusion between both. All the case companies see this as tangled and tricky where they say it is hard to align all the domains with DBS and digital technologies.
6.5 In what way can ITBA be questioned due to DBS?

This section will consist of a discussion based on all comparisons analyses and discussions made above regarding both DBS and what was found by doing the assessment of ITBA by using SAM. The aim with this section is to answer the last research question of this study (see figure 11). The way that DBS can question ITBA can be accomplished from three different angles.

The first angle, has an internal environment perspective, by assessing the current state of DBS in the case companies using SAM. It has been seen in the case companies that DBS triggers change in the both business and the IT infrastructures and processes. This finding, that DBS triggers change, is based on findings regarding the external domain of SAM which concerns accordingly to Henderson and Venkatraman (1999) the linkage among the business strategy and IT strategy. The findings show that this linkage is not accurate today because this linkage of business and IT strategies also involves DBS. To conclude, this shows, at present time, that DBS weakens the functional integration between business and IT strategy due to the internal and external challenges that the case companies are experiencing due to DBS. This is result on the other hand that is not surprising because this is a strategy development already mentioned by Holotuik and Breimborn (2017) to be a new phenomenon based on a new joint approach of strategies that emphasizes more on the internal actions than on the external focused actions to gain competitive advantage. Due to these challenging internal and external DBS activities that the case companies are facing the internal challenge is perceived to be the biggest on is clearly seen in the case companies. Internal challenges that are not yet successfully executed in all case companies but there exists an awareness about them and they are actively being worked on to
be improved. Even if the case companies are not fully successful in using DBS, they still find their unique ways of meeting customers’ needs and expectations.

The second angle, has an external environment perspective, focuses attached to the exploitation of the new emerging IT capabilities needed due to rapid development of digital technologies and the use of DBS. Woodard et al. (2013) have mentioned that the new need capabilities risen from the digital technology development to be an issue that needs to be addressed by companies to gain competitive advantage. The findings extracted from the case companies indicates that all case companies have the insight about the need of possessing these vital new IT capabilities. Some case companies needed a specific IT capability based on that they are conducting all their business through the use of digital platforms while other case companies used alliances and different kind of partnerships to take part of specific IT capabilities. What we can conclude from this technology exploitation angle, is that the case companies by adopting digital technologies are implementing and using IT strategy, business strategies and DBS. DBS have been shown to be the driving force for change in the case companies which in the long run effects the internal domain of the case companies which effects the business infrastructures and processes moreover also effecting the IT infrastructure and processes. This shows that modern companies must explore digital technologies to develop their business and that demands initiatives to be taken by companies regarding strategies, processes and infrastructures (Matt, Hess & Benlian, 2015; Reis et al., 2018).

Based on the first and second angle, we are able to evaluate the degree in how the case companies are working with their capabilities but also opportunities given in its external environment. From these we can derive a third angle which are about the strategic fit in the case companies. Henderson and Venkatraman (1989) are describing strategic fit to have the aim of aligning companies IEBE. We have already draw the conclusions above, that the functional integration between business and IT strategies in the external environment to be weak due to DBS further also that there exists a weak functional integration in the internal domain of the case companies which effects the business infrastructures and processes moreover also effecting the IT infrastructure and processes. The discovery that the case companies have weak functional integrations may distress the strategic fit. Strategic fit relates to the alignment between the IEBE (ibid). By looking at how the case companies are perceiving and using their resources and capabilities by using strategies to improve their external environment, the findings show that all case companies are actively working with their internal resources and capabilities and they are adapting new strategies involving business strategies, IT strategies and DBS. By discussing the conditions of the IEBE reveals that, the cross-alignment, in the case companies to be that they have an awareness of not being fully aligned with their IEBE, and they feel that they must continue working on finding a working balance for DBS and IT-business strategies.
7. Conclusions & future research

This chapter will consist of us answering our research questions. It will also highlight what kind of limitations we encountered when we were conducting the study. In the end, we will also discuss and present future research suggestions.

7.1 The current state of DBS

To evaluate the current state of DBS, we have extracted empirics from the interviews conducted in our case companies which has been both analyzed and discussed in previous chapter (see analysis & discussion chapter). The conclusion we draw about the current state of DBS is as followed. The case companies are conducting both internal and external DBS activities were the internal are creating the biggest challenge for them. Internal challenges connected to how to gain and develop IT capabilities which shows that they have an insight about their IT infrastructure and how it is affecting the business. Awareness is one keyword that has occurred several times during the analysis which shows that the case companies are working simultaneously with both tangible and intangible resources, digital technologies and DBS in a profitable way. We also conclude that the case companies are working actively to find a balance between IEBE by conducting activities such as engaging in different kind of alliances and partnership. Time and investment issues was risen by some of the case companies but rejected by other case companies, which has made us be of the opinion that value creation to be something that are unique for each case company and are based on what kind of product, service and what kind of industry that the company exist in.

7.2 What are the potential benefits & challenges of DBS?

Based on the comparative analysis where we looked on similarities and differences in the case companies, we conclude that we hereby can answer and create an understanding about what kind of benefits and challenges regarding DBS. Found benefits regarding DBS is that it opens up to possibilities to levering customers and to automating the work processes. When it comes to the challenges of DBS almost all companies reveal that they have faced some internal challenges such as that employees can contribute to the biggest internal challenge due to different IT maturity levels. This creates one additionally challenge according to the case companies which relate to the subject of hiring and training employees with relevant IT skills.

7.3 In what way can ITBA be questioned due to DBS?

The conclusion we derive from assessing the alignment perspectives of SAM and evaluating the concept of DBS, is that DBS is a driving force for change in the case companies’ ITBA. By analyzing each domain, we concluded that case companies are using DBS or adopting DBS as
their business strategy, which is creating distinctive competences regarding the implementation and use of digital technologies. However, the use of digital technologies is creating an urge for developing new IT infrastructures and processes. Additionally, DBS provides the case companies with opportunities to fit into the digital eco-system which has created more efficient, flexible and connected workplaces. Moreover, companies do not see the alignment between the four domains of strategic alignment model when it comes to use of DBS and digital technologies, mainly because of rapidly changing technology pace.

7.4 Limitations

Although we strived towards high quality in the study (see section 4.4 reliability & validity) we came across some limitations. The first limitation was that we had a time restriction, one semester to conduct both the study and write the thesis. Second limitation was about finding a topic and a research gap to investigate which was one of the biggest challenges we had to struggle with. In this second challenge, we also had to figure out what type of industry and company/companies we wanted in the research. In order to even start the empirical investigation, we struggled to find the suitable sample but that was later solved by just choosing one profession of higher management such as CEO. Third limitation, finding case company/companies. Our first approach was, have just one company and conduct 2-3 interviews within that company but that was later changed because we did not find any company that had time for us to conduct that many interviews. That lead us to have several companies and just conducting 1 interview per company. Searching for companies resulted that we lost great amount of time. It took time but we ended up with several companies participating in the study. Fourth limitation was connected to how we constructed our interview guide. After doing the analysis and discussion we have made some reflections regarding that it would have been more beneficial for us to have more specific questions regarding DBS because the ones we had was according to us more general.

7.5 Future research

Even after contributing with our study, we feel, that the topic of DBS still to be in need of more attention and further research. The main reason became clear during the study is that the role of DBS still is unclear. An reason that may depend on that companies still are unaware of the importance and effect of DBS in their strategy development but also on their business models. We suggest that it can be relevant to investigate further about how to create a new theoretical model that are focused around the integration between IT- and business strategies and DBS are included. A new theoretical model that may contribute to new emerging strategies and technologies in the future. To succeed in building a new theoretical model, we propose that a larger qualitative and quantitative study to be done over a longer period of time.
8. Reference list


Tracy, S.J. (2013). Qualitative research methods: collecting evidence, crafting analysis, communicating impact. Chicago: Blackwell LTD.


9. Appendices

This chapter will show the information letter that we sent out to different companies. Even the interview guide that we sent to our participating companies is shown here.

9.1 Appendix 1 - The information letter

Hi ‘company name’,

We are two master students, Sumera Magsi and Sarah Shaaban, studying a master program called Business Administration - Strategy and Management in International Organizations, at Linköping University.

Companies are trying to maintain the pace with the rapid changing technological developments, which are impacting the business overall. Today, alignment is more challenging because of rapidly changing environmental dynamism, new technologies, innovations that change strategic and operational models. Furthermore, technology integration with business processes is often considered difficult and time consuming. Technology management is challenging as number of factors are associated with it. For example, advancement of technology, diversity of technology, growing pace of globalization and increase in knowledge of information systems. Authors has stated that, alignment of IT and business to be more challenging because of the transformation of traditional technology operations and processes into more digital technologies. One more claim is that these models such as (SAM model) soon may not be relevant mainly due to the fast-growing developments in IT. The introduction of digitalization and digital business, companies have transformed their business operations, models and process by adapting to new digital technologies. Therefore, the new emerging concept of “digital business strategy” (DBS) has emerged.

The reason we are interested in conducting the research in your reputable organization and having you as a participate is that an increasing trend of digitalization and completion among the companies, it's kind of need of companies to adopt the digital changes. In this research, we are relating to a model developed by Henderson and Venkatraman (1993) known as “Strategic alignment model” (SAM model) that allows organizations to make use of their IT assets. Further, this model, is since 1993, often used by researchers as a base for IT-business alignment (ITBA) investigation, with some modification and extension. Moreover, by using the “Strategic Alignment Model” as a foundation for the research we aim to provide both digital organizations and researchers with a new improved model and practical suggestions that can be of use in future to reap the benefit in rapidly changing digital technological era. By conducting the research and by answering the research questions, we are by the opinion, that we may contribute with new and challenging data about the technological alignment between digital technologies and digital business strategies. The use of our research can be of interest for fields such as; IT and business and technology management.
We will conduct in-depth interviews based on our research question and on SAM model above and your contribution will help us to explore the ITBA and SAM model. We want to understand how digital technologies align with new emerging strategies such as digital business strategy. Is there any need of a new model or can companies fit new strategies within the existing SAM model? We also intend to see if by conducting this research will be able to modify the SAM model with new data concerning the merging digital business technologies and strategies.

Kind regards,
Sumera Magsi & Sarah Shaaban

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Sarah Shaaban
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9.2 Appendix 2 - The interview guide

ASK
Permission to record.
Anonymous? company and individual
Can we come back if we need more information?

BACKGROUND
- Male / Female
- Age
- Tell us about your background? (work experiences, education)
- What is your role? What are your responsibilities?

DIGITAL TRANSFORMATION
- What initiatives has the company been taking towards the digital transformation?

DIGITAL BUSINESS STRATEGIES
- What / which challenges did you face in the conversion from traditional to being digital?  
  What / which challenges did you faced in conversion from traditional strategy into digital business strategy?
- Has the company seen any benefits from the use of digital business strategies, if yes, elaborate? If no, why?

EXTERNAL DOMAIN
- What kind of digital technologies do the company possess?
- What are the positive and the negative about these digital technologies when it comes to new revenues or value-producing opportunities?
- Do the company have digital technologies that other companies do not have in the market? If yes, elaborate. / what is your competitive advantage?
• How these digital technologies create interconnectivity or flexibility in your company?

• When it comes to governance of IT, how does your company create new IT competencies? For example, Strategic Alliances, joint research.

• When it comes to technology and competition, neither of them is stable, what are your opinion about the constant changing technology?

INTERNAL DOMAIN

• About the company’s technical infrastructure, are the roles, responsibilities and authority structures outspoken and written down? If no, elaborate.

• What kind of system development, maintenance, monitoring and control system exists in the company? How does that support and shapes business strategies?

• What type of IT skills are needed in digital era to operate the IS infrastructure?

CROSS-DOMAIN ALIGNMENT

• How does your company align, by having digital business strategy and digital technologies? (think that in IT-business Alignment perspective)

• Are you by the opinion that there exists an alignment between the external and the internal domains in the company? If yes, elaborate.

Thank you for participating

Kind regards,

Sumera & Sarah

Our contact information

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9.3 Appendix 3 – LinkedIn message

The translation of the Swedish message we sent on LinkedIn to our respondents.

**Figure 12. Our Swedish LinkedIn messages.**