Managing Organizational Factors in Technology Assimilation for Web-based Business to Business E-Commerce

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by

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Hantering av organisatoriska faktorer i teknisk assimilering för webbaserad business-to-business e-handel

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Abstract

Introduction: The use of Web-based Business-to-Business E-commerce is increasing, however many companies who previously adopted e-commerce technology have failed to utilize it. Meanwhile, research has mostly focused on quantitative research regarding factors affecting the adoption of e-commerce, leaving a research gap regarding the routinization of the technology.

Purpose: The purpose of this study is to provide knowledge regarding the management of the entire web-based business-to-business e-commerce assimilation process from initiation, to adoption and routinization.

Method: The study addresses which factors affect the assimilation process, where in the process they are relevant and how they may be managed. A multiple case study with six large companies has been conducted through semi-structured interviews. The cases were compared to each other, as well as to previous research within e-business and/or e-commerce assimilation and adoption. Furthermore, change management literature has been used to aid the analysis of how certain factors may be managed.

Findings: We have found the assimilation of web-based e-commerce to be a complex and iterative process that involves several interconnected factors which organizations manage in various ways. Seventeen factors within the technological, organizational and environmental contexts were identified to be relevant in the different phases of the assimilation process. A discussion regarding how these factors may be managed is conducted, including some indications on what approaches seem to be more or less viable.

Practical Implications: Managers may use the findings of this study as guidance in their web-based e-commerce assimilation process.

Originality/value: This study contributes with qualitative research on which factors affect the entire assimilation process of web-based e-commerce and how the factors may be managed.

Paper Category: Master Thesis

Introduktion: Användningen av webbaserad e-handel i business-to-business-företag ökar, men många företag som redan har implementerat detta har misslyckats med att använda dess fulla potential. Samtidigt har forskningen huvudsakligen fokuserat på att kvantitativt studera faktorer som påverkar själva implementationen, medan aspekter rörande den efterföljande användningen av e-handeln har lämnats outforskade.

Syfte: Syftet med denna studie är att bidra med kunskap kring hanteringen gällande hela processen, från initiering till implementation till att slutligen uppnå ett utbrett användande av den webbaserade e-handeln i business-to-business företag.

Metod: Studien utredar vilka faktorer som påverkar processen, var i processen de är relevanta och hur de kan hanteras. Genom intervjuer genomfördes en komparativ fallstudie mellan sex stycken stora företag i Sverige. Företagens hantering av faktorerna jämfördes sinsemellan, samt med tidigare forskning inom implementation och hantering av e-handel. Detta jämfördes dessutom med teorier inom förändringsledning för att styrka analysen angående hur processen skulle kunna genomföras.

Resultat: I vår studie har vi sett att den kringliggande processen runt implementationen av webbaserad e-handel är komplex och iterativ, samt att den har hanterats med varierande tillväggagångssätt. 17 faktorer inom tekniska-, organisatoriska- och miljösammanhang har hittats relevanta för de olika faserna i processen. Slutligen har det förts en diskussion angående hur dessa faktorer skulle kunna hanteras, samt indikationer på vilka tillväggagångssätt som verkar mer eller mindre gångbara.

Praktisk Betydelse: Chefer och ledare kan använda resultaten och slutsatserna från denna studie som handledning under deras process för implementation av webbaserad e-handel i business-to-business-företag.

Originalitet/Värde: Denna studie bidrar med kvalitativ forskning angående vilka faktorer som påverkar den organisatoriska processen för implementation av webbaserad e-handel samt hur dessa faktorer skulle kunna hanteras.

Rapporttyp: Examensarbete, avancerad nivå.

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# Contents

Nomenclature ........................................ III

List of Figures .................................... III

List of Tables ...................................... III

1 Introduction ....................................... 1
   1.1 Background ........................................ 1
   1.2 Problem Formulation .............................. 2
   1.3 Purpose ............................................ 2
   1.4 Research Questions ............................... 2
   1.5 Contributions ..................................... 3
      1.5.1 Research Contributions ....................... 3
      1.5.2 Contributions to the Commissioning Company .... 3
   1.6 Delimitations ..................................... 3
   1.7 Outline ........................................... 4

2 Literature on E-commerce ....................... 7
   2.1 Definition of E-commerce ....................... 7
      2.1.1 Business within E-commerce .................. 7
      2.1.2 E-commerce Technology ....................... 10
      2.1.3 Difficulties and Possibilities of Web-based E-commerce ... 11
   2.2 E-commerce Assimilation ....................... 12
      2.2.1 Factors Influencing the Assimilation Process .... 13

3 Theoretical Approach ............................ 23
   3.1 Theoretical E-commerce Assimilation Framework ... 23
   3.2 Theoretical Underpinning: Change Management ....... 25
      3.2.1 Kotter’s Eight Step Change Model ............... 26
      3.2.2 Theory E and Theory O .......................... 28

4 Method ............................................. 31
   4.1 Research Design ................................... 31
   4.2 Gathering of Literature ........................... 32
   4.3 Collection of Empirical Data ..................... 33
      4.3.1 Interviews ....................................... 33
   4.4 Analysis ........................................... 35
   4.5 Validity ........................................... 36
   4.6 Reliability ......................................... 37
   4.7 Generalization .................................... 38
5 Findings

5.1 Company A’s E-commerce Assimilation ............................................. 40
5.2 Company B’s E-commerce Assimilation ............................................. 42
5.3 Company C’s E-commerce Assimilation ............................................. 46
5.4 Company D’s E-commerce Assimilation ............................................. 51
5.5 Company E’s E-commerce Assimilation ............................................. 54
5.6 Company F’s E-commerce Assimilation ............................................. 57
5.7 Key Findings ................................................................. 60

6 Discussion

6.1 Web-based E-commerce Assimilation ............................................. 67
6.2 Technological Assimilation Factors .................................................. 68
6.3 Organizational Assimilation Factors ................................................ 72
6.4 Environmental Assimilation factors .................................................. 83
6.5 Revised Assimilation Framework ...................................................... 84

7 Conclusion

7.1 General Conclusions ................................................................. 87
7.2 Answering the Research Questions ................................................ 87
7.3 Implications ................................................................. 93
  7.3.1 Sustainability Implications ...................................................... 93
  7.3.2 Managerial Implications ...................................................... 93
  7.3.3 Research Implications ...................................................... 94
7.4 Limitations and Further Research .................................................. 94

References ................................................................. 97
Nomenclature

\[
\begin{align*}
B2B & \quad \text{Business to Business} \\
B2C & \quad \text{Business to Consumer} \\
CRM & \quad \text{Customer Relationship Management} \\
EB & \quad \text{Electronic Business} \\
EC & \quad \text{Electronic Commerce} \\
EDI & \quad \text{Electronic Data Interchange} \\
ERP & \quad \text{Enterprise Resource Planning} \\
IS & \quad \text{Information Systems} \\
KPI & \quad \text{Key Performance Indicators} \\
PIM & \quad \text{Product Information Management} \\
TOE & \quad \text{Technical-Organizational-Environmental} \\
WB & \quad \text{Web-Based}
\end{align*}
\]

List of Figures

1. Thesis Outline ........................................... 4
2. Business Models for E-commerce (Barnes-Vieyra and Claycomb, 2001) ........ 8
3. E-commerce Components, adapted from Qin et al. (2014) ..................... 9

List of Tables

1. E-commerce Assimilation Framework ........................................... 24
2. Research Process .................................................. 32
3. Interview specifications ............................................... 34
4. Approximate position of companies in the assimilation process .......... 34
5. Framework Approach ................................................ 36
6. Key Findings ....................................................... 61
7. Revised Assimilation Framework ........................................... 85
1 Introduction

In this chapter, a background on the topic of web-based business-to-business electronic commerce and the surrounding circumstances will be presented. This will be the starting point of which the study will stem from. The background will funnel down to a problem formulation, a purpose and the research questions which the study will address. Lastly, the intended contributions of this research, our delimitation, and the thesis outline will be presented.

1.1 Background

New digital technologies are constantly emerging, where actors in almost all industries are continuously trying out new technologies in order to gain benefits from them. The exploration of digital technologies is pressuring organizations, where key business operations are transformed, and many parts of the firms and their surrounding environment are being affected, e.g. regarding products, processes, sale channels, and supply chains. There are many possible benefits that come with digitalization, such as an increase in sales, productivity, and new ways of customer interaction (Matt et al., 2015). Due to this, new business models can emerge, and old ones will thus either be changed or replaced (Matt et al., 2015).

Electronic Commerce (EC) is a concept based on digital technologies (Qin et al., 2014), where two types of businesses are prominent, which are the Business to Business (B2B) and Business to Consumer (B2C). Two ways of conducting B2B EC is through Electronic Data Interchange (EDI) and/or web-based EC (WB EC). Lee, Clark, et al. (1999) and Zhu, Dong, et al. (2006) have argued that EDI can provide increased efficiencies in the sales and procurement operations and tighten the partnership between buyer and seller. Catlin et al. (2016) provide more recent research and argue that B2B companies have been focusing mainly on utilizing the emerging technologies to increase cost- and process efficiency, like EDI, and not on offering innovative ways of sales and customer experience. In line with this Litium (2017) shows in a survey of 157 companies in Sweden that the most significant reasons for businesses to enter the B2B EC market is to simplify administration and make the sales more effective. Accenture (2015a) likewise conclude through their own survey that it is mainly the possibility of selling more profitable that is the main driver, followed by quick sales and increased customer satisfaction. Catlin et al. (2016) however argue that being innovative regarding sales and customer experience is where the substantial growth opportunity lies for B2B companies. With WB EC, companies can both gain operational efficiencies but also benefits in a strategic sense and the possibility of increased sales (Zhu, Dong, et al., 2006).

Indications point to that the web-based B2B electronic commerce (WB B2B EC) market is growing today. According to research conducted by Hoar and Sheldon (2015), 74% of purchasers researched half or more of their B2B purchases online in 2015 and purchasing units spend more and more time researching their purchases online (Halchak, 2017; Orendorff, 2017). At the same time, 93% of the companies preferred to buy online (Hoar and Sheldon, 2015). This drives B2B suppliers to increase their online capabilities, to be able to meet the needs of the purchasers (Accenture, 2015b). That suppliers are currently focusing on increasing their B2B EC capabilities is evident from the study of Hoar and Sheldon (2015) who found that B2B sup-
pliers are increasing their spending on WB EC technology. Moreover, Demery (2017) reviews a Forrester report and notes that WB B2B EC is forecasted to grow at an annual rate of 7.4% in the US and that it will represent 13.1% (USD1.2 trillion) of the total B2B sales in the country in three years. Furthermore, while reviewing the reports of Litium (2016) and Litium (2017) it can be seen that there has been an increase, where an additional 11% of the surveyed companies in Sweden in 2017 used a web-based shop as a sales channel as compared with the year before.

To be able to conduct business through WB EC, it is a prerequisite that the organization adopts the technology which enables this kind of commerce (Hong and Zhu, 2006). However, several companies who previously adopted EC technology have failed in gaining value from it (Zhu, Kraemer, et al., 2006). Therefore, Zhu, Kraemer, et al. (2006) argue that there is a need to consider the entire assimilation process; from initiation which is when an organization becomes initially aware of the technology and evaluates the benefits of it, to the adoption which is when the companies decides to acquire the technology and finally to the routinization phase, which is when the technology is integrated in the organizations value chain activities. To achieve this, the organization has to be adapted and restructured (Zhu, Kraemer, et al., 2006). For this to happen there are a variety of dimensions that needs to be considered, where Catlin et al. (2016) more particularly point out that organizational challenges could hinder the effectiveness and reach of initiatives towards becoming more digital and adopting new technologies.

1.2 Problem Formulation

Commerce is becoming increasingly digital, where WB B2B EC is emerging and comes with many benefits, as outlined in the background. Companies who want to gain from these benefits have to adopt and integrate WB EC technologies into their organizations as well as make internal changes to align their ways of working with the new digitalized commerce. Therefore, the problem is to identify which factors and aspects that organizations should address in the assimilation process of WB EC technology and to understand how these are to be managed.

1.3 Purpose

The purpose of this study is to investigate which factors affect web-based e-commerce technology assimilation, how they are relevant, and how organizations have managed them. The objective is to provide knowledge regarding how to integrate web-based e-commerce into an organization.

1.4 Research Questions

Main research question: How do traditional B2B organizations manage their WB EC assimilation?

Sub research questions:

1. What factors influence WB B2B EC assimilation and in which phases are these relevant?

2. How are the factors relevant and how can they favorably be managed?
1.5 Contributions

Through this study we expect to contribute to research, but also with knowledge that can provide value to the commissioner of this study. These contributions are elaborated upon below.

1.5.1 Research Contributions

Paris et al. (2016) have identified that the assimilation process of EC is a complex process which needs to be studied from a holistic perspective. Previously, research has quantitatively investigated what factors affect the assimilation of EC, whereas there is a lack of qualitative case studies on this matter (Sila, 2015). Moreover, these studies have mostly been conducted on the adoption phase of EC (Sila, 2015; Paris et al., 2016). Accordingly, Paris et al. (2016) have identified that there is a need to map out the factors in the entire process. Furthermore, Paris et al. (2016) found that no previous studies have been conducted on how organizations manage these factors. This study will be conducted by investigating and identifying factors that influence the entire process regarding technology assimilation and more specifically towards WB B2B EC technology. The study will be grounded in published literature on factors affecting the assimilation of EC, and by conducting case studies at different companies we aim to contribute with a qualitative study regarding these factors, their effect on the assimilation process of WB B2B EC, and how they have been managed by the organizations.

Consequently, we will contribute with knowledge regarding the assimilation process of WB B2B EC. The aim is to give organizations an understanding on the complex landscape of B2B EC assimilation, the factors that influence the process and possible ways that these factors may be managed. Moreover, this study will contribute with qualitative empirical material regarding the assimilation process, which addresses the identified lack of research. Lastly, it will provide knowledge to organizations who are interested in the assimilation process of WB EC.

1.5.2 Contributions to the Commissioning Company

The commissioner of this study is a representative of PostNord. PostNord is a large logistics company based in Scandinavia. The increase in sales via e-commerce channels arguably leads to an increase in the logistics services market. Therefore PostNord have an interest in that their customers are prosperous, and accordingly provide consultation to help their customers grow their business (PostNord, 2016). For this reason PostNord wants to gain knowledge within B2B e-commerce, which may aid them in consulting their customers.

1.6 Delimitations

Our study will focus on WB B2B EC from a supplier’s point of view. Particularly, the study will focus on literature and empirical objects based on the frames that we study large organizations conducting trade with physical goods within wholesale and non-industrial business. Large organizations are defined to exceed at least 250 employees and €50 in turnover (European Commission, 2018). The empirical objects are moreover organizations conducting business in Sweden, however not necessarily having their entire customer base and operations in Sweden.
Furthermore, regarding the *system perspective* outlined by Blomkvist and Hallin (2015), we will focus on the organizational aspects in the functional level of these organizations. Moreover, appropriate considerations will be taken to adjacent aspects at the industrial and individual levels, but they will not be investigated in-depth. Furthermore, we delimit our empirical study from investigating the implementation of EDI and other information technology systems related to EC.

### 1.7 Outline

In chapter 1 *Introduction* we start by elaborating on the phenomenon of WB EC that is emerging in B2B sales. We then identify a problem area within this phenomenon that is of interest to be studied, i.e. the assimilation process of WB EC. From this, we conclude what the purpose of the study should be, and subsequently formulate research questions that is to be answered to fulfill the purpose. The expected research contribution is stated, and a formulation of the delimitation is made to better define what is to be studied. In chapter 2 *Literature on E-commerce*, we first, to reduce ambiguity, define the underlying concepts that will be used throughout the study, i.e. what EC and EC technology encompasses. Subsequently, a review of previous literature is done where a delineation of the assimilation process is made, and factors relevant for EC assimilation are presented. In the following chapter 3, *Theoretical Approach*, we use the delineated assimilation process and factors from the previous chapter to construct a theoretical framework. This is used later on in the study to structure the empirics and visualize the relation between the factors and the assimilation process, and also aid us in our analysis. We furthermore present the theoretical underpinning of the assimilation process in two change

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Background, Problem Formulation, Purpose, Research Questions, Research Contribution, and Delimitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature</td>
<td>E-commerce definition, Difficulties &amp; Possibilities, E-commerce Assimilation, and Assimilation Factors</td>
</tr>
<tr>
<td>Theory</td>
<td>Theoretical Framework, Change management, Kotter’s Eight Step Model, and Theory E &amp; Theory O</td>
</tr>
<tr>
<td>Method</td>
<td>Research Design, Gathering of Literature, Collection of Empirical Data, Interviews, Analysis, Validity, Reliability, and Generalization</td>
</tr>
<tr>
<td>Findings</td>
<td>Empirical Denotation for Company A through F</td>
</tr>
<tr>
<td>Discussion</td>
<td>WB EC assimilation, Technological, Organizational, Environmental Assimilation Factors, Revised Assimilation Framework</td>
</tr>
<tr>
<td>Conclusion</td>
<td>General Conclusion, Answering RQs, Managerial-, Sustainability-, and Research Implications, Limitations and Further Research</td>
</tr>
</tbody>
</table>

*Figure 1: Thesis Outline*
management models which aid us in the analysis and discussion of our empirics. In the following chapter, 4 Method, the research design and methodology is presented and elaborated upon, complete with a discussion regarding validity, reliability, and generalization. Consecutively the empirical material is presented in chapter 5 Findings in a structured and reduced form, following the structure of the theoretical framework previously mentioned. Afterwards, the comparative analysis and discussion is made in chapter 6 Discussion, where literature from chapter 2 and theory from chapter 3 is used. In chapter 6 Discussion we re-structure the factors delineated in chapter 2 to better capture the overlapping dimensions that were revealed during the analysis. Consecutively the conclusions from the analysis and discussion are presented in chapter 7 Conclusion and the research questions formulated in chapter 1 are answered. Lastly in the conclusion chapter, sustainability, research, and managerial implications are concluded, as well as suggestions for further research. In figure 1 the thesis outline is depicted with the different chapters and their respective subsections and content.
Chapter Summary

In this chapter we have firstly outlined the background of a phenomenon in that the world is becoming increasingly digitalized and the market for web-based B2B e-commerce is growing. Purchasers are using the web increasingly in their procurement activities. This drives the B2B sellers to invest in web-based e-commerce technologies, as it may provide B2B sellers with strategic benefits and increased sales. Many companies have previously adopted e-commerce technology but failed to gain the benefits of from it. In the subsequent problem formulation and purpose we therefore state that it is important to understand the entire assimilation process, not only as a technology implementation aspect, but also how organizational changes that has to be made could be managed. To understand this process and answering the research questions, the factors that influence the process are to be studied, as well as how these factors have previously been managed. We subsequently outline the research contribution based on that previous literature has stated that there is a lack of research within the assimilation process of e-commerce. More precisely, that there is a lack of qualitative case studies, studies conducted on other phases than the adoption phase, and how the identified factors are to be managed. This study will accordingly contribute to this lack of research. Lastly in this chapter, we have stated the delimitation, and delineated the outline of the study.
2 Literature on E-commerce

In this chapter we will present relevant previous research that has been conducted on electronic commerce. To reduce the ambiguity of the base of our study and because of the fast-changing nature of development of electronic commerce we see it appropriate to elaborate on what the term ‘electronic commerce’ entails and explore some important differences. Furthermore, we will elaborate on different business models of B2B electronic commerce, the components surrounding it and what electronic commerce technology entails. Subsequently, we will present previous research that has been conducted on the assimilation process of e-commerce technology. This will include a literature review on factors that are inherent to the assimilation process.

2.1 Definition of E-commerce

Since the foundation of this study is in electronic commerce, it is relevant to explain what electronic commerce is defined as, and consists of. Qin et al. (2014) present a variety of definitions which have been formulated by different international organizations. They argue that since the science of electronic commerce is so young, there is yet to come a definition that is widely accepted. OECD (2007, p.240) suggested a definition of electronic commerce as; “Electronic commerce refers to commercial transactions occurring over open networks, such as the Internet”. Contrastingly, Qin et al. (2014, p.2) note that the International Chamber of Commerce (ICC) defines electronic commerce as “Electronic commerce is to digitalize all phases of trading activities in the entire trade process”. The apparent difference here is that the OECD definition seems to delimit electronic commerce to just the commercial transaction while the ICC definition encompasses the revolving activities and processes as well. For our purpose we have chosen to follow the definition formulated by the ICC as it is less delimiting.

As for the distinguishing between EC and e-business (EB), Laudon and Traver (2014) argue that EC is referring to externally digitally based activities, and that EB is referring to internally digitally based activities. However, Mendonca (2003) states that EB encompasses all digitally based activities in an organization, both external and internal. We choose to follow the view of Mendonca (2003) where EC is encompassed by EB, but where EC is exclusively referring to external activities, in accordance with the view of Laudon and Traver (2014).

2.1.1 Business within E-commerce

The definitions previously mentioned in section 2.1 can be interpreted as such that a variety of participants can be combined in the EC. The most commonly recognized combinations are however business-to-consumer (B2C) and business-to-business (B2B) (Chaffey, 2015; Laudon and Traver, 2014; OECD, 2007). B2C purchasing behavior has been transformed due to digitalization, and now B2B purchasers’ behavior is also changing. Lingqvist et al. (2015) argue that the B2B purchasers are being influenced by their experiences when shopping privately and that their behavior is undergoing a change toward a behavior similar to B2C customers’. For example, business customers are becoming more social, meaning that they are being influenced by for example blogs on which suppliers to choose. Furthermore, business purchasing is becoming more real-time on digital platforms, where purchasers want real-time interactions
(Lingqvist et al., 2015). However, there are many differences between B2B and B2C businesses, where Maechler et al. (2017) identify four as crucial ones. The first one is that B2B relationships are stronger and more long-term than B2C relationships, e.g. businesses sometimes co-develop products together and that customers often return to the same supplier over a longer period. The second factor is that B2B trading often involves many decision makers, sometimes up to 15-20. Thirdly, B2B offerings are often more customized both when it comes to products but also to processes. Lastly, the average relationship between B2B companies is often of greater importance than compared to the average B2C relationship. I.e. losing one customer in a B2C market has a small impact on the business in most cases, as consumers on average purchase products in low volume. However, losing a customer in the B2B market, where the average buyer purchases more frequently and/or in larger volumes, would have a more significant impact (Maechler et al., 2017).

As outlined in chapter 1 the rise of WB B2B EC is likely resulting in organizations being forced to deploy appropriate business models. Barnes-Vieyra and Claycomb (2001) roughly specify five different types of EC business models. These business models, depicted in figure 2, show how a business can operate in relation to the market and visualize the seller/buyer relationship. The models are presented as follows:

1. One seller to many buyers. This is where the seller uses their own website to sell their products without the intermediation of other actors. Barnes-Vieyra and Claycomb (2001) argue that this is a common model to use if EC is not the only distribution channel that they sell their products through.
2. **Many sellers to one content aggregator to many buyers.** This is where an intermediary provides a marketplace for sellers and buyers to meet, and Barnes-Vieyra and Claycomb (2001) describe it as a “hub” for commerce. Likewise, this model also falls into how Li and Li (2005) and Sila (2015) define an e-marketplace.

3. **One seller to one broker to many buyers.** This can be exemplified as an online auction. It is mentioned that this model is most profitable to use if the products are vastly differentiated or perishable, but also suitable for trading of commodities.

4. **Many sellers to one buyer.** Barnes-Vieyra and Claycomb (2001) argue that this model is an extension of the established EDI models (further elaborated upon in section 2.1.2) of commerce. It is described as a model in which the buyer can source their goods and services in an efficient way where the sellers are bidding against each other.

5. **Many sellers to many buyers.** This model is depicted as a development of the fourth model but in which all participants in the model have the opportunity to sell to or buy from any of the other participants via interconnected and transparent software solutions.

As B2B EC is going towards more B2C-like business models (Lingqvist et al., 2015) and that EDI is something that is delimited from this study, business model four and five (which are EDI-based) become less relevant for our research. We will moreover use the abbreviations WB EC exclusively as referring to WB EC within B2B specifically, unless otherwise stated.

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**Figure 3: E-commerce Components, adapted from Qin et al. (2014)**
Elaborating more on the participants Qin et al. (2014) describe each EC purchase as consisting of six actors and one central network system as depicted in figure 3\(^1\). These actors are: the business that is offering the product or service, the EC buyer, the certification authority which manages digital certificates, the distribution center which manages the logistical aspects, the e-bank which handles the monetary aspects 24 hours per day, and the commercial administration which encompasses the governmental aspects like tax and customs departments.

### 2.1.2 E-commerce Technology

The central network system in figure 3 includes the internet and other informational systems that are present internally and externally (Chaffey, 2015; Qin et al., 2014). Indeed, a wide range of technologies could be classified as EC technologies. This is visualized by Sila (2013) who performs an empirical study regarding B2B EC adoption and uses seven different technologies to represent EC technology. These included: purchasing and procurement applications, inventory management applications, order processing applications, transportation applications, customer service applications, product scheduling applications, and vendor relations applications. Sila (2015) later did an extensive literature review providing great insight into EC research and states that B2B EC technologies range from electronic marketplaces, online auctions, and WB EC, to *enterprise resource planning* (ERP) systems.

The most common technology that occurs in a B2B EC context in previous research is *Electronic Data Interchange* (EDI) which has its origins in the pre-internet era (Tai et al., 2010). Weele (2015, p.406) defines EDI as “inter organizational exchange of business documentation in a structured, machine-processable form”. More specifically Massetti and Zmud (1996) use a model for describing EDI usage by the four dimensions of: to what extent of an organization’s exchange of documents are managed via EDI solutions, the level of diversity in types of documents that are managed via EDI solutions, to what extent the organization has established EDI connections to its commerce partners, and to what degree the organizations business processes are intertwined with their business partners’ through EDI. Interpreting this, EDI revolves around and has its foundation in the exchange of documents between organizations via confined interconnected and compatible technology solutions.

As noted by for example Beige and Abdi (2015), the development of WB solutions for EC is rapid, the variety of solutions are many, and at the same time research regarding them is limited (Mora-Monge et al., 2010). This makes it difficult to formulate a definition of what encompasses the WB EC system, distinguishing it from e.g. EDI systems. Mora-Monge et al. (2010) however argue that one particular difference between EDI and WB EC is that EDI is enabled by predefined transactions whereas WB EC is not. Moreover, similar to the Massetti and Zmud (1996) description of EDI usage, Mora-Monge et al. (2010) target the usage of the WB EC system while distinguishing WB EC from EDI. Instead of having its foundation based on level of document exchange and confined technical interconnectivity, the WB EC usage is defined by Mora-Monge et al. (2010, p.777) as; the “level of electronic means used in processes that can occur between organizations”. To capture the scope of these kinds of business processes

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\(^1\)Icons in figure 3 made by Becris from Flaticon.com
relevant to WB EC, Auger et al. (2003) list nine Internet-based activities as follows:

1. Advertising/Marketing
2. Market/Customer research
3. Information gathering
4. General administration
5. Purchasing
6. Sales
7. Competitive bench-marking
8. Customer service/support
9. Shipping/Distribution

Mora-Monge et al. (2010) also list examples of such processes, many of which are identical to the Auger et al. (2003) list, but Mora-Monge et al. (2010) do not rule out that more processes could be included. The way of defining what EC encompasses, by basing it on what it can be used for, is compatible with the nature of fast development of WB EC technology as it allows for additional features and purposes to be included progressively. Thus, deriving from the mentioned definition from Mora-Monge et al. (2010, p.777) previously mentioned, a seemingly viable definition of what WB EC technology is, could thus be; a technology solution enabling engagement in business processes that can occur between organizations via the web.

2.1.3 Difficulties and Possibilities of Web-based E-commerce

As with any change there is going to be some kind of obstacles. Accordingly, an Accenture (2015a) survey sheds light on three areas which might slow down the transition of going towards offering a digital sales channel as an alternative. The survey focuses on evaluating the readiness of the organization in itself, the readiness of the operational capabilities, and lastly the technology, and from this concluding that none of these areas were problem free among the surveyed companies. Litium (2017) confirms that the organizational legacy is perceived as a significant issue while going through this digital transformation and that the complexity of B2B commerce is difficult to translate to a digitalized platform. Moreover, they identify lack of competence and integration of systems as challenges for companies as well as an emerging risk of channel conflicts. Weele (2015) elaborates on the challenges in the integration of systems in that general ledger systems and administrative systems require seamless integration. On a more positive note, Beige and Abdi (2015) state that some of the benefits of B2B EC is that it can facilitate the purchasing process for the buyer, the obstacle of geographical distance is obscured, and to more efficiently compete with other actors in the market. Mora-Monge et al. (2010) moreover find in their study that WB EC had a positive impact on organizations, providing both operational benefits as well as strategic benefits. Concludingly, they argue that WB EC will undoubtedly have a significant role in changing the competitive environment and
determining the future success of organizations. Therefore, as argued by Hong and Zhu (2006) and outlined in section 1, it is important that the organization adopts WB EC, and assimilates the essential technology, to be able to capitalize on the possible benefits of WB EC.

2.2 E-commerce Assimilation

In general, diffusion is the spread of a technology across a population of organizations and technology assimilation includes the entire process from which an organization becomes aware of an innovation, to the decision to adopt it and to a full-scale implementation in the organization (Fichman, 2000). For the assimilation of IT innovations, a six-step stage model has been developed by Cooper and Zmud (1990). The stages according to their model are:

- Initiation - Organizations actively and passively search for opportunities/problems and IT solutions which can address the opportunities/problems.
- Adoption - Internal negotiations are made with the aim of achieving organizational support of the IT initiative. Decisions to allocate necessary resources for the initiative are made.
- Adaption - The IT is now applied. Procedures within the organization are revised and employees are trained both within the new procedures and the new IT application, which at this stage is available for use in the organization.
- Acceptance - Employees are convinced to use the IT application which is now a part of the organizations work.
- Routinization - The use of the IT application is going towards being the new standard in the organization. It is now seen as an ordinary part of the organization.
- Infusion - The organization is achieving a higher level of efficiency due to the new IT application. At this stage, the IT application is used to its fullest capability.

Lin (2013) argues that there are various models for e-business assimilation, where all follow a similar pattern, such as the e-business assimilation model by Zhu, Kraemer, et al. (2006). In their study, Zhu, Kraemer, et al. (2006) have defined e-business to incorporate e-commerce activities such as sales and customers services, which is aligned with how we have defined e-commerce in section 2.1. However, Zhu, Kraemer, et al. (2006) define e-business assimilation to be a series of three phases. The phases go from the pre-adoption phase where organizations evaluate e-business, to the formal adoption of e-business, and lastly to the post-adoption phase where e-business becomes an important part of the organization’s value chain activities. This is similar to the six-stage model of Cooper and Zmud (1990), as both models stretch from initial awareness of the innovation and goes towards becoming a part of the organizations standard. The phases of e-business assimilation suggested by Zhu, Kraemer, et al. (2006) are more specifically defined as follows:

- E-business initiation (pre-adoption phase) - At this stage, opportunities of e-business are evaluated, i.e. organizations examine what performance benefits they can gain from e-business in their value chain.
• E-business adoption (adoption phase) - Organizations makes the decision of using the internet for value chain activities. At this phase, organizations allocate resources and acquires the technology.

• E-business routinization (post-adoption phase) - At this phase e-business is widely used in the organization and becomes important to its value chain activities.

Moreover, Zhu, Kraemer, et al. (2006) integrated the defined e-business assimilation phases with the Technological-Organizational-Environmental (TOE) framework to develop a model, depicted in figure 4, for studying e-business assimilation which enables research to include factors influencing the process. Zhu, Kraemer, et al. (2006) argue that the TOE framework is suitable as it has consistent empirical support, which in turn is supported by Oliveira and Martins (2011) who argue that the TOE framework a prominent model in the general IT adoption theory. Moreover, Sila (2015) states that the TOE is one of the most recurring models in e-business adoption studies.

Originally, the TOE framework is a theory on an organizational level (Baker, 2012) that explains a firm’s technological adoption by three contexts; technological context, organizational context, and environmental context. The technological context involves all technologies relevant to a company, which includes current technology in the organization as well as external not adopted technologies (Oliveira and Martins, 2011). The organizational context includes firm characteristics such as scope and size, communication processes, amount of slack resources, organizational structure, top management support (Baker, 2012), and managerial structure (Oliveira and Martins, 2011). The environmental context refers to the surroundings of the company, e.g. government regulations, the industry, and competitors (Oliveira and Martins, 2011). However, these specific factors vary across different studies according to (Zhu, Kraemer, et al., 2006; Oliveira and Martins, 2011)

Zhu, Kraemer, et al. (2006) conducted an empirical study based on their e-business assimilation model, where they found some factors to influence the e-business assimilation phases differently. Similar to this, Lin (2013) studies knowledge management factors across e-business assimilation phases and concludes that the same factors play a different role in different assimilation phases. These findings are in conjunction with what Fichman (2000) argues for in a review of general diffusion and assimilation literature, where IT innovations are believed to be in a two-part decision process; the formal decision to adopt the technology, followed by the local decisions in the organization to actually use the technology (Fichman, 2000).

2.2.1 Factors Influencing the Assimilation Process

Characteristics of technological innovations will impact an organization and industry in diverse ways. Some innovations require organizations to make minor changes, while other innovations will bring major changes with them (Baker, 2012). Innovations within information systems (IS) can be classified into three types; Type 1 are IS that affect functional tasks, type 2 are IS that are used to support administrative tasks and type 3 are IS that may have strategic influence on a firm (Hong and Zhu, 2006; Chatterjee et al., 2002). These type 3 IS are integrated with the core business and may affect the entire organization. EC is considered to be a type 3
innovation by Hong and Zhu (2006) and Chatterjee et al. (2002). Hong and Zhu (2006) argue that classic adoption and diffusion frameworks can be insufficient when studying type 3 innovations. They therefore also argue that it is valuable to adjust and add technology-specific factors to these frameworks which helps the understanding of a complex innovation. Moreover, Zhu, Kraemer, et al. (2006) argue that it is important to make a distinction between the assimilation stages, as a firm can adopt a technology, but that this alone does not mean that the technology gets used (i.e. routinized).

Therefore, to capture a comprehensive view of the assimilation process of EC, we will review various previous literature on what factors are found to affect the e-business and EC assimilation process. Subsequently we use the *E-business Assimilation Model*, depicted in figure 4, to structure these factors under the technological, organizational and environmental contexts and map their effects on the different assimilation phases.

**The Technological context**

In the technological context, the following factors are found to influence e-business adoption and/or assimilation: *Relative Advantage*, *Security Concern* (Zhu, Dong, et al., 2006), *Technology Integration* (Zhu, Kraemer, et al., 2006), *EDI Usage*, *Web Functionalities* (Hong and Zhu, 2006), *Complexity* (Sila, 2013), and *Technology Competence* (Zhu, Kraemer, et al., 2003). Each factor and their influence on e-business assimilation are described below:

*Relative Advantage* – This factor refers to what extent an innovation can benefit an organization (Zhu, Dong, et al., 2006) and generally influences innovation adoption positively (Fichman, 2000). Zhu, Dong, et al. (2006) argue that e-business can provide both strategic and operational benefits, and therefore defines the relative advantage of e-business to incorporate both an increase of sales and decrease of costs. This in turn is argued to drive organizations to use e-business (Zhu, Dong, et al., 2006). Moreover, Zhu, Dong, et al. (2006) studied this and found that relative advantage drive organizations to use e-business post-adoption.

*Security Concern* – This factor is defined as "The degree to which the internet platform is deemed insecure for exchanging data and conducting online transactions" (Zhu, Dong, et al.,
2006, p.603). Zhu, Dong, et al. (2006) found security concerns to be an inhibitor in the post-adoption of e-business. Similar to the factor security concern, Beige and Abdi (2015) argue that trust (which includes security) is a critical success factor within B2B EC assimilation. Another study, by Sila (2013), concluded that larger firms are less affected by this factor than small firms, which they argue might be due to that large firms have more resources available to deal with security issues.

Technology Integration – This factor is defined as "the degree of interconnectivity among back-office information systems and databases inside the firm and those externally integrated with supplier’s enterprise systems and databases" (Zhu, Kraemer, et al., 2006, p.1563). This factor is found to be of importance in all assimilation stages and is argued to be critical to e-business (Zhu, Kraemer, et al., 2006). Accordingly, firms who have web-compatible technologies are often found to be early adopters of EC (Zhu, Kraemer, et al., 2003). Furthermore, Hong and Zhu (2006) argue that technology integration is a prerequisite for the post-adoption phase, but that it is no guarantee for success. In their study, they found that integration with externally oriented systems (e.g. CRM and sales force automation) is of more importance than internal integration (e.g. ERP and financial management systems) when it comes to generating a high portion of online revenue (Hong and Zhu, 2006). The importance of this factor on e-business adoption has also been confirmed in other studies such as the one by Oliveira and Martins (2010).

EDI Usage – EDI usage causes organizations to be less motivated to adopt EC, however, this was not found to be an adoption inhibitor by Hong and Zhu (2006). On the contrary, firms who already use EDI were found to be more prepared to adopt WB EC. However, the existence of EDI retarded the use of WB EC in the post-adoption phase (Hong and Zhu, 2006).

Web Functionalities – There are various web functionalities, ranging from static Internet presence to more sophisticated functionalities. Functionalities can for example be used to provide information about products and prices, as well as to provide customers with online self-service abilities (Hong and Zhu, 2006). Hong and Zhu (2006) found that the more web compatible technologies an organization has, the more likely they are to adopt WB EC. Moreover, Hong and Zhu (2006) argue that organizations that can offer a variety of web functionalities have a high level of technological capabilities and place a strategic emphasis on EC. Furthermore, Hong and Zhu (2006) found web functionalities to be relevant for the post-adoption phase, where it is argued that having many functionalities is an indication of better online service to customers and partners. This in turn encourages usage of EC (Hong and Zhu, 2006).

Complexity – This factor relates to how relatively difficult an innovation is perceived to be when it comes to understanding and usage of the technology (Sila, 2013). For general IT assimilation, a high complexity has a negative impact on the process (Cooper and Zmud, 1990). In a study conducted by Sila (2013), he found that complexity mostly affected small firms when adopting B2B EC and that no correlation was found between complexity and the usage in the post-adoption phase of B2B EC assimilation. Sila (2013) argues that the reason for complexity not being an issue for larger firms might be due to that large firms often have previous experience in implementing EC technologies.
Technology Competence – Zhu, Kraemer, et al. (2003) developed and tested this factor for e-business adoption. In their study, technology competence includes IT infrastructure (e-business enabling technology), internet skills (employees' skill level when it comes to internet use) and e-business know-how (managerial capabilities within e-business). Studies show that a high level of technical competence in an organization facilitates e-business adoption (Zhu, Kraemer, et al., 2006; Lee, Lee, et al., 2007; Maditinos et al., 2014; Oliveira and Martins, 2010). Furthermore, other studies show that technology competence has a positive impact on the post-adoption phase (Lin and Lin, 2008; Zhu, Dong, et al., 2006). Moreover, a study incorporating all e-business assimilation stages found this factor to be of more importance in the adoption and routinization stages than in the initiation stage (Zhu, Kraemer, et al., 2006).

Within the area of competence lies the topic of use of consultants. Concerning this, a study made on general IT adoption found the use of consultants to positively affect organizations in the adoption phase. Moreover, the use of consultants was found to be less relevant in the routinization phase than in the adoption phase (Del Aguila-Obra and Padilla-Meléndez, 2006). On the contrary, in a study on EC by Hong and Zhu (2006), the use of partners (consultants) was found to be an inhibitor for both EC adoption and post-adoption, where they argue that their result may be due to the use of consultants being more beneficial for simpler applications than EC.

The Organizational Context

In the Organizational context, the following factors are found to influence e-business adoption and/or assimilation; Firm Size, Scope (Sila, 2015), Purpose and Strategies of Organizations (Beige and Abdi, 2015), Perceived Benefits and Obstacles (Oliveira and Martins, 2010), Top Management Support, Financial Resources (Sila, 2015), Organizational Structure (Sila, 2015), Compatibility (Zhu, Dong, et al., 2006), Organizational Learning, Communication Processes (Sila, 2015), and Managerial Change Competence (Zhu, Kraemer, et al., 2006). Each factor and their influence on e-business assimilation are described below:

Firm Size – When it comes to firm size, there is no clear relation between size and innovation assimilation (Baker, 2012). Some research have found that large organizations are more likely to adopt innovations (Baker, 2012; Fichman, 2000). However, this have been criticized, where size is seen as something that is behind other factors such as availability of resources (Baker, 2012; Fichman, 2000). Furthermore, Del Aguila-Obra and Padilla-Meléndez (2006) argue that larger firms are more likely to possess relevant managerial capabilities and are therefore suggesting that smaller firms are in more need of consultants. In the case of e-business, Zhu, Kraemer, et al. (2003) similarly found that larger organizations are more likely to adopt than smaller ones. However, their results also show that firm size as an adoption factor has less impact in countries where e-business diffusion is high (Zhu, Kraemer, et al., 2003). Hong and Zhu (2006) and Zhu, Dong, et al. (2006) tested the firm size factor in the post-adoption phase where they found that firm size has a negative effect on e-business post-adoption. Zhu, Dong, et al. (2006) argue that the reason for this is due to structural inertia which slows down the post-adoption phase. Another study on all e-business assimilation stages shows that firm size
has a positive impact on initiation and adoption but a negative impact on routinization, which backs up previous studies on the advantage of resources versus the structural inertia of large firms (Zhu, Kraemer, et al., 2006).

**Scope** – This factor is defined as ”the geographical extent of a firm’s operations in the global market” (Zhu, Kraemer, et al., 2006, p.1563). A wide scope is a driver for e-business adoption according to Zhu, Kraemer, et al. (2003, p.254) which is explained due to three reasons:

1. A wide scope involves high internal coordination costs (administration) which the use of e-business can reduce.

2. Organizations operating in various geographic locations have increased search costs and inventory holding costs. The use of e-business can both lower search costs, and improve demand aggregation as well as improve inventory management, thus reducing inventory holding costs.

3. It is important to create synergy between e-business and the organizations traditional business, where organizations with greater scopes are the ones who can benefit most from this. The adoption of e-business may help organizations to remove incompatibility that occurs due to old legacy systems (Zhu, Kraemer, et al., 2003).

The relation between a wide global scope and e-business assimilation is tested in a study by Zhu, Kraemer, et al. (2006), where it is found to have a positive impact on the initiation stage. Similarly, Sila (2013) argues that the internet gives the opportunity for firms to reach and create new markets. In the study, Sila (2013) found that these opportunities of scalability were an important driver for adopting B2B EC. However, in later assimilation stages, a wide scope combined with a low level of technology integration seems to slow down the assimilation process (Zhu, Kraemer, et al., 2006).

**Purposes and Strategies of Organizations** – Organizations should form strategies which support their value chain and are unique with respect to what the organization can leverage according to Beige and Abdi (2015). In their study, Beige and Abdi (2015) found purposes and strategies to be a key factor influencing the assimilation process of B2B EC. This factor has been studied for the adoption of WB EC (Teo et al., 2006) where the lack of a clear EC strategy and vision is found to inhibit adoption. In their study, Teo et al. (2006) argue that the lack of an EC strategy also inhibits the alignment of EC with other business processes and suppresses the focus on EC. They suggest that top management has to understand how EC affects the industry and how it can be used together with existing business plans, and that those who are responsible for the EC have to be included in the business planning.

**Perceived Benefits and Obstacles** – This have in studies been found to affect e-business adoption (Oliveira and Martins, 2011), where perceived benefits provide motivation in the assimilation process, according to Lin and Lin (2008). Moreover, the adoption of EC requires high technological knowledge and organizational changes, which can be associated with many obstacles, for example, the belief that the system will not function properly and/or fear of internal resistance to change (Hong and Zhu, 2006). Hong and Zhu (2006) studied the effect of these
obstacles on the EC assimilation, where their findings suggest that perceived obstacles did not inhibit adoption, but that it slows down the routinization of EC (Hong and Zhu, 2006). Contradictory, a study by Gorla et al. (2017) found that perceived obstacles of decision makers are an inhibitor of B2B EC adoption.

Top Management Support – The top management of an organization can in general foster innovation (Fichman, 2000; Baker, 2012). To do so, they must build an organization that is willing to change as well as encourage innovations which benefits the organization’s overall strategy, mission, and vision. Moreover, it is important that top management develops and communicates a strong vision (Baker, 2012). In innovation processes, the managerial factor is considered to be one of the most important ones (Del Aguila-Obra and Padilla-Meléndez, 2006), where successful adoption of IT requires top management who can support the project, e.g. by allocating necessary resources (Beige and Abdi, 2015). Research shows that having top management support is important for the adoption of B2B EC (Sila, 2013). This is also confirmed by Beige and Abdi (2015) who studied and found the impact of support and commitment of top management in B2B EC to be important for adoption. Chatterjee et al. (2002) found top management championship, which involves managerial beliefs and participation in the assimilation process, to be an important factor which positively influences the whole assimilation process of WB EC. In another study on WB B2B EC, Teo et al. (2006) likewise conclude that gaining management support and involvement is important for the initiative, especially if required resources is an issue. They argue that many problems stem from the lack of top managements understanding of the benefits and drawbacks of the initiative, thus making it important to highlight these. Top management is often interested in how the initiative fits with the business goals and plans, how costs are justified, and how it will help the company in being competitive. Therefore, Teo et al. (2006) argue that these are the topics that should be addressed when seeking the top managements support for the WB EC initiative.

Financial Resources – There are many costs associated with the implementation of an innovation and actualizing of the necessary organizational change that an innovation brings, and these costs can inhibit innovations (Fichman, 2000; Zhu, Dong, et al., 2006). In a study by Hong and Zhu (2006) it is concluded that having a secured budget is a driver for EC adoption and is of importance for the post-adoption phase as well. One of the key inhibitors of WB EC adoption was found to be the difficulty of a cost-benefit assessment, which makes it hard to justify the investment (Teo et al., 2006).

Organizational Structure – An organizational structure having flexibility built into the employee’s tasks and promote communication between employees as well as along their reporting lines (Organic and Decentralized Organizations) is argued to be better suited in the adoption phase of an innovation. However, in the post-adoption phase, it is argued that a more formal (Mechanistic) organizational structure is better suited, where employees have given tasks and decision making is centralized (Baker, 2012). Centralization is defined as ”the degree to which power and control in a system are concentrated in the hands of a relatively few individuals” (Oliveira and Martins, 2011, p.111) and with formal reporting lines (Baker, 2012).

Linking sub-units and dissolving boundaries between departments in the organization gen-
erally promote innovation, where the presence of informal linking agents, as well as employees with the formal task of linking departments, and cross functional-teams, are positively associated with adoption (Baker, 2012). In line with this, Chatterjee et al. (2002) found that coordination is important for successful WB EC assimilation and argues that this is due to that multiple managers are going to be involved in the assimilation process of the initiative, and these managers have to agree upon for example strategies and priorities. Coordination is therefore required in order to bring and exchange the various knowledge and expertise that different managers have. According to Chatterjee et al. (2002) this indicates that the use of linking agents and/or task forces facilitates the EC assimilation. This argument is partially backed up by Gorla et al. (2017) who in their study find that informal groups often spur EC adoption. Moreover, sharing knowledge between managers and employees is found to be an important facilitator of e-business assimilation (Lee, Lee, et al., 2007; Maditinos et al., 2014).

Compatibility – This factor refers to how compatible an innovation is with an organization’s current culture, value systems, business processes, and practices (Zhu, Dong, et al., 2006). In general, compatible innovations are more easily assimilated into an organization (Fichman, 2000) whereas the lack of compatibility can lead to internal resistance. Therefore, when adopting B2B EC, it is important to consider the company culture which Beige and Abdi (2015) found to be a critical factor for successful adoption. Moreover, compatibility has also been found to be of high importance in the post-adoption stage, where the existing distribution channels as well as sales and procurement processes have to be compatible with e-business in order for e-business to be used in the post-adoption phase (Zhu, Dong, et al., 2006). Contradictory, Lin and Lin (2008) found no relationship between compatibility and the post-adooption phase. They argue that the reason behind their result might be due to that their data is gathered from organizations who already have adopted e-business, which indicates that these organizations already have made the necessary organizational changes to be compatible with e-business (Lin and Lin, 2008).

Organizational Learning – Organizational learning is defined as “the process by which an organization gains new knowledge about its environment, goals and processes” (Maditinos et al., 2014, p.304). This is a capability that has been found to be important for success in e-business assimilation, where e.g. training availability is an important aspect within organizational learning (Lee, Lee, et al., 2007; Maditinos et al., 2014). Maditinos et al. (2014) moreover argue that providing employees with training will influence e-business assimilation successfully.

Communication Processes – Communication processes can both promote or hinder an innovation (Baker, 2012). A major influence on the adoption stage is how and when adopters hear about an innovation. Moreover, organizations that invest in information sources tend to be more innovative (Fichman, 2000).

Managerial Change Competence – This factor refers to managers who can manage necessary organizational change for e-business (Zhu, Kraemer, et al., 2006). In their study, Zhu, Kraemer, et al. (2006) found no relationship between an absence of this change competence and the e-business adoption phase, however the lack of this competence had a negative impact on the
The Environmental Context

In the environmental context, the following factors are found to influence e-business adoption and/or assimilation: Industry Characteristics and Market Structure, Consumer Readiness, Partner Readiness, Country Differences (Zhu, Kraemer, et al., 2003) and Government Regulations (Zhu, Kraemer, et al., 2006). Each factor and their influence on e-business assimilation are described below:

Industry Characteristics and Market Structure – In general, competition in the industry has a positive effect on adoption. Furthermore, a dominant firm in the value chain can impact others in the chain to adopt an innovation (Baker, 2012). For electronic commerce, Zhu, Kraemer, et al. (2003) and Sila (2013) found that competitive pressure is a facilitator for e-business adoption and Lin and Lin (2008) argue that this is a key factor for adoption. The same is concluded in the post-adoption phase when it comes to usage (Zhu, Dong, et al., 2006). Moreover, a closer study on all assimilation stages supports that competition has a positive impact on initiation and adoption but however state that it affects the routinization in a negative way (Zhu, Kraemer, et al., 2006). In this regard, Zhu, Kraemer, et al. (2006) argue that too much competition leads organizations to constantly chase new technology, where they never reach the routinization phase of their implemented technologies.

Consumer Readiness – This includes both consumer willingness (consumer engagement in online shopping) and internet penetration (diffusion of the internet in a population) and is found to have a significant impact on e-business adoption (Zhu, Kraemer, et al., 2003) and post-adoption (Zhu, Dong, et al., 2006). However, Zhu, Kraemer, et al. (2003) also found that this factor is of less importance for adoption in countries where e-business diffusion is high.

Partner Readiness – Zhu, Kraemer, et al. (2003) found the lack of trading partner readiness to be an inhibitor for e-business adoption. However, their results also show that this factor is insignificant for adoption in countries where e-business diffusion is high, which is explained to be due to the same reasoning previously outlined under the Consumer Readiness factor (Zhu, Kraemer, et al., 2003). In the post-adoption phase, partner readiness is found to have a positive impact on e-business usage (Zhu, Dong, et al., 2006). However, in a study conducted by Lin and Lin (2008), no relation between partner readiness and assimilation of e-business was found. Nonetheless, Zhu, Kraemer, et al. (2003) argue that integration with customers and suppliers is necessary for e-business. We argue that this is a characteristic of EDI EC, as described in section 2.1.2 regarding electronic commerce and EDI.

Government Regulations – This can either encourage or hinder innovation depending on what the regulations are (Baker, 2012). This factor is found to play a significant role in regard to the assimilation process of e-business in developing countries. In developed countries however, government regulations are found to have a small impact on e-business assimilation (Zhu, Kraemer, et al., 2006).
Country Differences – In countries where e-business has diffused more widely, managers tend to be more cautious when taking the decision to adopt e-business (Zhu, Kraemer, et al., 2003). This is argued to be due to that managers in these countries have a broader knowledge of the benefits, costs, and risks for e-business. Moreover, the factor lack of trading partners and partner readiness are less significant for adoption in these countries (Zhu, Kraemer, et al., 2003). Moreover, Zhu, Kraemer, et al. (2006) find that regulatory environment is much more important for developing countries than developed ones. Later, Oliveira and Martins (2010) concluded in their study that industry characteristics are of much greater importance than which specific country an organization operates in.
Chapter Summary

In this chapter, we started by reducing ambiguity of the concepts studied. In this regard we have defined electronic commerce to exclusively refer to external activities, and that EC is a part of e-business. Moreover, we have elaborated upon that B2B commerce have different characteristics than B2C commerce and reviewed different business models which can be conducted within B2B EC. Following this, an elaboration on EC technology was presented where we distinguished between EDI and web-based B2B EC. Literature suggests that one main difference is that EDI is conducted by predefined transactions between companies, whereas web-based B2B EC is not. Subsequently, a definition of web-based EC technology was presented as ‘a technology solution which enables engagement in business processes that can occur between organizations via the web’. Furthermore, we have elaborated upon the difficulties and possibilities of WB B2B EC, where one of the main difficulties is the assimilation process of the technology. Subsequently, in the section Electronic Commerce Assimilation, we have delineated the e-business assimilation process, involving EC, to be a process consisting of the three phases of; initiation, adoption, and routinization. Moreover, the e-business assimilation model was presented which incorporates the technological-Organizational-Environmental contexts within the three phases of e-business assimilation. Furthermore, literature has stated that there is a need to complement classic frameworks with technology-specific factors when studying complex innovations such as EC. Therefore, we have in chapter Factors Influencing the Assimilation Process presented a literature review on factors affecting e-business assimilation, organized following the Technological-Organizational-Environmental structure proposed in the e-business assimilation model.
3 Theoretical Approach

In this chapter we present the theoretical basis which the study lies upon. First, a theoretical framework will be presented. This framework is built from the E-business Assimilation Model by Zhu, Kraemer, et al. (2006) and a number of factors found to influence the assimilation process, as outlined in section 2.2.1. The presented framework will form the basis for this study, where it will, together with the literature behind it, be used for structuring and analyzing our empirical findings. Furthermore, a theoretical underpinning in change management is presented which is what will be used in the analysis and discussion, to understand how various factors may be managed.

3.1 Theoretical E-commerce Assimilation Framework

As outlined in section 2.2.1, it is argued that classic adoption and diffusion frameworks can be insufficient when studying complex innovations such as EC and that there is a need to complement these frameworks. Hence, we choose to use the E-business Assimilation Model, described in section 2.2, and incorporate the factors that we have found from section 2.2.1 to build a model for studying WB B2B E-commerce Assimilation. We will in this model visualize what relation the identified factors from literature has to the different phases of the assimilation process. For this, we use a table connecting the previously listed factors with the three different phases of the assimilation process.

Some of the previously listed factors in section 2.2.1 are however subjected to our delimitations, outlined in section 1.6, which specify that the empirical objects, i.e. case-companies, are required to be similar in size (large organizations), conducting sales of physical products to other businesses, and operating primarily in the Swedish market and thus under the same legislation. This subsequently makes the factors governmental regulations, and country differences less relevant to be explicitly included in our model as they are already presumed as pre-settings. This argument and delimitation is backed up Sila (2013) who states that firm size, country of origin, and firm type are contextual factors, i.e. factors that are difficult or impossible to influence. Similarly, it could be argued that consumer readiness and partner readiness have a somewhat contextual nature. Nonetheless, we could not find any argument that these factors have a static nature that enables such a delimitation mentioned above. However, Zhu, Kraemer, et al. (2003) found that these two factors have little or no significance in countries which have a high e-business diffusion. Thus, since our study is delimited to Sweden, which is listed as the third most digitalized country in EU, and more particularly being ranked between second and fifth in regard to all domestic digital business activity metrics (CONNECT, 2017), we choose to not include these factors in our model.

In table 1 we present the included factors and form a framework which enables visualization of where in the assimilation process each factor is indicated to be of relevance according to the literature in section 2.2.1.
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<th>Table 1: E-commerce Assimilation Framework</th>
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<td><strong>Technological Context</strong></td>
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<td>Relative Advantage</td>
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<td>Complexity</td>
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<td>Technical Competence</td>
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<td><strong>Organizational Context</strong></td>
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<td>Purpose &amp; Strategies</td>
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<td>Perceived Benefits &amp; Obstacles</td>
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<td>Managerial Change Competence</td>
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<td><strong>Environmental Context</strong></td>
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<td>Industry Characteristics &amp; Market Structure</td>
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<th>Assimilation Phases</th>
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<th>Adoption</th>
<th>Routinization</th>
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3.2 Theoretical Underpinning: Change Management

Lee, Lee, et al. (2007) argue that even though e-business has technical components, one still has to manage issues regarding changes in the organization, and as outlined in section 2.2.1 EC is considered to be a complex innovation which may affect the entire organization. Furthermore, Jackson and Harris (2003) argue that EC brings organizational change issues, where they state that it is essential for companies to understand how to change their organization in an effective way. What can be discerned from this is that assimilating WB EC requires managing change management issues to a great extent. Therefore, we have chosen to use change management literature to aid us in our research.

Wetzel and Van Gorp (2014) conducts a substantial literary review of 85 organizational change management articles encompassing 18 organizational theories. They note that there has been increasing criticism towards change management theory in that they are trivial, simplistic and have general inertia. Furthermore, they argue that the organizational change theory is somewhat decouple from general organization theory and that the frameworks and theory seem generally contradictory.

Todnem By (2005) critically reviews some of the change management frameworks and makes a comparative analysis of them. Subsequently they, much in line with Wetzel and Van Gorp (2014), argue that the existing change management frameworks are contradictory and confusing, showing little structural consistency between the frameworks. Furthermore, Todnem By (2005) argues that there is a need for new change management frameworks and suggests that these should focus on identifying critical success factors instead. As our study is based to a great extent on such factors for our research area, we argue that this particular argument is reconciled. Todnem By (2005) however continues by stating that the frameworks furthermore lack empirical evidence and are unchallenged in their statements.

In this regard, one change management theory which is widely popular is the one presented by Kotter (1997) in which there are eight main steps to follow in order to successfully change an organization. Consequently, in line with the critique, Appelbaum et al. (2012) reviews change management literature published during the first 15 years after Kotter’s change model was published. It applies the more recent research separately in the eight steps presented by Kotter (1997) in an attempt to validate them. They did not find any support for significance in the order of which the steps are to be integrated into the change process according to the original model, supporting the argument by Todnem By (2005) regarding the structural discrepancies. In their review Appelbaum et al. (2012) however find no empirical evidence that implies that any of the steps would be invalid, rather, the reviewed literature leads them to conclude that each of the steps seems significant in themselves. That there is in fact empirical research supporting the steps of Kotter’s eight step change model makes the arguments that it lacks empirical evidence less relevant, and we thus choose to use this theory to aid our research.
3.2.1 Kotter’s Eight Step Change Model

We present the model as originally intended, although considering the criticism presented towards the structure and implementation orders as well as the apparent lack of supporting evidence of this, we do not consider the order of the steps to be of significance. Appelbaum et al. (2012) however do underline that, even though applying the model probably increases the likelihood of success, it does not guarantee it. Below are the eight steps of the Kotter (1997) model presented based on the more contemporary and empirically grounded review by Appelbaum et al. (2012).

1. *Establish a sense of urgency*
   
   This step assumes that people will not change unless they see why there is a need to do so. In this step it is suggested that risky and bold actions are requisites of creating this urgency. What is needed is to ensure that the change initiative gets sufficient power and credibility. This should be done by aggressive cooperation by many individuals and communicate the need for change dramatically, repetitively, and widely. A more practical recommendation is to use external consultants as a tool for creating the urgency. These consultants can provide credibility to the message of importance of change. The urgency can be communicated by advertising that time, effort, and resources are invested in the change (e.g. the CEO taking time from their usual duties to communicate the need for change orally in different offices) and that there is a budget set aside for the change. Finally, an attractiveness and positive attitude towards change should be created.

2. *Create a guiding coalition*
   
   It is suggested that a guiding coalition is to be created consisting of the right people with collectively enough power, expertise, credibility, and leadership skills. The guiding coalition should lead the movement of change, and the people of power is important for making sure that the change is not blocked. For the benefit of the change, the management should however not be commanding and controlling (Paper et al., 2001). However, having leaders that support the change will make their employees more supportive of the change as well according to Self et al. (2007), who also explicitly argues that the employees’ immediate managers’ commitment to the initiative correlates with their commitment. It is concluded that, in the end it comes down to that the employees themselves need to adapt to the change. Lastly, there have been arguments that there could be a need for several different guiding coalitions throughout the change process.

3. *Develop a vision and strategy*
   
   Formulating a vision and strategy for the change is vital for the success of the transformation and is something that is confirmed by a range of research. One of the explanations of this is that employees more easily can grasp the change and follow it as intended. Washington and Hacker (2005) indeed found that the managers that are affected by the change and also understand it are more likely to look positively upon the initiative and experience less reluctance. Imperative to the long- and short term positive outlook on the change is that the vision is desirable and appealing for the ones affected by it. However, in analogy with the prior steps’ concluding remark of that it is the employees’ adaptation that matters most, the strategy for implementation is helpful but it is the execution of it that is critical for success.
4. **Communicate the change vision**
Communication is essential in the change process to decrease uncertainty, reduce ambiguity and moreover influence if the change is perceived positively or negatively. High quality management communication is linked to employees seeing more possible individual gains from the change and seeing the change more positively (Nelissen and Selm, 2008). Furthermore, the recipients of the high-quality communication were more confident in the change process’ success. It was found that frequent communication (e.g. weekly meetings) regarding the change and participation had a positive impact on employees’ perception of the change (Smith, Sohal, et al., 1995) and accordingly, employees that looked at the change negatively typically had received less information and felt less involved in the change than their counterparts (Frahm and Brown, 2007). It is also suggested that the communication in itself benefits if it is mediated through a variety of channels and repetitively disseminated in the organization.

5. **Empower broad-based action**
In this following step it is argued that the employees should be empowered and feel ownership of the change to help in the transformation process. Appelbaum et al. (2012) sheds light on that empowering employees typically faces four obstacles; skills, systems, structures, and supervisors. It is subsequently suggested that these are overcome through communication, coaching, and training, which is also backed up by Ellinger et al. (2010). In the empowerment of employees, the organizational culture also plays a significant role.

6. **Generate short-term wins**
Since the change process oftentimes can be a time-consuming undertaking it is argued that creating short-term wins is important for sustaining the positive outlook on the change process from the involved parts. The assumption is that this will generate confidence in that it is going to work, as well as to reward and celebrate those who have put effort into the process. Appelbaum et al. (2012) point out that Boga and Ensari (2009) however argue that there should be a balance between acknowledging short-term and long-term wins so that the management and efforts do not become too focused on generating short-term result, and as a consequence losing the long-term perspective.

7. **Consolidate gains and produce more change**
Using the gains proven in the previous step, leaders should tackle still-existing obstacles like systems and structures that are not aligned with the change. Again, it is argued that the gains should prove that the process is on the right track and working. The momentum of the movement with committed employees and managers must be kept going to overcome any obstacles and ensure that the undertaking will be successful. Kotter (1997) notes that there is a risk in declaring victory too soon since this would hamper the momentum. Momentum is also hampered if the urgency-level is not sufficient, if the guiding coalition does not have enough power, or that the vision is not sufficiently clear.

8. **Anchor new approaches in the corporate culture**
This final step reviewed by Appelbaum et al. (2012) entails to incorporate the desired
state into the social norms and values of the company so that the change does not deteriorate. This should be done by showing how the change has helped improve performance and that the new generations of managers and leaders personifies the new approach. What can kill momentum here according to Buchanan et al. (2005) is if the senior management are indifferent to the change and that they see the strategy as a distraction, if there is poor budgeting and funding, or that trade unions could oppose the change. In order to tackle these risks, the way of thinking is required to be fundamentally shifted. Furthermore, Massey and Williams (2006) argue that there should be support structures for those involved in driving the change, i.e. the change agents, and continuous training. Furthermore, it is important that the expectations on rewards are met, that new ideas are spread, and that the monitoring and control processes are performed appropriately.

Appelbaum et al. (2012) nonetheless presents critique regarding the model suggested by Kotter (1997) in that the approach is too rigid to be applicable to all situations and is not detailed enough for being helpful in all scenarios. In this sense it is explicitly argued by Appelbaum et al. (2012) that dimensions like commitment to change are overlooked by this model and suggest that complementary theory capturing change commitment might be required as a complement. To capture possible dimensions that might be overlooked by Kotter (1997), the Theory E and Theory O framework is presented below.

### 3.2.2 Theory E and Theory O

Theory E and Theory O are two different approaches to bring about change in an organization where Theory E has been described as a “top-down” and “hard” approach and Theory O has been described to be a “bottom-up” and “soft” approach and involves commitment of the employees (Kippenberger, 2000). The “top down” approach, Theory E, is the approach where a change initiative is implemented and led by executives and top management more or less deprioritizing making any attempts to achieve consensus throughout the organization. The approach in its unmitigated form takes little-to-no account for the employee’s interest and the change could very well be made at their expense (Beer, 2001). The change initiative often stems from advice from expert consultants (Kippenberger, 2000). It enables strategic decisions to be based on a wide perspective as it is seen from the top, and the implementation follows a structured schedule and implementation program (Beer, 2001). Theory E is based on the objective of enhancement of economic values and profitable returns and thus utilization of this change approach is often driven by financial incentives for shareholders and top management (Kippenberger, 2000). It is identified by Beer (2001) that there is a risk that the long-term performance may be negatively affected by using this approach.

The “bottom up” approach, Theory O, relies heavily on the loyalty and involvement of the employees’ for developing the organizational capabilities, enabled by a, amongst other things, trusting organizational culture (Beer, 2001). Like in Theory E, consultants can be involved in the change process, however, here they typically have a more coordinating role than a strategical and leading role (Kippenberger, 2000). In this approach, the change is emerging relatively slowly over time rather than following a structured implementation program and
is driven by the combined commitment and involvement of the employees (Beer, 2001). As the commitment and genuine involvement of employees is naturally difficult to manage, it makes it much more difficult to plan the process using this approach than it is when using the Theory E approach (Kippenberger, 2000). The typical driver of change through this approach is the common desire to improve the organization in ways that benefits everyone. However, just like managers, employees can be biased and ignorant themselves (Beer, 2001). Nonetheless, employees in organizations utilizing these kinds of approaches seem to build a stronger psychological bond to the change and organization. Analogous to this Beer (2001) and Kippenberger (2000) identify that if the employees feel that they have “ownership” of the change, the change initiative is more likely to succeed in the long perspective. Beer (2001) argues that for a highly qualified, informed, and educated employee base, it would be unwise to not tap into the knowledge of the employees, i.e. not using “bottom up” to some extent.

It is identified by Kippenberger (2000) that either of these approaches cannot achieve all the objectives of management on their own. Using the Theory E approach risks contributing to loss of capabilities, which could be deteriorating to the long-term competitiveness, while using Theory O can prove slow and inefficient and does not ensure an outcome which is financially profitable. It is argued by Beer (2001) that combining these two approaches could prove to provide better efficiency and contribute to continuous high-performance in a better way. Building on this, it is subsequently argued by Kippenberger (2000) that it would be counterproductive to sequence integration of Theory O before introducing Theory E. This would be because the trust that has to be established in Theory O would risk being disintegrated if subsequent Theory E decisions are made which violate this trust. It is argued that; besides implementing both the approaches at the same time, the only viable sequence is to implement Theory E before Theory O. Thus, using both approaches entails relating to the employees on both an analytical and emotional level. Beer (2001) states that real change is enabled by employees’ trust in the top management’s judgment regarding strategy.
Chapter Summary

In this chapter, we have first presented a Theoretical E-commerce Assimilation Framework which will be used for structuring and analyzing the gathered empirical material. The framework was built on the E-business Assimilation Model combined with factors found to be relevant for the different phases of the assimilation process. Some of the factors found in the literature review were ruled out from the framework as they were subjected to the delimitations of this study. Subsequently, we presented the theoretical underpinning consisting of change management literature. The choice to incorporate change management literature was based on previous literature which suggests that EC assimilation requires organizations to change. The literature presented within this was firstly Kotter’s Eight Step Change Model. The steps in this model are found to be important and empirically supported, however we found no evidence that validates the sequence of the steps and therefore we do not consider the order of these steps to be of importance. Secondly, we have presented the Theory E and Theory O which is to complement Kotter’s Eight Step Change Model for capturing other dimensions of change.
4 Method

In this chapter, the research methodology which will aid us in addressing the formulated problem will be presented. Firstly, we will present the research design and process. Subsequently, we will present how the collection of literature and empirical data was conducted. Following this, we will elaborate on our method for analyzing data, and lastly discuss the validity, reliability and generalization of this study.

4.1 Research Design

Due to the exploratory nature of the purpose of this study, it will be performed with an inductive approach. This approach allows for new literature to be brought in to the study, as knowledge from the empirical material influences the literature (Blomkvist and Hallin, 2015). We first study what is considered to be important factors for assimilation and more particularly what is important to consider regarding the assimilation of EC technology. This was done by an extensive orientation in the area and a literary review of both general and EC assimilation literature where we identify factors that the previous research has brought up as important to consider. As suggested by Sila (2015), who did an extensive review of this type of research, there is a need for more qualitative research in the area we are studying. As the intent is to find out how to tackle important issues that organizations face in the process of entering the WB EC we see it fitting to use a qualitative comparative case study, also called a multiple case study, where a number of B2B-focused organizations are analyzed and compared. The case study provides the qualitative dimension and a deeper insight to the studied phenomenon and moreover provides empirical contributions to the research area (Blomkvist and Hallin, 2015; Eisenhardt, 1989). The comparative dimension enables similarities and differences between the cases in the phenomenon to be identified and somewhat ensures that the issues are of a recurring nature, and thus validate the relevance to address them (Baxter and Jack, 2008). It is furthermore argued by Eisenhardt (1989) that the comparative dimension in research is essential for building theory from research.

Through the empirics we can complement aspects that the literature suggests are important to make the list of factors more complete and contemporary. It also makes it rooted to real examples and applied to the specific phenomenon, and not just to theories which sometimes have low level of qualitative empirical foundation and which could be outdated due to the fast-paced developing nature of the research environment. Through the empirical research we can also identify real examples of what is being done to tackle the challenges organizations may face regarding the factors. However, since many organizations are currently being in the process of EC assimilation, and might not have seen the full effects of the change initiative, it is possible that little can be concluded regarding if what they have done is the proper way to address issues they have faced. We do however highlight if we find any connections between a certain conduct and a certain outcome, e.g. if a factor is managed in a certain way and if that had detrimental results. Nonetheless, we compare the management conduct regarding the faced challenges found in the empirical data, with published and peer-reviewed theories in change management. With these theories we can also optimally verify if conducts found in the empirics could be deemed viable and possibly identify improvement areas and suggest
improvements.

The first phase of the study entailed formulation of the research problem stemming from the orientation in current reports and previous literature. Subsequently the literature was gathered regarding the previously researched factors for EC adoption and assimilation, change management, and assimilation theory. From this a theoretical framework, as depicted in table 1, and an interview guide was created. The interview guide was subsequently used throughout the empirical gathering. In accordance with the inductive research approach, the orientation and gathering of relevant theories was adjusted as empirical finding emerged, which helped determining the relevance of the theories. The findings from the empirical material was thereafter comparatively analyzed both in relation to other cases, as well as literature and theory. The time line of the process delineated above is depicted in table 2.

4.2 Gathering of Literature

The starting point of this paper is that it is of importance that technology is assimilated appropriately, in order to successfully utilize WB EC in the organization and reaping possible benefits. Therefore, an orientation in the field of EC and its dimensions was made to identify relevant factors that are at work. However, the phenomenon of WB EC for B2B organizations is such a new occurrence that not much research has been published in the field. Our research is therefore done to some extent with the starting point in such literature reviewed in Sila (2015) which encompasses EDI EC technology adoption in B2B organizations as well. We do not assume this literature to be directly applicable to the WB EC technology assimilation due to their inherent differences, outlined in section 2.1.2. We have however chosen to use theories mainly regarding e-business assimilation and organizational change theory, due to their apparent proximity to our area of focus. The literature has been continuously assessed critically regarding generalization and applicability to our specified field. This entails accounting for; authenticity, proximity and dependence, tendency and representability (Blomkvist and Hallin, 2015).

For the gathering of literature, we have used the database search engines: KTHB Primo and Google Scholar. In which we have used search words including "business to business", "elec-
tronic commerce", "e-commerce", "internet commerce", "electronic business", "e-business", "web-based e-commerce", "critical success factors", "technology implementation", "organizational change management", "technology assimilation", "technology adoption", "adoption", "routinization", "change management", and "e-business change". We also used variations of these, e.g. the Swedish equivalent or alternative combinations to ensure exhaustion of relevant literature from the databases. Only literature applicable to our study is however presented in this paper.

4.3 Collection of Empirical Data

The empirics for the case study analysis was gathered through semi-structured interviews, as this enables us to obtain a deeper understanding of the phenomenon as well as the possibility to identify new dimensions (Blomkvist and Hallin, 2015). As previously mentioned in section 4.1, we performed a literature review in which we identify which factors could be relevant to investigate further. The most reoccurring and relevant factors that were selected are listed in the E-commerce Assimilation Framework which form the basis for the interview guide (Blomkvist and Hallin, 2015). The semi-structured nature of the interviews ensures that the factors that are identified in the literature review are covered, but also that it is left open to explore factors and aspects that could not be identified in the literature review. In the choice of interviewees, we have chosen to interview individuals who are deemed to have great insight into the organizational processes, encompassing the implementation of WB EC and its technology into the organization. To secure the reliability of the information provided by the interviewees, we ensured each of them beforehand that the information disclosed in the interviews would be handled as confidential information and that it would not be possible to link the presented information to either the specific company or specific individual when presented in this study. As outlined by Vetenskapsradet (2017) regarding ethical research principles, the purpose of the study and the commissioner was moreover proclaimed before the interviews were conducted. The questions for the interviews were moreover intentionally formulated using as few words as possible that could be liked to positive or negative attributes (e.g. “innovative” or “rigid”) and avoided formulating questions as leading, where it would be possible to discern what would be the “right” answer (Blomkvist and Hallin, 2015; Hansson, 2007). Open-ended questions were used to explore dimensions beyond the more specific questions.

4.3.1 Interviews

Table 3 show an overview of the case-companies and interviews, as well as which position the interviewees have at their respective company. The positions presented are representative of their responsibilities and rank in the companies, and are not necessarily their official titles. As outlined in section 1.6, all of the companies the interviewees represent in this study are large organizations that operate in the B2B wholesale market in Sweden. More specifically, all of the companies have more than at least 300 employees and a turnover of more than €100 million, surpassing the lower limit of 250 employees and a turnover €50 million that needs to be exceeded to be defined as a large organization as mentioned in section 1.6. For this study, the average size of the case-companies is approximately €750 million in turnover and 1500 employees. In favor of their confidentiality we limit the disclosing of information that increase the risk of them being identifiable and consequently do not present the individual
sizes of the companies. The average however provides an indication of their size within the range of large organizations.

Table 3: Interview specifications

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<thead>
<tr>
<th>Interviewee</th>
<th>Position</th>
<th>Company</th>
<th>Interview Date</th>
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</thead>
<tbody>
<tr>
<td>Interviewee A</td>
<td>Head of Digital Business and Marketing</td>
<td>Company A</td>
<td>06-03-2018</td>
</tr>
<tr>
<td>Interviewee B</td>
<td>Head of Web and Digital Communication</td>
<td>Company B</td>
<td>13-03-2018</td>
</tr>
<tr>
<td>Interviewee C</td>
<td>Head of Digital Business and E-commerce</td>
<td>Company C</td>
<td>20-03-2018</td>
</tr>
<tr>
<td>Interviewee D</td>
<td>E-commerce Manager</td>
<td>Company D</td>
<td>06-04-2018</td>
</tr>
<tr>
<td>Interviewee E</td>
<td>E-commerce Manager</td>
<td>Company E</td>
<td>09-04-2018</td>
</tr>
<tr>
<td>Interviewee F</td>
<td>Head of E-commerce</td>
<td>Company F</td>
<td>13-04-2018</td>
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</table>

The different companies are in different phases in the assimilation process. In the interviews, the interviewees were asked questions regarding the past and current conducts at their respective companies. In this sense the interviewees provided empirical contributions regarding the phases they are currently in and the phases preceding their current positions. The approximate positions of the organizations are depicted in table 4.

Table 4: Approximate position of companies in the assimilation process

<table>
<thead>
<tr>
<th>Assimilation Phases</th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
<th>Company D</th>
<th>Company E</th>
<th>Company F</th>
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<td>Initiation</td>
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34
4.4 Analysis

The interviews were recorded and denoted/transcribed, as suggested by Blomkvist and Hallin (2015) and Gale et al. (2013), to ensure that all information would be readily at hand when performing the analysis of the gathered empirics. In our study we used the widely utilized and general procedure for analysis of qualitative data presented by Collis and Hussey (2013). The procedure entails reducing the data, displaying the data, and drawing conclusions and verifying the validity of those conclusions. Collis and Hussey (2013) furthermore state that these phases favorably can overlap. Accordingly, for the reduction of the data, the transcripts from the interviews are converted to a more narrative version where each case is presented individually to make the empirical findings regarding the factors more readily understandable, as suggested by Baxter and Jack (2008). In section 5 the empirical findings are presented, and the empirical narrative is structured in line with the TOE categorization of factors presented in section 2.2.1 and in accordance with table 1 for the restructuring of data suggested by Collis and Hussey (2013). Furthermore, to be able to systematically analyze the gathered material from the interviews we have chosen to utilize the principles of the increasingly popular Framework Approach outlined by Smith and Firth (2011) that synthesizes and displays the data (Collis and Hussey, 2013), i.e. summarizes and thematically organize the complex data. Furthermore, the debates regarding the ontological and epistemological perspectives regarding scientific research can somewhat detract focus from the fact that the qualitative research should have a robust methodology. Maggs-Rapport (2001) argues that researchers lack transparency and justifying arguments for their chosen methodologies which is argued by Smith and Firth (2011) to limit the readers ability to perform a critical evaluation of the study’s findings. In this regard the advantage of the Framework Approach is that it offers an increased transparency of the empirical material gathered in relation to the analysis, which increases the quality and credibility of the empirical contribution of the study. Particular traits of the approach relevant to this study is that it is especially fitting for analysis of qualitative data where a variety of aspects needs to be captured in the studied phenomenon (Smith and Firth, 2011). Furthermore, the Framework Approach is argued to be compatible with an inductive approach (Gale et al., 2013).

The framework enables the collected data to be structured, organized and condensed in a matrix, in order to make the data comparable and facilitate the analysis (Gale et al., 2013). Each case is represented by an empirical source in their individual column and each identified factor is represented in their individual row, as depicted in table 5. The leads are the respective key takeaways for each factor from each empirical object. As outlined by Gale et al. (2013) the framework enables the recognition of how an organization is likely to manage a situation and could also identify areas regarding the organization that could be improved.

In the third phase of the analysis, drawing conclusions and verifying the validity of those conclusions, we draw out similarities and differences from the comparative case study, as suggested by Collis and Hussey (2013). The analysis was performed thematically with the aid of the Framework Approach and the E-commerce Assimilation Framework. The key findings from the Framework Approach enables identification of important topics within each theme, however the complementary reviewing of the narratively presented findings ensure saturation of
Table 5: Framework Approach

<table>
<thead>
<tr>
<th>Factor</th>
<th>Source A</th>
<th>Source B</th>
<th>Source C</th>
<th>Source D</th>
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<tbody>
<tr>
<td>Factor 1</td>
<td>Lead A1</td>
<td>Lead B1</td>
<td>Lead C1</td>
<td>Lead D1</td>
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<tr>
<td>Factor 2</td>
<td>Lead A2</td>
<td>Lead B2</td>
<td>Lead C2</td>
<td>Lead D2</td>
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<tr>
<td>Factor 3</td>
<td>Lead A3</td>
<td>Lead B3</td>
<td>Lead C3</td>
<td>Lead D3</td>
</tr>
<tr>
<td>Factor 4</td>
<td>Lead A4</td>
<td>Lead B4</td>
<td>Lead C4</td>
<td>Lead D4</td>
</tr>
</tbody>
</table>

data for the analysis. The categorization of factors according to the assimilation framework formed the base of the themes. From our empirics and during our analysis we found some of the factors to be very entwined or closely related when they were put in a more holistic perspective. For this reason we created clusters of factors, to analyze and discuss, which were difficult to separate without obscuring relevant bridging dimensions. Each cluster of factors was discussed as a compound topic. The 17 individual factors were consequently restructured into 5 compound topics and 5 individual factors. Consecutively, the data from all cases regarding a specific theme/factor was analyzed and compared with each other as well as contrasted to the previous research regarding the relevant factors. These analyses were subsequently evaluated in relation to change management theory to be verified and validated.

4.5 Validity

Blomkvist and Hallin (2015) simply describe validity as *Studying the right thing*. Accordingly, Collis and Hussey (2013) state that validity is the degree of which the gathered material and data reflects the studied phenomenon and help answer the research questions. Poor samples, faulty procedures, or misleading measurements undermine validity. Blomkvist and Hallin (2015) mention that the literature being reviewed should tally with the problem formulation, purpose, and research questions. In our study the literature is gathered from previous research in e-business and EC assimilation, however all our literature does not address WB EC assimilation specifically which would suggest that there might be a misalignment of the literature and the phenomenon being researched. However, Collis and Hussey (2013) argue that data triangulation, i.e. gathering literature from relevant adjacent fields, actually increases the validity. Moreover, as outlined in section 1.5.1, the more contemporary literature in the field suggests that what has been researched before, i.e. defining factors for assimilation, needs to be put in a more holistic perspective and qualitative empirical setting, which is what this study does. Furthermore, we argue that by using adjacent literature we can shed light on how that research relates to the specific phenomenon of WB EC. Nonetheless, one of the main arguments for using this literature is that the specific field of WB EC assimilation is very scarcely studied, and we thus had to triangulate the literature to ensure that the study had a solid literary foun-
dation and validate the one-off studies regarding WB EC assimilation. Furthermore, by using the inductive research approach the theoretical field of change management was determined as a result of the literature and empirical gathering. We thus argue that this has a very high degree of validity and has proven to be useful in analyzing and discussing the findings.

Both Blomkvist and Hallin (2015) and Collis and Hussey (2013) state that the procedures and data gathering methods must be appropriate for the purpose of the study. As the purpose of the study is to investigate qualitative dimensions of the WB EC assimilation, we consider that the choice of a qualitative research design is appropriate in terms of validity. One could argue that the multiple case study inhibits the depth of the samples taken, however we argue that it increases the validity as the cases are triangulating the phenomenon. Indeed, data triangulation, i.e. data gathered from a variety of sources, as well as triangulation of theories, i.e. theories are gathered from different disciplines, increase both validity and reliability according to Collis and Hussey (2013).

4.6 Reliability

Blomkvist and Hallin (2015) describe reliability of research to entail studying it in the right way. Collis and Hussey (2013) state more elaborately that reliability of a study refers to the accuracy and precision of the measurements and that if the study would be performed again with the same procedures, the results would be the same. For this reason, we have applied the principles of dialogical reliability delineated by Blomkvist and Hallin (2015) which emphasizes the importance of unambiguity. In this sense, to increase reliability in the collection of empirical data we used the interview guide delineated in section 4.3 and reduced ambiguity of these questions by elaborating on what we defined used terms as, e.g. WB EC. For the interpretation of empirical material, elaborations of definitions and used terminology in section 2 reduces the ambiguity which enables the interpretation and analysis to be unambiguous.

We argue that since the field of which we are studying is immense, this study could not be considered to be exhaustive, i.e. covering all potential dimensions and factors. For this reason, we cannot argue that the results would be identical to ours if the same study would be replicated as the exploratory nature of the research design enables coverage of deviating aspects and dimensions. We do however argue that if the same study would be replicated, the result would at least not be contradictory to ours and would most likely be identical to some extent. I.e. they would function as complements at worst.

Blomkvist and Hallin (2015) argue that one must account for; authenticity, proximity and dependence, tendency, and representativity while critically evaluating the validity and reliability of a study. Authenticity entails evaluating who the author of the source is and what type of source it is. As the literature review is made almost exclusively based on a variety of peer-reviewed scientific papers and institutional publishing’s, with complete referencing, we argue that the authenticity of the literature and theoretical material used in this study meets what can be demanded from academic research in this regard. The proximity and dependence that Blomkvist and Hallin (2015) mention addresses evaluating the informants used for the empirical data gathering regarding the; proximity in time of the information, if the informant is
appropriate and have sufficient knowledge to provide reliable answers and sufficient insight, and if it is first-hand or second-hand information. All the empirical gathering was done first-hand directly with the top manager of the empirical objects’ WB EC initiative. Accordingly, we argue that they were the most appropriate informants for each respective company and that the information was of a high quality. Interviewee C (2018) however was not present when some of the events that was brought up took place. However, since this informant indeed was the top manager of the WB EC initiative at the time of the interview and have been for a longer period, the insight in previous issues and conducts are deemed to be of a sufficient standard. Regarding the proximity in time there is some information gathered regarding matters taking place over 15 years ago which could decrease the reliability of the information. However, this information constitutes only a fraction of the information that outlines the study and was moreover corresponding to more contemporary information from other sources. The majority of the information gathered as empirics were nonetheless contemporary and proximate in time, and the triangulation of these sources ensures validity and reliability.

The tendency mentioned by Blomkvist and Hallin (2015) is relevant to evaluate for this study as it entails the tendency of the informants to alter their answers in an attempt to portray the company they represent in a certain manner. The empirical objects are comprised by large organizations, and answering the questions regarding internal affairs might affect their reputation or the like. The mitigation of this was done by repetitively emphasizing their anonymity and confidentiality before performing the interview, referencing to scientific ethical principles outlined by Vetenskapsradet (2017), which were followed in all research stages so that neither the interviewees nor their companies are identifiable. As many of the interviewees disclosed information that could be considered unflattering, e.g. elaborating on mistakes made, our evaluation of their tendency is that it is limited and at least not affecting the accuracy of our findings to such an extent that they could be argued to be invalid. We moreover limited the use of words in the questions that potentially would be perceived as positive, negative, or leading, to not encourage them to answer in a specific way. We however realize that the informants may still have withheld further information that would have been of value to this study, e.g. major problems or severe mistakes, but this is speculative and was beyond our control.

4.7 Generalization

The research design is based on researching several companies in relation to the studied phenomenon. However, it should be mentioned that this does not ensure statistical generalization, but could preferably serve as a foundation for analytical generalization (Eisenhardt, 1989; Halkier, 2011). Collingridge and Gantt (2008) note that the analytical generalization entails that the researcher points out differences and similarities to form the theory, and in the transparency of the research and findings it is up to the reader to evaluate the applicability. The delimitation regarding the companies ensures that the empirical objects are similar in several aspects and we argue that the transparency in these delimitations in section 1.6 Delimitations, and specification of the organizational attributes in section 4.3.1 Interviews, together with the reduction of ambiguity by defining the terms used in this thesis in section 2.1 E-commerce, facilitate the evaluation of applicability for the reader.
Chapter Summary

In this chapter, we have first outlined the research design and that this study is conducted through an inductive approach. The process consists of formulation the problem, gathering of literature and theory, empirical gathering, analysis, and lastly editorial work. The literature and theory have been gathered mainly through the databases; KTHB Primo and Google Scholar. Moreover, the literature and theory have been updated continuously during the research process, following the inductive approach. Furthermore, the empirical data was gathered through semi-structured interviews. The interviews have been conducted at six companies, with interviewees presumed to have deep knowledge in the assimilation process of WB EC at their respective companies. To analyze the data, the interviews were first recorded and transcribed and each transcript was transformed to a narrative story. Following this, the stories were structured and condensed using the Framework Approach combined with the factors identified in the literature review. The findings from each case were then compared to each other and to previous literature and theory. Furthermore, in the method chapter we have discussed the Validity, Reliability and Generalization of this study. We argue that by triangulation and the use of an inductive approach we have increased the validity of this study. Moreover, we have argued that the literature and theory in this study is authentic as it mostly gathered from peer-reviewed scientific papers and institutional publishings. Furthermore, we argue that the gathered empirics are contemporary and proximate in time, and that we have mitigated the tendency of our informants to alter their answers. Therefore, we argue that the study is reliable, however, replicating this study might yield different yet complementary findings due to our exploratory approach. Lastly, regarding generalization, we argue that this study can serve as a foundation for analytical generalization.
5 Findings

In this chapter, each of the six company cases regarding their WB EC assimilation process will be presented narratively. The content within the cases will be structured and presented according to the TOE structure within the E-commerce Assimilation Framework in table 1. In the end of this chapter, the findings will be summarized using the Framework Approach, as outlined in section 4.4.

5.1 Company A’s E-commerce Assimilation

Company A is a traditional wholesaler who makes about 50% of their sales through EC channels and about 25% is through WB EC. In their current WB EC platform which has existed for several years, customers have to be registered to be able to log in, order, and pay through the website. Others (guests) can log in and browse through the products but cannot shop. However, Interviewee A (2018) explains that what they currently have is a “glorified web catalogue” and that they are launching a ”real WB EC” this year. This is their third WB EC launch, including customer interactions, functions where they can interact with their customers online etc. Interviewee A (2018) highlights that there is a huge difference between the ”web catalogue” and a ”real WB EC”, and that the new WB EC will affect their organizational set-up.

Technological

Their current web shop is outdated, hard to update, and does not allow for business development in the same way that a new WB EC platform can. The old platform is built internally in the company group. The ”new WB EC” is a procured platform. Still, their current platform is fully integrated with their business system and CRM systems.

Company A uses EDI EC technology which they will keep working with and develop further. Many of Company A’s large customers only uses EDI. Company A’s EDI system and web-shop are integrated through a ”punch-out” solution, which allows customers to ”shop” at Company A’s WB EC site. However, in the final shopping stage, customers can choose to continue through their own systems, i.e. through EDI. Company A distinguishes between EDI and WB EC customers. Web-customers are mostly small and middle-sized company customers, whereas EDI customers are large customers. Moreover, EDI customers procurement is hard to influence. They just shop through the system and it is efficient for these customers to do so. Web-customers on the other hand can be provided with a digital experience and be processed in other ways, you can focus more on sales and marketing there according to Interviewee A (2018).

Company A have EC competence and IT leaders in-house, as well as internal consultants. Company A also uses development consultants from other companies. However, Company A belongs to a large company group, which has a lot of competence. When there is a need of competence, Company A can get help from specialists within their company group. They strive to build the competence required for conducting WB EC in house.
Organizational

Company A is a traditional wholesaler. Currently, there is a need to process and give service to a new type of customer on the web, which requires new ways of thinking. At the same time, the old customers expect everything to be as it has always been. Moreover, Interviewee A (2018) points out that the new customers that they are interested in gaining, will be pure digital customers as opposed to their existing ones who have made deals with sales personnel. This, according to Interviewee A (2018) challenges Company A. These customers should be able to order without registering an account, and for this, new payment solutions are required. Such aspects require the company to think in new terms.

The initiative to change to a new WB EC platform came from the Head of Digital in the board of directors, who also procured the platform. In turn, the platform gets developed in each country that the company operates in and there have not been any issues to get financial resources for Company A’s WB EC initiative. The company group have a centralized IT budget, which all companies have to contribute to. There is no specific pot for each company within the group. Company A can decide what functions they want to implement, which gets prioritized from the common IT budget.

The decision to adopt a new WB EC platform is purely strategic. In this regard, Company A have previously had a leading position within EC in their industry, which has been lost due to their old, outdated WB EC platform. With the new platform, Company A seek to provide a digital customer experience which the old platform cannot provide. Interviewee A (2018) is responsible for the implementation of the new WB EC platform in Sweden where Company A have an implementation strategy in two parts. One is pure technical, and the other part is organizational and operational. A digital business strategy is being formulated, where they want to increase the use of WB EC among their current customers, gain new customers who purchase from them due to their web-shop, and to provide something that is significantly different than their competitors offerings. To reach this goal, there is lot of work and changes to be made internally according to Interviewee A (2018).

One thing that Interviewee A (2018) highlights is that they are respecting the time that such a large change needs, during the change that they are currently going through. Previously, they have rushed through different changes. Now, it is done in a structured way where much focus lies on the organization around EC. For these changes to happen, Company A have set up a change program which Interviewee A (2018) and Company A’s commercial director are responsible for. They set up the change agenda and drive it forward. To drive the current organizational change, this change program includes a management team, a "change management board" that consist of key company representatives (from departments such as PIM, market, supply chain, service, etc.). This group makes change decisions which then are communicated throughout the organization. Moreover, previous work within the web-shop have been silo-based. Now, Company A’s new WB EC group will work as a cross-functional team instead. I.e. an EC cross-functional team where those who will work with WB EC will sit in the same group, and some employees will have direct responsibility for WB EC which was not the case before.
According to Interviewee A (2018), the company are very prone to change, and their values are compatible with conducting WB EC, however there are some issues when it comes to focusing on being an EC player and to get decision makers to focus on EC. Moreover, there are many who hinder change, many of these have been in the company for a very long time. One part of the change management boards work is to change the focus of the decision makers at Company A to work more towards EC. This is in progress, however it is not fully deployed yet, but will be soon according to Interviewee A (2018). Every executive has got time allocated in their work hours to learn about WB EC and the effects from it. Moreover, Interviewee A (2018) points out that, some of the people who are resistant to change will not give in to the change. To tackle this, Company A have chosen to focus on the employees who are prone to change, and to give these more freedom, as Company A wants to be an organization that is prone to change.

Another part is to get employees on-board with the WB EC initiative. Company A is currently in this phase, where their plan (which they partly have deployed) is to find digital ambassadors in the various company functions who will work with this task, and further keep work with this to get it into the daily routines of Company A.

Environmental

The reasons why Company A adopted WB EC is due to that it is common in their industry to do so according to Interviewee A (2018).

5.2 Company B’s E-commerce Assimilation

Company B is a traditional wholesaler who today have one percent of their direct sales through their WB EC channel. Company B also measures indirect sales, i.e. they analyze the "Research Online Purchase Offline" which is about two percent of their sales according to Interviewee B (2018). In their current WB EC shop, which is their third WB EC platform since the late 2000’s, customers have to be registered and log in to be able to procure. The reason for this is due to that customers have different contracts and therefore different prices. To become a customer, companies have to go through Company B’s sales personnel, which is a manual process that takes about a week. Thereafter, customers can log in and start to shop. Interviewee B (2018) describes that Company B is in the start of their WB EC journey. Their WB EC project is run in an agile way and there is still a lot to do, as there are many functions that are still missing. One upcoming function is a guided sales function which will allow sales to interact and guide customers through the sales process.

Technological

Company B’s web shop is integrated with their business system, PIM, CRM, invoice management system, and purchasing systems. Moreover, Company B uses EDI which is their main sales channel with larger customers. However, Company B distinguishes between EDI and EC, where they do not view EDI to be one hundred percent EC as EDI often is dependent on
other ERP systems and that you cannot influence the buying processes in EDI as you can in WB EC. Company B also have integrated EDI through a punch-out solution, such as the one described previously regarding Company A in section 5.1.

Company B possess internal human resources within IT to some extent. They have an integration manager and an infrastructure manager who handles hardware and servers. However, Company B have no internal WB EC platform developers of their own, instead they use consultants. Moreover, it is Interviewee B (2018) who leads the WB EC development, together with a control group consisting of an IT manager, integration manager and a marketing manager. Furthermore, Company B uses project managers and business consultants from a consultant company as well in their WB EC project. The project also gets support from the IT department, marketing department and a web-editor. Furthermore, they have something called a "super user group" who together with the control group continuously seeks for improvements on the platform.

Interviewee B (2018) puts a lot of weight on the importance of the use of good consultants. In their implementation, Interviewee B (2018) says that they would not have succeeded if the consultants did not question Company B’s decisions, which led them to rethink and then make better decisions. Moreover, Interviewee B (2018) says that consultants had an important role when it comes to gaining trust from employees. If something went wrong or had to be changed in the platform, the consultants were flexible and got straight into fixing it, which resulted in that things were done fast. In turn, employees got the impression that they were heard, and their issues got fixed, which gave the project more trust.

Organizational

The new WB EC initiative came from Interviewee B (2018), who realized in early 2015 that focusing purely on sales (which was the strategy set by their company group) was the wrong way to go, and that there is a need for a new WB EC platform and strategy. By talking to different departments in the company, Interviewee B (2018) understood that customers used their old web platform, but they did not use it for purchasing. They enjoyed functions such as technical documents, product information and order history more. Interviewee B (2018) states that it of course is a sales channel, but that is not the reason for choosing to invest in a new WB EC. Company B are very service driven, which is something that they want to extend into their WB EC, thus the WB EC vision is that, what is done in each department should be available online. Moreover, it is planned that the WB EC platform will be used in many parts of the organization, e.g. that the sales force will be dependent on the web platform in the future, instead of current catalogues. Company B works continuously with gathering information on what services their customers value, and furthermore on adding these services on their WB EC platform. One example that Interviewee B (2018) brings up is that they added a service for customers to be able to always access their invoices. Although it is hard to put a number on this, Interviewee B (2018) says that this has freed up a lot of time from handling calls and administration.

In the start of the WB EC project, Interviewee B (2018) made a pre-study where data was gath-
ered, by for example surveys, to find out what to do in their new WB EC and which platform provider to choose. This was followed by a lot of internal politics, which Interviewee B (2018) had to deal with. Interviewee B (2018) put a lot of time into finding ambassadors and support for the project, all the while many in the company were trying to stop the project. Interviewee B (2018) had to stand up and convince the board and top management. Interviewee B (2018) describes that the board and top management are comprised of the “old” generation who do not really understand the digital strategy, but, although time-consuming, it was nonetheless rather easy to win them over. Interviewee B (2018) points out that having the pre-study to rely on and back their standpoint with was a key factor for the accomplishment in convincing them. Moreover, Interviewee B (2018) describes that it was rather challenging to get financial resources for the project, but that it again was achievable by using facts and data regarding on what should be done regarding WB EC. The initial budget was exceeded, but Interviewee B (2018) mentions that once a large project has started and got initial funding, it is not an issue to get more. The top management is now somewhat involved in the EC and digital investment, but not much. They provide Interviewee B (2018) with support for the project, but at the same time the project is carefully followed up on with different KPIs.

To communicate the change in the organization, Interviewee B (2018) talked to a lot of employees and customers prior to the change and gave out information on Company B’s intranet. Moreover, Interviewee B (2018) arranged an online campaign with the purpose of spreading awareness prior to the implementation. In this campaign, information about the project were leaked on purpose. This was then further targeted towards the employees of Company B, so that the information would reach them. The campaign turned out to be a success, as it initiated talk about the project in the company corridors. Furthermore when it comes to communication, Interviewee B (2018) mentions that Company B are trying to be humble when communicating ongoing success within the project. Accordingly, sales statistics and the like are posted on the intranet for interested employees to see.

Prior to the implementation, company processes were changed to be compatible with WB EC. Their implementation strategy was to develop the new platform on the side and launch it when ready, which according to Interviewee B (2018) was the wrong way to conduct the project. The implementation phase was full of obstacles, both technical (integration issues and server problems) and internal politics which set the project back a few months. The outcome of the technical issues led Company B to be forced to scale down a lot of the intended functions before launch, to just include the most basic ones. This led to further issues. Interviewee B (2018) and his group had raised a lot of expectations around the WB EC initiative, e.g. that the platform would include functions where customers and sales would meet. As these functions were forced to be scaled down before implementation, the set expectations were not met, which led to an outcry in the organization. Furthermore, Interviewee B (2018) expresses that this might have led to the failure of getting the employees aboard with the changes. Moreover, the majority of internal critique is on how things in the new platform look, as employees are unable to navigate through menus properly.

Company B tackles these issues in two ways. Firstly, they work with continuous learning where they arrange educations. Before the launch of the new WB EC platform, Company B
had three web-based education opportunities per week for three months which all employees could participate in. As Company B is still continuously adding functions and updates, they also still have these education opportunities once a week, so that the employees can continuously learn. Furthermore, Company B have their own section in Company B’s intranet just for the WB EC part, where there are guides on every existing function in the platform. Secondly, Interviewee B (2018) mentions that some employees listen to soft values which are important to take into considerations. For that, they listen to criticism regarding, e.g. layout and design, and if the criticism is valid, they do the changes to please the employees so that they feel that their opinions are heard. Another approach that Company B uses to integrate the WB EC platform into the company is to “force” their employees to use it. For example, the sales force will soon perform some of their work in the WB EC platform, which will “force” them to learn and use it.

During the process, Interviewee B (2018) states that getting criticism is a way of knowing that the project is progressing, as the argument is that most people do not like change, so once change is happening, people will provide criticism. This in itself does not mean that things are going right. For that, different KPIs are used to know that the change is heading in the right direction and that different “sprints” in a project can be viewed as milestones on the way.

According to Interviewee B (2018), the company culture is officially open to change. However, Interviewee B (2018) states that when change is happening there are always issues, which then actually indicates that they were not really open for change and there is a lot of structural inertia. Top management in Company B are more open to change than line managers whereas half of the employees are open to change, the other half are not. To handle structural inertia and people’s unwillingness to change, Interviewee B (2018) arranged a lot of discussions and meetings in different departments, with the intention to consolidate the upcoming change. It is important to invite people and talk to them regarding how the change will affect them and so forth. It is thereafter important to listen to what they have to say and try to meet them where it is possible, but also make it clear that the changes are happening. These meetings were initially further down in the company ranks, but now they are further up. Accordingly, Interviewee B (2018) sums up that communication is a key for change. Moreover, Interviewee B (2018) says that projects such as these are very easy to bring down, therefore, it is of importance to stand by any decision made from the project group, even if the decision are made by someone else in the project group.

One important lesson that Interviewee B (2018) highlights is that during their change, they did not have any appointed change leader. Interviewee B (2018) among others in the control group had to manage these issues as well as their other work within the project, which split their work focus. So, in a big change, Interviewee B (2018) thinks that someone should be responsible for the organizational change work. Concludingly, it is stated that one should respect the time that projects like these take, and not underestimate this aspect.
Environmental

The main environmental reason behind the decision to implement WB electronic commerce is that Interviewee B (2018) found out that Company B’s customers wanted and needed online functions.

5.3 Company C’s E-commerce Assimilation

One percent of Company C’s revenue comes from their WB EC channel. Moreover, around 15% of Company C’s sales are done via the EDI solution. Their EDI solution and WB EC are not integrated. Interviewee C (2018) argues that the lack of integration is because there are distinct kinds of needs that motivate the use of either of the solutions. In recent years the top management have focused on increasing their international presence, especially in Europe and currently Company C is operating in several countries.

The current web was developed and launched approximately five years ago, initially starting with research regarding what effects could be expected. They developed a ‘paper-based wire-frame’ which was given to a selected small group of customers to obtain feedback. Subsequently the implementation was done with Agile methodology and progressive development. Three years after the initial launch of their website, the web-shop was added to their web.

Anyone can go in to their website and get information on their entire assortment. However, Interviewee C (2018) points out that to be able to purchase products from their WB EC channel, customer’s needs to be manually registered in their internal business system and be handed a log-in account to their web-shop. To be registered in their internal business system the customer needs to go through a credit assessment and get a price deal on a selection of Company C’s products that are of interest. It is only the selection of products that the customer has a price deal on that are going to be visible in the web-shop and available for purchase. Interviewee C (2018) underlines that the only payment alternative they offer is via invoice.

Technological

The WB EC system is integrated with the PIM-, ordering-, stock-, and business system as well as Google Analytics. An integration of the CRM system is not existing, but it could become integrated. Interviewee C (2018) explains that since they are in the middle of the process, they have integrated the ones they have as a result of a strategic priority regarding which systems are most important to start with. Company C have some basic functionalities, but they see the need in continuous improvements within this. In the WB EC, customers can see prices, inventory status, and product information as well as their order history. Interviewee C (2018) notes that they are aware of the continuous amount of functions that can be integrated into the WB EC and that it is going to be a continuous process to further develop and improve their WB EC channel. However, Interviewee C (2018) mentions that more functionalities are not always better and notes that the development of the channel could mean to reduce the complexity and optimize the user interface concluding that adding too many functions risks
lead to adverse effects. They put much focus on making what they have better, which is work that is never ending according to Interviewee C (2018).

Interviewee C (2018) generally sees that it is of importance to start off small and get the basics in place and then successively add things on. Interviewee C (2018) argues that many organizations try to facilitate too many needs and aspects at once and that the WB EC needs to be perfect from the start. Regarding the technology Interviewee C (2018) argues that it does not have to be inappropriate to start with the acquiring the technology, but that it rather could ease the process. The reason for this is to be able to better understand the concept before a strategy is formulated, so that the strategy is not misaligned and incomplete, due to e.g. underestimating the complexity. Interviewee C (2018) argues that the change to WB EC requires a digital strategy rather than an IT-strategy since nearly all of the WB EC technology development is outsourced. Accordingly, the digital strategy in Company C has been formulated after the acquiring of the technology and launching of their initial web-shop.

Being able to formulate an appropriate strategy is also connected to having the appropriate competence according to Interviewee C (2018). Moreover Interviewee C (2018) argues that the technology development and progressive understanding of the concept need to be an iterative process. Similarly, it is argued by Interviewee C (2018) that it is very important to have the right competence in-house for measuring if the process is progressing in the right direction. As an example, Company C uses data-driven development and to be able to work in this way, Company C have recruited a digital analyst who analyses the traffic, conversion, and retention.

Concludingly, Interviewee C (2018) argues that if an organization identifies WB EC implementation as an IT-matter it creates adverse conditions for it to be successful, since Interviewee C (2018) considers it more of a sales- and marketing-matter. Accordingly, the management of the IT aspects have been assigned to the IT-department which is managed by one individual there, and there is no plan to assign further ownership to others in the IT-department. However, if it would be required it would be solved by new-recruitment.

**Organizational**

The decision to implement WB EC was based on the intuition that it would ascend in the future and was a strategical choice for increasing sales rather than to optimize the current sales process. The initial expectations were few and they instead researched what the effects could be. In this research customers were interviewed and surveyed regarding their needs and opinions. Based on this research, expectations were formed, but there was however no explicit risk-analysis performed. One of the perceived benefit was that it could provide efficiency in order handling but what was seen as the main benefit was the potential for increased and improved sales and market reach. Their online presence strategy is to complement and support their customers’ sales channels so that the end consumer is more likely to buy Company C’s products from their customers (often being retailers). The WB EC is managed so that it does not create external channel conflicts but facilitate other channels, thus staying in B2B commerce. Within this there is a great aspect of facilitating high-quality product information and descriptions to increase sales. Moreover, Interviewee C (2018) mentions that they intend to
expand the WB EC to up to 20 other countries, and even though it is not the focus, increase the efficiency of the order handling.

The top management of Company C was initially very involved and driving for the initiation and launch of the initial web-shop. More recently the support has enabled the establishment of the digital business division, however, due to unrelated changes the top management involvement has dropped currently. According to Interviewee C (2018) the support of the concept is nonetheless unchanged. Interviewee C (2018) argues that it is essential that the top management is involved for the WB EC to progress and develop. Interviewee C (2018) moreover notes that it is essential that they facilitate the appropriate amount of resources for this progress. For this Company C utilizes short term cost-forecasting rather than traditional budgeting.

Interviewee C (2018) argues that there is no expectation that the WB EC implementation will contribute to lowered costs (e.g. by alleviating staff) due to the benefit of more efficient order handling. This is because the freed-up time for the staff that does not have to perform their earlier daily tasks, will be spent on other value creating tasks instead. The expectation was rather that the cost would rise during the adoption of the WB EC which Interviewee C (2018) argues have made the financing of the WB EC engagement problem-free so far in Company C. Not having to put effort into getting financing have enabled the digital business division to focus on defining what is needed instead. Interviewee C (2018) states that the focus for the WB EC initiative moreover is relieved from having to motivate IT-costs as this is a matter for the IT-division. Interviewee C (2018) argues that if the company and management are not expecting to see increased costs and are patient regarding the return on investment, it could cause problems. Interviewee C (2018) states that even though the support of the concept is present in the initial phase it is likely that resistance is going to arise when the resources for necessary changes are required. If this occurs, Interviewee C (2018) will manage this by arguing rationally for why it is necessary to keep investing in WB EC.

Interviewee C (2018) notes that one mistake Company C did before was that they launched the web-shop and then failed to assign any ownership of it, leading to the relatively low utilization. Regarding this, Interviewee C (2018) recollects that it initially was almost entirely consultants who led the implementation of their web-shop. Leadership internally came from the IT department where one individual was working part time with the web. The consultants were contributing to the technical aspects, however the organizational aspects were looked past and because the consultants were external from the organization it made it difficult for them to make suggestions which evoked enthusiasm and engagement. Interviewee C (2018) concludes that when the initial implementation was made, and the consultants main job was done, the drive for the WB EC channel died out since no one really had any ownership of the initiative. This, the ownership of the initiative, has been the main managerial obstacle. Company C subsequently realized that they needed to switch from using consultants and instead have the competence and ownership internally. Subsequently, Interviewee C (2018) was employed to be in charge of the ownership and leadership of the WB EC. Interviewee C (2018) however argues that having just one owner is not enough and that for instance the digital strategy, KPI measurements needs their own owners. This is also a concern regarding the internal competence according to Interviewee C (2018) and has therefore hired a digital strategist and
a digital analyst.

**Structures**
Interviewee C (2018) describes the organizational structure as a traditional one. They have a sales and market department which Interviewee C (2018) and the Digital Business function belongs to, alike the Customer Service function. The sales and market division have offices across several countries with traditional sales staff and managers (sales, key account and regional) which make up a significant part of this division's employees. This division gets central support from a Sales Support division in charge of pricing, CRM and sales processes. Besides this they have an R&D division, a Logistics division, and a Market Communications division. There are HR, finance and IT support functions as well. The Digital Business department have many touchpoints in the entire organization, however few employees outside this group are involved in the WB EC channel. The Digital Business department currently consists of a group of five working exclusively within EC. Interviewee C (2018) points out that even though their division is called Digital Business they are not in charge of digitalization projects that might occur in other divisions. They are rather focused on the online experience for customers, increasing sales, and increasing order processing efficiency.

Interviewee C (2018) have become responsible for the PIM-system which several other departments in the company use, where some departments provide input and others extract information. This creates explicit links between the departments since they need to interact with one another. In general, there is a quite close cooperation between the marketing communication department (who provides editorial material) and the digital business department which Interviewee C (2018) oversees. Moreover, the customer service department are tasked with the administration of setting up customer accounts for the WB EC and thus also create an explicit link. Interviewee C (2018) notes that the links between the aforementioned departments are important since much of the quality of their respective work is dependent on what the other department delivers in terms of output (i.e. quality of product information and quality of editorial material). Besides this, the cooperation also ensures uniformity across channels.

The sales forces’ daily work will not be affected to any extent by the WB EC according to Interviewee C (2018). It will rather enrich their work as they can use it as an addition to the CRM, which also provides the WB EC channel with valuable information. Interviewee C (2018) nonetheless identifies that it is desirable and important in the short term that the sales force and employees with daily customer contact gains knowledge of, and understand, the WB EC. This, so that they can help increase the degree of utilization, smooth the order handling, and sell it as an option.

Interviewee C (2018) concludes that the goal and vision is to better link it with the rest of the organization and to get more individuals involved in the WB EC channel. At this point however, the focus of the digital business division has not been to integrate the WB EC internally into the organization, but rather to sell it externally and focusing on providing the best experience for the customer. Internally Interviewee C (2018) does not identify any channel conflicts since the WB EC is seen as a complement and tool for the traditional organization to use as well.
**Resistance**

Interviewee C (2018) argues that the many internal touch-points outside the Digital Business division makes the change process more difficult since there is an enhanced risk of change friction as more individuals are going to be affected by it. The obstacles argued by Interviewee C (2018) is in the psychological dimension of humans’ inherent hesitance towards change. In this sense it is a greater challenge for their organization that has been operating for more than 50 years, to adapt to this, as compared to a business that has been operating for 10 years and started out with a web-shop. Interviewee C (2018) argues that this is since the change for Company C is outside their traditional sphere. I.e. the change entails conducting business in an entirely new way which the employees and managers are unfamiliar with because of their legacy. Interviewee C (2018) underlines that since the change is more radical than incremental there is often an “irrational” emotional aspect which needs to be mitigated that, arguably, stems from lack of knowledge and fears. Interviewee C (2018) argues that these emotional aspects are often expressed as rational arguments of why the solution is inadequate. Interviewee C (2018) notes that achieving enthusiasm and involvement from managers and employees is going to be challenging because of this. The customer service personnel’s daily work will change more dramatically than e.g. the sales forces’, and that brings about an emotional resistance that needs to be addressed. Interviewee C (2018) does however not delimit the resistance to only come from the customer service division but argues that many are going to oppose the change. Nonetheless, this change is something that is likely to progress at a fairly slow pace. The friction/resistance is managed through communication and dialogue to get everyone on board as well as to change the culture to become a ‘digital business’. Interviewee C (2018) argues that this is a significantly longer process than improving the technical solution and hiring the competence needed.

**Communication**

To best communicate the change and get employees on board it is argued by Interviewee C (2018) that it is more efficient to underline that this is fully supported and directly communicated by top management. However, Interviewee C (2018) underlines that it is also important to communicate what everyone can or will gain from the change. Subsequently Company C is going to continuously oversee how each individual is affected by the change and also address it continuously. Fears and doubts will be mitigated by communicating the benefits that WB EC can bring about and reassure them regarding their fears. Rational arguments needs to be put forward (which requires the right competence according to Interviewee C (2018)) regarding how this is the right thing to do and how it fits the business.

Interviewee C (2018) argues that the subjective and perceived degree of improvement needs to surmount the degree of change. The key for the change to stick is that these messages need to be repeated over and over according to Interviewee C (2018). Accordingly, the plan is to repetitively attend internal sales conferences and communicate with the sales force and key account managers, and inform them regarding the WB EC and its benefits.

Interviewee C (2018) notes that the lack of internal communication, correlating with the lack of ownership, the first years after they initially launched a web-shop has led to that there are
many within the organization that are not even aware that their products can be purchased online. Moreover, Interviewee C (2018) identifies that the lack of communication is a key factor for why the sales and website visits has not met the expectation since the initial launch.

Interviewee C (2018) notes that Company C have not yet come to the process stage of cultural change and change management. The establishment of the digital business function that Interviewee C (2018) is in charge of is the first thing they want to accomplish. Before the communication regarding the WB EC is to be commenced Interviewee C (2018) moreover wants to obtain the right competence, improve the technology, and formulate a strategy to be able to proceed in the right direction.

Concludingly, Interviewee C (2018) states that the cornerstones for their success is the technical parts, the strategy, and the competence. Interviewee C (2018) underlines that the technology needs to be in place first. The strategic part entails how they should work with continuous improvements and what should be prioritized during the implementation process. Furthermore, regarding the competence it is important according to Interviewee C (2018) that there is a centralized unit that drives the initiative and spreads the message across the organization.

Environmental

There might arise channel conflicts for search engine optimization and advertising where Company C and their business customers might unintentionally compete when Company C’s products show up both via Company C’s WB EC channel and via their customers WB EC channel (B2C). As they recognize their customers’ sales as their own indirect sales, Interviewee C (2018) states that this is something they are going to monitor to be able to avoid. According to Interviewee C (2018) Company C rather intends to support their customers WB EC channels. They have however not encountered any problem regarding this yet.

5.4 Company D’s E-commerce Assimilation

Company D is a wholesaler with over 50 stores and a large sales force. Within EC they provide EDI solutions and a web store. Approximately 25% of their total sales comes from EC, of this, about 20% comes from the web store. Company D started their WB EC initiative in the beginning of the 2000s, after acquiring a company which already had initiated WB EC. Company D chose to implement WB EC into their organization in the same way as the acquired company had. Their implementation has since then been done in an iterative way. Interviewee D (2018) says that they might seem to have come far in their WB EC work, but that there are still a lot of challenges left in their transformation of going from traditional to digital commerce.

Technological

In Company D’s web shop, customers must be registered to shop. This according to Interviewee D (2018) is due to that their offerings are based on contracts which gives customers different deals. Without logging in, the web-store is still open, where product information is available, but no prices are shown. Their web shop is integrated with Company D’s other
business systems, where Interviewee D (2018) argues that it would not be an WB EC if these integrations did not exist. Moreover, 5% of their sales comes via EDI which is also integrated into their web-store through a punch-out solution such as the one described in section 5.1.

Company D have much of the required competence for WB EC in-house, e.g. project managers and people who set the requirements, which they set according to their customers’ needs and/or desires. However, the IT operations and web-store development are outsourced.

Organizational

As mentioned, Company D started their WB EC initiative around the year 2000. The initiative came from the top management, who saw WB EC as something up-and-coming and decided that Company D would invest in it. In the beginning there were not many expectations, it was a “trial and error” initiative where focus was on sales and to make the sales process more effective.

Along their journey of trial and error, Company D realized that there is more to WB EC than sales, as for example marketing. Today, WB EC belongs to the marketing side of the company, and focus is on providing customer benefits as well as to make the customers day easier, i.e. to make it easier to shop. The overall purpose is about meeting upcoming competitive threats, as Interviewee D (2018) argues that the WB EC initiative has been strategic all the way.

The digital strategy has been revised over the years, where it today consists of mainly the following; to come closer to their customers, to make the web shop more effective and to refine and improve product data. Having superior product data is according to Interviewee D (2018) very important and it will aid in maintaining current customers and in attracting new ones. This digital strategy according to Interviewee D (2018) is not something outside of the company’s main strategy and goals, it is perfectly aligned with it. One of Company D’s overall goals is to be the market leader in every branch they operate in, including being digital market leaders. Moreover, Company D wants to come close to how the B2C market is when it comes to customer experience, where Interviewee D (2018) argues B2C companies as being far ahead of B2B companies in this regard concerning WB EC. So far, Company D have reached their set goals in being more effective and increasing their market share through WB EC.

WB EC was the top management’s initiative and they have always supported it, which Interviewee D (2018) highlights is, and has been crucial, like for any change. In the start, WB EC belonged to the top management. Today, Interviewee D (2018) together with a group consisting of eight other individuals in Sweden, are responsible for the EC, but they do not belong to the top management. However, they report directly to the marketing director, thus always being close to the decision-making. Along with this, Interviewee D (2018) mentions that financial decisions are still following traditional investment decision-making rules. To get financial resources they must always build a case make the necessary calculations, and so on. At Company D, they do not use budgets, but rather continuous prognoses where the investments are followed up closely. According to Interviewee D (2018), the investments in WB EC have always been increasing and have not come with any issues.
A strong centralized organization, like what is described in the paragraph above, is according to Interviewee D (2018) necessary to have and that there at the same time should not be too much ‘overhead’ staff. The centralized group at Company D is very small, as they are a highly decentralized organization where decision-making, authority, and responsibility are pushed far down in the organizational ranks, which Interviewee D (2018) mentions is one of their success factors. For example, Company D have ambassadors in every department who spread their digital and web knowledge, helps their colleagues with the usage of different functionalities and other WB EC related hurdles. There are also administrators who helps with more simple things such as log-in problems.

Interviewee D (2018) mentions that they have not had the need to make any changes to the culture to make it compatible with WB EC. Interviewee D (2018) argues that Company D have always been open for change, and that the transformation to digital commerce is not seen as any different to any other change. Interviewee D (2018) explains that this is because Company D have a long history of acquisitions which always involves changes, and therefore change lies in the organizations "DNA". However, there have still been some issues to deal with, as you must get everyone in on the change.

Back in around the year 2000, orders came by letters which made the WB EC initiative to be viewed as a threat from those who were handling orders, as they were thinking in terms of 'what they were supposed to do if the web took over their jobs'. Company D successfully mitigated this fear, where the web today is viewed as an enabler by the sales force who uses it to find information in an easier and better way than previous sources, such as a paper catalogue (which also gets outdated very quickly) or the business system which is less information-dense. To change the beliefs from WB EC being a threat to more a compatible enabler, Company D says that it is all about sharing the information regarding that WB EC is not a threat. Furthermore, this has to be presented with facts, which is one of the responsibilities of Interviewee D (2018). One example of this is that the store personnel were afraid of what would happen to their jobs when WB EC was implemented. By showing the store personnel that Company D were still expanding their number of stores, meanwhile growing within WB EC, they could mitigate this fear.

Interviewee D (2018) points out that the changes are not made as a result of a democratic decision, however it is still essential to get engagement from everyone. This can be done from involvement and information, to talk to people and listen what they have to say and what they think. Company D try to engage the employees to come up with digital ideas themselves. This is according to Interviewee D (2018) is a favorable way to work, i.e. to act without being seen. Moreover, Interviewee D (2018) mentions that getting store manager’s and sales personnel’s engagement was not too difficult. As the organization is decentralized, each store has the responsibility of bringing the best return of sales as possible. Due to this, store managers have seen the advantage of having their customers using the web-store. The advantages of using the web-store is that it frees up time so that the sale personnel can do other value adding activities. As a result, the store managers engagement has come naturally, since it provides efficiency for them. According to Interviewee D (2018) the sale personnel are also easy to engage by setting
goals within WB EC, sales people by their nature run towards these.

To communicate information, change, and learning, Company D have traditionally sent out written information and held long meetings. Nowadays, Company D tries to give out short video courses instead, replacing the long hourly information meetings. Everybody have time to watch a few minutes of videos, but it can be harder for people to make time for long meetings, according to Interviewee D (2018). Much of the learning is still mouth to mouth, but learning is also shifting from teacher-led to self-led with the help of the digital material.

Company D’s WB EC project is followed up with KPIs which indicates success along the transformation. For example, Company D measures how satisfied customers are and measures the *Net Promoter Score* (which measures customer loyalty) as two of their indicators. The success indicated from this is then communicated within the organization. Interviewee D (2018) mentions that this is important and argues that if you can show success, then you have shown that this is a good way to work, and therefore, success brings more success (Interviewee D, 2018).

Lastly, Interviewee D (2018) highlights that it is of high importance to shorten the time to market and that this is one of their main challenges. It is, according to Interviewee D (2018) better to do things in small steps and try them along the way (agile work) than doing everything at once. Doing so in an iterative way will provide insights along the way regarding if what is done is correct or not, and thus deciding whether to proceed or not. However, Interviewee D (2018) says that Company D have issues in dealing with working in an agile way. Company D stem from being a typical ’waterfall organization’, i.e. a linear way of working where progress flows in one way. Typically at Company D, they plan nine months ahead. This does not hold for the WB EC, where the development time-windows are currently around three weeks, all the while changes in other systems that backs up the web shop, such as their business system, were still planned for nine months ago. Interviewee D (2018) mentions that this is the legacy problem. When asked how this is managed, Interviewee D (2018) mentioned, like for all transformations, to listen and involve as many as possible and to be transparent that you cannot answer everything, that things can go wrong, and being transparent when it does. Interviewee D (2018) also mentioned that they want to be able to try out new things, new possibilities and challenges, but cannot risk their revenue while doing so. So, they need and will create an ”organization outside of their organization” that can be more flexible (Interviewee D, 2018).

Environmental

Interviewee D (2018) mentions that many customers are still living in the analog world, which makes it important for Company D to incorporate both the digital and the analog world.

5.5 Company E’s E-commerce Assimilation

Approximately 65% of Company E’s sales come through their EC channels, where 45% is through their WB EC channel and about 20% comes from their EDI channel. They first launched their WB channel around 2000 however, Interviewee E (2018) notes that this was mostly a
digital catalogue in which their customers could place orders. In 2015 they launched what Interviewee E (2018) calls the real WB EC channel. In order to view their assortment and purchase the customer needs to log in to their WB EC. Furthermore, they have basic shop functionalities, a chat and some other functions such as saving of shopping lists. Company E works with continuously improving their functionalities and does this through listening to their customers’ needs.

One challenge that Company E faces is that they have an assortment and customer base, both in multiples of tens of thousands, and Interviewee E (2018) argues that theoretically each customer can have an individual price for each individual product. This puts pressure on that there is a vast amount of information that needs to be up to date at all times and everything has to function smoothly at the same time. Interviewee E (2018) argues that if this does not work properly the customers will not purchase. This is something that Interviewee E (2018) argues differs from B2C commerce as they do not face these challenges in the same way, but they nonetheless need to deliver the same smooth and user-friendly experience.

**Technological**

Originally the implementation was made by purchasing a WB EC platform and then integrate the necessary support-systems that provide price-, stock-, and product information etc. Interviewee E (2018) notes that if they should have done anything different they would have worked less with tailored solutions formed after their business, and instead implemented an existing solution which is easier and cheaper to update, and accordingly form the business after this.

Currently, all the software development is outsourced both for front and back end, however, the management and maintenance are managed internally. The human resources within EC is however something they need internally, and this need is something that has emerged over time. In the beginning the EC could be managed part-time by existing employees and consultants, however, as the channel has grown to account for almost half of all the sales, it is more important to increase efforts and quality demands on the development of the channel. Interviewee E (2018) argues that it is particularly important to obtain appropriate competence when the system becomes more complex and include analytics of customer behavior as well as other dimensions related to the customer.

**Organizational**

The initiative came from the top management and there has always been support from them. Company E finances the WB EC via budgeting and Interviewee D (2018) have never had any issues with the financing of their division. It is also the top management that sets the goals for the sales which affects the WB EC.

The purpose of implementing the WB EC was to facilitate for the customers so that they could order at their convenience, but also that it would decrease costs for ordering. Interviewee E (2018) nonetheless argues that it was mainly a strategic decision. The strategy is to showcase
their assortment which consists of multiples of tens of thousands of different products, and to
do this more efficiently than e.g. verbally over the phone. This opens for increased sales, but
it mainly facilitates so that the customers’ needs are met.

Perceived benefits have been that it is more cost efficient to handle orders and requires less
personnel. On the other hand, Interviewee E (2018) mentions that there is a fear that the
customers procurement behavior will change and that it leads to less sales and more specific
procurement if the sales force are less influential in their customers’ procurement journey. It
is additionally a risk that technical issues lead to a decrease in sales. However, according to
Interviewee E (2018) the positive aspects have been met and the customers have responded
positively, all the while the WB EC sales increases.

Company E have a cross-functional organization. Interviewee E (2018) is responsible for the
digital customer contact-surfaces. In the team that Interviewee E (2018) is responsible for there
is a development manager, project leader, content manager and campaign manager. On top
of this there are representatives from procurement, sales, market, IT, and support that works
part time with the WB EC and influences and helps to formulate the WB EC development.

Interviewee E (2018) argues that the top management is more prone to be positive towards
change than the employees. One obstacle that Company E have met is the resistance to change
due to fear of losing ones’ job, mainly in the sales division. This is managed by communication
and making them involved. Interviewee E (2018) argues that it is generally a clear inertia in
the change from analog business to digital business, but he states that the general perception
in Company E is a positive outlook on this change.

Interviewee E (2018) notes that making the sales force to start using the WB EC as a tool
has come effortlessly and that they did not have to actively work on this, by e.g. changing the
culture. Interviewee E (2018) argues that this is because their internal business system is less
user friendly and offers little visual aid. Contrastingly, the WB EC provides better information
via an intuitive and visual interface, and this helps the sales staff in providing information to
their customers, giving them incentives to use it.

It is only part of the company that are involved with working with the WB EC. It is mainly
the market division that uses it, however, the IT department as well as the assortment and
procurement division are also involved with the WB EC. As mentioned before, the sales di-
vision also uses it as a tool in their sales processes. Interviewee E (2018) however mentions
that they do not work actively with organizational learning, and that it rather is more ad hoc.
For instance, the staff does not get any structured support for learning new functions in the
WB EC. If the managers or responsible would like to spread knowledge of how to use a new
function in the WB EC, they would send out screen-shots that visually explains how to do it,
but there is no follow-up on the saturation of this information amongst the employees. Inter-
viewee E (2018) argues that it would be beneficial if this was changed so that it was done more
methodically and properly.

Getting employees and managers to be involved and motivated regarding the WB EC has
not previously been worked on actively. Interviewee E (2018) notes that now when they have started to work on it, they increase the transparency so that it is possible to visually see the progress and what is happening behind the curtains. This is done by visiting the offices around the country and informing them about the WB EC, why it is important, and what it entails etc. It is also through these visits that the EC team elaborates on how the employees will be affected and tries to get them involved instead of fearing that it will lead to them losing their jobs. Interviewee E (2018) applies two-way communication so that all stakeholders affected by a change get a chance to influence it and communicate their opinions before the actual development starts. However, informing the rest of the organization is more difficult, but is mainly done through the intranet. It is also mainly through the intranet that the successes are communicated, however if a certain division or group have been more involved they are informed via e-mail. Expanding on the two-way communication Interviewee E (2018) mentions that they have opened for the possibility for employees to contribute with ideas to the WB EC development to increase the level of participation besides continually inform them through the intranet. However, Interviewee E (2018) mentions that the top management have set goals that are non-negotiable. Interviewee E (2018) has to communicate why this is and how one should relate to this, which also is a way to deal with resistance.

5.6 Company F’s E-commerce Assimilation

Company F is a wholesaler who have three main sales channels; phone sales, project sales and EC. Their EC stands for about 50% of their sales, this includes EDI transactions which according to Interviewee F (2018) is just a few percent of their EC. Interviewee F (2018) joined Company F in 2012 and at that time they already had a web-shop. However, the shop was not working at all, so they re-made everything from scratch. What they have today is WB B2B EC which according to Interviewee F (2018) is similar to a B2C shop. According to Interviewee F (2018) they had the same approach when building their B2B web shop as any other company have while building their B2C web-shops. Now, they are in the middle of rebuilding their WB EC platform again.

Technological

Today, Company F have basic functionalities for ordering and a chat function for communication. Anyone can go online and shop, just by registering an account. As Company F is a B2B company, they have many customers who have contract prices, which are then offered digitally in their accounts. However, over the past years Company F have analyzed how customers are moving by analyzing data to identify what is good and/or bad before implementing new functionalities. As mentioned earlier, a new WB EC platform is under implementation at Company F. This platform will be much more relevant to the customers, due to the previously mentioned customer analyses (Interviewee F, 2018).

Company F’s web shop is today integrated with their business system. They are currently working on adopting and integrating new systems, e.g. CRM and PIM systems. They have fortunately changed all their old systems, which Interviewee F (2018) argues gives them a stable new ground to stand on when working with integrating new systems. Moreover, Interviewee
F (2018) mentions that they view EDI as compatible with the WB EC. Today, EDI is somewhat integrated with their web-platform, but not as sophisticated as in a punch-out solution. They are currently working with integrating EDI and WB EC more.

Company F have most of the required competence within EC in-house and tries to keep it that way. Company F uses consultants only when they lack competence, for example in their start they did not know how social media works, so they brought in experts. Then, they learned how it works and recruited the competence in-house. Moreover, Company F uses development consultants who are based in another country. They are not directly hired by Company F but have been working for them for a long time and will continue to do so. With the implementation of their new platform, Company F has hired help from another consultancy company in Sweden. However, their long-term consultants are also involved in the project, so that they can learn the new platform and subsequently take over from the Swedish consultant company later on. According to Interviewee F (2018), this is how they want to do it, i.e. to have the competence in-house, or close to them, as for example the long-term development consultants.

Organizational

The WB EC initiative came from Company F’s top management, who in the start expected benefits of gaining revenues. When it comes to obstacles, Interviewee F (2018) mentions that none were actually recognized in the start, as no one thought of the initiative to be more than just digitalizing their traditional paper catalogue at that time.

On a higher level, Company F is working with their digital transformation where a lot of new systems are being brought in. This is in progress, and WB EC is a part of it. Interviewee F (2018) argues that their decision to implement WB EC was strategic, where the goal was to double their revenue within five years, thus they established WB EC as a new sales channel. Prior to their recent platform implementation in the early 2010s, they had no digital-commerce strategy. Interviewee F (2018) later wrote an e-commerce strategy, which is described as ‘quite simple’. The purpose is to get clicks, increase sales, and to present their assortment in a structured and clear way.

Interviewee F (2018) emphasizes on the importance of compatibility between their digital strategy and the company’s overall strategy. Interviewee F (2018) argues that what they are doing is changing the entire company. So far, they have built their WB EC alongside of the company, while the company have been somewhat isolated from WB EC. Now, they have implemented a common PIM system, gathering all information in the same database for all their sales channels, which is a step forward in their digital transformation. When implementing their new WB EC platform, everything will be integrated, for example, the sales personnel will be using the platform to enter orders. Whereas today, they use the website for information gathering but enter orders in Company F’s business systems.

As mentioned, the initiative came from the top management, who have always supported this initiative and getting the budget for WB EC has not been an issue so far. However, Interviewee F (2018) argues that this is due to them trusting Interviewee F (2018) and not actually
understanding what they are agreeing upon. Interviewee F (2018) has worked a lot with WB EC, at even larger companies than Company F. According to Interviewee F (2018), the lack of digital knowledge at top management level is common in all previous workplaces of Interviewee F (2018). Making the top management acquiring this knowledge is an important but challenging task. Interviewee F (2018) says that the way this can be accomplished, is by explaining everything in a pedagogical way, to show the business benefits of WB EC, and to explain what is happening in the world and so on.

Company F works with WB EC implementation following an agile way of working. WB EC belongs to the market department who report to the top management. The market department, which WB EC belongs to, does not have the authority to make any decisions on their own. According to Interviewee F (2018), this has not been an issue, as they sit close to the decision makers and can have a sensible dialogue with them any time. The EC department contains; Interviewee F (2018) (Head of E-commerce) who is responsible of the EC development, a project manager for EC, a user interface designer, developers who sit in another country, and a commercial team. Moreover, Interviewee F (2018) believes that her EC group might not always be the experts, so they try to incorporate other parts of the organization as well. For example, when developing their website, they involve people from the sales and purchasing departments to get to know how they think, what they want, and so on. As Company F operates in many countries, they want to build a solution which works everywhere. For this purpose, there is a group who works to bring all requirements together. Company F have 1-2 individuals that works with WB EC in each country that they operate in. They meet once a year and also have monthly meetings where they inform each other on their progress within the WB EC.

According to Interviewee F (2018), the company culture is open for change outwards. However, it is always an issue when change actually happens. Company F have been working in an analog way for over 40 years, which brings issues when changing to become digital. During the recent four years, peoples’ view on WB EC has changed a lot internally at Company F. In the start, people were reluctant, had no understanding for WB EC and no one cared about the initiative. Nowadays, everyone is asking questions, wants to contribute with their views and thoughts, and wants to be involved in WB EC. Achieving this transformation, Interviewee F (2018) argues was all about showing numbers, i.e. what results WB EC has brought. For example, in their case WB EC has the highest revenue, with most new customers, and highest margins of all their sales channels. By showing this, everyone who were against EC or did not care turned around and wanted to be a part of EC. This, according to Interviewee F (2018) comes naturally as their company’s business is to sell goods, and employees want to be where this is going well, i.e. within WB EC.

Interviewee F (2018) states that changing their organization to become more integrated within EC required a lot of effort. Previously, everyone was working in kind of a silo, where nothing was connected, and no one exactly understood the challenges ahead. The issues started to arise when Company F started to work with the integration of their systems. It was at this point when people understood all the challenges that WB EC brought with it. Interviewee F (2018) states that this was kind of a tough time for Company F as the employees were not happy as a result of all the issues. From this, Interviewee F (2018) believes that the employees
get forced into things. It does not really matter how much you talk about the change, because people do not really understand what it means it is until it is in front of them.

The sales role will also change to be more and more digital but will not disappear according to Interviewee F (2018). Today, their sales personnel are using a chat function on their website to interact with customers. However, Interviewee F (2018) says that it was very hard to get the sales personnel to use it. To get there, they had to get them to understand the function and what value they bring with it. As mentioned earlier, Company F tries to involve their employees in the WB EC development, which according to Interviewee F (2018) is a way of giving them knowledge in WB EC. Consequently, they become ambassadors for the project at the same, which also results in commitment for the project.

During the implementation of their new WB EC, information and status is spread by the communication department through newsletters which are sent to everyone in the company. Moreover, when an iteration of the platform is finished, Company F arranges a demo where the ones who are interested are welcome to look. A larger meeting will also be held to inform about the new WB EC platform. Moreover, Company F measures their progress with KPIs and tries to communicate success whenever possible. This is something that Interviewee F (2018) says that they have to become better in doing, as this is a way of letting people know how the work is going.

Environmental

The reason for initiating WB EC is due to that the top management understood that the world was changing towards becoming more digital and wanted to follow this trend.

5.7 Key Findings

The presented six cases contain a large amount of data. As outlined in section 4.4, the Framework Approach can be used to organize, structure and condense the data, making it comparable and facilitates for analysis. Therefore, we have structured our data in table 6 Key Findings in accordance the Framework Approach. The factors presented in the E-commerce Assimilation Framework seen in table 1 represents the rows in the Framework Approach and each company case is represented by their respective interviewee.
Table 6: Key Findings

<table>
<thead>
<tr>
<th>Factor</th>
<th>Interviewee A</th>
<th>Interviewee B</th>
<th>Interviewee C</th>
<th>Interviewee D</th>
<th>Interviewee E</th>
<th>Interviewee F</th>
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</thead>
<tbody>
<tr>
<td><strong>Technological</strong></td>
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<tr>
<td>Relative Advantage</td>
<td>Strategic initiative, want to differentiate themselves from competitors</td>
<td>Strategic initiative</td>
<td>Strategic initiative</td>
<td>Previous focus on improving process, today mostly strategic</td>
<td>Mainly strategic, but also cost reduction</td>
<td>Strategic initiative</td>
</tr>
<tr>
<td><strong>Technology Integration</strong></td>
<td>Have fully integrated business and CRM systems in the WB EC</td>
<td>PIM, CRM, invoice, purchasing, and business system are integrated with the WB EC. Trouble with this led to project delays</td>
<td>The WB EC is integrated with the PIM, Ordering, stock, analytics, and business systems. Continuous process</td>
<td>Integration with business systems, argues that this is a prerequisite for it to be called WB EC</td>
<td>Standard platform integrated with e.g. price, stock, and PIM systems</td>
<td>WB EC integrated with business systems. Important to have an implementation-friendly platform. Continuous process</td>
</tr>
<tr>
<td><strong>EDI Usage</strong></td>
<td>25% of sales through EDI, mostly for large customers (Who only uses EDI). It is also integrated with the WB EC (Punch-out)</td>
<td>EDI is important and crucial for large customers It is also integrated with the WB EC (Punch-out)</td>
<td>15% of sales through EDI but it is not integrated with the WB EC due to the two fulfilling different needs</td>
<td>5% of sales through EDI which is also integrated with the WB EC (Punch-out)</td>
<td>20% of sales through EDI. It is not integrated with the WB EC</td>
<td>A few percent sales from EDI, which is partially integrated with the WB EC. Working on integrating it more, as the two are viewed as compatible</td>
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<thead>
<tr>
<th>Factor</th>
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<th>Interviewee D</th>
<th>Interviewee E</th>
<th>Interviewee F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web Functionalties</strong></td>
<td>Has shop functionalities, but under implementation of new functionalities within customer interactions</td>
<td>Has shop functionalities and functions to enhance customers experience. Upcoming is a customer interaction functionality</td>
<td>Currently have shop functionalities, more focus on improving functionalities than adding new</td>
<td>Shop functionalities</td>
<td>Basic shop functionalities, a chat, other functions to enhance customer experience. Continuously working on improving</td>
<td>Basic shop functionalities and a chat. Working on building relevant functionalities based on analysis of customers</td>
</tr>
<tr>
<td><strong>Complexity</strong></td>
<td>-</td>
<td>Employees have navigation issues on the platform, managed by education and redesign</td>
<td>Keeping number of functionalities down reduces complexity</td>
<td>Ambassadors teach how web functions work, both internally and externally</td>
<td>Relative less complex than old systems</td>
<td>Some trouble in making sales personnel understand and use chat functionality</td>
</tr>
<tr>
<td><strong>Technology Competence</strong></td>
<td>Most competence in-house, use consultants for platform development</td>
<td>Only manager/leading competences in-house. Values consultants highly, which are used for platform and business development</td>
<td>Initially relied on consultants. Today focus on in-house competence to build and sustain engagement in the project. Still outsource IT development</td>
<td>Project managers and requirement setting in-house, consultants for IT operations and platform development</td>
<td>All software development is outsourced. Management and maintenance in-house which the need of has been, and will keep emerging</td>
<td>Has most competence in-house. Consultants are used when competence is lacking, until competence is acquired internally</td>
</tr>
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Table 6: Key Findings – continued from previous page

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<th>Factor</th>
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<th>Interviewee E</th>
<th>Interviewee F</th>
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</thead>
<tbody>
<tr>
<td><strong>Organizational</strong></td>
<td>Purely strategic to be in WB EC. Want; new customers, provide something unique</td>
<td>Initial strategy; sales focused. Now; WB EC is more than a sales channel; new strategy focuses on providing services</td>
<td>WB EC adopted for strategic reasons. Strategy formulated after adoption. Want; Support other channels, increase sales and efficiency</td>
<td>Initially sales and efficiency focused, now; WB EC is more than a sales channel, strategic focus, digital strategy aligned with overall strategy</td>
<td>Strategic adoption decision to increase customers convenience, want; meet customer needs, present assortment, increase sales</td>
<td>Strategic adoption decision, want; increase sales, present assortment, Aligned with overall strategy and ongoing digitalization</td>
</tr>
<tr>
<td><strong>Perceived Benefits and Obstacles</strong></td>
<td>Benefits: New customers, risks: 1. Customers used to the old ways, 2. Company have to change internally to meet new needs</td>
<td>Technical problems forced scale-down at launch which led to disappointment due to expectations. Detrimental to engagement</td>
<td>Expectations based on research. Obstacles seen in the human dimensions. Argues that one needs to accept increase in cost initially</td>
<td>Few expectations, rather trial and error approach with expectations emerging over time</td>
<td>Fear of decreased sales disproved. Benefits seen in efficiency. Positive outlook and employees’ fear of termination met by communication</td>
<td>Seen as an opportunity to increase sales, obstacles not identified in the start</td>
</tr>
<tr>
<td><strong>Top Management Support</strong></td>
<td>Top Management initiated WB EC</td>
<td>Top Management resisted initially. Persuaded with the help of a solid pre-study. Now; they are somewhat involved, closely follows up project</td>
<td>Initially, top management were driven and involved. Involvement has dropped but they are still supportive</td>
<td>Top management initiated WB EC and has always been supportive of it, which is crucial to all change</td>
<td>Top management initiated WB EC and has always been supportive. They also set the goals.</td>
<td>Top management initiated WB EC and has always been supportive. Common issue; top management does not understand digital, has to be learned</td>
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<th>Interviewee E</th>
<th>Interviewee F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Resources</td>
<td>Centralized IT budget, no financial issues for WB EC</td>
<td>Initially challenging to get money, easier thereafter. Key; to argument with numbers/facts</td>
<td>Company C relies on forecasts, no financial issues for WB EC, can emerge issues when changing</td>
<td>Money is always an issue, always need a strong case. Investments in WB EC increasing</td>
<td>Use budgets, never had financial issues for WB EC</td>
<td>Budgets are set, have not had any financial issues for WB EC</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Previously silo-based work but have now changed to cross-functional team for WB EC management. Digital ambassadors will be/are used to inform and involve departments</td>
<td>Has an EC management team. Aided by IT and marketing divisions. Are going to involve the sales division. Interviewee B have worked with talking to (linking) employees &amp; managers. Also uses ambassadors</td>
<td>Traditional structure and the Digital Business division is scarcely working cross-functionally. Departments linked by working with cross-functional material. Have not started to involve employees widely</td>
<td>Mainly decentralized structure and use ambassadors across the organization. This is argued to be a success factor. Ambassadors are used in every department to spread knowledge, internally and externally</td>
<td>Has a Cross-functional structure, core EC management team, multiple departments interconnected with other divisions that can influence the WB EC, which also creates linkage in the EC work</td>
<td>Traditional structure and not really cross-functional but ask for input from other divisions and employees believed to be relevant. 1-2 employees in each operating country which links them together.</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Culturally open towards change. Resistance is met by encouraging promoters of EC</td>
<td>Officially open towards change but experience structural inertia. Resistance is met by reasoning</td>
<td>Resistance from fear of termination. Met by reassurance and promoting of benefits</td>
<td>Prone to change and little resistance. Fear of termination met by proving the fear invalid. Incompatible project forms</td>
<td>Employees self-encouraged by using it as a tool for aiding their own work</td>
<td>Officially open to change resistance met by teaching the benefits and values of using the WB EC</td>
</tr>
<tr>
<td>Factor</td>
<td>Interviewee A</td>
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<tr>
<td>Communication - Processes</td>
<td>Uses a variety of channels. External for awareness and internal for progress and knowledge</td>
<td>Underlines top managements support. Right competence meets both emotional and rational opinions</td>
<td>Staff encouraged by involvement, listening and showing progress. Uses frequent brief visual means.</td>
<td>Two-way. Face to face motivating reasoning and transparency. Encourage involvement to meet fears</td>
<td>Newsletters, presentations and status updates regarding progress</td>
<td></td>
</tr>
<tr>
<td>Organizational Learning</td>
<td>All executives have time allocated to learn about WB EC</td>
<td>Works with learning prior to WB EC launch and now continuously, web-based education</td>
<td>Has not initiated this work yet. Plan is to do it by communicating on meetings and conferences</td>
<td>Work actively with learning, initially teacher-led educations, now self-led. Much is learned mouth to mouth</td>
<td>Learning is ad hoc, not structured, realizes the benefits of organizing learning</td>
<td>Learning by involvement of employees in the development of WB EC</td>
</tr>
<tr>
<td>Managerial Change Competence</td>
<td>Uses a change management team</td>
<td>Initially no change leader was appointed which led to poor focus. Argues that ownership is important</td>
<td>Initial lack of ownership had detrimental effects, solved by recruitment. Ownership should be shared</td>
<td>-</td>
<td>Interviewee E deals with some change by communicating with employees about decisions regarding change</td>
<td>-</td>
</tr>
<tr>
<td>Environmental Industry</td>
<td>Adopted WB EC due to it being industry common</td>
<td>Adopted WB EC to fulfill customers needs</td>
<td>-</td>
<td>Adopted WB EC as they saw it as emerging</td>
<td>-</td>
<td>Adopted WB EC to follow the digital trend</td>
</tr>
</tbody>
</table>
Chapter Summary

In this chapter, we have presented the web-based e-commerce assimilation process at the six companies; Company A, B, C, D, E, and F. The cases were presented in a narrative form and structured within the Technological-Organizational-Environmental contexts. However, the six companies are in varying phases of their WB EC assimilation. For example, Company A and F currently have a WB EC channel, but are also in the process of implementing a new WB EC platform. Similarly, Company E have had a web catalogue for many years and have recently adopted a new WB EC platform. Moreover, Company C have recently adopted a WB EC platform but are still working with the technical parts of it. Similarly, Company B has recently adopted a new WB EC platform and are working with both the technical and organizational aspects. Furthermore, Company D have had WB EC for many years and are continuously working with improving their offerings. Therefore, we included how the companies currently handles different aspects as well as how they have done previously. Lastly in this chapter, we have structured and condensed the findings following the Framework Approach where we have used the factors from the E-commerce Assimilation Framework, presented in the chapter Theoretical Approach.
6 Discussion

In this chapter, the three phases of assimilation; initiation, adoption, and routinization, will first be discussed. Thereafter, a discussion regarding the factors influencing the assimilation process that has been studied will follow. This discussion will be structured under the Technological-Organizational-Environmental contexts as outlined in section 3.1. However, we have chosen to group the discussion of some of the factors due to them being closely related, where some factors will appear under a different context than previously presented. The discussion will be addressing the relevance of these factors within WB EC assimilation, where they influence the assimilation process, and how the case companies have managed them. Previous literature from chapter 2 as well as change management theory from section 3.2 will be used in this discussion. Lastly, we will present a revised version of the presented framework in section 3.1 with the objective of visualizing which factors influence the WB EC assimilation process and where in the process they are of relevance, which will be outlined from our discussions.

6.1 Web-based E-commerce Assimilation

Previous literature has suggested a three-phase model of E-business Assimilation consisting of initiation, adoption, and routinization. In this study, the E-business Assimilation model has been used to study WB EC assimilation at six companies. Five out of six of the case companies in this study implemented WB EC many years ago, in the range between 2000 and 2010. They have up until today continuously been working on improvements and on re-launching new WB EC platforms. For example, Company A is now in their third version of WB EC where Interviewee A (2018) argues that what they previously had is not a "real" WB EC, but just a simple web catalogue which customers can order from. Similarly, Company E have for over 15 years had a simple web catalogue for ordering, and have in recent years launched their "real" WB EC (Interviewee E, 2018). Moreover, Company B, D, and F have also had previous versions of WB EC platforms. Furthermore, Company B recently launched a new WB EC, Company F are working on launching a new WB EC, and Company D are continuously working with improving their current WB EC. Only Company C adopted WB EC more recently as a first version, where their current approach is to get the technology working properly and to improve what they have.

Currently, Company A and F have a high percentage, over 20%, respectively around 50%, of their revenue coming from their current WB EC. According to literature, this would entail that they are in their routinization phase, as routinization is when the innovation is important for the companies’ value chain activities (Zhu, Kraemer, et al., 2006). Meanwhile, Company A and F have just acquired a new WB EC platform and are in the process of developing it, which indicates that they are in the adoption phase, as acquiring the technology is a characteristic of adoption (Zhu, Kraemer, et al., 2006). However, what can be argued from this is that the assimilation of WB EC is not a linear process. Moreover, the case companies in this study have been launching WB EC platforms, improving them and relaunching them again during the years. Thus, it can in some cases be unclear whether a company is in the adoption phase or in the routinization phase. However, as routinization is when an innovation start to become a part of a company’s value chain activities, we argue that all the case companies in this study
are in the routinization phase, as they all have a WB EC channel which generates revenue. Moreover, we argue that some of these companies at the same time are in the adoption phase as they are currently implementing new WB EC platforms.

6.2 Technological Assimilation Factors

In this sub-chapter, the factors Technology Integration and EDI Usage will be discussed conjointly since our empirical findings indicate that the EDI channel is usually integrated with the WB EC, which will be elaborated upon in the discussion of these factors. Moreover, Technology Competence and Managerial Change Competence are discussed conjointly as both these factors addresses the topic of competence.

Technology Integration and EDI Usage

As outlined in section 2.2.1 it is argued by literature to be important to have the business system integrated with the WB EC, and this is something all of the interviewed organizations had as well. Interviewee D (2018) even argues that if there is not an integration with the internal business systems it should not be called EC.

Company A and Company C are both in the process of implementing their new WB EC. For their WB EC launch the two companies however have somewhat diverging approaches regarding which functions to include before the launch. Interviewee A (2018) highlights that they should take their time but launch it with many new functions, and thus integrated systems, at once. Company C on the other hand have already the basic systems running online but have not had an official launch yet. Thus currently, Company A see it as a new launch with many functions and systems launched at once, and Company C see the integration of systems more as a continuous process that never ends and focus on getting the basic technology in order to begin with. These distinct approaches can be compared to the other companies that already saw the results of using these approaches. Alike Company C, Company D used an approach in which they started off in a small scale and continuously improved it over time, and since the start a long time ago the method has been progressing without major problems. Contrastingly, both Company B and Company F used a similar approach as that of Company A and encountered issues with the integration of the systems which had detrimental effects on aspects like employee enthusiasm and project planning. Consequently, Company F has now adopted the same view and approach as that of Company C and D, i.e. the approach of continuous implementation of systems. The view of the implementation of systems as a continuous process also seems to be compatible with the fast-moving development nature of WB EC technology which was outlined in section 2.1. This would also be consistent with the Interviewee F (2018) argument that choosing a platform which facilitates easy further implementation is important. The latter approach argued by Interviewee F (2018) has already been utilized by Company E with subsequent system integrating and did not produce any mentionable issues. Hence, the approach of launching their WB EC with multiple systems integrated from the start seems to not be without risk, while a continuous and progressive implementation method seem to be fairly problem-free.

The continuous approach is furthermore compatible with the two steps of Kotter (1997); Geren-
ate short-term wins and Consolidate gains and produce more change, as it provides opportunities to ‘celebrate’ along the way. I.e. if a new system is implemented successfully, this can be celebrated and fuel the drive of continuing the change. Besides the benefits of applying these steps, outlined in 3.2, the cases of Company B and Company F also indicate that possible negative outcomes can come from implementing too many systems at once. The implications that can be drawn from this is that the continuous approach can provide benefits and at the same time be less risky than the launch including many systems from the start.

Elaborating in line with the continuous approach Interviewee C (2018) outlines that at least for them, the order of which the different systems should be integrated is a matter of strategy, and examples of frequently mentioned systems by our case-companies, outlined in section 5, that are already implemented or planned to be implemented range from; PIM, ordering, business, stock, price, and CRM systems. Nonetheless in regard to the strategic order of implementation Hong and Zhu (2006) argue that the externally oriented systems, like CRM, are to be prioritized higher to generate a high revenue online. The one system which the companies had varying perspectives regarding is the EDI system, as this system is mostly seen as a different channel of sales. Interviewee A (2018), Interviewee B (2018), and Interviewee C (2018) note that there is a special kind of customer, generally larger ones, that have a clear preference for the EDI channel. For this reason, Company C have not integrated their EDI system with the WB EC since specific channels are differentiated towards specific kinds of customers. Company A and B have on the other hand identified that the possibility to influence and communicate with their customers is easier done through the WB EC and have thus integrated their EDI systems with their WB EC, making them complements to each other. Company D and F have followed this principle as well. Company A, B, and D have a so called “punch out” solution which enables the customer to use the WB EC interface for their purchasing process and then finalize the purchase in the EDI system. It thus seems like the different channels does not have to replace the other but function in parallel as integrated systems which is in accordance with the literature outlined in 2.2.1. The EDI could thus be added to the list of systems that are relevant to consider for integration.

As outlined by Zhu, Kraemer, et al. (2006) that Technology Integration is important in all assimilation stages seems to be partially valid for the case of WB EC as well, however, as we have chosen the definition of the assimilation stages where the technology is not even obtained in the initiation stage, it would be inappropriate for us to state that integration of other systems should be done here. We thus argue that this is important in the adoption and routinization phase. However, these findings show a dimension where managing of this factor is significant for the outcome which is also important to consider. In this regard, it seems that the way to manage it which is prone to the least amount of issues arisen is by implementing the systems continuously.

Web Functionalities
Common for all the case companies is that they all possess the necessary functions in their web shops which enables customers to purchase products. However, it seems that the companies are focusing on developing new, more sophisticated functionalities. For example. Company E and F currently have a chat function, which enables interaction between the sales personnel
and customers. Likewise, Company A and B are currently working on implementing customer interaction functions, where Company B is taking this a step further with an upcoming function which will allow the sales personnel to guide the customers through their purchasing process. Moreover, while implementing new functionalities, companies seem to be considering what their customers value. For example, Company B are building functions based on analyzing what their customers value. Likewise, Company F have analyzed their customers and are working on building a new platform which, according to Interviewee F (2018), will be much more relevant to their customers as they are aware of their needs. Moreover, Interviewee C (2018) states that Company C interviewed and surveyed their customers prior to Company C’s implementation of WB EC, with the purpose of gathering information regarding the customers opinions. Thus, it seems that companies conducting WB EC are focusing on developing their current web functionalities, based on their customers’ needs.

This extension of functionalities, which in our case companies is work that is conducted post-adoption, seem to be focused on improving the customers experience as exemplified in the previous paragraph. In previous literature, Hong and Zhu (2006) have found that good online services lead to a higher usage of EC. Thus, it seems that what the case companies are doing regarding Web Functionalities may be of relevance to the routinization of their WB EC.

**Complexity**

Complexity is how difficult an innovation is to use and understand (Sila, 2013). We argue that Complexity can be viewed from two perspectives, firstly is the Complexity seen from the organizations point of view and secondly is how the customers perceive the innovations Complexity. In this study, we focus on the organizations Complexity perspective and our data from the company cases accordingly only cover the Complexity from the organizations point of view. Regarding this, two companies, Company B and F, had some initial issues with their employees not understanding and/or using the WB EC. Company B handled this by listening to the employees, redesigning some functions and also by educating them, which is elaborated upon in the discussion of Communication and Learning. Likewise, Interviewee F (2018) states that to make the sales personnel use for example the chat function, they had to understand the function and what value they could bring with it. However, similar issues have not been mentioned by the interviewees at Company A, C, D, and E. Even so, Company C mitigates the Complexity proactively by not adding too many functions to their WB EC, and Company D has ambassadors who are devoting some of their time to teach how WB EC works, which is elaborated upon in the discussion of Communication and Learning. Company E has not had any Complexity issues at all, where Interviewee E (2018) argued that the WB EC is much easier to use and understand relative to their previous systems. This led to the personnel realizing, without having to be told, that they themselves could benefit from starting to use the WB EC. These findings indicate that Complexity issues within WB EC, if existing, are small and manageable. This is in accordance with what Sila (2013) found in their study where it is argued that Complexity issues within EC is a small concern for large firms. Moreover, as usage of WB EC is a part of a company’s routinization phase, we argue that this is where Complexity might be of relevance.

**Technology Competence and Managerial Change Competence**
As outlined in section 2.2.1, Zhu, Kraemer, et al. (2006), Lee, Lee, et al. (2007), Maditinos et al. (2014), and Oliveira and Martins (2010) argue that having competencies facilitates the adoption phase. At least not contradictory, Zhu, Kraemer, et al. (2006) moreover argue that it is more important in the adoption and routinization phases than the initiation phase. However, elaborating more specifically on change management Zhu, Kraemer, et al. (2006) did not find that a lack of competence regarding this matter would be an inhibitor in the adoption phase but found that it was an inhibitor in the routinization phase.

Del Aguila-Obra and Padilla-Meléndez (2006) argue that the use of consultants has a positive impact in the adoption phase but was not found as relevant in the routinization phase. Hong and Zhu (2006) on the other hand found the use of consultants to been inhibitors in both the adoption and routinization phases. The different literature thus seem to be contradicting one another. In our case studies we found that Company A, B, C, E, and F have initially used consultants in the phases of the process where the in-house competence has not yet been obtained and/or for the initial implementation of the technology. Interviewee B (2018) and Interviewee C (2018) highlight that using consultants have had a very positive impact on their implementation since the consultants provide valuable suggestions and guidance in the initial phases. There is moreover a generally positive outlook in regard to that the consultants have contributed with competence initially, which facilitated the process. All companies moreover continuously use consultants for the development of the technical parts of their WB EC or outsource it. Nonetheless, Interviewee A (2018), Interviewee B (2018), and Interviewee C (2018) mention that they have some IT competence involved in-house as well, including IT leadership. The competence in IT does however seem to be far from the dominantly required in-house competence when it comes to the WB EC initiative as it is mainly outsourced.

Company C initially put the leadership and ownership of the WB EC initiative on the IT-department and did the implementation almost entirely by using consultants. Being formulated as an IT-matter the organizational aspects were looked past and when the implementation was done in a technical sense, the drive for the initiative died out as the ownership of, and commitment in the progression was neglected. This resulted in detrimental effects on the WB EC utilization. As a result, Company C subsequently recruited Interviewee C (2018) for in-house initiative ownership. As mentioned in section 5.3, Interviewee C (2018) argues that to address ownership there must exist in-house competencies that should have separate ownership for separate important parts of the project, e.g. KPI measurements, the digital strategy, and WB EC leadership. Addressing such issues, Company C source the appropriate competence externally. Drawing from their experience Interviewee C (2018) furthermore conclude that the WB EC should not be seen as an IT-matter but rather a sales and marketing matter.

As of now, all case companies have in-house competence for managerial positions to lead the EC initiative and its parts. Many of which stating that they have competence in digital strategists and digital analysts. If there is competence lacking that has to do with the EC in a non-technical way they strive to obtain it in-house. Similarly, Interviewee D (2018) and Interviewee E (2018) mention that they have, and need, dedicated in-house competence specifically for managing the marketing and customer behavior aspects. Interviewee E (2018) furthermore notes that for them the need for internal competence is something that has emerged over time,
and that as the channel grows it becomes more important to also have dedicated competence in-house.

Company B did not have any explicit change management personnel and the task concerning the change was appointed as a part time duty for a group of employees, subsequently resulting in poor focus. Accordingly, Interviewee B (2018) argues that one should appoint a dedicated change leader. This approach supported by Company B is utilized by Company A who have a change management board that are leading the change initiative. Thus, creating a Guiding Coalition to lead the change, as suggested in section 3.2.1, seems very relevant for the case of WB EC as a lack of project ownership has in our case studies for Company C and B shown to have detrimental effects on the progression of the initiative.

Summarizing, we can see in our cases that the use of consultants have had positive effects on the adoption phase as argued by Del Aguila-Obra and Padilla-Meléndez (2006) and that many still choose to outsource and use consultants for the technical parts of the WB EC, which Hong and Zhu (2006) argue would be inhibiting. We however, found no indication that the technical parts of the implementation were inhibited by using consultants. It is mentioned by Appelbaum et al. (2012) that the use of consultants can be used to establish a sense of urgency in the organization. However, the use of consultants seems to only be seen as filling a competence gap temporarily in the case companies, and creation of a sense of urgency instead comes up in the discussion of Communication Processes. In the case of WB EC it nonetheless seems to be important to separate which competence is solved in which manner. As we saw in the case of Company B, Interviewee B (2018) argued that they should have had change management during the course of the implementation and which is how Company A solved it as well. Furthermore, the case of Company C shed light on that the lack of competence in the field of EC as a marketing and sales manager could lead to detrimental effects for the initiative in the post-adoption and routinization phase.

It seems to be of significance to separate the different types of competence and understand where each type of competence is important in the assimilation process. In this regard, the use of consultants seems to be non-problematic in general when it comes to the technical parts, and valuable in all the assimilation phases for the case of WB EC. However, a WB EC initiative seem to require a Guiding Coalition of in-house competence that can lead the initiative as a non-IT-problem. The change management moreover seem to be desirable to have in the initiation and adoption phases amongst some of our empirical objects, i.e. Company A and B, but the Guiding Coalition with competence in EC seem to be essential for the routinization phase. A Guiding Coalition consisting of competencies in both change management and EC seems to be relevant for the entire assimilation process.

### 6.3 Organizational Assimilation Factors

Under the discussion of the organizational factors, we have decided to group together Relative Advantage, Purposes & strategies and Perceived Benefits & Obstacles, as our findings suggest that these are closely related, where the topic of strategy is in common for all three factors. Moreover, Top Management Support and Financial Resources are discussed jointly as both our
literature in section 2.2.1 and our findings suggest that these are closely related. Lastly, we have also grouped the discussion on Communication Processes and Organizational Learning. The decision to do so is based on our findings, where the interviewees talked about these two factors simultaneously.

**Purposes & Strategies, Relative Advantage, and Perceived Benefits & Obstacles**

Literature has brought up the importance of organizations Purposes and Strategies in the assimilation process of EC (Beige and Abdi, 2015), where the lack of a clear WB EC strategy is found to inhibit adoption (Teo et al., 2006). Pre-adoption, only Company A, B, and E had a formulated WB EC strategy. Company D adopted WB EC in the early 2000s and experimented with it, where their strategy has emerged and evolved throughout the years, and is today compatible with their overall company strategy and goals. Company F adopted a previous version of WB EC without formulating a strategy, which was a web-shop that Interviewee F (2018) points out was a failure. Likewise, Company C adopted the WB EC and formulated their strategy thereafter, i.e. technology first, strategy second. This indicate that the lack of strategy does not necessary have to inhibit the adoption of WB EC, as Company C, D, and F have successfully adopted the necessary technology and launched a WB EC without a developed WB EC strategy. These findings are thus contradicting the findings of Teo et al. (2006). However, the companies who did adopt WB EC without a clear strategy, state at the same time that they initially adopted WB EC for strategic reasons. This implies that even though they did lack a clear or developed strategy, there was a strategic reasoning behind the adoption. Therefore, we argue that developing a strategy may be beneficial for adoption of WB EC, however, it seems that the strategy does not necessarily have to be thoroughly developed or explicitly denoted for the adoption of WB EC.

As mentioned in the previous paragraph, strategies have in some cases been formulated pre-adoption and in other cases post-adoption. What is important to note is that all the companies have a digital/EC strategy today, where they are focusing on similar aspects. For example, all case companies focus on increasing sales through their WB EC channel. Moreover, the case companies are focusing on the customers, where for example it is mentioned that they want to provide their customers with a high quality digital experience (Interviewee A, 2018; Interviewee D, 2018; Interviewee E, 2018), and good services (Interviewee B, 2018). Furthermore, the interviewees at Company C, D, E, and F mentions the importance of showing their product information and assortment. Therefore, it seems that the companies, who all are in their post-adoption phase, as argued in previous discussion on WB EC assimilation, are placing focus on developing their strategies. Likewise, previous literature suggests that developing a vision and strategy is important for a change to happen (Appelbaum et al., 2012). Furthermore, Teo et al. (2006) found the lack of EC strategy to inhibit the focus on the EC initiative. Therefore, we argue that developing the WB EC strategy, like the case companies are doing, may facilitate the necessary changes and increase the focus on WB EC. In turn, we argue that this may positively influence the routinization of WB EC.

Previous literature state that the Relative Advantage seen in EB, (EC included), can be within both strategic, i.e. to increase sales, and/or operational advantages, i.e. to decrease costs (Zhu, Dong, et al., 2006). In our study, the case companies have nonetheless adopted WB EC for
strategic reasons and today all the companies view WB EC as a way to increase sales, as discussed in previous paragraphs of this subsection. Moreover, the interviewees at Company A and D mention that they want to be digital leaders in their branches through their WB EC initiative when talking about strategy. Therefore, it seems that the companies in this study view WB EC mainly as a strategic initiative pre-adoption and continues to have this perspective post-adoption. From this, two implications can be drawn. As all companies in this study see WB EC as a strategic move, and subsequently chose to adopt it, indicates that this perspective regarding the advantage of WB EC may drive companies to adopt WB EC. The companies have furthermore kept this perspective post-adoption, and some companies view their work within WB EC to aid them in being digital leaders. Therefore, it seems that this way of seeing it may further drive the companies to perform their work with WB EC post-adoption. These two indications are similar to the findings of previous literature where Fichman (2000) argues that Relative Advantage positively influences adoption of technologies and Zhu, Dong, et al. (2006) found that Relative Advantage positively influences adoption and post-adoption of e-business, which strengthens our findings.

In the literature, Perceived Benefits are found to provide motivation in the assimilation process (Lin and Lin, 2008). All companies in this study had initial expectations on the benefits of WB EC which may have facilitated the adoption of WB EC, even for those who did not have an outlined strategy. The expectations in Company A, C, D, and F were to gain new customers and increased sales, Company C and E expected efficiency benefits, Company C expected a higher market reach, and Company B had expectations on the functionalities. These expectations can be argued to be drivers to adopt WB EC, for example, at Company F, the top management wanted to increase sales and therefore chose to adopt WB EC as a new sales channel. Moreover, the perceived expectations in Company E, D, and F have been fulfilled. This fulfillment of the expectations is argued by Interviewee F (2018) to have eased their further work with WB EC, as people wanted to be involved when realizing the benefits of WB EC. Moreover, Company D communicates their successes within WB EC, where Interviewee D (2018) highlights the importance of doing so, as it helps to achieve further success. These findings are consistent with the change management literature which suggests that short-term wins are necessary to keep up motivation (Appelbaum et al., 2012). On the other hand, Company B had a lot of Perceived Benefits pre-adoption which were communicated in the entire organization, and thus built a lot of internal expectations. Due to various reasons, they failed to deliver what was promised which led to a lot of internal resistance according to Interviewee B (2018). Thus, it seems that Perceived Benefits may drive adoption, and if these benefits are fulfilled, they are likely to provide motivation for the routinization of WB EC, which is similar to the previous findings of Lin and Lin (2008). However, if the Perceived Benefits are not fulfilled, companies may need to face internal resistance in their routinization phase. This furthermore implies that one should be cautious with what expectations are communicated in the initiation and during the adoption phase.

Literature is contradicting when it comes to what the effect of Perceived Obstacles have on the adoption, where Hong and Zhu (2006) found no evidence for Perceived Obstacles to inhibit EB adoption, but Gorla et al. (2017) found the opposite. Moreover, Hong and Zhu (2006) found this to slow down routinization. In this study, the interviewees of Company A, C, and E
mentions their Perceived Obstacles to be within the problems that a change may come along with, for example, internal resistance. Other Perceived Obstacles were increased cost initially (Interviewee C, 2018), potential sales decrease due to loss of sales personnel’s influence in the purchasing process, and/or due to technical issues regarding the WB EC (Interviewee E, 2018). Interviewee F (2018) mentioned that the obstacles at their company were not identified prior to the adoption, which Interviewee F (2018) explains is due to lack of knowledge regarding how big of a change WB EC would require. However, none of the companies mentioned the Perceived Obstacles to have been an issue for the decision to adopt WB EC. Moreover, Company A is in the phase of adopting a new WB EC, and while doing so, they are working with changing the organization in a structured way, addressing their perceived obstacles of internal resistance. Moreover, Company F who had not identified any obstacles, had to face several issues when integrating their systems, as the integration did not work out as expected, which in turn led to unsatisfied personnel. Thus, one can argue that, Perceived Obstacles does not seem to inhibit adoption of WB EC in our case which is similar to the findings of Hong and Zhu (2006). However, identifying the obstacles may ease the process, as it allows companies to address these during their assimilation process, easing their adoption and routinization of WB EC.

**Top Management Support and Financial Resources**

In this study, five out of six case-companies, Company A, C, D, E, and F have had full support from top management in their WB EC initiative and the initiative furthermore came from top management in these cases as well. Moreover, interviewees at Company C, D, E, and F notes that the support has since then been continuous. Interviewee D (2018) argues that support is crucial for all change and Interviewee C (2018) argues that the top management’s involvement is required for progress and for receiving the necessary resources. The initiative at Company B came from the Head of E-commerce who initially faced resistance from top management (Interviewee B, 2018). The company group at Company B had already made the decision to adopt WB EC, formulated a strategy and chose a platform, which Interviewee B (2018) found to be insufficient. Interviewee B (2018) wanted to change the strategy and procure a different platform, and consequently resistance from top management had to be faced. Interviewee B (2018) described Company B’s top management to be meagerly oriented in the digital sphere and thus they had to be convinced regarding the changes suggested by Interviewee B (2018). Nonetheless, Interviewee B (2018) succeeded in convincing them, and argues that the key factor for succeeding was the use of a thoroughly made pre-study on what Company B should do within WB EC. Similar to the issues at Company B, Interviewee F (2018) argues that top management at many firms lack digital knowledge. Interviewee F (2018) has the top management’s support at Company F, however this is due to them trusting Interviewee F (2018) and not because that they necessarily understand what they are agreeing upon. Interviewee F (2018) argues that top management has to be taught, which can be done through showing them the current trends and the business benefits of WB EC, much like what Interviewee B (2018) did at Company B. This has also been found in previous literature, where Teo et al. (2006) argues that top management often lack digital knowledge and have to be shown how the initiative fit with business goals and plans, how it helps the company to be competitive, and how costs can be justified.
Receiving the Financial Resources required for WB EC has been problem free so far at Company A, C, D, E, and F in their adoption and post-adoption phases of WB EC assimilation. Among these companies, the financing is made through budgeting by some, while others rely on short-term prognoses. At Company B, management had to be convinced with numbers and facts before Financial Resources were allocated. Interviewee B (2018) however notes that this issue was just in the initial phase of their WB EC assimilation. At their company, Interviewee B (2018) states that as WB EC is a large investment, it is hard to stop once it is initiated and therefore, financing issues have not arisen post-adoption. Interviewee D (2018) on the other hand highlights that Company D still live in a world where traditional investment decision-making rules. Therefore, they still need to build cases and calculate the return of investments when asking for financing in their WB EC initiatives, which however in itself has not been an issue so far. Furthermore, Interviewee C (2018) argues that investments can be an issue for some companies who are not ready to make the initial investments, as the returns of the initial investment can take a long time. This is also brought up by Teo et al. (2006) who argue that it can be hard to make a cost-benefit assessment for WB EC. This has however not been an issue at Company C as their top management has so far expected the raised costs that the WB EC investment would bring. However, Interviewee C (2018) shows concern of losing their top managements support when it comes to receiving further investments required for changing their organization, which is a process they have not yet come far in. Interviewee C (2018) mentions that this will be handled by arguing rationally for why it is the right move to further invest in the WB EC.

Financial Resources at the companies where top management initiated and supported WB EC has not been an issue. However, at Company B top management first had to be convinced to initiate WB EC but also to allocate necessary resources. Indeed, as all case-companies have had to have support from their top management to receive the required Financial Resources it implies that having Top Management Support is necessary for receiving Financial Resources for the adoption of WB EC. As Interviewee C (2018) notes, it can be hard to justify the investment as returns takes time, which entails that other drivers such as business benefits has to be used to gain support. Moreover, Financial Resources post-adoption seems from our case companies to not be an issue, in spite of the fear that Interviewee C (2018) has regarding this. Therefore, we argue that once having initial investments for adoption of WB EC, receiving further investments for routinization does not seem to be a frequent issue as long as Top Management Support is not lost. Moreover, in previous studies a secured budget was found to be of importance for adoption and post-adoption of EC (Hong and Zhu, 2006), which Company A, B, E, and F also have. However, we also identify that not all companies work with budgets, where Company C and D instead uses prognoses. In the light of the fact that neither Company C nor Company D have had any mentionable issues with financing, we argue that the importance lies in having the top management’s support to get the required financial means, rather than if it is in the form of a budget or not.

A few implications can be drawn from the Company cases regarding Top Management Support. Firstly, it seems that Top Management Support may be essential initially for WB EC adoption, which is similar to the findings of Teo et al. (2006). Furthermore, top management at almost all of the case-companies are already supportive of WB EC, while those who are
not has to be convinced by providing them with knowledge in the digital sphere that they may lack. This can be done with facts such as in the case of Company B. This is similar to the change management literature that suggest that managers who understand the change tend to be more positive in regards to it (Appelbaum et al., 2012). Furthermore, it seems that Top Management Support has to be sustained post-adoption, for example to keep receiving the financial investments required to conduct WB EC. These findings are consistent with the previous literature where Chatterjee et al. (2002) found that Top Management Support is of importance along the entire assimilation process of WB EC. Moreover, the importance of Top Management Support is also highlighted in the change management literature, which suggests that they can aid in creating a sense of urgency and in increasing the employees positive attitude towards a change initiative (Appelbaum et al., 2012).

Organizational Structures
As outlined in section 2.2.1 it is argued in previous research by Baker (2012) that a cross-functional and decentralized structure would enable the adoption in the assimilation process, and likewise that informal linking structures and linking agents have a positive effect on the adoption phase. It is however argued that a formal and centralized structure would be more appropriate in the post-adoption phases. Similarly, Gorla et al. (2017) argue that decentralized and informal groups spur adoption. In accordance Chatterjee et al. (2002) argue that the multiple managers across the organization need to have the same vision regarding strategies and priorities, which linking agents facilitates. Lee, Lee, et al. (2007) and Maditinos et al. (2014) similarly found that knowledge sharing between managers and employees is important for facilitating the assimilation. The literature seems to agree that having a decentralized and high connectivity is beneficial in at least the adoption phase of the assimilation process. The literature outlined in 2.2.1 also give indications that the connectivity should not only be on a managerial level but also on employee level, i.e. that it is not only managers that should be interconnected with the WB EC, but also the employees.

Our empirical objects come from similar backgrounds, being large traditional B2B wholesalers in the Swedish market, but they have different structures affecting the WB EC initiative. The companies are more or less scattered across the spectra spanning from a formal and centralized structure to a cross-functional and decentralized structure. Company C have a traditional and centralized group working with the WB EC initiative and have a relatively lower level of cross-functionality with just a few internal links to other departments. Interviewee C (2018) underlines that their Digital Business division’s focus is mainly on the WB EC, to improve this sales channel, and selling the WB EC concept externally to their customers, thus making internal interconnectivity a secondary priority. Company F have not been working cross functionally either but since they are active on international markets they consider input from the international branches and consider at least some opinions that come from outside their division. Similarly, Company A started its first EC initiative by working silo-based but as they are now launching their new WB EC, they have abandoned that way of working, in favor of a more cross-functional approach. Company B involve the IT and Marketing department on a managerial level and have a control group consisting of employees. Company E are working cross functionally and includes many divisions on a managerial level, enabling them to influence the formulation of the WB EC development. Company D works cross-functionally and
have a decentralized structure where responsibility and decision-making are “pushed down” in the organization much like the literature in section 2.2.1 suggest. Company D also argues that working decentralized is a cornerstone for their success. Despite the apparent variety in approaches, one common denominator is nonetheless that all the companies in the study have a relatively small central group that leads the WB EC initiative. This is generally a group consisting of key competences within EC which falls under the marketing and sales divisions, as elaborated upon in the discussion regarding competencies.

Generally, the WB EC initiative in the different companies have many touch-points throughout the organization. One example of such a touch-point is when different departments work with material that other departments work with, like product information and editorial material. Furthermore, the interviewees of Company B, C, D, E, and F all mention that they want to get the sales force to use the WB EC as a tool in their sales process. Consequently, this will create more touch-points since the customer service and sales personnel’s way of working have changed, or will change, as a result of the WB EC. Interviewee C (2018) points out that the WB EC has a lot of touch-points throughout their organization, but at the same time notes that few from other divisions of the company are involved in the WB EC. It is argued by Interviewee C (2018) that the many touch-points throughout the organization increases the risk of change resistance. Even so, like all other interviewees in this study, Company C recognizes that it would be beneficial for the WB EC division to become more interconnected to the rest of the organization and make more people involved as this would enhance the benefits of the WB EC and facilitate for the WB EC division.

A pattern that can be discerned from our findings is that the cross-functionality generally seems to start in that the IT and marketing departments are involved and increase by that more departments are involved progressively. To further increase the interconnectivity, the responsibility and involvement is pushed down or is planned to be pushed down in the organization so that employees become more involved. As can be seen from the example of Company B and C the integration to the sales department is somewhat deprioritized initially at least, for varying reasons. However, both companies want the sales personnel to use the WB EC as a tool and C wants to increase the connections further down the line. Nonetheless, most companies have some kind of connection to the IT and marketing department, regardless of phase, indicating that the connections to these departments are possibly more essential in the adoption phase than the sales department. As mentioned before, the sales department is however seen as desirable to integrate with at least during the routinization phase.

To increase the interconnectivity in the organization, Company A, B, and D have dedicated ambassadors in different divisions that facilitate the communication across branches and divisions. Company F furthermore include sales personnel in the development of the user interface, thus making these employees informal ambassadors for the WB EC because of their relative knowledge advantage. Similarly to the informal ambassadors on employee level of Company F, there are also ambassadors on the employee level in Company D that help out with the small questions that can arise in everyday work that concerns the WB EC, e.g. how functions work. In our study we could solely find indications that the interconnectedness to the employee level would be beneficial for the routinization phase, thus indicating that the
use of ambassadors on an employee level could be a beneficial approach. As we did not find indications of initiatives for employee level ambassadors or other daily work interconnectivity initiatives for employees in most of our case-companies, it is possible that this is a possible improvement area.

The literature suggested a high interconnectedness during the adoption phase and then suggestively a decreasing interconnectedness in the routinization phase. In comparison, the empirical cases show a contradictory pattern where the interconnectedness seem to increase during the assimilation process. The increase in interconnectedness over time is nonetheless compatible with the theory that one should empower broad-based action outlined by Appelbaum et al. (2012), to make the employees feel ownership of the change to facilitate the process. Making the employees feel ownership of the change is in turn fully compatible with the theory of that change is best achieved for the long term by combining the top-down and bottom-up approaches (Kippenberger, 2000), as it would not be purely top-down driven. The use of WB EC ambassadors could also be interpreted as an extension of the Guiding Coalition suggested by Appelbaum et al. (2012), stating that the employees are more probable to support the change if their leaders do, and therefore being beneficial. The increase in connectedness over time thus seems to be viable for the case of WB EC, but as mentioned above, there are indications that some internal connections could be more important than others.

Compatibility
Common for Company A, B, D, E, and F is that the interviewees state that their organizations are officially open for change. However, Company A, B, D, and F all had, and some still have, to face change issues. Examples are, at Company A they have issues in making decision makers focusing on the WB EC. Similarly, Interviewee B (2018) had to deal with a lot of internal politics and structural inertia when the change started, which Interviewee B (2018) argues to be an indication that the company culture is not actually as open to change as it seems to be. Moreover, after adopting WB EC, Interviewee B (2018) had to face resistance from the sales personnel as well. Similarly, Company D have faced some issues in the early 2000s where their sales personnel resisted the WB EC initiative due to fear of losing their jobs, and also faced other issues regarding making their sales personnel using the web functionalities. Interviewee B (2018) and Interviewee F (2018) both argue that change is always welcome officially, but not when it actually happens. Interviewee F (2018) argues that the reason for the resistance is due to the employees in their company having performed their work in a similar manner for over 30 years, which is a rooted pattern and therefore difficult to change. This is also apparent at Company A, where Interviewee A (2018) states that their company is officially open to change but at the same time, the interviewee mentions that they still have employees that have been there for a long time who tries to hinder the change. Moreover, this is something that Interviewee C (2018) also talks about, and even though Company C has not yet started to change their organization for WB EC, Interviewee C (2018) expects this to become an issue as their way of working and conducting business has been fairly unchanged for a long time.

An issue in sales and service personnel resistance due to fear of losing their job is a reoccurring topic. As mentioned, Company D had these issues, and so did Company B, F, and E also. Likewise, Interviewee C (2018) finds this as a possible emerging issue at their company.
when conducting future change required to routinize WB EC. Interviewee F (2018) argues that the sales role will indeed change to become more digitally-based but will not disappear, which becomes apparent in the case of Company D. Indeed, Interviewee D (2018) notes that they have in fact expanded their physical stores channel since their launch of their WB EC and as a result increased the number of employees. Accordingly, Interviewee D (2018)’s view of WB EC is that it frees up time for the sale personnel to be able to conduct other value-adding activities. This is what Interviewee F (2018) also expects the effect to be of the WB EC for their sales force. In accordance, the WB EC platforms at Company D and E are today used by the sales force as a substitute for the old paper catalogue and Company F’s sales personnel also uses the WB EC to chat with customers. Interviewee B (2018) moreover mentions that their sales personnel will soon to be relying on the WB EC platform in order to conduct their daily tasks. Thus, it is evident that these companies believe that WB EC is compatible with the sales forces’ work and not functioning as a replacement of them.

Company D and F have successfully changed the reluctant personnel’s beliefs by giving them the understanding that WB EC will complement their work and not replace them. This has been done by communicating why WB EC is happening, how it will affect the personnel, and by making them understand what value they can provide with it. To gain the personnel’s motivation, Interviewee D (2018) and Interviewee B (2018) mention that listening to them is important, but also to trying to engage them in the subject, which Interviewee F (2018) states can be achieved by involving them in the WB EC projects. Addressing the resistance issues by communication and making people understand why the change is happening, like many of the case companies suggests, is in accordance to the change management literature where it is stated that people will not change unless they see why they need to (Appelbaum et al., 2012). Moreover, making it clear that the change is happening but also involving the employees’ and trying to make them come up with ideas is like in accordance with how Kippenberger (2000) argues that change should be sequenced, i.e. top down first and then bottom-up to achieve commitment amongst the employees.

A few implications can be drawn from this discussion. It seems that many companies believe that they are open for change, but that resistance will still occur in one form or another. If the organization is not compatible with WB EC, changes has to be made and there are many ways to do it, but common for the cases that we have studied is the importance of communication, involvement, and providing the employees with an understanding for the change. The lack of Compatibility is in previous literature found to affect the usage of e-business (Zhu, Dong, et al., 2006). We therefore argue that the required changes of employees beliefs may be of importance in the post-adoption phase, as they have to be on board with the change and use the WB EC in order for it to be routinized in the organization. Moreover, Company A is launching a new WB EC, and at the same time, they are changing their organization to fit WB EC more. Thus, we can also argue that the work of changing the organization to fit WB EC may be initiated before launching the initiative. However, as Company A have not yet launched their new platforms at the time of the interview being held, we cannot state if this is a good strategy or not.

Another topic within Compatibility that has surfaced is the time-frame of developing WB
EC which may not be compatible with the organizations current way of conducting projects in other areas. At Company B, C, D, and F, projects within WB EC is conducted in an agile way. At Company D, it may be due to that Interviewee D (2018) argues that it is important to be first to market with different WB EC initiatives and therefore they work by the agile methodology in their development as a rapid pace is required. Currently, their development windows within WB EC are down to a few weeks. Meanwhile, other parts of the company are developing by the standard waterfall way of conducting projects, i.e. they plan what is to be done months ahead. An example of this at Company D is their business systems, where today’s development was planned more than half a year ago. This mismatch of development planning can thus hinder the development of the WB EC platform as it is integrated with the business systems and the two may need to be updated simultaneously to stay compatible. Interviewee D (2018) mentions that a possibility for them is to start an “organization outside of their organization” to be more flexible and fast when developing their platform. At Company F, they will try to transform their entire organization to work more with the agile methodology and not just keep it isolated to the development of WB EC. Thus, we argue that the lack of Compatibility between how projects are conducted may be negative for the routinization of WB EC.

Communication Processes and Organizational Learning
Baker (2012) argues that communication can both facilitate or hinder in the adoption phase and that how and when the employees hear about the change is significant. Furthermore, as outlined in section 2.2.1 Organizational Learning is an important factor for e-business assimilation according to previous research and the availability for employees and managers to train facilitates adoption.

During the period following Company C’s implementation of their web-shop there was no communication regarding the WB EC, leading to that many in the organization were not even aware that they had a web-shop up and running. This in turn led to a particularly low level of utilization and under-performance in sales through this sales channel. This lack of communication was a consequence of the lack of ownership which was discussed earlier regarding competence. The importance of communication is nonetheless indicated by this example to be essential, which Company B and D also support.

Company C have not yet started to communicate internally with other divisions regarding their new WB EC even though they are in between the adoption and routinization phase, nor have they started working with Organizational Learning. They argue that the competence and technology must be secured before commencing this. Interviewee C (2018) argues that this is a time-consuming endeavor, more so than the technology implementation or the recruitment of sufficient competence. Interviewee C (2018) nonetheless recognize that actively working with Organizational Learning in a structured way has its benefits and could increase the degree of utilization, both internally and externally, if the employees with daily customer contact learn more about it. In this regard, Company C are planning to increase the learning by communicating the benefits of the WB EC at internal conferences.

Company A and B communicated the change and adoption of WB EC internally already in the adoption phase through a variety of communication channels, including external and in-
ternal, and also started working with Organizational Learning. As mentioned in the discussion regarding the complexity, the subsequent technical issues for Company B in their launch led to that the employees were discouraged to use the WB EC. Company E on the other hand have been in the routinization phase for a while and still do not work in a structured way regarding learning but offer digital self-led learning ad-hoc. Company E have moreover just started working actively to engage employees and managers through communication, despite being well past the adoption phase and having a high level of utilization and sales. Similarly, Company F do not put additional resources in to the Organizational Learning but relies on that the involvement of employees in the development of the user interface will suffice in that regard. They furthermore also use “forced” learning, which is also used by Company B, where they believe that making the employees have no other option than to use the WB EC for parts of their daily work will force them in to learning and thus accelerating the process. Even so, Company E and F have a high relative sale percentage through their WB EC channel and Company E have a high internal utilization level even though they do not work explicitly and structured with Organizational Learning. This is indicating that a structured way of working with Organizational Learning is not essential for increasing WB EC utilization.

Nonetheless, the majority, including Interviewee E (2018), see Organizational Learning as something that is still beneficial. Accordingly, most companies work with Organizational Learning in some way and Company B and D still work structured with Organizational Learning in the routinization phase. In that regard, Company B still offer educational opportunities frequently and motivate this by that they are continuously adding features to their WB EC and offer material for self-led learning. Company D on the other hand points out that they have gone from previously working with teacher-led learning to now be working with self-led learning, much of which is through verbal communication. Having meetings, conferences, and updating via mail seems to be generally common regarding both learning and Communication Processes. Company B, E, and F also use intranet updates for transparency regarding the WB EC initiative, as well as for communicating success. Company D have however moved from written forms of communication and meetings, and instead use informative short videos as a means of communication in order to increase the efficiency.

As touched upon in the discussion regarding the Compatibility, Company B and C recognize resistance and inertia as a great threat which is met by dialogue and communication. Similarly, the interviewees of Company B, C, D, and E all recognize that there are fears amongst the employees that needs to be met. Company E and B state that these fears are met by visiting the branches physically where they can have a dialogue and where it is elaborated upon how the change is going to affect the specific individuals. They also listen to what the employees have to say and take that into consideration if possible so that the employees feel heard, which also Interviewee D (2018) states is important. Company D and E tries to get the employees to get involved in the WB EC channel through encouraging them to contribute with ideas of their own, and through this also mitigate their fears. This is moreover according to change management literature favorable, as when employees feel ownership of a change they will help in the transformation (Appelbaum et al., 2012; Kippenberger, 2000). In this regard Company B also tries to meet their employees where it is possible. For example, Interviewee B (2018) mentions that many employees respond to soft values and therefore, if the employees wish for
a change of design or similar, they try to do so. The interviewees of Company E and D also underline the importance of two-way communication. In this regard, Company E gives the chance for different stakeholders to have their say before going through with something they will be affected by.

The interviewees of Company B, C, D, and E seem to be agreeing on that rational arguments and information needs to be put forward, communicating and increasing the employees’ knowledge of how the change benefits the organization, as well as how it could benefit the individual. In contrast to the rational arguments, Interviewee B (2018) and Interviewee C (2018) however also recognize that there can be non-rational feelings of resistance towards the change which are important to consider and address. The interviewees of Company B, D, and E do underline that they consider the opinions of resistance, and reason with these but are still transparent in that the decision to implement WB EC into the organization is non-negotiable. This type of rhetoric is argued by Interviewee C (2018) to facilitate the desired change of attitude amongst the employees and moreover suggest that it is top management that should communicate it. This argument is also supported in two of the steps in the Kotter (1997) theory as it is argued that this creates credibility and urgency to the message. The interviewees of Company D and B do however underline that it is essential to get the employees on board, and as outlined in section 3.2.1 it is also suggested by theory that the communication should not be commanding. Indeed, considering the thoughts and opinions of the employees is something that seems to be reoccurring as important and is promoted by the top-down/bottom-up theory outlined in section 3.2.2.

As outlined in the discussion regarding the complexity the employees of Company E realized how they could benefit from the change themselves. Therefore, Company E did not have to work actively with Organizational Learning and Communication of its benefits as the drive to learn and motivation was self-propelled without mentionable intervention. It accordingly seems like the main focus of most of the other companies communication and teaching efforts, that have been working with it actively, are means for making the employees become motivated to use the new technology even though it was a top-down decision. This seem to be a perfect example of the theory of combining the top-down and bottom-up approaches, i.e. if the management is committed to the change but the employees are not, then efforts in communication and learning are made to make them motivated and committed to the change.

6.4 Environmental Assimilation factors

Industry Characteristics and Market Structure
Initially, Company A adopted EC because it is common in the industry to do so according to Interviewee A (2018). Similarly, Company F adopted WB EC to follow the digital trend (Interviewee F, 2018) and Company D saw WB EC as emerging many years ago and have been working with it ever since, where one of their focuses is about meeting upcoming threats. Thus, one may argue that companies seem to at least partially be driven to adopt WB EC due to the trends in the industry. Previous literature strengthens this argument, where both Zhu, Kraemer, et al. (2003) and Sila (2013) found competitive pressure to facilitate adoption.
Moreover, it seems that the WB EC as a channel is emerging. We have previously outlined in the background of this study that companies are focusing on building their WB B2B EC capabilities and the spending within this is increasing (Hoar and Sheldon, 2015). This is evident at the companies that we have studies. As mentioned earlier, the case companies are currently focusing on building on their web functionalities. Furthermore, Company B and E have recently invested in and implemented new WB EC platforms. Similarly, Company A and F have invested in new platforms which are under implementation and Company C implemented their web-shop in recent years. Therefore, we can argue that there seems to be an emerging trend within WB B2B EC, where the use of platforms with more functionalities than just a web catalogue and ordering functions are emerging.

6.5 Revised Assimilation Framework

This study was initially based on factors in the Technological, Organizational, and Environmental contexts which were found in previous literature to influence e-business assimilation in general, but also from studies which addressed the specific case of WB EC. In this study, the factors have been studied specifically for the assimilation process of WB B2B EC. As none of the interviewees addressed the factors of security concern and Scope, we choose to exclude these from the discussion and the Revised Assimilation Framework. Furthermore, we have chosen to incorporate the factor Managerial Change Competence in a factor which we name "Guiding Coalition" as a result of the discussion under Technology Competence and Managerial Change Competence. From this and previous discussions regarding the different factors, we present a revised framework in table 7 specific for the studied phenomena of WB B2B EC visualizing which factors influence the assimilation process, and where the factors may be of relevance according to this study.
Table 7: Revised Assimilation Framework

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<thead>
<tr>
<th>Assimilation Phases</th>
<th>Initiation</th>
<th>Adoption</th>
<th>Routinization</th>
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<td><strong>Technological Context</strong></td>
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<td>Relative Advantage</td>
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<td>Technology Integration</td>
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<td>EDI Usage</td>
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<td>Web Functionalities</td>
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<td>Complexity</td>
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<td>Technology Competence</td>
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<td><strong>Organizational Context</strong></td>
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<td>Purpose &amp; Strategies</td>
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<td>Perceived Benefits</td>
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<td>Perceived Obstacles</td>
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<td>Top Management Support</td>
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<td>Financial Resources</td>
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<td>Organizational Structures</td>
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<td>Compatibility</td>
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<td>Organizational Learning</td>
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<td>Communication Processes</td>
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<td>Guiding Coalition</td>
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<tr>
<td><strong>Environmental Context</strong></td>
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<td>Industry Characteristics &amp; Market Structure</td>
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Chapter Summary

In this chapter, we have discussed the overall assimilation process of web-based e-commerce, where we have argued that it is not a linear process and that some companies may be at different phases simultaneously. Furthermore, we have discussed the factors that were found in previous literature to influence the assimilation process. While doing so, we have followed the same structure for presenting the factors as outlined in the E-commerce Assimilation Framework, however there are some inconsistencies. These have arisen due to the choice of clustering and discussing some of the factors together, as some were found to be closely related. However, the discussion of the factors has been performed by comparing the empirical findings from the six company cases, previous literature regarding the factors, and change management theory. The discussion of the factors addresses where in the assimilation process each factor seem to be of relevance and how these have been managed by the case companies. From the discussion, implications upon these matters have been denoted. Lastly in this chapter, we have presented a Revised Assimilation Framework for Web-based B2B E-commerce, where we link the relevance of each factor to the three assimilation phases. The revised framework is based on the implications drawn from the discussions regarding the factors. Two factors were excluded from the framework, Scope and Security Concern, as the interviewees at the companies did not address these factors.
7 Conclusion

In this chapter, the general conclusions which can be drawn from the previous discussion will be presented. Subsequently, the research questions of this study will be answered. Moreover, we will discuss implications regarding sustainability, managerial implications and the research contribution. Lastly, we will present our limitations and suggestions for future research in the subject.

7.1 General Conclusions

Our general conclusion from this study is that the assimilation of B2B WB EC is not a linear process. Some companies have been in the process for many years and are still continuously working with improving old and implementing new WB EC platforms as well as with organizational restructuring and changes. Furthermore, we have identified that many of the factors which influence the assimilation process are interconnected and overlapping, as can be discerned by our clustering of factors in the discussion. Moreover, within each factor, there often seems to be another cluster of sub-factors. Examples of this are, under Compatibility, one can find compatibility with the organizational culture but also compatibility with working processes, and under competence there are various type of competence and ways to acquire the competence. This show that the numerous existing variables and factors outlines an immensely complex problem with many seemingly viable approaches. We therefore argue that it is important for each company to identify the core issues within their assimilation process and then try to mitigate these in the most suitable way for their particular case.

Moreover, our findings suggest that assimilation of WB EC in a traditional B2B organization to a great extent is an issue in terms of human dimensions. That is to say, managers and employees have an inertia towards the change that is required and some additionally have fears regarding what implications the WB EC implementation can bring. Much of the effort is made towards reaching out and making the employees and managers enthusiastic towards the WB EC initiative which makes change management important for the assimilation process of WB EC.

7.2 Answering the Research Questions

To fulfill the purpose of this study we will answer our research questions below, and we start with answering the main research question followed by the two sub-research questions:

How do traditional B2B organizations manage their web-based e-commerce assimilation?

What can be discerned from the discussion is that the companies in our case study have managed the assimilation process in varying ways. There are individual needs in each case that needs to be considered depending on the particular setting. We have nonetheless identified that there were a few common denominators that were found in all the companies.

- WB EC Assimilation is not a linear process i.e. it is often performed iteratively with continuous improvements and re-launches of entirely new platforms.
• All companies view the WB EC mainly as a strategic move in terms of market and sales, and secondarily some also view it as a means of optimization of processes.

• Almost no company had issues with that there would be a lack of Top Management Support. The only interviewee who mentioned these issues could easily obtain support by using facts on why WB EC is the ‘right’ move for the company.

• Almost no company expressed any major issues with financing in any of the phases, except for one who had initial issues, which were solved by facts and numbers on why it is right to invest in WB EC.

• No company replaced their EDI with WB EC, but rather saw them as two different channels serving different types of customers, where EDI also could be integrated in the WB EC channel.

• All the companies had a small centralized group dedicated to leading the WB EC initiative and had this competence in-house.

• All companies also see it to be beneficial to work cross-functionally with WB EC.

• All companies used consultants or outsourced the IT-development for the WB EC platform, even the companies who had internal IT-competence.

Furthermore, we have seen that most of the factors suggested by previous literature were relevant and applicable to the case of WB EC and that they preferably should to be addressed.

**What factors influence web-based B2B e-commerce assimilation and in which phases are these relevant?**

From previous literature, a number of factors, outlined in section 3.1, were identified to influence technology assimilation in different phases of the process. These factors were found in both e-business literature but also from the scarce previous studies on the specific phenomena of WB EC. We used these factors as a basis and conducted six case studies to find out if the same factors affect WB EC assimilation at large companies in the traditional wholesaler industry. By analyzing and discussing our findings, we could draw implications on which factors are relevant and where they are relevant in the assimilation processes, as visualized in table 7.

The following factors are found to be of relevance during the entire assimilation process:

• Top Management Support

• Perceived Benefits

• Guiding Coalition

• Communication Processes

• Industry Characteristics & Market Structure

Moreover, the following factors are found to be of relevance in the Adoption and Routinization phases:
Lastly, in the Routinization phase, the following factors are found to become of relevance:

- Complexity
- EDI Usage
- Web Functionalities
- Organizational Learning
- Perceived Obstacles

**How are the factors relevant and how can they favorably be managed?**

*Technology Integration and EDI Usage*

Through our study we have found indications that implementing many systems and launching them at once comes with risks in terms of technical problems and project delays which in turn risks leading to employee demotivation regarding the WB EC initiative and thus inhibiting routinization. Conclusively, a progressive implementation and integration of systems into the main WB EC platform seems to be a viable conduct during the assimilation, which is also compatible with the change management theory by Kotter (1997). We moreover did not find that EDI as a sales channel would be incompatible with a WB EC sales channel as the channel can be intertwined by e.g. implementing a "punch-out" solution. On the wholesalers’ side, it nonetheless seem to be more beneficial with the WB EC in a sales and marketing perspective, than compared to EDI.

*Web Functionalities*

All companies have Web Functionalities that enables trade of products. Moreover, the companies place a strategic focus on WB EC and work on providing web functionalities that are valuable to their customers. Good web functionalities are linked to a higher usage in previous literature, consequently improvements in the Web Functionalities are beneficial for the WB EC routinization phase, where the improvements should be based on what the customers want and value.

*Complexity*

Our findings indicate that Complexity issues within WB EC technology does not seem to be
a major issue internally at our case-companies. The companies that had issues with their employees not understanding or using the technology managed this by educating the employees but also by redesigning the functionalities.

**Technology Competence, Managerial Change Competence, and the Use of Consultants**

What is said in previous literature regarding the use of consultants seem to lack in terms of highlighting the importance of differentiating between what types of competence that can be required for a WB EC initiative. This is as we have found indications that different competences are handled in different ways. The technical competence that is required for the implementation during adoption and routinization is generally solved by outsourcing the IT development and using technical consultants. Moreover, we conclude that having in-house competence within WB EC management seem to be of greater importance than having in-house technical competence and that the WB EC management competence is required for routinization. Arguably, seeing the initiative as purely an IT-matter could be detrimental for the progression of the WB EC channel. Furthermore, we provide indications that change management competences are desirable to have in the adoption and routinization phases, however it does not seem to be essential. However, the ownership of the initiative is indicated to be essential.

**Relative Advantage, Purposes & Strategies of Organizations, and Perceived Benefits & Obstacles**

All companies view WB EC as a strategic initiative and our findings implies that viewing WB EC in this way is positive for adoption and post-adoption, which is also supported by previous literature on Relative Advantage. Moreover, we have found that all studied companies are focusing on developing their strategies post-adoption but have not necessarily had a strategy formulated pre-adoption. Therefore, we conclude that companies can view WB EC as a strategic move and adopt the technology without necessarily having to develop and formulate a strategy for it initially. Nonetheless, in order to keep focus and routinize WB EC, it is of relevance to develop and work on the WB EC strategy.

When it comes to the Perceived Benefits of WB EC, we have found it to be a driver for adoption. Moreover, we found that building expectations that are fulfilled seem to provide motivation in the routinization phase. However, failing to fulfill the expectations may lead to internal resistance in the post-adoption phase, and thus we conclude that organizations should raise expectations thoughtfully. Furthermore, Perceived Obstacles are identified to be relevant for the assimilation process. By identifying the obstacles, it can ease the adoption and routinization phases as companies can work on mitigating possible obstacles such as internal resistance.

**Top management Support and Financial Resources**

We have argued that Top Management Support is important for the whole assimilation process, but seems to be essential for adoption of WB EC. The top management at some companies may be moderately oriented in the digital sphere and lack knowledge, and may therefore show resistance towards WB EC. In those cases, top management have been convinced by using facts and providing them with relevant knowledge.

The support moreover has to be continuous, e.g. to sustain the financing of the initiative. The Financial Resources for WB EC have however not been an issue in most cases. If issues
have emerged, it has been handled by providing numbers and facts on why to invest in WB EC. It can however take time before the initial investments are profitable, thus motivating that other arguments may be required. Consequently, having Top Management Support may ease receiving financial investments for WB EC. Lastly, we found no indication that receiving further financing in the routinization phase was problematic.

**Organizational Structures**
All case-companies have a small centralized group that leads the initiative and we see this as appropriate since this is supported by change management theory and mitigates problematic issues regarding e.g. ownership. We could not find any indications that extensive interconnectedness and cross-functional work was considered to be essential for the adoption phase, nor the routinization phase. However, we have found indications that it could be relevant to include the IT and marketing departments already in the adoption phase. We moreover conclude that having an interconnected and cross-functional structure seem to be beneficial in the routinization phase as this is indicated to increase the positive attitude towards the WB EC initiative and also increase its internal reach. To increase the interconnectedness and cross-functionality we conclude that the use of local and/or divisional WB EC ambassadors can be used favorably. These function as links between the WB EC division and other divisions and teaches their local or divisional staff-members regarding the WB EC channel. The ambassadors do not have to be delimited to just being one for each division and at a managerial level, but could also consist of employees who are more knowledgeable about the channel and can help their colleagues during every day work. Several of the case companies moreover try to involve employees, and there are initiatives to increase the interconnectedness with the employee level. We did however identify that this is an improvement area for several of our case-companies when it comes to initiatives other than idea contribution and consideration of opinions. Lastly, literature suggested that having a high interconnectedness and cross-functionality in the adoption phase and then decreasing it in the routinization phase, we however found that this was favourably managed in the opposite way, i.e. increasing the interconnectedness and cross-functionality over time. We consider the latter approach to be appropriate since it is also supported by change management theory.

**Compatibility**
Companies generally state that their culture is open towards change, but resistance still occurs. Possible reasons are that they are stuck in their old ways and/or that for example sales personnel fear being replaced by WB EC. The companies believe that WB EC is compatible with the work of sales personnel and they have successfully mitigated their fears by assuring the employees that WB EC is a complement to their work and not a replacement. Therefore, the employees’ beliefs may have to be changed to be compatible with WB EC. Another compatibility issue is within how organizations develop WB EC platform and other, integrated systems. Four out of six studied mentioned that they work by agile methodology with their WB EC projects and one company highlights that they have issues due to them working with the more traditional waterfall methodology regarding the development of other systems. A mismatch between the two ways of working may lead to that the WB EC platform get developed too fast while other systems falls behind, which we argue may slow down the routinization of WB EC. One possible way to handle this issue is brought up by one of the interviewees,
which is to conduct WB EC development outside of the organization. Another interviewee mentioned that they wanted to change the whole organization to be agile, which we also argue may solve the mismatch between the processes. In summary, changes to the culture and processes in the organization may be required to be compatible with WB EC, which may ease the routinization of WB EC.

Communication Processes and Organizational Learning
Much like the previous literature, we conclude that communication can have both positive and negative effects and therefore it is important to know how to manage this in the context of WB EC. As mentioned regarding the Top Management Support discussion, the initiators have to communicate the change with top management early on. However, communicating and promoting the WB EC generally in the organization during the adoption phase comes with risks. Namely, if the communication builds expectations among the employees and then if the WB EC cannot live up to those expectations after it is launched, the enthusiasm among the employees is at risk of decreasing. Consequently, it is argued that the WB EC should be well prepared before communicating the message regarding it in all organizational levels. Repeating in our study is that companies have to deal with a fear amongst their employees where they are afraid to lose their jobs. This is handled through meeting them in person and having dialogues where they both inform them regarding how the change is actually going to affect them but also listen to what they have to say, and take this into consideration to make them feel heard. In this communication, both rational and emotional aspects need to be addressed and it is argued both from our empirical objects and theory that highlighting the top management support is beneficial. Similarly, besides making the employees have enough understanding of the WB EC channel so that they can use it in their everyday work, working actively regarding organizational learning is also used as a way of mitigating fears and reluctance amongst the employees.

We nevertheless found indications that communication regarding the WB EC is not always essential if the employees are self-motivated regarding the change and see the benefits of it without anyone having to convince them. We have accordingly concluded from our analysis that much of the communication is a means for encouraging employees to become engaged, have a positive attitude towards the WB EC, and be motivated to learn more about it, which facilitates routinization. From our analysis we have identified that the theory of combination of the top-down and bottom-up approaches seems to be especially valid for the case of internal communication regarding the WB EC initiative.

Industry Characteristics and Market Structure
We have argued that it seems to be industry-common for our case companies, who are in the wholesaler industry, to offer WB EC. This seems to drive companies to adopt WB EC. Furthermore, there are indications of an ongoing trend within the WB B2B EC market in the wholesaler industry, where companies are adopting new WB EC platforms and working on providing more complex functionalities than basic web catalogue and purchasing functions.
7.3 Implications

From this study, a number of implications are drawn, which are going to be presented in the following sub-sections; Sustainability Implications, Managerial Implications, Research Contribution.

7.3.1 Sustainability Implications

*Sustainable development* is development which addresses the needs of today, without compromising the needs of future generations. Sustainable development is built upon three pillars; *ecological, economic, and social sustainability* which all contribute equally to a sustainable development (KTH, 2017). *Ecological sustainability* involves everything of relevance to the ecosystem, where the production of goods and services should not hinder the ecosystem from repairing itself (KTH, 2017). Assimilation of WB EC in itself may not affect the ecological sustainability, as it is a matter of software implementations and organizational changes, thus, this will not be further discussed. Moreover, *Economical sustainability* is about economic growth (KTH, 2017), which this study does not address and will therefore not be further discussed. What is relevant to discuss for this study is the *Social sustainability* which is about the individual, it’s needs, rights, and well-being (KTH, 2017).

In our findings of this study, it became clear that the shift to WB EC involves many changes within a company which affect individuals in the companies to different extents. For example, some of the sales personnel are afraid of this change due to the fear of losing their jobs, and we have also discussed that EC will shift the employee’s roles. Therefore, we argue that it is important to consider the employees who will be or believe that they will be affected due to the changes. Managers should involve these employees and make sure that their well-being is not compromised during the digitalization. Moreover, some of our findings suggest that WB EC is not a replacement of the sales personnel but rather a tool that aid them in their work and/or relieves them of having to do certain tasks. Thus, one can argue that EC may contribute to the social sustainability if employees are involved and educated in the subject, and if freed-up time is not seen as a way of cutting personnel costs in the eyes of the management, but rather as an opportunity to expand their business.

7.3.2 Managerial Implications

Our results suggest a number of managerial implications for companies who are in the assimilation process of WB B2B EC. Firstly, the presented WB EC assimilation factors in table 7, which are grounded in previous literature and empirically validated for WB B2B EC assimilation, can serve as guidance on which aspects are important to consider in the process. Furthermore, we have argued that different companies have different pre-settings and issues. Managers could therefore as a starting point map out what their organizational settings are and assess the applicability regarding which of the factors are relevant for them to address. Moreover, we have suggested how these factors can been managed by analyzing six different cases, and to some extent identified indications regarding if the approaches could be appropriate or not based on both literature and empirical findings. This can aid managers in suggesting how different issues could be addressed in their cases.
Secondly, we have discussed that WB EC assimilation is not a linear process but rather a continuous endeavor that requires constant development and improvement, which requires its own management and competence. Therefore, the WB EC initiative should have a clear ownership, and not be managed or defined solely as an IT-matter. Lastly, our result suggests that managing the factors in the WB B2B EC assimilation process is closely related with managing change. Our results do not suggest that it is required to have an appointed change leader but rather someone, or a group, that preferably are dedicated for the WB EC initiative.

7.3.3 Research Implications

In section 1, we brought up the need for qualitative case research on factors in the entire assimilation process of EC and the need for research on how these factors, outlined from previous research, have been managed. This lack of research is what this study aims to address. The study was conducted through qualitative interviews with six different case companies, where the interviews were based on previous literature on factors affecting the assimilation process. Furthermore, we asked the interviewees on how they have managed the various factors in their assimilation process.

During this study we have found indications that 17 of the factors identified from previous literature can be relevant for WB B2B EC assimilation. We could moreover through an analysis of the cases find indications on where in the three phases of WB EC assimilation these factors were of relevance, and how companies have previously managed them. Therefore, this study contributes from a broad perspective with qualitative insights and knowledge in an area where there previously has been a lack of qualitative research. Furthermore, the study empirically contributes to the understanding of how B2B companies manage their assimilation process specifically regarding WB EC.

Moreover, our research has been partially grounded in change management theory, which by this study has been applied to the specific phenomenon of WB B2B EC through empirical cases and relevant factors. Indeed, as outlined in section 3.2, change management theory needs to be applied to the specific phenomena, and should suggestively be complemented with important factors therein. Therefore, we argue that this study has also contributed with bridging the gap between general change management theory and the specific phenomenon of WB B2B EC assimilation.

7.4 Limitations and Further Research

The limitations of this study and our results suggest a number of interesting areas which future studies can address. Firstly, this study was delimited to large companies. Therefore, conducting a similar study on small and medium sized companies may be an interesting area of research, as firm size seems to matter for the assimilation process according to the literature in section 2.2.1. Secondly, this study was delimited to the wholesaler industry. According to the literature in section 2.2.1, there may be differences in different industries regarding WB EC assimilation. Therefore, studies on the assimilation process of WB EC in other industries could
be conducted to investigate these differences. Thirdly, this study was conducted in Sweden, and according to the literature in section 2.2.1, there might also be cross-country differences for the assimilation of WB EC. Therefore, we also suggest studies within the area to be conducted in other countries.

Moreover, in this study we have found 17 relevant factors for the WB B2B EC assimilation process and touched upon how these may be managed. As our study is based on six cases, it might be of relevance to further study how these factors matter in the different assimilation stages, by additional qualitative case studies that can contribute to the empirical validity. Moreover, as we have studied this phenomenon broadly, we have touched upon how these factors have been handled. Therefore, the factors could be more in-depth and further explored, as well as more elaborated upon in further studies on B2B WB EC assimilation. Furthermore, we have stated that this study contributes to fill a gap between change management and WB B2B EC assimilation. However, further studies are required to expand the bridging of this gap.

As touched upon in the discussion regarding the integration of systems, the order of integration of systems into the WB EC platform was argued to be a matter of strategy. As we in this study did not obtain sufficient data to conclude what an appropriate strategy regarding this could be, it would be of interest to research this further.

In our study we found indications that there is a variety of competencies needed to manage a WB EC initiative. Some of these competencies were identified in this study, however, it could be of interest to further investigate what an optimal composition of competencies could be. It could additionally be of interest to investigate if there potentially are further competencies not identified in this study, that could provide additional value to the initiative.

One particular area of interest which our results suggest is the changing role of the sales personnel and other employees that follows from the shift from traditional B2B commerce to WB B2B EC. Our findings suggest that employee’s roles will have started to change and will continue to do so. Therefore, a study addressing the change on employee’s roles within companies that are shifting towards WB EC is of interest to perform.

Lastly, our findings show that that some of the case companies are receiving a high revenue percent from the WB EC channel, still, they are stating that they have a long way to go in the field of WB B2B EC and are in the process of implementing new platforms. Thus, it would be interesting to conduct a study on an industry level addressing the emerging trends within WB B2B EC and what the future of current traditional sales channels are.
Chapter Summary

In this chapter, we have firstly presented the general conclusions regarding the assimilation process of WB EC. We found it to be a complex, non-linear process which involves several interconnected and overlapping factors. Moreover, we found that many of the issues within the assimilation process of WB EC is within the human dimension regarding inertia towards change. Consecutively, we have answered the research questions. Regarding this we found that different organizations manage their WB EC assimilation in various ways, where each company has to address different issues depending on their particular setting. However, some common denominators were found, for example, all companies see WB EC as a strategic initiative, view cross-functionality as beneficial, and that the assimilation is an iterative process which companies work with continuously. Moreover, we have listed what factors influence the WB EC assimilation process and in which phases they are of relevance. Furthermore, we have answered how the factors are relevant and how they can be managed. Following this, we have elaborated upon the sustainability implications, managerial implications and our research contributions. Regarding sustainability, we have argued that WB EC assimilation is relevant to discuss regarding social sustainability. If managed properly, WB EC may contribute to the employees’ well-being and therefore contribute to the social sustainability. Regarding the managerial implications, we have argued that the findings of this study can serve as guidance for companies in their assimilation process of WB EC. However, each company have their particular presetting and needs. Therefore, managers should address the factors that are relevant and applicable to their company and manage them in a way which fits their company’s presetting. Subsequently, we have argued that this study contributes to the lack of research within the area of EC assimilation, addressing the need for; qualitative case studies, studies on the entire assimilation process, and studies on how factors within the process may be managed. Moreover, this study contributes to bridging the gap between general change management literature and the specific phenomenon of WB B2B EC assimilation. Lastly in this chapter, we have suggested subjects for future research which are based on our limitations and findings.
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