Master Degree Project in Logistics and Transport Management

The Role of Drop Shipping in E-Commerce

A Case Study of a Swedish IT & Consumer Electronics E-Tailer

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Abstract

In line with the technology development electronic retailers (e-tailers) are experiencing extensive pressure on delivering products and services more rapidly than before. In turn, substantial pressure is placed on providing efficient e-fulfilment, which is also considered to be the most complex task of an e-tailer. To improve the order fulfilment efficiency, e-tailers commonly transfer the order fulfilment to another actor. This may be performed by outsourcing the warehouse to a third-party logistics provider (3PL) or by drop shipping, where the distributor ships individual orders directly to customers. Albeit drop shipping's recognition among e-tailers, there is no consensus whether drop shipping could be directly related to outsourcing. The report undertakes a qualitative research approach with a case study at Dustin, a leading IT and consumer electronics e-tailer (CEE) in Sweden. The purpose of this study is to examine if a potential relationship exists among drop shipping and outsourcing. Thus, contribute to the research within outsourced order fulfilment strategies in the IT and consumer electronics sector. The empirical results have been gathered through interviews and observations at Dustin's central warehouse. The findings indicate that drop shipping and outsourcing have similar characteristics and are used to accomplish equivalent outcomes. However, it is uncertain to what extent drop shipping and outsourcing management are interrelated. Due to the specific business characteristics of a CEE, drop shipping could be difficult to apply as a sole order fulfilment method. Therefore, a dual strategy where drop shipping is used as an extension to the own warehouse could be ideal for a CEE.

Keywords: E-commerce, Supply Chain, Order fulfilment, E-fulfilment, Outsourcing, Third-party logistics, Drop shipping

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Table of Content

List of Figures

List of Tables

List of Abbreviations

Abbreviation	Full Name
3PL	Third Party Logistics
B2B	Business to Business
B2C	Business to Consumer
CEE	IT and Consumer Electronics E-tailer
E-Commerce	Electronic Commerce
E-Fulfilment	Order Fulfilment for Online Businesses
E-Tailer	Electronic Retailer
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning
VP Group Supply Chain	Vice President Supply Chain

1 Introduction

In this chapter, the reader will be provided with a general overview of order fulfilment methods within the e-commerce sector. This will be followed by a narrative problem background regarding drop shipping and the undefined relation to outsourcing. Further, culminating in the purpose and the research questions of the thesis that will set the foundation for the subsequent chapters. Lastly, the reader will be provided with the project outline.

1.1 General Background

Global trade and electronic commerce (e-commerce) have resulted in increased market competition. Accordingly, demands for fast deliveries of low-cost and high-quality products, and services have augmented (Fawcett, Calantone & Roath, 2000). As a result, companies must continuously strive towards enhancing the efficiency in the supply chain in order to achieve competitiveness (Chaffey, 2011). This has caused competition amongst supply chains, rather than end-products (Skjoett-Larsen, 2000; Chaffey, 2011). Higher efficiency in the supply chain can be obtained through taking advantage of the opportunities that improved communication tools facilitates (Hurn, 2013). Furthermore, the communication developments have also led to less enduring customers, in turn increasing the demand for efficient supply chains with fast deliveries (Ayanso, Diaby & Nair, 2006; Hurn, 2013).

Consequently, an efficient order fulfilment becomes of great importance, which is considered as one of the most complex tasks for electronic retailers (e-tailers) (Ayanso et al., 2006). Order fulfilment refers to all the processes that concerns the customer order; receiving the customer order, managing the order, picking and packing, delivering the order, and additional after sales services (Pyke, Johnson & Desmond, 2001). The e-tailers' order fulfilment process differs from a traditional brick-and-mortar retailer (hereafter retailer), due to the large amount of small orders (Tarn, Razi, Wen & Perez, 2003; Netessine & Rudi, 2006). Nevertheless, both e-tailers and retailers are pressured by shrinking product life cycles, and the associated risk of unsold goods that may result in capital tied up in stock (Santamaria, 2004). Therefore, focus must be placed on becoming financially stable without interfering with customer demands (Mattsson, 2007; Esper & Waller, 2014).

In the effort towards improving the order fulfilment efficiency and stabilising the financial position, e-tailers commonly transfer the order fulfilment to other actors. This may be accomplished by outsourcing the warehouse to a third-party logistics (3PL) provider (Tarn et al., 2003). Alternatively, by drop shipping, where the distributor ships individual orders directly to customers on behalf of the e-tailer, while exploiting the e-tailers information and features (Tarn et al., 2003). However, the suitable solution depends on the e-tailer's specific characteristics (De Kluyver, 2010; Cohen & Roussel, 2013).

1.2 Problem Background

Internet has become a common place of purchasing products and services, and as a result many e-tailers have experienced enormous business growth (Rushton, Croucher & Baker, 2010). Online sales constituted for the largest amount of sales in the IT and consumer electronics sector in Sweden, 2015 (HUI Research, 2015). As evident by the strong growth rate, Sweden is regarded as one of the most developed and innovative countries in the IT and consumer electronics sector (HUI Research, 2015). By reason of the increased online sales, e-tailers encounter pressure on providing an efficient online order fulfilment (Rushton et al., 2010). However, the order fulfilment is considered to be an e-tailer's most complex task because of the fast activity rates and the pressure on accommodating rapid deliveries while avoiding in-stock issues (Ayanso et al., 2006).

The order fulfilment of the e-tailer requires physical and traditional handling, even if the e-tailer is directly connected to the customer through the internet (Rushton et al., 2010). Rushton et al. (2010) highlight that the traditional fulfilment methods are not adapted to handle the many small online orders that e-tailers must manage. Therefore, Ayanso et al. (2006) and Ghezzi, Mangiaracina and Perego (2012) emphasise that e-tailers are required to delve into alternative order fulfilment methods. Chen, Hum and Sim (2005) further accentuate that e-tailers, unlike retailers, operate online and therefore have the opportunity to adapt and explore various methods.

According to Chen et al. (2005) an e-tailer is provided with the following options concerning alternative order fulfilment strategies; preserving all inventory in-house, preserving no inventory in-house meanwhile collaborating with 3PL actors, or combining the previous two. In these settlements, the 3PL actors could be manufacturers or distributors (Chen et al., 2005).

However, Tarn et al. (2003), Netessine and Rudi (2004), Ayanso et al. (2006) and Yao, Yue, Mukhopadhyay and Wang (2009) refer to the settlement, where the e-tailer holds no inventory in stock and orders are fulfilled directly from the distributor to the customer, as drop shipping. Furthermore, Power, Desouza and Bonifazi (2006) emphasise outsourcing as another option to increase the order fulfilment efficiency. However, there are several risks related to both outsourcing and drop shipping. Accordingly, it is of high importance for e-tailers to evaluate and modify the selected solution to the specific company (Cohen & Roussel, 2013).

The drop shipping method has previously been of limited success since it is heavily dependent on real-time communication (Yu, Cheong & Sun, 2017). In alignment with the improved communication, drop shipping has become a more common and successful means to fulfil orders (Ayanso et al., 2006; Gan et al., 2010; Yu, Cheong & Sun, 2017). Research indicates that the practice is recognised and has begun to be exploited by e-tailers. The most recent number available, provided by Ayanso et al. (2006), states that approximately 30 per cent of online businesses in the United States perform drop shipping. The lack of recent statistics and extensive investigations of drop shipping, contributes to the interest of studying the use of drop shipping and the inherent benefits and risks, through an e-tailer's perspective.

Albeit drop shipping's recognition among e-tailers, there is no consensus whether drop shipping could be directly related to outsourcing. Both outsourcing and drop shipping are mentioned in equal contexts as alternative practices to increase order fulfilment efficiency, by relocating work to another actor. However, previous research does not examine the similarities and dissimilarities among the two methods, thus no focus has been placed in previous research on connecting the two. Therefore, the practices must be investigated separately and thoroughly, to be able to conduct an analysis and examine a potential relationship.

Two researchers that have actively taken a standpoint in the subject are Netessine and Rudi (2001; 2004). According to Netessine and Rudi (2004); *"Drop-shipping also differs from outsourcing of inventory management, since under outsourcing the retailer usually still influences stocking quantities for each product."* (Netessine & Rudi, 2004 p. 608). Meanwhile when drop shipping, the e-tailer disclaims the inventory responsibility (Netessine & Rudi, 2001). Nevertheless, the practices have never been thoroughly evaluated in relation to each other. Therefore, it is of interest to investigate how drop shipping can be related to outsourcing management.

Additionally, drop shipping is a relatively unexplored research practice, however the recent increase in usage, gives rise to investigate drop shipping more thoroughly. Furthermore, the IT and consumer electronics sector's strong growth could contribute to high activity rates for consumer electronics e-tailers (CEEs). In turn, indicating that CEEs could be in need of examining alternative order fulfilment strategies. Therefore, it is of interest to study drop shipping as an alternative order fulfilment strategy at a Swedish CEE. This study will be executed with help from Dustin that recently started to implement drop shipping in Sweden.

Dustin AB is a leading IT and CEE in the Nordics that provides products and services to public and private companies, as well as to individuals in the Nordic countries (Dustin, 2017). Dustin provides a wide assortment of approximately 200 000 products, as well as related services and solutions, to their business to business (B2B) customers. The B2B market accounts for more than 90 per cent of Dustin's turnover (Dustin, 2017). Dustin is currently utilising a combination of a central warehouse in Sweden, an in-house warehouse in Finland, and a 3PL warehouse solution in Denmark. Lastly, a warehouse in Norway, which is a mini replica of the central warehouse in Sweden, managed by a 3PL. Furthermore, drop shipping is utilised in all the countries as an extension to the warehouse solutions.

1.3 Purpose and Research Questions

Since drop shipping and its relation to outsourcing has not been explored in previous research, confusion may exist among e-tailers if the alternative order fulfilment strategies, drop shipping and outsourcing, could be used for the same purpose and to achieve the same outcomes. Therefore, the purpose of this study is to examine if a potential relationship exists among drop shipping and outsourcing. Thus, contribute to the research within outsourced order fulfilment strategies in the IT and consumer electronics sector, for e-tailers. Furthermore, the aim is also to investigate the benefits and risks associated to an e-tailer's usage of drop shipping. Lastly, the report will analyse if a CEE can apply drop shipping as a sole order fulfilment method.

Dustin has been selected as an appropriate company for this research, since Dustin currently utilises both fully owned and outsourced warehouses, as well as drop shipping. Quick deliveries to customers are of great importance to Dustin, thus striving toward an efficient order fulfilment becomes a vital objective. Equally, it is essential to ensure that the order fulfilment strategy is effective, not overly priced and does not compromise the customer service level.

Based on the purpose, this thesis aims to answer the following research questions:

- How is drop shipping related to outsourcing management?

- Why is drop shipping used by e-tailers and what are the associated benefits and risks?

- Can drop shipping be used as a sole order fulfilment method for a consumer electronics e-tailer?

The research questions will be assessed and answered by conducting a case study at Dustin AB.

1.4 Delimitations

The aspiration of the study is to examine the potential relation between drop shipping and outsourcing. At the same time investigate what solution might be most advantageous for Dustin. The research will exclude aspects related to a quantitative approach, thus only considering what the different solutions entail from a qualitative point of view. Furthermore, the research will omit investigating optimal warehouse location, number of warehouses, warehouse dimensions, inventory levels and different storage and picking systems. Focus will be assigned to one company within the IT and consumer electronics sector, thus solely companies with similar characteristics could take advantage of the research results.

Attention will mainly be placed on Dustin's solution in Sweden. However, drop shipping was recently implemented in Sweden, thus the study will also focus on Dustin Denmark, whom has performed drop shipping for almost two decades. Furthermore, with regards to evaluating the relation of drop shipping to outsourcing, the solutions in Denmark and Norway are also examined. Less focus will be placed on Dustin's solution in Finland since it is newly acquired and is still in the integration phase.

1.5 Project Outline

The report is divided into six chapters, following the outline presented in Figure 1.

| 1. Introduction | 2. Methodology | 3. Conceptual Framework | 4. Empirical Results | 5. Analysis | 6. Conclusion |

Figure 1. Project Outline

Introduction

In this chapter, the reader will be provided with a general overview of order fulfilment methods within the e-commerce sector. This will be followed by a narrative problem background regarding drop shipping and the undefined relation to outsourcing. Further, culminating in the purpose and the research questions of the thesis that will set the foundation for the subsequent chapters. Lastly, the reader will be provided with the project outline.

Methodology

The following chapter will present the research philosophy and the research approaches that were embarked upon throughout the process. The process will be clarified to explain how the problem is tackled and how a conclusion is reached. A clear argumentation will therefore be made to explain the chosen methods and their implementations.

Conceptual Framework

The following section will provide a theoretical framework in relation to the research questions, and intends to describe electronic commerce, order fulfilment, outsourcing, and drop shipping, based on previous research. The conceptual framework aims to get the reader acquainted with the related subjects.

Empirical Results

The subsequent section will present the empirical results that have been gathered at Dustin AB headquarter and central warehouse in Stockholm, as well as two of Dustin's distributors. The aim is to structure the information that has been collected through interviews and observations, and provide the reader with a distinct image of Dustin's current order fulfilment structures. Highlighting the warehouse structures, related outsourcing and drop shipping solutions.

Analysis

In the analysis section the empirical results will be compared, analysed, and discussed to the conceptual framework. To emphasise the similarities and dissimilarities between these two parts. This chapter will be the foundation for the conclusions. Furthermore, the chapter will be structured to answer the different research questions; how drop shipping is related to outsourcing, why drop shipping is used by e-tailers and what benefits and risks it entails. Lastly, if drop shipping can work as a sole order fulfilment method for a consumer electronics e-tailer.

Conclusion

The following section aims to answer the research questions based on the highlights of the analysis as well as delimitations as indicated in the delimitation chapter. The conclusion will follow the same structure as the outlined research questions. Furthermore, suggestions for future research will be discussed

2 Methodology

The following chapter will present the research philosophy and the research approaches that were embarked upon throughout the process. The process will be clarified to explain how the problem is tackled and how a conclusion is reached. A clear argumentation will therefore be made to explain the chosen methods and their implementations.

2.1 Research Philosophy

People have different understandings of reality, knowledge and existence, and as a result several research paradigms and methods have been developed (Eriksson & Kovalainen, 2008). Researchers that have a strong belief to the natural science and the associated research methods often undertake a positivism philosophy, and their perception of the world is closely related to realism (Collis & Hussey, 2014). However, as the social science field has grown, new stronger methods focusing on measuring social behaviours have been developed and accepted. As a result, interpretivist philosophy has been created (Bryman & Bell, 2011).

Based on the scientific views; positivism or interpretivism, the opinion on how the world should be explained varies. The paradigms differentiate mainly when it comes to the ontological assumptions and the epistemological assumptions (Bryman & Bell, 2011). Ontology is concerned with how people perceive the reality, and can either be subjective or objective (Eriksson & Kovalainen, 2008). The subjective view is closely related to the interpretivist perspective, and is dependent on the time, context, and people. Thus, the reality is not constant or singular, but something that changes over time, and constitutes multiple realities (Eriksson & Kovalainen, 2008). On the contrary, as explained by Bryman and Bell (2011) the objective view believes the reality is independent of the social context, something that people cannot affect.

Furthermore, the paradigms have different perceptions on how to define knowledge, referred to as epistemological assumptions. The positivist paradigm is based on natural science, hence only things that could be measured and observed should be regarded as valid knowledge (Collis & Hussey, 2014). On the other hand, interpretivists believe that knowledge can be based on subjective evidence by participation (Eriksson & Kovalainen, 2008). This research undertook an interpretivist paradigm; thus, the reality was seen as subjective and dependent on experiences, time and context. The emphasis was to understand the social reality that Dustin

operates in, as this could influence the result. Furthermore, as this research aimed to investigate how an e-tailer utilised drop shipping, and how drop shipping and outsourcing are related, the context and the different opinions among the interviewees became important. Thus, this thesis assumed an interpretivist paradigm to accomplish the predetermined aim.

Positivism and interpretivism do not only have different opinions about the ontological and epistemological assumptions, but also differs between what is called axiological assumptions (Eriksson & Kovalainen, 2008). The axiological assumptions are concerned with the roles of value (Farquhar, 2012). A positivist believes that the results are unbiased and independent of the researcher, meanwhile the interpretivist would say that it is hard to separate the researcher and the research, which could lead to biased results (Collis & Hussey, 2014). Consequently, as described by Wallén (1996) when undertaking an interpretivist philosophy, it is important to be aware of the impact the researchers will have on the result. Accordingly, the researchers have been conscious about this critique throughout the report, with an aim of being transparent to the findings. However, the risk of having biased results remains, due to the difficulty of completely excluding personal opinions regarding the research.

2.2 Research Purpose

When performing research, it is possible to have different research purposes; these could be exploratory, descriptive, analytical or predictive (Collis & Hussey, 2014). By having an exploratory view, the aim is to explore if there is a relation between two concepts, thus contributing to creating new theory (Bryman & Bell, 2011). The exploratory purpose is to prefer when undertaking a case study, as the aim is to explore a research question (Farquhar, 2012). Meanwhile the descriptive purpose is to describe a phenomenon and the outcomes. The analytical and predictive purposes are further developments of the descriptive purpose (Collis & Hussey, 2014). This thesis undertook exploratory and descriptive purposes, as the aim was to explore if drop shipping was related to outsourcing. The descriptive purpose was used to explain the phenomenon of drop shipping, which research question two and three aimed at.

2.3 Research Approach

There are two contradictory research approaches; deductive and inductive. The deductive approach is suitable for a positivist and quantitative study. Furthermore, Collis and Hussey (2014) suggested that if a qualitative research is being conducted with an interpretivist philosophy then an inductive research approach would be preferable. An inductive research approach is more suitable for case studies, since case studies intend to investigate a specific subject more thoroughly (Farquhar, 2012). Likewise, this research employed an inductive approach, and the empirical results were gathered through an in-depth case study with interviews and observations at Dustin. Furthermore, the research aimed at contributing to filling the gap between the two existing theories of drop shipping and outsourcing, within the field of order fulfilment for IT and consumer electronics e-commerce businesses. Conjointly, in the inductive approach, theory is produced by gathering empirical data through observations, with the aim of contributing to future theory (Farquhar, 2012; Collis & Hussey, 2014). At length, this inductive approach allows the specific and narrowed research to be applied to the general (Collis & Hussey, 2014).

2.4 Research Process

Research methods are often divided into either quantitative or qualitative, and the different methods refer to how the data is collected and analysed (Coombes, 2001). Depending on what type of information that is required, either qualitative or quantitative data is preferable (Collis & Hussey, 2014).

Since an interpretivist study has been undertaken, in order to understand the social reality and the nature that Dustin operates in, a qualitative research process has been applied. Collis and Hussey (2014) implied that a qualitative approach of an interpretivist study allows the researcher to analyse the data in its natural setting. Furthermore, qualitative data is related to the inductive view on theory, by trying to understand the underlying aspects of the context (Bryman & Bell, 2011). By reason of the thesis' purpose, solid interpretations were of importance, which according to Collis and Hussey (2014) are possible to accomplish by undertaking a qualitative approach. Furthermore, this approach was deemed appropriate due to, as stated by Bryman and Bell (2011), the possibility of attaining a deeper understanding of the investigated context when collecting the data. Consequently, resulting in a more trustworthy analysis, as the interpretivist approach focuses on the context, people and time.

2.5 Research Strategy

The purpose of this research was to investigate if a potential relationship exists among drop shipping and outsourcing and why drop shipping is used as an order fulfilment method by e-tailers. If the aim of a research is to focus on a single complex phenomenon in-depth, a case study is appropriate, as it allows investigating the underlying factors that affect the specific outcome (Bryman & Bell, 2011; Farquhar, 2012). Yin (2014) further explained that case studies should be undertaken if the researchers have limited control over the events. This thesis aimed at acquiring in-depth qualitative information concerning a definite issue, thus no specific and highly controlled experiments were performed. Instead, the relevant data was gathered through primary and secondary sources, as suggested by Collis & Hussey (2014). Consequently, this led to an improved understanding of drop shipping both in theory and in practice.

Ghauri and Grønhaug (2010) argued that case studies are suitable if the research seeks to answer questions containing *'why'* or *'how'*. Thus, reflecting upon the research questions constructed in this thesis. The selected company for this case study was based on the company's current engagement in drop shipping and its involvement in online sales of IT and consumer electronic goods.

This research focused on one organisation, accordingly Farquhar (2012) argued that the results cannot be applied on other businesses or industries with different characteristics. Nevertheless, the findings provide important knowledge to the IT and consumer electronics sector. Since an unexplored research area was investigated, regarding drop shipping in relation to outsourcing, the results could be of interest for businesses with similar operations.

2.6 Data Collection

When undertaking a case study research strategy, it is important to collect data by using several methods during different times to increase the understanding of the specific phenomenon (Collis & Hussey, 2014). Therefore, this research collected primary data from interviews and observations, meanwhile secondary data was gathered from Dustin's website and previous research. Furthermore, Farquhar (2012) argued that the quality of the analysis and conclusion are more substantial if the research contains both primary and secondary data. Primary data is referred to data that the researchers have generated themselves. This could for example be interviews, observations or surveys. Meanwhile data that is collected from already existing

sources are defined as secondary data (Collis & Hussey, 2014). There are several advantages of using secondary data, as it is an efficient and a free of charge way of collecting existing data (Ghauri & Grønhaug, 2010). However, it also contains some drawbacks since the results from previous research can be misinterpreted if taken out of context; thus, something the researchers were aware of when using secondary data.

The empirical results in this report were based on primary data that was collected through interviews and observations at the selected case company at different times. Concurrently, the conceptual framework was based on articles and books, which constituted the secondary data. When collecting the secondary data, several databases have been utilised including GUNDA, Emeraldinsight, LIBRIS, Google Scholar, Web of Science, Business Source Premier, and Scopus. However, before the data collection can be initiated, Farquhar (2012) and Collis and Hussey (2014) argued that it is important to establish clear scope and limitations for the research, to be able to focus on appropriate literature that will further enhance the results. This was executed by the authors in the early stages of the research journey, to be able to limit the amount of available research, as well as to reduce the likelihood of misinterpretations.

2.6.1 Interviews

As this research assumed an interpretivist case study research paradigm, it was of relevance to obtain comprehensive knowledge about the certain context concerning drop shipping. Farquhar (2012) emphasised that interviewing is a preferable method to collect in-depth information. Depending on the structure of the interview, Bryman and Bell (2011) argued that interviews can either be qualitative or quantitative. Quantitative interviews are structured, meanwhile qualitative can be unstructured or semi-structured (Bryman & Bell, 2011).

This study conducted semi-structured interviews, which could be preferable as the interviews allows the researchers to be flexible and adapt the questions to the specific context (Bryman & Bell, 2011). The interviewer used an interview guide, which contained different topics and some suggested questions, however there were no predetermined order of the questions and the researchers had the possibility to ask follow-up questions (Bryman & Bell, 2011). Semi-structured interviews could be beneficial as the questions are structured in a way that allows the interviewees to express themselves more freely and elaborate their answers (Collis & Hussey, 2014). To help the interviewee feel encouraged and comfortable to speak freely Kvale and Brinkmann (2014) suggested that the interviews should be held in a relaxed and casual

setting. The researcher reassured that the environment complied with these characteristics, by interviewing them at a location of their choice.

Based on the authors preferences of what knowledge the interviewees were required to possess, the external supervisor selected the eight respondents to ensure that they fulfilled these requirements to complete the interviews. The authors recorded and transcribed the interviews to be able to avoid the difficulties associated with taking notes during an interview (Coombes, 2001). In accordance with Coombes (2001), Bryman and Bell (2011) suggest recording and transcribing interviews, if the researchers want to focus on the interview and listening to the respondent. Furthermore, since the aim was to understand a certain context, it was of high importance to reassure that the context did not disappear. On the one hand taking bullet points may lead to misunderstanding of the context when analysing. On the other hand, if the researcher focuses too much on taking notes, it could lead to unsatisfied results (Coombes, 2001). Nevertheless, Bryman and Bell (2011) emphasised that although transcribing is time demanding, the interviews can be interpreted without bias.

The interviews were performed on site at Dustin's headquarter in Stockholm, and at the central warehouse in Rosersberg outside of Stockholm. The interviews were also held by telephone depending on where the interviewees were located. The interviews were conducted over four days in total. See Table 1 for a summary of the interviewees, the duration, location and how the interviews were conducted. Four of the interviewees have a strategic position with a holistic overview. They are also involved in many of the important decisions that are taken regarding drop shipping, and other order fulfilment methods. These four are the Vice President (VP) Group Supply Chain, Head of Logistics, Head of Local Procurement Nordic, and the Project Manager Supply Chain.

Table 1. Interview Respondents

Respondents	Interview Method	Interview Duration	Location
Vice President Group Supply Chain	Face-to-face	110 min	Stockholm
Head of Local Procurement Nordic	Telephone	85 min	Denmark
Head of Logistics	Face-to-face	120 min	Stockholm
Project Manager Supply Chain	Face-to-face	70 min	Stockholm
Operational Drop Shipping Buyer	Face-to-face	50 min	Stockholm
Operational Drop Shipping Buyer	Face-to-face	45 min	Stockholm
Drop Shipping Distributor	Telephone	35 min	Stockholm
Distributor	Telephone	40 min	Stockholm

The VP Group Supply Chain is responsible for ensuring the optimal purchasing strategy, independently if the order is fulfilled from the warehouse or by drop shipping. Furthermore, the task is also to ensure that the logistical processes are efficient in all the countries Dustin operates in. This interview was important as the interviewee holds the main responsibility over the supply chain, thus the interviewee has been involved in most of the decisions that have been taken concerning the current structure.

During the observation at the warehouse, the Head of Logistics was interviewed. The interviewee is mainly responsible for the central warehouse and the warehouse located in Finland. A close collaboration with the VP Group Supply Chain is required to be able to fulfil customer orders. The interviewee contributed with an important perspective on Dustin's current warehouse solution and gave in-depth knowledge about the related tasks.

The Head of Local Procurement Nordic manages all local procurement in Dustin Nordic. The interviewee holds extensive knowledge regarding the purchasing processes both with drop shipping and to the 3PL providers in Denmark. The Head of Local Procurement Nordic also possesses an important role by helping the Swedish department in implementing drop shipping. This interview was held over phone as the interviewee is based in Denmark, due to time and budget limitations it was not possible to perform the interview in Denmark.

The last interviewee possessing a strategic role is the Project Manager Supply Chain, a consultant; with main focus on evaluating Dustin's supply chain strategy and the way of fulfilling orders. Furthermore, the consultant was hired by Dustin to critically analyse the situation, thus the interview was of importance as it could provide another perspective to the situation.

Two of the Local Drop Shipping Purchasers located in Sweden were also interviewed, to thoroughly explain how the drop shipping department works. Local Drop Shipping Purchaser A and B both have operational roles and are only responsible for orders that are fulfilled via drop shipping.

Lastly, to enhance the understanding of how the supply chain works, two of Dustin's distributors were interviewed. One of which is currently providing drop shipping, and the other one fulfils orders to Dustin's warehouse, but will start with drop shipments in the nearest future. The interviews were conducted by phone to be as efficient as possible. These interviews were of great importance as it could give another perspective on drop shipping, thus a foundation to improve the analysis and the results of the report.

2.6.2 Observations

Observations have been used as a means for collecting data, as observations provide the possibility to investigate a certain event in its natural setting, which would not be the case if experiments were to be used (Collis & Hussey, 2014). Observations were of importance to the researchers, when investigating Dustin's specific nature. Moreover, observations could be executed as participant or nonparticipant observations, depending on the objective (Eriksson & Kovalainen, 2008). This research undertook nonparticipant observations as it allowed the researchers to study the actual context. Dustin's central warehouse facility was observed during

one day, to obtain a clear understanding of the actual processes that are executed and to be able to analyse the impact of those processes. This sort of knowledge and information cannot be facilitated through interviews.

The observation was led by the Head of Logistics where all processes in the central warehouse were observed, and explained. During the observation, the researchers had the possibility to ask clarifying questions.

2.7 Research Journey Summary

The aim of this thesis has been to investigate how drop shipping can be related to outsourcing as well as what underlying determinants e-tailers' have for utilising drop shipping. Therefore, the researchers have performed a case study at Dustin, CEE. The choice of company was based on the company's current engagement in drop shipping as well as outsourcing. Furthermore, the industry in which the selected company operates in, was of interest to the researchers, due to the industry's recent growth in Sweden.

Because of the limited previous research concerning drop shipping and its relation to outsourcing, the researchers decided to study each practice separately and in-depth. In due course, the practices were compared based on specific features. Initially, previous research was gathered in order for the researchers to acquire a deep understanding of the two phenomena. The knowledge was a great foundation that was necessary to achieve to be able to construct correct and relevant questions for the interviews. Since the research was performed with a qualitative approach, with the aim of investigating the social reality of Dustin and its engagement with drop shipping, as well as the relation to outsourcing, semi-structured were suitable. The semi-structured interviews, together with the observation, allowed the researchers to obtain great understanding of Dustin's operations. Based on this, the research could culminate into something that could potentially contribute to new theory and be beneficial for future research.

2.8 Research Quality

Validity and reliability are two important concepts that all researchers that utilise quantitative methods when collecting data must consider and clearly declare for, however these concepts must be adjusted to fit qualitative methods (Bryman & Bell, 2011). Collis and Hussey (2014) also separate the methods depending on the research philosophy, and refer to dependability, credibility, conformability, and transferability, for a qualitative research.

2.8.1 Credibility

Mills, Durepos and Wiebe (2010) emphasised the importance of credibility, as it concerns how accurately the research reflects the participant's own views and the specific context, and relates to the trustworthiness of the study. Furthermore, Collis and Hussey (2014) justified using various sources throughout the research, referred to as triangulation, to be able to identify different insights and aspects. Triangulation can improve the credibility as it deepens the knowledge (Mills et al., 2010).

The researchers have been aware of the difficulties related to conducting a telephone interview, as the researchers are not able to observe the interviewee's body language, which could affect the interview and the credibility. Therefore, the researchers made sure to ask several follow-up questions to ensure that the interview did not fall outside the scope and lose its context.

To increase the credibility, all the interviewees have read through the report, as well as the supervisor and other external actors. This was done to ensure that there no misinterpretations existed and that the report had interpreted the literature correctly. Furthermore, the report used several research methods, such as interviews, observations, academic articles and books, to achieve triangulation. The collected data focused on drop shipping and outsourcing and its practical implications. Therefore, the embodiment of data gathering focused on collecting in-depth knowledge to improve the quality, rather than the quantity of the provided information.

2.8.2 Dependability

Dependability is closely related to what often is referred to as reliability for quantitative research (Bryman & Bell, 2011). Eriksson and Kovalainen (2008) emphasise the importance of creating trustworthiness for the research, by clearly describing the research process, which enable others to distinctly understand and follow the selected process. This is a more

complicated task when doing qualitative research, as the aim is to understand a specific phenomenon in a certain context in-depth. To increase the dependability the necessary steps have been integrated in the methodology section. This was essential as it should be possible to repeat the study on a different phenomenon and compare the outcome (Bryman & Bell, 2011). Furthermore, the interview questions for each interviewee are provided in the Appendix, where some of the follow-up questions are added. Since some follow-up questions are not included, the dependability decreases. However, it is still possible to follow the processes, thus this should not affect the dependability to an extensive amount.

2.8.3 Confirmability

Confirmability is a measure that evaluates the objectivity of the research (Bryman & Bell, 2011). Furthermore, Collis and Hussey (2014) emphasised that the research must be presented without bias, and correlate to the collected data. Bryman and Bell (2011) accentuated that confirmability can be improved if the researchers are aware of their presence. It is not possible to completely avoid bias, however by being aware of the impact the bias can be decreased (Bryman & Bell, 2011).

Since the authors of this report only had a limited amount of previous knowledge related to performing interviews, the predetermined questions were a good means to increase the required objectivity and not ask directed questions that could lead to bias answers. Furthermore, as both the empirical results and the conceptual framework have used several sources the outcomes could be said to have reached an acceptable level of confirmability.

2.8.4 Transferability

Researchers must evaluate a study's transferability, which investigates if the results could be transferred to another similar study (Collis & Hussey, 2014). This is closely related to the external validity in a quantitative study (Bryman & Bell, 2011). The report has tried to reach a high degree of transferability by explaining different decisions and assumptions that have been made, which are fundamental steps to be able to transfer this study to a different context.

3 Conceptual Framework

The following section will provide a theoretical framework in relation to the research questions, and intends to describe electronic commerce, order fulfilment, outsourcing, and drop shipping, based on previous research. The conceptual framework aims to get the reader acquainted with the related subjects.

3.1 Outline

The conceptual framework will initially provide a broad introduction to e-commerce in section 3.2, by defining the concept and explain recent trends. Companies operating online consider the order fulfilment to be the most complex task, as e-tailers are pressured to fulfil many small customer orders efficiently. Therefore, the order fulfilment will be presented next in section 3.3. To be able to execute the order fulfilment efficiently e-tailers can benefit from utilising alternative order fulfilment strategies, such as outsourcing and drop shipping. These two practices will be presented separately in section 3.4 and 3.5. Drop shipping can also be used in combination with a warehouse, which is referred to as a dual strategy and will be presented in 3.6. Lastly, a summary of the conceptual framework will be provided in section 3.7.

Figure 2. Outline of Conceptual Framework.

3.2 Electronic Commerce

The internet has facilitated a globalised fast real-time communication and electronic interchange, which further has enabled electronic commerce (e-commerce) (Chaffey, 2011). E-commerce is defined as:

"The sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments and other public or private organisations..." (Cullinane, 2016 p. 185).

The definition above is revised from The Organisation for Economic Co-operation and Development (OECD, 2009) in Cullinane (2016). Furthermore, e-commerce includes conducting business on the internet, and is continuously emerging in both the B2B and business to consumer (B2C) sector (Stock & Lambert, 2001; Richards, 2014; Cullinane, 2016).

However, there is more to e-commerce than exclusively purchasing and selling products, and services. When a customer places an order online, an entire chain of processes is initiated (Tarn et al., 2003). Those processes are especially; the fabrication of the product, the purchase of the product from a distributor, and the order fulfilment activities (Tarn et al., 2003). Moreover, the customer expects its order to be delivered just as rapidly as they could place the order (Tarn et al., 2003). Consequently, the significance of logistics efficiency enhances for the e-tailer, as sales might be lost if the e-tailer fails to deliver quickly (Stock & Lambert, 2001; Cho, Ozment & Sink, 2008). Customer loyalty is mighty fragile and customers' recurrence is crucial for the e-tailer's success. Thus, to encounter customer demands and provide excellent service, an efficient supply chain becomes fundamental (Tarn et al., 2003; Khouja & Stylianou, 2009; Ghezzi et al., 2012).

Online sales are increasing tremendously, which is evident in nearly all business sectors. During 2015, the e-commerce in Sweden amounted to SEK 50 billion, resulting in an increase of 19 per cent from previous year (HUI Research, 2016). With sales of SEK 11 billion, the consumer electronic sector accounted for the highest sales in Sweden, 2015 (HUI Research, 2016). The usage of e-commerce as a complement to the traditional business, or as a sole sale channel is increasing amongst companies (Stock & Lambert, 2001). According to HUI Research (2016) utilising the e-commerce channel and having a well-developed strategy is becoming critical for business survival.

3.3 Order Fulfilment

A firm's success is highly dependent on the order fulfilment process, which could be regarded as an e-tailers' biggest obstacle (De Koster, 2003; Ayanso et al., 2006; Yao et al., 2009). The order fulfilment process is defined by Pyke et al. (2001) as: *"Order fulfillment includes all of the activities from the point of a customer's purchase decision until the product is delivered to the customer and he or she is fully satisfied with its quality and functionality."* (Pyke et al., 2001 p. 27)

The order fulfilment for online businesses is also referred to as e-fulfilment (Muffatto & Payaro, 2004). The e-fulfilment processes include capturing orders, processing orders, preparing for delivery, delivery, and if necessary handling returns (Pyke et al., 2001). Tarn et al. (2003) further emphasise that e-fulfilment involves satisfying customer demands and predicting customer expectations. The e-fulfilment differs depending on the sort of customer. Fulfilling B2B demands is less time consuming than fulfilling B2C demands, as the e-tailer can send one large order to one customer. Whereas for B2C, the e-tailer is required to send individual orders to several customers (Tarn et al., 2003; Ghezzi et al., 2012).

The e-fulfilment equipment does not differ significantly from the equipment used for the traditional fulfilment (Tarn et al., 2003). Tarn et al. (2003) highlight that the largest difference is that e-tailers are faced with a broader customer base. Anyone with access to a smartphone, tablet or computer can place an order at any time, resulting in unpredictable demands (Tarn et al., 2003). Customers have the possibility to effortlessly compare prices and offerings online, due to the great amount of information available. The initial customer experience determines the likelihood of the customer returning, and is therefore crucial (De Koster, 2003; Tarn et al., 2003; Rao et al., 2011). Thus, as e-tailers face substantial amount of competition they place considerable efforts on integrating their supply chain to be able to deliver efficient and flexible logistics solutions (Skjoett-Larsen, 2000; Chaffey, 2011; Ghezzi et al., 2012). Ayanso et al. (2006) argue that e-tailers struggle with the e-fulfilment as an e-tailer's e-fulfilment is characterised by a fast activity rate, where they are required to manage a large amount of small orders efficiently, while providing prompt deliveries and avoiding in-stock issues.

According to Mufatto and Payaro (2004) e-fulfilment with help of information technology, provides more rapid service to customers independently of location. Additionally, Tarn et al. (2003) highlight the importance of embracing newest technologies concerning e-fulfilment to reassure efficient information systems. Rao, Griffis and Goldsby (2011) further state that efficient e-fulfilment processes are vital in order to achieve customer satisfaction.

Rushton et al. (2010) argues that although e-tailers are connected directly to customers via the internet, the order fulfilment still consists of traditional handling that is not adapted to the large amount of small orders that an e-tailer encounters. Therefore, according to Ayanso et al. (2006) e-tailers must find alternative methods, and with the help of the internet, Chen et al. (2005) state that e-tailers are provided with more alternative methods than retailers. Nevertheless, e-tailers must also have optimal inventory strategies to enhance cost effective e-fulfilment (Stock & Lambert, 2001; Ayanso et al., 2006). Optimal inventory strategies can be attained through predefined operational processes, meanwhile reacting quickly to changes without compromising customer service level (Tarn et al., 2003; Davis-Sramek, Mentzer & Stank, 2008).

3.4 Outsourcing

According to Rahman (2011) outsourcing is when an organisation also called the client, relocates work to an external part with specialist knowledge. The external part is recognised as the vendor or a 3PL provider, that carries out the work to a lower rate or faster pace (Rahman, 2011). Furthermore, Power et al. (2006) define outsourcing as:

"Outsourcing is the act of transferring the work to an external party. Whether or not to outsource is the decision of whether to make or buy. Organizations are continuously faced with the decision of whether to expend resources to create an asset, resource, product or service internally or to buy it from an external party. If the organization chooses to buy, it is engaging in outsourcing." (Power et al., 2006 p.3)

As customers require high-quality and low-cost products and services, companies are compelled to deliver cost-effective solutions (Fawcett et al., 2000; HUI Research, 2016). Outsourcing has become a means commonly used by e-tailers to achieve higher efficiency (De Kluyver, 2010). Outsourcing provides the client with the opportunity to concentrate on its core competencies and improve the opportunity cost. Meanwhile utilising valuable 3PL knowledge

that in turn helps the client convert and advance its business processes (Power et al., 2006; Richards, 2014, Dicken, 2015). Integrating outsourced processes require substantial planning and adaption as well as involvement from every department, but does not guarantee success (Rushton et al., 2010). Therefore, a long-term and committed relationship is essential to establish (Lumsden, 2012).

3.4.1 Possibilities

Owing to the internet e-tailers have gained the possibility to separate the information flow from the physical product flow, making information sharing with partners within the supply chain more simplified (Chaffey, 2011). Additionally, resulting in the opportunity to outsource the physical flow efficiently (Netessine & Rudi, 2004). Since an outsourcing partner focuses on a smaller set of activities the 3PL can execute the tasks more efficiently, which could result in decreased execution costs (Power et al., 2006; De Kluyver, 2010). However according to the Aberdeen Report from 2008, only a fifth of companies experience cost reductions when outsourcing (Richard, 2014)

If companies desire to expand abroad, outsourcing could be a favourable alternative as the 3PL possesses great knowledge of the local operating area (Cohen & Roussel, 2013). An additional opportunity defined by Cohen and Roussel (2013) is scope, where the 3PL already operates in the area of interest, thus the client could avoid extra set-up investments.

Both the client and the 3PL partner could acquire economies of scale from outsourcing, when focusing on the core competencies (Power et al., 2006). Outsourcing can also be done to achieve increased flexibility, which could be an optimal solution for stabilising fluctuated demands (Richard, 2014). Nevertheless, the e-tailer still determines the stocking quantity, while profiting from the efficiency advantages (Netessine & Rudi, 2001).

3.4.2 Risks

It is equally important to be aware of the risks that outsourcing could entail, such as longer lead times and loss of control (Cho et al., 2008; Cohen & Roussel, 2013). Increasing the number of actors in the supply chain could result in longer lead times, and additional complexity (Cohen & Roussel, 2013). The client could also lose control of significant activities when assigning the responsibility for segments of the supply chain to the 3PL (Cho et al., 2008). Notably, when long-term binding contracts are initiated within outsourcing, one major risk is not having

defined the settlements sufficiently. Unwillingness to modifications and adaptions during the contract period could become expensive for both parties (Richards, 2014). Additionally, if the 3PL fails to deliver the contracted service level, it can harm the client's reputation (Richards, 2014). Nevertheless, the effects of these risks could be mitigated by evaluating the possible solutions and the 3PL supplier thoroughly, but also by having transparent information systems between the client and the 3PL (Cohen & Roussel, 2013). A summary of the risks and possibilities associated with outsourcing are visualised in Table 2.

Table 2. Summary of Outsourcing Possibilities and Risks.

Possibilities	Risks
Economies of scale	Longer lead times
Reduced expenses	Loss of control
Reduced execution costs	Increased complexity
Flexibility	Relationship problems
Scope	
Improved utilisation	

3.4.3 Outsourcing E-Fulfilment

Due to the enormous growth within e-commerce and the number of individual orders, the current fulfilment systems might not be sufficient (Cho et al., 2008). As a result of the increased complexity, companies have started to outsource parts of the fulfilment processes to 3PL providers (Cho et al., 2008). According to De Koster (2003) e-tailers must decide on which tasks within the e-fulfilment they wish to outsource and to what extent. Warehousing and logistics operations are commonly outsourced as the tasks are not considered to be core competencies and can easily be imitated, even if they are essential to companies' operations (Hilmola & Lorentz, 2010; Richards, 2014). On the contrary Ghezzi et al. (2012) emphasise that the service level often shrinks when outsourcing, thus the decision to outsource depends

on customers' expectations regarding service level. However, Richard (2014) highlights that outsourcing the warehouse could lead to improved customer service, as the e-tailer can focus more on its customers.

Furthermore, De Koster (2003) accentuates that the amount of orders a company receives and handles on a daily basis should determine whether to outsource the order fulfilment. An e-tailer should handle the orders in-house if the orders do not exceed 100 per day, or if the quantity exceeds 10 000, otherwise the e-tailers should use an outsourcing partner to accomplish economies of scale (De Koster, 2003).

Ghezzi et al. (2012) further highlight that the decision to outsource the e-fulfilment depends on whether the e-tailer is a pure e-tailer, retailer or a combination of both. For an e-tailer with pure online selling focus, a distributed inventory strategy or a supplier full managed strategy are suitable (Ghezzi et al., 2012). A distributed inventory strategy refers to when an e-tailer is responsible for a restricted part of the product range, in order to increase the control or provide its customers with beneficial prices and faster e-fulfilment. Meanwhile the distributors are responsible for holding the rest of the assortment in stock (Ghezzi et al., 2012). The supplier full managed strategy concerns outsourcing the logistics activities, the management and the ownership of the inventory. Thus, orders containing products from several distributors requires consolidation at a transit point. The e-tailer will not be concerned with the related inventory costs and risks (Ghezzi et al., 2012). Table 3 visualises the differences between the two strategies.

Table 3. Characteristics of Inventory Strategies. (Adapted from; Ghezzi et al., 2012).

	Distributed Inventory Strategy			Supplier Full Managed Strategy		
	Distributor	E-tailer	Courier/ 3PL	Distributor	E-tailer	Courier/ 3PL
Inventory Ownership	✓	✓		✓		
Picking + Preparation	✓	✓		✓		
Consolidation	✓	✓		✓	✓	
Order Delivery			✓			✓

Notably, when it comes to delivering the right product, at the right time, and in the right quality, warehousing is key to serving great customer service (Richard, 2014). Independently of the warehouse ownership, warehouses are necessary to efficiently fulfil customer orders (Stock & Lambert, 2001; Richards, 2014). Nevertheless, warehouses have been referred to as costly and risky investments, but could be necessary if orders require consolidations or configurations (Stock & Lambert, 2001).

Warehouses could enable short lead times and flexibility, as well as economies of scale, which is acquired through purchasing and stocking large order quantities (Stock & Lambert, 2001; Hilmola & Lorentz, 2010). Economies of scale can also be achieved through the 3PL, as the 3PL performs the task at a lower cost by better utilising the equipment (Rushton et al., 2010). However, Harrison et al. (2014) points out that warehouses are necessary to generate sales, but if the goods are not sold they could also contribute to capital tied up in stock.

3.5 Drop Shipping

The practice of drop shipping was formerly mainly applied by mail-order firms and companies selling bulky and large products (Netessine & Rudi, 2001; Gan Sethi & Zhou, 2010). The practice requires an extensive amount of real-time communication within the supply chain, thus previously been of limited success (Netessine & Rudi, 2001). However, with the advancement of e-commerce and the enhanced communication, drop shipping has become a common means to fulfil online orders (Ayanso et al., 2006; Gan et al., 2010; Yu, Cheong & Sun, 2017).

Drop shipping is defined by Ricker and Kalakota (1999) as consumer direct fulfilment, meanwhile Chen, Chen, Parlar and Xiao (2011) defines it as outsourcing inventory to another party. Randall, Netessine and Rudi (2006) presents a more thorough definition of drop shipping as; *"...an arrangement whereby the retailer forwards customers' orders to the wholesaler, distributor, or manufacturer, that fills customer orders directly from its own inventory."* (Randall et al., 2006 p.567). Randall, Netessine and Rudi (2002) and Ayanso et al. (2006) further refers to drop shipping as a virtually joined supply chain of multiple actors, that has become a method to achieve an efficient e-fulfilment. The virtual supply chain discards large investments in warehousing and inventory. In turn, resulting in less attention on operational tasks for the e-tailer, meanwhile increased focus on the actual sales (Ayanso et al., 2006; Chen

et al., 2011; Yu et al., 2017). The operational tasks related to the e-fulfilment will thus be performed by the drop shipper (Ayanso et al., 2006; Chen et al., 2011).

In Figure 3, the differences between the traditional setting and drop shipping are visualised. When drop shipping, the products are forwarded directly from the distributor to the customer. Thus, the e-tailer disclaims their responsibility of the inventory. However, the information continues to pass through the e-tailer (Netessine & Rudi, 2001). Therefore, to be able to manage the e-fulfilment efficiently, integrated information systems between the e-tailer and the distributor are required (Khouja, 2001).
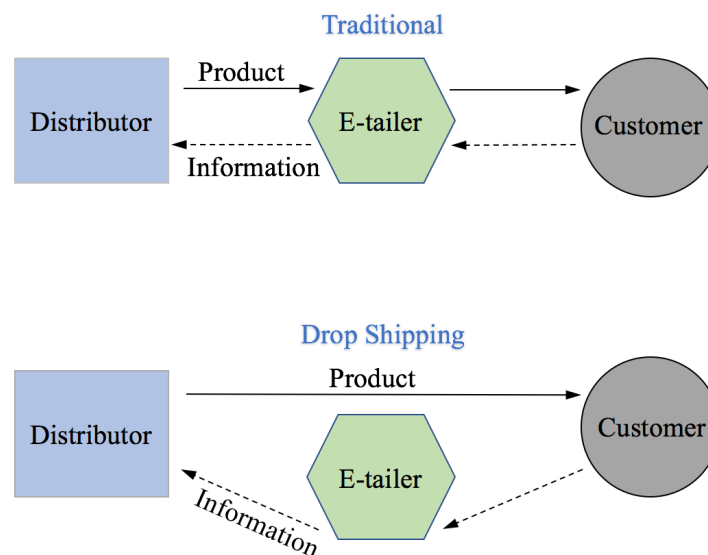
Figure 3. Traditional Order Fulfilment Versus Drop Shipping. (Adapted from; Randal et al., 2002)

3.5.1 Advantages

Many e-tailers have failed to become successful in their businesses, due to extensive warehouse investments, by utilising drop shipping the e-tailer could diminish related investments costs (Randall et al., 2002). Drop shipping conjointly provides the e-tailer with the possibility to offer an immense assortment without maintaining inventory for every item (Randall et al., 2002). Drop shipping could avoid costs for obtaining the inventory, as well as for transporting orders to the customer (Randall et al., 2002).

Furthermore, the e-tailer can decrease its costs due to the distributor gaining economies of scale in transportation (Randall et al., 2002). The economies of scale in transportation could be attained through serving several e-tailers (Netessine & Rudi, 2006). Moreover, the distributor can also benefit from drop shipping considering possibilities to increase sales and adequate planning (Randall et al., 2006). Consequently, the distributor decreases the complexity of fluctuated demands (Chen et al., 2011). Randall et al. (2006) state that fluctuated demands are also stabilised by the distributor stocking inventory for several e-tailers at its own premises, thus pooling the demands. Likewise, the e-tailer can also take advantage from the distributors' improved planning, as it increases the product availability (Randall et al., 2002).

3.5.2 Disadvantages

Despite the advantages, e-tailers must be aware of the trade-offs when engaging in drop shipping (Randall et al., 2002). Khouja and Stylianou (2009) highlight fragmented orders as one of the potential risks with drop shipping. Fragmented orders are a consequence of customers ordering from several distributors, and leads to either increased shipping costs or longer delivery times due to order consolidation (Khouja & Stylianou, 2009). Additionally, by engaging in drop shipping, e-tailers divest parts of their control to the distributors, subsequently increasing the associated risks (Randall et al., 2002). Randall et al. (2002) emphasise that e-tailers risk to diminish the product margin, as the distributor generally increases the order fulfilment price with ten to fifteen per cent, when drop shipping.

Despite the improved communication possibilities that Hurn (2013) indicates as essential for today's businesses, Randall et al. (2002) expound that communication between the e-tailer and the distributor is not effortless. The communication between the e-tailer and the distributor must be transparent and facilitate faster deliveries, to improve customer satisfaction (Randall et al., 2002). Furthermore, by not being able to control or have an insight into the distributors inventory levels, the e-tailer risks harming the customer service (Randall et al., 2002). Consequently, combining drop shipping with in-house inventory could be the optimal solution for an e-tailer (Khouja, 2001).

Table 4. Summary of Drop Shipping Possibilities and Risks.

Possibilities	Risks
Mitigated investment costs	Fragmented orders
Broader assortment	Loss of control
Decreased transportation costs	Diminished product margins
Avoids inventory costs	Not sufficient communication
Increased product availability	Longer lead times
Decrease overall costs for e-fulfilment	

3.6 Dual Strategy

Randall et al. (2002) propose that the selection of supply chain structure depends on the business characteristics, risks, the desire of deciding upon inventory levels, and the size of product margins (Netessine & Rudi, 2006). A traditional structure should be appropriate if the e-tailer has a high sales volume, or a prerequisite for order consolidations (Randall et al., 2002). If the e-tailer offers a wide range of products, or if the demands are uncertain, a virtual structure should be superior (Randall et al., 2002). Table 5 summarises the specific characteristics that determines when an e-tailer should undertake a traditional structure or a virtual structure.

Table 5. Choice of Structure Based on Different Factors. (Adapted from; Randall et al., 2002).

	Traditional	Virtual
High sales volume	✓	
High need for order consolidation	✓	
Lack of small-order fulfilment capabilities among wholesaler	✓	
High demand volatility		✓
High product variety		✓

However, Khouja (2001) and Netessine and Rudi (2006) propose that a combined strategy, a so-called dual strategy, could be advantageous for e-tailers as well as for the supply chain. In the dual strategy, the e-tailer primarily fulfils orders from the in-house warehouse meanwhile drop shipping orders that are not in stock (Khouja, 2001; Netessine & Rudi, 2006; Khouja & Stylianou, 2009). Thus, the dual strategy could be preferable in an environment characterised by unpredictable demands (Ayanso et al., 2006; Chen et al., 2011).

Randall et al. (2006) suggests that the e-tailer could benefit from drop shipping slow-moving items while holding the popular items in stock, as it allows the e-tailer to benefit from economies of scale for the popular items. Meanwhile, the e-tailer reduces the probability of having capital tied up in slow-moving goods (Randall et al., 2006; Khouja & Stylianou, 2009). Netessine and Rudi (2006) accentuate that the dual strategy or drop shipping is more favourable to undertake if there is a high competition among e-tailers. Books and consumer electronics are two sectors with such characteristics (Netessine & Rudi, 2006).

Undertaking a dual strategy, the e-tailer is provided with the opportunity to extend the use of the traditional structure in case of any price increases related to drop shipping (Netessine & Rudi, 2006). Conversely, if the product prices decrease, the e-tailer will reduce the amount of inventory and intensify the utilisation of drop shipping (Netessine & Rudi, 2006). Furthermore, the choice of dominant strategy additionally depends on the associated transportation costs, as all parties strive to make profits (Randall et al., 2002).

3.7 Summary of Conceptual Framework

E-commerce involves purchasing and selling commodities over the internet (Stock & Lambert, 2001; Richards, 2014; Cullinane, 2016). With e-commerce, customers expect as rapid deliveries as they could place their order online. Thus, the e-fulfilment becomes of great importance for online businesses. The selected e-fulfilment strategy should not affect the costs nor the customer service level (Stock & Lambert, 2001; Tarn et al., 2003; Cho et al., 2008; Ghezzi et al., 2012). Previous research argue that the e-fulfilment is an e-tailers weakest link (De Koster, 2003; Mufatto & Payaro, 2004; Ayanso et al., 2006; Yao et al., 2009). One possible opportunity to improve the e-fulfilment is to outsource the process to a 3PL specialist (Fawcett et al., 2000; De Kluyver, 2010; HUI Research, 2016).

Another option is to drop ship, where the e-fulfilment is managed by the distributor who forward orders directly to the customer. Drop shipping aims to preserve the number of actors in the chain without adding complexity (Netessine & Rudi, 2002). Combining drop shipping with an in-house warehouse is referred to as a dual strategy, and entails benefits from respective strategy (Randall et al., 2006).

Outsourcing has vastly been adapted as a response to the pressure companies are facing regarding efficient and cost effective solutions (Fawcett et al., 2000; De Kluyver, 2010; HUI Research, 2016). In addition, companies can avoid expansion costs, lower fixed costs, increase flexibility and attain economies of scale by focusing on their respective core competence (Power et al., 2006; Richards, 2014, Dicken, 2015). Outsourcing the e-fulfilment does not guarantee greater efficiency, as it requires great cooperation between the parties (Cohen & Roussel, 2013). In addition, if the relationship fails the e-tailer will lose control and further effort will be required to solve the issue. A failed relationship could lead to increased costs and impaired customer satisfaction (Cho et al., 2008; Cohen & Roussel, 2013).

Ghezzi et al. (2012) define two outsourcing strategies; distributed inventory strategy and supplier full managed strategy. The former refers to the e-tailer storing a smaller number of products, meanwhile the distributors are responsible for the remaining part of the assortment. In the latter strategy, the e-tailer does not store any products, instead all inventory is managed by the distributors.

As a result of the improved technology, it has become easier to communicate. The simplified communication has facilitated drop shipping (Ayanso et al., 2006; Gan et al., 2010). When performing drop shipping, the e-tailer is not responsible for fulfilling the order. The e-fulfilment is forwarded to the distributor who executes the order on behalf of the e-tailer (Randall et al., 2006). E-tailers can take advantage from reduced costs, as drop shipping avoids warehouse investments and costs related to holding inventory (Randall et al., 2002). An additional advantage is the possibility to offer a broad assortment without stocking it in-house (Randall et al., 2002).

The distributors also benefit from drop shipping, by being able to stabilise fluctuated demands and improve planning, as well as acquiring economies of scale in transportation (Netessine & Rudi, 2006). However, there are also drawbacks associated to transferring the responsibility to the distributors. Firstly, the e-tailer would discard its control, and dissatisfaction among customers could arise if the orders are fragmented or not delivered to please customer expectations (Randall et al., 2002; Khouja & Stylianou, 2009). Consolidating orders would most likely result in an increased delivery time (Khouja & Stylianou, 2009).

Lastly, a dual strategy could be the optimal solution for an e-tailer. In a dual strategy, the e-tailer holds a restricted amount of inventory, while drop shipping the remaining assortment (Khouja, 2001; Netessine & Rudi, 2006; Khouja & Stylianou, 2009). The advantage of sustaining a dual strategy is that the e-tailer could obtain beneficial prices by ordering large quantities to the in-house warehouse. Thus, allowing the e-tailer to stock popular products, meanwhile drop shipping slow-moving commodities. The e-tailer is not obligated to store slow-moving items, in turn, the risk of having capital tied up in the warehouse decreases (Randall et al., 2006; Khouja & Stylianou, 2009). Drop shipping should primarily be used as a secondary solution to orders that are firstly fulfilled through a warehouse (Khouja, 2001; Netessine & Rudi, 2006; Khouja & Stylianou, 2009). The advantage of a dual strategy is that the e-tailer sustains two means of fulfilling orders, and therefore does not become excessively dependent on the distributor.

4 Empirical Results

The subsequent section will present the empirical results that have been gathered at Dustin AB headquarter and central warehouse in Stockholm, as well as two of Dustin's distributors. The aim is to structure the information that has been collected through interviews and observations, and provide the reader with a distinct image of Dustin's current order fulfilment structures. Highlighting the warehouse structures, related outsourcing and drop shipping solutions.

4.1 Company Profile

Dustin AB is a leading e-tailer within the IT and consumer electronics sector in the Nordics, offering electronic products and services to public and private companies, and individuals in the Nordic countries (Dustin, 2017). The establishment of Dustin's online store in 1995 was one of the first online stores in Sweden (Dustin, 2017). Dustin is characterised as a one-stop-shop, and undertakes an intermediary role between distributors and customers (Dustin, 2017). Dustin provides a wide assortment of approximately 200 000 unique merchandise items. In addition, Dustin offers related services and solutions to the B2B customers. Similarly, Dustin offers products to competitive prices with prompt deliveries to the B2C market. The B2B market accounts for more than 90 per cent of Dustin's total turnover (Dustin, 2017).

Figure 4 visualises Dustin's supply chain subdivision structure, as well as in the departments the interviewees are located at, which are marked with a dark blue colour.
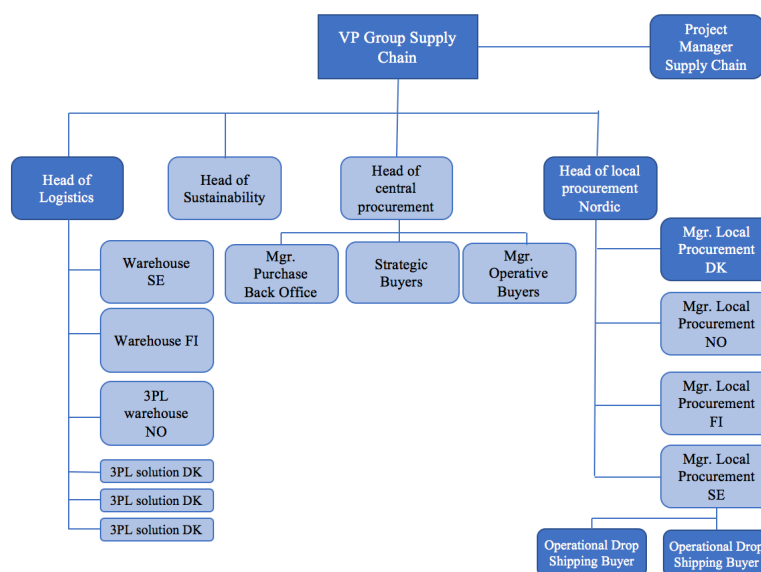

Figure 4. Supply Chain Department Organisation Chart.

4.2 Dustin's Definition of Drop Shipping

Head of Logistics at Dustin defines drop shipping as a practice where Dustin sources an order directly from a distributor to an end-customer, without passing through Dustin's central warehouse. Correspondingly, VP Group Supply Chain emphasised that drop shipping is a method to fulfil orders, where the delivery goes directly from the distributor to Dustin's customer. In turn, allowing the distributor to be accountable for the warehouse and the related logistical activities. Additionally, both the VP Group Supply Chain and Head of Logistics denoted drop shipping as an outsourcing practice. However, the two Local Drop Shipping Purchaser A and B, considered drop shipping to be an internal task. On the grounds that, Dustin performs the sale and transaction, meanwhile storing the goods at the distributor's premises free of charge.

4.3 Dustin's Current Warehouse Structures

The aim of Figure 5 is to visualise Dustin AB's current order fulfilment structures in respective countries. Thus, emphasising the combination of warehouses, 3PL warehouses and drop shipping that Dustin utilises.
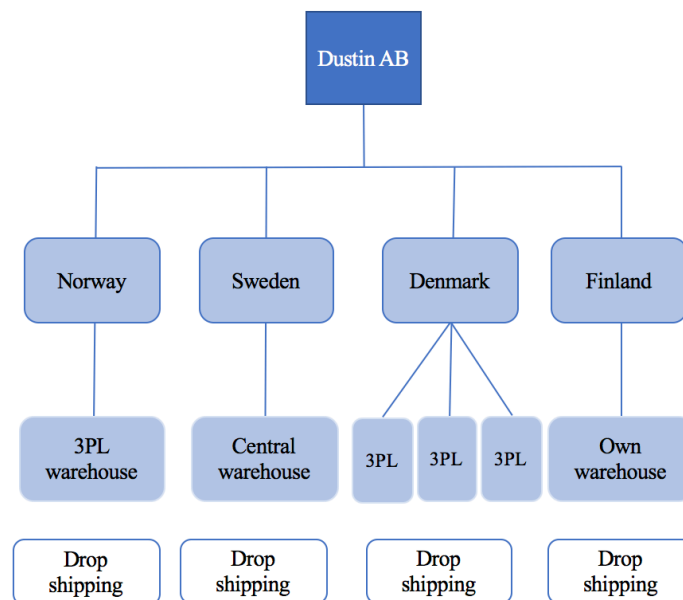

Figure 5. Overview of Dustin's Warehouse Structures in Respective Countries.

Dustin's central warehouse is located in Rosersberg, outside of Stockholm, Sweden, and fulfils all of Dustin AB's online orders, for both B2B and B2C. Additionally, the central warehouse fulfils B2B orders for Swedish customers that arises through other types of sales. However, the online B2C orders are fulfilled independently of the customers' country of residence. Currently, products from 350 distributors are stocked, consolidated and configured at the central warehouse before being sent out to customers. Consolidation refers to gathering several products into one coherent order, thus avoiding fragmented orders. Meanwhile configurations entail additional value on the orders by for example installing software. The warehouse is essential for Dustin's after sales services, concerning support and related guarantees. Recently, as an extension of the warehouse, Dustin Sweden has established drop shipping associations with a restricted number of distributors, serving the Swedish B2B market. However, the current drop shipping arrangement in Sweden, is inadequate and can solely manage one order, from one distributor, containing one order row, at a time (Head of Local Procurement Nordics).

Regarding Dustin in Norway, the warehouse operation has been outsourced to a 3PL partner that owns and operates the facility, and the associated services. The 3PL has also been assigned to perform configurations and consolidations. Furthermore, the warehouse facilitates fulfil demands for essential long-term relationship customers. The long-term relationships have been established to enable rapid deliveries of specific products with associated configurations. The warehouse in Finland is the most recent acquisition, and was acquired to fulfil long-term contract demands in the Finnish market. Drop shipping is utilised by Dustin Norway and Finland as a complement to the warehouses, in fulfilling B2B orders.

The most complex e-fulfilment solution appears in Denmark, where Dustin has the possibility to reserve a limited amount of inventory at three of its main distributors for one month, free of charge. Dustin reserves the units to ensure efficient deliveries to customers. Dustin's customer orders are then fulfilled by drop shipments directly from the distributor. The VP Group Supply Chain further explained drop shipping to be a solution where Dustin does not own the goods or is involved in the physical flow of the e-fulfilment. If not all the reserved goods at the distributor have been drop shipped after the one month free of charge, Dustin is forced to purchase the remaining units. However, the units will continue to be stocked at the distributor. At this point, the settlement where Dustin owns the inventory but the distributor holds it, is referred to by Dustin as a 3PL solution (VP Group Supply Chain).

Dustin AB utilises a combination of warehouses and drop shipping to better coordinate orders and achieve economies of scale (Local Drop Shipping Purchaser A). Furthermore, Head of Local Procurement Nordic emphasised the significance of prompt deliveries to customers, which the current structure enables. Thus, to answer the question *'Why has Dustin selected the current e-fulfilment structure?'* Head of local Procurement Nordics concluded *'It is fundamentally a question to be able to fulfil orders to our customers, or essentially, it is about satisfying needs and winning customers over'*.

Occupying a warehouse independently if it is in-house or outsourced, creates the possibility to increase product value by consolidations or configurations. Performing consolidations and configurations would be complicated, if not impossible, if solely utilising drop shipping (VP Group Supply Chain). Accordingly, consolidations or configurations with drop shipping, implies involving an extra step that would require an extensive amount of trust as well as coordination (VP Group Supply Chain).

4.3.1 In-House E-Fulfilment

The central warehouse plays an important role for Dustin's in-house e-fulfilment, as 65 per cent of Dustin AB's total net sales are generated from the central warehouse. Head of Logistics emphasised that Dustin's philosophy has long been concerned with taking everything to the warehouse regardless of customers' location. Furthermore, Head of Logistics stressed that the warehouse exists due to legacy and that Dustin Sweden has run everything from the warehouse for a very long time. The warehouse makes Dustin great at fulfilling orders, due to its proactive approach, its efficient handling, quick processing time per order, and fast competitive deliveries (Head of Logistics). Dustin's customer demands are relatively stable, with some unexpected increases that could empty the inventory held in stock for a specific product (VP Group Supply Chain). According to Head of Local Procurement Nordic, fulfilling orders with products that are unavailable at the warehouse, should be replaced with drop shipping.

During the observation at the central warehouse, the Head of Logistics highlighted that Dustin's orders are all collected manually. However, the manual handling has become an optimal method, due to Dustin's proactive approach towards achieving high warehouse efficiency, thus the current warehouse solution is ideal (Head of Logistics).

Head of Local Procurement Nordic further added that governmental businesses, such as the police force, demands Dustin to fulfil the order from the warehouse. The public businesses do not regard shipments from other places to be safe, thus Dustin's warehouse could be considered a necessity.

Dustin's warehouses are part of Dustin's strategy, which is to be closely located to the customers, meanwhile maintaining low operating costs, through achieving economies of scale (VP Group Supply Chain). Dustin uses approximately 150 of their total 350 distributors each month to gain beneficial prices, by playing distributors off against each other (VP Group Supply Chain). Therefore, the central warehouse is necessary to be able to purchase and store large amount of goods (Head of Local Procurement Nordic). Nevertheless, storing goods in the central warehouse constitutes one of the largest risks, due to the different product life cycles, thus products could become obsolete (VP Group Supply Chain). Computer mouse devices are an example of long lived products, meanwhile graphic cards are short lived products that requires to be changed every third month (Observation).

To avoid the risk of stocking an excessive number of low demand products, Dustin must have efficient evaluation methods and forecasts (VP Group Supply Chain). Thus, by knowing what items are sold and to what turnover rate, Dustin decreases the risk of having obsolete products in the warehouse (Project Manager Supply Chain). In addition, Dustin has the possibility to return unsold goods to the distributor within a certain time-period, to decrease the risk of occupying unprofitable products.

4.3.2 Outsourced E-Fulfilment

Dustin has a pure 3PL provider that owns and operates the warehouse in Norway. The decision to locate a warehouse in Norway was based on the importance of providing fast deliveries within certain days or hours, to essential long-term relationship customers in Norway (VP Group Supply Chain). Furthermore, according to VP Group Supply Chain savings that could be made in facility investments was the most prominent factor when the Norwegian outsourcing solution was taken.

The Danish warehouse solution is designed to manage the unique way businesses are conducted in Denmark (VP Group Supply Chain). Distributors in Denmark can only provide beneficial prices to orders that are delivered within Denmark's borders. Thus, it is necessary for Dustin to

sustain a local warehouse solution to reap the benefits from local offerings (Head of Local Procurement Nordic). However, Dustin finds it difficult to establish an optimal solution and suitable outsourcing partner to the operations in Denmark (Head of Local Procurement Nordic). The VP Group Supply Chain accentuated that a 3PL partner should not be overly fixated on decreasing costs, as that could result in a stagnated e-fulfilment, thus reducing customer satisfaction. Accordingly, Head of Local Procurement Nordic stated that owning a warehouse in Denmark could lead to a cheaper and more flexible solution for Dustin.

Currently, the Drop Shipping Distributor offers to make its own premises accessible to Dustin Sweden, if Dustin desires to dismantle the warehouse solution and stock goods from several distributors at a single location (Drop Shipping Distributor). The proposition indicates a similarity to Dustin's 3PL solution in Denmark.

4.3.3 Drop Shipping E-Fulfilment

The decision to start drop shipping in Sweden was taken two years ago by the management team, for Dustin to become more efficient, reduce costs associated to labour and transportation, and improve customer delivery (VP Group Supply Chain; Head of Local Procurement Nordic). Dustin Denmark implemented drop shipping to reduce warehouse costs. As Head of Local Procurement Nordic stated, *"If we could have someone else stocking the inventory and delivering the orders, and all we would receive are a few invoices and freight costs, it would be more advantageous for us"*. Moreover, the Head of Local Procurement Nordic highlighted that excluding Dustin's physical involvement in the drop shipping process could result in a more efficient e-fulfilment.

The VP Group Supply Chain accentuated that when orders are drop shipped in Denmark, Dustin is more concerned with product and delivery costs, and product availability. Meanwhile in Sweden, Dustin is more concerned with the time aspect. Thus, taking the delivery time into consideration when determining from where the order should be dispatched, central warehouse or drop shipping partner. Before determining place of dispatch the cost aspects are appraised to ensure the best comprehensive solution. In conjunction, the Local Drop Shipping Purchasers in Sweden, clarified that availability and price are significant, however price is often secondary to availability (Local Drop Shipping Purchaser A & B). Quickly fulfilling orders and providing competitively fast deliveries to customers is the utmost vital mission for Dustin (Local Drop Shipping Purchaser A).

Denmark and Norway have operated drop shipping in order to fulfil orders for roughly two decades, whereas Finland has performed drop shipping for a decade and a half. Meanwhile Sweden has utilised the practice for approximately six months (Head of Local Procurement Nordics). According to Head of Local Procurement Nordic drop shipping was initiated later in Sweden due to system challenges, it was impossible to initiate drop shipping at an earlier stage. Drop shipping became a prominent option when Dustin Sweden changed the enterprise resource planning (ERP) system (VP Group Supply Chain).

In 2015, nearly 30 per cent of Dustin AB's total net sales were generated through drop shipping (Head of Logistics). Currently, about three per cent of Dustin Sweden's orders are drop shipped, meanwhile drop shipping accounts for approximately 50 per cent in Norway, Denmark, and Finland respectively. Moreover, concerning Dustin Sweden, the Head of Local Procurement Nordic enlightened that in theory Sweden could drop ship about 80 per cent of its sales. However, in practice this would not be possible, since Dustin completes configurations and related services that compels Dustin's involvement.

Drop shipping has entailed a unique purchasing department at Dustin that is closely linked to the sales unit. Thus, the distance between Dustin's customers and the drop shipping purchasing department decreases (Local Drop Shipping Purchaser A). Local Drop Shipping Purchaser A and B underlined that in addition to not having any room for negotiating the price for drop shipped orders, the orders are mostly managed automatically. Drop shipping has resulted in an augmented quantity of invoices, since every individual customer order generates a specific invoice. Nevertheless, the invoices concerning drop shipped orders are handled automatically in the ERP system.

The drop shipping transactions are automatically generated in the ERP system and transferred via electronic data interchange (EDI). Therefore, the risk of having errors instigated by the human factor is decreased compared to previously (VP Group Supply Chain). The Head of Local Procurement Nordic and the Drop Shipping Distributor experienced drop shipping to be beyond challenging around the year of 2000, when orders were transmitted by fax, and manually entered into the ERP system. Dustin's existing system receives purchase orders automatically, the system evaluates the availability and cost, and generates propositions of optimal places to dispatch the order from. If the system suggests that the order should be drop shipped, the picking list will be transferred to the distributor within five minutes. Ordinarily,

the order is picked, packed and sent out within half an hour. Immediately afterwards, the distributor sends Dustin information of what has been sent to the customer, and Dustin can invoice the customer. However, as highlighted by the VP Group Supply Chain, this automatic flow necessitates high efficiency, as it signals Dustin when to invoice the customer.

Dustin is an imperative customer to many of its distributors, therefore the distributors assure to have products available at Dustin's demand. In return Dustin guarantees to purchase products from the specific distributors (VP Group Supply Chain). In terms of negotiation power, Dustin holds the leverage although the distributor is accountable for the inventory (VP Group Supply Chain). Additionally, Dustin has the opportunity to replace the distributor if the first one underperforms (VP Group Supply Chain). Furthermore, one of Dustin's Drop Shipping Distributor explained that drop shipping is; *"An exciting development that we continuously follow and evaluate thoroughly. We wish to be as attractive as possible to Dustin and other e-tailers, which in turn strives towards offering the best solution to their end-customer"* (Drop Shipping Distributor).

A distributor that performs drop shipping for other e-tailers, however has yet to start drop shipping on behalf of Dustin Sweden, declared that performing drop shipping does not profoundly impact their operations (Distributor). Nevertheless, the practice is an attractive solution since it could contribute to increased businesses (Distributor). However, specific benefits associated to drop shipping are difficult to distinguish at an early stage, according to the Drop Shipping Distributor.

The Head of Local Procurement Nordic gave prominence to one opportunity that drop shipping could entail for the distributor; *"Occasionally Dustin pays more than initially anticipated to drop ship, to be able to deliver the order the next day, which makes the customer happy and makes them return. In turn, the occasional extra payment contributes to long-lasting loyal relationships. We are dependent on our customers, if they do not return, we will lose."* The Head of Local Procurement Nordic added that, Dustin can make savings elsewhere, as soon as drop shipping fulfils a certain amount of orders; *"...You have to reach a critical mass before you start saving costs in the warehouse. The critical mass is reached when 15 to 20 per cent of our orders are drop shipped"* (Head of Local Procurement Nordic).

Both the VP Group Supply Chain and the Project Manager Supply Chain emphasised that drop shipping should be performed on commodities that are unnecessary to sustain in the warehouse, such as slow-moving commodities. The warehouse is of great significance, thus discarding the warehouse will most likely not ever be of relevance. VP Group Supply Chain accentuated that drop shipping is a phenomenal complement as it is an efficient and inexpensive substitute to fulfil orders. However, it is possible that drop shipping will be an equally important part of the strategy as the central warehouse.

Possibilities with Drop Shipping

Dustin has the possibility of reaping benefits from faster deliveries and lower handling costs by utilising drop shipping, according to Head of Local Procurement Nordic. More specifically, cost savings are made by transferring packaging, labelling and transportation costs to the distributor (Project Manager Supply Chain). Nevertheless, the distributors did not experience the cost transfers to be disadvantageous (Distributor; Drop Shipping Distributor).

Further, a distinct associated benefit of drop shipping is the additional warehouse capacity the practice facilitates for. Dustin declares that drop shipping could diminish the warehouse size, resulting in the opportunity of utilising the liberated space for products challenging to drop ship. Additionally, drop shipping occasionally entails purchasing a product to a more affordable price. The Local Drop Shipping Purchaser A emphasised, that a product could become less expensive further ahead in time, by reason of the product's life cycle.

Drop shipping could likewise provide benefits to the distributors, as the practice could bring about a stabilised demand. The Distributor is not obliged to reserve stock for items ordered for drop shipping (Distributor). According to the Distributor, no distinction, is made of the inventory for drop shipping or traditional fulfilment, thus, all orders compete for the same inventory.

The supply chain strategy Dustin aspires to achieve is an agile and efficient e-fulfilment (Project Manager Supply Chain). The purpose of operating drop shipping concerns improving the economical position, rather than a certain strategy. However, drop shipping should be deemed as a contributing arrangement towards an agile and efficient e-fulfilment (Project Manager Supply Chain).

Challenges with Drop Shipping

As drop shipping reduces Dustin's control over the e-fulfilment, the practice generates a greater dependence of the distributor. Thus, Dustin is requiring a collaboration that facilitates for comprehensive and effective follow-ups of drop shipped orders (VP Group Supply Chain). Correspondingly, the Project Manager Supply Chain underlined that Dustin must advance in measuring performance and quality of orders that are delivered with drop shipping. Likewise, confirming that the delivered orders comply with Dustin's standards.

Head of Local Procurement Nordic declared the interaction between Dustin and the distributor to be a limitation. The communication becomes a challenge since the distributors' ERP system does not continuously synchronise the stock levels, thus the stock levels are occasionally not up to date. Therefore, when Dustin requests an order to be drop shipped, the product could be unavailable, however this will not be apparent to Dustin until the stock levels are updated (Head of Local Procurement Nordic). Furthermore, the challenges with unsynchronised ERP systems is that it has additionally increased the complexity of cancelling drop shipping orders, according to the Local Drop Shipping Purchaser B. Similarly, the VP Group Supply Chain accentuated that several departments are affected by the indicated challenges related to drop shipping. In addition to the communication difficulties, discrepancies arise between Dustin and the distributor regarding the responsibility for the return flow and obsolete products (Project Manager Supply Chain; Local Drop Shipping Purchaser A).

By virtue of assigning the distributor access to the customer base, Dustin exposes itself to risks related to information theft. Thus, the distributors could take advantage of the opportunity by reaching out to the customers directly, and therefore stealing Dustin's customers. Head of Local Procurement Nordic clarified that Dustin does not engage in drop shipping with distributors that also act as resellers to avoid this risk.

Dustin will always be exposed to risks independently of the selected e-fulfilment method. However, theft, breakage and delayed transports are risks that are perceived as tangible with practising drop shipping, due to the risk of losing control (VP Group Supply Chain).

Moreover, drop shipping results in distributor-specific challenges as well, due to extensive number of small orders. Dustin's distributors are obliged to ship orders directly to customers, efficiently and attached with the correct documents (Head of Local Procurement Nordic). Equivalently, Dustin's distributor considered the principal challenge to be attaching Dustin's logo on important documents and packing material. The distributor suggested that if the system automatically could recognise a drop shipment, and print out Dustin's logotype, the related risks would evaporate (Distributor).

Table 6. Summary of Drop Shipping Possibility and Challenges.

Possibilities	Challenges
Faster deliveries	Loss of control
Decreased handling costs	Increased dependence on distributor
Releases storage space	Increased dependence on ERP system
Occasionally lower product prices	Increased complexity
Increased efficiency	Information theft

4.4 Future Plans

One of Dustin's future objectives concerns increasing the usage of drop shipping, consequently releasing storage space in the central warehouse. Nonetheless, Dustin possesses an uncertainty related to what extent drop shipping could increase. The expansion is hampered by the requirement of configurations and consolidations. Furthermore, if drop shipping does not provide the opportunity for Dustin to gain economies of scale, it would be necessary to preserve the warehouse (VP Group Supply Chain).

Currently, Dustin Sweden has established EDI solutions with six distributors, to facilitate for drop shipping. The goal is to continue connecting EDI solutions with additional distributors to advance the drop shipping practice (VP Group Supply Chain).

The Drop Shipping Distributor implied that the prospective extended use of drop shipping will bring about increased sales. Dustin Sweden's current practise of drop shipping is relatively limited. Nevertheless, the drop shipping distributor optimistically believed that Dustin's future plans will allow the drop shipping distributor to become one of Dustin's main partners (Drop Shipping Distributor). Concerning the drop shipping distributor's optimal arrangement, the Drop Shipping Distributor specified; *"We comply with customer needs. The arrangement that Dustin wishes for, that generates most volume and total sales to both Dustin and us, is the most optimal solution."* (Drop Shipping Distributor).

In order to increase the number of drop shipped orders, Dustin is required to investigate how to consolidate orders from several suppliers. Currently, Dustin Sweden can solely drop ship orders containing one order row. However, Dustin aims at enabling the possibility of drop shipping orders of several order rows (Project Manager Supply Chain). Moreover, drop shipping orders of multiple orders rows necessitates for consolidations, as the orders could contain products from several distributors. Should consolidations not be feasible, the order will become fragmented. Conversely, customers consider fragmented orders as unattractive (Project Manager Supply Chain). The Head of Local Procurement Nordic stated that the tolerance level among customers in the Nordic countries differ. Customers in Denmark are more acceptable and accustomed toward receiving fragmented orders, whereas customers in Sweden always expect consolidated orders (Head of Local Procurement Nordic).

Drop shipping is currently used as an extension to the warehouses with the purpose of increasing the efficiency and lowering costs (VP Group Supply Chain). Nevertheless, increasing the number of drop shipments could affect the warehouses in Sweden and Finland. Therefore, the effects of drop shipping require an extensive investigation before expanding the practice. Furthermore, Dustin solely provides drop shipping for B2B customers, indicating that further evaluations are necessary for expanding drop shipping to the B2C segment (Project Manager Supply Chain)

According to the Project Manager Supply Chain, Dustin could further enhance the current e-fulfilment by minimising the manual handling, and developing a more proactive mind-set. Dustin's aspiration is to achieve a flexible and innovative supply chain. Essentially, when striving towards an improved supply chain structure, high availability and competitively order executions becomes of great significance (VP Group Supply Chain). EDI connections can contribute to accomplishing an optimal supply chain, by facilitating for an efficient information interchange and communication among actors (VP Group Supply Chain; Project Manager Supply Chain).

5 Discussion and Analysis

In the analysis section the empirical results will be compared, analysed, and discussed to the conceptual framework. To emphasise the similarities and dissimilarities between these two parts. This chapter will be the foundation for the conclusions. Furthermore, the chapter will be structured to answer the different research questions; how drop shipping is related to outsourcing, why drop shipping is used by e-tailers and what benefits and risks it entails. Lastly, if drop shipping can work as a sole order fulfilment method for a consumer electronics e-tailer.

5.1 Drop Shipping in Relation to Outsourcing

For many decades drop shipping has been perceived as a feasible order fulfilment solution. Despite drop shipping's history, a clear connection to other or similar order fulfilment methods is non-existent. This is evidently presented through previous research and the empirical results. The operational Local Drop Shipping Purchasers A and B, considers drop shipping as an internal task. By the reason that Dustin continues to acquire customers and perform the business, meanwhile the distributor fulfils and delivers orders. On the contrary, the strategical respondents stated that drop shipping refers to outsourcing the e-fulfilment, seeing that the product is forwarded directly to the end-customer from the distributor. Thus, the responsibility of the order fulfilment and related activities lies at another actor.

Additionally, Netessine and Rudi (2004) accentuated that drop shipping should not be perceived as outsourcing, considering that the e-tailer does not have the opportunity to influence the stocking quantity. Nevertheless, this in not in line with Dustin's impact on the distributor's stocking quantity. Head of Local Procurement Nordic emphasised that Dustin's drop shipping solution allows Dustin to reserve goods at their distributor, that later will be drop shipped on Dustin's behalf. This opportunity is also available from the Distributor who further accentuated that it would be possible to consolidate and store particular products at the distributor's premises. Thus, contradictory to Netessine and Rudi (2004), Dustin has the possibility to impact the amount of inventory to a certain extent when practising drop shipping.

According to Rahman (2011) outsourcing is when an organisation relocates work to a 3PL specialist, that carries out the work to a lower rate or faster pace. However, Rahman (2011) does not mention that the client must determine the amount of inventory in stock for the outsourcing solution to be classified as outsourcing. Moreover, in the outsourcing solution, the

3PL partner is a specialist (Rahman, 2011). In comparison, when work is relocated to the distributor within the drop shipping practice, the distributor is not required to possess specialist knowledge regarding e-fulfilment.

Power et al. (2006) defined outsourcing as when a company decides to purchase an asset, resource, product or service from an external part. The definition by Power et al. (2006) is in conjunction with the Local Drop Shipping Purchaser A and B's statements. Drop shipping should not be regarded as outsourcing since Dustin does not pay for the drop shipping service, in terms of stocking inventory at the distributor (Local Drop Shipping Purchaser A and B). The goods are stored at the distributor free of charge, however, Dustin pays the distributor to transport the order to the customer (Local Drop Shipping Purchaser A).

In the specific Danish case, the drop shipping solution transforms into an outsourcing solution when Dustin is required to purchase the remaining amount of reserved inventory in the distributor's warehouse, after one month (VP Group Supply Chain). On that occasion, the inventory ownership shifts to Dustin, meanwhile the e-fulfilment is still performed by the distributor. Therefore, it is evident that the VP Group Supply Chain distinguishes between drop shipping and outsourcing depending on the inventory ownership.

The disagreement among the local drop shipping purchaser respondents and the strategical respondents, may depend on the different responsibilities. The local drop shipping purchasers possess an operational position that could be impacted if drop shipping would be defined and managed as outsourcing. Meanwhile the VP Group Supply Chain and Head of Logistics have a strategic and objective view, and are not impacted by the specific definition. Another possible reason for the dissimilarities could be that the perception of outsourcing might be different. Therefore, entailing distinctions of what could be included within outsourcing.

Table 7 visualises the opinions gathered from the interviews and the conceptual framework concerning whether drop shipping is related to outsourcing.

Table 7. Summary of Opinions on Outsourcing.

Reference	Drop shipping = Outsourcing	Drop Shipping ≠ Outsourcing
Netessine & Rudi (2001)		✓
Rahman (2011)	✓	
Power et al. (2006)		✓
Chen et al. (2005)	✓	
Chen et al. (2011)	✓	
VP Group Supply Chain	✓	
Head of Logistics	✓	
Local Drop Shipping Purchaser A		✓
Local Drop Shipping Purchaser B		✓

Similarly, both outsourcing and drop shipping provides the e-tailer with means to increase the efficiency. Furthermore, Power et al. (2006) argued that with outsourcing, a well-developed, long-term relationship, with focus on core competencies, could generate economies of scale for both actors. This corresponds with Dustin Sweden when they perform drop shipping. Dustin currently works closely and committedly with a few distributors, which has enabled Dustin to focus more on its sales and marketing operations. In turn, the Dustin's distributors increase their order fulfilment occupation, which could be considered as their purpose and core competence. Taking these aspects into account, it could be argued that drop shipping is related to outsourcing by attaining several equal characteristics.

One distinguished difference among drop shipping and outsourcing is the impact the practices have on the number of actors in the supply chain. Indicated in both previous research and the empirical results. Drop shipping entails that the number of actors in the supply chain either becomes unaffected or reduced. Whereas outsourcing aims at adding more parts to the chain, since a 3PL performs the relocated work. According to Cohen and Roussel (2013) adding parts to the supply chain could lead to longer lead times and increased complexity. On one hand, it can be argued that since drop shipping does not add actors to the supply chain it should not be

regarded as outsourcing. On the other hand, Cho et al. (2008) explained that the e-tailer could lose control over important activities by outsourcing to a 3PL, which is also a risk with drop shipping. Thus, further indicating that drop shipping shares a relation to outsourcing.

To further investigate whether drop shipping is related to outsourcing, drop shipping will be compared to the distributed inventory strategy and supplier full managed strategy, defined by Ghezzi et al. (2012). The distributed inventory strategy holds several similarities with Dustin's current warehouse solutions. According to Ghezzi et al. (2012) the distributed inventory strategy is a method where the e-tailer holds a limited amount of the assortment in their in-house warehouse, whereas the rest of the orders are fulfilled by the distributors. This is in line with what Randall et al. (2006) defines as the dual strategy, where the e-tailer stores popular items in the warehouse and drop ships the rest of the product range.

Conversely, when using the supplier full managed strategy, the e-tailer holds no inventory and the distribution is outsourced to the distributor who fulfils all the orders (Ghezzi et al., 2012). This arrangement correlates with drop shipping as it fulfils orders in the same way. Therefore, arguing that drop shipping could be equal to the supplier full managed strategy. Meanwhile the distributed inventory strategy could be interpreted as equal to the dual strategy. Thus, drop shipping should be regarded as an outsourcing practice.

However, Power et al. (2006) emphasised that when outsourcing, the e-tailer pays for the service, which is not the case for neither the two strategies developed by Ghezzi et al. (2012), nor drop shipping or the dual strategy. Consequently, the relationship between drop shipping and outsourcing is not completely clear.

5.1.1 Similarities Between Drop Shipping and Outsourcing

Concerning the discussion on how drop shipping can be related to outsourcing management, there were as mentioned above some differences within the empirical results as well as within previous research. Chen et al. (2005) and Chen et al. (2011) referred to drop shipping as inventory being outsourced to another party, which the strategical respondents agreed upon. In an attempt to understand the relationship more clearly, and provide a more distinct overview, a cross-table has been conducted based on previous research and the empirical results, see Table 8. The purpose is to visualise what significant characteristics of outsourcing that drop shipping also embraces.

Table 8. Cross-Tabulation of Outsourcing and Drop Shipping.

Outsourcing	Drop Shipping
Means for more efficient order fulfilment	✓
Relocates work	✓
Focus on core competencies	✓
Increased flexibility	✓
Decrease facility investments costs	✓
Hold whole assortment in stock	
Separates the physical flow and information flow	✓
Adding an external part	
Decides the amount of inventory	

Both drop shipping and outsourcing are means for a more efficient e-fulfilment, notwithstanding the means possess different approaches in increasing the efficiency. Outsourcing increases the efficiency by letting a specialist fulfil the orders. Meanwhile drop shipping increases the efficiency by reducing the number of actors involved in the supply chain.

Similarly, outsourcing increases the flexibility as the e-tailer has the ability of switching partner and warehouse size if the solution or relation does not work out as desired. This is also the case for drop shipping, where the e-tailer selects the distributor with the best conditions.

To conclude, both strategies are methods to increase efficiency and flexibility, meanwhile focusing on core competencies and in turn decreasing costs. However, drop shipping and outsourcing have different approaches to achieve the same outcome. Nevertheless, both methods allow someone else to be responsible for the e-fulfilment.

5.2 Reasons for Using Drop Shipping

As argued previously, drop shipping lacks an explicit relation to outsourcing. However, both previous research and the empirical results agreed upon how drop shipping is performed and exploited. Randall et al. (2006) emphasised that drop shipping is performed when the distributor receives the customer order from the e-tailer and fulfils the order from own stock. The definition by Randall et al. (2006) is in alignment with the interviewees who defined drop shipping as a method to fulfil orders directly from the distributors' warehouse (VP Group Supply Chain; Head of Logistics; Head of Local Procurement Nordic; Local Drop Shipping Purchaser A & B).

The reasons why drop shipping was implemented at Dustin in Sweden according to the interviewees were, reducing warehouse and labour costs, and transportation costs. Meanwhile increasing efficiency, improving customer delivery and the overall satisfaction. Similarly, Ayanso et al. (2006), mentioned that drop shipping results in less focus on operational tasks and more on sales. The Head of Local Procurement Nordic and VP Group Supply Chain additionally expressed that the main object for undertaking drop shipping in Denmark, was to reduce the warehouse costs.

Dustin is a very large and important e-tailer to many of its distributors, thus the distributors are dependent on Dustin's orders. Therefore, resulting in great negotiating power for Dustin and the possibility of gaining an extensive amount of advantages over other smaller e-tailers.

5.2.1 Cost Drivers

Previous research conjointly with the empirical results concluded that drop shipping avoids large investments in warehouses, as well as in inventory. In addition, since drop shipping does not require the e-tailer to hold all inventories in stock, the e-tailer can provide a wider product assortment to its customers (Randall et al., 2002). Meanwhile the e-tailer decreases the risks related to investing an extensive capital in fixed assets and inventory.

Technological improvements have facilitated for a more simplified and efficient drop shipping (Gan et al., 2010). As mentioned by the Head of Local Procurement Nordic and the Drop Shipping Distributor, antecedent to the technological improvements, drop shipping was a difficult challenge. As of today, orders are managed automatically and are ready to be shipped

to customers within half an hour (Head of Local Procurement Nordic). The automation could be beneficial in various ways by contributing to decreasing the required amount of purchasing labour, as well as increasing the e-fulfilment efficiency.

Furthermore, the e-tailer could save costs intended for transporting customer orders (Randall et al., 2002). Conjointly, the Project Manager Supply Chain pointed out that cost savings with drop shipping could be made by pushing packaging and transportation costs to the distributor. Dustin is still required to pay the distributor for transporting the order, despite this, drop shipping would still be the less expensive alternative.

Since the packaging and transportation costs are transferred to the distributor, a concern could arise that the distributors would be reluctant to these costs. Contrariwise, both of the interviewed distributors stated that increased transportation costs were not a disadvantage to them. According to the distributors, drop shipping could lead to increased sales that could cover the additional transportation costs.

Head of Local Procurement Nordic pointed out that single drop shipping orders entails higher fulfilment costs when covering sudden demands. Therefore, to be able to deliver customer orders the following day, Dustin accepts that it may require additional costs at times. Head of Local Procurement Nordic emphasised that providing next day deliveries makes for satisfied and returning customers. In contrast, the Local Drop Shipping Purchaser A accentuated that drop shipping occasionally results in the opportunity to purchase products to a more affordable price, since products could be less costly further ahead in time, due to the shortened product's life cycle. Therefore, to clarify, sudden demands that requires to be covered by drop shipping may not always entail a higher order cost.

Likewise, Randall et al. (2002) argued that the distributors could increase the price of the orders when performing the drop shipments. However, Dustin perceives that the transportation to the customer becomes significantly cheaper, thus Dustin is not largely affected by the price increases (VP Group Supply Chain). Beyond the transportation cost savings, the Head of Local Procurement Nordic concluded that Dustin makes savings elsewhere, when drop shipping reaches a critical mass. At the critical point, savings can be made in the warehouse, for instance by reducing labour costs.

Mattson (2007) and Esper and Waller (2014) pointed out that it is of importance for e-tailers to be financially stable without interfering with customer demands. Therefore, shortened product life cycles could pose a risk for the CEE's financial stability if the estimated demands have been miscalculated, which could result in an extensive amount of capital ending tied up in stock (Santamaria, 2004). Consequently, if products are characterised by short life cycles, it might be advantageous for the CEE to avoid purchasing the products to the warehouse and instead utilise drop shipping. Dustin stores many products that are characterised by long life cycles, such as computer mouse devices. Whereas, products such as graphic cards that have shorter life cycles are not stored for longer than three months (Head of Logistics). Mattson (2007) and Esper and Waller (2014) further underlined that products with short life cycles should preferably be stocked at the distributor instead of the e-tailer's warehouse, to decrease inventory risks.

Moreover, by transporting goods on behalf of several e-tailers the distributors can achieve economies of scale in transportation (Randall et al., 2006). Additionally, drop shipping could result in increased sales, and adequate planning, therefore also decreasing fluctuated demands for the distributor (Chen et al., 2011). The distributor emphasised that fluctuated demands are stabilised by pooling the inventory, thus making no distinction between inventory for drop shipping or traditional fulfilment. Furthermore, instead of having one large order the demands would be fulfilled with several smaller orders.

5.2.2 Efficiency Drivers

Drop shipping is also used to increase the e-fulfilment efficiency. Khouja (2001) highlighted that to be able to manage the e-fulfilment efficiently, integrated information systems between the e-tailer and the distributor are required. Dustin works extensively with establishing EDI solutions with their distributors. The EDI solutions facilitate easier communication, and in alignment with Khouja (2001), increases the efficiency. Furthermore, Tarn et al. (2003) emphasised that it is vital to have the newest technology within the e-fulfilment, to attain high efficiency. As observed, it appeared to be of great importance to Dustin to deploy an up to date EDI solution, to expand the extent of drop shipped orders. Further, the VP Group Supply Chain declared that Dustin's purpose of switching the current EDI solution is to enable a faster communication, and integrate with additional distributors.

Randall et al. (2002) enhanced that despite the latest technology, communication between e-tailer and distributor still requires an extensive amount of effort. It is of high importance that the communication between the e-tailer and the distributor is transparent and facilitates faster deliveries (Randall et al. 2002). The VP Group Supply Chain highlighted the current EDI set-up to be a restraint in the development of drop shipping. It is time consuming and difficult to establish the necessary EDI connections between Dustin and the distributors, which in turn restricts the usage of the practice.

At present, these restraints indicate that considerable time and efforts would be required by Dustin to establish drop shipping as a sole fulfilment practice. Furthermore, it could be argued that if any e-tailer practises drop shipping as a sole e-fulfilment method, well-developed EDI connections with every distributor would be necessary. In turn, the conversion to drop shipping is a time-consuming process that prevents e-tailers to establish the practice over a night.

The Project Manager Supply Chain concluded that drop shipping is utilised by Dustin as a means toward an agile and efficient supply chain, relatively than a specific strategy. Thus, indicating that CEEs use drop shipping to decrease fulfilment costs and increase efficiency, without interfering with the service level.

5.3 Preferable E-Fulfilment

The decision regarding preferable e-fulfilment structure depends according to Randall et al. (2002) on the specific company. If consolidations and configurations are of high importance, a traditional structure with warehouses would be more appropriate (Randall et al., 2002). Indicating that a pure drop shipping solution would not be appropriate for Dustin, as Dustin is dependent on configurations and consolidations. Moreover, Dustin offers a wide range of products with somewhat uncertain demands. If these terms apply, Randall et al. (2002) proposes to use a drop shipping structure.

Consequently, Dustin can gain benefits from both the traditional structure and drop shipping, thus indicating that a dual strategy should be the optimal solution, which also is Dustin's current structure. A dual strategy allows Dustin to add value to by configuring and consolidating orders at the warehouses (Head of Local Procurement Nordic). Since prompt deliveries are of importance to Dustin, a combined structure has been selected to be able to provide rapid and

competitive deliveries to customers. In alignment, Tarn et al. (2003) emphasised that customers expect orders to be delivered as promptly as they could place the order. Thus, logistics efficiency is of high importance as sales could be lost if the e-tailer fails to deliver as promised (Stock & Lambert, 2001; Cho et al., 2008).

As evident at Dustin, a dual strategy facilitates acquiring economies of scale through purchasing immense quantities to the warehouse. Additionally, by drop shipping certain orders, the dual strategy enables Dustin to save costs related to stocking inventory and transporting orders. More thoroughly, allowing Dustin to select the most suitable fulfilment alternative regarding price and pace for respective orders. Accordingly, the dual strategy allows Dustin to acquire benefits from both sub-strategies meanwhile avoiding respective drawbacks. Through the dual strategy, Dustin has established predefined operational processes and the possibility to react quickly to fluctuated demands, without compromising the service level.

Moreover, a pure drop shipping approach would not be applicable at Dustin, by reason of certain customers demanding Dustin to have full control over the e-fulfilment. Governmental businesses often request Dustin to fulfil and ship orders from the warehouse as it is considered to be a safer alternative (Head of Local Procurement Nordic). Therefore, to sustain those businesses, Dustin is obliged to have its own warehouse. However, Dustin could still benefit from drop shipping orders without individual requirements in terms of cost savings and efficiency increases. Thus, indicating that Dustin could profit from a combined strategy.

According to Khouja and Stylianou (2009) fragmented orders are a major challenge with drop shipping. Fragmented orders could lead to greater transportation costs as an order may require several deliveries. According to the Head of Local Procurement Nordic fragmented orders are commonplace and accepted among Danish customers. Meanwhile, Swedish customers demand consolidated orders to a greater extent. However, consolidating fragmented orders could result in longer lead-times. Thus, these aspects are vital to evaluate when determining upon preferable e-fulfilment strategy.

In the empirical results, it became evident that Dustin's distributors increase the price for drop shipped orders. Nevertheless, drop shipping remains the cost-effective approach in comparison to the warehouse solution, through a holistic viewpoint. However, if the distributor, in a dual

strategy, makes unreasonable product price increases, the e-tailer has the opportunity to distance itself from the drop shipping practice and extend the use of the traditional structure.

The VP Group Supply Chain and the Project Manager Supply Chain agreed that drop shipping should not be the solitary approach to fulfil Dustin's orders. Since drop shipping is considered to be more affordable and efficient, Dustin aims at increasing the use of the practice. However, the exact extent to which drop shipping is to be used requires further evaluation on transportation costs, according to Randall et al. (2002).

5.3.1 Warehouse Opportunities

In the case of Dustin, it would not be possible to change the e-fulfilment to purely drop shipping on a short-term notice, since approximately three per cent of Dustin's orders are drop shipped in Sweden. Furthermore, about 50 per cent of the orders in Denmark, Norway and Finland respectively, are drop shipped. Meanwhile, the rest of the orders are fulfilled by the country's specific warehouse. The respective countries have different e-fulfilment structures, none of which can fulfil the orders solely by drop shipping. Indicating that it is not possible for Dustin to solitary use drop shipping to fulfil orders. Thus, a preferable warehouse solution in combination to drop shipping requires further examination.

Stock and Lambert (2001) accentuated that sustaining warehouses could constitute expensive risks. Similarly, Harrison et al. (2014) emphasised that preserving a warehouse could result in capital tied up in stock of unsold goods. Dustin has shown awareness of this risk and established a solution with the distributors. The solution provides Dustin with the possibility to return unsold inventories to the distributors. Therefore, Dustin decreases the risk emphasised by Stock and Lambert (2001) and Harrison et al. (2014), indicating that sustaining the warehouses could be viable, which is to prefer as the warehouses are of importance to Dustin. Additionally, the Project Manager Supply Chain highlighted that, if Dustin recognises the turnover rate of products in stock, Dustin could decrease the risk of ending up with obsolete products.

According to De Koster (2003) the e-fulfilment should be outsourced if the daily amount of orders range between 100 and 10 000, in order to acquire economies of scale. The 3PL partner focuses on a smaller set of activities establishing possibilities for better utilisation, and facilitating economies of scale. Dustin sends out approximately 5 000 orders per day from the central warehouse, implying that the central warehouse should be outsourced. Furthermore,

outsourcing the warehouse could lead to increased efficiency, by reason of the specialist knowledge that Rahman (2011) states a 3PL provider occupies. Dustin collects all orders manually in the central warehouse, signifying that collecting orders could become more efficient by outsourcing to a 3PL.

Head of Logistics specified that the central warehouse, with its proactive approach, efficient handling, and fast deliveries, makes Dustin's e-fulfilment competitive. However, to determine if the efficiency could increase further by other warehouse solutions require further evaluations. Nevertheless, the VP Group Supply Chain accentuated that the warehouses, whether outsourced or not, are of high importance to Dustin. Sustaining the warehouses are also necessary for fulfilling long-term relationship customers' demands (VP Group Supply Chain).

Additionally, Richard (2014) highlighted that outsourcing the warehouse could result in increased flexibility. Conversely, the Head of Local Procurement Nordic mentioned that Dustin Denmark finds it problematic to obtain flexibility with the current 3PL solution. Dustin's 3PL solution in Denmark consists of three distributors that drop ship and undertake a 3PL partner role on behalf of Dustin. The Head of Local Procurement Nordic considers the 3PL solution to be imperfect and preventing Dustin from becoming as efficient and flexible as possible in Denmark. Moreover, the settlement hampers the development of a comprehensive 3PL solution that fulfils specific customer demands (Head of Local Procurement Nordic). Additionally, with the current solution it is not possible to store incoming goods from several distributors at any of the current 3PL's.

The Head of Local Procurement Nordic further believed that the solution could become less complicated if Dustin would combine drop shipping with an in-house warehouse in Denmark. The in-house warehouse could contribute to increasing the flexibility and decreasing the complexity of storing goods from multiple distributors.

The highlighted challenges related to the 3PL solution in Denmark could indicate that a likewise solution in Sweden would not be of preference. If the aforementioned challenges are to be expected when outsourcing the warehouse, Dustin Sweden may be better of sustaining the central warehouse. Nevertheless, utilising another outsourcing option could still be of interest for Dustin Sweden, as outsourcing may contribute to desired benefits.

Lastly, the preferable e-fulfilment method for Dustin Sweden is to maintain the current dual structure. However, to what extent the orders should be fulfilled by drop shipping or through the warehouse requires further evaluation.

6 Conclusion

The following section aims to answer the research questions based on the highlights of the analysis as well as delimitations as indicated in the delimitation chapter. The conclusion will follow the same structure as the outlined research questions. Furthermore, suggestions for future research will be discussed.

6.1 How is Drop Shipping Related to Outsourcing Management

Firstly, to understand how drop shipping is related to outsourcing, it is important to highlight the main similarities and differences among the practices. Equal to outsourcing, drop shipping is utilised as a practice to achieve higher e-fulfilment efficiency, by relocating work to another actor. However, in the case of drop shipping the work is transferred to the distributor instead of a 3PL partner as in the case of outsourcing. The relocation of work in drop shipping and outsourcing allows the e-tailer to focus more on core competencies. Thus, the two practices could result in increased flexibility and decreased costs in facility, labour and transportation.

Despite similar outcomes, the two practices influence the supply chain differently. Drop shipping aims at utilising the existing partners in the supply chain, therefore the number of actors remain unaffected. Whereas the number of supply chain actors increase with outsourcing.

Moreover, when practicing drop shipping the e-tailer resigns the inventory responsibility. Consequently, the e-tailer will not be able to decide upon the quantity of inventory stored at the distributor. In contrast, outsourcing provides the e-tailer the opportunity to determine the amount of inventory that should be stocked at the 3PL. The last major difference between the practices is the cost aspect. Drop shipping does not require payments to the actor performing the e-fulfilment, meanwhile e-tailers reimburse the 3PL to perform the outsourced task.

When evaluating if drop shipping could be seen as outsourcing, the definition of outsourcing becomes significant. If the eminent part is that outsourcing means letting someone else perform the work, then drop shipping may be related to outsourcing. However, if other aspects are more eminent, for instance the inventory ownership, then drop shipping may not be related to outsourcing.

Another vital aspect is that the supplier full managed strategy is defined as outsourcing, meanwhile it is performed in the same manner as drop shipping. Therefore, if the supplier full managed strategy is identical to drop shipping, but defined as outsourcing, drop shipping should also be regarded as outsourcing.

The statements regarding drop shipping's relation to outsourcing differed in previous research. Netessine and Rudi (2004) separated drop shipping from outsourcing, meanwhile Chen et al. (2005) and Chen et al. (2011) defined outsourcing and drop shipping as equivalent concepts. These discussions in previous research regarding whether drop shipping could be seen as outsourcing, indicated that an initial thought in which drop shipping could essentially be related to outsourcing has existed.

In conclusion, a clear relationship among drop shipping and outsourcing cannot be defined, as both practices are connected as well as separated by vital aspects. It could be argued that drop shipping is an evolution from outsourcing, as both similarities and dissimilarities exist. However, in order to clearly define a relationship, outsourcing must be developed and renewed to incorporate drop shipping.

6.2 Why is Drop Shipping Used by E-tailers and What are the Associated Benefits and Risks

The e-fulfilment is considered to be the most ambiguous challenge for an e-tailer, as e-tailers are faced with extensive customer demands on prompt deliveries. Drop shipping has become a common practice, as a response to the customer requirements and in line with the desire to become more financially stable meanwhile increasing efficiency. By utilising drop shipping the e-tailer is able to exploit the distributors to perform the e-fulfilment on the e-tailers behalf.

The associated advantages of drop shipping for the e-tailers are no extra investment costs in storage space, the opportunity to offer a broad assortment without maintaining it in-house, avoiding inventory and transportation costs, and increased product availability. Consequently, drop shipping entails the ability of providing prompt deliveries by reducing one additional step for the order to pass through. In addition, drop shipping provides benefits for the distributor. Economies of scale in transportation can be acquired through managing inventory for several e-tailers. Complexity can be decreased through attaining more order fulfilment occupation, thus

stabilising fluctuated demands. Drop shipping favours the e-tailer and the distributor, and since the practice is favourable, the use of the practice will likely increase.

However, drop shipping also entails related drawbacks concerning communication efforts and decreased price margins. The practice requires extensive efforts to maintain an efficient communication among the e-tailer and the distributor, which becomes evident in the deliveries. Adequate communication enables precise and fast deliveries, whereas inadequate communication entails delayed deliveries. E-tailers may also face increased order costs when transferring the e-fulfilment responsibility to the distributors. However, the transportation costs will significantly decrease with drop shipping, thus the e-tailer should remain unaffected by the increased order costs.

To conclude, e-tailers exploit drop shipping as a response to the pressure of sustaining an efficient e-fulfilment without increasing costs and hampering the service level. Furthermore, it is utilised as a means toward achieving an agile and efficient supply chain.

6.3 Can Drop Shipping be Used as a Sole Order Fulfilment Method for a Consumer Electronics E-tailer

If the CEE is dependent on consolidations and configurations, drop shipping should not be considered as a preferable sole e-fulfilment method. Further evaluation is required to determine if it would be a possible solution for other CEEs that do not consolidate or configure any orders.

Based on the case study performed at Dustin, a CEE. Drop shipping could not be used as a sole order fulfilment method for CEEs possessing customers with special requirements. As evident in the case study, special requirement could involve safety regulations that requires the CEE to maintain the entire control over the orders. Acquiring drop shipping as a sole fulfilment method could also be hampered if the CEE desires to perform the necessary configurations and consolidations at own warehouse and according to own standards. However, by undertaking extensive evaluations, the possibility of allowing the distributor to perform consolidations and configurations can be determined. Especially, if a CEE does not experience similar customer requirements regarding safety, or consolidations could be performed by the distributor without increasing costs or impairing the CEEs standards.

Dustin experienced drop shipping to be a great complement to the existing warehouse solution and that the dual strategy corresponds well with Dustin's needs. The dual strategy generates different advantages as well as disadvantages, and the combination would allow CEEs to decrease the associated risks that both incorporated solutions could entail separately.

Ultimately, the drawbacks related to the use of drop shipping as a sole order fulfilment, constraints CEEs, if they are dependent on secure configurations and fast consolidations. Currently, drop shipping could be seen as a relatively new practice. However, if the practice would be further developed it could become feasible for the distributor to perform consolidations and configurations on behalf of the CEE. Consecutively, it could become easier to utilise drop shipping as a sole e-fulfilment method.

6.4 Future Research

Drop shipping within e-commerce is a relatively new research area and no previous research covering the relation between drop shipping and outsourcing has been encountered. Research that encompasses drop shipping has mainly maintained a quantitative focus. Therefore, it would be of interest to continue contributing to and extend the qualitative research area within drop shipping. Furthermore, it could be intriguing to examine how consolidations could be improved and executed with drop shipping, or the possibility to combine drop shipping with cross docking.

This research has focused on a CEE's perspective on drop shipping. For future reference, other supply chain actors' standpoint could contribute to a more comprehensive understanding of drop shipping. In this case study, the CEE manages customers with special safety demands, which prevents the e-tailer to adapt drop shipping as a single e-fulfilment method. Accordingly, due to these encountered restrictions, for future research it could be interesting to focus on CEEs with no safety demands. Furthermore, investigate whether drop shipping could be more beneficial for other types of e-tailers in different sectors.

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8 Appendix

8.1 Interview Questions – VP Group Supply Chain

- What is your job title and job description?
- What do you consider Dustin's core competence to be?
- What parts of the logistics-/distribution system are outsourced?
  - To what purpose?
- How do you classify drop shipping?
- What is Dustin's warehouse strategy?
- Is Dustin experiencing any deficiencies in the current warehouse strategy?
- How does Dustin work with fulfilling orders?
- Do you continuously work with improving Dustin's current order fulfilment process?
- Who initiated drop shipping at Dustin?
  - Why?
- What is the purpose with drop shipping?
- What are the advantages and disadvantages with drop shipping for Dustin?
- What does Dustin's drop shipment process look like?
  - Is it different from how Dustin handles regular orders?
- Can all of Dustin's products be drop shipped?
- Are various departments affected by the use of drop shipping?
  - How?
- Does Dustin continuously develop new drop shipping collaborations?
- Is Dustin's negotiating position affected by the use of drop shipping?
- How do you communicate with your drop shipping suppliers?
- What criteria does Dustin have when selecting drop shipping supplier?
- What do you consider to be the main difference between drop shipping and having a 3PL warehouse?
- What do you consider to be the main difference between drop shipping and having an in-house warehouse?
- What trade-offs are taken into account when calculating on drop shipping?

8.2 Interview Questions – Head of Logistics

- What is your job title and job description?
- What do you consider Dustin's core competence to be?
- What proportion of Dustin's products are configured?
- Where are the configurations performed?
- How do you go about when you perform the configurations?
- What products can be configured?
- What parts of the logistics-/distribution system are outsourced?
    - To what purpose?
- What criteria was the selection of outsourcing companies based on?
- How many products does Dustin stock in the warehouse?
- What is Dustin warehouse strategy?
- What differentiates Dustin's warehouses?
- Does Dustin experience any weaknesses in the current warehouse strategy?
- Why did Dustin start with drop shipping?
- How do you classify drop shipping?
- What do you consider being the advantages and disadvantages of drop shipping?
- Does Dustin have a standardised approach when working with drop shipping?
- Is it possible to drop ship all of Dustin's products?
- Are Dustin's various departments affected by the use of drop shipping?
- Does Dustin continuously develop new drop shipping collaborations?
- Is Dustin's negotiating position affected by the use of drop shipping?
- How does Dustin communicate with the drop shipping suppliers?
- Does the information exchange differ in comparison to the regular orders?
- What criteria does Dustin have when selecting drop shipping supplier?
- Does Dustin have the same delivery costs and times with drop shipping as with regular orders?
- Are the customers able to pay more to receive their order quicker?
- Is the customer able to choose receiving a fragmented order to receive the order more rapidly?

8.3 Interview Questions – Head of Local Procurement Nordic

- What is your job title and job description?
- What do you consider Dustin's core competence to be?
- Does the central warehouse in Sweden differ from the warehouse in Denmark?
- Does the order fulfilment by3PL differ from drop shipping?
- Why has Dustin chosen the different warehouse strategies?
- Why does Dustin not own a warehouse in Denmark?
- Is Dustin's current solution optimal according to you?
- Why are only Danish distributors used in Denmark?
- Does Dustin obtain information regarding inventory levels at the 3PL?
- How much do you purchase from manufactures?
- What do you consider to be the advantages and disadvantages of drop shipping?
- When was drop shipping applied at Dustin AB?
  - To what purpose?
- Has the technology development impacted the drop shipping practice at Dustin?
- How many of your suppliers drop ship?
- Why have only three suppliers been selected for drop shipping in Sweden?
- Does the supplier take out any fees for performing drop shipping?
- Are drop shippers able to ship several order rows?
- Is it possible to drop ship all of Dustin's products?
- Do you consider that the working tasks have been affected by drop shipping?
- Do you believe that Dustin's negotiation position has changed since Dustin started with drop shipping?
- How does Dustin communicate with the drop shipping suppliers?

8.4 Interview Questions – Project Manager Supply Chain

- What is your job title and job description?
- What do you consider Dustin's core competence to be?
- What parts of the logistics-/distribution system are outsourced?
  - To what purpose?
- How do you classify drop shipping?
- What strengths and weaknesses do you consider Dustin's current warehouse strategy to have?
- What is Dustin's current drop shipping strategy?
  - What are the future expectations?
- What is Dustin's purpose with drop shipping?
- What are the advantages and disadvantages with drop shipping for Dustin?
- What does Dustin's drop shipment process look like?
  - Is it different from how Dustin handles regular orders?
- Can all of Dustin's products be drop shipped?
- Are various departments affected by the use of drop shipping?
  - How?
- What do you consider to be the main difference between drop shipping and having a 3PL warehouse?
- What do you consider to be the main difference between drop shipping and having an in-house warehouse?
- What trade-offs are taken into account when calculating on drop shipping?
- What order fulfilment solution do you consider to be the preferable solution for Dustin?

8.5 Interview Questions – Local Drop Shipping Purchaser A & B

- What is your job title and job description?
- What responsibilities do you hold concerning drop shipping?
- What is Dustin's purchasing strategy?
- Are the drop shipping purchases different from regular purchases?
- How is the regular purchasing department affected by drop shipping?
- Has the contact between the purchasing department and other departments been affected?
- Does drop shipping affect Dustin's warehouse strategy?
- How many drop shipping orders do you manage on a daily basis?
- How many suppliers are you responsible for?
- Do you experience any shortcomings in Dustin's current purchasing strategy?
- What do you consider to be the advantages and disadvantages of drop shipping?
- Do you have a standardised way of working with drop shipping?
- How is your drop shipping process formed?
- Is it possible to drop ship all of Dustin's products?
- What negotiation power do you hold with drop shipping orders?

8.6 Interview Questions – Distributor

- What is your job title and job description?
- How is your current collaboration with Dustin formed?
- What products do you deliver to Dustin?
- What solutions do you offer Dustin?
- Do you consider your current solution with Dustin to be the optimal solution for you?
- Do you provide the same delivery solutions to all your customers?
- Have you considered other delivery options?
- How does the distribution of orders look like, in terms of size?

8.7 Interview Questions – Drop Shipping Distributor

- What is your job title and job description?
- How is your current collaboration with Dustin formed?
- What products do you deliver to Dustin?
- What solutions do you offer Dustin?
- What is the distribution between drop shipped orders and regular orders?
  - What do you consider to be the optimal division for you? (Among drop shipped orders and regular orders)
- Do you provide the same delivery solutions to all your customers?
- Do you have a warehouse designated to drop shipping orders?
- Do you consider your current solution with Dustin to be the optimal solution for you?
- What do you identify as your biggest obstacle when it comes to drop shipping?
- Does drop shipping change your everyday business?