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# Reverse Logistics

Case study comparison between an electronic  
and a fashion organization

Master's thesis within Logistics

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## Master's Thesis in Logistics

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## **Abstract**

A large number of organizations that offer products today are experiencing returns; whether it is the return of a book from an online book store, the return of a television to the electronic retailer or a garment to a fashion retailer. How organizations handle product returns (reverse logistics) differs and also how much focus each organization places on it, because after all; it is extremely difficult to actually make revenue on reverse logistics. Why spend time and money on it?

This study focuses on comparing an electronic and a fashion organization, how they both are conducting reverse logistics in regards to e-commerce. This is of interest to examine and add to the literature based on research focusing on a comparison between two organizations of a different nature in terms of their reverse logistics.

Furthermore, it was of interest to study how each organization operates internally. For example, what are the barriers and drivers of reverse logistics, do they work proactively or reactively and what is the focus in regards to recycling of products?

A case study research strategy was applied with an inductive approach. Data was collected through semi-structured interviews with each organization where qualitative data was gathered. Secondary data was collected from literature sources such as academic journals and books. Data was analysed in order to structure the large amount of data to be able to compare the two organizations and draw conclusions.

From analysing the data it is concluded that both the electronic and the fashion retailer are experiencing a great amount of returns, which generally follows the sales trend. Furthermore, the two organizations are similar in several aspects regarding reverse logistics although they are selling different products. One of the main drivers for both organizations in regards to reverse logistics is satisfying their customers. Finally, one of the main barriers for each organization was the costs that play a major role in reverse logistics.

Overall, the study shows that it greatly depends on the nature of the products how reverse logistics processes are handled in the organization.

## **Abbreviations and Terminology**

**B2B:** Business to Business - the exchange of products, information and services between organizations as opposed to between organizations and consumers (B2C).

**B2C:** Business to Consumer - business or transactions made directly between an organization and consumers who are the end-users of its products or services.

**CSCMP:** Council of Supply Chain Management Professionals

**E-business:** Electronic Business - the use of information and communication technologies (ICT) to support the activities of businesses.

**E-commerce:** Electronic Commerce - any process that involves exchanging ownership of or rights to use goods and services through electronically linked devices that connect interactively within networks.

**ICT:** Information Communication Technology - set of technological tools and resources which are diverse and used to communicate, produce, disseminate, store, and manage information.

**IT:** Information Technology - A collection or subset of technologies used to collect, share and/or organize information.

**3PL:** Third Party Logistics - An arrangement where a specialist organization assist an outsourcing organization with a long and wide-ranging supply chain.

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# 1 Introduction

## 1.1 Background

Logistics and supply chain management play a vital role in organizations and are constantly changing. How organizations operate and manage their supply chains are shifting in today's dynamic market. Reverse logistics is a part of supply chain and logistics management.

Logistics has been given more and more attention in the academic world, since it first appeared in the early 1900s (Kent, Jr. & Flint, 1997). Kent Jr. and Flint reviewed the history of logistics; first appearing in the academic world in the early 1900s, in the agricultural industry with the focus on transporting products from farms to the point of sale. Furthermore, logistics was a major factor in the military, especially during World War II. During the war; efficient transportation of troops and supplies was of great importance. In the beginning of the 1960s; the term integrated logistics emerged and the main focus was on an entire system of activities collaborating with each other. In the 1970s, the primary focus was aimed at the customer and customer service; and as late as the 1980s, logistics started to be viewed as a differentiator for an organization and as an activity in the organization's strategy toolbox to gain competitive advantage.

Grant, Lambert, Stock and Ellram (2006, p. 3) define logistics as “...*the management of the flow of goods or materials from one point of origin to point of consumption, and in some cases even to the point of disposal*”. The Council of Supply Chain Management Professionals (CSCMP) include the activities in their definition and define logistics management as “...*that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverses flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements*” (CSCMP, 2012).

Rogers and Tibben-Lembke (1999, p. 2) identified that reverse logistics involves the same activities as forward flow and they define reverse logistics as “*The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal*”.

Today, a large percentage of what is sold has the risk/chance of being returned. Norek's (2003) research shows that the results vary greatly between industries, but it can range between 3 to 50 per cent in some sectors (cited in Langley, Coyle, Gibson, Novack, and Bardi 2008). Furthermore, the costs of reverse logistics vary, Stock (1998) concluded that the cost of moving a product back from the consumer to the producer could be as much as nine times compared to the forward flow (cited in Grant et al. 2006).

Organizations today, such as IBM, Xerox, Kodak, ASOS, General Motors, Apple, Vodafone, Volvo, Estee Lauder and Canon are all focusing more attention on reverse logistics and have adapted their corporate culture and supply chain to be more flexible towards reverse logistics (Canon, 2012; Xerox, 2011; Xerox, 2010; Canon, 2012; Fleischmann, Boemhof-Ruwaard, Dekker, van der Laan, van Nunen & Van Wassenhove, 1997; Stock, Speh & Shear, 2002; Unipart, 2007).

There are several different drivers for reverse logistics, such as customer preferences and shortening of product lifecycle (Carter & Ellram, 1998; Tan, Yu & Arun, 2002) in addition to the traditional economic and marketing factors which Fleischmann et al. (1997) pro-

posed. Furthermore legislative and environmental issues/factors are two driving forces that are more important in some sectors (Stock et al. 2002).

Due to the fact that products are changing, technology is getting more advanced and products involve more parts that possibly can be hazardous; product return has to change as well. Today's mobile phones, computers, and kitchen appliances for example all contain some hazardous material and need to be returned properly in compliance with environmental regulations (Lee, Chang, Wang, Wen, 2000). As Lee et al. (2000) recognized, the waste of such products can contain hazardous material such as bromide, mercury and lead which all need proper disposal. However, how far organizations have advanced today regarding their reverse logistics processes varies.

This study will focus on two industries, first the electronics industry which is characterized by products with medium to high prices, short life cycle and products with possible hazardous material which requires proper disposal. Secondly, a fashion organization will be included, which is characterized as fast fashion and where the products are usually at a lower price.

The organization from the electronic industry is Elgiganten and the organization from the fashion industry wished to be anonymous due to the policy of their organization.

## **1.2 Electronic retailer**

Elgiganten is part of the Eljøp corporate group and entered the Swedish market in 1994. Eljøp is a Norwegian electronics retailer chain which is owned by Dixons Retail. As of 2012, Elgiganten have over 70 stores around Sweden. All purchases to stores and customers are made through the Nordic basis and the products are all ordered to a Nordic centralized warehouse in Jönköping. Elgiganten sell a wide range of products, including white and brown goods, telecommunications and information technology goods. The warehouse works as a central warehouse for products for all stores in the Nordic region (Elgiganten, 2012). Elgiganten are also increasingly selling from their web shop which is still barely new for them.

## **1.3 Fashion retailer**

The fashion retailer in this study is a Swedish retailer which sells clothes and accessories with stores all over the world and with a well-developed internet store. They have over 2000 stores and over 90000 employees all over the world. They have a business vision where their activities should be performed in an economically, socially and environmentally sustainable manner.

## **1.4 Problem discussion**

Management of organizations have had a tendency to see reverse logistics as a problem and therefore wished to not devote any time and effort to it. Previously, managers have considered product returns as a waste stream and not a source of potential value (Langley et al. 2008). Why would organizations spend money and resources on getting products back instead of selling new ones?

Economically; organizations can not only save money on reverse logistics, there are good possibilities to earn money on it. Reverse logistics can be a strategic tool (Rogers and Tibben-Lembke, 1999), which organizations can draw benefits from. Therefore, great deals of companies today are seeing reverse logistics as a strategic activity, which can enhance their

strategic position towards their competitors. Furthermore, developments such as the growth of direct online selling of products and services force companies to have an effective returns management process because the return rate has increased which will be a part of this study.

There is also an environmental aspect with reverse logistics where customers may see an organization as environmentally conscious by their return policies and therefore might prefer it over another organization (Fleischmann et al. 1997). Being environmental conscious and have a green profile could improve an organization's market position compared to competitors (Rogers and Tibben-Lembke, 2001).

On the other hand, questions have arisen concerning profitability. Is it actually worth sending back an item worth 50 SEK? Organizations have to consider both the internal and external costs of reverse logistics. The internal costs could for example be the work having to be done by the employees within the organization. The external costs, in this case, could be explained as the environmental issues that arise when transporting the goods.

Another issue with reverse logistics regards the handling of the products. Is it judicious to transport the product with respect to quality and safety? Products usually go through several warehouses and trucks and chances of vulnerable products getting damaged increases for each distance the product has to travel.

The electronic and fashion industries both have a fairly high level of product returns which requires sophisticated reverse logistics processes. In discussions with Elgiganten from the electronic industry, it appeared that they considered that the fashion industry was similar to their industry but with some differences which makes that industry even more difficult to handle the supply chain and reverse logistics. For example, Elgiganten considered that the fashion industry had even shorter product life cycle and even more unpredictable market which is performed more on a global scale due to the lower price of the products (comparing a skirt with a television).

Elgiganten was also concerned that; with the emergence of e-commerce and the shortening of product life cycles, reverse logistics has become even more important. It is more important for organizations to effectively handle their reverse logistics to be able to satisfy their customers and make a profit.

Therefore, the authors are interested in examining and comparing the electronic retailer's reverse logistics with a fashion retailer's reverse logistics in regards to e-commerce. What is the main focus of both organizations when handling their reverse logistics and what are their respective barriers and drivers?

## **1.5 Purpose**

The purpose of this study is to investigate the different aspects of reverse logistics and how these influence the two selected industries; electronic and fashion. A case study will be conducted in an electronics retailer, Elgiganten, and with an organization from the fashion industry, in order to make a comparison. Focus will be upon how the investigated organizations manage reverse logistics and how they handle the aspects of reverse logistics. Focus will be put upon purchases of products made through Internet and then returned.

## 1.6 Research question

Based on the literature review, a gap in the knowledge has been detected in reverse logistics. With respect to the following research questions;

- What are the similarities and differences in managing reverse logistics between an electronics retailer and a fashion retailer?
- What are the main drivers and barriers for reverse logistics in each industry?
- What influences reverse logistics in each industry?

## 1.7 Delimitations

This study is limited to organizations that are located in Jönköping. The intention is to investigate two organizations, one within the electronic industry and one in the fashion industry. The choice of these two industries is because of the possibility to benchmark these two industries. (The fashion industry is also experiencing a great deal of return flow with the beginning of Internet shopping. Therefore, fashion organizations must develop a comprehensive system to be able to manage and handle the reverse flow of products.) (The electronic industry is experiencing increasing reverse flow and to be able to satisfy their customers; they need to be able to handle and manage the reverse flow.) The study will focus on online selling within Sweden and products that are sent back within Sweden.

The authors and the respondents from Elgiganten agreed that organizations such as ZARA, H&M and ASOS have a competitive and overall good reverse flow system. It was agreed that it would be useful to research and benchmark whether a fashion organization had similar problems and focuses on similar operations as the electronic retailer.

## 1.8 Outline of thesis

Section 1: Introduction	This section introduces the subject and describes different concepts. It also outlines the problem and limitations of the study.
Section 2: Literature review	The models and theories that will be used in the study will be described in this section, as well as the secondary data collected.
Section 3: Methodology	This section describes how the data will be gathered and how this study will be written and conducted.
Section 4: Empirical findings	This section is the presentation of the empirical data and findings.
Section 5: Analysis	An analysis based on the findings and the use of the theoretical framework will be presented in this section.
Section 6: Conclusion	This section is used to summarize the study.

## 2 Literature review

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*The following chapter is a literature review and will build the foundation for the study. The main focus is on theories and terms related to reverse logistics. Furthermore, the concepts of supply chain, supply chain management, logistics and logistics management are presented. Finally, this chapter defines e-commerce and related terminologies which relates back to the purpose of the study.*

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### 2.1 Supply chain

The goal of a supply chain and all of the parties involved is to directly or indirectly fulfil a customer request or a customer demand and generate profits for itself. Supply chains are generally seen as dynamic and involve a constant flow of products, information, and funds between the different stages. Langley et al. (2008) define that a supply chain is an extended initiative that crosses the boundaries of individual organizations to lengthen the related activities of all the companies involved in the total supply chain. Lummus and Alber (1997), on the other hand, define a supply chain as the network through which entities' materials flow. The entities in this network may include suppliers, carriers, manufacturing sites, distribution centres, retailers, and customers.

#### 2.1.1 Supply chain management

The CSCMP (2012) define supply chain management as the planning and management of all activities involved in sourcing and procurement, conversion, logistics management activities as well as manufacturing operations. Supply chain management drives the coordination of processes and activities with and across marketing, sales, product design, finance and information technology (IT). Supply chain management comprises the coordination and collaboration with suppliers, intermediaries, third party logistics (3PL) providers and customers. Essentially, supply chain management is an integrating function with a primary responsibility to link major business functions and business processes within and across companies into a cohesive, high-performing business model that integrates supply and demand management.

Supply chain management also tries to avoid rapid changes in stock levels at supply chain members which occur when individual order policies remain uncoordinated, also known as the bullwhip effect (Schultmann, Zumkeller, Rentz, 2004).

### 2.2 Logistics

Logistics is a subject that has received more focus and is widely recognized by the general public in the past 20 years. Transportation companies such as DHL, FedEx and UPS are frequently referred to as logistics organizations and their emphasis is on overall logistics success. In the 1990s, The Persian Gulf War almost certainly contributed to the increased recognition of logistics in the US, due to CNN news commentators' frequent mention of the logistic challenges related to the 7,000 mile long "supply pipe-line" to support the war effort in the Persian Gulf countries (Langley et al. 2008).

CSCMP (2012) define logistics as the process of planning, implementing, and controlling procedures for the efficient and effective storage of goods, services, and related information. This is done from the point of origin to the point of consumption for the purpose

of conforming to customer requirements. Langley et al. (2008) claim that logistics, in its simplest form, is added inbound logistics to the outbound logistics of physical distribution.

### **2.2.1 Logistics disciplines and activities**

Russell (2000) considers logistics to have four sub disciplines:

- Military or engineering logistics: Concerns the design, integration and supportability of all aspects for operational capability of the military forces, both deployed or in garrison. Military or engineering logistics should also ensure readiness, reliability and efficiency for the equipment.
- Business logistics: Concerns the planning and organization of supply sources, inventories, transportation, distribution networks, related activities, and the supporting information to meet customer requirements.
- Event logistics: Concerns the network of activities, facilities and personnel required to organize, schedule, and deploy an event. Event logistics is characterized by the deployment of the resources and the withdrawal of resources according to the events schedule and planning.
- Process logistics: Concerns the acquisition, scheduling and management of both human and material resources to support a service. The main goal of process logistics is to create a framework for a process to occur through coordination of employment of facilities, capital assets and service personnel.

There are numerous activities a logistics organization might handle. Langley et al. (2008) have summarized an extensive list of the activities a logistics manager could have control over:

- Transportation
- Warehousing and storage
- Packaging
- Materials handling
- Inventory control
- Order fulfilment
- Demand forecasting
- Production planning/scheduling
- Procurement
- Customer service
- Facility location
- Return goods handling
- Parts and service support
- Salvage and scrap disposal

### **2.2.2 Logistics management**

CSCMP (2012) define logistics management as “... *the part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements*”. CSCMP also explain that logistics management is an integrating function which organizes and optimizes all logistics activities with other functions, which include marketing, sales, manufacturing, finance, and IT.

## **2.3 Differences between forward and reverse flow**

Tibben-Lembke and Rogers (2002) identify fifteen differences between reverse and forward logistics, this involves forecasting, transportation, product and packaging quality, pricing, marketing methods and visibility of information in the supply chain (see full list in appendix 1):

- Forecasting is more difficult in reverse logistics because of the greater uncertainty involved in reverse logistics.

- Transportation costs tend to be higher in reverse logistics; this is due to several factors. First of all, the higher costs can be because of lack of planning in modes of transportation, routes and other strategic choices involved in transportation. Furthermore, as Fleischmann et al. (1997) state, forward logistics is often movement from one-to-many destinations, reverse logistics on the other hand is many-to-one movement.
- Products in forward logistics are packaged by professionals, which protects it in transit from damage. The packages are furthermore optimized to be handled easily. In contrast, the products in reverse flow may be inadequately packaged and may be further damaged during transit and may be hard to stack neatly to optimize the space during transport.
- The pricing of the products going forward is often uniform because the quality is uniform, however some variations can be due to market demand and other factors. When products are getting returned; they are often not in a new condition and therefore the price for reselling it have to be different.
- Marketing methods for returned products can be more difficult compared to new products. New products are more profitable and therefore more marketing focus is given to them.
- The visibility in reverse logistics is lacking compared to forward logistics because of the lacking information system resources that is required to do this. Additionally, because, the lacks of focus on reverse logistics; the resources to fix this are often not available.

## 2.4 Reverse logistics

This part of the literature review presents and explains reverse logistics and other closely related theories which are of main focus of the study.

### 2.4.1 Defining reverse logistics

In 1981, one of the earliest definitions of reverse logistics was set by Lambert and Stock, they defined it as "*going the wrong way on a one-way street because the great majority of product shipments flow in one direction*" (cited in Rogers and Tibben-Lembke, 2001, p. 129). They recognized three problems regarding products flowing in the wrong direction in a supply chain (cited in Pohlen and Farris II, 1992):

- Most of the logistics systems are not equipped properly to handle the movement of products going backwards.
- The costs of reverse distribution can be as much as nine times more than the normal forward flow.
- The goods being returned cannot be transported and/or handled in the same way as in the forward flow.

There are several definitions of reverse logistics and there is a different focus in the different definitions. Carter and Ellram (1998, p. 85) had an environmental focus when they defined it as "*the process whereby companies can become more environmentally efficient through recycling, re-using, and reducing the amount of materials used*". In their definition, the focus was on reducing the environmental impact of logistics activities and the supply chain.

Another definition that has an environmental focus and includes activities involved is the definition by Kokkinaki, Dekker, van Nunen and Pappis, (1999, p. 1); “...activities include collection, disassembly and processing of used products, product parts, and/or materials, in order to ensure a new use or an environmentally friendly recovery”. Furthermore, more up-to-date research recognizes the environmental importance that reverse logistics have today. Lee et al. (2000) as mentioned before recognizes the importance of proper disposal of waste. Especially in the electronic industry, most of the products can be remanufactured or recycled to recapture value of the product (Hung Lau and Wang, 2009). Furthermore, consumers are today demanding organizations to minimize the impact that products and services has on the environment.

Kokkinaki et al. (1999) mentioned that reverse logistics involves all the operations related to the reuse of materials. Another general definition was made by Murphy and Poist (1989), they defined it as; “...the movement of goods from a consumer towards a producer in a channel of distribution” (cited in Pohlen and Farris II, 1992, p. 36). Their research emerged due to recycling which then had received great attention in regards to reverse logistics. In early views; reverse logistics could be the result of three reasons (and sources) (Murphy, 1986):

- It could be customer initiatives, where the customer returned defective products
- Recycling from initiatives from industries
- Product recalls done by government initiatives.

#### **2.4.2 Reverse logistics as a strategic tool**

Previously, reverse logistics was viewed as a cost centre that needed to be controlled and/or reduced (Langley et al. 2008). Furthermore, the reverse flow was viewed as not adding any value for the organization, Rogers and Tibben-Lembke (1999) documented several companies where reverse flow was viewed strictly as a cost centre and due to that; costs of reverse logistics became greater. Additionally, Mollenkopf and Closs (2005) also recognized that reverse logistics previously was not viewed as a strategic tool but rather as a necessary cost for the business, a green “have to” or a regulatory agreement. However, additional organizations started to believe that reverse logistics can be a strategic tool. Research by Rogers and Tibben-Lembke (2001) (two years later) showed that two thirds of the respondents in their research considered reverse logistics as a strategic tool. Furthermore they recognize that good reverse logistics practices can lower the customer’s risk when buying products and as a result; make an organization more competitive because the product can be returned more easily.

How efficient an organization handles their reverse flow in the supply chain will have a powerful impact not just on costs, but also on revenue and customer goodwill. Research by Mermelstein (2006) shows that if the return management of products is convenient for customers, then they are more likely to shop, and if the return management is troublesome, they are not likely to shop there again (cited in Jack, Powers and Skinner, 2010). Organizations today cannot ignore the reverse flow of products and how they handle it because volumes of returns are increasing world-wide (Stock et al. 2002).

Reverse logistics is a part of returns management which in turn is a part of supply chain management (Mollenkopf and Closs, 2005). Activities involving reverse logistics are often reactive in nature instead of proactive which means it is often a result of a consumer or downstream channel member action and not a result of a planning decision of an organization (Tibben-Lembke and Rogers, 2002). However, organizations can behave proactively to avoid/handle reverse flow. Proactive management of reverse flow can have positive impact on the financial position of an organization (Langley et al. 2008).

### **2.4.3 Considerations regarding reverse logistics**

The Reverse Logistics Educational Council proposes that organizations should take into careful consideration to the following issues (cited in Langley et al. 2008, p. 583-584):

- Gatekeeping – eliminate/minimize unnecessary returns/handling by controlling and screening products at entry point.
- Avoidance – avoid returns by producing high-quality products and adopt appropriate processes.
- Reducing reverse cycle times – enhance value recapture by reducing the time for returns.
- Return centres – the strategic choice of location and facility layout of return centres to maximize value and cut costs.
- Information systems – improve visibility of products, reduce uncertainty and maximize economics of scale by developing/adopting an efficient information system.
- Pricing – negotiating the best price for products being returned and resold.
- Asset recovery – maximize returns and minimizes costs by proper disposal of returned items.
- Remanufacture and/or refurbishment – maximize value recapture (usually in closed loop supply chains) by preparing and repairing a products for resale.
- Outsourcing – Consider assistance from a third party to handle and manage the reverse flow if the focal organization does not have the expertise themselves.
- Zero returns – developing a policy to exclude returns by giving a returns allowance and/or destroying the products in the field.
- Financial management – developing guidelines to properly account for charges against sales and related financial issues when products are returned by customers.

### **2.4.4 Possible reasons and sources for reverse logistics**

De Brito and Dekker (2003) list three main categories why a sender returns products; manufacturing returns, customer returns, and distribution returns

Furthermore, Langley et al. (2008) mention eight categories of reverse flows reasons and sources:

- Products that are obsolete or near the end of their shelf life, but still have some value for resale or salvage
- Products that have failed, but can be repaired or remanufactured and resold
- Overstocked products that are unsold at retail level and may have resale value
- Recalled products for quality or/and safety issues
- Products that are pulled back for repair and quickly returned to service
- Products that can be recycled, such as computer inkjet cartridges
- Products/parts that can be remanufactured and resold
- Scrap metal that can be used as raw material for additional manufacturing.

Depending on the source of the reverse flow, reverse logistics can be classified into several categories (Tibben-Lembke and Rogers, 2002):

- Return from manufacturer to supplier

- Retail customer returns
- Catalogue/e-commerce customer returns
- Retailer returns.

### **2.4.5 Drivers of reverse logistics**

The definition mentioned earlier by Rogers and Tibben-Lembke (1999) highlights the processes included in reverse logistics, namely; planning, implementing, and controlling the flow of goods. They furthermore recognize that there are numerous factors affecting the practice of reverse logistics; namely external and internal practices. These factors can both be drivers and barriers of reverse logistics.

External factors include:

- Legislations
- Public awareness
- Support from supply chain partners.

Internal factors include:

- The importance of reverse logistics compared to other subjects
- Policies of the company
- Top management commitment
- Technological system
- Financial resources, just to mention a few of them.

Furthermore, they identified six strategic roles/drivers for reverse logistics; competitive reasons, clean channel, legal disposal issues, recapturing value, recovering assets and protecting margin.

Based on a literature study, Carter and Ellram (1998) identified customer preferences and regulation as the major stimulating factors and drivers. The shortening life cycle of products is another issue/driver that has resulted in reverse logistics importance (Tan et al. 2002).

Fleischmann et al. (1997) listed the drivers of reverse logistics as:

- Economic
- Marketing
- Legislative
- Asset protection.

Economic drivers mean that with reverse logistics, it is possible to recover economic value from products that are being taken back. Recovery can be cheaper than manufacturing or buying new products or raw material.

Having good reverse logistics policies can be a marketing strategy for organizations and can improve an organization's green profile and marketing position.

Legislative motives are one of the most common drivers; there are stricter environmental regulations today that force organizations to focus more on reverse logistics.

Asset protection means that organizations may take back products after use in order to prevent sensitive information and components leaking to competitors.

Furthermore, Helo (2004) identifies rapid advancements in technology together with fashionable design as important factors that encourage frequent purchases, and lead to the significantly shortened life cycle of today's products.

De Brito and Dekker (2003) say that organizations generally can be involved in reverse logistics because of three reasons

- Because they can make revenues/profit from it
- Because they feel motivated socially to do it, or
- Because they are forced to do it.

De Brito and Dekker (2003) identify the driving forces for reverse logistics as economies (direct and indirect), corporate citizenship and legislation. Direct economies driving forces are similar to the Fleischmann et al. (1997) definition mentioned earlier. Indirect economic factors are not direct revenue for the organization, but rather gains such as market protection, improved customer relations and enhanced green image. Corporate citizenship means that an organization receives a set of values and principles from conducting reverse logistics activities.

#### **2.4.6 Barriers to reverse logistics**

Rogers and Tibben-Lembke (1999) identified the attitude of organizations and company policies were the two greatest barriers to reverse logistics; that it was not as important as other areas in the business. Organizations also lack the systems of handling reverse logistics, and this is a direct result of the fact that it is not considered important by top management. Other barriers recognized were competitive issues, financial resources, personal resources and legal issues.

Ravi and Shankar (2004) add a few barriers in their article, such as problems with product quality, resistance to change to reverse logistics, lack of appropriate performance metrics and lack of training and education.

Carter and Ellram (1998) assert inferiority of input resources and a lack of stakeholder commitment as the two major barriers.

### **2.5 Difference in supply chains between electronic and fashion goods**

Both the fashion and the electronic industry are experiencing the need for an agile and a responsive supply chain (Ferne, Sparks and McKinnon, 2010; Masson, Iosif, MacKerron and Ferne, 2007; Helo, 2004; Mason, Cole, Ulrey and Yan, 2002; Fisher, 1997). A number of similarities can be seen between the two different industries and supply chains.

The fashion industry has products that are on a global scale with short life cycle, low predictability with high impulse buying (Ferne et al. 2010; Mason et al. 2007). The electronic industry is experiencing a tremendous shortening of product life cycle, mainly due to extensive research and development (R&D) (Helo, 2004). Furthermore, the electronic industry has the characteristics of volatile market demand which requires differentiated products and shorter delivery times which is performed on a global scale (Mason et al. 2002; Helo, 2004).

## **2.6 E-commerce**

Electronic business (e-business) can be explained as the use of information and communication technologies (ICT) to support the activities of businesses (Beynon-Davies, 2002). VanHoose (2011) add to this by describing e-business as the use of computer-mediated networks within commercial companies and non-profit organizations. E-business processes contain the use of electronic networks to manage decision-making and the application of an organization's production, marketing, and management functions.

Commerce can be defined as the exchange of products and services between businesses, groups and individuals; electronic commerce (e-commerce) focuses on the use of ICT to enable the external activities and relationships between these individuals, groups and businesses (Beyon-Davies, 2002). VanHoose (2011) state that e-commerce refers to any process that involves exchanging ownership of or rights to use goods and services through electronically linked devices that connect interactively within networks.

According to Beynon-Davies (2002) there are three main forms of e-commerce; business to consumer (B2C) e-commerce, business to business (B2B) e-commerce and Intra-business e-business.

This study will put emphasis on the B2C e-commerce perspective which can be explained as a process that enables forms of cash and credit exchange with products and/or service between a company and its customers with the help of ICT.

## **2.7 Summary of literature review**

Firstly, themes and terms were presented to introduce basic terms to the reader that was necessary to continue the study, such as supply chain, supply chain management, logistics and logistics management.

Furthermore, reverse logistics was presented which is of main focus of the study. Different studies were presented which contained different views and focus regarding reverse logistics. For example, some literature had a more environmental focus, others focused solely on economic factors.

Due to the fact that this study is focusing on reverse logistics regarding mostly purchases through the retailer's web shop; e-commerce was introduced. The study will not focus on product returns at local retail level.

The interview and analysis will be based on basic reverse activities as identified in the literature that each organization performs. Furthermore, it was based on the Reverse Logistics Educational Council considerations which organizations should take into consideration (cited in Langley et al. 2008, p. 583-584), which are gatekeeping, avoidance, reducing reverse cycle times, information systems, asset recovery, remanufacture and/or refurbishment, outsourcing, pricing, financial management and zero returns. Pricing and financial management was however excluded as it was not of relevance in this study.

Additionally, the interview and analysis was based on the differences between reverse and forward flow introduced by Tibben-Lembke and Rogers (2002) which are forecasting, transportation costs, packaging, pricing of products, marketing methods for reversed prod-

ucts and visibility in reverse logistics. A number of issues of Tibben-Lembke and Rogers were not of relevance of this study and were therefor excluded.

Finally, barriers and drivers of reverse logistics are also a subject for the interview and analysis. Drivers such as: customer preferences, regulations, economic, marketing, asset protection. Barriers such as: attitude of the organization, company policies, lack of training and education and lack of appropriate performance metrics.

## 3 Methodology

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*This chapter presents and explains the research theories and strategies which were utilized in order for this research to be conducted according to scientific business research principles. This chapter also presents the research methods which are used to collect the primary and secondary data as well as explanations on why methods were selected and most suited for this study. The chapter ends with a summary and an overview of the methodology.*

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### 3.1 Research philosophy

Due to the nature of the research purpose and research question, it is difficult to decide upon one philosophy being better than the other. The most important aspect in this study was the research question and from there the methodology of the research was decided.

If the research would take the view of natural science, a positivism approach would have been taken (Saunders, Lewis and Thornhill, 2007). Then it would have been involving strictly facts and no impressions; which is not the case for the authors. Realism is another philosophy it essentially means that what our senses shows us; is the truth. It has a scientific approach similar to positivism in the sense that collection and understanding of data are most important.

However, choosing one philosophy was somewhat unrealistic in this study. Pragmatism is a research philosophy where the most important determining factor for choosing a philosophy is the research question (Saunders et al. 2007) which was the case in this study. If the research question does not directly suggest a positivist or interpretivist philosophy; then there is a possibility to work with both approaches, which is the pragmatist's view.

Furthermore, this was an attractive philosophy for the research because it was possible to avoid debating about concepts such as truth and reality (Tashakkori and Teddlie, 1998).

*In account for this; a pragmatist's philosophy will be embraced.*

### 3.2 Research approach

The research approach involves whether to apply a deductive and/or an inductive approach. Ghauri and Grønhaug (2005), states that a main difference between these is that the inductive approach is based on empirical evidence and deduction is based on logic. Additionally, in inductive research, theory is developed after data collection, such as observation and in deductive research; you either reject or accept the theory which is established beforehand.

The deductive approach is often the approach when conducting a scientific research, where laws present the basis of explanation, the phenomena is allowed to be anticipated, predict the occurrence and because of this; they are allowed to be controlled (Collis and Hussey, 2003; Saunders et al. 2007). It involves to first developing a theory which is then tested to confirm or disapprove.

Saunders et al. (2007) recognize important characteristics of deductive approach. First, a main objective is to search and explain causal relationships between the variables involved, to test this; quantitative data is normally collected (qualitative data can also be used). To test and explain the causal relationship, the research would apply a highly structured ap-

proach in order for replication to be facilitated (Gill and Johnson, 2002) and to ensure reliability. Furthermore, concepts in the research need to be operationalized in deductive research therefore it is possible to measure data quantitatively.

Robson (2002) lists five stages which a deductive research will go through:

- Develop a testable theory (hypothesis).
- Express the hypothesis in operational terms.
- Test the hypothesis.
- Examine the outcome, it will either confirm the theory or create a need to modification.
- If it is necessary; modify the theory.

An alternative approach is not to first develop a theory, but rather to get a feeling of the problem first and to get a better understanding of the nature of the problem. The result of collecting and analyse the data would provide the ability to formulate a theory. This is the inductive approach of research (Saunders et al. 2007).

The inductive approach creates a theory from a particular situation (Collis and Hussey, 2003). Furthermore, from empirical observations; the outcome is the theory (theories) (Bryman and Bell, 2003). There is a greater chance that researchers conducting an inductive approach would collect and handle qualitative data to achieve research goal (Easterby-Smith, Thorpe and Lowe, 2002).

The research topic regarding reverse logistics and benchmarking between the electronic and the fashion industry involves not much literature in the field, consequently it is difficult to first develop a testable theory. Thus it is more appropriate to work inductively for the authors. Furthermore as Saunders et al. (2007) proposes; inductive approach is more appropriate when the sample of the study is small and where qualitative data is preferred.

*In account of this; an inductive approach will be engaged.*

### **3.3 Purpose of research**

The purpose of this study was to examine and benchmark on a set of characteristics an electronic and a fashion organization and how the organizations both deal with reverse logistics when conducting e-commerce. To do this, a literature search is going to be made as well as interviewing experts in the two organizations.

Robson (2002) describes descriptive studies as portraying accurately an event, situation or a person, which can be a part of an exploratory study. However, this is not the purpose of the research. To some extent, the authors are out to establish and examine the relationship between two variables (an electronic and a fashion organization) to explain the relationship between them, which is termed as explanatory study. However, the purpose is also to gain new insights and to find out what is happening in to the field of chosen study, which Robson (2002) proposes to be a part of an exploratory study.

*Due to the authors want to gain new insights and examine a relationship between two variables; an exploratory and an explanatory study will be conducted.*

### **3.4 Research strategy**

A case study is defined as “*a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence*” (Robson, 2002, p. 178). Conducting a case study is useful if the purpose is to gain a rich understanding of the context research and the process (Morris and Wood, 1991). A case study strategy is particularly advantageous to answer questions such as ‘why?’, ‘what?’ and ‘how?’ and for that reason it is often used in explanatory and exploratory research (Yin, 1994).

The research will involve both primary and secondary data collection which will be used in combination. The main reason for this is to be able to triangulate the data. Triangulation refers to that different data collection techniques are used within one study. This is done to be able to ensure that the data is accurate and it is telling you what you think they are telling you (Saunders et al. 2007). The data collection which will be used will be described further in section 3.9 (data collection).

Yin (2003) differentiates between four distinct strategies divided into two dimensions:

- Single vs. multiple case;
- Holistic vs. embedded case.

Single case is when only one single, critical case is chosen to study. Multiple cases are when more than one case is chosen. The purpose of this can be whether the findings from the first case occur in the other(s) case. If the organization as a whole is being studied, a holistic case study is being performed and in contrast if the purpose is to study a sub-part of the organization, it would be called an embedded case study.

This study will involve using two organizations, one electronic and one fashion organization to gain understanding, insights and to examine a relationship between them. Furthermore, it will not involve the companies as a whole but rather the logistics side of the two organizations, namely the reverse logistics department of the two. Additionally, the case study will involve collection from both primary data and secondary data.

*In account for this, a multiple and embedded case study will be conducted.*

### **3.5 Research choices**

The purpose of our research was to collect qualitative data and analyse it, both primary and secondary data. The main aim of the research was to figure out ‘why’ and ‘how’ organizations use reverse logistics based on selected criteria. Furthermore, qualitative data was acquired through the use of primary and secondary data collection, namely semi-structured interviews respectively literature review in academic journals. Exclusively qualitative data collection techniques will be used; it will not be a mix of quantitative and qualitative techniques.

*In account to this; a multi-method qualitative study (Saunders et al. 2007) will be applied.*

### **3.6 Qualitative research**

Depending on the research purpose; the research can have a qualitative or/and quantitative approach. One way to separate the two is either focusing on numeric data or non-numeric (text) data (Saunders et al. 2007; Dye, 1993; Healy and Rawlinson, 1994). Furthermore as

Jankowicz (1991) recognizes, which choice of research will depend on the research problem and purpose.

Ghuri and Grønhaug (2005) distinguish that the main difference between quantitative and qualitative research is procedures, not the quality. In quantitative research, research arrives by statistical methods and other procedures of quantification.

Quantitative data is data that has been collected through techniques such as questionnaires, that provides the outcome of numeric data. Non-processed quantitative data in its raw form does not mean much and therefore have to be turned into information. Different analysing techniques can convert the data into charts, graphs and statistics which will help to make sense of the data (Saunders et al. 2007). Hair, Black and Babin (2006) identified that quantitative research is appropriate when the purpose is to identify and confirm relationship between factors.

Based on the researcher's own interpretations of information and data, qualitative research's purpose is to provide an in-depth understanding of the area of interest (Ritchie and Lewis, 2003). Qualitative research is recommended when the area of study is an event or a social process, which is difficult to conduct with quantitative methods. In such cases, qualitative methods are appropriate and can provide details and rich understanding of the subject (Ghuri and Grønhaug, 2005). Furthermore, Strauss and Corbin (1990) state that qualitative research is suitable when conducting research on individuals, organizations and groups.

*A two semi-structured interviews will be conducted, one with each organization (explained more in section 3.9) to collect primary qualitative data. Secondary data will also be collected through the use of academic journals to help us to draw comparisons.*

### **3.7 Sampling**

Sampling the population is primarily associated with quantitative research which the purpose is to conclude statistically (Ghuri and Grønhaug, 2005). Furthermore, in qualitative sampling there is hardly ever the need for statistical conclusions, but rather to understand and to gain insights.

However, it does not matter what the research question and purpose is; there is still a need to consider sampling the population (Saunders et al. 2007). Furthermore, due to time, budget and access restrictions, there is a strong need for sampling in this research. A *non-probability sampling technique* will be applied due to the fact that there is no need to generalize statistically.

Requirements for the organizations in this study were that they should have experience of reverse logistics and that they consider it as important and complex. Another requirement/delimitation was that the research would not involve store purchases, only e-commerce. Additionally, the authors were interested to investigate two different industries; electronic and the fashion industry, due to this a *purposive sampling technique* was applied, where the judgments to select cases (organizations) by the authors was the best way to meet research objectives (Saunders et al. 2007).

Furthermore, the test subjects are chosen based on their position in each organization, which in both cases are in the logistics department and with great knowledge of the reverse logistics activities/processes which the organization is conducting.

## **3.8 Time horizons**

According to Saunders et al. (2007), a cross-sectional study is when the study is on a particular phenomenon at a particular time while longitudinal study is similar to a diary; when the study is concerned about change and development over a given period of time.

The purpose of this study is trying to describe how these two organizations handle reverse logistics in their organization at this particular time, not how they used it before and study the change and development.

*In account for this; a cross-sectional study will be applied.*

## **3.9 Data collection**

The data collection will consist of both primary and secondary data. The secondary data will be collected mainly through the use of academic journals that will help draw comparisons to the primary data.

The primary data will be collected through the use of face-to-face, semi-structured interviews with the two organizations, which will be the main focus of data collection. Using these different data collection techniques will help to triangulate the results.

### **3.9.1 Primary data collection**

#### **3.9.1.1 Interviews**

Three different ways of conducting interviews exists according to Saunders et al. (2007); unstructured, semi structured and structured. An unstructured interview is used as an informal conversation between the interviewer and the respondent to explore a general area in the subject of interest in depth. Semi-structured interviews are based on a list of themes and questions but these can vary from interview to interview. The structured interview is used with an emphasis of identical set of questions is existing

The authors utilized non-standardized, one-to-one, face-to-face interviews. The interviews conducted were semi-structured which in other words is when the researchers' have a list of questions and themes that should be covered in the interview. Semi-structured interviews are more suitable for a qualitative analysis as they can help cover the responses in order to understand 'how' and 'why' questions (Ghuri and Grønhaug, 2005). The questions in the interviews remained similar during all of the interviews in order to ensure the reliability and validity of the questions. Questions were added sporadically in order to further look into subjects that believed would benefit the research. Open-ended and probing questions were used in order for the respondents to speak freely about the subjects investigated and explain in the own words.

A respondent interview technique was exploited which means that the interviewers guide the interview and the interviewee respond to the questions asked by the researchers (Robson, 2002). The authors believed it would give a more in-depth knowledge of the subject and would make information more clear and understandable.

The interviews were conducted in Swedish, much due to that both the interviewees and interviewers were Swedish and this would help the flow of the interview. Due to that the interviews were conducted in Swedish, the information gathered had to be transcribed and

translated to English. The material gathered might have been wrongly translated due to the authors own interpretation of words and phrases. Therefore this process was done several times in order to avoid errors and bias.

A tape recorder was used during the interviews in order to gather as much information as possible. Important findings were also written down during the interview, much due to the will to emphasize the importance of that subject. The interviewee was asked for approval of the recording before it was commenced. After the interview was done, the recordings were closely reviewed and a summary of the interview was written.

### **3.9.2 Secondary data**

Secondary data has been collected in order for not only to provide a good background, but also to have theories and methods to rely the research upon. In order to gather the secondary data, it is possible to use secondary literature sources such as books, academic journals, magazines articles and newspapers (Saunders et al. 2007). The authors have agreed on which search words to use before searching for the secondary data, in order to give similar results and for the sources to not be as spread. Saunders et al. (2007) argues that an advantage with using secondary data is triangulation which is when primary data collected is compared with the secondary data that has been found.

In order to collect secondary data the authors used:

- Journals
- Books

As well as JULIA (Jonkoping's Library Service) and Google Scholar were the primary databases used to find these articles.

### **3.10 Data analysis**

Analysing qualitative data is the process of structuring and conducting an overview of the collected data to gain understanding and to clarify the problem (Marshall and Rossman, 1995; Ghauri and Grönhaug, 2005). The qualitative data analysis is based on the semi-structured interviews that were conducted at the two organizations.

Based on the research question and the fact that an inductive research was conducted; a *data display and analysis* procedure was performed which is based on the work by Miles and Huberman (1994). The process is composed of the following three processes:

- *Data reduction*: The first step is to summarize and simplify the data that has been collected
- *Data display*: Second step is to organize and assemble the reduced data into visual or diagrammatic displays.
- *Conclusion drawing and verification*: Now the data have been reduced and displayed in a way that it is easier to analyse and draw conclusion.

Due to the fact that the interview was divided into different themes and categories; the data reduction step was made easier. Additionally, after the interviews were performed; the data was classified into related categories which are based on the theoretical framework. This structured the data and made it easier to further analysis. Furthermore, some restructuring

of data was made to assure that the data that was related to each other was together, to further facilitate data analysis. Matrices in tabular form were used here to simplify analysis.

### **3.11 Validity and reliability considerations**

In both qualitative and quantitative research, reliability is concerned with whether other researchers would reveal similar information as the main researchers (Haley and Rawlinson, 1994). Stone (2004) add to this by defining reliability as the ability of a test or a similar selection technique to produce similar results and scores for researchers on separate occasions. In contrast, validity is concerned how accurate a question measures or describes what it was intended to measure or describe (Bell, 2000).

When conducting an interview or a questionnaire, several biases can occur that affect the validity and reliability of the findings. The interviewer bias is one of these biases, which occurs when the interviewer influences the interviewee with any type of comments, tones or non-verbal behaviour. Bias can also be found in lack of trust between the interviewer and interviewee, lack in credibility and that information may be limited (Saunders et al. 2007). All these biases affect the answers of the interview and therefore tamper the whole research.

In order to collect the empirical data, semi-structured interviews were conducted, which facilitated a more open discussion giving us cooperation with the respondent. Bias was avoided due to that both authors were present during all of the interviews and a tape recorder was used. With the help of a tape recorder, the authors could solely focus on making the interview flow and had the possibility to go back and listen to the interview several times. The authors also relied on secondary data such as information and written documents from both organizations in order to ensure reliability of what was being covered in the interviews.

To ensure validity and reliability, the authors asked fellow research students to look through the questions that were planned for both the interviews, in order for the questions to be understandable. In a sense, this would be considered as a pilot test which according to Saunders et al. (2007) helps establish content validity and enables adjustments of both structure of the interview and the questions. The first interview conducted also worked as a pilot test for the questions and the interview format. Questions that were not understood or misleading were removed from the interview and not used in later interviews.

Readers should, however, be aware of possible generalization due to the fact that the research is based on two different cases. Yin (1994), state that using qualitative research with semi-structured interviews will not be able to be used to make generalizations on the entire population. In other words, both of the cases can be compared but one should try to not make generalizations.

### 3.12 Overview of methodology

The following table illustrates an overview of the methodology and choices which was chosen in this study.

Table 3.1 – overview of methodology

<b>Methodology</b>	<b>Choices</b>
<b>Philosophy</b>	Pragmatism
<b>Approach</b>	Inductive
<b>Purpose</b>	Exploratory and explanatory
<b>Strategy</b>	Multi and embedded case study
<b>Research choices</b>	Multi method qualitative study
<b>Sampling</b>	Non-probability and purposive technique
<b>Time horizon</b>	Cross-sectional
<b>Data collection</b>	Primary and secondary data
<b>Primary data collection</b>	Non-standardized, one-to-one and semi-structured interviews
<b>Secondary data collection</b>	Academic journals and books
<b>Data analysis</b>	Data display and analysis procedure

## 4 Empirical findings

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*The following chapter presents the findings from the empirical study made. The purpose of the research was to investigate the different aspects of reverse logistics and how these influence the electronic and fashion industries. Through qualitative methods explained in the methodology chapter (Chapter 3) an interview was made and conducted in order to gather data. The empirical findings gathered are a result of two interviews being made, one with the electronic retailer and one with the fashion retailer.*

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### 4.1 Study I: Electronic retailer

#### 4.1.1 Reverse logistics

Elgiganten has one central warehouse, Torsvik, Jönköping; which supplies all the Nordic countries with products. When a customer orders a product online, the order goes to the warehouse in Torsvik where the order is picked and sent. Elgiganten sell a wide range of products, from fridges and ovens to cell phones and televisions. The flow of products differs depending on if the product is a small box product or a big box product.

Small box products are products that are small enough to be sent as a post package. Cell phones and laptops are examples of this category. Small box products are ordered from the web shop and are distributed through the Swedish Post, Posten, in a package.

Big box products are products that will be delivered to the customer's home, which in other words means that the customer can get help with the installation and unwrapping of the products. These products are usually of larger nature, an example is a fridge or a freezer. Elgiganten uses two different transporting organizations for this service in Sweden, Bring and Marko Kaj Moving (MK Moving).

If a customer wants to return a product, a difference in the flow of products depending on if it is a big box product or a small box product. Big box products have to go back with Bring or MK Moving, which means that the customer needs to contact Elgiganten's call centre in order to book a pick up. With small box products, the customer has to send the product back with the return slip that is provided.

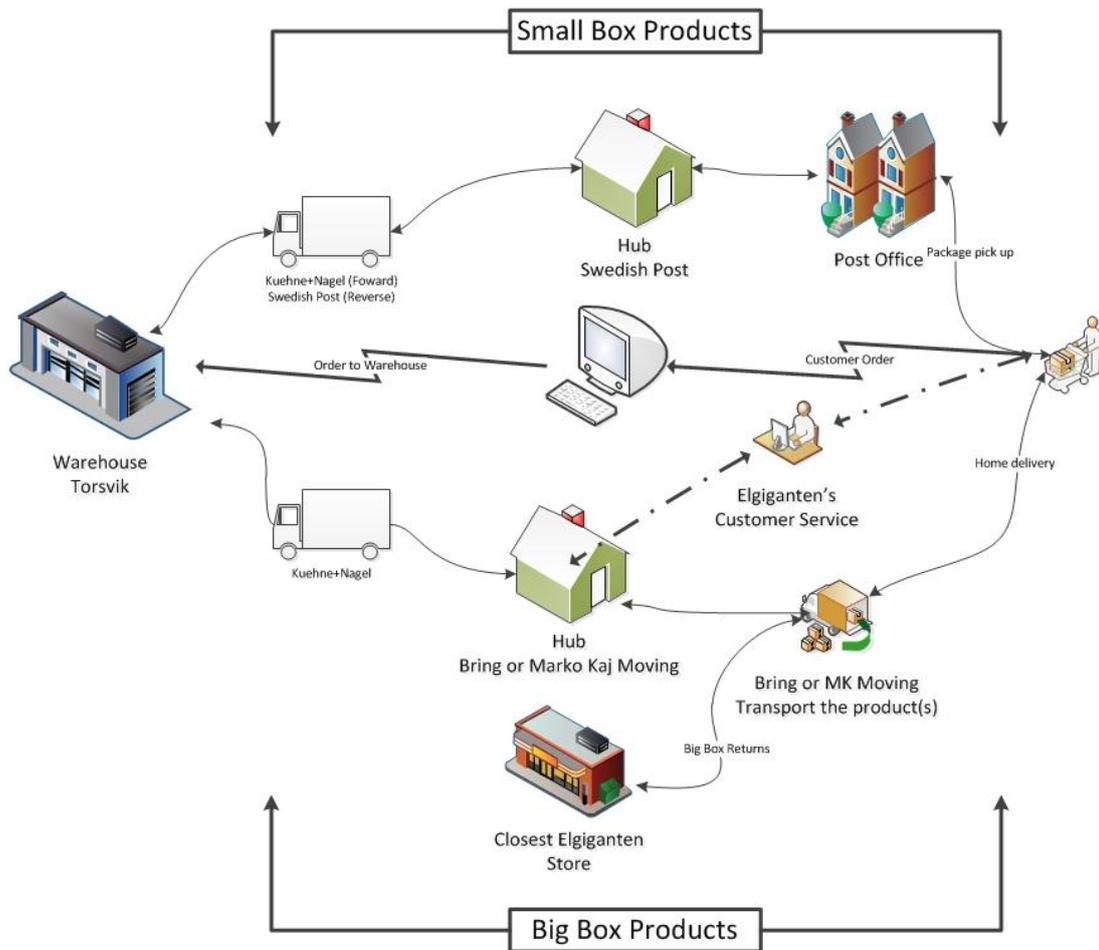


Fig 4.1 Reverse flow at Elgiganten (2012).

Elgiganten keeps no statistics of the products that are returned. In other words, Elgiganten cannot say if a certain product is returned more than any other, and there are no statistics kept on why products are returned. Elgiganten can, however, see a connection with high sales peaks and a high return rate. Products that are on sale or have a good price generally get returned more than other products.

One remarkable side of Elgiganten's small box returns is that 50% of them have not been collected from the post offices. Even though Elgiganten do not have any statistics to support it, they have a strong belief that much of the small box products that are sold are not returned due to dissatisfaction with the product, but rather a regretful purchase.

Currently, Elgiganten do not have any system which can compare if there is any difference between returns from in-store sales and online sales. Elgiganten's web shop is still quite new, and online selling is a fresh area for the whole concern. In order for a customer to return a big box product purchased over the Internet, the customer needs to contact customer service and explain that the product is unwanted. In order to return a small box product, the customer only needs to send the product back in a package.

The general opinion at Elgiganten is that their return policy makes it easier for customers to return products. Due to the fact that the customer does not have to face anyone, products that would not be returned in a store may be sent back. Using a product for 29 days

and then returning it can be a somewhat awkward situation for the customer, which is not the case for online products.

Apart from the products that are not picked up from the post office, Elgiganten believe that there is not much difference in reasons for returns between in-store and online sales. Occasions where customers have bought products in-store and have not collected them are not many. 9% of the products sold over the Internet are returned back to Elgiganten, for various reasons.

Without any hard facts to support, Elgiganten are comfortable stating that returns are generally more common from online sales than in-store sales. When customers enter a store, they have the possibility to feel the product, talk to a store-clerk and get a perception of what the product is like. Online, customers are only able to read the specifications, see pictures, and read reviews of products from other consumers.

## **4.1.2 Drivers and barriers**

### **4.1.2.1 Drivers of reverse logistics**

The main driver at Elgiganten for reverse flow is making the customers satisfied. A side from this, making the small box products flow as effective and efficient as possible is a key driver at Elgiganten.

*"We used to have four return centres in Nordic countries, one in each country, but have now made a centralized return centre in Jönköping. Now each country's small box returns are brought back to the centralized warehouse at Torsvik, Jönköping. Through this change, vast savings can be seen throughout the whole organization. The more online selling has increased, more returns have come back and capacity and space allocation is a big dilemma for stores."*

Regarding the small box products, it is of great importance to get products back in order to sell them again. Having the customers send the products to the nearest store was seen as an option, but has been ruled out due to the limited geographical area each store has for customers. Having the products go back to Torsvik enables Elgiganten to sell the products from their web shop, which makes the products saleable to all of the Nordic countries.

The return operation for big box products is not centralized at Elgiganten.

*"This is much due to the size of the products and that they are unwrapped upon delivery, or when they are brought home. The chances of products getting damaged in transport increases when products are unwrapped. Another issue with unwrapped products is that they cannot stack the products on each other in transit, which in turn makes them take up more space in the transportation."*

There is also an environmental aspect to this, due to the fact that Elgiganten do not believe it is profitable to transport the big box products back to Torsvik, Jönköping.

The main benefit of reverse logistics as far as Elgiganten can see is that a trust can be built up with customers and the customers can perceive Elgiganten as a safe organization to do business with.

*"Trust will hopefully help spread a good reputation and attract more customers for us. We are aware of that we will never make money on reverse logistics, but the goal is to become as good as*

*possible. A main factor for success is to keep the costs as low as possible for the organization. Any contribution to get products back and sell them again is considered a cost reduction.”*

#### **4.1.2.2 Barriers of reverse logistics**

Elgiganten believe that no major barriers exist; it is a matter of getting rid of structural barriers in the system in order to succeed. The character and nature of the product at Elgiganten is one of the most concerned barriers for centralized reverse logistics. Having a centralized return centre makes returning products from Norway a minor problem, due to customs. The products have to be declared at the border and Elgiganten needs to know beforehand what kind of products they will receive. Another aspect that can be a barrier for reverse logistics is how hard the organization wants to control the customer regarding returns.

*“There must be a balance between customer satisfaction and control of products. As of right now, a customer can return a package straight away to Torsvik without any special labels.”*

Returns and reclamation management has got quite significant value and priority from top management at Elgiganten. The main reason for this is that the top management has realized that without working reverse logistics will be money lost for the organization. Not working with reverse logistics would inflict problems for the whole organization, with unsatisfied customers and potential loss of sales.

*“Trying to open a new line of products and trying to convince top management about this is obviously easier, due to that this hopefully will create more sales.”*

From a corporate perspective, an important aspect is to receive the needed resources from top management to be able to improve reverse logistics processes, which does not display any visual winnings for the organization. Reverse logistics is initially sometimes seen as a pure cost. It is important to raise the right questions and considerations to the proper decision level, in order for both resources and money to be invested in reverse logistics.

As of today, Elgiganten do not keep any statistics of how the customers value their reverse logistics.

*“It is still a relatively young field for our organization, and there has not been much focus on this before.”*

However, in all of Elgiganten’s stores they have machines which customers can take part of surveys. Elgiganten also believe that the customers must have a large extent of faith due to the amount of customers that buy products and do not pick them up from the post office. Customer satisfactory regarding reverse logistics is something they will focus more in the future, and has already been up for discussion.

#### **4.1.3 Differences between reverse and forward flow**

Elgiganten recognize that customers in general are more prone to return products in today’s society. Elgiganten identify that shorter product lifecycle and the emergence of e-commerce have contributed to the increase of returns. However, Elgiganten is well aware of this and their view of how forecasting regarding reverse flow is today and near future resembles this;

*“... We think that we will not see a dramatic decrease; we think it will be quite constant from now; it will be constant with our sales. “*

A major concern for Elgiganten is costs down regarding reverse logistics, especially transportation costs. They consider that there is a great difference in transportation between reverse and forward flow;

*“There is a higher transport costs, because there are more of less-than-full truckloads. We are paying for a lot of air so to say. We cannot optimize the transport in the same way as forward logistics.”*

The electronic industry is characterized with a great deal of variation of products. It ranges from large televisions to small MP3 players and such. Usually the products are hard, sometimes fragile and usually the price is quite high. This comes in to consideration when Elgiganten packages their products; it has to withstand the transport and easily managed. This is done by professionals in forward flow and by customers in reverse flow. Elgiganten pointed out;

*“If the product is used, the packaging is different... completely. Those products are we trying to sell as used products. Furthermore, these used products can be returned with original packaging also.”*

There is a difference in marketing for used products for Elgiganten, but that is performed at a local retail level;

*“On those products that are unused it is the same. The used products are normally taken by local stores, and are displayed as bargain/cheap corners. So there is a difference in marketing, there are no flyers, ads and such for used products, there are more that there is a section in the store with bargain products that the customers can go and look.”*

Elgiganten have different kind of flows in both reverse and forward flow, and the visibility varies to a great extent as well. They stress the importance of their information system (IS) in regarding the visibility in the supply chain. In forward flow both Elgiganten and the customer have track-and-trace opportunities but it is different with reverse flow;

*“... We have less visibility and traceability in reverse compared to forward logistics”*

*“Sometimes the customers send the products as a letter, and then we have no visibility of it what so ever, and then it is the customer that stands for the risk completely. But that is something we are trying to inform on our webpage, that it is preferred to use traceable packages so it is guaranteed that we will receive the product and the customer will receive their money back. “*

Furthermore, Elgiganten explains that their distributors have control over packages internally and can be traced if necessary but they have no active follow-up on it as long as it runs smoothly.

Concerning gatekeeping and avoidance activities, Elgiganten explains that they are not performing much proactive work against return of products. On the contrary, they use the ease of returns as a sales argument and draw a comparison to a competitor that is not having as friendly returns as them. Elgiganten recognize that the right information on the webpage however can reduce the number of returns.

*“Having it ‘easy’ to return is something we will continue to have, it is a sales argument for us. A competitor for us for example has 30 days right to return an item, but you are not allowed to have opened the product (packaging).”*

*“However, if we would work proactive, we should contact the customers that have returned products or have chosen not to pick up the products and ask why they weren’t satisfied and learn from that. Often it is not the product itself that is wrong but rather wrong suited for that customer. This can be because lack of information on the webpage.”*

Elgiganten considers that their cycle times regarding reverse logistics are appropriate at the moment, but that they are continuously evaluating this. The evaluation is the speed versus costs, where cost is the most important measurement at the moment.

*“We have relatively good cycle times now; this is an assessment to transportation (costs) also. We can for example have trucks going daily, but that is too expensive. We are balancing between many routes and trying to optimize the routes to price issue.”*

*“For us when we know a product is going back; it is not that we know we have an order on that certain product. So time is not the most important aspect.”*

Elgiganten do return products for remanufacturing and resell it at a reduced price, but only when customers themselves return the products. However they are not returning products for recovering of assets;

*“No, so far have we not progressed in dealing with returning of products. We know some English counterparts that are doing this, returning batteries and such for reselling and recycling. It is not worth it for us, it is tremendous handling costs to do this. Furthermore we don’t have those kinds of flows to make it profitable. “*

Elgiganten only outsource transportation activities;

*“We don’t have the competence for transportation. Otherwise, system wise we do have the competence, including IT.”*

Elgiganten recognize that people in today’s society have come a long way with recycling, Elgiganten are not actively returning products for recycling, except for big box products which they are forced by law to do. Today, people get paid for recycling some products and sometimes they can easily recycle where they live. Furthermore, Elgiganten is recycling at local retail level, thus it is not sent back through the supply chain but it is nothing that Elgiganten prevents as long as the customer are willing to pay the costs of returning the product(s). Finally, Elgiganten are performing quality control to prevent products being returned for quality/safety issues but if it would occur; Elgiganten would then recall the product(s).

## **4.2 Study II: Fashion retailer**

### **4.2.1 Reverse logistics**

The online sales process for the fashion retailer is based in Scandinavia, where there is a regional distribution centre. This distribution centre covers the online sales for Sweden, Denmark, Finland and the UK. There is also a major warehouse in East Europe, which acts as a supporting warehouse for the distribution centre in Scandinavia. The warehouse in East Europe has approximately 2000 employees, whereas the distribution centre in Scandinavia has nearly 500 employees.

The flow of products at the fashion retailer starts with the products being made, usually in the Far East. The products are sent to a warehouse in East Europe, where numerous prod-

ucts are kept. The customer uses the fashion retailer's website to make an order of the products wanted. The system then makes an order at the distribution centre in Scandinavia where the order is picked and sent away to go to the right address. The fashion retailer utilizes two transporting organizations in order to deliver goods to their customer. Depending on which of the two delivery companies the customer has chosen, the package is picked up by the transporting firm. The order is sorted at a hub in the same area as the customer lives and then sent out to the local post office where the customer lives. The advantage of having two transporting firms is that the customers can choose from various places to pick up their packages in their towns. The customer receives a delivery notification in the mailbox which states that the package has arrived to the post office and can get picked up.

If the customer is unsatisfied with the products for any reason, the customer needs to re-pack the unwanted products in the package, fill out a form about why the products are sent back, and put on a prepaid return slip on the package. After this, the customer delivers the package back to the post office where they send the package back to the distribution centre in Scandinavia. The products will be returned in the same trucks that deliver new orders to customers; however they will be consolidated at a regional hub in order to get full truck loads. When the products have arrived to the distribution centre in Scandinavia, the products will be checked and products which can be used again will be repacked and products which cannot will be sent to charity.

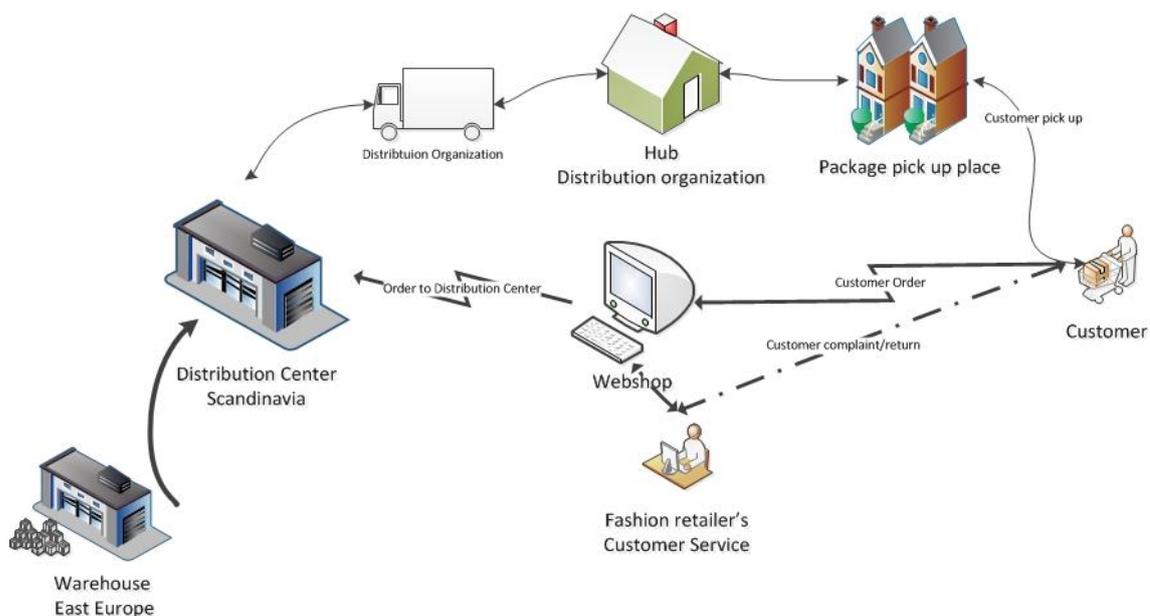


Fig. 4.2 Reverse flow at the fashion retailer (2012).

Swedish people in general are used to picking up their packages from post offices, which is not common compared to the rest of Europe. The fashion retailer is responsive to customer wants and needs and if the customers would request to have home delivery, that would be an option, but as of now, this is not planned. The fashion retailer has developed a service together with the one of the distribution companies, which enables customers to receive their orders in their mailbox if the customer wishes.

It is difficult to see if there is a certain product or product category that gets returned more than any other. If you look at the returns in general then women's clothing is usually returned more, but women's clothing is sold to a greater extent. It happens that women buy

2-3 sizes of each garment, in order to try and see which one fits the best. This can especially be seen in countries which have free returns, which means that you do not have to pay for the return.

The fashion retailer's business strategy for their online sales is that returning products for customers is fine and that it should be easy to send products back. Customers should place their orders, receive the goods, and try on the garments at home, and send back what is not wanted. The customer's home should be like a second dressing room.

There is no statistics of how the returns differ from in-store sales and online sales. One can guess that the size returns would be reduced. The garments are tried in the store, and therefore should fit the customer. The returns from stores usually regard quality and shrinkage.

It can be assumed that online returns are garments returned which customers never would return if they had to enter a store. Garments can be sent back which have obviously been used and stains can even be seen. This could be much due much due to the fact that the customer does not have to face any store clerks and explain why the return is being made.

Table 4.1 – return statistics for the fashion retailer in per cent (see original table in appendix 2)

Share of returns 4th July - 18 December, 2011	Sweden Share, %
Not what I expected	36,27
Unclaimed	20,96
Too small	15,6
Too big	13,3
Delay in delivery/Changed mind	5,19
Not delivered	3,9
Wrong items delivered	2,1
Denied purchase	1,18
Faulty stitching	1,13
Items missing	0,28
Shrinkage after washing	0,07
Colour ran after washing	0,03
Total	100

## 4.2.2 Drivers and barriers

### 4.2.2.1 Drivers of reverse logistics

One main driver at the fashion retailer is that there actually is value in the products that come back.

*“It is important to understand and see the value of the products that come back, many of them can be sold again. A major driver is to sell the returning products as fast as possible again.”*

As of right now, the fashion retailer has a general idea of what garments will come back and how much. This is a topic that they are working on and trying to figure out and forecast what will come back. If they knew how much products will come back, they can sell the products quicker, but with a big safety margin. If they know that a certain amount of products will come back, then they can figure out how many of these products are good to sell directly. They have started working with order that have not been picked up; these are good to sell again directly since no one has opened the package.

They want the customers to find what they want, try it on and send back whatever they do not want.

The main benefit of reverse logistics at the fashion retailer is that customers should not be afraid to send products back. This is particularly important in the online fashion industry.

*“The organization’s return policy could be a trigger of the sales; however it is vital that the return policy does not hamper the sales. The customers should not be scared to shop just because they believe returning products is difficult or they do not know how to send products back.”*

#### **4.2.2.2 Barriers of reverse logistics**

The main barriers for reverse logistics are that it is partly a great cost; customers are actually sending products back.

*“There are costs for the transport, and also the handling of the products when they return, they need to go through the whole system again and some products might not even be sellable again.”*

*“The products also take up space in the warehouse and in the transports.”*

The support from top management for reverse logistics has a great focus, however indirectly. E-business and e-commerce is seen as a major part of the business and an area which will play a big part for the fashion retailer in the future. The organization is about to make a major expansion the following years which will put more pressure on the organizations reverse logistics. Reverse logistics will therefore play a bigger role at top management level.

*“It is logistics who fronts the customer when shopping online; it is a big part of the organization. It is a major part of the service for the customer. This makes reverse logistics important to the organization.”*

When a customer wants to send products back, they have to fill out a return form; in which they state why they send the products back. There are also customer surveys where the fashion retailer checks how satisfied the customers are in general with the organization. Deliveries, returns and related subjects are part of the survey. These surveys are compared to previous years and between different markets. The main source of information regarding the reverse logistics is the customer service, or call centre, where customers call to get service. Each country where the fashion retailer has stores has a call centre. If several customers have called about a certain issue, this will be passed on to back office who will try to take care of the problem.

#### **4.2.3 Differences between reverse and forward flow**

The contact person from the fashion retailer explained that they have good control over reverse forecasting, they almost have greater control of that compared to forward forecast-

ing. They are seeing a pattern, that product returns are constant with sales; if they sell a great deal of clothes for a length of time, they can then expect a certain percentage of the products sold to be returned back.

*“Both sales forecasting and returns forecasting are difficult to predict, however the sales indicate what will be returned since a certain per cent of the products are returned.”*

Transportation in reverse logistics is an area the fashion retailer considers to be almost the same as forward, exception that it is reverse. The same hubs are used and the trucks can easily pick up returns when they deliver the products.

A major concern for the fashion retailer is speed. The speed of returning products back to make them available for reselling is stressed as a major concern. By doing so, the customer will receive their money back faster. Their contract with the transport firm allows them to focus on speed of bringing the products back, among other things.

*“We want the returns back as fast as possible. This in run somewhat smoothly because products are going out every day, then the trucks can take back products every day.”*

*“Speed is our primary concern, and they (the distributors) should make deliveries and pick-ups every day.”*

The products of the fashion retailer have the characteristics as soft, are in general cheaper than electronic products and less fragile. This affects packaging, for example it is easier for customers to package it properly and it is not necessary to use complex packages to protect it; a plastic bag is good enough. On the question whether product packaging is different between reverse and forward logistics;

*“Yes...”*

*“However, it does not really matter how the customer packages it, they can use a plastic bag and that is good, because then it will take less space.”*

The marketing methods for returned undamaged products are the same as new products and damaged products are given to charity. They are given to charity because of the low value/cost of the products. There are not any extra marketing efforts that are performed for returned products. Therefore, they are not returning products for remanufacturing and reselling to maximize value.

*“We have charities we send our returned products that are damaged, we do not have a sale or similar for those products.”*

*“So either the returned products are as good for us to resell it otherwise we give it to charity.”*

The fashion retailer explains that there is a large difference in visibility in the reverse flow compared to the forward flow. In forward flow they have track-and-trace, but not in reverse flow;

*“In reverse flow, basically we don’t know anything until it arrives to us. The customer only knows that they have sent the product; they can only track and trace it in certain markets”*

*“...This is something we are looking into deeper, because it is important information...”*

*“This is somewhat due to our systems; we don’t have the flexibility now to add a system to make it possible to capture that information”*

Regarding gatekeeping and avoidance activities, the fashion retailer stress the importance of information to make sure that the customer receive the right product and therefore does not have to return the product.

*“We have so much information on the webpage as we can to make it easier for the customer to make a right purchase. Information regarding sizes, garment, washing, colour, etc. furthermore we have a virtual mannequin, where customer can see how it looks on a real person, then the customer can match clothes what they are considering to purchase to see if for example a shirt would match to a pair of jeans that they are considering to purchase.”*

Reducing the cycle times is a critical concern for the fashion retailer. They are well aware that every garment/product has a limited life cycle and this area is something that they are looking into deeper;

*“Yes, to be able to sell it again as fast as possible. It is somewhat seen as a cost of having products in transit and not with us. It is important that the returns are back and handle quickly to make sure the customer receives their refund as soon as possible, and you also have a great deal of products that you are not able to sell until a week later maybe. And a week can be too late sometimes, for example if you have a campaign of certain products, or if it was real nice weather one week, we maybe sell a great deal of swimwear, and next week the weather is bad again, we may have lost that sale opportunity. “*

*“We are looking into deeper on statistics regarding packages not picked up from drop point. If the customer has received two reminders, how often do they actually pick the package up, and how often does the customer just let the package be sent back to us. Maybe we can reduce the time for the customer to pick the package up. So we are going to ask our transporters for such information. “*

The fashion retailer has a culture that the return centre should be located where you have the warehouse for convenience but also for strategic reasons;

*“...Then we achieve economies of scale, that everything is sent to one place, of course not all products are not sent to this centre but selling products and returning products for Denmark, Finland and Sweden is sent here.”*

Questions regarding the IT/IS system was rather sensitive to the fashion retailer. However they consider it to be really important when dealing with reverse logistics.

The fashion retailer is becoming more socially responsible and greener throughout the company. However, they are not returning products for proper disposal and recovering assets, which means that they are not returning products or part of products for reusing together with other products (example, take back a shirt to reuse the fabric in another shirt). This is mainly because of the costs and effort (environmental) for bringing products back are too great and because people today are good to give clothes to charity.

Furthermore, they are outsourcing their transportation activities because it is not their core competence.

The fashion organization can notice if some products are selling more at retail level but not online or the other way around they can perform a “move”. A move is when they move that product(s) to the popular medium (online or retail) to be able to serve the customers as

efficient as possible. Overstocked products are not returned back through the supply chain for reselling but rather handled locally in the form of sale.

Additionally the fashion retailer pointed out that they have extensive quality control when they receive the products in the beginning. They have not experienced or at least as the interviewee say;

*“There has not been any product that had to be recalled for quality and/or safety issues in recent time.”*

### 4.3 Overview empirical findings

Table 4.2 – Overview of empirical findings

Factor	Elgiganten	Fashion Retailer
Price of products	Medium to high	Low to medium
Main focus of reverse logistics	Keeping costs down	Speed
Fragility of products	Medium to high	Low
Withdrawing products which have failed but can be repaired/remanufactured and resold	Yes, for a reduced price	No
Product life cycle	Medium	Short
Withdrawing products for recycling	Yes, if necessary	Yes, if necessary
Drivers of reverse logistics	Green profile Satisfying customers Economic	Green profile Satisfying customers Economic
Barriers of reverse logistics	Costs Top management support to some extent	Costs Top management support to some extent
Recalling products for safety/quality issues	Yes, if necessary	Yes, if necessary
Keep statistics of why products are returning	No	Yes

The categorization of “price of products” is classification directly against each other. The electronic retailer is price-worthy against their competitors but is selling more expensive products in general compared to the fashion retailer. Furthermore, the fashion retailer is selling less expensive/price-worthy clothes compared too many of their competitors. However, the fashion retailer is still considered as high class fashion.

## 5 Analysis

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*This following chapter is used for the analysis of the study in regards to the purpose of the research, which was to investigate the different aspects of reverse logistics and how these influence the electronic and fashion industries. The findings from the empirical study will be analyzed and connected with the literature review.*

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### 5.1 Drivers and barriers within reverse logistics

Fleischmann et al. (1997) presents four drivers of reverse logistics:

- Economic
- Marketing
- Legislative
- Asset protection

One of the main drivers for reverse logistics at both the electronic and the fashion retailer is making the customers satisfied. The two organizations are working differently with capturing customer satisfaction. At the fashion retailer they hand out customer surveys, and at the electronic retailer they do not capture customer satisfaction at all.

#### 5.1.1 Drivers of reverse logistics

The two organizations agree on that customer service is the ultimate place where the organizations receive feedback on their reverse logistics and returning of products. This can be seen as a marketing driver, where the two organizations want a good reputation and wants the customers to be satisfied with their service.

Both organizations work closely with reverse logistics and try to make it as effective and efficient as possible. An area that the fashion retailer has come further with is realizing the importance of receiving information regarding what products are coming back.

Another driver for both organizations is to get the products back and that there is actual value in almost everything that comes back. This is an example of Fleischmann's (1997) economic driver, where the organizations can recover economic value from the products that are going back. Neither organization mentioned anything about taking products back in order to prevent leakage of sensitive information to competitors. This is most likely due to the nature of the products, electronic retailer for one; do not make any products themselves. The fashion retailers products are produced in such a high amount, competitors would be able to get hold of a product if they wanted to.

Legislative motive is a subject which was covered, but not a main driver for either of the organizations. The environment is an issue that has become more in focus in Sweden the past decade, and organizations are becoming more environmental-friendly. Both organizations mentioned the importance of having less transports, but not at the expense of the profitability of the organization. On the other hand, handling products which have come back in a proper way is of great importance for both organizations.

#### 5.1.2 Barriers of reverse logistics

Rogers and Tibben-Kemke (1999) identified the attitude of the organization and company policies as the greatest barriers to reverse logistics. Both the electronic and the fashion re-

tailer feel that reverse logistics is receiving a sufficient amount of support from the top management. Even though reverse logistics is still a new field for both organizations, top management of the two organizations have realized the consequences of not working with reverse logistics. However, the two organizations believe that with more support from top management, additional money and resources can be used to improve reverse logistics even further.

Both organizations mention that cost is a major barrier for reverse logistics. The electronic retailer mentions that it is easier to propose a new sales channel than investing money on reverse logistics. The fashion retailer indicates that can it be difficult to spend money on customers sending back products instead of buying new ones. There are also costs regarding the transportation of getting the products back, as well as the personnel in the warehouse who have to handle the products.

Ravi and Shankar (2004) mentioned barriers like problems with product quality, resistance to change, lack of appropriate performance metrics and lack of training and education. These barriers could not be identified at either of the organizations.

## **5.2 Differences in value of products**

When entering the fashion retailers website, prices on the products ranges approximately from 50 SEK to 1,000 SEK. The products are in other words, moderately cheap. At Elgiganten, on the other hand, the prices range from 20 SEK to over 70,000 SEK. Due to that, the products are more expensive at the electronic retailer compared to the fashion retailer; customers are more likely to actually visit a store in order to get a feeling of the product, to talk to a store clerk regarding the purchase and to compare other products. It is not likely for a customer to buy a fridge or freezer for over 20,000 SEK without looking at it first and considering thoroughly.

Buying a t-shirt or a skirt online can be more of a somewhat impulse buy. The likeliness of buying more garments is mirrored by the price; the cheaper the products are the more likely the customers buy more products, hence more returns.

Furthermore, this reflects the reverse logistics activities at the two organizations. Based on the data collection it is clear that electronic retailer is more prone to collect products back from the customer for minor adjustments or with a light damage to be able to resell (at a lower cost). This is especially true if the product in question is expensive; then electronic retailer want to return the product to be able to recover asset and/or make adjustments to sell the product again at a lower cost.

However, the fashion retailer is not performing such activities. The fashion retailer only resells clothes that are new. They are not performing minor adjustments to recapture value; this is mainly due to the low value of the product and the fact that handling costs would be too great. When the fashion retailer receives the product from the customer, they look at the return form to see why the customer returned the product. If the customer note that the product is damaged, the product is sent straight to charity. In many cases, the product is able to repair, but due to the low cost/value of the product, the handling cost would be too great. If the returned product is undamaged but perhaps to small/big for customer, did not look the same on the webpage as it did in real life or another reason; the product is quickly freshen up, folded nicely and sent to storage ready for sale.

### **5.3 Speed versus costs mentality**

When utilizing reverse logistics, there has to be a trade-off between speed and cost regarding how to get the products back again. The faster an organization wants the products back, generally the higher the price will be for the transporting. Products will most likely not be transported in a full-truck load, which is costly for both the environment and the transporting organization.

The fashion retailer utilizes more of a speed tactic where they want their products back as fast as possible. After a customer has sent the package back to the post office, a product can be ready to be sold again in just two days. The fashion retailer has set up contracts with their two transporting organizations, where they pay a fixed cost every year, instead of paying per transport. This means that they do not have to have the transporting costs in consideration as much as if they would pay per transport. Additionally, the non-fragile nature of the products facilitates that the fashion retailer can focus on speed. There are no extensive handling activities involved with transport due to that the products are usually soft and are non-fragile.

At the electronic retailer, the cost is more of focus. The speed is also of essence; however the size and the nature of the products make the transportation more difficult. The products tend to be larger than the fashion retailers, which makes optimizing the transportation more important. Furthermore, the products are typically more fragile making handling and transportation increasingly difficult. Consequently, making sure that products are not damaged in transit is difficult.

The fashion retailer sells products which have a short life cycle, and might be out of fashion quickly. This is the main reasons for having a greater focus on speed than electronic retailer. At the electronic retailer, a TV for example, also has a small window where that TV has the latest technology and is the newest on the market, but this is longer than for an example a summer skirt.

### **5.4 Forecasting and information regarding returns**

Being able to forecast how much and when products will return to the organization is becoming more important, for example how to efficiently use manpower in the warehouse. At the fashion retailer, speed is of essence (mentioned in 5.3) which means forecasting can be of great aid to the organization. The more the fashion retailer knows about the amount of products that are coming back, the faster they can sell them again. Products that have not been picked up by the customers are products that can directly be sold again. The fashion retailer is working intensively with trying to figure out why products are not picked up by the customers, and if they can shorten the time the products are lying in the pick-up point. This is a matter that the electronic retailer has not focused on, but maybe should because 50 per cent of their small box returns are never picked up. Handling activities and transportation costs are performed unnecessarily, both for getting the product out and bringing it back.

The two organizations acknowledge that they have good control over forecasting regarding reverse logistics due to the fact that it follows sales. As sales are increasing; product returns would as a result. It is much harder to forecast sales due to that there are more factors in the calculation, such as marketing activities, social factors and generally how the market is at the moment.

The two organizations work differently with keeping track of why products go back. At the fashion retailer they keep on-going statistics of why products have been sent back and various reasons for this. When the customer receives the product they get a paper with boxes of reasons of *why* they would like to return the product(s) if that is the case. This facilitates return activities, whether to give the product to charity or to resell it as new again.

At electronic retailer, they keep no statistics of why products are going back, and they do not see the importance of keeping statistics as of right now.

Neither of the organizations have any statistics which show that more products are sent back from online sales compared to in-store sales. However, both organizations agree that the likeliness of products getting sent back is greater from online sales. In the fashion industry, the likeliness of returns due to size will be limited. Both organizations agree on that they believe customers return products online which they would never return if they would have bought from the store, much due to that the customer does not have to face anyone.

The two organizations do not keep track of if it is a certain product that gets sent back by the customer. There is not a special product category which is sent back more often than others.

## **5.5 Recycling versus cost of handling and transporting**

Much of the literature mentions how organizations return products for proper disposal, recycling and remanufacturing.

Remanufacturing can be the same as minor adjustments, which the electronic retailer are currently performing but the fashion retailer is not. This is mainly due to the value and cost of the products; electronic retailers are in general selling more high value products.

If a company market themselves to be green and are open for recycling and proper disposal of products; they can gain a great deal of positive attention, both economically and socially which is discussed in the literature review. First, the organization could make money from recycling. Second, customers might prefer that products are disposed and recycled properly. However, the two organizations in this study are not actively returning products for proper disposal and recycling. One motive for this is that people today, especially in Sweden are already good at recycling and proper disposal of products, in both industries. In the fashion industry, there are second hand stores that collect used clothes to give to people less fortunate. Furthermore, it is convenient to recycle/dispose products from the electronic industry. Return stations make it possible to do this, and sometimes you get paid to do it.

The two organizations are not focusing much time and effort on recycling/disposal of products. However, they are not preventing customers to do it. The electronic retailer said that the customers are more than welcome to send products back for recycling, but then they have to pay the return costs. On a side note, the electronic retailer is forced by law to return their big box products for proper disposal/recycling.

The fashion retailer is merely cooperating with other companies that are performing recycling, but this is not much focus on due to the fact that customers are good recyclers of clothes themselves.

## 6 Conclusion

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*This chapter provide a summarizing chapter where the main findings from the analysis are presented. Additionally, this chapter covers managerial implications, reflections and thoughts about future research.*

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Performing reverse logistics in not an option today, it is a must and how organizations perform this task differs. The activities, processes, barriers, drivers, and what they are focusing on, all varies between organizations today. The electronics and fashion retailer in this study differ but also are similar in several aspects regarding their reverse logistics.

Firstly, the value/price of the products each organization sells differs greatly. This affects reverse logistics and what each organization focuses time on and spends money on. The electronics retailer with their medium to high prices are more eager to bring products back that might be damaged to be able to recover assets/resell them at a lower cost. The fashion retailer does take the products back also if the products are damaged but then the products are sent to charity. This is due to the low to medium prices of the products which makes it unprofitable for the fashion retailer to repair the product.

Furthermore, the fragile nature of the products differs greatly which affects reverse logistics activities in each organization. The electronic retailer is selling hard, and sometimes, fragile products that need proper packaging. In forward flow, this is done by professionals. However in the reverse flow, this is performed by the customer themselves. This can complicate transport and handling in reverse logistics to make sure that the product is not damaged on the way back. The fashion retailer's products are more often soft and non-fragile which facilitates packaging by the customer and transportation.

The fashion retailer's products have in general shorter product life cycle compared to the electronic retailer which affects reverse logistics activities. The fashion retailer focuses on speed when transporting products back. They want the product back as fast as possible to be able to sell the product again due to the short life cycle of the products. The electronic retailer on the other hand, is more concerned with keeping costs down when bringing products back. They can do this because of the slightly longer product life cycle which they possess.

Both companies are describing themselves as green and socially responsible which affects reverse logistics. Both organizations are open for returning products for recycling and proper disposal but these are not given much attention due to the mentality of customers today. Both organizations recognize that customers are recycling themselves and are disposing of the products properly in the form of second hand (fashion) and return stations (electronics).

Both organizations identify that customer satisfaction is a driver for conducting reverse logistics and to be seen as "green" by the customers, can be seen as a marketing driver. However, how they collect that information is different.

The two organizations are returning products for reselling which can be seen as the economic driver. The electronic retailer is performing this to a greater extent due to the high value of their products.

Both organizations said that reverse logistics is getting a great deal of attention from top management, but they both could conduct processes more efficiently if even more attention would be given.

Furthermore, the costs of reverse logistics are a barrier in both organizations. Because after all, it is extremely hard (impossible?) to actually make money from reverse logistics, only save money; it can therefore be seen as unnecessary to spend more money and time on reverse logistics processes.

The two organizations recognize that forecasting reverse logistics is mirroring the sales of the organization. An increase in sales will increase the amount of returns.

Keeping track of why products are returned is an area where the two organizations work differently. The electronic retailer keeps no track of why products return, while the fashion retailer keeps extensive statistics of this.

Managerial implications of this study can be that even though both organizations are well-aware that reverse logistics is important and are focusing a moderate amount of time and energy on it; there is still work to be done. For instance, if e-commerce would increase there could be a need for more extensive forecasting methods regarding reverse logistics in both organizations. Furthermore, the IT/IS systems for both organizations seems to be primarily designed to handle forward flow, which could be a problem in the future. Finally, if reverse flow would increase, there could be a greater need for returning products for maximizing value and recovering assets instead of recycling/charity.

Taking everything into consideration, it does not matter if an organization is an electronic or a fashion organization; reverse logistics will still be an important area in the organization. Customers are demanding it; the environment will have a hard time to survive without environmental considerations such as reverse logistics and organizations can cut costs with effective execution regarding reverse logistics. However it does matter what kind of organization has products returned and what products are sold. Because of the life cycle of the products, the price of the products, the fragility of the products the drivers/barriers of the organization, will all affect the organization's reverse logistics processes.

## **6.1 Reflection on the research process**

The purpose of this study was to investigate the different aspects of reverse logistics and how these influence the electronic and fashion industries. The empirical findings collected were interesting; much of what was found could be related back to the theories found in the literature review. The authors consider that the methods used were suitable for this study; the semi-structured interviews that were conducted were an appropriate technique and gave results that were useful.

The results after the analysis were, however, not ground-breaking in the sense that something completely new can be added to the field of reverse logistics. The study does nevertheless provide a valid comparison of the electronics industry and the fashion industry in regards to handling reverse logistics, which was a gap in current literature.

## **6.2 Suggestions for future research**

If this study should be used in future research, the authors believe a greater focus should be put on involving more organizations. A more extensive study with several electronics and fashion organizations could provide the study with further useful results.

Other comparative studies between industries regarding reverse logistics would also be interesting for the whole field of reverse logistics studies.

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## 7 Appendix

### 7.1 Appendix 1 - Differences in forward and reverse logistics

Forward	Reverse
Forecasting relatively straightforward	Forecasting more difficult
One to many transportation	Many to one transportation
Product quality uniform	Product quality not uniform
Product packaging uniform	Product packaging often damaged
Destination/routing clear	Destination/routing unclear
Standardized channel	Exception driven
Disposition options clear	Disposition not clear
Pricing relatively uniform	Pricing dependent on many factors
Importance of speed recognized	Speed often not considered a priority
Forward distribution costs closely monitored by accounting systems	Reverse costs less directly visible
Inventory management consistent	Inventory management not consistent
Product lifecycle manageable	Product lifecycle issues more complex
Negotiation between parties straightforward	Negotiation complicated by additional considerations
Marketing methods well-known	Marketing complicated by several factors
Real-time information readily available to track product	Visibility of process less transparent

Differences in forward and reverse logistics ((Tibben-Lembke & Rogers, 2002, p. 276)

### 7.2 Appendix 2 - Fashion retailer statistics

Complete return statistics for the fashion retailer in per cent

Andel returkoder per lagerland. H2011. 4jul2011 - 18dec2011	Per lagerland, totalt	
	LSE	
	Andel, %	
returkod1		
Too Small	15,6	
Too Big	13,3	
Not what I expected	36,27	
Faulty stitching	1,13	
Shrinkage after washing	0,07	
Colour ran after washing	0,03	
Delay in delivery/Changed mind	5,19	
Wrong items delivered	2,1	
Items missing	0,28	
Not delivered	3,9	
Denayed purchase	1,18	
Unclaimed	20,96	
Total	100	

### 7.3 Appendix 3 - Interview questions

Categories	Themes	Questions
General		How does the reverse flow of your organization look like?
		Who are the actors in the reverse flow? What are their roles?
		What types of products are generally returned? Can you see a pattern of what kinds of products are mostly returned? Why is this?
		Is it possible to see a difference in the amount of products that are bought and returned from the Internet compared to in-store buys?
Drivers		What drives reverse logistics at your organization?
		What do you think is the most important driver for your organization? Economic, Marketing, Legislative or Asset protection?
		How do you think your organization benefits from your reverse logistics?
Barriers		What do you believe are the major barriers for reverse logistics in your organization?
		How is the top management support for reverse logistics?
Customer		How do you capture how customers value your reverse logistics?
		How often do you do this?
Differences between reverse and forward flow		Do you operate differently between forward and reverse flow?
		What is different (why)
		How and why is forecasting different between forward and reverse flow?
		Is transportation different? How? - costs, modes of transport, etc Why
		The destination/routing, is that different? Is product packaging different?

Reverse Logistics Educational council proposes issues to take into consideration (Langley) 11 issues

How, why?

Is marketing methods different for returned products?  
How? Why?

The visibility in products going backward, is that different?  
How, why?

Costs between reverse and forward, is that different?  
Why? How?

### **Gatekeeping**

Are you doing anything to try to eliminate/minimize unnecessary returns?

If yes, then what kind of unnecessary returns?

Are you controlling/screening products at entry point?

### **Avoidance**

What are you doing to trying to avoid returns? Producing high quality products and adopting appropriate processes for example

### **Reducing reverse cycle times**

Is this important? Why, why not?

### **Return centers**

Is this a strategic (long-time benefit) choice?

Where to place the return centers...

### **Information systems**

Is this important? What makes Informations Systems important to your organization?

### **Pricing**

How is price negotiated best, to return products and re-sale them

### **Asset recovery**

Are you returning products for recover assets? To dispose them properly. Why, why not?

### **Remanufacture/refurbish**

Are you returning products for remanufacture and reselling to maximize value?

### **Outsourcing**

Do you have all expertise in-house to handle the reverse logistics?

Are you outsourcing to handle reverse logistics most efficiently?

Why, why not?

### **Zero returns**

Do you have (or considering) a policy to exclude returns by a returns allowance and/or destroying the products in the field

Why, why not?

### **Financial management**

Do you have guidelines to properly account for charges against sales?

Langley 8 categories of reverse flow reasons and sources

### **Why are products going back?**

Products are obsolete or near end shelf life, but have some value for resale or salvage

Products have failed but can be repaired or remanufactured and resold

Overstocked products that are unsold at retail level and may have resale value

Recalled products for quality or/and safety issues

Products that are pulled back for repair and quickly returned to service

Products that can be recycled, such as computer inkjet cartridges

Products/parts that can be remanufactured and resold

Scrap metal that can be used as raw material for additional manufacturing.