Postponement & Speculation in Electronics Retailing

case studies on Swedish retailers

Master thesis within Supply chain management
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Jönköping: Spring, 2011
Master’s Thesis in Business Administration

Title: Postponement & Speculation in electronics retailers

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Date: [2011-05-15]

Subject terms: Postponement, speculation, logistics, supply chain management, retailing

Abstract

Problem: Volatility and uncertainty in the supply chain has brought forward different challenges and opportunities for retailers over the years. For consumer electronics retailers in particular, short product life cycles and uncertainty of demand has given rise to different approaches such as postponement and speculation in the retail channel. Postponing different functions in the supply chain can be a source for reduced inventory costs, reduced logistics costs and greater customer satisfaction. As consumer electronics retailers face the uphill challenge of offering increased customization and services to consumers, a loss of focus on the efficiency and costs in the supply chain can be cause for less competitiveness in an already extremely competitive market. Postponement strategies can thus offer consumer electronics retailers a gateway to the conventional speculation approach and thereby reduce the heavy dependence retailers have on forecasting.

Purpose: To analyze the postponement/speculation strategies applied by consumer electronics retailers.

Method: An inductive approach was undertaken with qualitative interviews and observations held with three consumer electronics retailers located in Sweden.

Results: The study shows that postponement activities within manufacturing and logistics processes is yet to be applied to a greater extent by consumer electronics retailers. The retailers tend to still speculate and forecast demand using sales forecasts and projected demand prognoses. The few elements of postponement found, were in the logistics flows and especially in the reverse logistics flow. For the three product categories which were chosen as focus of the study, there were slight deviations found for how the retailers apply postponement and speculation. This was found to related to their procurement and life cycle characteristics. The decoupling point was found to be down-stream, close to the retailers and hence emphasizing the make-to-stock approach which characterized the product flows in the supply chain. Reasons behind the lack of postponement application were found to be external market conditions and limited market scope of the retailers, making speculation and forward buying economically more justifiable than postponement. Volatility in demand for short life cycled products were dealt with through the use of intermediaries and a moving the material decoupling point somewhat upwards.
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Acknowledgments

Hereby, we would like to send our special appreciation and thanks to our supervisors Professor Susanne Hertz and Hamid Jafari for their continuous guidance and support during our thesis work. Without hesitation, they have always tried to find some time to discuss coming issues and guide us to find the suitable direction throughout this research.

Furthermore, a special thanks to Peter Karlsson at El-giganten, Per Olofsson at Neton-Net and Mikael Erlandsson at MediaMarkt for their input in this paper.

Finally, we would like to dedicate this research to our parents for whom if it were not for their support, we would have never made it this far. Thank you for being there for us whenever we needed you and thank you for your continuous encouragement.

Lastly, as a personal wish, we hope that this thesis work could be a small useful step forward for researchers in both the academic world and related industrial sectors.

Yours faithfully,

Masoud M. Tabar                                               Hamid Karimi

Jönköping International Business School, May 2011
1 Introduction

This section starts with a general introduction to the concepts of postponement and speculation. This is then further developed in the background and problem discussion sections but more specifically applied to an electronics retailing setting. The chapter then continues with the purpose statement of the study with corresponding research questions before it ends with the perspective of study and delimitations.

In today’s increasingly globalized and competitive market place, retailers and their supply chain partners face the daunting task of reducing costs and inventory levels, preferably without compromising on customized services or dwindle on the responsiveness to changing customer demands. In the past, high responsiveness often meant carrying large inventories in order to avoid stock-outs and combat demand fluctuations (Graman & Magazine, 2006). Today however, the cost of holding inventory and the seeming risk of product obsolescence has pressurized retailers to adopt a minimalistic approach to inventory keeping. Consequently, a major challenge for retailers today is how to balance leanness and cost efficiency in the supply chain with flexibility and increased focus on customers’ specific needs (Mason-Jones, Naylor & Towill, 2000).

One increasingly growing approach to maintain high responsiveness to changing customer demands and market uncertainty is by postponing value added activities of products up and down-stream in the supply chain until demand is better known (Graman & Magazine, 2006; Yang, Burns & Backhouse, 2004). Postponement in this sense can be utilized by retailers in contexts where great uncertainty is present and when attempting to mitigate the negatively related consequences typically found in volatile markets with short product life cycles and fluctuating customer demand (Yang B, Yang, Y. & Wijngaard, 2005).

In contrast, when demand is known and the market is less volatile, retailers can opt to utilize what is known as speculation (Cooper, 1993). Speculation deals with changes in form and the movement of goods to forward inventories and asserts that these changes should be made at the earliest possible stage in the supply chain, in order to decrease the costs of the supply channel (Bucklin, 1965). Some of the benefits involved in applying speculation strategies are higher levels of economies of scale in manufacturing and logistics operations, as well as also limiting the number of stock outs (Pagh & Cooper, 1998; Cooper, 1993). For retailers where variables such as economies of scale, stable customer demand and high volume are strongly apparent and pivotal in the supply chain, utilizing a strategy based on speculation principles is more than common (Mattsson 2002).

1.1 Background

When discussing highly volatile retail markets with short product life cycles and vast product varieties, the consumer electronics industry is typically referred to (Helo, 2004). Thus, it should not come as a surprise either that the consumer electronics industry tend
to utilize delayed differentiation to standardized products in the supply chain (Gunasekaran, 2005). The volatility in the industry is usually derived from the high amount of changes existent both at supplier, retailer and consumer level (Appelqvist & Gubi, 2004). Typically, constant changes in technology development is cited as one of the main culprits behind increased costs for electronics retailers for holding obsolete finished goods inventories in their supply and distribution channels (Johnson & Anderson, 2000). To illustrate, take the example of Hewlett-Packard in 1999, where an average DeskJet printer had an average life cycle of 18 months whilst a PC typically had 6 months. Meanwhile, the annual cost of holding the same printers and PC’s in inventory could account for almost 50 % of the actual product cost, thus highlighting the importance for retailers of keeping low inventory levels, which is especially vital in an industry where products are rapidly depreciating in value and where margins are already low (Johnson & Anderson, 2000).

As Bucklin (1965) & Van Hoek (2001) assert, the constant fluctuating demand within the retailing industry has caused some problems for the retailers as they need to find the right balance and avoid repercussions of excess inventory on one end, and the implications associated with stock outs on the other end (e.g. loss of sales and losing customers to competitors). What is more, inconsistencies and fluctuations in demand patterns typically leads to distorted information flows between supply chain actors whereby the effects get amplified, also known as the bullwhip-effect (Lee, Padmanabhan & Wang 1997). Consequently, a growing trend in the industry has emerged where value-added processes are postponed until customer demand has been distinguished more reliably. This effectively is how the postponement phenomenon is brought into the consumer electronics industry, affecting not only retailers and suppliers but ultimately the end consumers through a larger variety of differentiated products.

As it stands, both postponement and speculation are methods used by retailers in their quest for greater visibility and control of the supply chain (Van Hoek, 2001; Pagh & Cooper, 1998). And although postponement and speculation tend to be described as each other’s opposites, they are seldom mutually independent. In fact, supply chain actors tend to employ both strategies in order to keep the balance of supply and demand intact (Pagh & Cooper, 1998). One approach to finding a fitting balance between speculation and postponement is by locating the point in the supply chain where the forecast-driven and the demand-driven elements are met (Olhager, 1994). This point, also known as the decoupling point, allows for mitigation of potential discrepancies found between forecasted demand and actual demand. (Mason-Jones, Naylor & Towill, 1999b; Olhager, 1994). By identifying a suitable decoupling point and finding the balance between forecast driven (speculation) and customer-driven (postponement) activities in the supply chain, retailers can leverage off several advantages such as more agile delivery, flexibility and increased leanness in the supply chain (Cooper, 1993).
1.2 Problem discussion

Because of the nature of electronics products, retailers in this industry are constantly struggling to achieve the optimum level of efficiency and effectiveness within the supply chain as they are always obligated to deal with volatile customer demands. As discussed above, these fluctuations in demand usually come from short product lifecycles and the high level of competition between retailers in order to obtain further market shares. Thus, the question remains how electronics retailers can address a frequent predicament in their industry, where customers on one hand want their orders to be filled more quickly, and on the other end expect highly customized products and services? Even when combining these two, retailers must do so at an acceptable cost and thus the challenge lies in finding the appropriate strategy which can cater both leanness in the supply chain as well as the flexibility to deal with uncertainty.

This has created the incentive to conduct a study on how major electronics retailers utilize postponement and speculation approaches in their supply chains. The attractiveness of conducting a study within this field of area can be assigned to the enormous challenge facing retailers in today’s rapidly technologically changing environment where a cellphone bought today can already be obsolete by tomorrow. Thus, electronics retailers must face the market uncertainty connected to their industry and as this study shows, they can do so via the deployment of postponement and speculation tools in their supply chains.

With respect to the initial literature review on the topic, we found that although there are plenty of theoretical contributions to the postponement and speculation field available, there is surprisingly few studies conducted with a more practical minded approach which scrutinizes the postponement and speculation strategies of electronics retailers with both an upstream and downstream view. Thus, the authors wanted to use this study in order to explain and describe the postponement and speculation decision-making activities taking place at top management level within retailers selling electronics devices.

1.3 Purpose

To analyze the postponement and speculation strategies applied by consumer electronics retailers.

1.4 Research questions

1. What type of postponement/speculation do the retailers use?
2. Where is the decoupling point?

1.5 Perspective

The study use retailers as focal points conveying their upstream, downstream postponement/speculation activities Furthermore, the authors of this study focused on study-
ing electronics retailers in close geographical proximity to each other due to their co-existence and competiveness on the same market and catering the same local consumers

1.6 Delimitation

This study does not focus on sub-suppliers and tiered suppliers, as the focal focus is on the retailers’ activities. Furthermore, the study will not be scrutinizing B2B-sales.
2 Frame of reference

The frame of reference chapter has been developed with specific consideration given to the major themes of this study. The research is set from a retailer perspective and thus, it is fitting to give a retailing background and overview of the retailing industry. Since a specific segment of retailing, consumer electronics retailers is the focus of the study, a section with major characteristics and challenges present in this industry is also given. The other major themes concerns postponement and speculation and these have been chosen mainly based on the literature review and the research questions in mind.

2.1 Retailing

Retailing refers to a set of business activities that add value to the products and services sold to consumers either for their private or family usage (Levy, Weitz & Beattie, 2005). The relationship exchange between retailer and customer can come in multiple forms such as face-to-face, telephone and through the Internet (Berman & Evans, 2004). Retailing has changed vastly over the last three decades as it has gone from mainly being focused on mid-market retailing in physical departmental stores in the 1980’s to an enormously multi-faceted industry with the emergence of specialty retailers and niche focused sellers. A fast growing segment of the retail industry, known as “category killers” has characterized the structural development of retailers (Miller et al. 1999). Category killers are mainly characterized by two distinct attributes: a) their extreme competitiveness, which is typically derived from aggressive pricing, and b) their extreme concentration to distinct elements such as specific products and brand categories (Larsen 1997). In the United States, the arrival of deep discount stores such as Wal-Mart and Costco in the 1990’s polarized the retailing industry with deep discount stores with strong market penetration and more niche stores with a clearer focus on value added features such as customer service and quality (Berman & Evans, 2004).

On a general note, retailing today is an extremely fast moving and constantly developing industry where customer preferences are continuously evolving and creating new challenges for vendors, something which is highlighted by the emergence of new retail structures. (Standing, 2009). There is now an increasing trend of extending the availability of products and services offered by retailers to more than just physical stores. The emergence of commerce over the Internet (e-commerce) has enabled retailers to save facility and human resources costs, reducing procurement costs, lowering transaction costs in addition to expanding the accessibility to new markets and customers (Standing, 2009). In Sweden alone, turnover by retailer e-commerce to end consumers have drastically increased from 4.9 billion SEK in 2003 to 22.1 billion SEK in 2009, representing an increase of over 300 per cent (Handelns Utredningsinstitut, 2009).

2.1.1 Classification of retailers

Categorizing retailers can be somewhat tricky but the positioning is usually based on the breadth of their offered products and services in addition to their target group (Freathy,
Bucklin (1972) stressed that retailers can be classified according through the manner in which the firm engage in the trade of a commodity. This involved categorizing the retailers according to their size, product variety and geographical expansion. Kotzab & Bjerre (2005) categorized retailers into three distinct groups:

- **Non-store retailers**: Electronic commerce, mail orders, cybermalls
- **Store-based retailers**: Supermarkets, convenience stores, department stores, discount stores, outlets, specialty stores
- **Hybrid retailers**: Home deliveries, door-to-door sales, street markets, market halls

While Kotzab & Bjerre’s categorization is based on the nature of the sales transactions and tangibility of stores, Kotler & Armstrong (1996) used the term *consistency* in the product line in order to describe how closely related the different product lines are. A clothing retailer for instance would have high consistency since the only commodity sold would be clothes while a supermarket retailer would have low consistency due to high variety of products ranging from frozen foods to engine oil for cars. Miller, Rerdon & McCorkle (1999) used the product line consistency concept and included in their classification of retailers the additional element of competitiveness. Retailers which have the highest level of consistency and with product lines which fulfill complementary and specific product market end-use needs are named *limited-line specialists*. Retailers that offer a broader level of consistency in the product line are classified as *broad-line specialists* and retailers which offer inconsistent product lines to fulfill non-complementary and independent product needs are termed *general merchandisers*.

Kotler & Keller (2006) further highlighted the importance of product range and the value added to product lines and services offered (see Figure 1 below) in their classification retailers. Value-adding in the retail setting can come in numerous ways and can be attached to unique product characteristics such as form, design, functions, availability or peripheral attributes concerning the packaging or availability of accessories. On the service side, added value can be found in extraordinary pre- and after sales customer services through for instance unique knowledge about products by the staff, availability of personnel and generous conditions for returns (Levy et al. 2005).
Depending on the focus which a given retailer undertakes, there are some important implications which can be described as rules of thumbs. For instance, focusing on highly value added products and services to customers tend to bring high margins but lower turnover. Conversely, focusing on low value added products and services bring lower margins but high turnover (Coughlan & Anderson, 2006).

2.1.2 Retail competition

Among these three categories of retailers, there are different layers of competition existing (see Table 1 below).

Table 1- typology of retail competition (Miller et al. 1999, p. 108)

<table>
<thead>
<tr>
<th>Limited-Line Specialist</th>
<th>Broad-Line Specialist</th>
<th>General Merchandiser</th>
</tr>
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<tbody>
<tr>
<td>Limited-line specialist</td>
<td>Intratype</td>
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</tr>
<tr>
<td>Broad-line specialist</td>
<td>Intertype</td>
<td>Intratype</td>
</tr>
<tr>
<td>General merchandiser</td>
<td>Intercategory</td>
<td>Intercategory</td>
</tr>
</tbody>
</table>

Intra-type competition refers to competition taking place between retailers of the same type, for instance limited-line specialists selling the same products. An example could be smaller niche electronic retailers selling only cellphones. Intertype competition is between limited-line specialists and broad-line specialists selling similar merchandise. Here the competition could be between the smaller cellphone retailer and a large electronics retailer which sell cellphones but also a wide range of other electronics products. The last category of competition called inter-category competition exists between the specialists and the general merchandisers selling similar products (Miller et al. 1999).
Here the small, niche cellphone retailer could be competing with the bigger electronics retailer and a larger department store where electronics is only one category of products offered.

2.1.3 Consumer electronics retailers

Electronic chain retailers typically fit into this category where the market is extremely price competitive and difficult to penetrate into as a new player (Mantala & Krafft, 2010). The electronics retail industry is characterized by specific drivers which ultimately molds the retail shape and structure of vendors belonging to this industry. The retailers typically possess strong channel relationships and contest with competitors based on customer service differentiation and content delivery (Helo, 2004). Customer service and inventory management are two of the major responsibility fields of consumer electronics retailers while product replenishments are much more dependent on the actions of OEMs in the electronics industry (Jumeja & Rajamani, 2003). The extreme dependency towards OEMs by actors in the consumer electronics supply chain has created discrepancies in the supply/demand channels leaving the downstream actors such as retailers and vendors with manipulated order/inventory conditions which have amplified the so called bullwhip-effects (Juneja & Rajamani, 2003).

The repercussions of these deviations has led to challenges for consumer electronics retailers concerning overstocks and stock outs as the projected demand has been inconsistent with the actual market demand leaving the retailers with too much stock or too little stock (Larsen, 1997; Juneja & Rajamani, 2003). Another issue characterizing retailers in this industry is their vulnerability towards product obsolescence. Lifecycles across electronics goods are typically short compared to other common consumer commodities (Appelqvist & Gubi, 2004) and here retailers face challenges in emptying the stocks of older generation products before the new generation has entered.

Juneja & Rajamani (2003) briefly describe some of the main characteristics and differences between electronic goods retailers in North America and those in Asia and Europe.

- North American retailers: rise of category killers such as Best Buy has consolidated purchasing and pressurized OEM margins. The growth of e-commerce firms offering electronic goods on the Internet (e.g. Amazon.com) has forced traditional retailers to enter the web.

- Asian/European retailers: greater extent of fragmentation on the market. Larger presence of smaller stores with in-store inventories with focus on premium services and product availability.

It should be noted that since 2003, e-commerce players have gained even greater presence in the market for consumer electronics goods. In Europe and UK in particular traditional powerhouse chains such as Euronics and Dixons now offer sales over the Internet and in Sweden, purely dedicated electronic e-commerce retailers, or non-store re-
tailers (Kotzab & Bjerre, 2005) such as Dustin and inWarehouse have emerged offering traditional retail chains greater competition.

2.2 Postponement

Boone, Craighead et al. (2007), in addition to Van Hoek, Commandeur & Vos (1998), recognized that the historical and practical business application of postponement dates back all the way to the 1920’s. Concurrently, its academic roots can be traced back to the 1950’s where Alderson (1950) first introduced the concept as a marketing strategy. Alderson asserted that postponement could be used to reduce the risks and uncertainty usually involved when dealing with customization of goods through form, place and time until demand is better known (Yang B. et al., 2005). Bucklin (1965) further expanded the concept by incorporating risk management and stating that postponement involves shifting the risk of ownership (of goods) across the distribution channel. Bucklin exemplifies by referring to how a manufacturer can postpone the risk downstream to the buyer by refusing to produce unless it’s make to order, while the intermediary on the other hand can refuse to buy unless next day delivery is guaranteed by the seller, something he refers to as backward postponement.

Postponement has received its greater share of attention over the last two decades as it has been discussed extensively within contemporary supply chain literature (Zinn & Bowersox, 1988; Pagh & Cooper, 1998 and Yang & Burns, 2003). Van Hoek (2001) defines postponement as a concept whereby selected supply chain activities are delayed until customer orders are received. Yang & Burns (2003) concur with this definition and add that by conceptualizing the idea of conformity to the end user’s demands, postponement can be part of every facet of a firm’s business operations – from product development to manufacturing and distribution of final goods/services. Yang, Burns & Backhouse (2004) continue on the same path and define postponement as a strategy which intentionally delays a certain task rather than pursuing it with incomplete or unreliable information input.

There seems to be consensus amongst scholars today that a well-defined postponement strategy can yield positive benefits for firms as it can contribute to lower inventory levels, lower logistics costs and a more rapid response to customer’s needs (Yang & Burns, 2003; and Zinn & Bowersox, 1998). Van Hoek et. al (1998) noted already more than a decade ago that there is a growing shift amongst European and North American companies into incorporating postponement activities into their business operations. Based on a survey on 3693 companies by the Council of Logistics Management, Van Hoek et. al (1998) stated in their study at the time that more than 40 percent of the North American respondents and over 50 percent of the European respondents employed postponement strategies to a greater extent compared with the previous five years.

Perhaps the popularity of postponement as a research field over the last decades or so can be assigned to the practical recognition it has received from the corporate world.
Large global firms such as HP, Dell, Benetton, Motorola and Toyota are well known for incorporating postponement mechanisms into their global strategies (Hoi & Yeung, 2007). Benetton, the well-known clothing retailer, in particular has often been one of the most cited examples within postponement literature as the company used postponement to improve its responsiveness to its customer base demands (Boone et. al, 2007). Specifically, Benetton postponed the dyeing of its garments and thereby managed to position itself better to respond to demand surge for a particular color and at the same time reduce its excess inventory for less popular colors (Boone et. al, 2007 & Dapiran, 1992).

### 2.2.1 Postponement types

Although there is some consensus amongst researchers regarding the definitions of postponement there are somewhat larger variance between scholars as far as how to categorize different postponement types. Paché (1994) identified postponement types relating to form, identity and place. Van Hoek (1997) described further types of postponement such as logistics, price, design, purchasing and information. Van Hoek (1997) and Olhager (1997) stated that by choosing different production methods such as engineering to order (ETO), purchasing to order (PTO), make to order (MTO), manufacture/assemble to order (ATO), supply chain role players can benefit from the strategic implications of the postponement concept by just shifting the customer order decoupling point (see section below on decoupling point).

A well-cited study by Pagh & Cooper (1998) stated that since postponement is tied to the differentiation of goods, postponement can essentially be tied to three variables: form, place and time. Form postponement is defined as postponing or delaying activities related to the form or function of the product until customer order is translucent. Place postponement is related to the delay of the movement of goods downstream until orders are received and time postponement concerns delaying activities until orders are in. Zinn & Bowersox (1988), in perhaps one of the most cited studies on postponement types, recognize that postponement ascribed to the form of the product can be extended with focus on the labeling, packaging, assembly and manufacturing aspects. These four types, when combined with time postponement constitute the five types of postponement. The five postponement types are shortly described below:

**Labeling:** in the context of labeling postponement products are marketed under different brand names and are shipped un-labeled to a warehouse or distribution center and await the customer order before being assigned the specific labeling. A typical example is tomato cans where the cans are shipped in standardized bright cans and inventoried until a customer order for a specific brand is received and the label is consequently attached (Zinn & Bowersox, 1988; Yang, Burns & Backhouse, 2004).

**Packaging:** postponement packaging can occur under the assumption that the product is produced and marketed in different package sizes. Products are bulk shipped to warehouses and packaged based on the customer receipt. An example is laundry detergent which comes in different package sizes (Zinn & Bowersox, 1988; Yin, 2003).
Assembly: A standard commodity with several common parts sold in different configurations which are unique in the eyes of the customer can be subject to assembly postponement. An example could be hair dryers sold in three different plastic cases where the dryers have the same functions with only the colors being different (Van Hoek, 2001; Hoi, Selen & Zhou, 2007).

Manufacturing: In manufacturing postponement, usually semi-finished products can be customized quickly based on the customer order. An example could be soft drinks where syrup is transported to bottling facilities and then sugar and water are added to produce the drink (Zinn & Bowersox, 1988; Pagh & Cooper, 1998).

Time: postponement contingent on time essentially means products are distributed when customer order is received by central inventory system or when products in semi-finished form is customized quickly in production facilities close to the customer. Common example is electronic components distributors who reduce their warehousing facilities and instead stock their products centrally and relying on the availability of real time communications and overnight deliveries (Lambert & Garcia-Dastugue, 2007; Zinn & Bowersox, 1988; Hoi et al. 2007).

Table 2- Potential utilization of postponement (Zinn & Bowersox, 1988, p. 133)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>POSTPONEMENT TYPE</th>
<th>POTENTIALLY INTERESTED FIRMS</th>
</tr>
</thead>
</table>
| A     | Labeling          | - Firms selling a product under several brand names  
          - Firms with high unit value products  
          - Firms with high product sales fluctuations |
| B     | Packaging         | - Firms selling a product under several package sizes  
          - Firms with high unit value products  
          - Firms with high product sales fluctuations |
| C     | Assembly          | - Firms selling products with several versions  
          - Firms selling a product whose cube is greatly reduced if shipped unassembled  
          - Firms with high unit value products  
          - Firms with high product sales fluctuations |
| D     | Manufacturing     | - Firms selling products with a high proportion of ubiquitous materials  
          - Firms with high unit value products  
          - Firms with high product sales fluctuations |
| E     | Time              | - Firms with high unit value products  
          - Firms with a large number of distribution warehouses  
          - Firms with high product sales fluctuations |
The five types of postponement described above can ultimately be shortened as the first four revolves around the product tangibility’s and the last one concerns the movement of the product. This idea is supported by Lambert & Garcia-Dastugue (2007) who state that literature on postponement types can roughly be divided into two categories a) postponement which concerns the change or delay of sequences of activities affecting the actual product design and related manufacturing processes, and b) postponement which concerns the forward moving of products, also known as geographic postponement (La Londe & Mason, 1985), logistics postponement (Pagh & Cooper, 1998) and time postponement (Zinn & Bowersox, 1988).

2.3 Speculation

Usually described as the direct contrast to postponement, speculation can typically be found as sub-paragraphs and chapters in well cited postponement literature presented as the alternative to postponement, such as in Bucklin (1965); Zinn & Bowersox (1988); Pagh & Cooper (1998) and Yang, Burns & Backhouse (2004). The literature on speculation can more difficult to find as it tends to be tightly integrated with postponement literature and where the emphasis tends to be put on the postponement side. Nevertheless, speculation concerns changing forms of the product and moving goods to inventories as early as possible in the supply chain (Hoi et al. 2007). Pagh & Cooper (1998) state that speculation in manufacturing is essentially utilizing a make-to-stock (MTS) approach based on demand forecasts while speculation in logistics involves using decentralized inventories (Hoi et al. 2007).

Pagh & Cooper (1998) remarks that speculation is in fact more common amongst companies than postponement much due to the traditional utilization of forecasts by companies to predict demand well ahead of time. This is especially common for commodities where the demand pattern is predictable and homogenous. At retailer level, Zinn & Bowersox (1988) ultimately describe speculation as an anticipatory approach to traditional physical distribution by relying heavily on sophisticated forecasting techniques. Furthermore, it is stated that demand must be forecasted for every brand, package size and version of product.

As noted, speculation in manufacturing principally means producing goods and store them according to the make-to-stock (MTS) concept (Hoi et al. 2007). Products are thus early on differentiated (if differentiation exists) based on expected demand and inventoried as early as possible in the supply chain. Speculation however does not always relate to the production and the usage of raw materials as it could also be applied to logistics (Pagh & Cooper, 1998), part components and finished goods via deliveries in large batches with the attempt to ensure economies of scale benefits (Gilles, 1995). For instance, retailers and vendors can choose to purchase goods ahead from manufacturers, not only as a safety measure towards seasonal demand inconsistencies (e.g. Christmas), but also because buying a larger quantity ahead could ensure a better price from the manufacturers (Hoi et al. 2007). The economies of scale incentive of speculation is also
noted by Bucklin (1965), who recognize that speculation allows goods to be ordered in large quantities rather than small, frequent orders. This enables cost reductions in logistics and product handlingsorting. Speculation is generally associated with the typical standard supply chain where focus is on volume and pushing products to the market (Gunasekaran, 2005). Figure 2 below highlights how the different business functions could look like in a speculative approach:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Traditional supply chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>Push—sell from stock</td>
</tr>
<tr>
<td>Production</td>
<td>Focus on level and stable schedules: fixed order lineup</td>
</tr>
<tr>
<td>Logistics</td>
<td>Mass approach—non-differentiated</td>
</tr>
<tr>
<td>Customer relationship</td>
<td>Dealer-owned</td>
</tr>
<tr>
<td>Managing uncertainty</td>
<td>Finished goods inventory buffers</td>
</tr>
<tr>
<td>Finished goods inventory</td>
<td>High stock control</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Long lead times</td>
</tr>
</tbody>
</table>

Figure 2 - Speculation in a supply chain (adapted from Gunasekaran, 2005, pp. 426)

The above illustration is extremely simplified as firms may well employ postponement in one business function and postponement in another (Pagh & Cooper, 1998; Bucklin, 1965). Yet, it shows in essence how speculation takes the anticipatory approach relying on forecasting and pushing products to the market in high volume. This approach also tends to offer little in variation and differentiation of products (Gilles, 1995) as the focus already at manufacturing level is to save costs through standardization.

2.3.1 Relation between postponement/speculation and bullwhip effect

When variability occurs upstream or downstream in the supply chain it can contribute to negative consequences for the dependencies involved between actors, activities and resources (Svensson, 2003). Variability in this sense could refer to poor forecasting, excessive inventory, insufficient or excessive capacities, uncertain product planning, and poor customer service due to unavailability of products or long backlogs (Svensson, 2003; Lee et al. 1997). Disruptions in the information flow to supply chain members is usually referred to as the bullwhip-effect whereby fluctuations in demand amplifies the extreme ends, such as stock outs or excess inventory the further upstream one goes in the supply chain (Lee et al. 1997).

Svensson (2003) states that the bullwhip effect is affected by the potential gap between the degree of postponement and speculation firms have in their business activities (see Figure 2 below).
More specifically, the inventory management can potentially lead to a bullwhip-effect between the inbound and outbound logistics flow of a company based on the following conditions. If there is a high degree of speculation (and thus low degree of postponement) in the *inbound* logistics flow, while at the same time there is a high degree of postponement (and hence low degree of speculation) in the *outbound* logistics flow, the effects of bullwhip will theoretically be high upstream in the supply chain. Similarly, the vice versa relationship with low level of speculation inbound, and low level of postponement outbound, will also lead to imbalances and potential bullwhip effects, but downstream instead (see Figure 4 below for typology). The latter case is also referred to as form of reversed bullwhip effect and is derived from uncertainties upstream in the supply chain due to for instance limited production capacity, product quality deficiencies, poor information sharing and unreliable deliveries. Hence, when there is a balance between speculation and postponement in the logistics flows, then the likelihood of bullwhip effects would be minimal (Svensson, 2003).
Inventory management is also crucial for the supply chain in another sense, as inventory value will increase the closer it moves in the supply chain to the point of consumption (Lambert & Garcia-Dastugue, 2007). As Figure 5 below shows in a generic example, as the inventory moves closer to retailer level, total product costs including inventory will increase.

The above example shows the implications involved of product obsolescence for retailers. As holding inventory at lower value, which is the case upstream in the supply chain, the costs of tied capital and assets employed is seemingly lower as well as the risks as-
associated with product obsolescence. However, downstream at retailer level the same costs are superficially higher, thus emphasizing the problems involved for retailers to be stuck with obsolete products and large inventory (Lambert & Garcia-Dastugue, 2007). Taking this into consideration, the point in the supply chain where the inventory is located becomes of great interest, something which is further developed in the section below about the decoupling point of the supply chain.

2.4 Decoupling point

The decoupling point can be defined as the point in the supply chain product flow where the customer’s order is penetrated (Mason-Jones & Towill, 1999b, Svensson, 2003; Lee et al. 1997). Essentially, this reflects where the product flow changes from “push” to “pull” or where the forecast driven activities are met with the order driven activities (Olhager, 1994). The product flow decoupling point corresponds to a main stock point which the customer is to be supplied from. Generally considered, the decoupling point acts as a buffer between the upstream and downstream supply chain actors and thereby enabling the actors upstream to be cushioned by fluctuating customer demand downstream (Zinn & Bowersox, 1988). This enables the upstream actors to have a smoother dynamics as the consumer is still served by the product pull from the buffer stock (Mason-Jones & Towill, 1999b). Figure 6 below illustrates the different dynamics just mentioned in a schematic manner:

![Diagram of the material flow decoupling point](image)

Figure 6 - The material flow decoupling point (Mason-Jones & Towill, 1999b, p. 17)
As mentioned previously, a heavy forecasting or speculative approach in theory extracts its market information from the most upstream point and is thus more sensitive for distortion since the market information needs to go through the whole supply chain and can be subject to delays and disturbances. This can result in a production scheme among the upstream supply chain actors which perhaps does not quite match the consumer behavior patterns downstream. The key to moving the decoupling point further upstream is greater transparency in the supply chain between the different actors in order to ensure that all the actors have the access to the same information without delays (Olhager, 1994; Svensson, 2003). This would allow the upstream supply chain actors to get access to the same undistorted information which is already available downstream and thereby have greater order penetration.

### 2.5 Classification of postponement/speculation strategies

Pagh & Cooper (1998) incorporates postponement with speculation and identifies a generic P/S model in which classifies four different strategies firms can use which determines the level of postponement and/or speculation activities. The four types of strategies are depicted in Figure 3 below with the main respective characteristics:

![Figure 7 - P/S strategies (Pagh & Cooper, 1998, pp.15)](image)

**The full speculation strategy:** the option used most by companies. Using forecasting, full speculation on manufacturing and logistics operations is employed where at the very end of the downstream plateau in the supply chain the customer order can be found. Manufacturing is done before the products is differentiated by means of location and stored in a decentralized distribution system close to the customer (Van Hoek,
2001). Pagh & Cooper (1998) exemplifies by using the company Xerox, a manufacturer of photocopying and fax machines. Xerox used a full speculation strategy for many of its commodity products which are manufactured and distributed ahead of future customer demand and stocked near the customer since short delivery time is of essence.

The manufacturing postponement strategy: An anticipatory logistics approach where products or components are stocked and distributed through a decentralized distribution system pending on future customer orders. The final manufacturing or assembly of these products are performed further downstream in the supply chain and are deferred until an order is received (Pagh & Cooper, 1998; Boone et al. 2007; Lambert & Garcia-Dastague, 2007). Typical examples of this strategy is the Hewlett-Packard postponement where HP only manufactures and stock one kind of DeskJet printer and shifts the customization of these printers (power supply, packaging, manuals etc.) further downstream to the respective regional distribution centers to perform (Johnson & Anderson, 2000). In scenarios where it is vital to have the inventories close to the customers this strategy can be successfully applied (Boone et al. 2007).

The logistics postponement strategy: Here, the manufacturing is performed via a speculative approach whilst the logistics activities are done using postponement (Hoi et al. 2007). This strategy uses a centralized manufacturing and inventory approach where finished goods are stored and then distributed to the retailer or final customer upon receiving the order (Cooper, 1993). Proponents of this strategy are among others, Swedish firms Atlas Copco Tools and ABB Motors who have since implementing this approach enjoyed an increase in on-time deliveries of complete orders, reduced inventory costs and shorter lead times (Pagh & Cooper, 1998).

The full postponement strategy: In this purely postponement dedicated method both manufacturing and logistics operations are fully contingent on customer orders (Appelqvist & Gubbi, 2004). An example is the Danish consumer electronics retailer Bang & Olufsen (Pagh & Cooper, 1998). Using information from their retail stores, Bang & Olufsen conforms to their customer’s unique customization wishes concerning units, colors, sizes, features etc. for their high end televisions and stereo systems. Typical benefits involved with employing this strategy are reduction of inventory levels and low manufacturing inventory costs (Van Hoek et al. 1998).
Using the above classification of P/S-strategies, Pagh & Cooper (1998) then developed a continuum with the four strategies mentioned above and the positioning of some of the mentioned companies and their advocacy towards respective strategy (see Figure 9 below):

![The Logistics P/S-Continuum](image)

Figure 8 - positioning of firms in P/S-continuum (Pagh & Cooper, 1998, p. 21)

### 2.5.1 Postponement/Speculation decision making determinants

The P/S-continuum raises the inevitable question how and what P/S strategy a firm should adopt to best fit their overall business strategy. Using specific decision making determinants managers can be guided into deciding on an appropriate P/S-strategy. These are the **product**, the **market and demand** and the **logistics and manufacturing system** (Pagh & Cooper, 1998; Salvendy, 2001).

**The product:** Specifically the *life cycle of the product* and each stage of the product life cycle (introduction, growth, maturation and decline) are important when considering the P/S strategy (Cheng, Johnny & Wang, 2010). As the product moves from one stage to another based on the life cycle notion, for each stage in the life cycle a different P/S-strategy can be applied. During the introduction and growth stages of a product it could be theorized that investments in customer service and somewhat anticipatory or speculative manufacturing and logistics system are of priority due to the blossoming of sales and demand. Thus, a P/S-strategy found in the upper left corner of the P/S-continuum in Figure 9 above could be applicable. Similarly, during the maturation and decline stages where uncertainty and cost reductions are perhaps more pivotal, a strategy based on the lower right corner of the continuum can be more feasible.
Another important P/S-determinant under the product category is the monetary density and value profile of the product. Monetary density refers to the ratio between the monetary value of the product and its weight or volume (Salvendy, 2001). The rationale is that products with high monetary density tend to be expensive to store but less inexpensive to move. Thus, it would make more sense to postpone the concluding logistics operations.

The value profile instead refers to where in the process the substantial amount of value is added (Pagh & Cooper, 1998; Salvendy, 2001). If the major part of the product’s total value is added in the final stages of the manufacturing or logistics operations it would make sense to postpone these.

Finally, the product characteristics are another important determinant to take into consideration (Van Hoek, 2001). For instance, for a standardized commodity a speculative approach could be advantageous as the risks involved would be less than those associated with a highly customized product. Synchronously, a highly customized product would in theory benefit from an approach which is based on postponement as the customization would be greatly dependent on the customer order. Cooper (1993) specifically mentions three important product characteristics: a) whether the product brand is global or country specific b) whether the electrical standards, colors, size, software are common in all markets and c) whether the peripherals such as labels, instruction manuals and packages are the same in all markets. Again, standardization in these characteristics across different markets incite a P/S-strategy in the top left continuum while a broader, more specialized product line could justify the opposite strategy.

The market and demand: essentially refers to how value is created to the final customer or retailer through logistics means. Pagh & Cooper (1998) pointed out two important P/S logistics determinants, namely relative delivery time and relative delivery frequency. Relative delivery time corresponds to average delivery time to customers in relation to average manufacturing and delivery lead time. Relative delivery frequency is a closely related term and refers to the average delivery frequency to customers in relation to average manufacturing and delivery cycle time, for the same product. Certainly, the customer’s needs are essential here. If they want a high relative delivery frequency combined with a short relative delivery time, a speculation approach or top left strategy in the continuum model is more advisable, and naturally the vice versa for lower delivery times and frequencies.

Then we also have the degree of uncertainty in demand which is a vital determinant of which P/S strategy to apply. Low uncertainty in demand and long product life cycle corresponds better to a speculation strategy due to less risk. Innovative products with greater market uncertainty and shorter life cycles instead serve better for postponing the final manufacturing and logistics operations.

The manufacturing and logistics system: finally it is of high priority to set the constraints of the manufacturing and logistics system (Salvendy, 2001). For instance, if vast
economies of scale exist or special knowledge is needed in the manufacturing and logistics system, speculation to some degree may be the better choice while the vice versa condition is naturally also present.

### 2.5.2 P/S profile analysis

The above mentioned determinants were highlighted to be of importance when trying to match the needs with the appropriate P/S-strategy (Pagh & Cooper, 1998; Lin, Chen & Huang, 2004). Using the determinants, once can conceptualize a profile analysis; a P/S managerial tool designed to assist in the application of P/S strategies.

The first step in developing the profile analysis is actually selecting the relevant determinants. Selecting a too wide range of determinants or a too narrow will most likely give a biased result and mismatch between the real needs and the correct strategy (Salvendy, 2001)

Next, the P/S-needs are profiled with the chosen determinants where the objective is to visualize the degree of association between the actual P/S-needs and the generic strategies. Figure 8 below shows how it could look like in a theoretical profile where the determinants are listed on the left and the generic strategies on the right.

<table>
<thead>
<tr>
<th>Some important P/S-decision determinants</th>
<th>Generic P/S-strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Life cycle</strong></td>
<td></td>
</tr>
<tr>
<td>Stage</td>
<td>Introduction</td>
</tr>
<tr>
<td>Volume</td>
<td>Low/Med.</td>
</tr>
<tr>
<td>Cost/service strategy</td>
<td>Service</td>
</tr>
<tr>
<td><strong>Product characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Product type</td>
<td>Standard</td>
</tr>
<tr>
<td>Product range</td>
<td>Narrow</td>
</tr>
<tr>
<td>Value</td>
<td>Initial stages</td>
</tr>
<tr>
<td>Monetary density</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Market and demand</strong></td>
<td></td>
</tr>
<tr>
<td>Relative delivery time</td>
<td>Short</td>
</tr>
<tr>
<td>Delivery frequency</td>
<td>High</td>
</tr>
<tr>
<td>Uncertainty of demand</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Manufacturing &amp; logistics</strong></td>
<td></td>
</tr>
<tr>
<td>Economies of scale</td>
<td>Large</td>
</tr>
<tr>
<td>Special capabilities</td>
<td>Yes</td>
</tr>
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</tbody>
</table>

Figure 9 - Profile analysis of a generic product category (Pagh & Cooper, 1998, p.25)
As can be seen in Figure 8 above, a relatively straight profile has been depicted and consequently there is alignment towards one generic P/S-strategy, in this case the logistics postponement strategy. Essentially, the selection of the P/S-strategy involves making a tradeoff between the different determinants (Pagh & Cooper, 1998; Salvendy, 2001, Lin et al. 2004). Moreover, the profile analysis stresses the importance of scrutinizing the trends in the supply chain in the future in order to determine how well the current P/S-strategy is positioned in relation to future changes, which may result in altering the P/S-strategy.

2.6 Implications of P/S-strategies

Appelqvist & Gubi (2004) conducted a quantitative case study on a Danish consumer electronics manufacturer with over 1000 dedicated retailers spread out globally. Apart from the focal company, the authors also conducted interviews with some of its retailers spread out in different countries such as the U.K. and Spain. The manufacturer produced electronics goods which were in the high-end price segment with unique designs and had a focus on value-added services. The authors concluded by interviewing the retailers that their postponement strategies were very much contingent on the consumers’ expectations. For instance, the study showed that consumers have different expectations towards delivery time for different set of products. For smaller sized, low-variety products customers expected to be able to immediately bring the products home with them after purchase. If they were not able to do so they would tend to change their minds by buying a competing brand or even try to buy the same product from a competing retailer. On the other hand, for larger sized products with greater degree of customization (such as a high-end TV) the consumer apparently had greater tolerance towards a postponed delivery time and would even accept a delivery time of up to 2 weeks if it meant getting the TV in another color. Thus, for smaller to medium sized low variety products it was recommended to keep inventory at the store with customization options (having several colors available for cell phones for instance) since they physically take up less room. For larger sized products, instead the manufacturing or assembly postponement activity was recommended to take place upstream after customer order was received and thus resulting in longer lead time.

As noted earlier, one of the more cited company examples known for their postponement activities is Hewlett-Packard (Johnson & Anderson, 2000). HP decided in the late 90’s to use a postponement approach for their last manufacturing operations of their DeskJet printers for the European and Asian markets. Normally, in electronics industry when the production of a product has been finished, the finished product will be sent to the final packaging section in order to be ready for transportation and delivery to the retailers or customers. The facts in this step is that the designed packages for most of electronic products are oversized, has a large amount of wasted space, and also contains bulky padding (Feitzinger & Lee, 1997; Johnson & Anderson, 2000). The mentioned packaging condition usually exists regardless of the durability of the products. What HP realized was the printers themselves were strong enough to endure minimal vibration,
thus they could be shipped unpacked but the final could be performed one step before
delivery to the end customers. They recognized this by testing the products durability
against vibration during shipment by considering of different possible shipping designs.
They came up to this point that, they can have 5 layers of 16 printers standing on end
while separated by protective trays in order to balancing the weight evenly. The effect
of the decentralization of the final manufacturing operations, showed a slight increase in
manufacturing cost, but the number of SKU’s and the safety stock have decreased re-
markably as well. Moreover, the total manufacturing, shipping and inventory costs were
reduced by 25% (Pagh et al, 1998; Feitzinger & Lee, 1997).

2.7 Centralized vs. decentralized inventory systems

Snyder (2007) accounts for some of the differences between centralized and decentral-
ized inventory approaches. This can be illustrated by imagining a setup with a ware-
house which serves N retailers (see Figure 10). Based on demand uncertainty point of
view, and provided that the same holding costs at the two echelons and negligible trans-
portation times are existent, holding inventory at the warehouse (centralized system)
would be more optimal rather than at the individual retailers (a decentralized sys-
tem). This is because of the well-known risk-pooling effect (Eppen, 1979) which says
that the total inventory requirement is smaller in the centralized system and so the costs
will be lower.”

![Figure 10 – Centralized vs. decentralized system (Snyder, 2007)](image)

When considering the same system but under supply uncertainty with deterministic
demand and where disruptions are existent, it might be preferable to keep the in-
vventory at the retailer point downstream, rather than upstream at the warehouse and
near the supply point (Snyder, 2007). It should also be noted that when adopting a de-
centralized strategy, disruptions in the supply chain may affect only a fraction of the re-
tailers, while a disruption will affect the whole supply chain if we use the cen-
tralized strategy. Essentially, the mean costs of both centralized and decentralized stra-
tegies are the same but the variance of the costs in decentralized strategy is smaller,
which is due to the risk- diversification effect (Snyder, 2007; Dai, 2006), which
express that disruptions are equally frequent in both systems but are less severe in the decentralized systems. Mason-Jones et al. (2000b) assert that a decentralized approach can lead to a more agile, responsive supply chain which can deal better with volatility in the upstream channels compared with a centralized system. Other benefits a decentralized structure accounts for is faster response times, shorter product life cycles and higher product variety. When the environment is more stable a centralized, leaner organization with greater economies of scale benefits performs better (Yauch & Krishnamurthy, 2007).

2.8 Summary of Frame of Reference

Thus, the framework can roughly be summarized into three major themes: retailing, postponement/speculation literature and supply chain mechanisms. For the retailing aspect, a funnel approach was adopted where different classifications and structures were first described in order to shed light on the dynamism of the retail sector. Based on this, retailers were categorized according to products, value added activities, transactional structure and competition types. This was followed by an introduction to consumer electronics retailing and current trends found in this specific segment of retailing. For the postponement framework, the outline proposed by Zinn & Bowersox (1988) on postponement types was emphasized due to its widespread citing in postponement literature. These were then out of simplicity reasons summarized into two main themes which were manufacturing and logistics. In the manufacturing postponement theme, related processes such as assembly, packaging and labeling were included and in the logistics postponement theme, time postponement as originally proposed by Zinn & Bowersox (1988) was also included. For the actual application of postponement and speculation, a product-centered profiling approach was adopted and served as the basis for the overall strategic frame in which retailers could accordingly be classified into. The profiling of the products focused on the product characteristics, the market & demand and the manufacturing and logistics system involved. This was then used as reference to for a matrix where the four main strategic applications of postponement/speculation could be found, as suggested by Pagh & Cooper (1998). The four strategies were full postponement strategy, full speculation strategy, manufacturing postponement strategy and logistics postponement strategy. Supply chain mechanisms such as the material decoupling point, inventory approach and the bullwhip effect were also used in order to convey the upstream and downstream processes involved when considering postponement and speculation activities.
3 Methodology

In order to fulfill the purpose of the study, a thorough understanding of the pivotal methodological considerations available was deemed as necessary in order to determine a fitting research strategy. When choosing an appropriate research path, consideration has naturally been given to the formulated purpose and related research questions, but also to the time frame available at the disposition of the authors. The methodological chapter will try to explain from the general to the specific, how the study was conducted, through which methods and on what basis.

3.1 Epistemological stance

Epistemology relates to how knowledge is viewed in research. In other words, it could be stated that epistemology is the philosophical study of knowledge itself (Remenyi, Williams, Money & Swartz, 1998). There are two major epistemological perspectives: the positivism/realism philosophies on one side and the interpretivism perspective on the other end of the spectrum. The positivism and realism philosophies are related in the sense that they both view knowledge from the strict scientist perspective where hypothesis testing, generalizability and replicability of the study are essential. Moreover, it is assumed that the researcher sees the research phenomena as value-free as possible meaning the researcher is independent and is neither affected by or affects the research subject. The interpretivism approach instead realizes the complexity of the social world and focuses on the human role as a social facilitator. As the term itself implies, there is an advocacy towards the researcher interpreting our social role, in addition to those of others with our own set of meanings in mind (Saunders, Lewis & Thornhill, 2009).

Fisher (2007) denotes that an interpretivism approach is more suitable when the ambition is to generate a more comprehensive outcome of the study, such as in in-depth qualitative studies of organizations and social actors within them. Thus, this study follows the interpretivism epistemological philosophy. The purpose of this study was not to conduct a study of electronics retailers with a set of pre-determined hypotheses formulated and tested with the ambition of creating “law-like” generalizations which can be replicated in future studies. Instead, the authors acknowledge the complexity of business surroundings and the human roles involved when investigating retailers’ situations. Thus, it is argued that each retailer represents a unique and new set of circumstances with a new set of individuals involved and thus each scenario needs to be interpreted with its own distinctiveness.

3.2 Research approach

Fisher (2007) mentions the inductive and deductive processes as two distinct means to reach a research outcome. In inductive research the researcher typically starts from the reality and usually crafts theoretical concepts/models based on the data collection, investigations and observations conducted (Eriksson, Wiedersheim & Finn, 1997). Alternatively, the deductive approach generates hypotheses and statements based on the
already existing theories and the examiner will test different statements and hypotheses to come up with a certain practical conclusions at the end of the investigation. Generally, the approach employed for a given study typically depends on the amount and type of information or theories available beforehand, as well as naturally being contingent on the purpose of the study to begin with (Eriksson et al., 1997). Figure 11 below summarizes the nature of the two mentioned approaches in simplified terms:

![Diagram of Inductive and Deductive Approaches]

It is worth mentioning that difficulties of classifying exactly which of the two approaches were applied for a given study will always be prevalent due to the complexity of the real world where a host of factors and variables must be taken into account and which can offer greater nuances on the typical “black or white” classifications (Saunders et al, 2007; Fisher, 2007).

This paper tried to obtain a clear picture of relevant concepts such as postponement and speculation beforehand, in addition to scrutinizing previous research conducted on the topic. Based on this outline, research questions were established which created the basis for the interview questions later used with the companies. The information collected was then interpreted and analyzed with respect to the framework chosen with the critical purpose of grasping the postponement and speculation strategies of the investigated electronics retailers. Moreover, the ambition was to gain an understanding on why the respective strategies were chosen and on what basis. Hence, with respect to the aforementioned manner used in this study, the authors of this paper would argue that a more inductively inclined approach was applied and the results are meant to give the reader an understanding of the postponement and speculation activities taking place at the chosen retailers.
3.3  Literature review

Following the principles of the inductive approach, the authors wanted to grasp the concepts of postponement and speculation in the retailer setting more profoundly before defining the research objective. Thus, a comprehensive literature review was conducted as it represents a critical aspect in the research process (Fisher, 2007). The literature review can be defined as a systematic method of identifying, evaluating and interpreting the existing body of recorded work conducted by other researchers and practitioners (Fink, 1998). Although there are guidelines for conducting literature reviews, Saunders et al. (2009) state there is no “correct” universal way of conducting a literature review, albeit it is noted that typically one starts from the general and then narrows down to the specific.

The literature review in this study contains material from mainly scientific journal databases and textbooks on the subject. The databases were accessed through the university library and include Business Source Premier, ABI/Inform, Elsevier Science Direct and the Google Scholar search mechanism. When trying to find fitting scientific articles on the matter, specific keywords such as “postponement”, “speculation”, “retailing” and “electronics retailing” were widely used in order to find the basic framework of articles which were of relevance. The articles which were found in search results, were then screened by reading all the abstracts initially to see whether the paper could be of use before subsequently being subject for a more thorough assessment when found of relevance. This selective approach of screening articles and journals by reading indices and abstracts is, as Kumar (1999) mentions, an efficient method which can be used when trying to deal with the time restrictions present in research. In total, a rough estimate of 60 articles had their abstracts read and around two thirds of those were scrutinized further. The main points were then noted and aggregated and helped when formulating the research questions.

Textbooks within SCM were also used in order to add some variety to scientific articles from databases. In total five textbooks which concerned postponement, speculation, retailing and other relevant supply chain activities such as logistics and procurement were used in the literature review. The textbooks were primarily found in the university library and were screened by using the reference index at the end of each book whereby keywords such as “postponement”, “retailers”, “electronics retailers” and “speculation” were looked up in joint searches or separately. Although the actual textbooks did offer some relevant segments, their main benefits were the reference lists within which lead us to further textbooks and articles which were more narrowed down to our specific problem.

3.4  Research objective

When discussing the overall research objective one can typically find three common methods which could be employed as a research method in the study (Saunders et al,
These are the descriptive, explanatory and exploratory methods which are explained below.

- **Exploratory research** is a type of research where the main objective is to provide deeper insight and understanding of the problem in order to give comprehension of the problem while confronting the researcher. Exploratory research is denoted as creating hypotheses according to Yin (2003); as well as Fisher (2007). The main purpose of exploratory research is to gather maximum information in order to get a comprehensive view of the problem for the researcher. Exploratory research mostly deals with new topics, where there is a lack of previous research conducted (Yin, 2003). Usually, this method of research is more beneficial for evaluating the secondary data, where problems are not clearly formulated or determined. Therefore the proper data gathering technique while doing an exploratory research can be achieved through interviews (Yin, 2003; Saunders et al, 2007).

- **Descriptive research** is used to generate data describing the composition of relevant group like salespersons, customers and organizations (Parasuraman, 1991). Furthermore, the aim of descriptive research is to portray a relevant picture of the subject at hand. Descriptive research is usually seen as a means to an end rather than an end itself due to its simplistic nature and thus, many researchers use it in combination with explanatory or exploratory research (Saunders et al, 2007).

- Researchers employing *explanatory research* tend to develop specific theories which can be used to clarify the empirical overview (Yin, 2003). The aim is to study a specific problem or situation in order to explain the correlation between the variables involved (Saunders et al, 2007).

A combination of exploratory research together with a descriptive method was employed in order to conduct the study. When it comes to exploratory methods, there are usually a set of methods available to the researcher in order to explore the research phenomenon such as focus groups, case studies, personal interviews and projection techniques (Wrenn, Loudon & Stevens, 2001). This study adopts a case study approach with interviews with respondents in order to cover the research subject in a comprehensive manner. When using a more in depth approach such as this case when combining descriptive with exploratory research, it can effectively be more advantageous when trying to comprehend something as complex as a firm’s strategy, according to Fisher (2007).

### 3.5 Data collection methods

Collecting empirical data is one the most vital segments of a research study (Saunders et al., 2009). The data collection process can fundamentally be divided into quantitative and qualitative approaches (Carr, 1994). Quantitative research can essentially be referred to research methods where data collection methods (e.g. questionnaires) or data analysis procedures which generate or uses numerical data (e.g. graphs or statistics) oc-
curs. Conversely, qualitative research can be found in any data collection technique or data analysis procedure which generates or employs usage of non-numerical data (e.g. interview or data categorizing), (Wiedersheim & Eriksson, 1991). Usually, the advantage of using a quantitative method is that it allows for more respondents through a larger sample and thus increases the validity and reliability of the data. The main advantage of a qualitative method on the other hand is its superior ability to give a deeper knowledge of the problem at hand and gives a greater holistic view (Wallen, 1993).

This study adopts, what Saunders et al. (2007) refers to as, a multiple method research choice. This can be defined as utilizing more than one data collection procedure and analysis procedures. The multiple method approach chosen can be segmented into two branches; the multi-method and the mixed method approach. The multi-method refers to scenarios where more than one data collection technique is employed with related analysis techniques but is restricted to either a qualitative or quantitative setting. A typical example could be collecting quantitative data using for instance a questionnaire in addition to structured observation and analyze this data via quantitative procedures (e.g. using statistical methods). While this approach is named a multi-method quantitative study, alternatively one can also find the qualitative multi-method approach which essentially is the same concept with the exception of being limited to a qualitative setting. Here for instance, Saunders et al. (2007) would argue researchers could adopt qualitative multi method data collecting such as in-depth interviews combined with diary accounts and analyze this data using qualitative (non-numerical) procedures. Hence, the multi-method approach restricts mixing qualitative and quantitative techniques and procedures (Saunders et al, 2007; Tashakkori & Teddlie, 2003). The multiple method and related sub-segments mentioned can be schematically presented in a simplified manner through Figure 2 below:

![Figure 12 - Research choices (Saunders et al., 2007, pp-146)](image-url)
As noted by Yin (2003) qualitative interviews is something that goes well in hand with an exploratory research objective and thus, the authors chose to conduct qualitative case studies with some of the major electronics retailers on the market in order to truly be able to analyze respective company’s strategy and offer a more holistic view to the reader. The in-depth qualitative interviews were complemented, as suggested with reference to Saunders et al, (2007) and Yin (2003), with another qualitative technique; observations at the respective retailer shops. This finalizes the multi-approach as mentioned by Saunders et al. (2007) with a focus on the qualitative aspects, utilizing personal interviews and a case study approach.

3.6 Case study design

The case study approach was chosen due its strengths when the research objective is to convey a thorough understanding of the subject, rather than attempting to create “law-like” generalizations (Remenyi et. al, 1998). When designing a framework for case studies, Wrenn et al. (2001) provides a thorough guideline which was partially utilized in this study. The steps involve defining the population of interest, determining the study object frame, selecting a sample method, determining number of study objects and finally selecting the study object.

3.6.1 Defining the population

Population can here be defined as all existing electronics retailers. Since the study takes place in Sweden, all Swedish electronics retailers could be seen as the whole population and this is a difficult population to estimate in quantity due to the presence of smaller, niche players which can sometimes only be limited to a specific city. However, a simple Internet search gives a very rough estimate of 15-25 retailers, including sole web stores and that number would rise to over 100 if including respective local branches. Sampling such a population would be difficult to manage due to the spread involved. Thus, as Wrenn et al. (2001) notes, sampling the population would be more economically justifiable and allows for greater depth since further time and resources would be made available for thorough interviews and collection of empirical data.

3.6.2 Determining the study object frame

Determining the frame of the research object involves breaking down the total population into different layers which are peeled off until one reaches the inner core, which hence would be the object of study. As mentioned, electronics retailers as a whole represent a massive population and since we are interested in the postponement and speculation activities taking place at retailer level, consumer electronics retailers would be a natural step to narrow down to due to the nature of consumer electronics products as such, as well as the already widespread application of postponement strategies within the supply chain of electronics products. Moreover, the authors’ own geographical background facilitated a further narrowing down to a Swedish consumer electronics re-
tailer setting, thereby constituting convenience sampling which will be further discussed below.

3.6.3 Selecting a sample method

In line with the research objective of the study, as discussed by Saunders et al. (2007), a non-probability sampling technique was used, as it is typically utilized when conducting exploratory research (Fink, 1998). Non-probability sampling fundamentally avoids involving a sample by chance. Some of the main non-probability sampling techniques available are convenience sampling, quota sampling and judgment sampling. In this study, convenience sampling was used, something which is common in exploratory studies (Wrenn et al., 2001) and where the elements which are closest at hand are utilized (Wrenn et al., 2001; Saunders et al., 2009). The elements closest at hand could here be limited to the geographical proximity of the investigated consumer electronics retailers to the authors, as these would be the least challenging to target. The judgment of the researchers we would argue is something which cannot be overlooked as ultimately the narrowing down of the population is at least, somewhat tied to the authors’ subjective judgments.

3.6.4 Determining the number of study objects

Size of the sample essentially determines the accuracy of the population. Choosing the sample size can be contingent on multiple variables such as the experience and insight of the researchers, financial and other resource based prerequisites available to the researchers and the subjective judgment of the authors’ sampling selection (Wrenn et al., 2001). Based on the resources at hand and given the ambition of the authors to provide insight and depth into the P/S-strategies of consumer electronics retailers a quota of six retailers was set as target objective. This may perhaps not seem particularly well representative of the whole population but as mentioned before, the objective of the study was not to create law-like generalizations which can be generalized over all electronics retailers in the industry. Instead, the ambition was always to investigate and compare the P/S-strategies of three competing consumer electronics retailers, which perhaps can be argued rather conveys a representative picture of the local Jönköping market than the electronics retailing industry as a whole.

3.6.5 Selecting the study objects

As noted, six separate consumer electronics retailers were approached with the request of participating in the study. The retailers were picked based on requirements of existent physical store and relative market share on the Swedish consumer electronics retailing market. These variables were chosen based on the resources available, the subjective judgment of the researchers and the fact that physical stores would offer the possibility for on-site observations, something which would be hard to achieve with only Internet-based electronics retailers. Thus, with this in consideration the choice was made to ap-
proach suitable company representatives of the retailers with the ambition to have them contributing to the study. The six retailers which were asked to participate were:

- NetonNet
- MediaMarkt
- El-giganten
- OnOff
- Bang & Olufsen
- SIBA

The targeted retailers were initially approached through email. Using respective retailer’s website, in addition to references of contact persons provided to us with the help of our tutors, emails were sent to company representatives. The emails contained a short description of the sphere of the study and the overall purpose together with an invitation to participate via a personal interview. In this first phase, only the warehouse manager of NetonNet responded to our email and was willing to invite us for an interview at their headquarters in Borås. After failing to get a response from the remaining retailers, phone queries were employed instead. Through phone conversations, company representatives from MediaMarkt and El-Giganten agreed to be interviewed and included in the study and subsequent dates were arranged for the interviews at respective retailer’s physical store.

3.6.6 Non-response

Wrenn et al. (2001) defines non-response as the part of the sample which simply does not respond or is unwilling to. Out of the targeted six retailers, only three of them were willing to take part in the study. The remaining three, OnOff, Bang & Olufsen and SIBA declared after several unsuccessful attempts of contacting via emails and phone-calls, that they were either too busy to give any interviews within the near future or that they simply did not have anything to contribute with to the study as they were limited vendors selling finished products which were shipped to their retail store from a central warehouse. Measures were taken to attempt to limit the non-responses such as ensuring confidentiality of the respondents and emphasize the importance of their participation, as suggested by Wrenn et al. (2001) and Fisher (2007). Nonetheless, the three mentioned retailers were unwilling to participate and this limited the covered sample size to three retailers, namely NetonNet, MediaMarkt & Elgiganten.

3.6.7 Qualitative interviews

Exploratory research more than often contains some form of qualitative non-standardized or semi-structured interviews with respondents, company representatives or other focal people whose opinions or input can add value to the research purpose (Saunders et al. 2009; Blumberg, Cooper & Schindler, 2005). By conducting qualitative interviews in an exploratory study the researcher can infer causal relationships between different variables of interest and gives an understanding of why the respondents have taken certain decisions or embraced certain strategies. Furthermore, for studies which
follows the interpretivism epistemological philosophy such as this one, in-depth interviews allows for elaboration and building on answers (Saunders et al, 2009), which is of interest in this study since we are interested in knowing and understanding the P/S-strategies of the retailers and thus we are interested in allowing the respondents to build up their answers in a thorough manner.

Easterby-Smith, Thorpe & Lowe (2002) further states that personal non-standardized or semi-structured interviews are better fitted when:

a) there are a large number of questions to be answered  

b) there are complex or open-ended questions involved

Both cases were apparent since a) postponement and speculation covers a great deal of elements such as in different types and scopes used and thus requires a large number of questions and b) conveying and trying to give an understanding of something as complex as a company strategy will undoubtedly require open-ended questions in order give a comprehensive overview. This study uses more of a semi-structured interview approach as the questions had some general themes and were not entirely taken out of the air.

Thus, prior to the interviews with the selected retailers, several open-ended questions were created which aim to cover the postponement and/or speculation activities taking place upstream from suppliers and downstream to end consumer. The questions were created with the research questions in mind and naturally they were aimed to cover the sphere of the study purpose. Furthermore, using the literature review which conveyed numerous types of postponement in the supply chain, questions were generated which classified different postponement activities into generically chosen business functions such as logistics, manufacturing and marketing in order to simplify and structure ahead of the analysis. Moreover, the literature review prior to the interviews gave us an overview of some the most important keywords and themes typically found in postponement and speculation literature. For instance, some of these, such as “demand uncertainty”, “forecasting”, “decoupling point”, “demand fluctuations” were taken into consideration and in some instances used within the actual questions. What is more, in order to simplify ahead of the analysis of the data as well as putting questions into a direct context for the companies, three distinctive product categories were chosen as a measure to narrow down the wide range of products which all retailers are currently offering. The three categories of products which were chosen for closer scrutiny were TVs, laptops and cellphones. These were chosen based on their mutual existence within the assortment of all three retailers. This was verified by simply entering the companies’ websites and observing their printed flyers sent to customers. Moreover, if one considers kitchen appliances for instance, there are usually a wide variety of brands which could be unique for a given retailer. By focusing on TVs, cellphones and laptops we would argue that the range of identical or somewhat identical brands across the three retailers’ assortment would be higher and thereby allowing for fairer comparisons.
The company representatives interviewed at all three companies were currently working as high level purchasing manager or store-manager and thus, had insight into the strategic levels of the companies. Although purchasing was their main field of area, they also had somewhat understanding of the downstream processes taking place such as customer services, distribution and other logistics operations. The interviewees were given a short description of the study through the short emails sent and the phone conversations which were held during the process of booking the interviews. It should be noted that the respondents prior to the interviews were given the choice of having the actual questions sent to them in advance for consideration, but in all three cases they deemed that it would not be necessary as they stated they would probably not have time to go through them in any case. During the first contact, the respondents were asked whether it was possible to conduct the interview in English and we were told that this would not be problematic at all. All three interviews took place at the respective retailers’ physical facilities where offices were located and in which the interviews were held at. The interviews started with us repeating the overall purpose of the study again and then using the open-ended questions made prior to the interviews. For the sake of our own comfort, interviewees were asked before the actual interviewing started whether it would be acceptable to use a sound recorder to record the answers and all three respondents issued no complaints towards this request. Using tools such as a sound recorder during interviews could be a way to have a complete record of what was said and in what manner it was said (Fisher, 2007). Apart from sound recorders, conventional handwritten notes were also used to record the answers as it could be advisable to have some form of back-up in the case of malfunctioned or unsatisfactory quality of sound recorders (Saunders et al., 2009).

Table 3 - qualitative interviews with electronics retailers

<table>
<thead>
<tr>
<th>Company</th>
<th>Representative</th>
<th>Date:</th>
<th>Location:</th>
<th>Duration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetonNet</td>
<td>Per Olofsson, purchasing manager</td>
<td>2011-03-18</td>
<td>NetonNet warehouse shop, Borås</td>
<td>73 minutes</td>
</tr>
<tr>
<td>MediaMarkt</td>
<td>Mikael Erlandsson, store manager</td>
<td>2011-03-25</td>
<td>MediaMarkt store, Jönköping</td>
<td>64 minutes</td>
</tr>
<tr>
<td>El-giganten</td>
<td>Peter Karlsson, store manager</td>
<td>2011-03-25</td>
<td>El-giganten megastore, Jönköping</td>
<td>69 minutes</td>
</tr>
</tbody>
</table>

The questions were then asked and each respondent was given unlimited time to answer and build their answers without any interruptions. In some instances, the respondent had put forward their point but was then asked to clarify or repeat again as the main idea was somewhat unclear. Although an estimated time limit of 60 minutes was put forward to the respondents during the process of scheduling the interviews, all three interviews
exceeded this limit as no restrictions were put to the interviewees’ answers, following the principles of open-ended qualitative interviews. Above mentioned Table 2 shows a schematic overview over the interviews conducted with the respective companies and company representatives.

3.6.8 Observations

For the observations, detailed look-arounds in the retailers’ shops were conducted in order to verify that each retailer had all three of the product categories which were the focus of this study in their store. As product characteristics were an integral aspect of the profile analysis later conducted in the analysis, the observations also allowed for greater scrutiny when it came to investigating product ranges, types, brands etc. The observations where carried out in total a number of six times: two observations for each store. One observation was conducted prior to the qualitative interview with the company representative and during this observation session handwritten notes were also simultaneously taken in order to preserve the impressions. Another observational tour around the store was conducted shortly after the qualitative interview, where the input from the interview was used as a reference for further impressions such as detecting own branded TVs and laptops. The details of the observations can be seen below in Table 4 below:

Table 4 - Conducted retailer observations

<table>
<thead>
<tr>
<th>Company</th>
<th>Nr. of obs</th>
<th>Date:</th>
<th>Length of observation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetonNet</td>
<td>2</td>
<td>2011-03-16</td>
<td>24 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011-03-18</td>
<td>14 minutes</td>
</tr>
<tr>
<td>Mediamarkt</td>
<td>2</td>
<td>2011-03-20</td>
<td>20 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011-03-25</td>
<td>8 minutes</td>
</tr>
<tr>
<td>Elgiganten</td>
<td>2</td>
<td>2011-03-20</td>
<td>17 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011-03-25</td>
<td>15 minutes</td>
</tr>
</tbody>
</table>

3.6.9 Method of analysis

The analyses of the extracted empirical findings were based primarily on the interviews conducted and observations at respective retailer store. The on-site observations mainly consisted of investigating product assortments and this was done both prior and after the interviews. The empirical findings were presented and analyzed using non-numerical analysis procedures where the focus was on the conversational and conceptual relevance of the interviews. After extracting and aggregating the answers from the qualitative interviews, reference tools such as Zinn & Bowersox’ postponement types (1988), Pagh & Cooper’s (1998) profile analysis and P/S-continuum were used to put the answers in-
to context and leave room for further interpretation. The Zinn & Bowersox (1988) classifications of postponement types was used as a framework in order to cover the overall applicability and usage of postponement types currently undertaken amongst the investigated retailers. This was achieved by directly asking the companies if they currently were utilizing any of the mentioned types of postponement.

For the profile analysis, the questions which were centered on the three chosen product categories were used as the key determinants in order to complete the “ticking off” of the profile analysis template, as suggested by Pagh & Cooper (1998). Depending on where in the profile analysis spectrum which was filled with the greatest concentration, the strategy for that product category was classified according to the P/S-continuum by Pagh & Cooper (1998). The classifications were then compared across all three product types and if variances were found, the focus would go back to the empirical findings in order to determine whether the reasons for the deviances could be found.

The concept of decoupling point was then used as a reference model where the flow of material and information for the three product types were depicted in their current state as well as in alternate suggestions of possible strategic changes. Overall, the mentioned theoretical settings were used to compare the P/S-strategies of the retailers to find similarities and contrasts. After achieving this, the in-depth interviews and the contextual interpretation of these were utilized to find the underlying reasons for why the chosen strategies had been undertaken and whether substitute strategies should be considered.

3.7 Validity of data

Validity of the study instead refers to the accuracy of the study and how well the subject of study is being researched (Robson, 2002). As the subject of interest here were the P/S-strategies of consumer electronics retailers attempts were made to extract the data from representatives of the companies which were in direct contact with both upstream and downstream flows. Moreover, as the interviewees were not native English speakers and the interviews were held in English they were told to ask for clarifications if the questions were unclear. Another validity issue which could be important to mention is the fact that primarily investigating three product categories could bias to the results as it would leave out many other product categories which the retailers have in their assortments. However, measures were taken so that the product categories chosen and the associated brands had relatively same likelihood to be found at all three companies in order to be able to make fair comparisons.

3.8 Generalizability

Saunders et al. (2009) refers generalizability to what is known as external validity. In other words, to what extent the results of the study can be generalizable or equally applicable to other research settings. The objective has never been to apply the results of the research to other companies or industries. Instead, the ambition was to grasp what types of P/S-strategies selected consumer electronics retailers are currently using and
what the rationale behind the choice of strategies consist of. The fact that the selected retailers are also competing on the same market allows for contrasts to emerge which could shed some light on how the competing market for these retailers approach postponement and speculation in their supply chains. Saunders et al. (2009) argue that as long as it is clearly stated that the aim of the study is not to generalize into other research settings, the non-existence of generalizability in a study at a greater scale can be somewhat justified.

3.9 Primary versus secondary data

Information or data can characteristically be collected in one of two forms: primary information/data or secondary information/data. Information or data collected by the principal researcher, usually by means of interviews, surveys, or questionnaires, is called primary information or primary data. Conversely, information or data which has already been collected and documented by other researchers or authors is called secondary information or secondary data (Eriksson et al., 1997). This study used primary data collection: through first-hand interviews and observations with the companies at hand, and secondary data collection: information gathered from the companies’ websites, leaflets and advertising material such as PDF presentations. The information from the websites concerned mainly background information of the companies investigated. Thus, in this study there is a combination of primary and secondary information employed.

3.10 Time horizon

Saunders et al. (2007) stresses the importance of the time horizon when conducting research. Specifically, they mention two types of research methods which take different approaches in the time horizon. If the study of a particular subject is conducted at a particular time it is categorized as cross-sectional studies. This method offers a “snapshot” at a given time and is widespread within academic projects due to most studies ultimately being restrained by time constraints. Cross-sectional studies can be in both qualitative and quantitative forms, for instance by using survey to describe the frequency of a phenomenon or using interviews conducted over a shorter period of time (Saunders et al, 2007).

If the focus of the study instead is to convey events over a given time period it is referred to as longitudinal studies. The advantage of this method is its ability to study change and development over time and being able to exercise some degree of control over the variables being studied (Adams & Schvaneveldt, 1991). This study has used a cross-sectional approach where multiple electronics retailers’ strategies have been scrutinized at a given period of time. Due to the nature of the project with the associated time constraints involved, a longitudinal study was deemed unfeasible. Moreover, as Saunders et al. (2007) declared, when employing a qualitatively based research approach conducting interviews over a short period of time or when looking for patterns and relationships between organizations, the “snapshot” approach is more favorable as it
allows for relatively effortless comparisons. Using the “snapshot” approach we were able to compare the three retailers’ P/S-strategies within relatively exact time period thereby facilitating that the comparisons were done under similar circumstances.

3.11 Limitations of method

It could be argued that the fact that generalizability of the study to other research settings is limited, this would represent a weakness. In fact, qualitative studies in general are typically subject to this form of criticism where objections over the validity are often raised (Kumar, 1999). However, as mentioned several times already, the purpose with this study was not to create a qualitative study which can be quantified and lead to general theories and generalizations. Instead, the task was more in the line of explaining what is going on in this particular research setting. Nevertheless, the validity of the study could perhaps have been more strengthened if more than one representative from the respective retailers had been interviewed as well. For instance, although the purchasing managers interviewed had a great deal of knowledge regarding other flows in the company other than the strict sourcing flow, perhaps including warehouse managers or head of logistics section could have given a more holistic view. However, as it took a great amount of time to set up the interviews with the respondents we did have, including more respondents would have meant it would have gone outside the scope of this study. Furthermore, it could be argued that holding the interviews in English rather than the native language of the respondents can have had some impact in their abilities to explain the nature of their strategies. However, as stated before, the respondents were given the ability to at any point halt the interview in order to ask questions or ask to clarify certain aspects.

The fact that three specific product categories were chosen in which the major part of the interviews centered around could also be seen as a limitation. Having a strong focus on only three categories of products could perhaps give the argumentation that it gives an askew picture of the total context. Having that in mind though, measures were taken to mitigate this by dedicating a segment of the interview to general questions concerning the overall, holistic approach to postponement and speculation.

3.12 Summary of Method

The authors follow an interpretivist approach with the ambition of providing a comprehensive outlook of postponement and speculation activities in a retail setting. An inductive method was chosen in order to create an understanding for why the chosen postponement and speculation activities were taking place by the retailers. The study uses a case-study approach and scrutinize three consumer electronics retailers in order to analyze their postponement/speculation strategies. An extensive literature review on retailing, postponement and speculation has been conducted in order to form the basis for the empirical study. Data collection has been conducted with a qualitative multi-method focus through three primary in-depth interviews with one company representative from each retailer and via a total of six on-site observations at the retailers’ stores. Secondary
data has also been used via visits to the retailers’ websites as well as PDF-presentations with company backgrounds on their websites available to the general public. Data analysis has been conducted qualitatively using the framework proposed in the literature review.
4 Empirical findings

This chapter presents the findings from the empirical interviews and observations conducted. The section goes through each of the investigated retailers separately and the structure is roughly following the framework presented in the frame of reference chapter. A classification of the retailer is followed by a focus on the selected product categories before the overall postponement and speculation activities of each retailer is described.

4.1 NetonNet

4.1.1 Retail structure

NetonNet is a Swedish consumer electronics retailer who initially started selling consumer electronics to consumers via the Internet in 1999. Two years after, in 2001 their venture expanded through a chain of retailer shops spread out in Sweden which is unique in the sense that they are combined shops and warehouses without the conventional type of product exposure typically found in retailer stores. Thus, the retailing structure is both both-store based and non-store based through their web shop. Their assortment of products contains home appliances, electronics accessories, media devices and other common consumer electronics goods. They also offer complementary insurance and payment solutions to their consumers during sales. The head office is located in Borås, Sweden and the company has currently 12 retailer shops in Sweden with a 13th opening up in 2011. Although Sweden is the home and major market, the company also sells products via the Internet to Norway (NetonNet, 2010).

Purchasing manager P. Olofsson is asked to shortly describe their range of products. Olofsson notes that currently, NetonNet has over 5000 stock-keeping units (SKUs) in their central warehouse combined with all the retail shops. He then mentions that the 5000 SKUs are sourced from over 200 different suppliers in the world. Olofsson then explains that NetonNet has a very diverse supply chain where a large part of their product assortment, one third to be more precise, comes via so called distributors. The rest comes directly from suppliers and own brands. The distributors are defined by Olofsson as providers of logistics services in addition to managing much of the cash flows involved.

4.1.2 Product categories

The conversation commenced with the three product categories of focus: TVs, laptops and cellphones.

Product characteristics: TVs at NetonNet come from big suppliers such as Samsung, LG, and Phillips. They also have several TVs with their own private label Anderson. The TVs come in different sizes ranging from smaller 19 inch TVs all the way up to 50+ inches. Laptops come from brands such as Toshiba, Asus, HP, MSI and also contain their own private label OnbyNetonNet. The laptops come with different software,
processors, screen types, memory etc. Cellphones come from manufacturers such as LG, Sony Ericsson, Apple and Samsung. They can be differentiated through their screen sizes, colors, operating systems, functions etc. When it comes to TVs, Olofsson states that the life cycle is generally higher and a new generation of TVs normally comes in once a year, usually around March/April. For TVs, orders are typically placed for the whole full year, according to Olofsson. For cellphones, the process is a bit more complicated where the purchasing is done through distributors instead of directly buying from the suppliers. Since the life cycle is extremely short, cellphones are purchased in low volumes and this makes it difficult to purchase it directly from the supplier and hence, the use of distributors instead.

When asked what kind of purchasing strategy NetonNet use for these product types, Olofsson states that for laptops, almost everything is contingent on the international market. He asserts that since the majority of the laptops on the consumer electronics market is based on processors by Intel, it is essentially the estimated quarterly releases of new processors by Intel which determines the turnover of stocks for NetonNet’s laptop assortment. Ahead of each new Intel cycle, there is a fixed purchasing window for NetonNet which orders are placed for the entire next quarter. If they fail to place orders during this period, they are going to be without the new generation laptops until the next quarter.

**Market & demand:** When it comes to the purchasing decisions and approach to market demand, Olofsson states that it for all three product categories almost entirely based on sales data and current stock levels which then are used to forecast how future demand will look like. Olofsson stresses here that one must distinguish between the two separate supply chain flows: from supplier downstream to NetonNet’s central warehouse and from the central warehouse to the local retail shops. Nevertheless, sales history and current stock level are the two most important determinants which decide the volumes, replenishment & delivery frequencies and product assortments. For this purpose, NetonNet uses several computer information tools and regularly inspect the “healthiness” if their stocks in order to avoid stocks outs and excessive stock levels. During periods of the year where demand is expected to fluctuate more than normal such as during Christmas, NetonNet takes pro-active measures to protect themselves against possible stock outs by simply buying in a higher buffer of stock. When it comes to cellphones which have high fluctuation in demand and could very quickly have their sales erupted and taking place as obsolete stock and thus forcing lower prices with consequent losses, Olofsson says that NetonNet has specific agreements with the suppliers of getting a certain amount of their spent money back. This is kind of occurrence is common says Olofsson due to the nature of their business with extremely high competition based on prices where NetonNet must match their competitors’ prices.

Laptops and cellphones are generally identified as fluctuant upstream as delivery dates are seldom met by the suppliers and make it difficult for NetonNet to give customers a good appreciation of delivery dates of a new cellphone for instance. When asked about
the upstream delivery times it was stated that laptops from partner brands has the highest lead times, followed by cellphones and TVs. For laptops and cellphones, the product range is quite broad with multiple brands, most of them are supplied by distributors with less than 2 days lead time. For delivery from NetonNet to end consumer based on their web shop, deliveries for all three product categories depend on the delivery choice of the customer but on average, it takes 2-3 days. Olofsson also mentions that dealing with larger suppliers such as Samsung can at times be extremely frustrating due to their inconsistency to keep delivery dates and launch dates as well as their poor ability in providing the information for delays in due time. Here Olofsson mentions that it is more difficult to do something about this since Samsung for instance is such a huge supplier in TVs, cellphones and laptops and thus has a lot of power.

The manufacturing and logistics system: When asked what the overall business strategy of NetonNet is, Olofsson states that being the cost leader and ensuring efficiency in the supply chain are the most important aspects, ahead of traits such as responsiveness, agility and value added services. For instance, if a customer comes in and wants NetonNet to customize a TV which they have in their assortment such as delivering it in another color, NetonNet will not be able to fulfill this request even if there are numerous such requests. When asked why, Olofsson says that value added services in this manner is simply not part of their core business as they are primarily interested in being efficient, keep costs low and offer lowest prices on the market to consumers. Thus, for all three product categories, speculation in the manufacturing process is more than common. Economies of scale for all three product categories were identified as extremely important as it allows NetonNet to get better prices from the suppliers and distributors. Using an outsourced logistics system through Posten has allowed NetonNet to minimize upstream and downstream transportation costs. As mentioned, high efficiency in the supply chain is the primary goal for NetonNet and this is noted for all three product categories in the manufacturing and logistics system.

The focus on competing on efficiency and low prices is extremely vital for NetonNet according to Olofsson, as they do not take upon an innovator’s strategy where they have to have the latest products first. The focus is more on a follower’s strategy with price points as their competitive advantage. When asked what the considered current bottleneck in the supply chain is, Olofsson states that ensuring that the final landed costs are kept as low as possible, lower than it is currently today is NetonNet’s biggest challenge today. Olofsson asserts here that NetonNet must improve their forecasting in order to minimize their inventory and their final landed costs. Another big issue according to Olofsson, which was also observed on hand in the shop, was the fact that the racks and shelves in the physical stores were too often too empty on products. Olofsson says that employing the full capacity in the store is extremely vital for NetonNet as it not only is important to give a good impression in the eyes of the customers but to get an increased return on capital for maximal utilization of capacity. When asked what the reasons are for this slow replenishment cycle, Olofsson refers to both external factors such as supply uncertainties mentioned above, and internal factors. The internal factors are accord-
ing to Olofsson that NetonNet must simply improve their forecasting accuracy in order to have a smoother replenishment cycle with less deviation.

### 4.1.3 Postponement & Speculation activities

**Purchasing:** The purchasing decisions are almost exclusively made based on forecasting of demand several months ahead, thus a heavy focus on speculation. When it comes to volatile products, generally they are purchased through the distributors and thus almost guaranteeing low lead times. For more stable products such as home appliances, the purchasing is normally done through direct contact with the supplier, according to Olofsson. As far as their web shop, Olofsson mentions that the purchasing and distribution strategy is very similar to the retail shops with the slight difference in a greater product assortment. An important reason for this is the centralized approach where the goods come in first to the central warehouse and depending on each retail shop’s stock level and sales history, products are pushed out with extremely short lead time.

**Manufacturing:** Olofsson mentions that a smaller quantity of the assortment which does not come from distributors comes from NetonNet’s own branded products. NetonNet’s own branded products are sourced and manufactured in China. Olofsson mentions that NetonNet has a purchasing office located in China which is directly involved in the sourcing and product development of NetonNet’s private labels. These own branded products consist of TVs, accessories such as cables and stands, laptops and some home appliances. Olofsson states that for each new product which goes under the own brand of NetonNet there is approximately 6-12 months of development from idea generation to manufacturing and distribution to the central warehouse in Borås. When it comes to the product development, NetonNet are involved in some basic configurations such as the color and shape of the products. When asked where in the supply chain the configuration process takes place Olofsson states that it is already decided during the development and manufacturing stage how the product is going to look and the dimensions involved. Hence, the differentiation is conducted by forecasting what the customers want upstream at supplier level. When asked the reason behind for why the configuration process is decided so early in the process, he mentions that it is economically justifiable since NetonNet needs to reach a certain minimum order quantity (MOQ) in order to make the own branded products economically beneficial. Although Olofsson mentions that this is a limitation, it is nonetheless unavoidable as it would be difficult to have the production outsourced to the Chinese manufacturer without a MOQ.

When asked why NetonNet has taken the own brand approach, Olofsson states that when selling hardware from partner brands (i.e. known brands such as Samsung) the profit margin is so low that it would make sense to offer the variety of own branded products as margins are generally higher. Olofsson stresses however that when it comes to hardware, whether it is from partner brands or own branded, it is very difficult to keep a margin and in fact, usually they lose money on selling hardware. Instead, it is from the so called low movement goods such as cables, wires and other accessories which the real margins can be found. For these types of goods, all the packaging and
labeling is conducted in China and is based on forecasts, and then shipped to NetoNet’s central warehouse in Sweden. For the products which are purchased directly from suppliers or via distributors, the products are all manufactured, assembled, packaged, labeled by the OEM’s and almost exclusively made based on forecasting of future demand.

**Logistics:** The distributors are constantly available and can distribute products to NetonNet with a very short lead time. As Olofsson explains: “if we need to replenish a certain product which comes via our distributors, a short phone call is all that is needed and we will have the quantity orders by the next day”. Another advantage the distributors offer is the bundling of products where cellphones for instance can be bundled together with related earphones. When asked whether these distributors are essentially a third-party logistics provider, Olofsson asserts that indeed, they are taking the role of 3PLs whereby they control the outsourced logistics activities of NetonNet in addition to some of the financial flows.

When asked about the reverse logistics processes taking place, Olofsson stated that for malfunctioned products which are returned by the customers, NetonNet typically has a service agreement with the suppliers for the return of products for laptops, TVs and cellphones. The defected products are first collected and consolidated at the central warehouse from the different retail shops. At the central warehouse, NetonNet has their own team of technicians which will undertake the reparations if it is deemed to be cheaper or feasible. If not, the products are consolidated based on the manufacturer and sent back normally once a month. In general, both the reverse logistics flow and the forwards logistics flow are outsourced to logistics providers such as Posten and Schenker, who consolidate the shipments of NetonNet with their other clients. Yet, NetonNet can offer flexible delivery policies for their online sales where the customer can opt to have an express delivery for a fixed fee or choose to wait 2-5 days and have the delivery free of charge.

**4.2 MediaMarkt**

**4.2.1 Retail structure**

MediaMarkt is a consumer electronics retailer originally from Germany. MediaMarkt currently has a chain of stores in over 15 different countries, including 19 stores located in Sweden. Their product assortment is varied with products covering everything from TVs, computers, refrigerators, kitchen appliances, audio, cellphones, accessories in a wide variety of product categories and brands. In addition, they offer financial services and insurances to customers in association with sales. Currently, MediaMarkt only offers their products through their physical stores and do not engage in e-commerce sales. Hence, MediaMarkt is a store-based electronics retailer. Although each local store has their relative autonomy emphasized, MediaMarkt has their Swedish head office located in Stockholm and the main head office in Munich, Germany (MediaMarkt, 2011).
4.2.2 Product categories

The conversation commenced with the three product categories of focus: TVs, laptops and cellphones.

**Product characteristics:** For TVs Erlandsson mentions that the majority of the products come from a few, well-known manufacturers such as Sony, Samsung and LG. The range of these TVs is quite broad with TVs coming multiple sizes everything from 19 inch up to over 50 inches and with different functions as well. Some TVs are equipped with Wi-Fi-technology, some are based on plasma, others LEDs or LCDs, thus highlighting a variety of TV types. For cellphones and laptops the same tendency is found but with even higher variety. For cellphones for instance there are so many types and different brands involved, according to Erlandsson based on manufacturers, operating systems, size, functions etc. TVs were identified as the product category which was currently in the maturation/decline stage as the high point in terms of sales for TVs are traditionally before Christmas. TVs were also the product category with the least amount of volatility as the replenishments at the store was less frequent compared with laptops and cellphones. Thus, both cellphones and laptops were purchased in greater volumes and the assortments tended to replenish faster, especially when it comes to laptops. Laptops which were not selling according to requirements are more often replaced by other brands or versions, compared to TVs.

When asked what if the focus is on being cost leaders or service leaders for the three product categories, Erlandsson replied that it is different from brand to brand and product types. Generally though, MediaMarkt tries to give the best customer service on the market with well-educated staff in addition to low prices. When asked about value-added services, for example when a customer comes to MediaMarkt and asks for a specific TV and color which is not available in the store, how do they help such customer? Erlandsson answered that provided that the supplier or distributors has a product according to the customer’s requirements, they will definitely taking care of it even if it’s one customer. They do their best to help that customer by providing the requested product, according to Erlandsson. Customer satisfaction is in general a vital goal for MediaMarkt as they try to listen to their customers’ feedback and use this as a correction factor for their demand forecasting process. They check their customer satisfaction continuously and measure it via different methods such as asking customers directly by phone, email etc. regularly twice a year.

**Market and demand:** Regarding the supply lead time of TVs, cellphones and laptops, Erlandsson mentioned it varies from supplier to supplier but for TVs it could be 3 days to 1 month (the bigger the brand the lower the lead time). For cell phones it’s almost 24 hours and laptops it’s around 24 hours during low season, which is typically during the spring. Since almost all TVs come directly from suppliers, there is greater supply uncertainty involved as the big brand manufacturers sometimes tend to not deliver according to promised. The market for TVs is also relatively easier to speculate on according to Erlandsson as most retailers follow the same patterns and new generations of TVs usu-
ally only comes once a year while for cellphones and laptops it could be 3-4 times a year. This was also rationalized by concluding that most consumers upgrade their cellphones and laptops more frequently than their TVs.

The manufacturing and logistics system: Economies of scale for the three product categories was not deemed as of primary importance according to Erlander. Mediamarkt’s central headquarters in Germany normally helps all the retail shops with the customer relations and sourcing of suppliers. From there on however, it is up to each retailer to decide the assortment of their local shop. For cellphones and laptops, what is important instead is extremely low lead times and deliveries to the store. When there are new product launches for a specific cellphone for instance, which is expected to have high demand for it, a quick and agile logistics system is of even greater importance. The responsive logistics system was also mentioned when asked about the overall bottleneck in their current supply chain. Erlander mentioned that MediaMarkt would like to have more fluent stuck rotation to keep the updated products. In their organization they arranged a lot of alarm systems which monitors and highlight stock levels, sales statistics and products which are getting obsolete. Since they are buying they usually have the return right so they will negotiate with the supplier to see whether it would be possible to receive a discount and sell it on the lower prices or not. Erlander mentioned that this is less important for cell phones and laptops because they sell them so fast unlike TVs which can get “stuck” in the inventory for a longer period of time.

When asked how MediaMarkt deals with overstock, Erlander answered that they will sell them with lower price even if that means making a loss on those products. When it comes to stock outs he said that they a temporary, but not so used approach available is to transport those products from other MediaMarkt stores in order to meet the customer demand properly. As MediaMarkt currently only sells their products through their retail store, they do not have web shops as some of their competitors. However, Erlander mentioned that MediaMarkt are slowly getting prepared to start delivering an e-commerce solution soon and are trying to work out a solution which is superior to their competitors. Overall, MediaMarkt wants to compete with low prices of equal importance for them is to be the first in innovation by offering the latest product first in the market.

4.2.3 Postponement & Speculation activities

Purchasing: M. Erlander declared that MediaMarkt has a decentralized warehousing system which involves deciding, buying, forecasting locally and each store have its own organization number and the managers are owners of part of the store. Each store has its own assortments, pricing, advertisement, sales and marketing system as well. Erlander also asserted that the number of SKU’s is 45000 different products and are sourced from around 280 different suppliers in the world. Erlander stated that MediaMarkt Jönköping almost exclusively use forecasts in their purchasing strategy which estimates demand 2-3 months ahead. Some brands and product categories such as refrigerators will yield bigger benefits when they are forecasted due to longer product cycles and
similarly some products are extremely difficult to forecast due to upstream volatility, such as Apple products. Here, MediaMarkt are basically told in the last minute by Apple that delivery could occur in the coming days and have to adapt. Regarding the techniques which they are using when forecasting, Erlandsson stated that it is totally local and decentralized. Based on the historical data that they have from their previous sales, it shows that the demand for products that people in Jönköping will buy does not correspond to the same as the demand for products which people buy in Stockholm. Erlandsson also mentioned that they have close cooperation with distributors when it comes to products such as laptops and cell phones because of the higher risks involved due to short lifecycles. For the other products which have longer lifecycles they purchase directly from the suppliers. For instance Sony, LG, Samsung have their own warehouses in Torsvik and MediaMarkt send the orders directly to them and receive the products from the mentioned warehouse of these suppliers.

**Manufacturing:** Regarding manufacturing postponement, Erlandsson stated that they are not involved in any manufacturing postponement at all as they only sell finished goods. The products are already assembled, packed and labeled by suppliers and then shipped and stored with distributors and MediaMarkt then places orders on a frequent basis to the distributors and have the products delivered with very short lead times. For the products which are purchased directly from the suppliers and not through distributors Erlandsson stated that he did not know if the OEMs used some form of manufacturing postponement further upstream but that the products that are delivered to MediaMarkt are all finished goods with the proper packaging and labeling. They are also not involved in any designing or have any input on the form and shape of the products. Moreover, they also currently do not have any own brands but this is likely to be changed in the future where the own brand products could be sourced from China.

**Logistics:** Regarding logistics postponement, Erlandsson mentions that postponement does somewhat exist in the reverse logistics flow. Here, there are two policies according to Erlandsson; if the returned products are working then they will sell it in the store with lower prices but if the return product are out of order or broken products they will send them to an external service department based on the guarantee that the suppliers are the responsible. They consolidate these products including all different brands together 3 times a week in a container. The supplier will compensate these products with new product or they return the value to Media Market if the product is not available. For the forward logistics flow, delivery of products from suppliers and distributors to MediaMarkt, everything is taken care of by the suppliers and distributors through DHL, Schenker and Posten and all MediaMarkt needs to do is accept the deliveries and store them in their local warehouse. If the suppliers face a fluctuation or supply uncertainty and cannot meet the orders on schedule and consequently not be able to deliver products in time, the suppliers have to compensate the loss of sales to MediaMarkt, according to Erlandsson. When asked whether the suppliers and distributors consolidate the shipments to MediaMarkt, Erlandsson said that it depends on the urgency of the delivery. If delivery is urgent, most likely there will be no consolidation and in less urgent situa-
tions the logistics providers most likely will consolidate shipments with their other customers’ shipments. Erlandsson wanted to emphasize that the logistics providers are the ones who make these decisions and this does not really concern MediaMarkt.
4.3 El-giganten

4.3.1 Retail structure

El-giganten is a consumer electronics retailer incorporated into the Norwegian consortium Elkjøp, which is in turn owned by British consumer electronics retailer DSG International. El-giganten currently has retail stores located in Sweden, Denmark, Norway (under the name Elkjøp), Iceland (under the name Elko) and Finland (under the name Gigantti). In Sweden, El-giganten has over 40 retail stores spread out in the country with the head office located in Stockholm and the central warehouse located in Torsvik, just outside Jönköping. At present time, El-giganten offers in addition to products in their physical stores, sales over the Internet via their web shop. Thus, they can be categorized as a mixture between store based retailer and non-store based. Their product assortment consists of media and entertainment devices such as TVs, cellphones, computers, stereos, videogames, home and kitchen appliances and financial services, subscriptions and insurances. (El-giganten, 2011).

4.3.2 Product categories

The conversation commenced with the three product categories of focus: TVs, laptops and cellphones.

Product characteristics: For TVs, Karlsson mentions that there are a variety of brands in El-giganten’s assortment. Karlsson asserts that the brands mainly come from main suppliers such as LG, Samsung, Sony, Phillips as well as El-giganten’s own brand Matsui. The TVs can be found in different sizes and technologies such as LED, LCD and plasma. Cellphones come from big manufacturers such as Sony Ericsson, Nokia, Apple, HTC, LG, Samsung and Acer. They come in different operating systems which contain Samsung’s, Apple’s, Google’s and Nokia’s. Colors and functions are also varying and can be used to differentiate between different brands. Laptops come from Sony, Apple, Acer, HP, Dell, Samsung, Toshiba, MSI, Packard Bell and Compaq. They can be differentiated through functions such as different processors, software, colors etc. When asked about the life cycles for the three product categories Karlsson said that TVs are currently in a maturation/decline stage where sales are somewhat slow during the spring. For cellphones there is a constant demand on the market and this goes especially for smartphones where the growth is substantial. For laptops, currently there is a growth trend due to a new generation of processors recently launched by Intel. When asked about what is the highest priority, being cost efficient or responsive for the three product groups Karlsson stated that El-giganten’s objective is to always offer the lowest prices and in order to do this they need to remain extremely efficiency in the supply chain. However, he also wanted to stress that El-giganten puts down a lot of resources in offering good customer service and customers are welcome to come in post-sales if they need any assistance with their products.

Market & demand: When asked about the volatility in the market for the three product groups Karlsson says that the average life cycle of a TV in El-giganten’s store is 6
months. For laptops and cellphones it is between 3-4 months and this is highlighted by the life cycle stages of the product categories as mentioned previously. For all three product categories, El-giganten speculates on the future demand and use forecasts which is a bit longer for TVs as they purchase in new versions twice a year, usually in April and September. For laptops and cellphones it is 4-5 times a year and demand is usually quarterly forecasted. The forecasting and centralized inventory approach is working well for El-giganten according to Karlsson, with the exception of the Christmas period since suppliers are usually short-staffed and thus this affects the supply of products somewhat to El-giganten’s central warehouse. To mitigate this, Karlsson mentioned that during Christmas most El-giganten retail stores employ a temporary hub close to the local store where they purchase and stock products from suppliers in advance in order to fill up the warehouses anticipating the higher demand during Christmas seasons. Therefore, it is extremely important according to Karlsson that El-giganten get the forecasting right before Christmas as an excessive overstock after Christmas would be extremely disadvantageous due to saturation in the market among customers right after Christmas until spring where sales are really slow.

The manufacturing & logistics system: According to Karlsson, El-giganten uses a centralized approach where the central warehouse in Torsvik essentially “sells” products to the different retail shops based on their own forecasts. Whilst economies of scale is important for the central warehouse, it is less so for the retail shop in Jönköping since they can place their orders through the central inventory and have it delivered with short lead times. For the central warehouse, TVs for instance have longer life cycles and therefore buying in larger quantities from suppliers is more common than for cellphones and laptops which can have demand cycles which are typically characterized by volatility and shorter life cycles. Karlsson also stated that their logistics system is characterized by efficiency and this is one of the reasons why they use Posten and other logistics providers for their deliveries to customers and to their retail shops from the central warehouse. The centralized approach also involves a system where the central warehouse is seen as a separate entity compared with the retail shops, according to Karlsson. This also means that in cases of overstocks, the retail shops cannot send products back to the central warehouse and have it stored there. This further emphasizes the importance of accurate forecasts in the speculative approach adopted by the retail shop. Karlsson also mentioned that El-giganten tries to be innovators in the sense that they try to have the latest TVs, cellphones and laptops in their product assortment as they want to offer the customers the latest products with the latest technology from the biggest brands on the market.

4.3.3 Postponement & Speculation activities

Purchasing: P. Karlsson stated that El-giganten are buying finished products from suppliers in highest possible volume but in the price proposed by El-giganten, so they can buy same products but with lower price than their competitors can buy. Karlsson mentioned that El-giganten have around 30000 SKUs at the store which is supplied by
60 suppliers from all around the world. The purchased products are purchased almost exclusively directly from the suppliers and the products will be delivered to their central warehouse located in Torsvik and then from this place it will be transported to their local retail shops in the whole Nordic area which contains stores in Norway, Denmark, Finland and Sweden. Karlsson states that El-giganten has a specific purchasing policy called double margin system. It means that the products which are under purchasing procedure by the central warehouse have been already sold based on first margin to the stores. Consequently the stores will have to mark up their own margin in order to sell the product on the local market. According to Karlsson, the local Jönköping store’s financial condition is important but not as important as the Torsvik Central warehouse’s financial condition. Regarding the issue if they customize products according to customer requests such as providing a color which is not available in their assortment, Karlsson said that since the purchasing procedure is usually based on speculation, El-giganten does not comply with requests like this. Rather, they would in such a scenario try to advice the customer to get products which have nearly the same features and which El-giganten already has in their assortment. Regarding the speculation and forecasting, Karlsson said that El-giganten has the yearly forecasting based on the earlier behavior of the market, sales data, customer behaviors and future product launches.

**Manufacturing:** As mentioned, since El-giganten only deals with finished goods they do not perform any value added activities or are involved in the shape, form or design of the products which come directly from suppliers. However, it also came to our attention during the meeting that currently El-giganten has some own branded products in their assortments. Karlsson mentioned brands such as Matsui and Samström for TVs and small kitchen appliances as part of their own branded products. When asked how they go about from planning to purchasing and delivering these own branded products Karlsson stated that they look at reference products in the same categories from other suppliers and then provide this reference information to outsourced manufacturers which then takes care of the manufacturing, design, and provide the logistics solution to ship the products to El-giganten’s central warehouse. For the finished products which come directly from the suppliers El-giganten are not involved in any type of postponement as the products sold in El-giganten are to a large extent products which can be found at competitor retailer stores.

**Logistics:** The logistics approach is a speculative one where both own branded products and products from suppliers are purchased and stored in the central warehouse and then shipped to the local retail stores and to consumers who purchase through the website, according to Karlsson. Delivery times are quite varying but from suppliers to the central warehouse it could take everything between a few days to months and from the central warehouse to stores and customers the lead time is only a matter of days. For the customer deliveries, the logistics processes are taken care of by external actors such as Posten and Schenker. These usually consolidate their shipments and combine their different clients’ goods and then deliver. Regarding the reverse logistics flow, Karlsson said that for returned products which are still functional they will be sold in the store.
with lower price. For products which are malfunctioned they will be sent to the central warehouse where they have service stations and this happens on a daily basis.
5 Analysis

This section presents the analysis which is based on the empirical findings and the frame of reference. Each retailer is initially analyzed separately with a focus on the chosen product categories and at the end of the analysis chapter a summarized analytical framework is presented which aims at giving a more holistic overview and room for comparisons between the retailers.

5.1 NetonNet Case Analysis

5.1.1 Product category A: Television

NetonNet is offering a somewhat broad range of TVs and also they supply their own TV-brand called “Anderson” with relatively competitive pricing and functions and have it assembled in Turkey. Based on an adapted version of the Kotler & Keller retail model (2006), TVs in NetonNet’s product assortment can be positioned as follows:

![Figure 13 - Positioning of NetonNet TV assortment (adapted by Kotler & Keller, 2006)](image)

The level of value adding activities for TVs at NetonNet is somewhat high as they are involved in the product planning, design, manufacturing of their own branded TVs. In addition, they also provide TVs from major suppliers such as Samsung. To go with these TVs, they are offering bundles of related accessories, free shipments and home delivery through their website. As for the variety of TVs, it is somewhat high, however not as high as the other investigated retailers MediaMarkt and El-giganten. They also try to cover the rest of demand which comes to their stores by offering substitutes including their own brands with the closest possible specification inquired by customer.
5.1.1.1 Product replenishment for TVs at NetonNet:

According to purchasing manager Olofsson at NetonNet different product replenishment frequencies for the three nominated focal products exists in NetonNet’s replenishment system. These boundaries are based on the different factors such as the essence of the products, lifecycles, market demand, season, brands and so forth. Olofsson declared that for TVs, every year around April a new generation of TVs is introduced to the market and NetonNet has to place the order for the whole year so they use a speculation strategy in this respect.

![Image](image-url)

Figure 14 - The NetonNet TV location decoupling point (adapt. from Mason-Jones & Towill, 1999b)

The forecast for such orders should be very near to actual demand in order to cover the demand during the whole year. The ordered TVs will be stocked in their central warehouse in Borås and then will be distributed to the local stores as well as customers who purchased the products via internet. In this respect, and according to the material flow decoupling point model proposed by Mason-Jones & Towill (1999a) the location decoupling point for TVs will be the central warehouse of NetonNet in Borås and the replenishment frequency for TVs will be once a year.
5.1.1.2 Profile analysis of category A: TVs

Following the principles of the profile analysis, some questions about the chosen product categories have been used as the key determinants in order to complete the adopted profile analysis template, as suggested by Pagh & Cooper (1998).

<table>
<thead>
<tr>
<th>Some important P/S-decision determinants</th>
<th>Generic P/S-strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The full speculation strategy</td>
</tr>
<tr>
<td>Product life cycle</td>
<td>Introduction</td>
</tr>
<tr>
<td>Cost/service strategy</td>
<td>Service</td>
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<td>Product characteristics</td>
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<td>Value profile</td>
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<tr>
<td>Monetary density</td>
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<td>Market and demand</td>
<td>Relative delivery time</td>
</tr>
<tr>
<td>Delivery frequency</td>
<td>High</td>
</tr>
<tr>
<td>Uncertainty of demand</td>
<td>Low</td>
</tr>
<tr>
<td>Manufacturing &amp; logistics</td>
<td>Economies of scale</td>
</tr>
<tr>
<td>Special capabilities</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Accordingly, for TVs the strategy that NetonNet is using is more towards speculation in purchasing and more towards postponement in the logistics aspects of TVs. Hence, based on the below P/S-table of strategies proposed by Pagh & Cooper (1998) NetonNet will be in the logistics postponement strategy for TVs, since they have centralized inventory and direct distribution system together with speculation and make-to-stock policy. Consequently, low production costs, low/mid inventory costs, high distribution costs and low-mid customer service will be the characteristics of situating in this strategic area for NetonNet for TVs. During the interviews it showed that one of the reasons why NetonNet can focus on their low price point strategy is due to the economies of scale benefits they incur by purchasing in larger quantities and saving costs. Consequently, their inventory is somewhat large but Olofsson argued that inventory costs per say was not a bottleneck but rather the final landed costs. An integral part of this would be the extensive logistics costs involved in supplying customers TVs to their doors. Moreover, their lack of focus on extensive customer services and “warehouse-like” shops further allows them to stay efficient.
As the distribution costs are high for such strategy, NetonNet is outsourcing this function by utilizing external logistics providers Posten and Schenker. The high volume of orders and long term contract is also creating a condition to purchase TVs with cheaper price in comparison with other competitors.

Figure 16 - P/S approach by NetonNet for product category A: TVs
5.1.2 Product Category B: Laptops

NetonNet is offering a somewhat limited range of products when it comes to laptops but add value by supplying their own brand of laptops called “onbyNetonNet” with relatively competitive pricing and functions, assembled in China. Therefore the adopted model for retailer positioning for NetonNet for product category B: laptops is as depicted below:

![Diagram showing the positioning of NetonNet's laptop assortment](image)

Figure 17 - positioning of NetonNet's laptop assortment (adapted by Kotler & Keller, 2006)

Value adding activities for laptops at NetonNet is relatively high because of input in design, shape and functions of their own laptop brand in addition to free shipments and home delivery. The breadth of the laptop product category is around medium as they focus on fewer brands than some of their competitors.

5.1.2.1 Product replenishment for laptops at NetonNet:

According to Olofsson at NetonNet, the purchasing pattern for laptops is almost exclusively determined by the international market because of the huge impact of Intel and their updates and launches of new processors. Therefore it is essentially the estimated quarterly releases of new processors by Intel which determines the replenishment of stocks for NetonNet’s laptop assortment. Thus a full speculation strategy is being employed for laptops. Every four months NetonNet has to place orders and receive updated laptops with specifications which match those offered by the competitors. In this respect, we can picture the location of the laptop decoupling point model proposed by Mason-Jones & Towill (1999a) at their central warehouse in Borås, just as we did in the case of TVs.
5.1.2.2 Profile analysis of category B: Laptops

Following the principles of the profile analysis, some questions about the chosen product categories have been used as the key determinants in order to complete the adopted profile analysis template, as suggested by Pagh & Cooper (1998).

<table>
<thead>
<tr>
<th>Some important P/S-decision determinants</th>
<th>Generic P/S-strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product life cycle</td>
<td>The full speculation strategy</td>
</tr>
<tr>
<td>Stage</td>
<td>Introduction</td>
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<tr>
<td>Cost/service strategy</td>
<td>Service</td>
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<tr>
<td>Manufacturing &amp; logistics</td>
<td>Economies of scale</td>
</tr>
<tr>
<td>Special capabilities</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Figure 18 - NetonNet profile analysis for product category B: Laptops

So, for laptops the strategy that NetonNet is using is more of speculation in purchasing and postponement in logistics. The replenishment frequency is around every 3 months. Accordingly based on the mentioned information and also by considering the P/S-table of strategies proposed by Pagh & Cooper (1998) NetonNet will be in the logistics postponement strategy for laptops since they have centralized inventory and direct distribution system together with speculation and make-to-stock policy. Consequently, low production costs, low/mid. inventory costs, high distribution costs and low-mid. customer service level are the characteristics of situating in this strategic area for NetonNet.
5.1.3 Product Category C: Cellphones

NetonNet is offering a relatively medium range of products when it comes to cellphones and they do not have their own brand for cellphones and also they have to purchase the cellphones via distributors and not directly from suppliers. However, their breadth of cellphones is somewhat extensive covering most major brands, different price ranges and functions. Their positioning for cellphones on the graph looks as follows:

Figure 20 - positioning of NetonNet's cellphone assortment (adapted by Kotler & Keller, 2006)
Value adding activities for cellphones at NetonNet is not high because they do not have any value adding action for cellphones other than offering bundle earphones for instance together with the cellphones and offering free home deliveries.

5.1.3.1 Product replenishment for cellphones at NetonNet:

According to Olofsson the life cycle of cellphones at NetonNet is extremely short, so cellphones are purchased in low volumes via distributors. Cellphones are the only product category out of the three investigated which the supply is directly delivered to the respective retail shops rather than going through the central warehouse first and then get allocated to the shops. Almost every week they have to place orders and receive a new batch of cellphones. In this respect and according to the decoupling point model proposed by Mason-Jones & Towill (1999a) the location of decoupling point for cellphones will be the physical stores of NetonNet.

5.1.3.2 Profile analysis of category C: Cellphones

Following the principles of the profile analysis, some questions about the chosen product categories have been used as the key determinants in order to complete the adopted profile analysis template, as suggested by Pagh & Cooper (1998)

Figure 21 - NetonNet profile analysis for product category C: Cellphones
Thus, when it comes to cellphones NetonNet is following a decentralized inventory policy and a make-to-stock strategy. Hence, NetonNet is using a more full speculation strategy based on the P/S-table as proposed by Pagh & Cooper (1998). Consequently, low production costs, high inventory costs, low distribution costs and high customer service will be the characteristics of situating in this strategic area for NetonNet when it comes to cellphones.

5.2 MediaMarkt Case Analysis

5.2.1 Product category A: TVs

MediaMarkt is offering a broad range of products when it comes to TVs and covers a wide range of different brands and TV-types. However, they do not currently offer any own branded TVs and are not involved in the manufacturing or logistics process as this is almost exclusively taken care of by the suppliers. Their positioning for TVs on the graph looks as follows:

![Figure 22 - P/S approach by NetonNet for product category C: Cellphones](image)
Although Mediamarkt’s value adding activities for TVs is conceivably low, their value-adding still exist but comes from greater customer service. According to Erlandsson, warehouse-manager at MediaMarkt, immense resources are put to train and have the most knowledgeable personnel on the market. Moreover, their policy of complying with customer’s requirements through purchasing of specific orders can also be seen has adding value to their assortment of TVs. When it comes to variety of TVs, Mediamarkt can offer very high variety as their approach is to always have the latest TVs from the biggest brands available at their store.

5.2.1.1 Product replenishment for TVs at MediaMarkt:

According to Erlandsson, different product replenishment frequencies for the three nominated focal products is been considered in Mediamarkt’s replenishment system. These boundaries are based on the different factors such as the essence of the products, lifecycles, market demand, seasons, brands and so forth. He declared that for TVs once a year around April a new generation of TVs is introduced to the market and they have to place the order for the whole year and thus they use a speculation strategy in this respect where the quantity for the year is forecasted.
As it has been well depicted above, the ordered TVs will be stocked in their warehouse in Jönköping close to their retail store. With this taken into consideration the decoupling point for TVs will be the warehouse of Mediarkt.

5.2.1.2 Profile analysis of category A: TVs

Following the principles of the profile analysis, some questions about the chosen product categories have been used as the key determinants in order to complete the adopted profile analysis template, as suggested by Pagh & Cooper (1998).
Accordingly, for TVs the strategy that Mediamarkt is using is more of speculation in purchasing and postponement in logistics. Thus based on the mentioned information and according to the below P/S table MediaMarkt will be in the full speculation corner for TVs, since they have decentralized inventory system together with make-to-stock policy. Consequently, low production costs, high inventory costs, low distribution costs and high levels of customer service will be the characteristics of situating in this strategic area for MediaMarkt for TVs. As noted in the frame of reference section where centralized versus decentralized approach was discussed, a positive attribute which usually comes along with acting decentralized is agility and flexibility. This was concurrent with some of the responses from the interview with Erlandsson where it came to our attention that Mediamarkt Jönköping has quite a lot of autonomy to decide their assortment and their objective is to always have the latest products directly after product launch.

![Logistics Diagram](image)

Figure 26 - P/S approach by Mediamarkt for product category A: TVs

The speculation approach by Mediamarkt for TVs makes sense as the average life cycle for TVs at Mediamarkt Jönköping is relatively high and since new launches of TVs by the major manufacturers are quite low in frequency. This can justify a make-to-stock approach where TVs are inventoried at Mediamarkt’s warehouse.

### 5.2.2 Product Category B: Laptops

MediaMarkt is offering a high range of products when it comes to laptops and also assist their customers by any possible kind of software/hardware they need. Therefore the positioning of their laptop assortment looks as follows:
The value adding activities for laptops at Mediamarkt is high because of offering high customization level and high service levels to their customers with a very dedicated sales staff and after-sales assistance, such as when customers have software queries. The variety of laptop is also high as they can offer almost all available types and brands which can be found in the international markets.

**5.2.2.1 Product replenishment for laptops at MediaMarkt:**

According to Erlandsson, for laptops almost everything has to be followed by the trends on the international market. He mentioned that they sell laptops relatively fast and the average life cycle for their laptops is around 3 to 4 months. Therefore it is essentially the estimated quarterly releases of new processors by Intel which determines the replenishment of stocks for Mediamarkt’s laptop assortment, just as in the case with NetonNet. Consequently, a full speculation strategy is being employed for laptops. And every four months they have to place as new order and receive the new products. In this respect and according to the material flow decoupling point model proposed by Mason-Jones & Towill (1999a) the location decoupling point for laptops will be the warehouse or even closer to the customer, physical store of MediaMarkt in Jönköping.
5.2.2.2 Profile analysis of category B: Laptops

Following the principles of the profile analysis, some questions about the chosen product categories have been used as the key determinants in order to complete the adopted profile analysis template, as suggested by Pagh & Cooper (1998).

![Figure 28 - Mediamarkt profile analysis for product category B: Laptops](image)

For laptops the strategy that MediaMarkt is adopting is more of speculation in purchasing, as shown by the profile analysis. Thus, in the P/S table of strategies proposed by Pagh & Cooper (1998), MediaMarkt will be in full speculation for laptops since they have decentralized inventory system together with speculation and make-to-stock policy. Consequently, low production costs, high inventory costs, low distribution costs and high levels of customer service will be the characteristics of situating in this strategic area for MediaMarkt regarding laptops. Specifically, the distribution costs will be lower compared to many of their competitors since Mediamarkt does not currently offer sales over the Internet.
5.2.3 **Product Category C: Cellphones**

MediaMarkt is offering a high range of products when it comes to cellphones. Their ambition is to offer the latest cellphones with the latest specifications in different price points in order to have something to offer for everyone. The value adding activities for cellphones are somewhat high due to their extensive customer service but as for the products themselves, they are not involved in the manufacturing, assembly or logistics process as it is taken care of by the suppliers. Thus, the positioning of MediaMarkt’s cellphone assortment looks as below:

![Diagram](image)

Figure 29 - P/S approach by Mediamarkt for product category B: Laptops

![Diagram](image)

Figure 30 - positioning of Mediamarkt’s cellphone assortment (adapted by Kotler & Keller, 2006)
5.2.3.1 **Product replenishment for Cellphones in MediaMarkt:**

According to Erlandsson, the life cycle of cellphones at MediaMarkt is extremely short and manufacturers are constantly launching new versions of cellphones with upgraded specifications and this has led to a very active replenishment cycle by MediaMarkt where new batches of cellphones are purchased almost every week. The high replenishment cycle has also resulted in relatively low inventory of cellphones. With this taken into consideration, we can picture the decoupling point of cellphones for MediaMarkt at the physical store of MediaMarkt Jönköping.

5.2.3.2 **Profile analysis of category C: Cellphones**

The profile analysis for the cellphone assortment of MediaMarkt Jönköping is depicted below:

![MediaMarkt profile analysis for product category C: Cellphones](image)

So, for cellphones MediaMarkt is following a decentralized inventory policy and also make to inventory policy. Thus, for product category C, cellphones MediaMarkt is leaning more towards a speculation strategy.
However, the strategy can also be seen as being in the borderline between full speculation and logistics postponement strategy as the inventory costs are relatively low due to a high replenishment frequency.

### Logistics

<table>
<thead>
<tr>
<th>Speculation</th>
<th>Postponement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decentralized inventories</td>
<td>Centralized inventories and direct distribution</td>
</tr>
</tbody>
</table>

- **The full speculation strategy**
  - low production costs
  - high inventory costs
  - low distribution costs
  - high customer service

- **The logistics postponement strategy**
  - low production costs
  - low/mid. inventory costs
  - high distribution costs
  - low/mid. customer service

- **The manufacturing postponement strategy**
  - mid./high production costs
  - mid./high inventory costs
  - low distribution costs
  - mid./high customer service

- **The full postponement strategy**
  - mid./high production costs
  - low inventory costs
  - high distribution costs
  - low customer service

![Figure 32 - P/S approach by Mediamarkt for product category C: Cellphones](image)

### 5.3 El-giganten Case Analysis

#### 5.3.1 Product category A: TVs

El-giganten is offering a broad range of products when it comes to TVs. Their assortment covers almost every major brand of TVs and they offer a high variety of TV-types based on the major technologies, functions, designs and price ranges. Furthermore, they also have their own brand of TVs called “Matsui” which are assembled in Turkey. However, their input in the design, form, assembly or logistics for their own branded TVs is limited as everything is outsourced to external providers and based on already existent reference TVs from El-giganten’s current assortment. Thus their positioning on the graph for TVs looks as below:
As mentioned, El-giganten’s actual input in the design of their own branded TVs is quite low compared to NetonNet’s. However, their own branded TV adds additional variety for customers as the functions of the Matsui TVs are similar to those of the major supplier brands but comes at a lower price range. Furthermore, El-giganten is similar to Mediamarkt in the sense that they prioritize a high customer service level and after sales services for their customers in addition to offering a wide variety of accessories in their store that can go with their TV assortment. What is more, El-giganten can offer their customers added comfort through home deliveries and orders online through their web shop. They also engage in helping the customers install the TVs and assist in setting up channels for instance. Hence, their positioning on the scale is high for both added value for their TVs and high in terms of variety of TV assortment.

5.3.1.1 Product replenishment for TVs in El-giganten:

According to warehouse manager P. Karlsson, there are somewhat different product replenishment frequencies for the three nominated focal products. These boundaries are based on the different factors such as the essence of the products, lifecycles, market demand, seasons, supplier brands and so forth. Karlsson declared that twice a year, around April and September new generations of TVs are introducing to the market and they have to place the order for half of the year each time and they do by utilizing a speculation strategy in this respect. The ordered TVs will be stocked in their central warehouse in Torsvik and then they have to make their forecasts 3 weeks ahead and send their order to Torsvik to receive the requested products. Although, holistically this system creates benefits for El-giganten Jönköping due to their strong support from the Torsvik central warehouse, it was also seen as a bottleneck for the El-giganten during seasonal demand fluctuations such as during the Christmas season. During Christmas, both supplier warehouses and the Torsvik warehouse are traditionally underpowered and short-staffed due to holidays and this coincides with their highest sales peak which cause sup-
ply uncertainty issues. This forces El-giganten to utilize temporary stocks or hubs and fill them up before Christmas. With this taken into consideration, the location decoupling point for their TVs will be the Torsvik central warehouse of El-giganten except for the Christmas period which the decoupling points will be relocated to the local temporary hubs in Jönköping.

![Representation of the Material Decoupling Point](image)

Figure 34 - The El-giganten TV location decoupling point (adp. from Mason-Jones & Towill, 1999b)

The hub approach used by El-giganten is also assisting to mitigate the bullwhip effects which can be caused by the volatility found during seasonal demand fluctuations, such as Christmas. As mentioned by Svensson (2003), the postponement/speculation differences between the inbound and outbound logistics flows can be a cause for bullwhip effects. During the Christmas season, El-giganten shifts from a centralized to a decentralized inventory management system where the central warehouse completely closes during the holidays. Accordingly, El-giganten uses a hub in order to mitigate the possible bullwhip effects through forward buying well ahead of time into their hub in order to deal with possible fluctuations during Christmas. Thus, the forecasting aspect during the Christmas period is vital for El-giganten in order have a proper balance between demand and supply and stay as close as possible to actual demand.
5.3.1.2 Profile analysis of category A: TVs

For El-giganten’s TV assortment the profile analysis was filled out based on the questions asked during the interview with warehouse manager P. Karlsson. The profile is filled out as below:

<table>
<thead>
<tr>
<th>Some important P/S-decision determinants</th>
<th>Generic P/S-strategies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product lifecycle</strong></td>
<td><strong>The full speculation strategy</strong></td>
<td><strong>The manufacturing postponement strategy</strong></td>
</tr>
<tr>
<td>Stage</td>
<td>Introduction</td>
<td>Growth</td>
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<tr>
<td>Cost/service strategy</td>
<td>Service</td>
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<td>Product type</td>
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<td><strong>Value</strong></td>
<td>Value profile</td>
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</tr>
<tr>
<td>Monetary density</td>
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<td>Low</td>
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<td><strong>Market and demand</strong></td>
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<td></td>
<td>Uncertainty of demand</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Manufacturing &amp; logistics</strong></td>
<td>Economies of scale</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>Special capabilities</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Figure 35 - El-giganten profile analysis for product category A: TVs

For their TVs, the strategy that they are using is more of speculation in purchasing and postponement in logistics. Their positioning on the below P/S table of strategies as proposed by Pagh & Cooper (1998), will be in full speculation strategy for TVs. More specifically, they are essentially buying TVs from their central warehouse and from the perspective of El-giganten Jönköping this can be seen as a decentralized inventory system.
Other elements of the full speculation strategy is also existent with large economies of scale benefits due to the central warehouse’s purchasing power buying up large stocks of TVs and thus making it difficult for their competitors to offer the same types of TV.

![Logistics Diagram](image)

**5.3.2 Product Category B: Laptops**

El-giganten is offering a broad range of products when it comes to laptops. Their focus is on offering the latest laptops at affordable prices. In addition, El-giganten tries to offer customized services and assist their customers in whatever after-sales query that they have. Their assortment of laptops covers all major brands and laptop versions and they also offer a wide variety of relevant accessories to go with such as mouse, hard drives, laptop cases, cords etc. Their positioning on the graph when it comes to their laptop assortment looks like below:

![Positioning Diagram](image)

Figure 36 - P/S approach by El-giganten for product category A: TVs

Figure 37 - positioning of El-giganten’s laptop assortment (adapted from Kotler & Keller, 2006)
As seen above, value added activities for El-giganten’s laptop assortment is quite high due to high level of customer service. The absence of own branded laptops however reduces some of the value adding compared with their TV assortment. The high customer service level expands over to their web shop where they offer home deliveries with short lead times and the option to have El-giganten deliver and help with any installation of software associated with sales of laptops. Likewise, the variety of laptops ranging from different brand, functions and price ranges is quite high.

5.3.2.1 Product replenishment for laptops at El-giganten:

According to Karlsson at El-giganten, their replenishment pattern for laptops is similar to those of TVs and cellphones where the major suppliers’ launches of new product lines reflects the frequency of replenishment and sets the purchasing pattern. For laptops specifically, the average life cycle at El-giganten was deemed as quite low and the assortment is on average changed on a 3-4 monthly basis. Just as in the case with NetonNet and Mediamarkt, the quarterly launches of new processors by Intel influences El-giganten’s purchasing of new laptops. For each new cycle of change in assortment, El-giganten uses forecasts for the coming months and base the quantities purchased on their forecast. The location decoupling point for laptops at El-giganten will thus be the warehouse or even closer to the customer, physical store of El-giganten in Jönköping.

5.3.2.2 Profile analysis of category B: Laptops

The profile analysis for El-giganten’s laptop assortment is accordingly filled out based on the questions asked during the interview with warehouse manager P. Karlsson and is depicted below:
For laptops, El-giganten pursues a speculative approach in the sense that purchasing, manufacturing and the logistics flow is determined by the forecasts and anticipatory demand. By looking at the P/S-table below most of the characteristics of the full speculation strategy fits that of El-giganten’s laptop approach. However, since El-giganten offers high level of customized services and offer laptops through their web store their distribution costs are higher than in a typical full speculation strategy. Taking this into consideration, their result on the P/S-table lies somewhere in the border between full speculation and logistics postponement.

![Figure 39 - P/S approach by El-giganten for product category B: Laptops](image)

The high dependence on the central warehouse was according to Karlsson at El-giganten sometimes a bottleneck as it took away some of the flexibility which their main competitor Mediamarkt sometimes has. What is more, the arrangement between the central warehouse and the local retail shops was described as quite extraordinary in the sense that the main warehouse and the local stores were seen as different entities and this meant the central warehouse sold products to the retail shops. This could sometimes complicate matters such as when El-giganten Jönköping cannot send back excessive stock to the central warehouse.

### 5.3.3 Product Category C: Cellphones

When it comes to cellphones, El-giganten offers the latest when it comes to brands and a variety of cellphones in different price ranges, with different operating systems and functions. They also offer accessories for cellphones such as earphones, shells, memory cards, cases etc.

Although they aspire to offer the lowest prices on cellphones they also put vast resources in offering an above average customer service level both through consultations
with customers pre-sales and services which are supposed to help customers after their purchase. The positioning on the graph for El-giganten’s cellphone assortment is depicted below:

![Positioning of El-giganten's cellphone assortment](image)

As can be seen above, their breadth of different cellphones is high and their value added is relatively high due to their high customer service level. They are currently not offering any own branded cellphones but customers are able to purchase cellphones through El-giganten’s web shop and have it delivered to their homes.

### 5.3.3.1 Product replenishment for Cellphones at El-giganten:

According to Karlsson cellphones have the shortest life cycle of the three product categories and cellphones are therefore regularly bought due to new cellphone launches and technological developments on the market. The replenishment cycle is around 3-4 months and orders are placed based on forecasting of future demand. The forecasting is a two-way process where first the central warehouse buys in large stocks and then sells these to the retail stores based on their own forecasts. The locational decoupling point is thus found at El-giganten’s physical store in Jönköping.
5.3.3.2 Profile analysis of category C: Cellphones

As described in the frame of references for the profile analysis, some questions about cellphones has been used as the key determinants in order to complete the adopted profile analysis template suggested by Pagh & Cooper (1998):

<table>
<thead>
<tr>
<th>Some important P/S-decision determinants</th>
<th>Generic P/S-strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product life cycle</strong></td>
<td>The full speculation strategy</td>
</tr>
<tr>
<td>Stage</td>
<td>Production Low/Med</td>
</tr>
<tr>
<td>Volume</td>
<td>Service Med./High</td>
</tr>
<tr>
<td>Cost/service strategy</td>
<td>Product type Standard</td>
</tr>
<tr>
<td>Product characteristics</td>
<td>Product range Narrow</td>
</tr>
<tr>
<td>Value</td>
<td>Value profile Initial stage</td>
</tr>
<tr>
<td>Monetary density</td>
<td>Delivery demand Relative delivery time Short</td>
</tr>
<tr>
<td>Market and demand</td>
<td>Delivery frequency High</td>
</tr>
<tr>
<td>Uncertainty of demand</td>
<td>Monetary density Low</td>
</tr>
<tr>
<td>Manufacturing &amp; logistics</td>
<td>Economies of scale Large</td>
</tr>
<tr>
<td>Special capabilities</td>
<td>Yes</td>
</tr>
</tbody>
</table>

So based on the profile analysis for cellphones El-giganten’s cellphone strategy is full speculation with a make to inventory policy. Accordingly, based on the mentioned information and also by considering the P/S table of strategies proposed by Pagh & Cooper (1998) El-giganten will be in the full speculation strategy for cellphones and consequently, low production costs, high inventory costs, low distribution costs and high customer service will be the characteristics of situating in this strategic area. The low distribution costs can be argued against, at least downstream as their web shop offers home deliveries of cellphones.
5.4 Summary of analysis

Holistically, it could be said that the outcome of the empirical data has shown that postponement activities performed by the three investigated retailers are quite limited. In fact, for all three retailers, and in a majority of the product categories scrutinized, the retailers adopt the full speculation strategy which is characterized by low distribution costs, high customer service focus and high inventory costs. The full speculation approach was based on forecasted demand and forward buying of products in a make-to-stock fashion. However, there were also some deviations found between different product categories and between the retailers. For NetonNet, cost savings in the supply chain had extremely high priority ahead of customer service focus. Conversely, although low costs were deemed as a priority for MediaMarkt and El-giganten, they were keen to emphasize their focus on customer services and value-added services. MediaMarkt particularly, were keen to highlight the fact that they were somewhat willing to offer variations of manufacturing postponement for individual customers who perhaps wanted a specific product in their assortment but with more variations (e.g. different colors, hardware, design etc.). This was also noted when analyzing the retailers’ product assortments for the three product categories. Overall, the assortments of MediaMarkt and El-giganten had greater variations as far as brands offered, types and range, compared with NetonNet’s assortment. Furthermore, two of the investigated retailers, El-giganten and NetonNet were found to be hybrid retailers based on Kotzab & Bjerre’s (2005) categorization of retailers due to their business structure using both physical stores and e-commerce via webstores. MediaMarkt on the other hand, was found to be a store-based retailer since they were only offering their products at their physical store. Figure 43 below classifies the three retailers on the postponement/speculation continuum and shows the different product categories for each retailer and the corresponding strategy.
Looking at the three product categories, which were laptops, TVs and cellphones, there were tendencies of application of logistics postponement. For the two retailers which also had sales through the Internet, NetonNet and El-giganten, their distribution costs were naturally higher compared with MediaMarkt which currently does not offer e-commerce options. Moreover, as the logistics activities were outsourced to external logistics service providers, it was found that these actors tended to consolidate shipments together with their other clients’ products. The logistics activities also had a reverse flow in which logistics postponement was also used through consolidation. NetonNet and El-giganten were found to use a centralized system where centralized inventory is used and then shipped to local retail shops while MediaMarkt had a decentralized structure where each retail store has large autonomy when it comes to warehousing and procurement. For all three retailers, the decoupling point can generally be seen as close to their retail shops downstream. For the product category of cellphones, the decoupling point could be seen as a little further upstream for El-giganten and NetonNet since they were purchasing cellphones from intermediaries on a frequent basis and thus had very little safety inventory of cellphones in their warehouses.
6 Conclusion

The conclusion chapter will attempt to consolidate the most important findings of the study and present them with consideration given to the overall purpose of the study. The research questions will be used as reference for answering the purpose and the interpretation of the analysis will assist in answering the research questions.

The purpose of the study was to analyze the postponement and speculation activities applied by consumer electronics retailers. The case studies conducted on three separate consumer electronics retailers has shown that postponement activities, with reference to manufacturing and logistics, are not widely applied by any of the three investigated retailers. Although some elements of postponement were found amongst the retailers such as the way MediaMarkt and El-giganten comply to specific customers requests and thereby postponing some value-added features, the majority of the retailers’ activities were based on a speculative approach. Further light on this can be shed by using the first research question as a reference point:

What kind of postponement/speculation activities do the retailers use?

As for the two major types of postponement which were investigated, manufacturing (including packaging, labeling and assembly) and logistics postponement, the retailers applied very little manufacturing postponement. The three product categories investigated, TVs, laptops and cellphones were almost exclusively finished goods which were provided to the retailers on account of either the original OEMs or through middlemen, in this case distributors. Hence, a 42 inch Sony TV found in say Mediamarkt was almost identical to a Sony 42 inch TV found in El-giganten when it came to features, shape, form and design. The same goes with the packaging, assembly and much of the labeling activities; everything is taken care of by the manufacturers somewhere upstream in the supply chain via their regional distribution centers. However, exceptions to this was also found such as the own branded TVs and laptops provided by NetonNet and the own branded TVs provided by El-giganten. Here, a uniqueness attached to the brand and product could be found as a own branded laptop at NetonNet for instance cannot be found in the assortment of any of the other retailers. Having said that though, the actual postponement attached to the own branded products is limited. Manufacturing is completely outsourced to external manufacturers and reference designs extracted from competing brands in their own assortment are used in the manufacturing process, leaving very little room for unique features. Furthermore, demand and order quantities on these products are entirely forecasted several months ahead utilizing a speculation approach. The same can be said of TVs, laptops and cellphones which are not own branded, all three retailers use forecasting as a decision making determinant in the procurement of these products.

When it comes to the logistics aspect, there were some postponement involved. All three retailers outsourced both their upstream and downstream logistics activities to external logistics providers such as Posten & Schenker. We were told that usually these
actors consolidate their shipments with other customers’ shipments and this could somewhat be regarded as postponing the movement of the goods until demand is better known, albeit conducted by external actors. The logistics providers usually try to keep the balance between full unit (containers, pallets, boxes etc.) load shipments and agile responsiveness of demand. The latter can be achieved by flexible shipments in time where the goods are ready to ship when the demand arrives from multiple customers. What is perhaps even more relevant, is the reverse logistics activities involved when customers return products or return them for required services. Here, all three retailers expressed that for malfunctioned products, they are first consolidated and then shipped to a repair center and this we argue is the biggest postponement activity undertaken by the investigated retailers.

Where is the decoupling point?

Based on the analysis of the three retailers, the decoupling point for the material flow was found down streams at the retailer point where the retailers have their safety stocks close to their shops. Based on the framework developed, we concluded that the decoupling point could be seen as the point in the supply chain where a product is attached to a specific order. With this taken into consideration in combination with the empirical findings, the fact that the decoupling point was found to be at the retail point should not come as a surprise as this further shows the speculative approach of the retailers where forecasts are greatly utilized. In the case of MediaMarkt and El-giganten the decoupling point was found at their retail shops and although this was quite expected in MediaMarkt’s case due to their decentralized structure, it was more of a surprise in the case of El-giganten. This however can be rationalized when considering the very special relationship El-giganten has between the local retail shops and the central warehouse where the central warehouse is seen as a separate entity selling products to the local El-giganten retailers. In NetonNet’s case, the decoupling point can be located somewhat more upstreams compared to the other two retailers as NetonNet is a highly centralized retailer without the special arrangement found in El-giganten’s case and thus the decoupling point would be their central warehouse rather than the local retailers. Nevertheless, overall the decoupling point at all three retailers were found more downstream, closer to the customer which essentially means a make-to-stock (MTS) approach has been used. As noted, this view was further supported based on the interviews as all three retailers stated that they essentially only sell finished goods which are stored in their shops until a customer comes in and buys it.

We can also conclude that when it comes to the three product categories investigated there were some disparities for what type of strategy employed when it came to the procurement and logistics frequencies. TVs for instance were found to have less volatility in the demand and were only procured 1-2 times a year. For laptops and cellphones this varied up to 4-5 times a year. Moreover, the lifecycles of laptops and cellphones were described as typically short and demand more difficult to forecast. Therefore, the retailers typically used distributors when procuring these items and could thus place orders
and have them delivered with very short lead times, thereby mitigating the implications of overstocks and product obsolescence at the retail store. Overall, in the vast majority of the cases when looking at the product categories investigated at all three retailers, the profile analysis showed that the postponement/speculation strategies were more inclined towards full speculation strategy and if there were elements of postponement involved, it was in the logistics postponement strategy.

In addition to the above, we can conclude that based on the findings, the reason why the retailers have mostly chosen a speculation approach is due to the market conditions in their industry and the cost reductions involved. When it comes to the market conditions, for all three product categories investigated, it was usually down to a few major suppliers which set the trends in the industry. For instance, new processors released by Intel, which happens a few times a year usually marks the period where a new generation of laptops are released and this is something that the retailers comply to. Moreover, there are usually some fixed purchasing windows where the retailers must place a minimum order quantity in order to avoid being understocked for the forthcoming months. It was also found that forecasting and purchasing ahead and store the products in inventory made more sense for the retailers from a cost-benefit perspective as this approach allowed for reaped economies of scale benefits. Rather than considering a full postponement strategy or at least an increase in postponement activities, the retailers instead emphasized the need to make their forecasting more accurate in the near future.
7 Discussion of implications

This study has shown that postponement activities within MediaMarkt, El-giganten and NetonNet is yet to be utilized at a greater scale. The retailers investigated are instead to a greater extent adopting the traditional approach of speculation where products are made-to-stock, demand estimation is based on forecasts and there is actually very little customization involved in the product assortments. Perhaps one could argue that this was rather anticipated as retailers in general, and in particular in the extremely competitive consumer electronics market are theoretically more interested in adopting a low cost approach, where costs are minimized throughout the supply chain and allowing for the retailers to compete on low price points towards the end consumers. By the same token, it could be theorized that the speculation approach offers greater cost economies benefits for retailers and more security when it comes to stockouts and product availability and therefore makes more sense to use. Yet, this was rather surprising as postponement literature usually gives the idea that postponement deals with volatility better than speculation due to the consideration of actual demand, rather than projected demand. Hence, if the retailers would aspire for more security and smoothing of the volatility surrounding them, should they not be better off using postponement to a greater extent than they are currently doing? The presence of volatility was in fact confirmed during the interviews with the companies when it came to products with short life cycles such as cellphones and laptops.

However, one needs to take into consideration that what works in theory may not always be as applicable in practice. In the retailers’ situation, a vast contributing reason to why they have opted for a speculative approach has been due to reasons mainly out of their control; the market, where the major suppliers and manufacturers have extremely large power and basically condition the procurement patterns of the investigated retailers. Retailers such as NetonNet, El-giganten and the decentralized Mediemarkt, can be considered quite small compared to other retailers in countries such as Wal-Mart, Euronics, Radio-Shack, Argos etc. in terms of geographical coverage. Thus, much of the global market conditions in their industry is something they largely have to comply to, while larger retailers perhaps can avoid this due to their greater economies of scale capabilities and closer co-operation with suppliers. For instance, if one considers successful applications of postponement in a consumer electronics retailer setting, there is perhaps the most famous case of Wal-Mart in the United States. Although electronics is only one of their focused retail segments, consumers interested in electronics devices at Wal-Mart can go to a local Wal-Mart store and have a computer for instance tailored and assembled on-site based on the exact specifications wanted by the customer, and then come back and pick it up based on a mutually agreed point in time. This is a clear example of assembly postponement and one of the reasons why Wal-Mart can offer this is due to their enormous buying power where they negotiate supplier prices individually with every supplier and have very close co-operation or integration with first and second tier suppliers, which together helps in adding value to end consumers, through assembly postponement in this case. Retailers such as NetonNet do not possess the same
type of purchasing power and they do not possess the enormous ecosystem which Wal-Mart have in their supply chain. Instead, a more arm’s length approach is utilized where the mere transactions are at focus and NetonNet just procure the products from the suppliers and sell them further downstream in the supply chain to the end consumer. Hence, an important notion for successful application of postponement in a retailer setting could be the need to have a certain magnitude and scope, so that postponement activities can truly be applicable and economically justifiable. For retailers such as El-giganten, NetonNet and the decentralized Mediamarkt, which have a smaller market to compete in (i.e. Sweden and parts of Norway) postponement to a greater extent is perhaps not feasible. When it comes to the volatility issues experienced with products which have short life cycles they have in fact generally used a workaround where they use local and regional distributors instead of dealing with the OEMs and thereby ensuring low lead times and a more riskier forecast approach, closer to actual demand which aims to reduce overstocks and inventory costs.
8 Suggestions for further research

The perspective in this study has always been from the retailers’ point of view and it could be interesting to expand this study and also include manufacturers which are supplying products to the three investigated retailers. That would add a manufacturers perspective to complement this study and moreover, as we learned in this study postponement activities are not applied to a greater extent by the retailers investigated so it would be interesting to see whether the application of postponement activities are more common upstream by suppliers. Furthermore, as this study showed, all three retailers outsource their logistics activities and it could be of interest to more thoroughly scrutinize postponement activities in the logistics flows. This study has touched upon the logistics flows but from the perspective of the retailers and since it was found that the vast part of the logistics activities are outsourced to logistics service providers such as Posten and Schenker, a study with these actors could add further value to this study.

As this study focuses on two major postponement categories, namely manufacturing postponement (including assembly, packaging and labeling) and logistics postponement (including the flow of the goods), other types of postponement could be incentives for further studies. Specifically, potential postponement activities in marketing, finance and procurement could perhaps be investigated. Moreover, the number of retailers and number of product categories can be expanded to include a larger sample pool. Also, as this study does not distinguish between the retailers web stores and their physical stores, it could be an incentive to conduct a study whereby the two channels are differentiated in order to to distinguish whether the postponement/speculation activities differ. Additionally, a cross-case analysis could be conducted where another segment of the retailing sector could be studied and then compared with the consumer electronics retailing sector to find any similarities in postponement applications. A quantitative study could also be a suggestion for further research where a quantitative questionnaire is used over the phone for instance and retailers are asked regarding their postponement/speculation approaches.
9 List of references


Snyder, L. (2007). Supply Chain Management under the Threat of Disruptions, Lehigh University, Pennsylvania, USA, P.1-P.15


10 Appendices

10.1 Company questions

Appendix 1

Questions for companies

a- Manufacturing Postponement:

1- Do you utilize any of below mentioned postponement strategies in your supply chain? Please describe how. Do you use them along with your upstream, downstream or both side of your supply chain?

Assembly
Labeling
packaging
Process
Design

b- Logistical postponement:

2- Do you utilize any of below mentioned postponement strategies in your supply chain? Please describe how. Do you use them along with your upstream, downstream or both side of your supply chain?

Time
Place
Finance
Purchase (procurement)
Transport
Information
Reverse
c- Marketing postponement:

3- Do you utilize any of below mentioned postponement strategies in your supply chain? Please describe how. Do you use them along with your upstream, downstream or both side of your supply chain?

Price

Purchase (consumer)

For the product categories of televisions, cellphones and laptops, please elaborate on the following elements in your supply chain:

Product Life Cycle
Uncertainty of customer demand
Uncertainty of supply
Lead time to consumer
Lead time from supplier
Delivery frequencies
Economies of scale
Value
Special capabilities

d- In your company policy which one is more emphasized: Responsiveness or efficiency? Why?

e- Do you have Centralized or Decentralized warehouse management system? Why?

f- How do you illustrate your company’s business activities, holistically?

g- How do you evaluate your customer satisfactions?

h – Do you have any bottleneck in your supply chain? Where is it located and how do you deal with it?

i- How do you forecast the demand? How do you face with uncertainty?

j- Do you have supply uncertainty? How do you manage it?

k- How do you manage stock outs/Overstock? Do you utilize hub in you inventory policy?
l- How long are the lead-times for upstream and downstream? How do you evaluate them?

m- In comparison with your competitors in which part of your supply chain you need more improvement?

n- Do you out source your products or services?

o- Describe the degree and level of customization that you consider for your customers?

p- What segment are your targeted customer groups?

q- Do you face with demand / sales fluctuation along with different season? Which seasons face the highest fluctuations? And what strategy do you employ to manage the seasonal uncertain demands?

r- Do you have private labels in your product offerings?

s- What kind of postponement-speculation does your company use?

t- How do the postponement-speculation strategies of the different channels (physical store, e-commerce, post-order) differ from each other?

v- Where is the de-coupling point taking place (upstream or downstream)?

w- Does the postponement-speculation strategy of your competitors affect your strategy?