



GÖTEBORGS UNIVERSITET  
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# **The Trade-off between inventory level and satisfaction of a volatile demand**

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A study of three companies in the Swedish  
fashion retail industry

The Department of Business Administration,  
University of Gothenburg, School of Business, Economics and Law  
Management Accounting, Master Thesis, Autumn 2012

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## ABSTRACT

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**Title:** The trade-off between inventory level and satisfaction of a volatile demand - A study of three companies in the Swedish fashion retail industry

**Background and problem:** The fashion industry is characterised by short product lifecycles, where demand is difficult, or almost impossible to forecast. This highlights the importance of having a strategy that can manage flexible inventory levels that can respond to changing customer demand. Questions are raised on how companies in the fashion retail industry should level inventory in order to meet customer demands, inadequate inventory levels lead to over-stock or stock-out situations, which can be both costly and harmful to the business. To broaden the understanding of how companies respond to customer demand similar and further studies are suggested.

**Objective:** Describe and explain the strategic decisions companies are faced with in the balancing of inventory levels and volatile customer demand in the Swedish fashion retail industry.

**Method:** The primary data has been collected through in-depth, and semi-structured interviews with employees at the selected companies. The interviews were designed to capture the strategic thoughts concerning how the companies manage inventory level in response to a volatile demand. Empirical findings have been analysed through an analytical model that was developed from the theoretical framework, and the analytical model provided a structure for the analysis and a foundation for the conclusion.

**Analysis and Conclusion:** To satisfy a volatile demand and achieve optimal inventory levels three considerations are central for fashion retailers; sourcing, product categories, and supplier base. The management of each inter-related consideration is affected by strategic actions, and companies are required to make long-term strategic decisions in advance regarding how to manage a volatile demand and uncertainties during an on-going season. The study shows that the participating companies are taking different strategic actions regarding the same situations and considerations. This means there is no template for companies to follow and the choice in itself is not the most important. The companies in the research combine the strategic actions differently which enhances that decisions should have a strategic fit and an overall match. This study has discovered that companies take different actions when faced with the same considerations and further research of the Swedish fashion retail industry is suggested to explain the impact of different strategic actions.

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## **1. INTRODUCTION**

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*The first chapter gives the reader an introduction to the subject of this thesis. The first part describes the fashion retail industry and the current situation in an introducing manner. In the second part, the problem of the thesis is discussed and defined, and a more detailed view of the industry and its distinctions is described in order to give an understanding of why the subject is essential today. The problem discussion leads up to a specific research question and the objective of the thesis.*

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### **1.1 Background**

In today's global market, information is easily accessible and it is easy for consumers to choose the product with the desired attributes, such as best price, best quality, and best delivery time. To be a player on the global market, a tighter supply chain control is required to meet these consumer needs (Bruce & Daly, 2006). This is especially significant in the fashion retail industry because it has seen a change and a development from standardised "ready-made" clothing to a larger number of articles, produced in smaller batches, and with a continuously changing assortment (Fredriksson, 2011; Caro & Gallien, 2007). Therefore, the contemporary fashion industry is characterised by short product lifecycles, where demand is difficult, or almost impossible to forecast (Bruce & Daly, 2006). Today, information technology is used to share information within the supply chain, with the purpose to satisfy demand, but companies in the fashion retail industry are still facing problems that arise from the unpredictable and fast moving market (Au, Choi & Yu, 2008).

In the last couple of years clearance sales have become a more recurring feature in the Swedish fashion retail industry. According to an article published in Svenska Dagbladet (Alestig-Blomqvist, 2012), the past year has been symbolised by clearance sales and a general decline. The first five months of 2012, the Swedish fashion retail industry dropped 2.7 per cent compared to the same period last year, which in turn was a bad year for the entire retail industry. Although clearance sales are succeeding each other, customers are buying less and companies are forced to sell off over-stocked merchandise at lower prices. In order to minimise over-stock, companies in the fashion retail industry are taking on more cautious strategies and retailers are expected to become more conservative and disciplined in their purchasing in order to achieve higher sell-through rates. A too cautious strategy can in turn lead to new problems due to inadequate inventory levels that cannot satisfy future customer demand (Alestig-Blomqvist, 2012). This highlights the importance of having a strategy that can manage flexible inventory levels that can respond to changing customer demand.

### **1.2 Problem discussion**

Consumers in the fashion retail industry are demanding high frequencies of new products, and the industry has emerged as a popular choice for researchers in the Supply chain management field (Smith & Agrawal, 2000). To determine the optimal inventory and replenishment levels, mathematical models have been developed over a long period of time (Deakin, 1988).

However, these models are built upon the assumption that demand is constant, but in the contemporary high fashion industry, demand is volatile and unpredictable (Childerhouse & Towill, 2000; Christopher, Lawson & Peck, 2004). Hence, new strategic approaches are required and a number of strategies have been developed for retail supply chain management, all including enhanced customer demand management and reduction of wasteful activities (Bruce et al, 2004). The general purpose of these strategies is to satisfy end customer requirements, mainly by having a responsive supply chain (Childerhouse & Towill, 2000). For the fashion industry in specific, companies are working towards an efficient supply chain with low inventory levels without compromising the ability to meet customer demand (Bruce, Daly & Towers, 2004).

Fashion retailers are trying to ensure that right products are available to customers at right time (Anand & Cunnane, 2009) with the aim to minimise costs and maximise revenue. Inadequate inventory levels lead to over-stock or stock-out situations, which can be both costly and harmful to the business. Stock-out can cause customer dissatisfaction and lost sales opportunities, as well as loss of goodwill (Anand & Cunnane 2009; Choi, Chiu & To 2010). However, according to Anand & Cunnane (2009) the reverse situation, over-stock, can be an even more complex issue. Bruce & Daly (2006) agree and suggest that over-stock leads to low inventory turnover, higher mark-downs, and high costs of goods sold, and that too much safety stock lowers the sell-through rates. Thus, questions are raised on how companies in the fashion retail industry should level inventory in order to meet customer demands. As a consequence many companies are faced with the strategic trade-off regarding the balance between inventory levels and satisfying a volatile customer demand (Smith & Agrawal 2000).

In order to meet customer requirements as effectively and efficiently as possible Childerhouse and Towill (2000) proposed further research in balancing the inventory level, the inventory position, and the lead times as early as the year 2000. Although it has been twelve years since then, a survey published by Randall, Gibson, Defee & Williams in 2011 shows that there is still an ongoing need to improve supply chain efficiency in the retail industry. The survey is based on in-depth interviews with 27 retail supply chain executives in the US, and nearly 50 percent of the respondents stated that the most important driver of competitive advantage is meeting changing requirements by having responsive operations. Supply chain executives in retail need to make products available to customers, and simultaneously rationalise inventory and reduce waste. Accordingly, the fundamentals of a successful retail supply chain are responsiveness, flexibility and agility (Randall et al, 2011).

Research on the European markets shows similar traits as Randall et al's (2011) research, and Barnes & Lea-Greenwood (2006) suggest in their study of the UK fashion retail market that the focus of competitive advantage has shifted from price, towards fast response to changing trends and customer demand. Inventory management is therefore an important element of the supply chain from a profit point of view; retailers have to maintain an optimum inventory level in order to ensure sales stability that leads to profitability. To broaden the understanding of how companies respond to customer demand similar and further studies are suggested on other fashion forward markets (Randall et al, 2011; Barnes & Lea-Greenwood, 2006). The

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Swedish fashion retail industry is dominated by a few major actors that provide cheap, accessible, and democratic fashion within the concept of chain stores (Fredriksson, 2011). A study on Swedish fashion retailers' strategies on how to balance inventory levels and respond to a volatile customer demand, could provide a deeper insight into fashion retail supply chain management, enhancing the existing knowledge.

### **1.3 Research question**

What strategic considerations are companies faced with when making decisions regarding the trade-off between inventory levels and satisfying a volatile demand in the Swedish fashion retail industry?

### **1.4 Objective**

The objective of this thesis is to describe and explain the strategic decisions companies are faced with in the balancing of inventory levels and volatile customer demand in the Swedish fashion retail.



## 2. RESEARCH METHOD

*This section describes how we carried out the research and first, the research approach is described and illustrated. Second, a detailed description of the collection of data follows and the literature review and the empirical data collection are addressed. The theoretical data collection is explained in order to give the reader insight into the material we studied and based the theoretical framework on. Further, we turn to the empirical data collection and comment upon the research group and how the interviews were conducted and compiled. The origin and the use of the analytical model is described and finally, we discuss the reliability of the thesis.*

### 2.1 Research approach

Our research question did concern the understanding of a specific topic and according to Holme & Krohn-Solvang (2010) a qualitative approach is suitable for such a question. We have attempted to describe the context in which strategic trade-offs are made and the objective has been to reach a deep understanding. The approach has been fairly flexible in the sense that we have been open to new influences and interpretations during the research process. We have returned to the thesis objective and the research question as we have gained more knowledge and they have been rephrased accordingly. The strength of a flexible approach is the continually enhanced understanding of the research question (Holme & Krohn-Solvang, 2010).

Previous research has been used as the foundation of our study, and according to Patel & Davidson (2011) the study has been of a deductive nature. In the literature review, a number of theoretical themes were identified and the theoretical framework was built upon these themes. Retail supply chain concepts that respond to our research question were the first focus of our theoretical framework. Further, we found recurring dimensions concerning the strategic trade-off and the themes were organised into different considerations. The considerations have provided a structure to our theoretical framework and did function as a foundation in the continuation of the research. The collection of empirical material was based on a theoretical perspective and we have used existing theories to determine the type of empirical information to gather and interpret. The theoretical framework has shaped the interview questions and the empirical findings were related to the theory and then analysed and concluded accordingly.

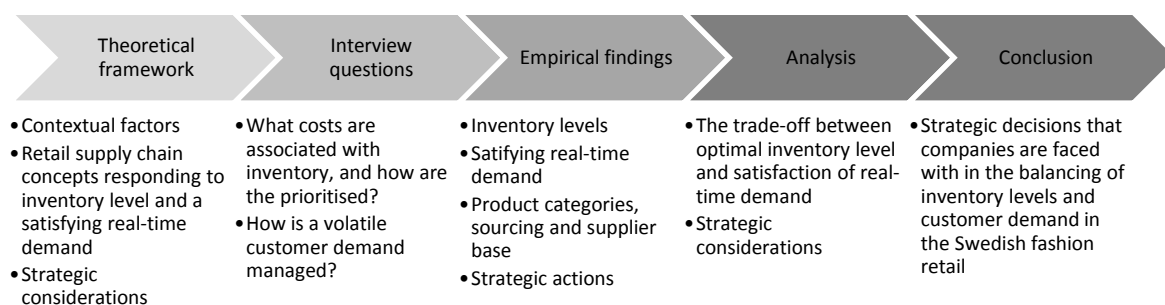


Figure 1, Research approach

## 2.2 Data collection

### 2.2.1 Theoretical frame of reference

The literature review started with a wide research to identify potential theories that could match the thesis objective. An extended focus was used to capture all possible entrances to the topic, and included general research on retail supply chain management and retail supply chain concepts in relation to the trade-off between inventory level and satisfying a volatile customer demand. The purpose was to create a deeper understanding and knowledge of the topic. Holme & Krohn-Solvang (2010) suggest an understanding of the background situation, and a historical research was made with this aim. To narrow the theoretical focus, general research was combined with research within the fashion retail industry and the concept of fast fashion was introduced. The theoretical data collection thereafter continued with a focus on the theories and concepts we found essential and fundamental in answering our research questions.

Our theoretical framework was composed on text documents in the form of scientific articles, news articles and research within the fashion retail industry, found through different databases, such as GUNDA and Google Scholar. The articles have been published in internationally recognised journals and wherever possible recently published articles have been used. In cases where older articles have been used as a source, it has been due to the fact that the articles are considered to be relevant and important in relation to the thesis subject. Some of the articles are dependent of each other and the authors are reproduces of each other's research. In those cases, the aim has always been to find the primary source and it is in most situations used in combination with the newer one, as suggested by Holme & Krohn-Solvang (2010). The concept of fast fashion was only introduced in the past decade and general research within the retail supply chain field has been useful in creating a foundation for the thesis. Further, the locations of where the researches have been conducted have been taken into consideration since culture and traditions have a great impact on consumer and company behaviour.

The literature review has been based on the delimitations stated in the thesis problem discussion and objective. Hence, articles and research with a calculative perspective have been rejected in favour of those with a strategic approach. However, conclusions from calculating researches have been taken into consideration since they provide a basis for strategic decisions. The problem discussion has been narrowed down to a specific area of study that constituted the foundation in our literature review.

### 2.2.2 Empirical data collection

#### *Sample selection*

In order to determine the companies in the survey, a research to find a longlist with the largest retail companies in Sweden was made, based on their turnover (Largestcompanies.se, 2012). According to Holme & Krohn-Solvang (2010) the right interviewee is found by selecting employees at the right position, with the right knowledge, and with a close connection to the thesis objective. This was done through a filtration of companies with headquarters in

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Gothenburg and its vicinity, in order to get the opportunity to perform a personal interview. The next step was to filter a shortlist that consisted of six companies whom all were contacted. Those six companies were systematically chosen from a few criteria, in order to choose companies that are comparable.

- Fashion focus
- Production/design and retail of own brands
- Stores scattered in most parts of Sweden

The companies need a *fashion focus* because of the thesis topic and at least one part of their assortment should be applicable to the fast fashion concept. *Production/design of own brands* makes the comparison of the purchasing process, sourcing options, and the supply chain possible. *Stores scattered in most parts of Sweden* is a verification that all companies use a chain concept, which makes the comparison of the replenishment strategy possible.

The goal was to get an insight and understanding of how three to four of these six companies are working with issues that relate to our thesis objective. In the end, we performed in total three interviews at three different companies.

### Interviews

The primary data have been collected through interviews with employees at the selected companies. Two of the interviews were made at the companies' headquarters, whilst the third was made over the telephone and through mail correspondence. In order to get as exhaustive answers as possible, personal interviews are preferable. Since the telephone interview was the last one made, the information was easier to handle and attendant questions were after two other interviews easier to ask. This made it possible to get the same information as from the personal interviews. Prior to the interviews, we informed the respondents about the purpose of the thesis to give them an idea of what was expected of the interview.

Table 1, Respondents

Company	Respondent	Duration	Form of interview
Brand	Business area manager	2 hrs	Personal
Inspirer	Purchasing controller	1.5 hrs	Personal
Family	Coordinator of Purchasing Development	-	Telephone/E-mail

The interviews were designed to capture the strategic thoughts concerning how the companies manage inventory level in response to a volatile demand. To focus the interviews on information that could not be provided through published material, secondary data regarding company strategy and the business in general was collected in advance. Thus, secondary sources such as annual reports and company websites have been used to complement the primary data.

In order to analyse the results of the interviews in a qualitative manner Patel & Davidson (2011) suggest interviews with a low level of standardisation and structuration. The interviews were conducted with a semi-structure, meaning that the interviewee was given open questions that could be answered in the way he or she interpreted, with follow-up questions. This form of interview was chosen because of the thesis's deductive approach, the

literature review had provided a framework of topics and through the interviews the respondents' views were established. All questions were not determined in advance, instead three topics were guiding the interviews and the interviews were performed with a low degree of standardisation (see Appendix 1, Questionnaire). The topics were presented to the interviewee just before the interview started, and according to Trost (2010) this makes it possible for the respondent to control and choose the sequence of the questions. This form of interview was chosen to give the respondents a chance to answer in their own words, while we had the opportunity to direct questions and supplementary questions when considered appropriate.

The same interview template was used for all respondents and a number of main themes were discussed during the interviews. The initial questions concerned the respondent's role in the company and the company's strategy. The template followed the same structure as the theoretical framework and the respondent was given the chance to give the company's view on inventory strategy, customer demand, supplier base, and strategic trade-offs. Due to the strategic nature of some of our questions the respondents were given the opportunity to refuse to answer, and for example the companies were not willing to give away certain key performance indicators.

### *Compilation*

The interviews were compiled into text and the compilation followed the same structure as the theoretical framework. Responses from the various respondents were reported in one cohesive text in order to find similarities and differences between the companies. This form of compilation was chosen to describe the relations between activities, and separate case studies of the different companies were not considered appropriate with regard to the thesis objective. The company names have been kept anonymous and are only referred to with the variables Brand, Inspirer, and Family. The objective of this thesis has been to describe and explain the Swedish fashion retailer in general and the company names were not considered to have any significant impact on the results all companies were chosen from the same criteria and by revealing the name of the companies; focus could possibly be put on the wrong questions.

Since the interview template followed the theoretical framework, the compilation of the material was quite easy to sort under headlines, and it was also easy to sort out information not relevant to our study. For example, two of the respondents mentioned the companies' environmental and social responsibility in sourcing decisions. In the compilation of the empirical findings this has not been taken into consideration, instead the focus of sourcing decisions has been speed in relation to costs, in accordance with the thesis objective. During the interviews one of us took notes and thus, the sorting of relevant information started at that point which also simplified the compilation afterwards.

## **2.3 Sample companies and respondents**

### **2.3.1 Brand**

Brand is a Swedish fashion company with stores scattered across the country that offers a mix of their own and external brands (Brand, 2012). The company had a turnover of about 1.5

billion SEK 2010/2011 (Retriever Bolagsinfo, 2012-03-05). Brand wants to be perceived as a leading brand store with a carefully selected assortment, both for their own brands and for those that are purchased externally. The target customer is men and women between the ages of 20 to 49 years with a desire for fashionable clothes. Brand is divided into two business areas and each business area is thereafter divided into different product areas.

The interview was made with the business area manager for men's clothing, and the respondent is the decision-maker with an overall responsibility. One aspect of his job is controlling, thus he is responsible for the budget, planning of the deliveries, how to reach the target margins, and the sale-through rates. Since Brand is working with parallel seasons, the respondent's job is also to synchronise these seasons to ensure stable volume in stores.

### **2.3.2 Inspirer**

Inspirer is a fashion retail company, with revenue exceeding 5 billion SEK, operating in Central and Northern Europe. The assortment is wide and comprehends fashionable items as well as basic garments, all designed by Inspirer's own design team. (Inspirer, 2012) The business concept is to offer inspiring and affordable clothes to women with a fashion interest. Inspirer's offer consists of the store, the staff and logistics in combination with the product, and Inspirer wants their customer to perceive them as a retailer that offers a world class fashion experience and view themselves as a world competitor. Inspirer is divided into three business areas and each business area is thereafter divided into different product areas.

The interview was made with a controller who is a member of the purchase group at Inspirer and who works with drawing up, and follow-up of the budgets for different business and product areas. In every country where Inspirer is present there is an office that can answer questions regarding the demand in that specific country and the respondent answered the question in a manner that is related to the Swedish market. The respondent could not answer all questions but turned to the Logistics Manager and the Country Director of Sweden in order to give us accurate answers.

### **2.3.3 Family**

Family is a fashion retail company with stores in Northern Europe. The business concept is affordable fashion for women between 30-55 and their families, which appeals to a wide range of consumers and Family wants to provide their customers with the opportunity to dress well. Family had a turnover of 4.6 billion SEK, 2011/2012. (Family, 2012) Family is divided into three business areas and each business area is thereafter divided into different product areas. Family's own designers design their assortment.

The interview was made with a coordinator at the Purchase Development department who has a comprehensive view of the company and the purchasing strategies.

## **2.4 Analytical model**

Through a thorough study of the theoretical framework an analytical model has been developed in order to simplify and make the understanding of the theoretical framework easier. The analytical model has been improved in stages in order to find a model that

corresponds with the theoretical framework and also is applicable for an empirical investigation.

The analytical model consists of two main objectives, identified through the literature review, that correspond to the thesis' objective. Through the study of previous research concerning the two objectives, three dimensions were identified based on their recognised contextual importance. These dimensions were later structured into considerations that are connected to the two objectives in the analytical model. To manage the considerations a number of strategic actions are suggested in previous research. Companies can choose between different actions that each has an impact on the considerations and thereby also on how the objectives are accomplished. The strategic actions complete the analytical model.

The analytical model has provided a structure for the analysis and a foundation for the conclusion. The theoretical framework and the empirical findings have been analysed for each of the considerations with the purpose to describe and explain how different strategic actions affect the consideration, and in turn the objective.

## **2.5 Research quality**

For qualitative studies, like this, the concepts of validity and reliability are very similar to each other and the two are rarely separated (Patel & Davidson 2011). The greatest emphasis is placed on achieving a pervasive quality throughout all parts of the thesis, and quality of the entire research process. Our research has been structured with the aim to discover the proposed area of investigation and the thesis objective has provided a foundation through the process. From our standpoint we have achieved a good quality by starting with a detailed search of information that later formed the basis for interpretation of the empirical material.

We have used a deductive method to analyse our results and according to Patel & Davidson (2011) this method can enhance the research's objectivity because of the theoretical starting-point. However, the risk when using a deductive method is that the same theoretical starting-point can prevent the researcher from discovering important data outside the theoretical framework. To avoid this, a flexible approach was applied and the analysis has been on-going through the process.

The empirical data was collected through qualitative interviews and in order to conduct this form of interview we prepared ourselves by studying previous researches that helped us form a context, this to ensure that the right questions were asked and the right themes discussed. The interviews have been summarised and compiled into text, and according to Patel & Davidson (2011) this requires the authors to be aware of the difference between the spoken and the written language. When printing the interviews important information may get lost if the author is not paying enough attention, and there is also a risk of wrong interpretations. To prevent this, we have been careful in the management of information and the data was compiled to retell the interviewees' answers to the greatest extent and before any text was written we discussed what had been said in each interview. To ensure that the interpretations of the interviews were made in accordance with the respondents' view of the interview, a copy of the compilation was sent for review.

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As mentioned before the respondents were not willing to share extensive information due to the strategic character of some questions. However, the interviews provided enough information to give an overall view of the strategic considerations and an open discussion regarding the industry in general revealed important issues that did contribute to the conclusion. The three companies are among the largest in the Swedish fashion retail industry, and thus some general conclusions can be made from our results.

### 3. THEORETICAL FRAMEWORK

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*The chapter provides a detailed and distinct picture of the theoretical concepts relevant to the research question and thesis objective. The section begins with an introduction to the concept of fast fashion, putting the theoretical framework in a context. Next, retail supply chain management is described and the thesis further focus on three concepts used to manage this trade-off. The concepts are Just-in-time, Quick response, and Agile supply chains and they are described in terms of their inventory level features and their ability to satisfy customer demand. The common objectives of the concepts have been identified through a literature review and in context of the thesis objective. The final section of the chapter explains the strategic considerations that are connected to the objectives and the strategic actions that is related to the considerations. Throughout the chapter, the theoretical framework is related to the research question and the chapter aims to further broaden and deepen the reader's understanding and knowledge of the research topic to simplify continued reading.*

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#### 3.1 Theoretical introduction

Fashion retail is traditionally associated with a manufacturer driven “push” strategy, characterised by long product life cycle and long lead times. However, in the last decade, the fashion industry has developed into an industry where demand is volatile, rapidly changing and difficult to predict. Thus, a supply driven strategy is no longer a good idea to attain competitive advantage. Instead, real-time data is the key to meet real-time consumer demand. (Hayes & Jones 2006) The answer is fast fashion; a business strategy with the aim to reduce lead-times to get a product from idea to consumer as fast as possible. This strategy also takes into account the customer demand. Instead of the traditional supply chain strategy the fast fashion strategy is rather a demand chain, driven by the customers. (Barnes & Lea-Greenwood, 2010)

Products in the fast fashion industry have a limited time on the market and the lifecycle for a fashion product have decreased from months to weeks, or sometimes even days. For example, the fashion retail company Zara has reduced their product lifecycle from conceptual design to finished product in the store to about 15 days (Birtwistle, Siddqui & Fiorito 2003; Choi et al, 2010). To manage this, companies within the industry need an efficient supply chain with the ability to react to trends and improve response time, and thus presenting several decisive operational challenges (Barnes & Lea-Greenwood, 2010).

#### 3.2 Retail supply chain management

A supply chain is the flow of goods from the first process of production to the end customer. Retailers in the fashion industry are confronted with complex and long supply chains involving many different actors. (Bruce & Daly, 2006) The retail supply chain has to be synchronised in order to manage the dynamic patterns of demand. Traditionally, customer demand uncertainty was managed by using forecasts, implying that supply chains were inventory-based (Christopher et al, 2004). However, Christopher et al (2004) together with Bruce & Daly (2006) argue that the distinct features of fashion retail force a shift towards a



heavier focus on reduced lead-time and quick response. To meet the demand in the fashion retail industry the lead time in words of shipping time must also be taken into consideration. Most of the retail companies have production in Asia from where the shipping time can be up to 25 days compared to five days from Turkey where the production costs are higher (Bruce & Daly 2006).

Achieving shorter lead-times require a responsive supply chain characterised by short time-to-market, the ability to scale up or down quickly, and the incorporation of consumer preferences (Christopher et al, 2004). In order to service volatile demand with high levels of availability, relationships are established among actors in the supply chain ensuring minimised inventory and maximised flexibility (Bruce et al, 2004; Doyle, Moore & Morgan, 2006; Barnes & Lea-Greenwood, 2006).

### **3.3 Main objectives of retail supply chain concepts**

Previous literature in the fast fashion field concludes that reduced lead-time, quick response, and consideration of the consumer demand have become a requirement for companies competing in the industry (Bruce et al, 2004; Christopher et al, 2004; Barnes & Lea-Greenwood, 2006; Bruce & Daly, 2006). However, strategic decisions regarding the trade-off between inventory level and customer demand remain. Barnes & Lea-Greenwood (2006) introduces a number of concepts to manage this trade-off in the fashion industry. In response to the research question regarding the considerations companies are faced with when making decisions that concerns the strategic trade-off, three concepts are in alignment with the thesis objective. First, *just-in-time* (JIT) is introduced as a cost-saving model trying to find the minimum inventory level necessary to keep the system running (Deakin, 1988; Aghazadeh, 2001). The second concept is *agility*, explained by Christopher (2000) as maximisation of profits by quickly responding to changes in demand and giving customers maximum service, to lowest possible cost. Third, *quick response* (QR) is an operational strategy seeking to achieve agility and responsiveness (Christopher et al, 2004). It is evident that the three concepts have common features, and the separation of the three is sometimes a complex issue. However, the most important features in the concepts coincide with the topic of this thesis. First, the concepts have a focus on optimisation of inventory level and second; they emphasize the importance of customer demand. How the concepts relate and respond to these features are explained and compared below.

#### **3.3.1 Cost savings relating to inventory level**

The costs associated with inventory are related to the inventory level and the general purpose of inventory management is to keep inventory low (Deakin, 1988). Epps (1995) suggests that a just-in-time approach to cost-saving is characterised by production at the exact rate required by the customer, and the inventory level is kept low by an optimal flow through the production process. However, according to Deakin (1988) it is not always a straightforward approach, and companies often have to trade-off between different costs. This is essential to the research question; when the cost associated with the inventory level decrease, stock-out cost increase.

According to Bruce et al's (2004) research, it is difficult to have a completely responsive supply chain in the fashion industry and the suggestion is instead cost effectiveness in combination with high service levels. This is further explained by Mason-Jones, Naylor & Towill (2000); downstream from the de-coupling point, the focus is to have products available to the customer and upstream, the focus is to reduce the costs associated with inventory. This explains the strategic character of the trade-off between inventory level and satisfying a volatile customer demand; companies in the fashion industry have to decide upon when to shift the focus from cost to customer.

According to Christopher et al (2004) cost-savings are achieved through virtual integration and end-to-end visibility, resulting in reduced levels of stock in the supply chain. End-to-end visibility ensures the availability of the right amount of products at the right location in the supply chain. If mutual trust and communication are permeating the whole chain, it will minimise stock-holding because each actor are able to adjust the stock-level in response to the requirements (Beesley, 1996). A responsive and flexible supply chain can also bring on indirect revenue enhancing opportunities. For example, Christopher et al (2004) suggest that flexibility allows a reduction in retail price, making it possible to capture market shares and thus increasing revenue. Hence, the concepts do not only have a cost-saving feature, but also a focus on enhancing the company's revenue.

### 3.3.2 Satisfying real-time demand

Responding to a volatile customer demand in the retail fashion industry coincides with satisfying real-time demand, and its importance is evident in all three concepts. It can be described as rapidly responding to changes in demand by providing the exact amount of products, at the moment they are needed and at the right place (Christopher 2000; Aghazadeh 2001; Christopher et al 2004). Christopher et al (2004) argue that companies are required to be market sensitive in order to satisfy real-time customer demand. Market sensitivity is the company's ability to understand what drives demand, and accurately adapt to market change. According to Christopher et al (2004) a close connection to the end customer can be used to capture emerging trends in the fashion retail industry. Barnes & Lea-Greenwood (2006) suggest that the information gained through end-of-point sales data can be useful as feedback and in supporting decision-making, as well as guiding manufacturing. Hence, in order to make the strategic trade-off between inventory level and satisfying customer demand, companies need to have knowledge on customer requirements. As a result, retailers must be willing to share information concerning sales data with its suppliers. Beesley (1996) further mentions the importance of communication, and that it is the basis for a structure within the supply chain. Effective communication results in fewer decision changes in the later part of the chain, and when decisions need to be rapidly reviewed, changes are integrated into to the design of the system rather than being addressed afterwards.

Market sensitivity is not enough to satisfy real-time customer demand; in addition alignment is mentioned as a crucial factor in a number of researches (Christopher et al 2004; Birtwistle et al 2003; Barnes & Lea-Greenwood 2006). Alignment and an integrated flow of information, minimise the risk of delays between different stages of the supply chain, and enables reaction to real-time demand and ensures rapid response to changing fashion.

Birtwistle et al (2003) mention the Spanish fashion retailer Zara as an example of a company with a real-time customer demand approach. Zara is known for its responsiveness to market demand and according to Birtwistle et al (2003) this is a result of vertical integration and use of responsive methods. Flexibility allows the company to react to the latest trends in fashion and customer demand, and by re-merchandising every three weeks customers are encouraged to visit stores frequently (Birtwistle et al, 2003).

As with the inventory aspect of the strategic trade-off between inventory level and satisfying a volatile customer demand, the demand aspect is also multifaceted. Companies have to make a decision regarding to what level customer demand will be satisfied, companies can choose to satisfy the entire demand or selected parts of it. Regardless of the strategy, a conclusion of previous research shows that a real-time satisfaction of customer demand is a requirement in the fashion industry (Birtwistle et al, 2003; Bruce et al, 2004; Christopher et al, 2004; Barnes & Lea-Greenwood, 2006; Bruce & Daly, 2006).

### 3.4 Strategic considerations

#### 3.4.1 Product categories

In general, retailers have different types and categories of items, and to keep the service level high their goal is to meet the demand of all categories on time (Borm, Garcia-Jurado, Meca, Timmer, 2004). To attain this, different choices need to be considered before the products enter the store, or stock, and different categories sometimes require different treatment.

According to Abernathy, F.H. (cited in Jin, 2004), apparel can be categorised as basic, fashion-basic, and fashion. For example, items that belong to the basic assortment are expected to be available on the store shelves when customers demand them, and it is important to have high levels to ensure continuous sales (Choudhary & Tripathi, 2012). For these items, demand is predictable through the use of historical sales data, and is therefore easier to forecast in order to have the product in store, just in time and also apply economies of scale. For products that are categorised as fashion, other aspects must be taken into account. In this category, orders are often placed frequently based on real time sales data, with a few days delivery-time, enabling the satisfaction of volatile demand. For these items, small batches are produced compared to the volume production of basic items (Jin, 2004). This category can be seen as the fast fashion strategy, mentioned above. The third category is identified somewhere in between these two and are products that belongs to the current season's basic assortment (Jin, 2004).

#### 3.4.2 Sourcing

One way to achieve a higher level of responsiveness is to compress time in the supply chain (Christopher et al, 2004). A shorter supply chain can reflect consumer information more accurately and make it easier to re-asses demand during the on-going season. Birtwistle et al (2003) argue that by moving decisions closer to the customer the risk of making wrong decisions is reduced. In this situation, domestic or local sourcing can be preferable (Jin, 2004). Regions closer to the market can provide products quicker because of the geographical closeness, and a cultural understanding provides a foundation for communication and

collaboration. Turkey for example, has emerged as a local sourcing region for European fashion retailers, because of its compatibility and its availability of resources (Barnes & Lea-Greenwood, 2006).

Global sourcing can be costly, both in terms of late response to the market and the risk of products rapidly becoming old-fashioned. If the products are stocked for a long time, the inventory carrying cost and capital tied-up might increase, as a result of the products being difficult to sell. Since inventory is associated with costs, increased inventory can be an indication of reduced inventory turnover and cash flow (Choudhary & Tripathi, 2012). For global sourcing to be justified, large quantities are required in order to apply economies of scale, with the risk of causing high levels of inventory. Thus, global sourcing is suitable for basic products because of their predictable demand as fashion retail companies can be more certain these items will be sold to their full price. (Jin, 2004) Further, Jin (2004) expresses that a balance between global and local sourcing might be the best way to achieve agility in the supply chain in combination with cost management. This is a further indication that a careful deliberation on the strategic choices is needed before a decision is made.

In traditional replenishment two thirds of the purchasing budget was committed to in advance, and only 10 per cent remained once the season had started (Birtwistle et al 2003; Christopher et al, 2004). In contrast, contemporary fashion products with a volatile demand have to be produced with agility in order to have quick response and delivery of the product just-in-time. The Spanish retailer Zara is mentioned as an example, and as much as 50 per cent of their purchasing budget remains once the season has started and response time from design to when the product reaches stores can be as little as three weeks (Birtwistle et al, 2003).

As the consumer is gaining more power, speed to the market is sometimes regarded as more important than profit margins (Barnes & Lea-Greenwood, 2006), and costs are sometimes sacrificed to meet the volatile demand (Jin, 2004). Increased customer power also manifests itself in changing priorities in buying decisions and buyers are no longer always searching for the cheapest suppliers (Barnes & Lea-Greenwood, 2006). For example, domestic and local sourcing is more often applied in situations when it is found to be the only way to meet real-time demand, even though it can be more costly compared to global sourcing (Jin, 2004). Cost is further sacrificed in favour of speed as airfreight becomes a more recurring feature in the fast fashion industry (Doyle et al, 2006). Even quality and design are sometimes sacrificed to meet the demand in a quick manner and shorten the lead-time (Barnes & Lea-Greenwood, 2006).

### 3.4.3 Supplier base

The strategic trade-off between inventory level and satisfying a volatile demand requires a choice concerning the relation to, and the number of, suppliers in the supplier base. Many companies that have adopted JIT have been forced to reduce their amount of suppliers because of the time consuming evaluation of supplier reliability, and a careful selection of suppliers is required. Single sourcing of suppliers generates closer relationships, and in turn flexibility and cost control (Doyle et al, 2006). A small supplier base is often considered to be both efficient and effective. In contrast, responsive supply chains are characterised by a wide

base of suppliers in a network dominated by the retailer (Christopher et al, 2004). Multiple sourcing provides opportunities to constantly evaluate and edit the supplier base, and disperses risk but the management is often complex (Doyle et al, 2006).

In the end, the communication and collaboration in the supply chain is a foundation in order to meet real-time demand and be effective. The consumer-driven nature of the fashion industry requires an adaption of the supply chain. As mentioned before, this can manifest itself in a power shift from supplier to retailer, and now to the consumer. The retailer seeks to collaborate with suppliers who are able to supply in a quick manner, if that is needed. As a consequence of its enhanced power the retailer moves much of the responsibility over to the supplier, creating increased pressure on the suppliers to be flexible and responsive. Retailers have great expectations on its supplier and do not want to carry more stock than necessary, thus adding costs to the supplier. (Barnes & Lea-Greenwood, 2006)

Christopher et al (2004), further suggest that fashion retailers are exerting their power by orchestrating network-based supply chains. This allows the retailer to focus its in-house operations on enhancing cost efficiency through economies of scale and in the position of an orchestrator the fashion retailer can choose to work with suppliers with quick response capabilities. According to Christopher et al (2004) these suppliers have the ability to quickly replenish the retailer's stock, allowing a higher inventory turnover rate and increased gross margin return. Replenishment in response to demand ensures availability of products when customer are willing to pay a higher price, compared to if products would be out-dated forcing a mark down in price.

#### **3.4.4 Strategic actions**

For fashion products, there are no longer two main seasons during the year but instead five to six sub-seasons. Therefore, flexibility is becoming a crucial factor because each season demands a larger number of different articles, produced in smaller batches. (Caro & Gallien, 2010) According to Choi et al (2010) this manifests itself in that some fashion retail companies are producing a limited number of items per article, meaning only a limited number of items are available for sales in the stores. Choi et al's (2010) research suggest that customer demand can be satisfied with entirely new products when old ones are sold out, thus creating new demand patterns. The idea is that fashion companies are forcing its customers to buy the product immediately or otherwise miss the article completely. This suggests that the sell-through rate, which is the most central key performance indicator in the fashion retail industry (Smith & Achabal 1998), can be kept high when companies implement this strategy. In this case, companies are not maximising the revenue per article, but minimising the inventory costs and the potential price mark-down. Thus, it is becoming more and more common to place just one manufacturing order without any replenishment. Garo & Gallien (2010) agree, and suggest that current strategies are based on a large number of articles with short life cycles.

Choi et al's (2010) research further identifies this as a possibility for retailers to manage their inventory policy; customer are not expecting a certain article but instead a group of articles from which a choice can be made. If a certain product is out of stock, customers might be

satisfied with a substitute but however, when no substitutes are available a loss in goodwill and sales can be a harmful consequence (Smith & Agrawal 2000). When substitutes on the other hand are available, Deakin (1998) suggests that stock-out sometimes is a more economically favourable situation.

### 3.5 Analytical model

From the theoretical framework above an analytical model has been developed. Three interrelated considerations appear as central when companies attempt to make decisions regarding the trade-off between inventory levels and satisfying a volatile demand. The considerations are linked to different strategic actions and this is presented in the analytical model below.

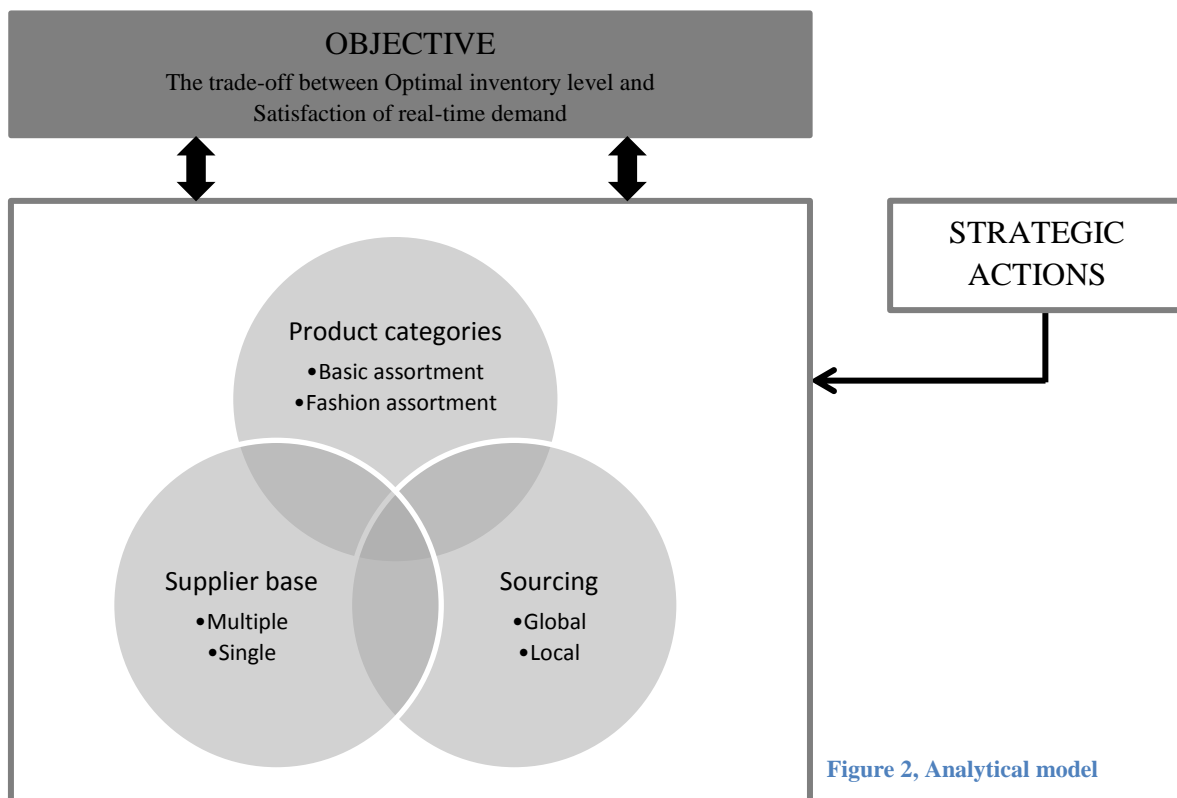


Figure 2, Analytical model

Fast fashion and retail supply chain management establish the contextual factors under which decisions are made. In this context two objectives emerge; to find an optimal inventory level and to satisfy a real-time demand. To reach the objectives, *product categories* first need to be considered and companies can choose between the two extremes; basic or a fashion assortment. The basic assortment is associated with long product life cycles and predictable demand that enables forecasts. In contrast, fashion products are associated with frequent orders with delivery within a few days and a large number of articles in small batches. (Jin, 2004) The product categories are connected to the *sourcing* consideration, and companies are faced with the decision between global or local sourcing. Global sourcing is suitable for products with a predictable demand, such as the basic assortment. Through large quantities economies of scale can be applied, but the downside is higher level of inventory. With global sourcing there is a risk of late response to the market and for fashion products local sourcing is thus more suitable. (Jin, 2004) Fashion companies can sacrifice cost in favour of speed

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because regions closer to the market can provide products quickly and re-assessment of demand is made more easily. (Barnes & Lea-Greenwood, 2006) Moving on, the company is faced with a consideration regarding the *supplier base*. Single sourcing brings on close relationships and is considered to be efficient and effective. On the other hand, multiple sourcing is associated with responsive supply chains and the retailer can dominate a network of suppliers. (Doyle et al, 2006) All three considerations are connected and the decisions made for one have an impact on the other two.

## 4 EMPIRICAL FINDINGS

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*This section describes the empirical findings, which are made through interviews. The chapter follows the theoretical framework's structure, and the companies' answers are compiled per topic and are described parallel in order to see differences and similarities. All information presented in this chapter has its origin in the interviews performed, and in those cases that an opinion is of certain company this is clearly stated. However, this does not always mean that the other companies do not share that opinion; it is rather due to that sometimes the topic in question was not brought up during the interviews.*

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### 4.1 Inventory levels

At Brand and Family, inventory levels are determined by the estimated sales level on a daily, weekly, and monthly basis in relation to previous year's sales data. Previous sales patterns are adjusted into sales targets and at Brand, the inventory level follows this target, but on a slightly higher level. Inspirer also has different sales targets for different periods during a season, and inventory levels are planned in relation to next period's sales target. The Family respondent also mentions that calendar changes such as Easter are taken into consideration due to the different demand during these periods.

At both Family and Inspirer, weekly follow-ups assure that the exact amount required is purchased and that inventory is at the planned level. By using continuous follow-ups, they can place orders at the right time, in order to have the right amount in stock to supply the stores with the right products, in time. The Family respondent states that they are aiming for incoming deliveries to the central warehouse in the same pace as the stores are replenished. The Brand respondent explains that it is difficult to estimate the longevity of different products, and that the difficulty is further increased as different stores; in different locations have a varied demand. However, the Brand respondent argues that they can always afford over-stock to a certain extent, and that sales are not expected to follow the target in an exact manner. The challenge is to have a sound inventory with the right combination of products and hence, it is not the level in itself that is decisive. The Inspirer respondent explains that their inventory strategy is to aim for the lowest inventory level possible, but without sacrificing sales. The ambition is to have an updated inventory that corresponds to the expected demand in order to minimise mark-downs. Further, the respondent means that the inventory levels always have a direct connection to the volume available in stores.

All respondents argue that profitability in the fashion retail industry requires central control, and that profitability is not determined on a detail level, instead economies of scale are the decisive factor. As a result, all have a central warehouse and the stores only have items that are available to customers in the stores. To ensure that products are available in stores when they are needed at Brand, large stores have more frequent deliveries compared to smaller ones. Inspirer is not moving merchandise from one store to another and thus, it is important that right amount is sent to the right store from the very start. The suppliers make some of the packing, and Inspirer has the possibility to supply the different stores directly when the



merchandise arrives to the central warehouse. These products are never stocked at the central warehouse and the amount that is directly delivered to the stores versus the amount that is kept at the central warehouse is based on historical sales data. At Family's central warehouse orders are picked every day, based on yesterday's sales and every store gets deliveries two to three times a week.

## **4.2 Satisfying real-time demand**

All respondents explain that the retailer is not in control of the development in the fashion industry; instead the retailer follows the market. A large portion of the Swedish fashion retail chains is doing the same type of purchase journeys, and forward planning is commonly occurring. At Brand, the fall season is established in January and purchasing begins in March, simultaneously the next-coming spring season is planned. Thus, the customer demand is perceived as stable in the sense that sales are predictable to a certain extent. However, customer demand is also volatile in the sense that customers are less loyal compared to past decades.

In an opposite manner, the Inspirer respondent means they are acting in an industry with unpredictable demand that is changing from season to season. Inspirer plans the fall season in October the previous year, in November/December the budget is established and the first orders are placed in the end of December, up to six months before products enter the stores. However, the largest portion of orders is placed later during the spring. In other words, Inspirer is working with three seasons at the same time. This strategy to work with three seasons simultaneously is applied at Family as well. For the current one, new orders are placed to satisfy the real-time demand, the first orders are placed for the next one, and the third season is in a planning mode in order to set the budget. However, the Inspirer respondent mentions predictable elements, such as periods when sales numbers are higher, for example Christmas and the week when customers receive their payment of salary. Another element mentioned by the respondent is their club for loyal customers, contributing to a more stable demand.

As mentioned previously, all companies have a central warehouse and a replenishment strategy is used. At all three companies, replenishment is adjusted to every store, and controlled by the use of sales data. Each store at Brand has an expected sales volume and the stores are graded in order to determine the share of each article allocated to the different stores, with both product area and assortment taken into consideration. Thus, the assortment is adjusted to the demand at each specific store. An effective flow from the warehouse to the stores ensures a good sell-through rate by satisfaction of real-time demand. Further, Brand evaluates the demand in-season and products are evaluated and graded on a continuous basis.

At Family, each store is replenished based on its percentage of sales per product area. Inspirer has graded their stores into categories determined by their size and sales, and the purpose of this is the same as Brand's; get the right products and the right volume to each store, based on historical sales data. Compared to Brand's replenishment strategy the difference is that the share of each article is based on previous sales of that product area without consideration to the assortment category. Possible geographical differences in demand are instead taken care

of by replenishment from the central warehouse. Product areas are forecasted continuously during the season in order to discover over-stock and out-of-stock, and to enable reactions in time. Inspirer aims at always having a safety-stock at the central warehouse in order to replenish stores with best-selling items in order to satisfy real-time demand and minimise the risk of over-stock in some stores and stock-outs in others. At Family, the basic assortment is always stocked at the central warehouse to ensure that stores always have all sizes available.

### **4.3 Product categories**

Brand, as well as Inspirer, has three different product categories that are managed in different ways due to the difference in demand and the customers' expectation. Family, on the other hand, has two different categories, also managed in different ways due to different demand. At Brand, the first one is called "Never out of stock" (NOS) and can be categorised as the basic assortment. Brand is expecting this category to have longevity of two years, and therefore have an on-going purchase. Due to its low inventory holding costs, Brand can manage large quantities per purchase to ensure that these products always are available in order to meet a continuous demand, and minimise the risk of an out-of-stock situation. The respondent means that the demand of these products is predictable, and the only issue would be the capital tied-up during a long period of time; however this cost is justified by the low inventory cost.

The corresponding category at Inspirer is also a basic assortment, called "Basic" that is continuously re-entering the stores but with a small renewal. This category is important for the same reason as Brand's "NOS"-assortment; the products should always be available on the shelves because the customers are not willing to buy a substitute. Therefore, Inspirer re-orders these products continuously. The corresponding category at Family is like Inspirer's called "Basic" and comprises 20 per cent of the company's assortment in total. This category has longevity in store of 15 weeks and is replenished every sixth week based on previous sale volumes. Products in the "Basic" assortment are continuously re-entering the stores but with a few alterations.

Brand's second product category is products that are supposed be in the stores for two seasons, but sold-out when the first season returns. Our respondent means that this assortment and its volume is hard to predict because of the long stay in the stores. The products should not be sold-out during the periods, nor be left when the seasons are over. This category can be seen as a temporarily fashion/basic assortment during a specific year. Inspirer's second category is called "Seasonal" and can also be seen as a temporarily fashion/basic assortment. These products are associated with a higher degree of fashion compared to the "Basic" category and appeal to a wider range of customers and are thus a safer category compared to the fashion assortment. Since Family only has two categories of products, this in-between category is not a part of their assortment.

The last product category for all three companies is a fashion assortment. Brand calls this "High fashion", Inspirer "Peak", and Family "Fashion", and the demand for this category is hard to predict. At Brand and Family, it includes products with expected longevity of six to eight weeks and these products are purchased based on weekly follow-ups of similar articles,

and at Brand each article is only purchased once. In contrast, Family does additional purchases for their “Fashion” assortment if a certain product is successful, and the same product is sometimes re-ordered in new colours. Parts of the “Fashion” assortment at Family are called an “Additional” assortment, and these products are only available in larger stores. The “Additional” assortment is purchased in smaller quantities compared to the rest of the “Fashion” assortment that in turn is purchased in smaller quantities compared to the “Basic” assortment.

Inspirer does not have distinct time targets for their fashion assortment but the respondent suggests that these products often are associated with high turnover rate. Because of the unpredictable demand this category is ordered in smaller quantities compared to Inspirer’s other categories. The Inspirer respondent even suggests that the order quantity sometimes is a rough estimation because this category does not have any comparable standards since it is always new kinds of products. Estimations are based on previous experience of comparable articles and judgements regarding the customer demand.

#### **4.4 Sourcing**

Due to the beneficial pricing, Asia is used as the primary sourcing region at Family. According to the Brand respondent, high margins in the fashion retail industry are due to long production cycles. Thus, their production is also located in low-cost countries such as China, Bangladesh and Thailand whenever demand is predictable. Inspirer uses similar low-cost countries for their production due to the requirements for profitability, and even though the respondent argues that all purchasing in the fashion industry is uncertain, global sourcing is generally used for products with a more certain demand.

According to the Brand respondent, the disadvantage of long production cycles is the difficulty to re-produce an item from the fashion assortment once it is sold out. When this kind of item is out of stock, customers do not consider them to be fashionable once they are replenished and thus, there is not enough time to source globally for replenishment of the fashion assortment. Inspirer does not experience the same issue with global sourcing; instead the lead-time in itself is mentioned as the only disadvantage.

As an alternative to global sourcing all three companies have production units located in Europe as an alternative when shorter lead-time is required. The Inspirer respondent expresses this by saying that Inspirer uses global sourcing when a trend is predictable to a greater extent, whereas local sourcing is used when a trend needs to be reacted upon with a quicker response. All companies use local sourcing when production calls for rapid measures, for example when a trend has been misjudged and for products with an uncertain demand.

The time from order to finished product in store depends on geographical distance, level of difficulty, and order volume. According to the Family respondent, “Fashion” products can be delivered within eight weeks if local sourcing is used, whereas the shortest possible lead-time from Asia is twelve weeks. The Brand and Inspirer respondents do not mention exact lead-times, but both suggest that the difference in time between global and local sourcing is at least fifty per cent, in favour of local sourcing. On the other hand, local production has lower

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margins and better judgments are therefore required in terms of the customer demand and the volume needed. The Inspirer respondent further explains that local sourcing enables the company to react during a season, and that previous sales numbers then can provide signals regarding the best-selling colour and silhouettes.

According to Brand's respondent, all costs can be justified as long as customer demand is satisfied, due to their high margins. Moreover, the Inspirer respondent suggests that costs for production and transportation are less important if the total demand is satisfied and that a positive overall picture sometimes motivates a more costly action. This manifests itself in that all three companies accept lower margins and higher transportation costs when required. Local sourcing is used in situations when speed is prioritised, sacrificing production costs, and airfreight can be used when a product is required a certain day, sacrificing transport cost. To enable locally sourced additional purchases later during the season all companies make room in their budgets to satisfy real-time demand. Further, Brand accepts lower product quality in favour of speed for products that are not associated with high quality and in circumstances when customers are not expecting high quality.

### 4.5 Supplier base

Brand and Family have a large number of suppliers in their supplier base, and they are located in a few different countries in Europe and Asia. To make a decision regarding the suppliers in the supplier base the Family respondent mentions criteria such as need, price, knowledge, material, and production market. The aim for both Family and Brand is to find suppliers with special skills that can match quality requirements. Inspirer has the same aim but is working with a fewer number of suppliers in order to achieve long-term relationships.

Inspirer puts great emphasis on having good relations with its suppliers based on the assumption that the individual supplier is important to Inspirer and vice versa. Similar to Inspirer, Brand and Family are relatively small in size on the global market and suppliers can choose larger retailers with lower requirements. However, all consider themselves to be in a power position in its relations with suppliers once an agreement is signed. Brand practices control in the supply chain by the use of local offices and there are constant attempts to lower costs. Inspirer and Family also have local offices present on the global supplier markets, and according to the Inspirer respondent this is due to their desire for close and long-term relationships, but also to find new suppliers.

When production is not in line with the plan, all three companies have the possibility to cancel entire orders and adjustments can be made if it is done in time. The Family respondent mentions delayed deliveries and products that do not meet the requirements as examples for when orders can be cancelled. The respondent at Inspirer argues that long-term relationships with suppliers make it easier to compromise about the terms of the agreement to find solutions that is suitable for both the retailer and the supplier.

### 4.6 Strategic actions

Brand has two main seasons during the year, spring and autumn, which means there are two main purchase periods. Additional purchases are made cautiously because of the lead time

from order in Asia to delivery to the stores. However, if a certain product is successful a copy of that product can be produced more locally in order to meet the real-time demand. Similar to Brand, Inspirer and Family have two main seasons, autumn/winter and spring/summer. At Inspirer every season is tied to a certain expression rather than when the products arrive in the stores, for example some autumn items arrive as early as June. In contrast to Brand, additional purchases are made at Inspirer for products that arrive early during the season regardless of the assortment it belongs to. However, such additional purchases need to be motivated and the products are required to fit in the assortment once they are replenished. Further, the respondent mentions cancellation of orders as one way to make room for better and more desired products instead of purchasing additional ones. Both Inspirer and Family use local sourcing for their additional purchases to ensure a quick response, and it is also partly used at Inspirer for products that are supposed to arrive late in a season. The two companies further use local sourcing for certain types of products, for example both respondents mention that Italian production units are used for the production of tights.

With respect to the customer's perception and experience, it is important that the stores are filled with clothes since sparse stores are perceived as negative. On the other hand, too full stores are not to prefer either, since they are perceived as untidy and old-fashioned. Both the Brand and Inspirer respondents share this view. The Brand respondent further explains that the customer's perception can be negative if articles from the last season are hanging next to new ones. The respondent argues that clearance sales are not a result of too high inventory levels or weak sales, but a way to clean and clear the store of last season's clothes.

For products in the "High Fashion" category, the Brand respondent means that these should rather be out of stock after five to six weeks, than still be in store after twelve weeks. The respondent argues that this is an indication of Brand being perceived as a fashion store and that it puts the customer in a now or never- situation. Similar to Brand, the "Fashion" category at Family has a lower expected average time in stores compared to the "Basic" category and Inspirer too, has different targets for different products regarding their stay in the stores. For the "Peak" assortment, Inspirer prefers a shorter stay than planned, in order to minimise the risk of over-stock, and as a result the turnover rate is higher for this assortment. For the "Basic" assortment however, a high turnover rate can be an indication of an upcoming stock-out, which often is considered a disadvantage, and hence, the Inspirer respondent means that the turnover-rate is not a purpose of its own. One of the most important things, besides the risk of over-stock, is instead the customer experience in the stores and there should always be a balance between the three categories at Inspirer.

Further, the Brand respondent means that customers buy substitute articles when the store is out of a certain size or when a "High Fashion" article is sold out, and hence the demand pattern for "High Fashion" differs from the other two product categories at Brand. From Inspirer's point of view the customer should always be presented with a choice and gaps in the assortment should be avoided. However, the concept of substitutes is not used at Inspirer and it is not part of the purchase process. According to the Inspirer respondent the most important thing is that the products work well together and that there is a cohesive theme. The substitute concept is not actively used at Family either, and according to the respondent it is

difficult to determine whether their customers actually buy alternative products or chose to buy from any of the competitors. Family, like Inspirer, is working with themes instead and products that belong together are in the store at the same time in order to present a choice to the customers.

To be a player on the market, Brand's strategy is to follow the industry, with the assumption that they are not making any money if they are first on the market, quite the opposite. It is important to do the same things as the competitors and not miss a trend or the season's best-seller. Inspirer agrees with this, and their objective is to offer what is fashionable at the moment, neither what will be nor what has been. The Brand respondent further explains that it is equally important to have knowledge about the decline of the trend curve, and to step off before the product becomes old-fashioned.

Since the clearance sales are a part of the sales target, the sell-through rate is a main key performance indicator for Brand. Even if an article is sold on sale, Brand has a positive gross margin, indicating a high margin in the industry. This in turn, explains why Brand rather makes a purchase and risk a potential mark-down, than not purchase at all. However, for the high fashion products, the ambition is to sell all items, hence a stock-out situation is preferred in comparison to the two other categories where over-stock is preferred.

Family previously had a strategy where a certain portion of the products was purchased with the purpose to secure a clearance sale. This strategy is no longer used, however the respondent suggests that it is always better to have too much products available and risk a mark-down rather than not have enough products. The respondent further argues that there are enough margins to justify a mark-down and customers actually expect a clearance sale at the end of a season. In order to maintain some full price sales during a clearance sale, Family has taken the action to let products from the upcoming season arrive in stores during the mark-down period. Inspirer has a more restrictive view on mark-downs, and even though mark-downs are a part of the sales target Inspirer is working actively to reduce inventory levels. The respondent explains that the cost for over-stock is mark-downs, and that mark-downs are by far the largest cost for Inspirer. At several occasions the respondent stresses that Inspirer is trying to avoid clearance sales and that these are considered a defeat. The cost of over-stock is therefore central at Inspirer in opposite to Brand where inventory cost is considered negligible. The Inspirer respondent suggests that mark-downs in the fashion industry in general are between 15 and 30 per cent, and that Inspirer is on the better part of the scale.

## 5 ANALYSIS

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*In this chapter we analyse and discuss the connections we have found between the theoretical framework and the empirical material. The analytical model is used to relate the empirical findings to the theoretical framework and the purpose of this chapter is to investigate the research question. The chapter begins with a section that analyses the main objectives in the analytical model. It continues with a section that concerns the strategic considerations and has its starting-point in a version of the analytical model. The model has been completed with the strategic actions, identified through interpretation of the theoretical framework and empirical findings.*

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### 5.1 The Trade-off between inventory level and satisfaction of real-time demand

In our problem discussion we focused our attention to previous research on the importance of making products available to customers and simultaneously optimise inventory in the fashion retail industry. According to the literature review, the main objectives of such retail supply chain management is the satisfaction of real-time demand and optimisation of inventory level, and from the empirical findings this appears to be true also for Swedish fashion retailers. In general, research on this subject suggests a focus on reduced lead-time, quick response, and consideration of customer demand in order to meet the objectives above (Bruce et al, 2004; Christopher et al, 2004; Barnes & Lea-Greenwood, 2006; Bruce & Daly, 2006). However, a closer look at the proposed concepts reveals a trade-off, possibly risking an over-stock situation, or to limit the number of items, possibly risking a stock-out situation.

In order to optimise the inventory level, companies are required to make long-term strategic decisions in advance regarding how to manage a volatile demand and uncertainties during an on-going season. Long-term strategic decisions can function as a framework for operative decisions when a quick reaction is required to satisfy demand. This corresponds to the challenge mentioned by the all respondents; to have a sound level of inventory with the right combination of products available to the customers. To manage the inventory level, all companies emphasize the importance of *central control through a central warehouse*. The central warehouse can be seen as the de-coupling point, as described by Mason-Jones et al (2000). At this location in the supply chain the focus shifts from cost to customer; up-stream the focus is on maintaining a low inventory level and down-stream on actual demand. Once the products leave the warehouse they are made available to customers in the stores scattered across Sweden and cost-effectiveness is combined with high service levels in line with what Bruce et al (2004) suggest.

To ensure that products are available in stores when they are required Christopher et al (2004) suggest that companies need to be market sensitive. An understanding of what drives demand is considered important for companies like Brand, Inspirer and Family because of the forward planning used. One explanation to why the demand is perceived as stable at Brand is the close connections to the end customers, giving Brand the opportunity to adapt to market changes

before they occur. Inspirer has an almost opposite view of the industry's demand, and this in combination with their desire to have a low inventory level requires them to be even more market sensitive, according to Christopher et al (2004). Historical sales data supports decisions at all three companies by determining the expected sales volume for every store and replenishment is adjusted in correspondence, in accordance to what is suggested by Barnes & Lea-Greenwood (2006). Products are not evenly distributed to the stores; instead a decision regarding the estimated demand determines the volume of certain product areas and/or product categories for all companies.

The central warehouse plays a major role in this work at all companies but the strategy itself takes on different forms. Brand uses a replenishment strategy that takes the demand for each article into consideration. Thus, every store is treated differently based on the expected sales volume for different product categories in combination with product area. For example, a store that has high previous sales of a certain product area that belongs to the "High Fashion" category receives a larger portion of such products compared to stores that has lower previous sales. This can be compared to Inspirer's strategy that only takes the product area into consideration. An Inspirer store that has high previous sales of a certain product receives a larger portion of such products compared to stores that has lower previous sales, but without consideration to what category the product belongs to. Thus, a store where demand is high for the "Peak" category might not receive a larger portion of that kind of products. The consequence is that the central warehouse in hindsight is allocating products in order meet the requirements from stores where demand is higher. In contrast, stores with a lower demand for the "Peak" category could receive more products than customers demand, and can thus be forced to mark down prices in order to sell off unwanted articles. Inspirer could possibly avoid this situation by using historical sales data for product categories from the very start, like Brand. The reason for Inspirer's choice of strategy could be that the amount of data required for a more detailed replenishment strategy is more time-consuming which cannot be justified by the possible advantages. In the end, it is the existence of a *replenishment strategy* that is important and Barnes & Lea-Greenwood (2006) argues that by using a replenishment strategy, companies can ensure that the demand will be satisfied for each store, just-in-time, without the risk of an unfavourable over-stock or out-of-stock situation.



## 5.2 Strategic considerations

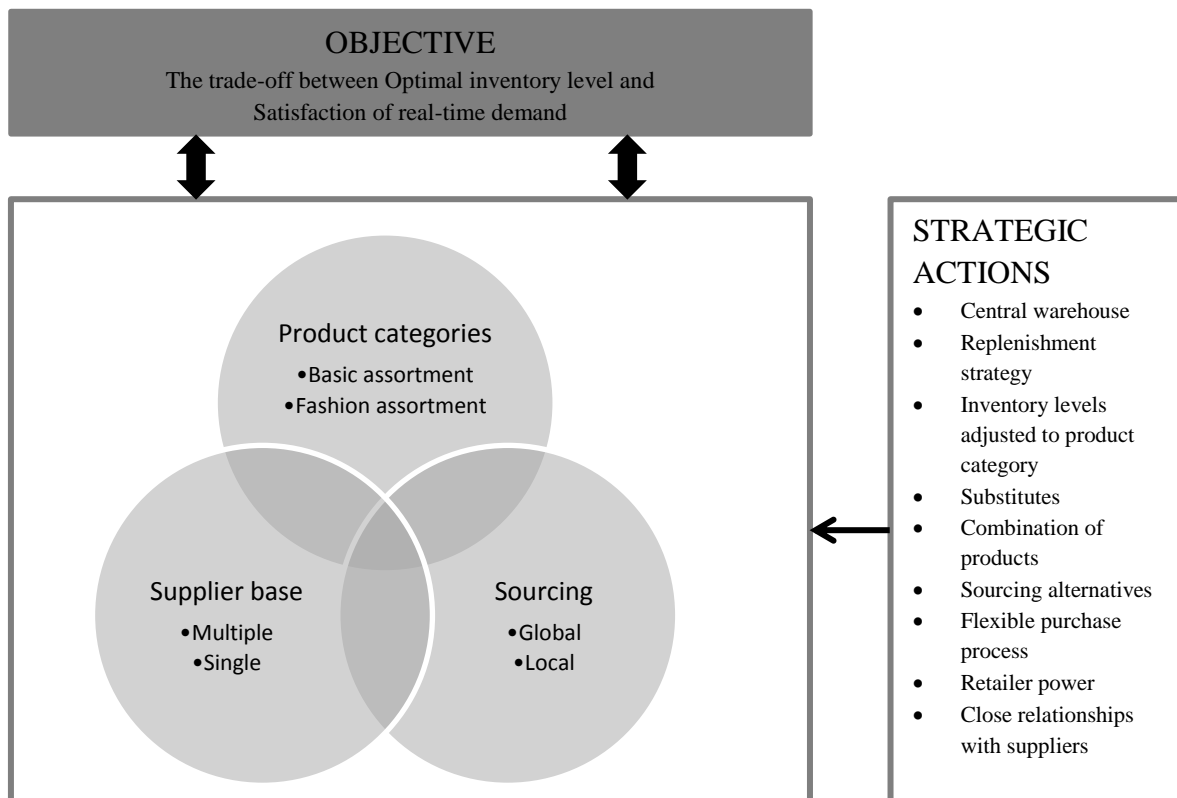


Figure 3, Analytical model completed with strategic actions

To achieve satisfaction of real-time demand and optimal inventory companies are required to make decisions regarding how this will be reached. According to the analytical model companies are faced with three considerations presented in figure 3 above.

### 5.2.1 Product categories

#### *Basic*

The first consideration is product categories, and Borm et al (2004) suggest that different categories require different treatment. Brand and Inspirer have treated this consideration by separating their products into three categories with different demand patterns and this strategic action ensures that product availability corresponds with the customer expectation. Family has taken the same action but their products are separated into two categories. For products that are categorised as basic, customers expect availability (Abernathy, F.H., cited in Jin, 2004) and this corresponds to what Brand calls “Never-Out-Of-Stock”, and what Inspirer and Family call “Basic”. Jin, 2004 states that the demand for these products is fairly predictable and forecasts based on historical data are helpful and more or less secure because these products are not changing that much from one season to another. All respondents agree with Jin. A predictable demand enables large order quantities and as suggested by Jin (2004) all companies can apply economies of scale for their basic assortment through large order quantities and global sourcing.

### *Fashion*

The other extreme product category is the fashion assortment, at Brand called “High Fashion”, at Inspirer called “Peak”, and at Family called “Fashion”. In general, the fashion assortment is expected to have a more volatile demand (Jin, 2004) and at Brand this manifests itself in the way that “High Fashion” products only are purchased once and have a very short expected longevity compared to the “NOS”-category. Inspirer too, experience a more unpredictable demand for their “Peak” assortment compared to the “Basic”, and even suggests that the demand is a rough estimation and requires an experienced purchaser. The comparable category could at first sight be Family’s “Fashion” assortment, but since this category is 80 per cent of the total assortment it is assumable that not all “Fashion” products can be treated like fashion assortment as suggested by Jin (2004). Instead, the “Additional” that is a part of the “Fashion” assortment can be compared to Inspirer’s “Peak” and Brand’s “High Fashion”; it is purchased in smaller quantities and only available in larger stores.

The main difference between the basic and fashion category is the preferable inventory level, and for products that belong to the basic category availability is the key. “High Fashion”/“Additional”/“Peak” products on the other hand are associated with a high inventory turnover and in one sense customer expect these products to only be available for a short period of time. However, Inspirer argues that the inventory turnover is not a purpose of its own, even though it is considered preferable for “Peak” products to have a shorter stay in the stores than expected. Even though all companies are taking the same strategic action concerning the fashion category; a short stay in the stores, they have different purposes behind it. Inspirer and Family are aiming for matching products in the stores and low inventory level, and because of the unpredictable demand, small quantities is a safety precaution. Brand’s purpose can be described with Birtwistle et al’s (2003) explanation regarding the fashion category; the products should have a limited time on the market and should be replenished with new products.

### *Fashion/Basic*

Beside these two categories Brand and Inspirer both have a third category of products that is a form of temporary basic assortment. Brand suggests that this category is more difficult to manage compared to their other categories, because of the intended long stay in store. Inspirer sees their third category as safer since these products have a lower degree of fashion, which can satisfy a wide range of customers. The companies have divergent views on this product category; however the difference might appear larger than it actually is. The Brand respondent focuses on the difficulty in purchasing such large volumes in advance, but this does not implicate whether the products appeal to a wide of range customers or not and whether they are difficult to sell or not. Inspirer’s view on the other hand is more in line to what is suggested by Jin (2004); a lower degree of fashion is easier to manage due to a more predictable demand.

Despite the differences, both companies associate this product category with larger order quantities compared to the fashion category, and economies of scale can be applied to a certain extent. Family does not have a third category but since 80 per cent of Family’s total assortment belongs to the fashion assortment it can be expected that these products have a

## The trade-off between inventory level and satisfaction of a volatile demand

- A study of three companies in the Swedish fashion retail industry

varied degree of fashion, and as a result a portion of the “Fashion” assortment could be compared to the “Seasonal”/“Temporary basic” assortments at Inspirer and Brand. This is in line with Hayes & Jones’ (2006) reasoning regarding that such a large fashion assortment can be difficult to predict.

### *Strategic actions*

By separating products into categories like this, the retailers can be more secure regarding the satisfaction of demand; *inventory levels can be adjusted to each product category*. However, because of the long forward planning used by all companies this strategy relies on accurate forecasts of demand. According to Bruce & Daly (2006) accurate forecasts are difficult in the fashion industry, which makes the strategies vulnerable. To resist inaccurate forecast, companies can take other strategic actions. Choi et al (2010) for example, suggest that customer demand can be satisfied with entirely new products when old ones are sold out. Brand for example, arranges their articles into groups consisting of a certain product area and category, such as dresses in the “High Fashion” category. When a store is out of certain article the demand can be satisfied with another article from the same group.

This *substitution strategy*, also mentioned by Smith & Agrawal (2000), is not used at Inspirer or Family as a deliberate action. Instead they explain the importance of having a combination of different product areas arranged into themes; the right combination of products in store have a positive effect on the customers’ satisfaction, and therefore even their willingness to buy. Further, when success of a certain group at Brand is unexpected the product group can be extended to satisfy the demand. A copy of the successful product can be produced more locally in order to meet the real-time demand, and when such substitutes become available Deakin (1988) suggest that stock-out is favourable. The reason is that the company can sell all items of a certain product to its full price, and then replace it with a similar product that in turn is sold to full price. This is a proof of a flexible strategy and shows that customer demand is an important consideration during decision-making at all companies. Even though Inspirer and Family are not using a substitution strategy actively, their themes can have a substitution effect. This could manifest itself in that if a customer is offered a group of products that belong to a theme the customer could be satisfied with any of the products in that theme.

Inspirer is taking actions to prevent that wrong products reaching the market and for example, cancellation of orders can have the same function as additional purchases. Further, Inspirer is placing a number of orders during the season, both additional purchases and new ones, and this enables reactions to changes in customer demand. This is supported by Caro & Gallien (2010) who suggest that flexibility is a crucial factor and that a larger number of different articles in small batches are favourable.

Dividing into seasons is another strategic action making it possible to satisfy the demand. All companies are working with two main seasons, but since the demand is volatile and the fashion category has a high turnover rate, flexibility through a constant flow of new products are needed. At Inspirer the seasons can be seen as an in-house expression; seasons are overlapping each other and are not tied to a specific point in time. For example, products that arrive in June can still belong to the Fall/Winter season and this confirms the reasoning by

Caro & Gallien (2010) regarding an increased number of seasons. This makes the concept of two seasons less distinct and more flexible. Brand too, has a flexible approach to seasons and as suggested by Caro & Gallien (2010) a large number of different articles in smaller batches arrive in stores continuously during the season according to a given schedule. As a result of this strategic action, the customers could perceive it as the retailer has more seasons than it actually has.

## **5.2.2 Sourcing**

### *Global sourcing*

In order to meet the real-time demand, sourcing decisions can be crucial. Regions closer to the market can provide products quicker because of the geographical closeness; meaning local sourcing is more suitable for the fashion category (Barnes & Lea-Greenwood, 2006). According to Choudhary & Tripathi (2012) global sourcing for fashion products can lead to old-fashioned products and thus, products become difficult to sell. However, the majority of all the three companies' sourcing is global in order to apply economies of scale, even though the companies have a fashion assortment. Fashion assortment appeals to customers with a volatile demand, and since a global sourcing strategy is used, the companies cannot respond to changes in demand due to the long lead-time. This can lead to loss in profit, and it can destroy the company's reputation as a fashion retailer. Despite this, global sourcing is considered to be the best alternative from the companies' point of view, because of the higher margins. It is further justified by their strategy to follow the market, reducing the risk of making wrong decisions.

Global sourcing is often associated with large order quantities that possibly could induce high levels of inventory (Jin, 2004). However, Brand does not consider this to be a severe problem since their inventory carrying cost is low compared to advantages gained through global sourcing. In the end, all companies agree that global sourcing leads to a more economic favourable situation, given that the estimation of sales is good.

### *Local sourcing*

Real-time sales data can provide information when a trend has been misjudged and for products that have an uncertain demand (Hayes & Jones, 2006). In such situations, local sourcing is the alternative for all companies to quickly respond to changes in real-time demand, in accordance to Barnes & Lea-Greenwood (2006). In this situation the higher cost is sacrificed in favour of speed and confirmed by Doyle et al (2006). The Inspirer respondent expresses this by saying that global sourcing is used when a trend is predictable to a greater extent, whereas local sourcing is used when a trend needs to be reacted upon with a quicker response. For all local sourcing, lower margins are justified by more accurate judgements on demand. To enable a quick reaction all companies save parts of their purchasing budgets for later in order to have economic capacity left for local sourcing. This is in line with how Birtwistle et al (2003) describe the Spanish retailer Zara and its success.

### *Strategic actions*

All though global sourcing is associated with higher margins all companies use local sourcing for some basic products when a certain quality is required but in general, global sourcing is

used for the more predictable basic assortment. This strategic action corresponds to what is suggested by Jin (2004) regarding when to use global sourcing. All respondents agree with Jin (2004); that a *balance between global and local sourcing* is the best way to achieve agility in the supply chain in combination with cost efficiency and that in some situations is worth to have lower margins if the total demand is satisfied.

A more costly action is sometimes motivated by a positive overall return. As mentioned above, there is a risk with global sourcing because a the budget is committed in advance and in the event of a misjudgement the company have to spend large amounts of money to recover from the mistake. In worst case the company has to mark-down unwanted items and compensate dissatisfied customers with new products through local sourcing in order to answer in a quick manner. In other words, this means loss in margins for the unwanted items and loss in margins for the locally sourced items, but hopefully satisfied customers.

### 5.2.3 Supplier base

#### *Single*

Companies need to consider the relation to, and the number of, suppliers in their supplier base to make decisions regarding the trade-off between an optimal inventory level and satisfaction of a volatile demand. Inspirer is working towards long-term relationships with its suppliers and the supplier base consists of a few numbers of manufacturers. Even though it is not single sourcing in its purest form, a small supplier base like Inspirer does generate *close relationships* (Doyle et al, 2006). In turn, close relationships can provide end-to-end visibility in the supply chain and both Christopher et al (2004) and Beesley (1996) suggest that this can reduce inventory levels and associated costs. Long-term relationships with suppliers can also provide a base for an integrated flow of information, and Inspirer can take advantage of this in order to enable reaction to real-time demand (Birtwistle et al, 2004; Barnes & Lea-Greenwood, 2006).

#### *Multiple*

Brand and Family has a different approach to the number of suppliers, an approach that is similar to what Doyle et al (2006) describe as multiple sourcing. A wider supplier base enables both companies to find the right supplier for the right products, and the risk is dispersed over a greater number of suppliers. Christopher et al (2004) suggest that a wide supplier base often is more responsive compared to a smaller one, and hence more suitable for fashion retailers. This speaks in favour of Brands's and Family's choice, but on the other hand single sourcing is considered easier to manage and Inspirer can focus its efforts on attaining a few number of good business relationships. According to Inspirer, such relationships make it easier to compromise about the terms of the agreement to find beneficial solutions. For example, Inspirer has taken the action to let the supplier prepare some of the packing for direct delivery to the stores and this is an example of what Barnes & Lea-Greenwood (2006) mean with increased *retailer power*. Thus, Inspirer moves some of the responsibility over to the supplier, making the supply chain more flexible.

### *Strategic actions*

According to Christopher et al (2004), a *flexible supply chain* can bring indirect revenue enhancing opportunities. In this case Inspirer can supply their stores faster because products are passing the central warehouse without unnecessary delays, such as ordinary order-picking. Thus, products can reach the customer in a shorter time, giving Inspirer the opportunity to sell more. With an aligned supply chain Inspirer can ensure that products are available when customers are willing to pay full price and mark-downs are avoided, in line with Christopher et al (2004). Moreover, this strategic action also brings on other economic advantages since the products only have a short stay at the warehouse. The outcome is that Inspirer does not carry more stock than necessary, meaning that less capital is tied-up.

### **5.2.4 Mark-downs**

To achieve an optimal flow in the supply chain Deakin (1988) suggests that companies have to make trade-offs between different costs. An overview of the empirical findings shows that such trade-offs are made at all three companies. The outcome however, is different. From Inspirer's point of view the cost of over-stock is associated with mark-downs and should always be avoided as far as possible. This is supported by Bruce & Daly's (2006) view on over-stock; it leads to higher mark-downs and low inventory turnover. Brand and Family on the other hand, argue that even if an article is sold on sale there is room for margins and hence, mark-downs are not considered a severe problem. Brand do however prefer a stock-out situation before over-stock for their fashion assortment, but when faced with the choice Brand and Family rather purchase and risk a potential mark-down, than not purchase at all.

When it comes to costs, the companies have divergent views on how to prioritise. From Brand's point of view all costs can be pointed down to the sell-through rate and it is the main key performance indicator. Brand uses mark-downs as a strategic action to clean and clear stores of last season's clothes, and since mark-downs are a part of the sales target it does not affect the sell-through rate. In contrast, Inspirer considers mark-downs as the single largest cost and an indication of over-stock causing capital tie-up. However, this is not a question regarding if the company prefers over-stock or stock-out, it is rather a question regarding the company's view on mark-downs. Brand and Family share the view that there are enough margins to justify a mark-down and Inspirer avoids mark-downs, ensuring low capital tie-up. Previous research supports Inspirer's view but it is difficult to determine what is better since all companies have reasoning behind their decision on what to prioritise. It is rather an evidence of the subject's complexity and the importance of different considerations that lead up to the decisions regarding the trade-off between inventory level and satisfying customer demand.

## 6 CONCLUSION

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*The analytical model provides a foundation for this chapter that concludes the thesis. This chapter examines the three considerations and its most prominent strategic actions and the conclusion is based on the three companies that participated.*

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The analysis has confirmed that the three considerations in the analytical model are central for fashion retailers in order to satisfy a volatile demand and achieve optimal inventory levels. The management of the each inter-related consideration is affected by different strategic actions taken by the retailer, and this in turn has an impact on the decisions the retailer makes regarding inventory levels and satisfaction of a volatile demand.

One strategic decision companies are faced with is the sourcing alternatives. The analysis shows that the companies in this research are taking the action to use global sourcing to the greatest extent possible, because of the economic gains. Global sourcing is associated with high margins that enable maximisation of profit. Previous research however, suggests that global sourcing has disadvantages that possibly could have a negative impact on customer satisfaction because of the long lead-times (Choudhary & Tripathi, 2012). The companies in this research justify their use of global sourcing with the statement that the economic advantages overshadows the risk of a late response, that could cause high inventory levels of unwanted products. Satisfaction of real-time demand through the use of global sourcing requires companies to be market sensitive (Christopher et al, 2004). This enables strategies based on forward-planning, and in situations when demand has been misjudged, they have saved room in their budgets for the possibility to use local sourcing when a quick response is needed. Global sourcing is preferable from an economic point of view but in order to satisfy real-time demand, cost can be sacrificed and local sourcing used (Jin, 2004). In order to have a balance between inventory levels and customer demand companies in the fashion retail industry need to make sure they have sourcing alternatives suitable for situations with different predictability.

Next, the choice between sourcing alternatives is affected by considerations regarding the product categories. The companies in this research all have separated their products into categories and the sourcing strategy is adjusted to each category. Different product categories have different demand character and thus, companies are forced to manage them differently (Borm et al, 2004). By separating into product categories, inventory levels can be adjusted to correspond to the demand of that certain category. For example, the demand associated with the fashion category is not tied to a certain item making the substitution strategy important to ensure continuous replenishment, high sell-through rates, and low inventory per product as suggested by Choi et al (2010). This requires an understanding and awareness regarding the customer demand to ensure an optimal inventory level with a suitable replenishment strategy. The action of using a central warehouse has a key role in the replenishment strategy since it enables companies to allocate right products, to the right stores, just in time. This research shows that a replenishment strategy can take on different forms and that the level of adjustment can vary. Thus, the outcome diverges even though the purpose of the strategies is

the same. In the end a decision regarding what product categories to offer, how to categorise them, and how to replenish stores is required to achieve a balance between inventory levels and satisfaction of customer demand.

In order to manage different product categories, retailers are required to have a flexible supply chain and thus, creating a need for consideration of the supplier base. With a wide supplier base flexibility can be achieved through the ability to choose, and with a smaller supplier base flexibility can be achieved through mutual trust and close relationships (Christopher et al, 2004; Doyle et al, 2006). The choice in itself is not decisive, it is rather a flexible purchasing process that determines if the company can achieve balanced inventory levels, and thus supply stores with the right amount of products to satisfy the customer demand. In the consideration regarding the number of suppliers companies need to be aware that a wide supplier base can be complex to manage, and that a small one makes the company dependent on a few suppliers. To assure on-time deliveries, correct quantities and quick response Christopher et al (2004) together with Barnes & Lea-Greenwood suggest that retailers are required to exert some form of power in the supply chain.

This study shows that the participating companies are taking different strategic actions regarding the same situations and considerations. It shows that there is no template for companies to follow and the choice in itself is not the most important. According to the analysis some strategic actions can prove to be more efficient than others, but each action requires a context. The companies in the research combine the actions differently which enhances that decisions should have a strategic fit and an overall match. To balance inventory levels and customer demand this research shows that companies are required to make strategic decisions regarding the three considerations; sourcing, product categories, and supplier base. Since these considerations have been identified and interpreted through the study of previous research and have proven to be important for the study objects of this thesis, they can be considered applicable in the Swedish fashion retail industry in general.

This study has discovered that companies take different actions when faced with the same considerations and further research of the Swedish fashion retail industry is suggested to explain the impact of different strategic actions. A more extensive case study could provide deeper insight into why companies treat the considerations differently. Further, studies on other industries are suggested to determine if the analytical model could be generally applicable in a wider perspective. Although the fashion industry has some unique features a research on other industries with similar supply chains structure could prove to extend the knowledge on the trade-off between inventory levels and customer demand.



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### **INTERVIEWS**

Brand, Business Area Manager (2012) interview December 6<sup>th</sup> 2012

Inspirer, Purchasing Controller (2013) interview January 3<sup>rd</sup> 2013

Family, Purchasing Developer (2013) interview January 7<sup>th</sup> 2013

## **APPENDIX 1: QUESTIONNAIRE**

- Describe your work assignment and your role in the company.

### **1. STRATEGY**

- How do you want your customers to perceive your company?
- Describe the character of your customer demand.
- How does the availability in stores affect the customer satisfaction?
- Describe your different types of products, and the different product categories.

### **2. INVENTORY**

- What is your strategy to optimise inventory levels?
- What costs are associated with inventory and stock-holding, and how are these prioritised?
- What costs are justified to quickly satisfy demand?

### **3. SATISFYING DEMAND**

- Describe your supplier base – the number of suppliers and the relation to your suppliers.
- How do the criteria differ in the sourcing decisions depending on the type and category of product?
- How is a change in demand evaluated during an on-going season?
- What is preferred; over-stock leading to mark-downs or stock-out leading to lost sales opportunities?