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Retail Supply Chain Management

**-A case study of the relationship between retail
value propositions and supply chains**

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Abstract

Retailers face many challenges: time-to-market reductions are necessary due to shorter and shorter product life cycles, greater product variety causing more fluctuation in demand calls for high responsiveness in supply chains, and the ever increasing need for shorter lead times continues. However, as a result of the power that comes with control over consumer contacts, retailers today have the opportunity to organize the work in their supply chains in suitable ways.

This thesis focus on how retailers organize their supply chains in light of how they choose to compete in consumer markets, and asks the question: *how are supply chains affected by retail value propositions?* Three case studies have been conducted in order to answer this question. Two of the case companies were considered to utilize cost-based competition, and it was investigated how they had organized activities in order to deliver their specific value propositions. Equivalent research of a third case company utilizing time-based competition was conducted. The study's findings are in line with theories in this field, i.e. that the nature of products' demand pattern is crucial for that which should be focused on, and that physical efficiency is important in cost-based competition and market responsiveness in time-based competition.

Keywords: Supply chain management, retail, strategy

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1 Introduction

1.1 Background

Our time is extraordinary - competition has never been fiercer and changes never more revolutionary! The message is always the same, but nevertheless hard to argue against. Globalization, deregulations of markets, and IT-developments are major changes that clearly affect our societies, and the environment wherein companies operate.

In his high-ranking work "*The Rise of the Network Society*" sociologist Manuel Castells (2000) depicts what he consider the crisis of the traditional corporate model of organization, based on vertical integration, hierarchy, and functional management. During the last century, when demand became unpredictable in both quantity and quality, when international markets became too diversified and thereby difficult to forecast, and when the pace of technological change made single-purpose production equipment obsolete, the mass-production system became too costly and too rigid. Emerging technologies now allow for the transformation of assembly lines characteristic of the large corporation into easy-to-program production units with product flexibility sensitive to market variations, and process flexibility sensitive to changes in technology.

Organizations have adapted to the new environment and the main shift is characterized as the shift from vertical bureaucracies to horizontal corporations. Seven major trends characterize such corporations:

“organizing around process, not tasks; a flat hierarchy; team management; measuring performance by customer satisfaction; rewards based on team performance; maximization of contacts with suppliers and customers; information, training, and retraining of employees at all levels” (Castells, 2000, p.176).

Contemporary business life is process driven and chain oriented; thereby integration has become a core-question for companies. The problems with the traditional vertical cooperation between organizations are extensive, instead of cooperating, actors dependent on each other have been seeking to achieve cost reductions or profit improvements at the expense of someone else in the supply chain. Companies engaging in transferring costs upstream or downstream arguably do not realize that such strategies will not make them more

competitive as all costs will ultimately make their way to the market in form of increased end consumer prices. Corporations which over the years typically have focused on physical efficiency in order to obtain cost cutting have now started to experience diminishing returns within their own company. It is therefore believed that increased coordination across company borders alleges the greatest opportunities for the future. (Fisher, 1997)

1.2 Problem area and research purpose

Due to the power that comes with control over consumer contacts, retailers are often dominant in a supply chain. Closeness to end consumer markets gives retailers fast and precise information about matters such as shifting fashion preferences and attractiveness of competitor's offerings, comparable to continuous market research. Even though power is no end in itself, it does include the opportunity to organize the supply chain in a suitable way. Many challenges face retailers today. Expanding product variety, greater fluctuations in demand, and shorter and shorter product life cycles make time-to-market reductions essential. The ever-increasing need for reduced lead times continues. Maximum coordination of work in and between companies is therefore necessary, as otherwise it will lead to higher costs as well as to longer lead times.

There is however no single best way to manage a supply chain; the way retailers compete in consumer markets influence what should be focused on. As no company can be everything for everyone, there is interdependence between what a company sets out to be for a consumer, i.e. the company's value proposition, and that company's supply chain. According to Christopher (1997), a value proposition concerns how, where, and when a company creates value for its customers, and that all activities - from product development to order fulfillment - should be based upon it. **This thesis' research purpose is to investigate the relationship between retailers' value propositions and their supply chains.**

A prerequisite for sustainability is that there is a match between what is offered to consumers and the organization of the supply chain activities. It is not enough to be knowledgeable about competitors and customers' preferences to perform well. Supplying consumer goods in a disorganized or inefficient manner will wipe away the chances of making profits. This was evident in the dot com death where so called e-retailers lacking logistical expertise were

driven out of business; left are more or less traditional and experienced store-based retailers and mail order companies who have added just another sales channel - the web. Profound understanding about how factors such as type of product, fashion content, demand pattern, assortment width, service level, and location is related to supply chain work, are therefore crucial.

1.3 Research questions

The overall research question is as follows: **how are supply chains affected by retail value propositions?** There are two sides on this question; one that has got to do with what retailer are vis-à-vis its customers, and one that has got to do with how retailers organize their supply chains. The connections between these two parts are central in this study.

A good framework to use for this purpose is Porter's (2003) "*Tests of a strategy*"; on that base, we set out to analyze how different retailers' supply chains are tailored to deliver their specific value propositions. The following sub questions will be used for this purpose:

- What is the company's value proposition?
 - What kinds of needs are being satisfied?
 - Who are the customers?
 - What product assortment is offered?
 - What does the company-customer interface look like?
 - What is the relative price level?

- How is the supply chain tailored to deliver the value proposition?
 - What is the configuration of activities?
 - How do activities fit together?
 - What tradeoffs are made?

The research questions provide the structure of the research, but they will not be explicitly answered. Important to keep in mind is that with this framework, comparisons of companies in different industries are not really meaningful, since the fundamental unit of analysis is the industry itself. The industry structure lays out the overall rules of competition and the relative position within the industry is the source of competitive advantage (Porter, 2003).

1.4 Methodological issues

Being aware of the latent criticism of management research in general, and case studies in particular (e.g. Gill & Johnson, 1997), we are undoubtedly aware of the fact that our individual subjectivity does intervene, therefore we consider ourselves as a variable in this paper's research design, which should be kept in mind by the reader. However, we have tried to exercise subjective judgments and critical reflections in all our observations and analyses, while trying to realize our own consciousness, paradigms and selective perceptions at all times.

1.4.1 Research perspective

Contrary to traditional supply chain literature, which often has a manufacturer perspective that looks upon supply chains as means of reaching targeted market segments, we have had a retail perspective throughout this thesis, investigating the interdependence between supply chains and retailers' value propositions.

1.4.2 Research design

In this part we will go through the steps we have taken to get from our research questions to our conclusions, via theoretical frame of reference, empirical data, and analysis. Setting out to design this thesis research endeavor, we relied upon the guidelines for case studies in management research by Patton and Appelbaum (2003), describing case studies as empirical inquiries investigating contemporary phenomenon within real-life contexts, where perhaps the boundaries between phenomenon and context are not yet clearly defined. Following our chosen area of research - supply chain management - and our descriptive purpose, we believe the described view to be the most beneficial one for the purpose of this study.

Determining the object of study

This process has been presented in the introductory part, where problem area, research purpose, and research questions makes up the object of study.

Selecting the cases

Following the needs for our study regarding relevancy, our choices of case companies are in line with our decision of investigating a small number of companies representing different branches of retailers as well as having

substantially different value propositions. According to this idea, we chose Lindex to cover a supply chain offering fashion clothing. Ica was chosen to represent the retail segment offering mainly groceries, which are goods whose outline patterns very different from clothing. As an outsider representing both branches mentioned, Ge-kås was chosen due to their status as a multi-retailer, and for their, to say the least, rather untraditional structure. As our case companies are different, and hence not competing with each other in the same industry, it is important to mention that we will not compare them with each other. What is focused on is the connection between each and every retailer's value proposition and its associated supply chain.

Building initial theory through a literature review

The theoretical frameworks have been built through a literature review within the area of study, consisting of secondary sources from academic articles and books. In order to make it easier for the reader, the relevant theories are presented as close to the case's empirical findings as possible.

Collecting and organizing the data gathering

The case specific empirical data gathering has been performed through semi structured expert interviews with key personnel at our case companies. The interviews have all been quite long, about two to three hours, and during that time we have managed to cover all areas of interest. The people interviewed at the different companies have been holding somewhat similar positions, enabling us to structure the interviews accordingly. All interviews were conducted at the interviewee's work places. After gathering this information we have had the opportunity to, via e-mail and telephone, get questions answered and also get additional information. Each case company's premises have also been visited in order for us to observe the activities on site, and so also get a deeper understanding of the work that is being performed. The primary data that has been collected through the expert interviews has been complemented with other relevant secondary information sources, such as annual reports, websites, and magazines.

Analyzing the data and reaching conclusions

The gathered data is then discussed and analyzed throughout each case chapter, which means that there are no separate results or analysis parts. The material presented in the case chapters is a combination of interview findings and the complementary sources of information, as interpreted by us. It will also be

evident, without over-clarifying headings, when it is our own analysis and when the text is based upon empirical findings. In the concluding chapter we will bring the analysis to a higher level, where we relate the findings of the study to the theories used.

1.4.3 Validity and reliability concerns

Some aspects need to be brought up concerning this study’s validity and reliability. We believe that the connection between the theoretical framework and the empirical data is strong and that our study measures what it is supposed to measure; hence we consider the internal validity to be high. Regarding the external validity, we believe that it is difficult to generalize some of our findings to other cases, as we consider them to be very case specific dependent upon each company’s way of competing. We do however believe that it is possible to generalize the findings about connections between type of products and supply chain management, but all in all, the external validity is quite low.

Whether another study conducted in the same way would generate the same results is difficult to say. Our study has a qualitative approach where our own interpretation and analysis of data is a major factor; subjectivity is thus an issue here. Another study conducted by other researchers would perhaps reach a slightly different result. However, the demands for high reliability is lower in a qualitative study than in a quantitative, as a qualitative study focus more on exemplifying than generalizing (Svenning, 1996).

1.5 Thesis outline

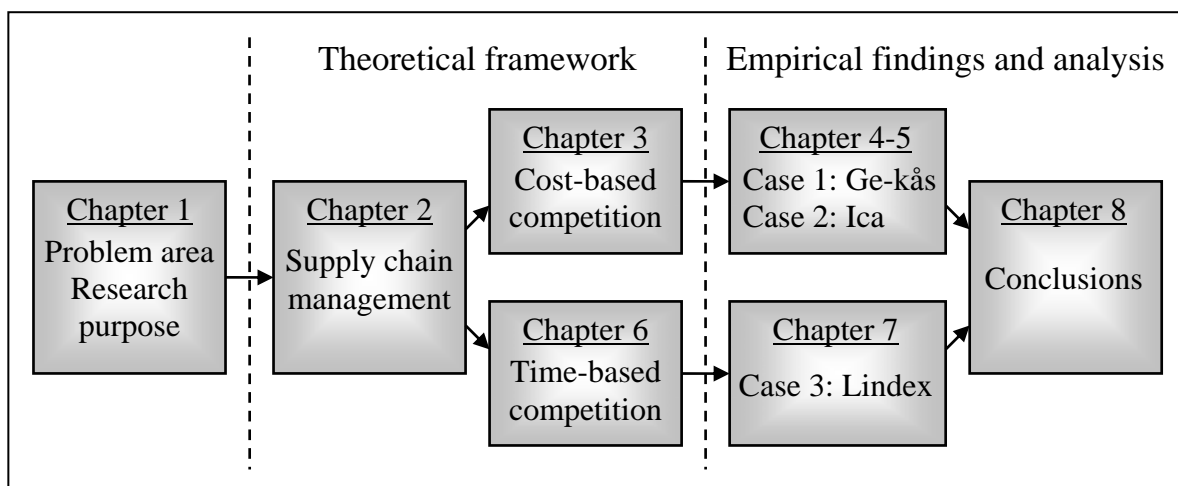


Figure 1: Thesis outline

2 Supply chain management

The phrase supply chain management (SCM) lacks a clear definition. A literature review reveals that it has become an expression in business literature used to incorporate almost anything within the field of marketing and logistics. To give one example: Ross (1997) considers SCM to be no less than a method, a concept, a philosophy, a system, a process, a strategy, and a state of mind. With such an all-embracing depiction it is hard to grasp what it really is; below we will look into what we consider to be the constituent parts of SCM.

2.1 What is a supply chain?

“A supply chain is the set of entities that collectively manufactures a product and sells it to an endpoint.” (Stern et al, 2001, p.513) The ultimate beginning point is where raw materials are being extracted and the end point would be where goods and services are being consumed, or perhaps even recycled. However, this view is extremely comprehensive (read theoretic) and obviously very difficult to put into a practical context. Therefore, the business view on supply chains is somewhat arbitrary, leaving managers to decide their own boundaries of the supply chain. (Ibid) The alignment of firms is in the literature alternating called a supply chain, a demand chain, a value chain, or a marketing channel.

2.1.1 What is the work in a supply chain?

The work in a supply chain includes the performance of what Stern et al (2001) label marketing flows. Nine generic flows between channel members are identified and illustrated in figure 2 below. Some of the flows move forward through the channel (physical, ownership, promotion), some move backwards (ordering and payment), whereas other flows move in both directions (negotiation, financing, risking, information).

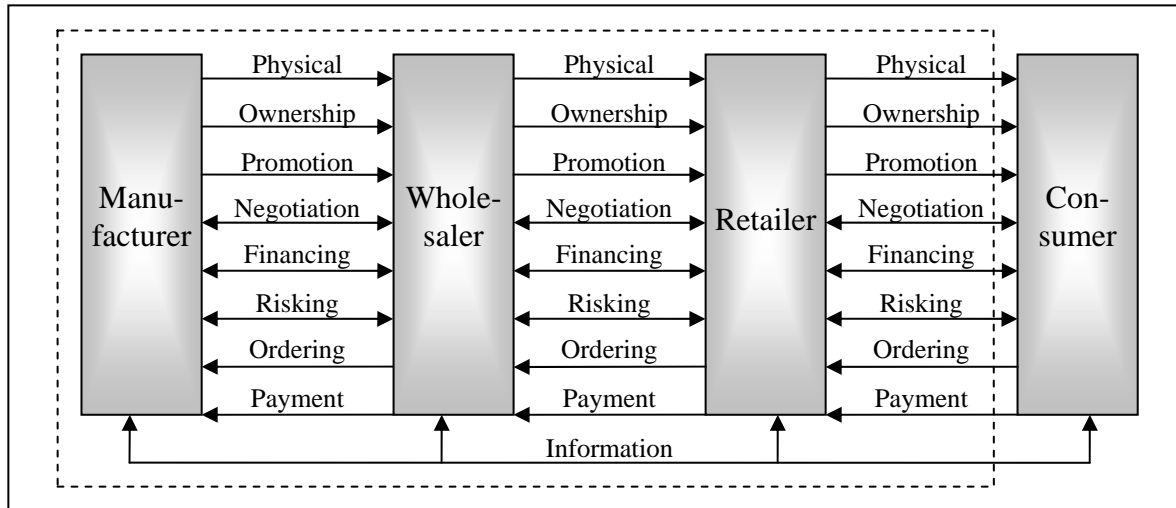


Figure 2: Flows in a marketing channel
(Stern et al, 2001, p.89)

The activities in figure 2 need to be matched to the demands of the targeted market segment. Stern et al (2001) refer to early distribution channel researcher Louis P. Bucklin's theory for end-user preference. Even though this framework is almost 40 years old, we consider it to be highly relevant for our case studies, as it can be used to describe a retail-customer interface in a structured way. Bucklin specified four generic service outputs for a marketing channel: bulk-breaking, spatial convenience, waiting or delivery time, and product variety.

- *Bulk-breaking* refers to the opportunity for consumers to buy in small lot-sizes, allowing them to transform purchases easily into consumption, thus reducing the need for consumers to carry unnecessary inventory.
- *Spatial convenience* denotes that products are being supplied close to the consumer, thereby reducing transportation and search costs. Examples of channel forms with spatial convenience are neighborhood supermarkets and vending machines.
- The longer the *waiting or delivery time*, the more inconvenient it is for consumers, who are required to plan consumption in advance.
- Finally, the greater the *product variety* available to the consumer, the higher is the service output. Greater assortment usually entails carrying more inventories, which is reflected in higher distribution costs.

All things being equal, consumers will choose products with higher service level. But all things are normally not equal, instead it is a matter of making a tradeoff between price and service level. The higher the service output, the higher is the value for consumers, but the higher are the costs for channel members and, consequently, the higher is the price for consumers.

2.1.2 Putting it together: what is supply chain management?

The actual term SCM was introduced by consultants in the early 1980s, and picked up by academics at the end of that decade (Stock and Lambert, 2001). Since then, the confusion around the two terms SCM and logistics has been immense; some even seem to use the terms as synonyms, and one can wonder what the differences really are. Stern et al (2001) consider logistics, which they define as “*the management of the flow of physical material*” (p.503), to have metamorphosed into the concept of SCM which, in turn, has come to include every element of the supply chain. Christopher (1998) has a similar understanding, also explaining the concept of SCM to be an extension of the logic of logistics. The US Council of Logistics Management defines logistics management as:

“that part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information from the point-of-origin to the point of consumption in order to meet customers’ requirements” (www.clm1.org).

The roots from logistics are obvious. Still, SCM can be considered more extensive than logistics management as it attempts to integrate not only logistical activities, such as material, value, and information flows, but *all* key business processes that companies perform across the supply chain. SCM integrates supply and demand management within and across companies and coordinate processes and activities across functions such as product design, manufacturing, marketing, and sales. (www.clm1.org) Advocates definitely regard SCM to be more than a new name for logistics. Implementation of SCM involves identifying important supply chain members with whom it is critical to link, what processes need to be linked to each of these members, and what type or level of integration to apply for each process link. Process integration should aim at increasing total process efficiency and effectiveness across all members of the supply chain, not only across functions within single companies. (Stock and Lambert, 2001)

2.2 Different supply chains for different products

2.2.1 Aspects of demand

Fisher (1997) argues that managers lacking a clear understanding for which SCM ideas and technologies are best suited for their company, risk end up in a mismatch between their type of product and their supply chain. He suggests that the first step to take is to examine the nature of the demand of a company's products. According to Fisher (1997), products fall into two categories when based upon their demand patterns:

- primarily functional products having stable and predictable demand as well as long life cycles (e.g. groceries)
- primarily innovative products supposed to satisfy additional needs, thus demand and life cycles becomes unpredictable. (e.g. fashion apparel, computers)

Aspects of demand	Functional	Innovative
Product life cycle	More than 2 years	3 months to 1 year
Contribution margin (price minus variable cost divided by price)	5% to 20%	20% to 60%
Product variety	Low (10-20 variants per category)	High (often millions of variants per category)
Average margin of error in the forecast at the time production is committed	10%	40% to 100%
Average stockout rate	1% to 2%	10% to 40%
Average forced end-of-season markdown as percentage of full price	0%	10% to 25%
Lead time required for made-to-order products	6 months to 1 year	1 day to 2 weeks

Table 1: Functional versus innovative products: differences in demand (Fisher, 1997, p.107)

As noticed in Table 1, innovative products are synonymous with high contribution margins and inconsistent demand in comparison with functional products, which are stable and have low margins. Therefore, these two categories are said to require fundamentally different supply chains.

2.2.2 Physical vs. market mediation costs

Fisher (1997) proposes that a supply chain accomplishes two distinct types of functions: a physical function and a market mediation function. The physical function includes converting raw materials into products and transportation from one point in the supply chain to the next; the costs lie within production, transportation and inventory storage. The market mediation function is less visible since its purpose is to make sure that the products reaching the market place matches consumer demand; cost will appear when supply exceeds demand and the price has to be marked down, or the opposite, when demand is greater than supply, resulting in lost sales opportunities and dissatisfied customers. Table 2 gives an overview of the different approaches.

	Physically efficient process	Market responsive process
Primary purpose	Supply predictable demand efficiently at the lowest possible cost	Respond quickly to unpredictable demand in order to minimize stockouts, forced markdowns and obsolete inventory
Manufacturing purpose	Maintain high average utilization rate	Deploy excess buffer capacity
Inventory strategy	Generate high turns and minimize inventory throughout the chain	Deploy significant buffer stocks of parts or finished goods
Lead-time focus	Shorten lead-time as long as it doesn't increase cost	Invest aggressively in ways to reduce lead-time
Approach to choosing suppliers	Select primarily for cost and quality	Select primarily for speed, flexibility, and quality
Product-design strategy	Maximize performance and minimize cost	Use modular design in order to postpone product differentiation for as long as possible

Table 2: Physically efficient versus market responsive supply chains
(Fisher, 1997, p.108)

Since the demand of functional products is assumed to be predictable, market mediation is relatively easy and a good match should be achieved. Companies producing such products are therefore able to mainly focus on minimizing physical costs within the supply chain in order to meet demand at the lowest cost, creating a physically efficient process. That approach is not suitable for

innovative products since the uncertain market reaction to innovation multiplies the risk and possible costs of shortages or excess supplies. As market mediation dominates costs for innovative products, they should be given priority. Important in such supply chains is information about the marketplace to become as responsive as possible. By plotting the nature of the demand for each product family and its supply chain priorities in figure 3, possible matches and mismatches might be discovered. (Fisher, 1997)

	Functional Product	Innovative Product
Efficient supply chain	Match	Mismatch
Responsive supply chain	Mismatch	Match

Figure 3: Matching supply chains with products
(Fisher, 1997, p.109)

As functional products require an efficient process and innovative products require a responsive process, companies positioning themselves in the upper right-hand or the lower left-hand cells in figure 3 are the ones more likely to experience problems.

When put this way, it appears as if there only exists these extremes with functional supply chains on the one hand, and responsive supply chains on the other. The divisions are probably not that obvious and the borders not that clear. We think that the main point to be made is that supply chains need to be thoroughly designed and adjusted to a company’s specific value proposition. If the value proposition is based on high fashion content, speed is important (responsiveness) and if it is based on low prices, low distribution costs (efficiency) are important. Even though the above presented uncertainty framework deals more with how supply chains *should* be devised than how they actually *are* devised, Fisher’s (1997) rather normative writings do seem sound. It would be interesting to see how well this theory is rooted in reality. Selldin and Olhager (2002) investigated how Swedish manufacturing companies managed the design of supply chains with respect to Fisher’s (1997)

product characteristics. Although Fisher (1997) focused on consumer goods, Selldin and Olhager's (2002) 128 responses consists of only 31 % consumer goods manufacturers while the other respondents were producing towards other producers. Hence, in their research, the uncertainty framework is assumed to be viable for producer goods as well. Selldin and Olhager tested two things: (1) if Fisher's framework is appropriate for distinguishing between products and between supply chains, and (2) if companies with a good product-supply chain fit were better performers than those firms having a poor fit between product and supply chain. Their results provide support for both the division of products into being primarily functional or primarily innovative, and also for the division of supply chains into primarily physically efficient or primarily market responsive. The results also show that many firms do not follow the prescriptive fit between products and supply chains and, more interesting, that these "mismatches" do not appear to lead to lower performance. However, Selldin and Olhager (2002) conclude that firms with innovative products generally benefit from having responsive supply chains, while functional products can also benefit from responsive supply chains in some areas.

2.2.3 Demand uncertainties

A slightly broader angle is put forward by Lee (2002) in which Fisher's (1997) framework is widened to include also supply uncertainties. In a "stable" supply process, the underlying technology and the manufacturing process are mature, and the supply base relatively well established. The opposite of a stable supply process is an "evolving" process where the technology is still under intense development; the supply base may therefore be limited both in size and experience. Examples of products with stable supply sources are groceries and apparel, while hydroelectric power and telecom products are examples of evolving supply sources. This widened framework is not really suitable here, as our case companies fall into the category having stable supply sources.

2.3 Strategy: delivering the value proposition

The literature in business strategy is extensive and a review of the different schools of thought in this field is not necessary for the purpose of this paper. Here we will only briefly justify our choice of strategy literature. One distinction can be made between those schools that focus on the strategy process, i.e. the manner in which strategies come about, and on those schools

that focus on the strategy content, i.e. the product of the strategy process (de Wit and Meyer, 1998). As the purpose of this thesis is to describe and analyze connections between retail value propositions and supply chains, it becomes natural that literature on strategy content is most relevant here. One of the most influential writers in this field is Michael Porter, and as we find his framework sound and credible, we chose that for our study. Still, we are aware of some of the critics that has been put forward against Porter, arguing that his writings are too top-down focused and prescriptive in nature, focusing more on the content and how strategies should be formulated than on how they actually emerge (see for example Mintzberg, 2000).

Porter's (1996) article "What is strategy?" actually starts with what strategy is not, as he argues that operational effectiveness is too often mistaken for strategy. Operational effectiveness is about achieving excellence in individual activities thus moving closer to the productivity frontier, i.e. the state of best practice. Focusing too much on this is what Porter calls the exercise of mutually destructive competition, as the homogeneity leads to decreasing margins for all companies.

According to Porter (2003) there are two main types of competition: optimizing and strategic. Accordingly, companies can reach competitive advantage either through lowest costs or through differentiation; "*companies can run the same race faster*" or "*choose to run a different race*" (p.26). The essence of Porter's (1996, 2003) thinking about strategy is that strategy rests on uniqueness, i.e. delivering a unique value proposition versus competitors. This is achieved either by choosing to perform activities differently than competitors, or by performing different activities.

A strategic position is a unique position, one that competitors do not occupy and hopefully cannot copy. As no company can be everything for everybody, choosing what not to do is as important as choosing what to do. Because of the threat of imitation it is vital that companies make tradeoffs, defined as "*incompatibilities between strategic positions that create the need for choice*" (Porter, 2003, p.34). Sources of such incompatibilities are:

- incompatible product and service attributes
- differences in the best configuration of activities in the value chain
- inconsistencies in image
- limits on internal coordination, measurement, motivation, and control

Furthermore, strategy is also about creating fit among a company's activities. The best fit occurs when mutually reinforcing activities are combined. If cost of performing one activity is lowered because of the manner in which other activities are performed, then fit exists. This can ensure that companies keep their position by making a whole chain of activities hard to imitate. (Ibid)

The following paragraph is an excerpt from an interview with Kevin Rollins, Vice Chairman at Dell Computer (Forbes, 1999), that we believe exemplifies the interdependences between strategy and all supply chain activities.

Question: "What is it about the direct sales model and mass customization that has been difficult for competitors to replicate?"

Answer: "It's not as simple as just having a direct sales force. It's not as simple as just having a mass customization in-plant or manufacturing methodology. It's a whole series of things in the value chain: from the way we procure, the way we develop product, the way we order and have inventory levels, and manufacturer and service support. The entire value chain has to work together to make it efficient and effective."

Question: "What is the competition looking at?"

Answer: "So many of our competitors are really looking at our business and saying 'Oh, it's the asset management model - seven days of inventory. That's what we're going to do', rather than looking at every one of 10 things and replicate those."

Support for this way of perceiving strategy is also found in Gary Hamel's (2000) writings as he also highlights the value of uniqueness and fit. A central theme in Hamel's writings is the importance of creating a unique business model with internal fit, in the sense of internal consistency, in order to reinforce all elements to make profits.

2.3.1 Implications for logistics

Dvorak and van Paasschen (1996) highlight the importance of tailoring logistics to each company's distinct strategy. They outline three different retail strategies: "fast-to-market", "waves of fresh assortment", and "low cost". Table 3 contains a product flow comparison with these strategies that is declared to be drawn from how successful retailers have configured their supply chains.

	Fast to market	Waves of fresh assortment	Low cost
Manufacturer cost	Trade off some cost for speed and flexibility	Live with longer lead times in order to drive lower purchase cost	Drive lowest purchase cost and off-load as much work as possible to manufacturers
Transportation from manufacturer to distribution centre (DC)	Frequently use highest cost transportation mode (airfreight) to gain speed	Balance speed and cost using low cost transportation mode to small number of regional DCs	Maximize use of transportation modes by establishing many local DCs close to stores
Distribution centre cost	Look for speed	Balance speed and cost in handling new product waves	Operate DCs to minimize work done in stores
Transportation from distribution centre to store	Small, fast, and expensive store deliveries	More cost effective small store deliveries	Most cost effective full truckload delivery to stores
Store operation	Full service	Full service	Self service

Table 3: Product flow comparison
(Dvorak and van Paasschen, 1996, p.126)

There are many similarities between Dvorak and van Paasschen's (1996) and Fisher's (1997) writings about supply chain design. Here one can see that it also finally comes down to a tradeoff between speed and cost, between high fashion content and low consumer prices. The consensus about this appears extensive; we have not been able to find any research that disagrees with this.

2.4 Summing up

What should be focused on in a supply chain is determined by the nature of the demand for the products that are being supplied. For functional products the basis for competition is physical efficiency; focus should be on building "efficient supply chains" with the help of effective logistics systems creating economies of scale and high cost efficiencies. In chapter 3-5, including case 1 and 2, cost-based competition and efficient supply chains will be investigated. Chapter 6-7, including case 3, deals with time-based competition and innovative products that are best managed with "responsive supply chains", flexible to changing customer demands.

3 Cost-based competition

Before going into the study's two cost-based case studies, this chapter will bring in logistics related just-in-time management and the umbrella term for supply chain cooperation in the grocery sector efficient consumer response.

3.1 Just-in-time logistics

One of the most significant concepts in business management in past decades has been just-in-time (JIT), originating in Japan, it is a philosophy as much as a technique based upon the idea that wherever possible no activity should take place until there is a need for it, i.e. no products should be made or ordered until there is a requirement for them. According to this requirement, JIT is a pull concept where demand pulls goods towards the market. In contrast, traditional push systems carry manufactured goods in batches in anticipation of demand, and are stored in the supply chain as buffers between various functions. In such a conventional approach, reordering takes place when inventory falls to a certain predetermined point - the reorder point - which is based upon the expected length of the replenishment lead time. At this point, the amount to be ordered may be based upon the economic order quantity (EOQ) principle, hence balancing the cost of holding inventory against the costs of placing replenishment orders. The dilemma with the EOQ model is that it is assumed that there is an optimum amount to order (amount to hold in inventory), thus arriving at the core problem as the reorder quantity force a corporation to carry more inventory than is actually demanded per day over the entire order cycle. (Christopher, 1998)

As maximized batch quantities were conventional insights in production before the introduction of JIT, similar insights could be found in the rest of the supply chain. For example, companies used to ship by container or truck load and therefore customers who ordered smaller quantities faced price penalties, as well as delivery schedules that were expected to be optimized through efficiency of routes. Contradicting this approach, JIT favors small shipments to be made more frequently and to meet time requirements of the customer; without uneconomic escalations of cost of course, which in itself argues there may have to be certain tradeoffs in order to achieve total supply chain cost effectiveness. The greater the demand for variety and the higher the value, the

more JIT and synchronized delivery becomes preferable. Therefore, according to Christopher (1998), the prerequisites for successful JIT logistics would be:

- A disciplined approach to planning and scheduling of inbound requirements.
- A high degree of communication and planning linkage between supply chain partners.
- More often than not the use of third parties or logistics partners to manage the inbound consolidation and sequencing of deliveries.
- The design of vehicles and physical facilities to make small shipment quantities easy to load and unload rapidly.
- The value and variety of the materials tend to be higher than average.

Summarizing this, the basic requirement for JIT logistics to function properly is to make sure that all activities and involved parties of the supply chain are synchronized, with each and everyone receiving early information about shipping and replenishment requirements. With the emergence of enterprise resource planning (ERP) systems, it is possible to have integrated logistics systems linking replenishment of products in the marketplace with their own and their supplier's activities through the use of shared information. This way it is possible to convert the supply chain from a push to a pull system, enabling companies to respond to known demand rather than having to anticipate that demand through forecasting. (Christopher, 1998)

3.2 Efficient consumer response

Efficient consumer response (ECR) has become the umbrella term for supply chain cooperation in the grocery sector. It began in the US in the beginning of the 1990's, focusing on four main areas that had great improvement potential:

- Continuous replenishment programs, passing point-of-sales data back to suppliers. This requires standardization of bar codes and methods and implementation of EDI.
- Efficient pricing and promotion, aiming at reducing self caused demand spikes and inventory swings.
- Changes in product introduction. Combined market research by channel members in order to forecast new-product success better.
- Changes in merchandising for the purpose of finding better ways to merchandise brands and categories of products. (Stern et al, 2001)

One operational practice that has developed from the JIT and ECR ideas is continuous replenishment. The idea is that consumer's purchases, or withdrawals, of goods are the base for that which should be delivered. Point-of-sales data turns the supply chain into a pull system, as retailer's stock is replenished based on actual sales. By automating the replenishment system the goal is also to reduce errors and processing costs.

3.3 Activity map with a cost-based theme

At the beginning of this paper we set out to investigate how supply chains are affected by retail strategies and how the value chain is tailored to deliver a company's value proposition, to see how activities fit together and what tradeoffs companies need to make. We believe that a good way to analyze the configuration of activities that companies perform is by drawing activity maps. Such maps show how a company's value proposition is contained in a set of tailored activities designed to deliver it (Porter, 1996). A good example to illustrate a cost-based activity map would be Ikea, since most people have a fairly good picture of what Ikea's value proposition is: "*Ikea targets young furniture buyers who want style at low cost*" (Porter, 1996, p.65). Figure 4 is an activity map of Ikea.

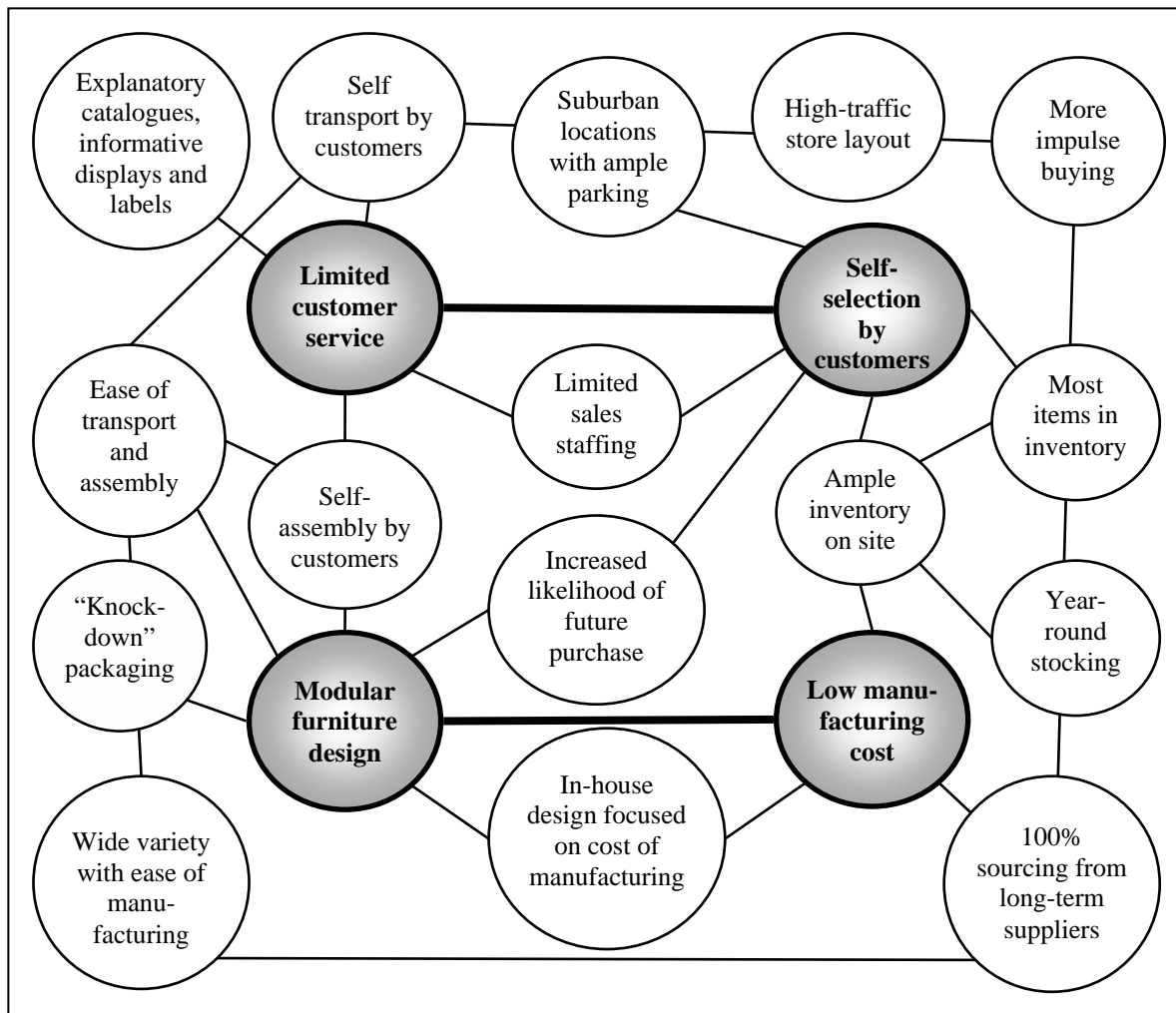


Figure 4: Activity map of Ikea
(Porter, 1996, p.71)

Without going too deeply into this single case, one can see that many supply chain activities are tailored to deliver Ikea’s value proposition. The higher-order strategic themes in grey bubbles in figure 4 above are linked together and reinforced through all other activities. Necessary tradeoffs to be able to have such low prices are, for example, limited sales staffing and a minor possibilities to customize products.

4 Case 1: Ge-kås

In order to enlighten a non-traditional retail structure we chose the multi retailer Ge-kås that within Sweden is a legendary company in the small, somewhat remote hamlet of Ullared. What really drew our attention to this outsider was their unique formula for sustainable competition, coming from the ability of keeping their costs down.

4.1 Introduction

The story behind Ge-kås as a business success phenomena began in 1963, when the entrepreneurial soul of Göran Karlsson rented a basement in Ullared, in which he offered small obsolete clothing lots bought from the textile giants in Borås. Göran's strategic business philosophy was to buy cheap and sell cheap, letting the amount generate the profit. Through the experiences as a travelling salesman, Göran had learned there was a need for low price products, realizing that almost anything could be sold if the price is low enough. The first few years the business was slowly moving and days could pass without having any customers at all. This situation changed and as time went by, additional employees were employed according to direct need due to increased demand, and the same could be said about the numerous expanding activities. Advertisements in local newspapers drew some attention during the first years but once customers started to find their way to the simple store with the low prices; word of mouth took over increasing customer awareness rapidly. And so the business started to really take off. (Andersson, 2003)

According to our interviewees, this way of thinking, buying cheap and selling cheap, has remained in the business even after Göran sold the company in 1991. The new owners immediately started to transform the essence of Ge-kås, raising the importance of quality. When asked about this, our interviewees stated the phrase "*quality goods at the lowest price*" in a sense these words would represent what Ge-kås today want to be for their customers, and as something every process and function within the whole corporate structure should be permeated with. The assortment of today differs as well, as three main segments can be found: 50% clothing/textile, 25% electronics/tools/toys and 25% chemical/food products, compared to the clothing/textile focus Ge-kås had in the beginning.

Today, the company employs about 430 people full-time (Ge-kås Annual Report 2002) and the average number of visitors is about 11,000 per day. Figure 5 presents an overview over Ge-kås expansion from the first year until 2002.

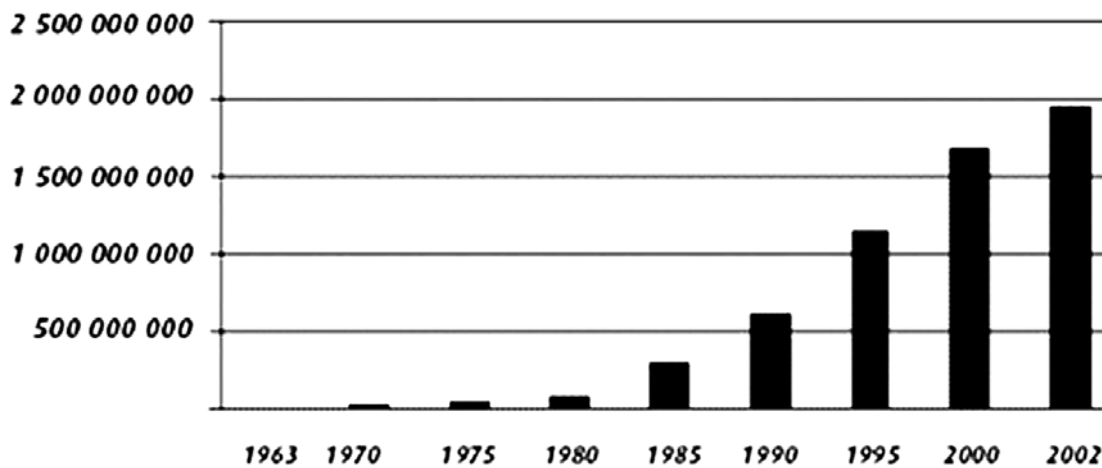


Figure 5: Ge-kås' total sales 1963-2002 (SEK including VAT)
 (<<http://www.gekas.se>>)

In this context, Ge-kås growth and position is very impressive when compared to the ten biggest clothing chains in Sweden, which place the company in sixth place based on total sales. This comparison might not be really accurate since only about 50% of Ge-kås' sales come from clothing; still we believe these circumstances do contrast Ge-kås' strength, especially since all sales come from one location. (Andersson, 2003) This fact has meant that Ge-kås differ significantly from most other retailers in the present Swedish market as they do not cooperate with or belong to a national or multinational company or chain.

Here, we present a few financial figures in order to disclose the economic performance of Ge-kås, the financial result in 2002 was 68.4 Million SEK, with a ROE of 21% and a solidity of 68% (Ge-kås Annual Report, 2002). The sales of each employee were 3.7 million SEK excluding VAT (Affärsdata).

4.2 Ge-kås' value proposition

By using Porter's (2003) framework *Tests of a Strategy*, we will try to reveal Ge-kås' value proposition, and at the same time Bucklin's theory for end-user preference will help us to determine what Ge-kås is to their customers.

Ge-kås' total product assortment is divided into three main segments: 50% from clothing/textiles, 25% from home electronics/tools and toys, and the final 25% consists of chemical/food products. From this point of view, Ge-kås do offer a great product variety, thus if relying upon Bucklin, the greater the product variety, the greater is the service output presented. Basically, the different needs that are being satisfied range from daily life nutritional and physical needs (food, clothes and chemical products) and additional needs satisfied by home electronics, tools, and toys. Supporting the essence of Ge-kås business philosophy "*quality goods to the lowest price*", the company's relative price level is extremely low and prices on all products are aimed at being in the range between 1/3 and 1/2 below market standards (Andersson, 2003). Interesting is the fact that some well recognized food brands that can be found at any major grocery chain are also being sold at Ge-kås, at least 1/3 below prices offered by national chains. Additionally, we have no reasons to disbelieve the quality standards of Ge-kås products, perhaps the level of fashion of some of their clothes is not what we ourselves would perceive as high end, but the statement regarding the lowest price is definitely true. Relying upon Fisher's (1997) framework regarding different demand patterns, we refer to Ge-kås' clothing assortment as mainly functional, due to lower levels of fashion, thus having longer life cycles and more stable demand.

Discussing price levels naturally leads us into Bucklin's idea regarding bulk breaking, which is often the case at Ge-kås. Big packages cost less according to basic economic laws, and at Ge-kås most dry food are offered in packages bigger than those you might find in stores situated closer to the customer. In some instances, when customers travel long distances, big packages are more convenient as these customers do not visit Ge-kås more than maybe twice a year, which in itself argues for customers wanting to stock basic products for longer periods at the lowest price possible.

Discussing the customer interface at Ge-kås, it seems to stand out from traditional concepts in several ways. According to Bucklin's discussion regarding spatial convenience, this is distinctly low for Ge-kås as the store is situated in a remote location far from most customers. This means that customers coming to Ge-kås are aware of the high transportation and search cost, still these costs do not exceed the satisfaction customers receive when shopping at Ge-kås, even though they might have travelled more than 400 km one way. Also, the size of the store is 15.000 m², equivalent to three soccer

fields, and therefore designed with practical reasons in mind; the store is able to swallow up to 20.000 people on one day and to replenish all products in a convenient way without decreasing existing service levels.

Answering the question regarding who shops at Ge-kås, we know from internal customer surveys that the average customer is a 42 year old female coming to Ge-kås two to three times a year, travelling an average of 180 kilometres one way, spending about 2.600 SEK each time. The total number of customers each year is 3.3 million, which also makes Ge-kås Sweden's most visited tourist attraction since many people come each year as a part of their annual holiday trip. The female/male percentage rate is 65/35 but according to Ge-kås, the male rate is steadily increasing and so is the number of younger people visiting the store. According to this information, Ge-kås is targeting any person, no matter sex, age or home location, who is willing to pay the high transportation and search cost in order to get the possibility to shop quality products, ranging from food to home electronics, to the lowest price.

4.3 How Ge-kås deliver its value proposition

In regards to the discussion above, we assume Ge-kås' value proposition as follows: "Targeting any person who is willing to pay a higher than ordinary transportation and search cost in order to buy quality goods to the lowest price". In accordance with this declaration, this part will discuss how Ge-kås' value chain is tailored; the arrangement of activities, and how the activities fit together.

Referring to the fact that one single person was managing Ge-kås completely on his own until he sold the company in 1991, it was not until the new owner group took charge of the business that Ge-kås started to introduce computer-based systems. The aim of this introduction was to increase the level of control and make functions and processes more efficient, especially since all previous administrative operations had been handled manually with pens and papers. One could see the computerization as a crucial step towards Ge-kås future ability to deliver their value proposition. The computer related investment has proven to pay-off quickly and mentioning one example, the introduction of a computer-based sales system with scanners has been said to save 140 labour hours a day if one second is saved in handling time for each article sold (Andersson, 2003, pp.95-96). The benefits from using EDI are many and as this

system signalizes when a product is about to be sold out, in store replenishment activities are immediately activated at the same time as total inventory is controlled. According to one of our interviewees, the company is working hard with introducing a registration system that will keep track of each product starting with the moment of purchase. This will enable an increased control of a products entire life within Ge-kås; from purchasing, shipment from the supplier until the arrival at Ge-kås, inventory control, replenishment activities, and the actual moment of sales when the products are being bought by customers. Ge-kås' need for increased product life-cycle control backwards is probably then fully capitalized, as if they were to control even more levels they would have to be directly involved in production stages, which we believe is not the strategic aim.

4.3.1 Purchasing and distribution activities

As already mentioned, Ge-kås do not design or produce any products themselves. Instead, a division with purchasers is handling all acquisitions of products, and one could probably go as far as to say that this process is the heart of the company. Ge-kås would probably have a hard time delivering their value proposition if the enormous amounts of products could not be obtained at extremely low prices, which in turn also argue for Ge-kås need to have a really good relationship with their suppliers. According to our interviewees, Ge-kås have 600-700 active suppliers and about 100 partly active. The contacts with these suppliers are organized through agents, which also mean Ge-kås do not have any purchasing offices anywhere in the world, and that there is only one stage between Ge-kås and the producers.

The purchasing activities start with agents coming to Ge-kås in order to show existing collections and product lines and 75-80% of regular season products are bought at such appointments (5-6 months in advance). This means that Ge-kås buy about 20% of their total product need during seasons from the "spot market", either through agents or straight from suppliers by themselves. Our interviewees stated that most suppliers have a very positive attitude towards Ge-kås as a business partner, and one of the main reasons Ge-kås is buying products at lower prices would be that they buy immense amounts at each purchase opportunity, thereby receiving large discounts. This has also meant that Ge-kås have improved their position as a trustworthy customer; buying huge obsolete stocks from suppliers that otherwise would experience financial

difficulties. Also, the fact that a supplier only has to deliver products to one location seems to have increased Ge-kås' popularity. Providing such benefits for suppliers has also led to possibilities of buying obsolete stocks from well-known high end clothing brands as these producers believe selling to Ge-kås will not disturb the "ordinary" market. Reasons for this would be the off side location of the store as well as the fact that Ge-kås never advertise their products, which mean these clothes will add value unnoticed from traditional and ordinary marketing channels. This fact explains the reason one might find popular brands with a high level of fashion, which we indeed believe is something that adds to the common perception of Ge-kås as a place where one can do bargain deals from time to time.

Continuing on the discussion regarding Ge-kås' non-involvement in production processes or pre ordering of any clothing lines, we believe this set up provides Ge-kås with a high level of flexibility, affecting purchasing prices positively. The specific costs related to the initial part of a product's life cycle is more likely to be overpowered this way, as the costs for market intelligence activities, planning, design, forecasting of demand, and production might be transferred either upwards or downwards in a supply chain. By just buying, Ge-kås has power and ability to negotiate purchase prices on products in a way that they do not have to "share" the additional costs mentioned. Instead, any postproduction costs for obsolete stocks due to forecasting errors might instead be beneficial for Ge-kås, as the level of negotiability on such stocks increases.

Regarding logistics and distribution, Ge-kås are in such a strong position, much due to their good relationships with suppliers that many times when the company buy products; the already paid-for goods are being stored at the supplier, thus decreasing Ge-kås own inventory costs. And, as soon Ge-kås is in need of these products, the delivery time can be as short as one to two days, which according to Ge-kås thereby turn into a powerful lead time strategy as they themselves can decide when to have the products delivered. Another cost saving strategy would be that Ge-kås always persuade the supplier to pay the costs for shipment and delivery, which according to our interviewees is saving the company lots of money each year. Unfortunately, we have no findings from suppliers supporting this statement as suppliers might place the price for shipping into the total price from the beginning, claiming the initial negotiated price was without shipping costs.

Ge-kås' drive for low costs throughout all activities could be linked to Dvorak and van Paasschen's (1996) framework highlighting the importance of tailoring logistics to each company's distinct strategy. Their "low cost" retail strategy (See Table 3) do have a product flow similar to how Ge-kås have configured their supply chain as the company attempt to pursue the lowest purchase costs possible and off-load as much work as possible to manufacturers (all steps in production plus in some cases storage of purchased goods). The only indifference between Ge-kås supply chain and the "low cost" strategy would be that Ge-kås only exist in one location, thus they do not have the proposed transportation dilemma from regional distribution centers to stores.

4.3.2 In-store activities

Regarding assortment variety, pricing strategies and advertisement, Ge-kås has a clear strategy of never promoting or advertising any of their products in any medium, nor do they use seasonal campaigns or any form of discounts. This way Ge-kås do not need to have any guarantees towards the customers and their expectations on any products or prices, at any time, which leaves the purchasing department with a great deal of flexibility necessary for the environment they operate in. This fact enables the purchasers in the company to buy whatever product they want, from any supplier, at any price and at any time, and backwards; Ge-kås can in the store offer any product, at any price, at any time, which also means the traditional "four season" thinking can be stretched and remodelled. This is perhaps also the reason customers do not mind buying winter gear in the middle of the summer, as long as the expected customer satisfaction outweighs the cost.

According to our interviewees this means that Ge-kås is way ahead of competitors when it comes to introducing for example winter collections already in July, even though we ourselves would argue this has probably happened by coincidence and is therefore less likely to be a strategic decision. To support our belief, the question is whether people who do not shop at Ge-kås would buy winter clothing in the middle of the summer just because they are being offered earlier than usual? The answer is more likely to be no, thus Ge-kås' ability to sell winter gear in the middle of the summer is probably related to the "none-existing" expectations people have when shopping at Ge-kås. If we assume that a customer coming to the store have a certain expectation of buying a jacket, but not a specific model, then the choice of

model will not be decided until he or she see the different offerings in the store, and once this person finds something close to what was expected, he or she will buy this jacket without hesitation related to whether it is the “right” model or not. This way a customer will more likely never experience the trade off customers obtain in ordinary stores when a certain product is sold out, thus adding to overall customer satisfaction.

A flexible purchase and offering system like this means the assortment width and variety might fluctuate a great deal, but since Ge-kås do not advertise, customers will have no specific expectations, in other words, what you see is what you get. Accordingly, Ge-kås pricing strategy also includes a similar way of handling obsolete products as no traditional “sale mark downs” are being used. Products that do not perform well are instead marked down unnoticed until a price level is reached where the product is being sold out, which in itself is an argument for why obsolete products are never brought back to the inventory stage as the inventory cost of these products will quickly rise, and as no product will sell itself while hidden from exposure. These strategies give customers a signal completely in line with Ge-kås strategy of never creating any specific expectations among customers, thus one should never come to Ge-kås at a certain time period as the same price levels are being kept intact throughout the year thus adding to an even customer flow.

4.4 Ge-kås’ strategic position

Summarizing this discussion, we believe Ge-kås’ supply chain is tailored accordingly with their value proposition, meaning that their low price focus benefit from an efficient supply chain, thus supporting Fisher’s (1997) framework. If one considers operational effectiveness as achieving excellence in individual activities, strategy is about the combination of all these activities (Porter, 1996), thus we will attempt to disclose Ge-kås’ strategic position regarding the revealed information in this chapter.

Using Porter’s (1996) ideas of how to analyze the configuration of activities, figure 6 is developed in order to visualize our assumption regarding how Ge-kås’ value proposition is contained in their company specific set of tailored activities designed to deliver it.

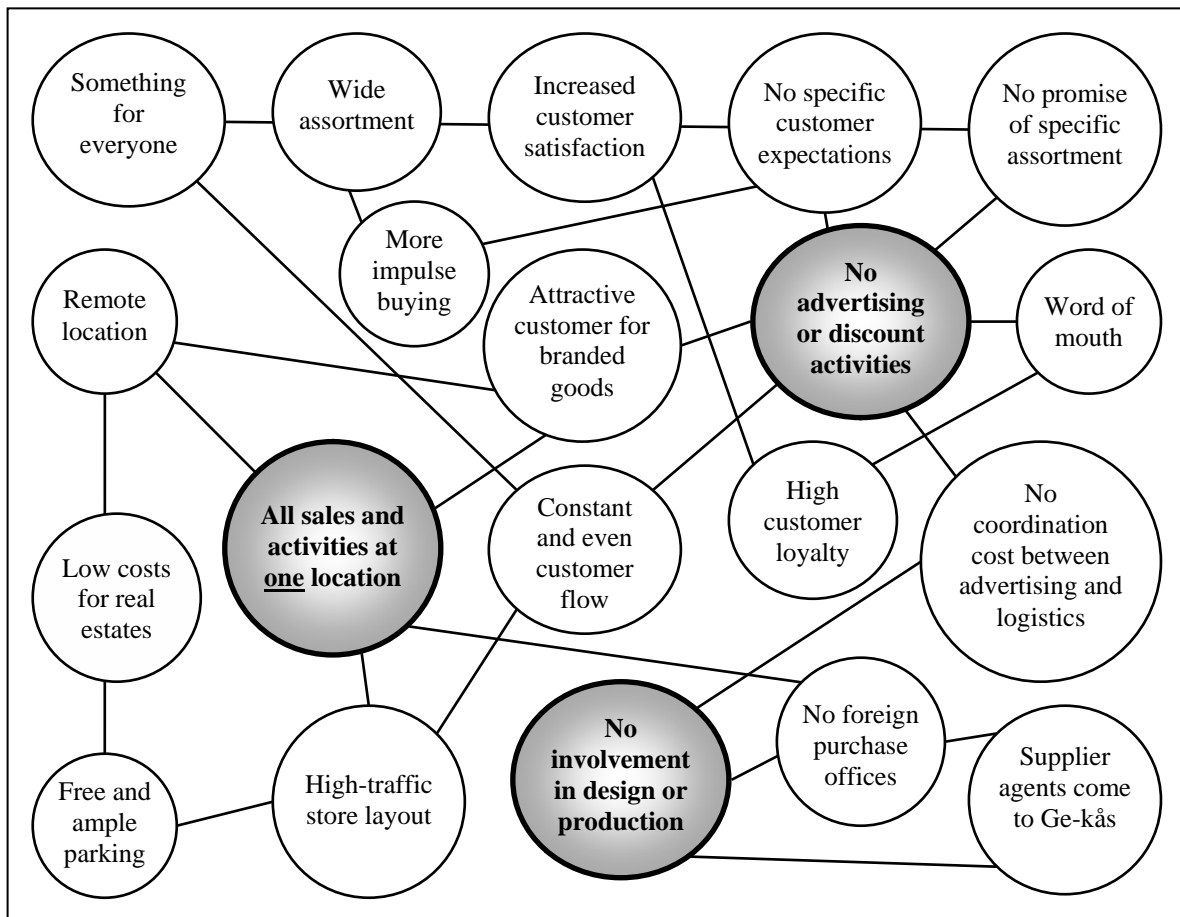


Figure 6: Activity map of Ge-kås

Referring to Ge-kås' way of differentiating the company from competitors, our interviewees stated that in order for them to be low on price, they need to have a superior cost structure, hence we believe the foundation for this declaration is shown by the three higher-order strategic themes (grey shaded). According to our configuration analysis, all the activities in the figure are reinforced through all other activities, thereby enabling Ge-kås to deliver their value proposition. However, Ge-kås strategic position would not be sustainable unless they had made tradeoffs with other positions. These tradeoffs refer to activities or strategic decisions that are interconnected in a manner that if changing them, the effect will be opposed to what is expected from the existing supply chain, in other words the value proposition will fail to deliver what is expected.

Starting with the higher-order strategic theme of location, Ge-kås would more likely experience difficulties if one or more stores were to be established, as all the benefits from having all activities in just one remote location would diminish. For example, Ge-kås would lose their attractiveness among high-recognition brands, as Ge-kås would not be able to sell obsolete stocks without

disturbing the ordinary market as well as this brand would lose the expected level of exclusivity (as such goods today disappear unnoticed “in the woods”). Also, probably more important, the cost of having two or more stores would increase running costs, thus forcing Ge-kås to increase prices and thereby losing people's common perception of offering the lowest prices. One can imagine how Ge-kås' mass of cost would increase if buying land and building a store similar in size, which is a requirement for the ability to offer the great product assortment offered in Ullared. Also, as the situation is today with customers coming from all over the country, an additional store would interfere on the existing store's trade area, and thereby generate a number of disadvantages. The existing store would get fewer customers and a possible response to this would be to offer fewer products as demand would decrease. Even though the products could be divided between these two stores, costs for distribution would increase dramatically, thus Ge-kås' would not be able to deliver their existing value proposition.

If Ge-kås' were to begin advertising their products, the fit between activities would more likely be disturbed as well. Ge-kås would have to pay a lot of money for this service, which would lead to a higher mass of cost as well as the beneficial consumer behaviours of today would more likely fall apart. Costs for coordination between advertisements and logistics would suddenly appear as well as forecasts would have to be practiced in order to match demand. Every increase in the mass of cost would lead to an increase in price, and if Ge-kås would increase their prices they would no longer attract the huge numbers of customers coming today. The level of customer satisfaction would more likely decrease as people would get annoyed if they drove long distances only in order to find out that the product they expected to buy was sold out.

If Ge-kås were to design and produce their own clothing, they would have to establish new divisions performing all activities related to such operations. Purchasing offices would be needed in strategic locations around the world, as well as design teams producing all clothing models. Factories that were to manufacture the clothing lines would have to be contracted as well as logistics companies for transportation. All these activities would increase costs enormously, which in turn would mean higher prices on the products offered, thus the value proposition would by no means be delivered, thus breaking the virtuous circle existing today.

5 Case 2: Ica

The second case company is the grocery retailer Ica, operating in a sector that according to theories is highly characterized by physical efficiency.

5.1 Introduction

The grocery company Ica Group's operations are extensive, with subsidiary Ica Sverige AB, Ica Menyföretagen AB, Etos AB, and Ica Banken AB in Sweden; Ica Norge in Norway; Ica Baltic in Estonia, Latvia, and Lithuania; ISO-ICO A/S in Denmark; and the 50:50 owned entities Statoil Detaljhandel Skandinavia AS and Netto Marknad AB. Total store sales including taxes for the entire group amounted to slightly more than 150 SEK billion in 2002. The parent company Ica AB, owned by Dutch Royal Ahold 50%, Swedish Ica Förbundet Invest 30%, and Norwegian Canica 20%, houses finance, legal, human resource, and IT staff units plus procurement and private label coordination functions. Ica is one of Sweden's most famous brands with brand recognition of almost 100%. (Ica Ahold Report, 2002)

We have focused on Ica's Swedish grocery store concepts operated under Ica Sverige AB; these are *Maxi Ica Stormarknad*, *Ica Kvantum*, *Ica Supermarket*, *Ica Nära*, hence excluding foreign operations and operations outside grocery retail. One limitation is to be pointed out here. There is one more store concept in Sweden carrying the Ica brand, namely *Ica Express*, but that concept is operated under Statoil Detaljhandel Skandinavia AS with grocery supplies coming from Ica Menyföretagen AB. Due to time and resource limitations we focused on the other concepts, generating about 98 % of total sales.

Ica's history begins in 1917 as a wholesale company in the grocery trade. The "Ica-idea" was to gather independent retailers for profitable cooperation, combining local adjustments with economies of scale. This can be seen as a horizontal integration between retailers who then integrated vertically in the supply chain to include also wholesale and distribution activities.

The grocery market developed well in 2002. Ica stores in Sweden experienced a positive trend with a sales growth of 6.4%, compared to industry growth of 4.9 %. A market share of 36.4% makes Ica market leader. (Ica Ahold Annual

Report, 2002) An organizational chart of Ica Sverige AB is illustrated in figure 7. Hereafter, we refer to Ica Sverige AB simply as Ica.

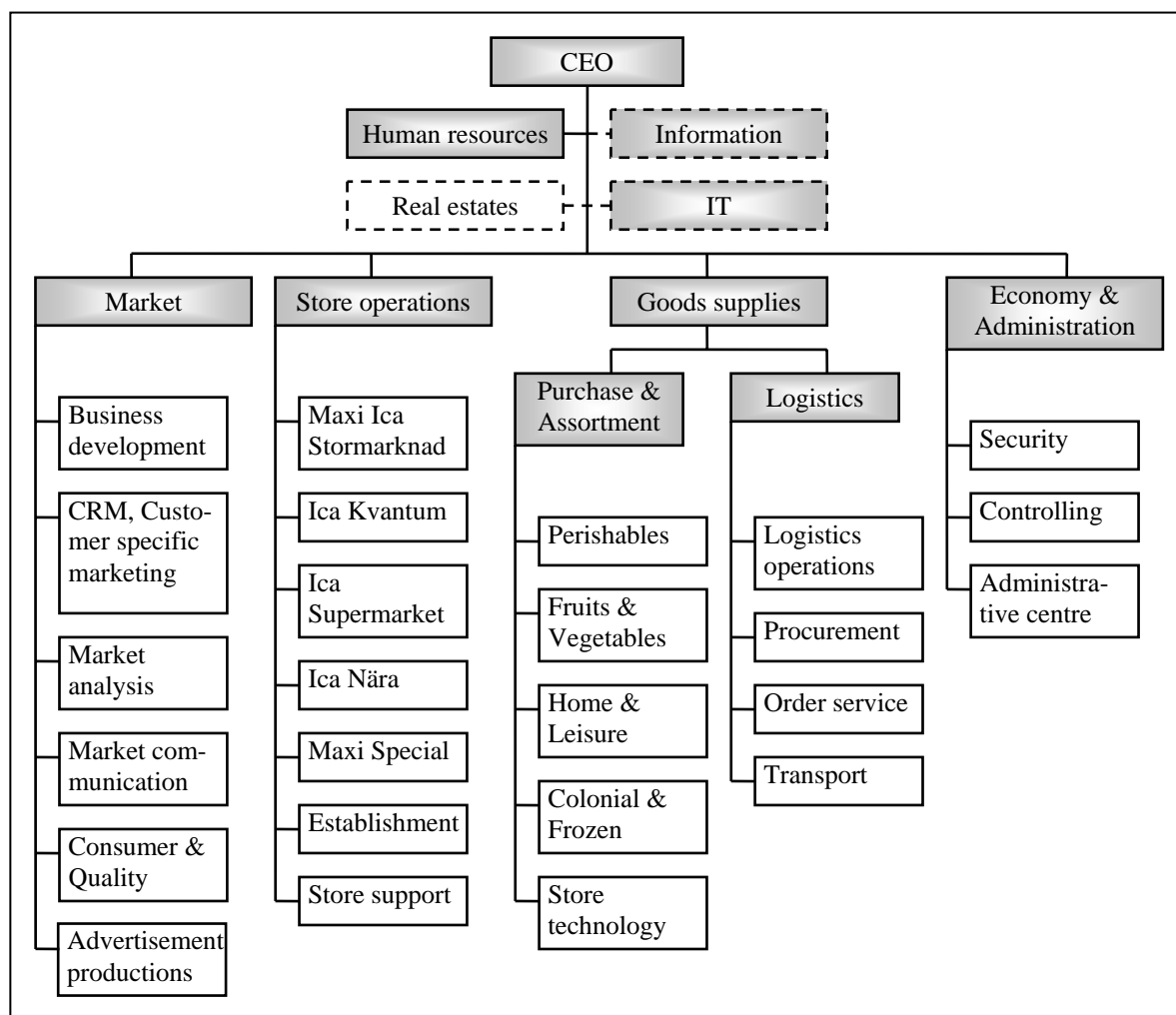


Figure 7: Organizational chart of Ica Sweden AB
(Ica information material, our translations)

Ica’s structure in Sweden is somewhat different from competitors and from their own operations abroad, as Ica stores in Sweden are operated by individual retailers as their own companies. The economies of scale are achieved through cooperation in central activities such as purchasing, marketing, finance and legal departments, business development and IT, as illustrated in figure 7. Under the box “Store operations” one can also find the different store concepts. The actual concepts and the brand names are owned and controlled by Ica, but having independently owned stores are stressed as being the core of the Ica idea. (Ica Ahold Report, 2002) Although very interesting and probably important for Ica’s success, these organizational matters fall outside the scope of this thesis and will not be further discussed.

5.2 Ica's value proposition

Most people have a fairly good idea of what the value proposition of a typical grocery retailer is. There are not any radically divergent business models; the resemblances between different retailers are quite extensive, carrying a rather large assortment satisfying the needs of people's nutritional requirements. This is the base connecting retailers in this branch, the opportunities to differentiate from this is then great. A typical mean of differentiation is assortment depth and width, i.e. the number of grocery articles and also the other assortment lines such as light bulbs, CD-records, and clothes. This kind of differentiation can be complemented with others such as opening hours, personal service, and communication strategies. It is difficult to examine the more intangible aspects of a value proposition, as it is highly subjective in nature depending on the perception of individuals. Anyhow, as expressed by Ica, their mission is: "*to be the leading retail company with a focus on food*" and the "core values" are: "*personal, simple, inspiring, safe, and modern*" (Ica Ahold Report). We will hereafter focus on supply chain related aspects of the value proposition; some hard data for stores in each format is therefore required.

Maxi Ica Stormarknad

Number of articles: 35.000
Store surface area: 10.000 m²
Sales, average: 339 million SEK
Sales, total: 11.2 billion SEK
Number of stores: 33

Ica Kvantum

Number of articles: 12.000
Store surface area: 3.000-4.000 m²
Sales, average: 166 million SEK
Sales, total: 20.8 billion SEK
Number of stores: 125

Ica Supermarket

Number of articles: 6.000-10.000
Store surface area: 500-2.000 m²
Sales, average: 46 million SEK
Sales, total: 24.8 billion SEK
Number of stores: 543

Ica Nära

Number of articles: 4000-6000
Store surface area: <500 m²
Sales, average: 12 million SEK
Sales, total: 12.4 billion SEK
Number of stores: 1.061

Using the variables *spatial convenience* and *product variety* from Bucklin's framework for service output, *Maxi* has low spatial convenience because of distant locations. The vast surface area requires locations in non-central areas. The product variety is, on the other hand, tremendous with about 35.000 articles; about half the store's surface area is made up of home and leisure departments. *Kvantum* has lower service outputs in product variety, as it

focuses on food and do not have the home and leisure departments. It has slightly higher service output on location. *Supermarket* has a rather high service output on location and about half as many articles as *Kvantum*. *Nära* is kind of neighborhood store concept, hence having the highest spatial convenience. The product variety is, then again, the smallest of Ica's concepts.

One fundamental question in understanding Ica's value proposition is which customer needs are being satisfied. The thing here is that customer's needs differ a lot even during a short period of time. Buying behavior differs depending on week days. Customers are more cost conscious Monday to Thursday than they are Friday to Sunday. Sometimes shopping is planned in advance and sometimes smaller complementary purchases are made. Hence, as customers have different needs in different situations one kind of differentiation is not sufficient to capture all of a customer's weakly purchases. Ica deals with this problem through their four very different store concepts, aiming at meeting the same customer's shifting needs in different situations.

One of our research questions is about general price levels. In a competitive market with low margins, as the grocery market can be considered to be, consumer prices are directly influenced by the industry's average operating costs. This means that it is difficult, if not impossible, to outperform competitors in service output terms and at the same time having lower prices. Hence, in general, price is a function of service level. Looking at competitors like Willy's Hemma, one of Axfood's store concepts, having central locations like Ica Supermarket and Nära, but with a ground assortment of 2.000 articles, Ica has a slightly higher price level. The same can be said about German food chain Lidl who carries only about 1.000 articles, of which 85% are their own brands. This is such a ground assortment that part of their strategy is to find locations close to full service stores. A wider assortment usually also means the possibility to buy fresh products like cheese, meat, and fish from manually operated disks. Compared to pure discount competitors, Ica has higher service and higher price levels. Just as Bucklin's service output theory predicts, the higher the service output, the higher is the channel cost, and the higher consumer prices. This holds between different companies and between Ica's different store concepts.

5.3 How Ica deliver its value proposition

5.3.1 Nationwide logistics system

According to Fisher's (1997) uncertainty framework groceries are functional products; product life cycles are long, contribution margins are low, stockout rates are low, and forced end-of-season markdowns are unusual. The nature of the demand for groceries is relatively stable and predictable. Central for such supply chains is focus on physical functions, as the majority of costs lie here, mainly within production, transportation, and inventory storage. The market mediation costs are thus relatively small.

We ended the previous part concluding that price levels on a competitive market are a function of operating costs. Having more than 1760 stores selling for about 76 billion SEK in 2002, the physical distribution of voluminous groceries is a massive effort. At Ica, logistics costs are considerable; 70-80% of operating costs can be referred to as logistics costs. This part will depict Ica's logistics system on a macro level.

Since 1989, Ica has rationalized its logistics system substantially. Back then, Ica was operated as three different companies, each having its own computer system. Today, that has changed to being one company and one computer system with two main areas; one being a market system with information about such things as articles, prices, suppliers, and stores and one logistics system with information about delivery parameters. The benefits of such an integrated system are obvious.

The distribution structure, illustrated in figure 8, has changed as well, from having 20 regional distribution centrals (DC) to having nine. Some products are not handled by Ica's logistics system, but are instead delivered directly to stores by suppliers themselves. This is the case for most dairy products, soft-drinks, and beer. Only one DC, the central warehouse in Västerås, carries the entire assortment, including low frequent articles. The other ones carry high-frequent goods, which is about 7-8.000 articles. However, not all DCs carry full assortment of low frequent goods either. Figure 8 shows which DCs carry what assortments. A regional DC delivers goods to stores within a certain area. The central warehouse in Västerås delivers the low frequent articles to the other DCs, who in turn deliver them to the stores within their area.

The reduction from 20 to nine DCs brought along other changes as well. Before, all DCs had contacts with all suppliers but after the changes the central warehouse in Västerås takes care of most of these contacts with suppliers, i.e. for all low frequent articles. So instead of having 20 actors having contacts with a great number of suppliers, one actor now performs all that work. Except the benefits of reduction of contacts, Ica also experienced minimization of inventories, power over freights, and maybe most important: always full quantity discount from suppliers. This appears to be a win-win situation for all parties as the benefits for suppliers should be extensive as well. The quantity discounts now given on all shipments to Ica are probably saved in on larger batch sizes and on the reduction from 20 to one delivery location.

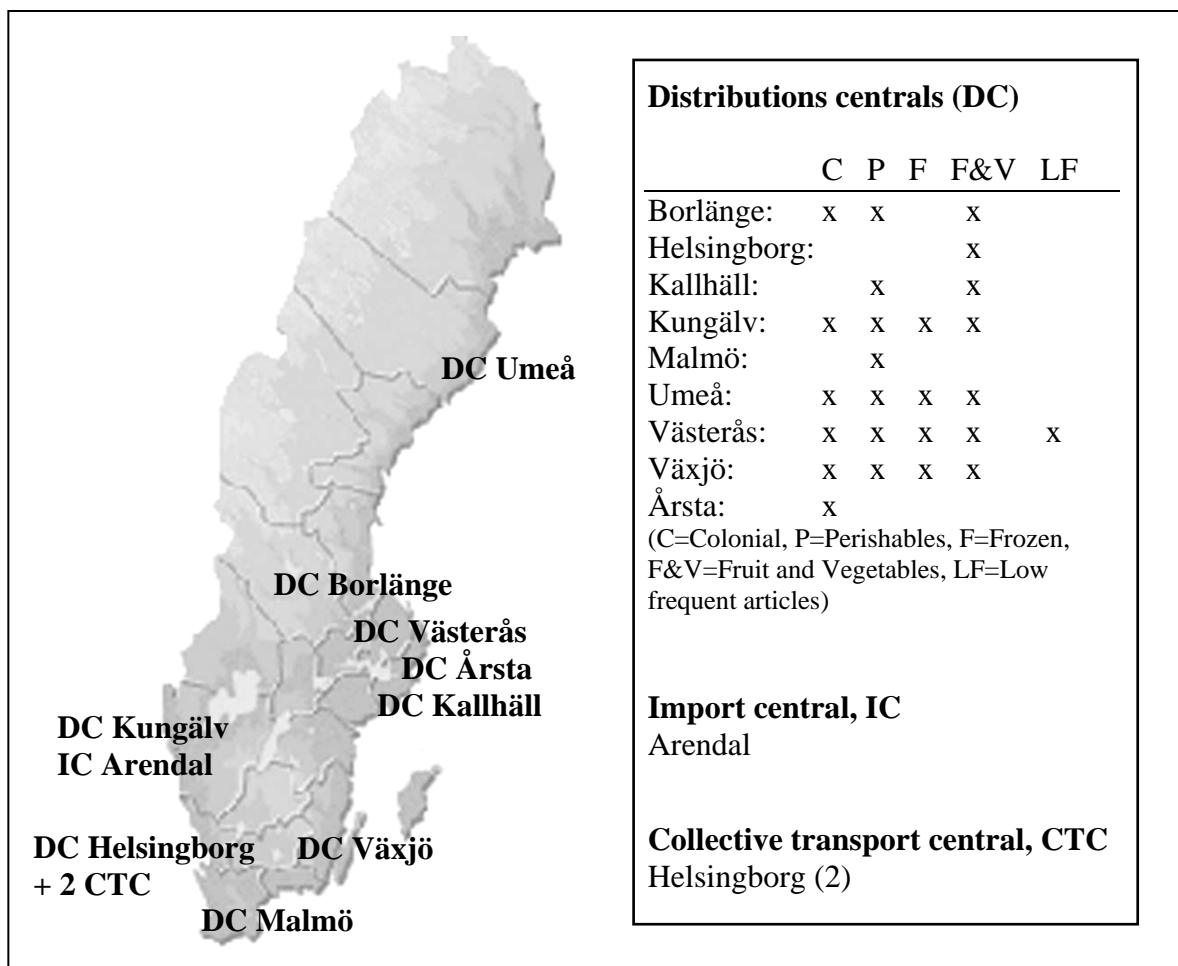


Figure 8: Ica's distribution system

The rationalization process of the distribution system does not stopped here. Continuous improvements are always looked for and during the time this study were being completed, Ica announced that they were going to close down the DC in Växjö by 2006. The plan is to build two new DCs, one in Stockholm and

one in Helsingborg, and to close down five of the existing DCs, including the one in Växjö. The remaining DCs will be re-built to be able to handle the capacity increase. (Sundström, 2003)

5.3.2 The work in a distribution centre

In marketing channel terms, a DC can be thought of as a wholesaler. This part will analyze the flow of goods and information between three actors in a supply chain: supplier, wholesaler, and retailer. The DC in Kungälv is the focal actor here; suppliers and stores are merely referred to in general terms.

The DC delivers goods to about 315 stores in the area stretching from Torsby in north, Filipstad in northeast, Hjo in east, Ulricehamn in southeast, to Falkenberg in south. Of 450 employees, 270 have logistics related jobs. The surface area is 40.500 m², 45 trucks with trailers, of which 40 are outsourced, and 150 lift trucks are used for the physical movement of goods. Of all of Ica's DCs, the one in Kungälv is the most efficient. Figure 9 illustrates the part of the supply chain from suppliers to the DC to stores.

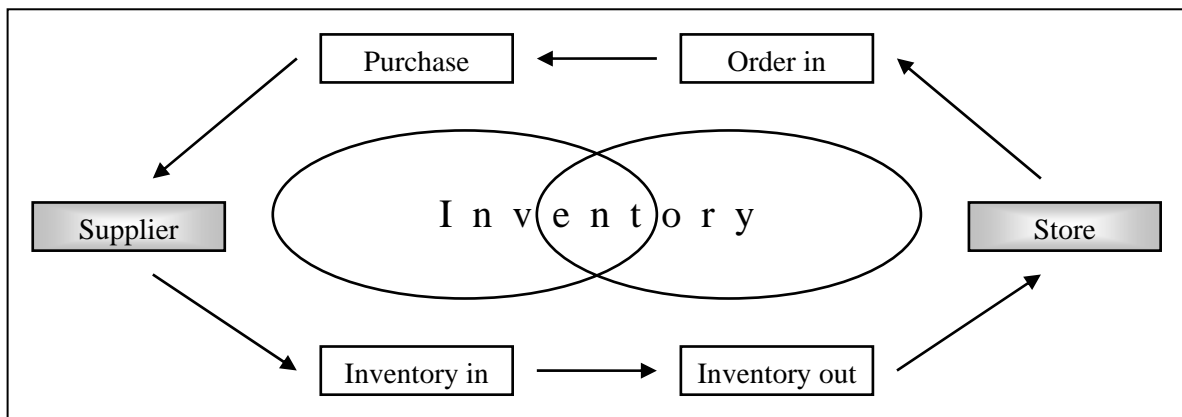


Figure 9: The product's way at Ica's distribution centre in Kungälv
(Based on a power point presentation by Fredriksson, 2003)

Order in: Day 1, orders are to be sent to DC before 19:00. This activity is performed by store personnel. The required quantity is calculated and ordered mostly with portable hand scanners. 75% of all products are ordered this way. 2% are ordered by phone, 8% by Intranet, 5% are EDI orders, and 9% are ordered automatically. The automatic orders are generated by the use of point-of-sales data, withdrawing sold articles from inventories and automatically creating an order. A router directs the electronic orders to the right place. Soft

drinks, beer, tobacco, and dairy products are directed to suppliers, slow moving articles are sent to Västerås, and everything else are sent to Kungälv.

Purchase: This activity is performed by the DC. Purchase is based on orders from stores and on forecasts. Forecasting is a complicated activity; some personnel at the DC have responsibility for a small category of articles and over time they get a good feeling for the demand of those products. These prognoses are complemented with campaign prognosis from a department in Stockholm.

Inventory in: This is when goods are coming from suppliers and from DC Västerås. As mentioned, dairy products, soft drinks, and beer never pass through the DC and are instead transported directly to stores. Tobacco parcels are packed according to each store's specific orders so that DC personnel can sort packages directly to each store. Some pallets never appear on the shelves in the DC as they are moved straight from inventory in to inventory out, thus reducing a lot of work. At this stage sensitive articles are controlled, e.g. on temperature.

Inventory out: Goods are sorted according to each store's orders and put at a specific dispatch area. Full pallets and carriages with goods are then lined up for delivery. Mistakes in this activity are expensive with a calculated cost of 200 SEK per error; there are on average 3,5 errors per 1000 parcels. The carriages are packed with a holistic view to minimize the unpacking work done by store personnel. Articles positioned close to each other in store shelves are also packed together in the carriages. Delivery to store takes place day 3, usually before noon.

The DC carries a buffer inventory, which imply that goods that are ordered in the evening can be packed that next day and delivered the morning after. All in all, the lead time from a store order to delivery is less than two full days.

5.4 Ica's strategic position

Having looked at Ica's value proposition and supply chain, the purpose of this part is to link the activities delivering the value proposition together in an activity map, as well as summarizing the case study. The grey shaded themes in figure 10 are those we consider being the strategically most important ones.

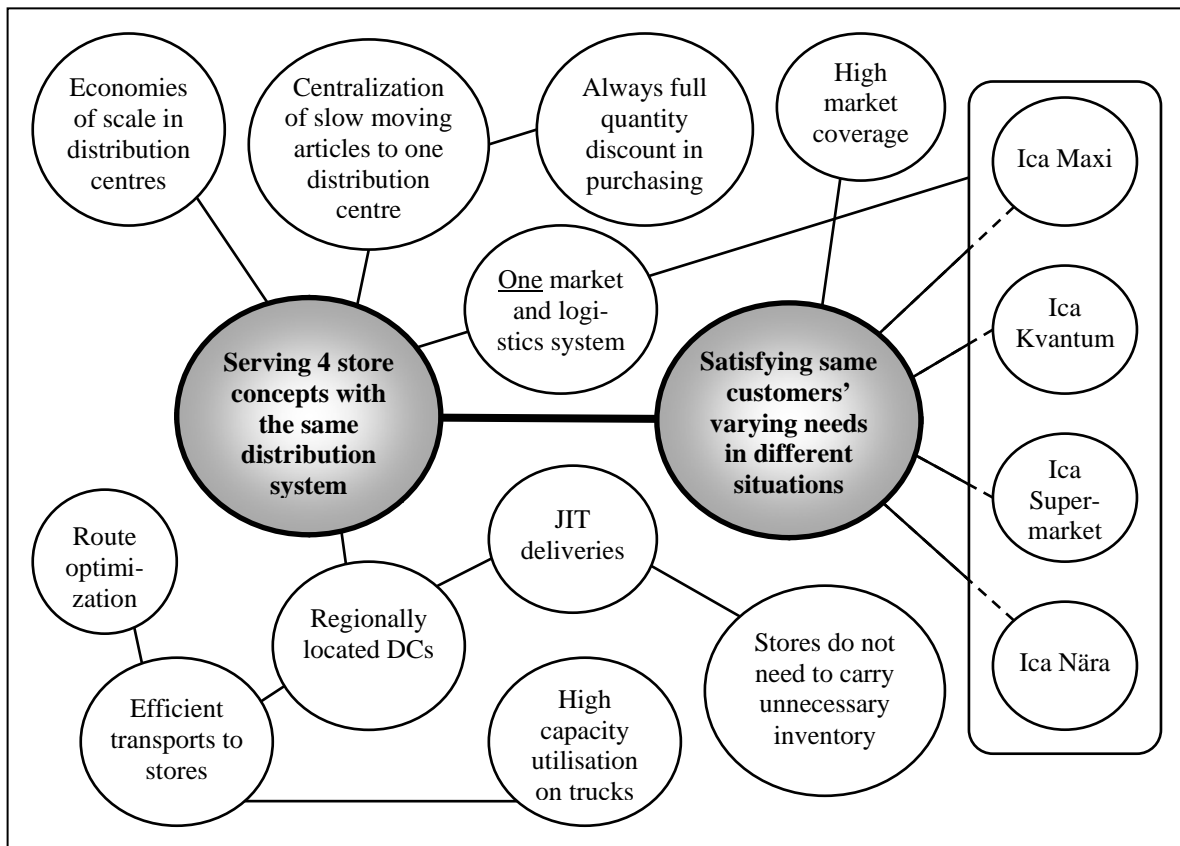


Figure 10: Activity map of Ica

The most important themes in the map are that Ica, through the different store concepts, satisfies customers varying needs in different situations. Doing this with the same logistic system leads to economies of scale in DCs, transportation, and purchasing. There are of course more benefits with the system above (e.g. in marketing, banking) but these are the ones related to supply chain management, the other ones fall outside the scope of this thesis.

We find many similarities with Ica's logistics system and Dvorak and van Paasschen's (1996) low cost strategy in table 3. DCs are for example operated to minimize work done in stores by packing carriages according to article's positioning in stores. Work is sometimes off-loaded to manufacturers; tobacco products are packed according to specific store orders. The national distribution system having regional DCs, the seeking of cost effectiveness in truckload deliveries, and the self-service layouts of grocery stores are also in line with this low cost strategy. Having seen that Ica's supply chain has a clear cost focus, there is a match between the products and the supply chain, which is in line with Fisher's (1997) framework. The logistics system is in accordance with JIT principles; it is a pull system where market demand pulls goods towards stores. Through EDI usage and the integrated logistics system replenishment

activities are coordinated between stores, DCs, and suppliers. JIT also favors small shipments, which is necessary for the smaller store formats, who prefer not to handle full pallets; this, together with the short lead time from store order to delivery, also allow stores to carry minimal inventory.

Continuous replenishment, an operational practice developed on JIT and ECR thinking, builds on extensive and automatic usage of point-of-sales data. One of the main goals with continuous replenishment is reducing errors and order processing costs. As we have seen, only 9% of the products are ordered automatically, so this is definitely an area in which Ica has an opportunity to improve. There is a lot of time to be saved for store personnel, as ordering with portable hand scanners, telephone, and Intranet is much more time consuming.

Regarding the relationship between price and service level we have come across one thing that neutralizes this effect at Ica. It is more resource consuming for DCs to serve small *Ica Nära* stores than it is to serve *Ica Maxi* and *Ica Kvantum* stores, but this is not reflected in the store's purchase prices; all stores have the same purchase prices, irrespective of quantities. One could therefore say that bigger stores, to a small extent, subsidize smaller ones.

The need for tradeoffs arises for example from inconsistencies in image and incompatible product and service attributes (Porter, 1996). Therefore Ica does not have any pure discount store concept carrying the Ica brand within this distribution system; Ica Aholds's discount concept *Netto* is another company with its own distribution system (much smaller than Ica's, but under development). Ica's pure convenient store concept *Express* is supplied through Ica Menyföretagen's distribution system, which is constructed for deliveries to very small stores and restaurants.

Another tradeoff concerning the *Ica Nära* stores is also being made this autumn. Ica has put an ultimatum on the smallest stores that are not yet computerized to invest in such systems. Otherwise they will have to leave Ica, but are instead offered to receive supplies from Ica Menyföretagen. (Sundström, 2003) The main reason for this is most certainly cost, since telephone orders are much more costly to serve.

6 Time-based competition

Having detected the patterns outlining competition based on cost and physical efficiency, the purpose of this theoretical chapter is to explore the supply chain variables significant for time and market responsiveness.

6.1 Why time is important

Christopher (1998) proposes three areas in which the importance of time as a competitive variable are increasing according to the need to meet the fast changing markets of today:

- shortening life cycles
- the drive for reduced inventories
- volatile markets making reliance on forecasts dangerous.

In accordance with technological improvements as well as societal changes, product life cycles have been radically shortened the last few decades. It is within this *time to market* scenario companies must be able to capture an opportunity, develop, manufacture and distribute products in accordance with the existing market pace, and if successful, the actual time that can be saved while performing these activities becomes crucial as late market entrances increase the risk for obsolete stock. (Christopher, 1998)

Regarding the drive for reduced inventories, many companies have realized the need to release inventory holding costs. *Time to serve*, i.e. order to delivery time is also important as companies need to be able to respond to demand of products that are already on the market, i.e. the lead time to resupply a product determines the organizations ability to meet demand during the life cycle, which is also the base for the concept of quick response which will be discussed later on. (Ibid)

The volatility of markets is a popular topic to discuss and as forecasting is becoming increasingly crucial due to companies' attempts to reduce lead times, managers seek new methods to reduce forecast errors; still the real problem would be that forecast errors increases as lead time increases. *Time to react*, i.e. responsiveness, is essentially achieved through time compression in the supply

chain and the costs should be lower at the same time. Still, the system of having suppliers able to deliver a complete order at required time might simply shift the cost burden from one part of the supply chain to another. (Ibid)

There is a direct relationship between the length (measured in time) of a supply chain and the inventory carrying cost, but the declared truism “time is money” is arguably more true for companies supplying innovative products with unpredictable demand than it is for others. Besides the release of capital, shorter lead times also mean higher service level because of the faster response to consumer demand. Higher flexibility in meeting demand also makes companies less vulnerable to market volatility. Reducing lead times generally means higher distribution costs; benefits must be weighed against costs. It is motivated with an increase in distribution costs when it leads to a decrease in market mediation costs. (Ibid)

High volatility in demand for innovative products motivates high distribution costs, but more important on time sensitive markets where time-to-market reductions are extremely important, shorter lead times not only mean lower cost but also higher sales. This, together with avoidance of market mediation costs, is the biggest difference between cost-based and time-based competition. (Ibid)

6.2 The lead-time gap

As shown in figure 11, the lead-time gap is based upon the problem that the time it takes to produce and deliver a product is longer than a retailer is willing to wait.

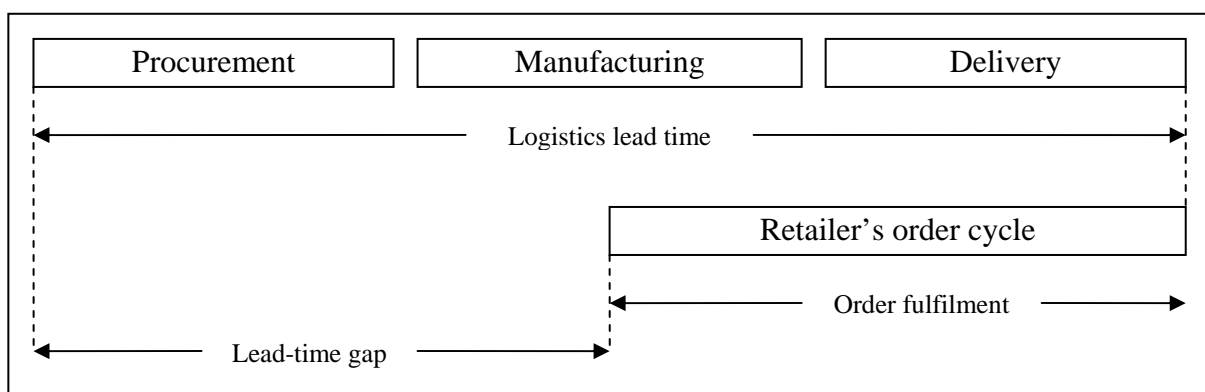


Figure 11: The lead-time gap
(Christopher, 1998, p.168)

Christopher (1998) argues that the traditional way to meet the lead-time gap is to hold inventory, hence forecasting need to be used and as the accuracy of such actions are prone to errors the whole idea will more likely end up in an inventory problem. Therefore, a company that achieves a perfect match between the logistics lead-time and the retailer's order cycle will have no usage for forecasts and no need for inventory. Whether or not the above statement is of a utopian character, closing this lead-time gap might be possible by:

- shortening the logistics lead time
- moving the retailer's order cycle closer by attaining earlier warning of requirements through improved visibility of demand

These two approaches might then reduce the gap between the two lead times, and even close it as shown in figure 12.

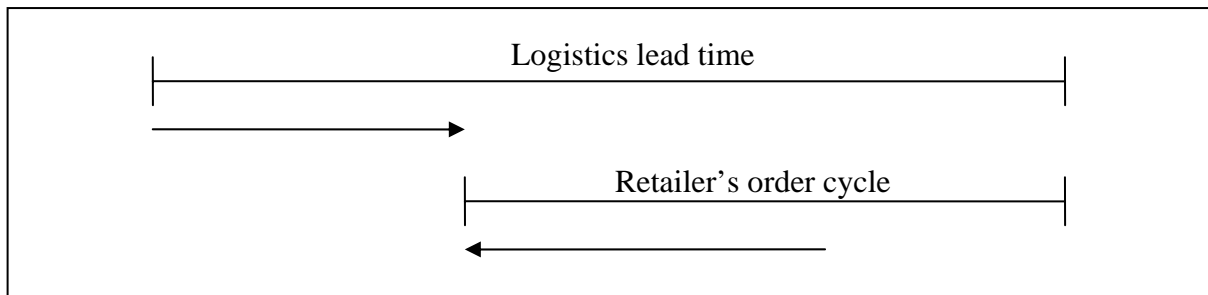


Figure 12: Closing the lead-time gap
(Christopher, 1998, p.169)

In order to cut logistics lead time, Christopher (1998) refers to Goldratt's theory of constraints regarding logistics processes as one way to speed up total throughput time and reduce inventory. All activities should be seen as either bottlenecks or non-bottle necks, thus it is important to add capacity where possible and to reduce set-ups and set-up times if appropriate. However, non-bottle necks should not be improved equally as this might lead to increased inventory at the actual bottle necks, i.e. the output of non-bottle necks feeding bottle necks must be governed by the requirements of the bottle necks they assist.

When improving visibility of demand, opportunities can be found at the interface between suppliers and retailers as retailers rarely share routine data with suppliers, hence suppliers are forced to use forecasting and carry inventory. Christopher (1998) argues producers need to extend the customer's order cycles, i.e. finding approaches how to capture earlier warnings of the customer's requirements. Considering the fact that real demand is hidden from

view except from already made orders, the idea behind the *demand penetration point* becomes useful in this case. The demand penetration point could be described as the point in the supply chain where real demand meets the projected plan; upstream from this point everything is driven by a forecast. Therefore, new ways should be invented on how the penetration point might be pushed as far as possible upstream; one way would be to improve the speed and accuracy of information from the market place to manufacturers. Another way to push the order penetration point upstream would be to postpone the final commitment of the product to its final form. A frequently used example of a postponement strategy is Benetton, who makes knitwear and then dyes everything the last thing they do, according to customer requirements collected during and after production.

6.3 Quick response

If ECR was the JIT-based umbrella term for supply chain cooperation in the grocery industry, quick response (QR) is the fashion and apparel industry version. Essentially, the idea behind QR is to reap advantages of time-based competition by developing systems that are responsive and fast, employing the old cliché “the right product in the right place at the right time”. The foundation of QR would never have been possible without the development of information technology in general and EDI in particular. The reasoning behind QR is that demand is captured as close to real time as possible; the end customer triggers the system with his or her purchases, i.e. a response is then made directly as a result of this information. QR could also be seen as a classic case of the substitution of information for inventory, even though QR might have a high fixed cost, the incremental costs of service improvements should be proportionately low. (Christopher, 1998)

It has been said that following a QR concept, the fashion and apparel industry could gain significant advantages in lowered forced markdowns, stockouts and inventory carrying costs, but in one condition: all parties in an entire chain need to adopt QR. If doing so, the aim should be to link retail sales with garment manufacturers, who are linked to textile producers who are linked to suppliers of fibres. In a traditional inventory-based system, unexpected short-term demand for products add additional costs in the form of changes in production and distribution schedules, affecting the end result negatively in form of higher levels of stockouts, hence decreased service for end customers. (ibid)

6.4 Product flow analysis

6.4.1 Processes as a way to analyze product flows

As processes are abstract concepts they need to be modeled in some way to be understood. Among the most widely accepted definitions of a process is “*a set of interrelated activities*” (Kock, 1999, p.28) and “*a chain of activities*” (Ljungberg and Larsson, 2001, p.43). In this respect, processes are seen as activity flows, or workflows, consisting of activities that have some kind of relationship to each other. Thus, if activities are not perceived interrelated, they are not part of the same process. However, processes are not *real* structures, merely mental abstractions; as Kock (1999) illustrates it, although flowcharts can show that data or materials flow between activities in a process, the data or material *do not actually flow* between activities; rather they flow between organizational functions (or roles). Process-focus has been the main idea in many widely adopted management approaches such as total quality management and business process reengineering (Kock, 1999).

A horizontal cross-company process perspective means having a holistic view on the supply chain. The most well known model having this standpoint is Porter’s (1985) value chain model, in which a company’s value chain is set into a larger context – the value system. Perhaps no innovation¹, Porter’s pedagogical and rhetorical skills made his value chain model incredibly widespread. Having an end customer perspective, all activities that the chain performs should add value, an idea that is also the core of SCM. A traditional model of a supply chain is illustrated in figure 13 below. With such a linear functional view, products, information, and finances flow through channel members towards end customers.

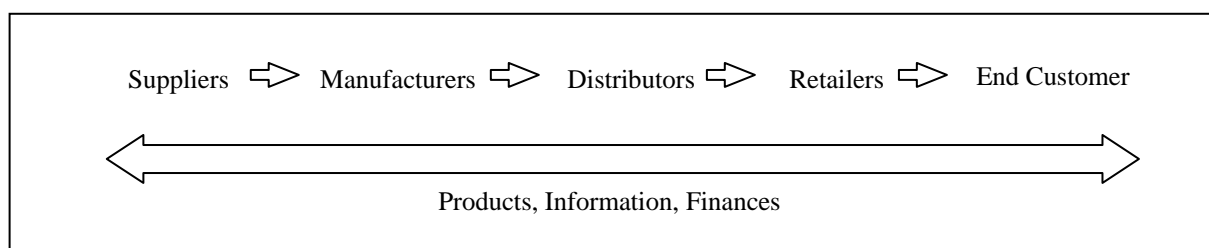


Figure 13: Functional view of supply chains
(Kopczak and Johnson, 2003, p.29)

¹ According to Jönsson (1995, p.179), Swedish mill bookkeeping from the eighteenth century was constructed with a similar logic as that of the value chain, as was the accounting plans introduced in Germany in the 1920s mainly developed by Eugen Schmalenbach.

Still, the functional model does not give a fair picture of how the work is actually carried out. According to Kopczak and Johnson (2003), the breath and power of SCM comes across in the process view of SCM:

“When the multi-company nature of the supply-chain diagram is combined with a process-flow diagram, one can see that supply-chain management is not just about order fulfillment; it must be part and parcel of product design, introduction, promotion, fulfillment and recycling.” (p.28)

A process view, illustrated in figure 14, focuses on the life cycle of products instead of on channel members. In such a model, the channel members are involved in many different processes.

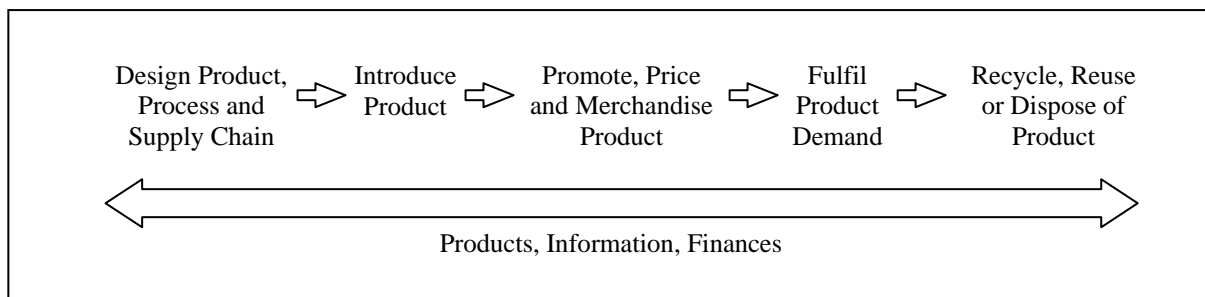


Figure 14: Process view of supply chains
(Kopczak and Johnson, 2003, p.29)

An even more comprehensive picture of the supply chain is given in figure 15. In this model Kopczak and Johnson (2003) suggest that the accomplishment of these processes is more than just a sequential handoff of materials, information or finances from member to member. Instead it involves a collaborative effort among all the members in the supply chain. In this respect it starts to resemble a network more than a chain. Moreover, in this model, the roles vary from the traditional view; some activities that traditionally were performed by one actor may now be performed by someone else. Retailers may have, for example, completely taken over the products design activities that were traditionally performed by manufacturers.

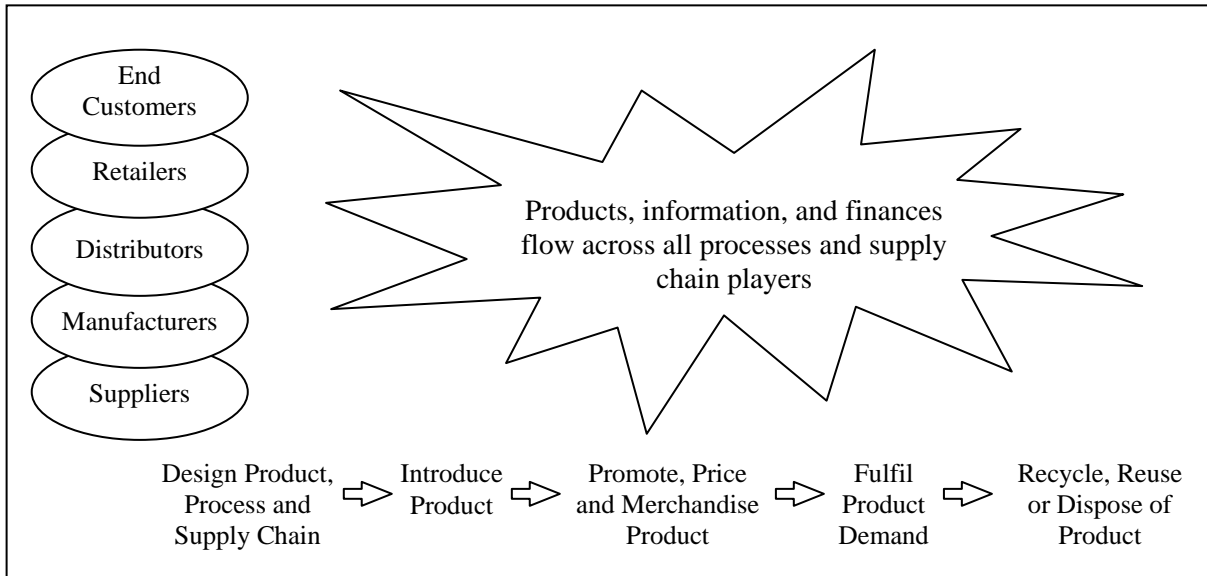


Figure 15: Network view on supply chains
(Kopczak and Johnson, 2003, p.29)

By conducting a product flow analysis one can detect where in a supply chain that the bottlenecks cause problems as well as when and where products are locked up in inventory. Christopher (1998) divides the time of performing activities into either being value adding or only cost adding. Figure 16 illustrates how the reduction of the so-called cost adding time can reduce costs and at the same time improve service.

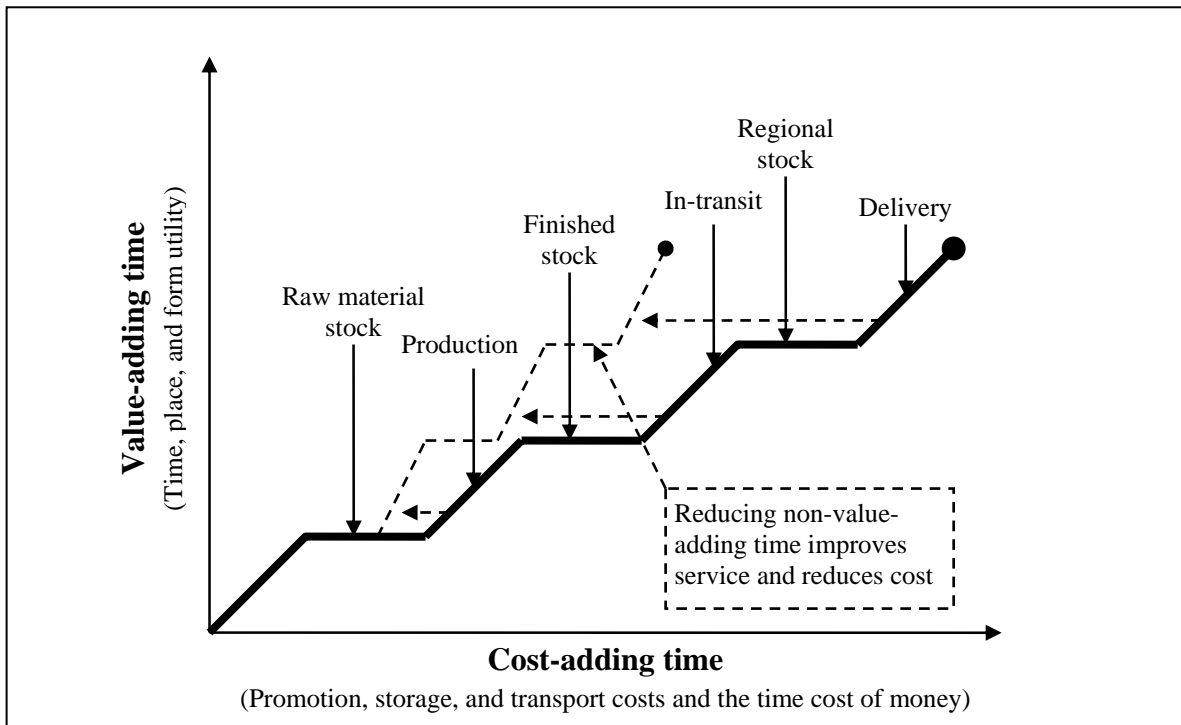


Figure 16: Cost-adding versus value-adding time
(Christopher, 1998, p.163)

6.5 Activity map with a time-based theme

In chapter 3, which dealt with cost-based competition, an activity map of Ikea was given as an example of how supply chain activities were linked together to reinforce Ikea's value proposition. Similar, but in time-based competition, an activity map with mutually reinforcing activities performed by the Spanish company Inditex' retail chain Zara is depicted in figure 17.

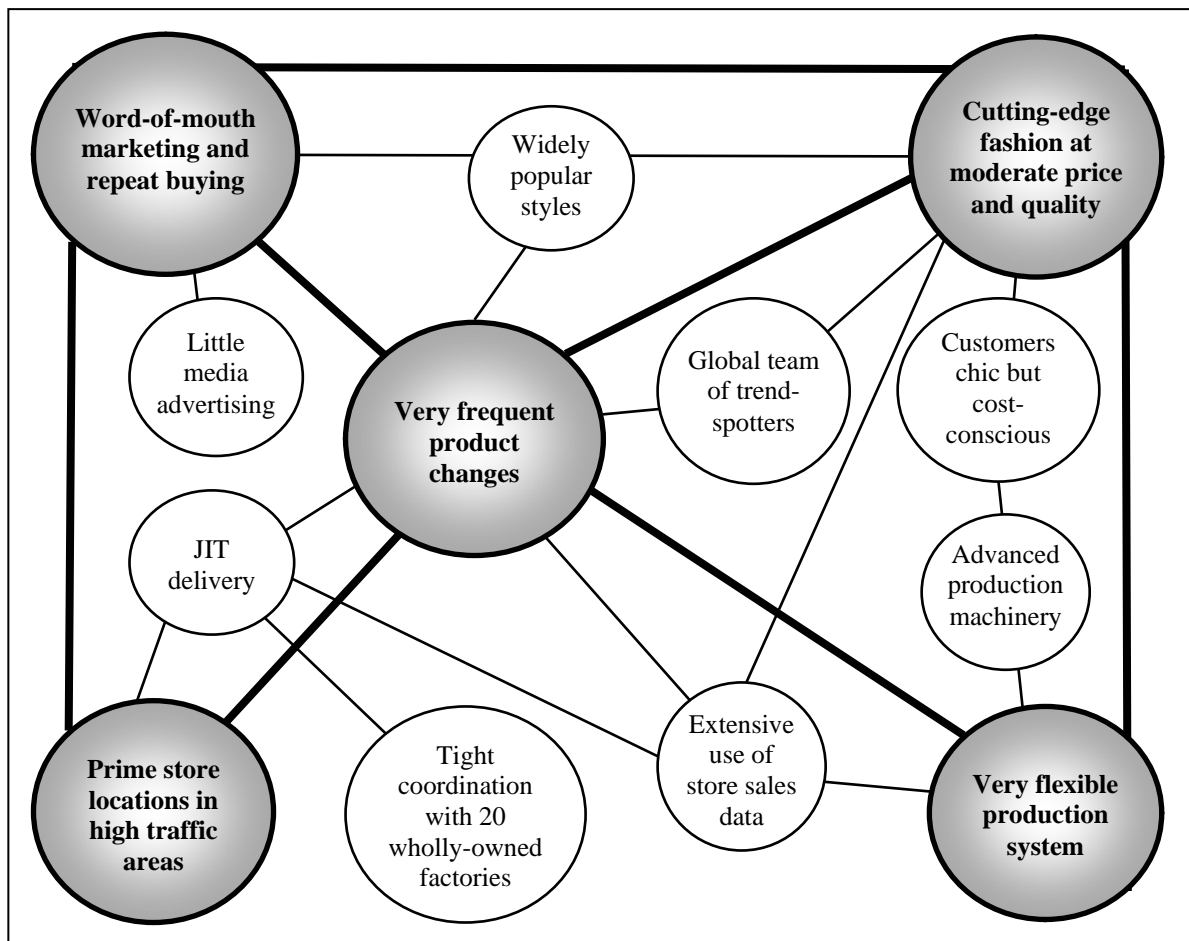


Figure 17: Activity map of Zara
(Porter, 2003)

Zara copes with the problems in fashion clothing retailing by having extremely short lead times. Their strategy is essentially based on performing production activities in Europe, enabling them to shorten lead times compared to most competitors who produce in the Far East. Zara also use forecasts in a different way as they always produce a little less than the forecasted demand as well as not making high numbers of each unit. This enables Zara to have higher and more stable demand for their products at the same time as the short lead time increases responsiveness during the product life cycles, which in turn reduces inventory holding costs. (Christopher, 1998)

7 Case 3: Lindex

The study's third and last case company is the fashion clothing retailer Lindex, operating in a sector that according to the theoretical framework has a market responsive focus where time is a crucial competitive factor.

7.1 Introduction

Lindex was established in 1954, and initially specialized in women's underwear. The company has expanded since then, going from offering products in one store to become a multinational retail chain with stores in Sweden, Norway, Finland, and Germany. In 2002 Lindex acquired Twilfit, a retail chain specialized in lingerie, in order to increase the market share in women's underwear in general, and create a stronger position in the exclusive segment in particular. The acquisition has meant that Lindex now operate through two different retail chains. All in all, Lindex have 401 stores, with 179 stores in Sweden, 87 in Norway, 47 in Finland, and 30 in Germany, while 58 stores are Twilfit, all of which are located in Sweden. The total sales of the financial year August 2002 to September 2003 were 5.312 million SEK and the result (pre tax) was 273 million SEK. (Lindex Year-End Report, 2002/2003)

The Lindex chain concentrates on three different product segments: ladies' wear, lingerie and children's clothing, with each segment representing roughly one third of total sales. Twilfit's focus is mainly on lingerie with a small part coming from women's clothing. Significant for both chains is that no men's wear is offered, hence Lindex position themselves as a company only focusing on women. Lindex had a lingerie focus from the beginning, and this core competence has been kept, thus one could say that the company's strength lies within underwear as Lindex is considered to be the market leader within this segment. (Lindex Annual Report, 2002; Andersson, 2003)

According to the organizational structure of Lindex (shown in Figure 18) people responsible for each segment work towards people responsible for sales in each country. Having this matrix structure, the people representing each segment are fed directly with information regarding sales and demand from each country, which enable country based decisions regarding assortment variety.

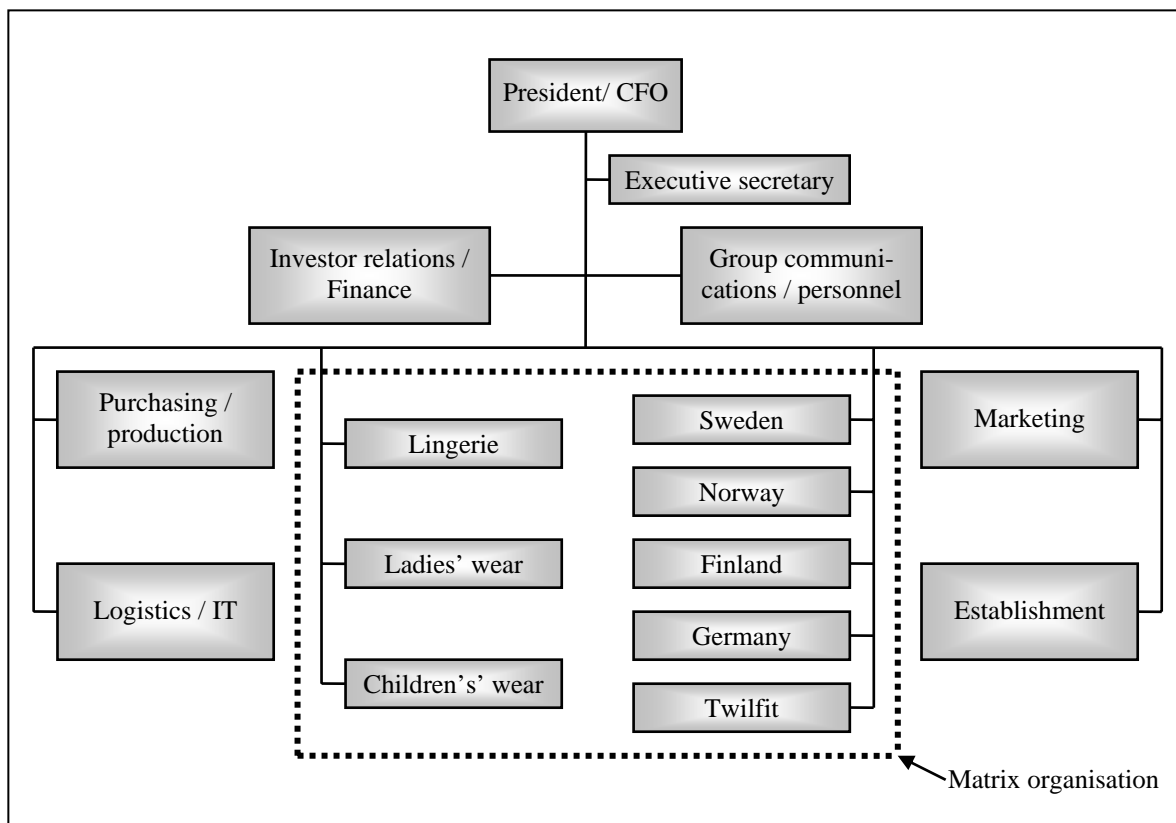


Figure 18: Organizational chart of Lindex group
(Lindex information material)

7.2 Lindex' value proposition

In order to reveal what we believe is Lindex' value proposition, we will try answer the questions how, where and when Lindex create value for their customers. While answering these questions we will also disclose who their customers are. Having a business strategy of offering women inspiring fashion for every day, Lindex utilize *Every Day Fashion* as a slogan and the company's underwear focus is declared as they claim *we have underwear for all women*. In order to emphasize what Lindex is with their female focus, the company claims all products are created by women for women, which we also believe is an attempt to increase their brand awareness among their customers. The company's three main product segments will be discussed, starting with lingerie as this segment is most significant for the brand Lindex.

7.2.1 Lingerie

As Lindex was initially a lingerie company, this tradition has been kept, especially as their proposed core competence is said to be to design and

produce lingerie with the best fit. As each woman is unique, Lindex aim of offering underwear to all women has made them specialists on designing underwear, claiming they are able to offer one cut for every curve. Whether or not this statement is true, Lindex extensive variety of fit and size on their products has inevitably brought the company to a market leading position in Sweden, holding about 20% of the total market share. With this information in mind, it may not be surprising that Lindex market share in the bra segment is over 50%. Once again we refer this strong position to their extensive knowledge regarding fit and number of varieties, which we believe are clearly mirrored by the fact that they offer 1.894 different variants of bras thus increasing the probability that any female will find a product that satisfies her specific needs considering fit and model. Lindex ability to offer all women underwear increased with the company's acquisition of Twilfit, thus this could be seen as a strategic move in order to increase their market share in the more exclusive lingerie segment. Twilfit's products do have a higher price level and are therefore targeting females who demand higher quality and more exclusive materials.

Due to the above discussion, we assume that the females, who have purchased their lingerie at Lindex, but have developed the need for better quality and a higher level of fashion over the years, are more likely to satisfy their needs at Twilfit. If this is true, Lindex will cover this group of women as well, increasing the chances that females will continue to buy products from either one of the chains throughout their life.

Perhaps the newly introduced store concept called *Favorites*, offering only lingerie and cosmetics, will close the gap between Lindex and Twilfit, further increasing Lindex total market share in lingerie. These stores are designed to look like they are more exclusive and sensual than the ordinary Lindex stores, thus appealing to a target group that might not afford to shop at Twilfit but still want more exclusiveness than the ordinary Lindex stores offers. Significant for the *Favorites* stores is also the smaller format, enabling locations in areas where an ordinary Lindex store would have been too big. The *Favorites* concept was introduced very recently, which mean Lindex were not able to provide us with any information regarding profitability and impact on the Swedish lingerie market.

7.2.2 Ladies' wear

The segment called Ladies' wear include, except from the ordinary Ladies' wear assortment, two divisions called *Mom* and *Generous*. Lindex claim all Ladies wear are designed with the same standards regarding fit as their lingerie products. In order to further amplify the importance of fit, Lindex have developed the *Mom* assortment, which are clothing designed with pregnant females in mind, thus this division represent a stage that most women go through one or more times in life. By offering this kind of clothing, Lindex might keep their customers through the period in life in which women cannot wear ordinary clothes, adding to the statement one cut for every curve. As soon as these women give birth, they can start purchasing products from the ordinary ladies wear assortment as usual.

Generous, targets women in need of sizes greater than the ordinary women assortment offers. These clothes are designed with an emphasis on fit as well, but do still have the same fashion level as the ordinary ladies assortment. Offering clothing that are more generous in sizes call for a total coverage of the market, providing a supplementary reason for this target group to purchase clothes at Lindex as well, not only lingerie. Having this total market strategy with the different concepts, most women should be able to find products that match her specific clothing and lingerie needs, even though it changes through life.

7.2.3 Children's wear

Lindex' children's wear concept is mainly divided into three segments. The first segment target smaller children in the ages 0 to 6, the next segment focus on school children 7 to 13 and the last segment is called *pre teen* and thereby targeting girls 10 to 14 years old. All children's wear are designed by Lindex and the company claim these products represent good design, quality, and fit.

The smaller children's clothing are also designed according to functionality standards as these children often are dependent upon their parents, while having a low to moderate level of fashion. The school children's clothing has a higher level of fashion but still the main focus is towards fit. Pre teen is said to be focusing on girls who are about to become more aware of their individuality, leaving the child stage and taking the first steps towards the teenage stage. Still, this girl is too young to decide completely by herself what to buy, but as her

parent brings her to the store she will have some input in the decision-making process. The reason Lindex do not offer products specifically targeting teenagers are more likely due to teenagers' search for independence, thus it is particularly hard to persuade teenagers to follow successive purchase behaviors. In turn, we believe the company hopes the girls will return to Lindex' stores after having left the fluctuating teenage period.

We believe the answers to the question why Lindex offer children's wear at all are two folded. Firstly, as Lindex have a female only focus, offering children's clothing could be considered as a service due to the convenience it provides for the mothers who can purchase both their own clothing and their children's clothes in the same store. We also consider this to be strategically beneficial as we believe it is more common that it is the mother's responsibility to purchase the children's clothes. Secondly, it provides an opportunity for Lindex to create brand awareness and thereby customer loyalty. Children who grow-up with Lindex branded clothes, mostly females in the school age, will probably continue to purchase products, no matter if it is clothes or underwear, throughout their lives. Of course, this is our assumption but the likelihood for this scenario to happen increases once these children became older.

According to our interviewee, Lindex is number one or two on children's wear in Sweden at the moment. This we believe, would not be possible if the standards mentioned regarding quality, functionality, fit, level of fashion, and price was not competitive. Maybe the real effects from this strategy will be seen later on, when the children who got their clothes from Lindex today start to bring their children to the company's stores.

7.2.4 Customer interface

The fashion industry play by other rules compared to, for example, the grocery industry and one of the main differences is how a fashion company present themselves for their customers. The fashion retailers need to motivate and inspire people to come to their stores in order to buy their products. Partly, this could be seen as contrary to the customer patterns found within the grocery industry, as all people need food for survival on a daily basis but they do not need clothing to the same extent. In order to face the consolidated fashion market, general trends in society and to live up to their brand name, Lindex stretches the importance of their stores as their most important marketing tool.

Lindex believe the purchasing patterns of today are changing towards more spontaneous shopping, which is why an actor like Lindex need to have store concepts that oblige people to shop, of course the products offered are as important but reaching excellence in just one of these variables will more likely not lead to overall success. Due to these requirements, Lindex faces the challenge of creating stores that appeal to all their customers. Lindex have started to focus on visual merchandising in order for the stores to accurately represent the company's clothing, which in turn are said to represent the modern woman who are aware of her own integrity and design trends.

Throughout this part we have discussed variables that we believe do have an impact on how customers perceive Lindex and the different assortments offered. The high market share the company possesses in lingerie in general, and bras in particular, are more likely due to the great variety in sizes and models offered, thus supporting Bucklin's framework regarding service output, i.e. Lindex great variety is reflected by the high market share they possess. The last section will reveal what we believe are Lindex' value proposition

7.2.5 Summary

Lindex different concepts reveal a strategy solely focusing on women, whereas the foundation is fit, i.e. one cut for every curve and that all products come in enough sizes and variances that all women should be able to find something that fit her specific needs. The different segments of ladies' wear and lingerie satisfies women in different phases in life according to her specific needs; the *Mom* concept covers pregnant women's requirements and the *Generous* concept offer greater sizes than the ordinary Ladies' wear assortment. Simultaneously, children's clothing can be purchased from the same store. With the complementary assortment offered by Twilfit, the women demanding more exclusive lingerie should be satisfied as well.

Modified and shortened, we assume Lindex' value proposition as: Customers should be attracted by inspiring stores and inspiring products, significant with Lindex' strategy of offering every day fashion products having a moderate price level, good quality and the right fit, for every woman at any point in life.

7.3 How Lindex delivers its value proposition

The intention with this part is to analyze and depict the supply chain related activities that Lindex performs when delivering their value proposition. One limitation is made here. The recently bought retail chain Twilfit's supply chain activities have not yet been integrated into Lindex; Twilfit will therefore be excluded here. Employing Fishers (1997) framework for the nature of product demand, the products supplied by Lindex are primarily innovative characterized by having unpredictable demand, short life cycles, high contribution margin, and high product variety. Lindex gross margin for 2002/2003 was 56.3%, defined as sales less expenditure for sold products as a percentage of sales; the width of the product variety can be exemplified by the fact that Lindex has no less 1.894 bra-variants (<<http://www.lindex.se>>).

The average forecast and stockout rates for clothes are much higher than for functional products, as are the forced end-of-season markdowns. Compared with efficient supply chains for voluminous groceries, clothing supply chains' primary focus is being market responsive keeping market mediation costs as low as possible. The aim is to make sure that products reaching the market match consumer demand as cost will appear when supply exceeds demand (markdowns) and when demand exceeds supply (lost sales, dissatisfied customers). (Fisher, 1997)

Drawing upon the process framework described in chapter 6, we will go through the activity steps from budgeting and planning of assortments to store deliveries and demand fulfillment. In order to make it easier for the reader to understand, we start this chapter with an overview of what we consider being the most important supply chain activities that are performed in Lindex' supply chain. A simplified version is illustrated in figure 19, based on our findings.

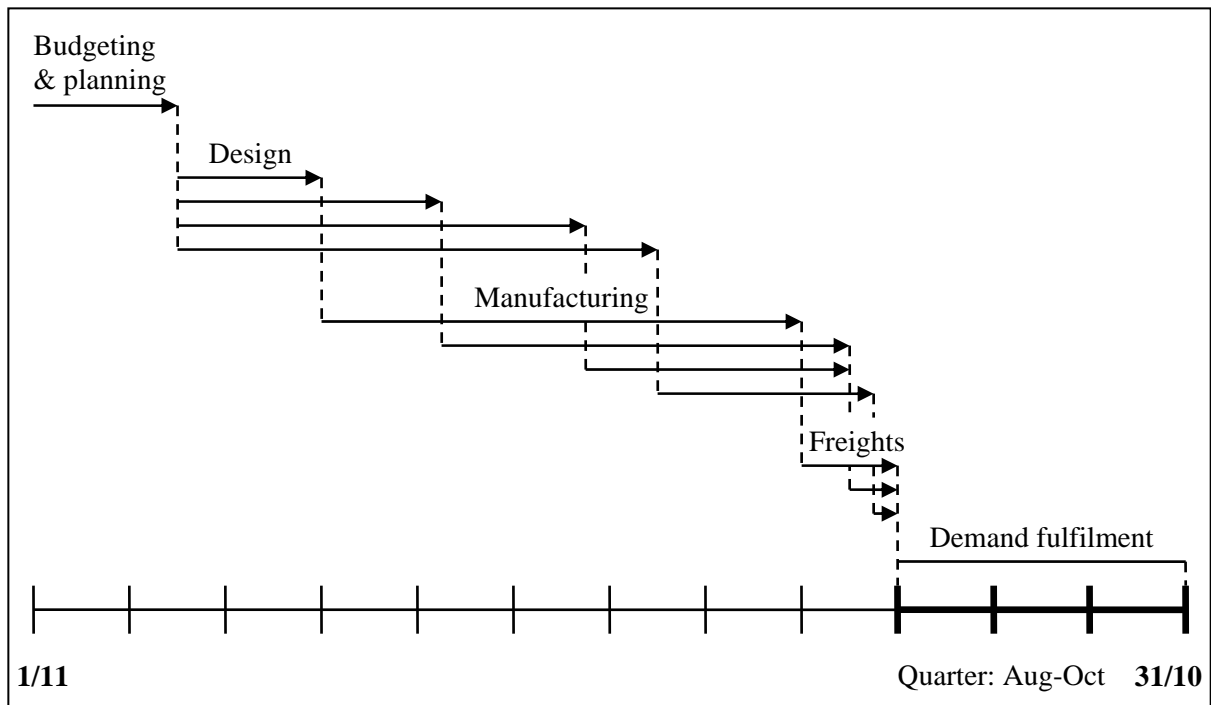


Figure 19: Activities in Lindex' supply chain

7.3.1 Budgeting and planning

A planning period at Lindex consists of three months, hence a year is divided in four quarters; one quarter could for example be August to October. When a quarter has passed, the product segment and country responsible persons meet in the matrix (see figure 18), evaluate the past quarter's performance and start preparing that same quarter next year, hence nine months in advance. Historical data are analyzed, sales and product plans are developed, and the design work starts. Fashion trends are considered, rough assortment sketches are prepared (so called "story boards") and gross product lists are developed. Sales and budgeting plans are decided upon; assortments are planned monthly and budgets quarterly. This process takes six weeks.

7.3.2 Product development

When the above activities are completed the detailed design work starts, based upon story boards and product lists. Of all products sold 90% are in-house designed, the rest are complementary purchases of either external brands or of already designed items offered by suppliers. As different product categories have different lead times, the final design of garments is postponed as late as possible; the reason is that it is best to make the final fashion decisions as close

to season and product delivery as possible, recalling Christopher's (1998) argument that forecast errors decrease as lead time decreases.

When it comes to product branding Lindex offers own brands ("by Lindex" and others) as well as external brands. The purpose with the external brands is to add credibility and exclusivity or to cover small spots in Lindex' own assortment; the proportion of external brands' total sales is however very small. Lindex product branding strategy is illustrated in figure 20.

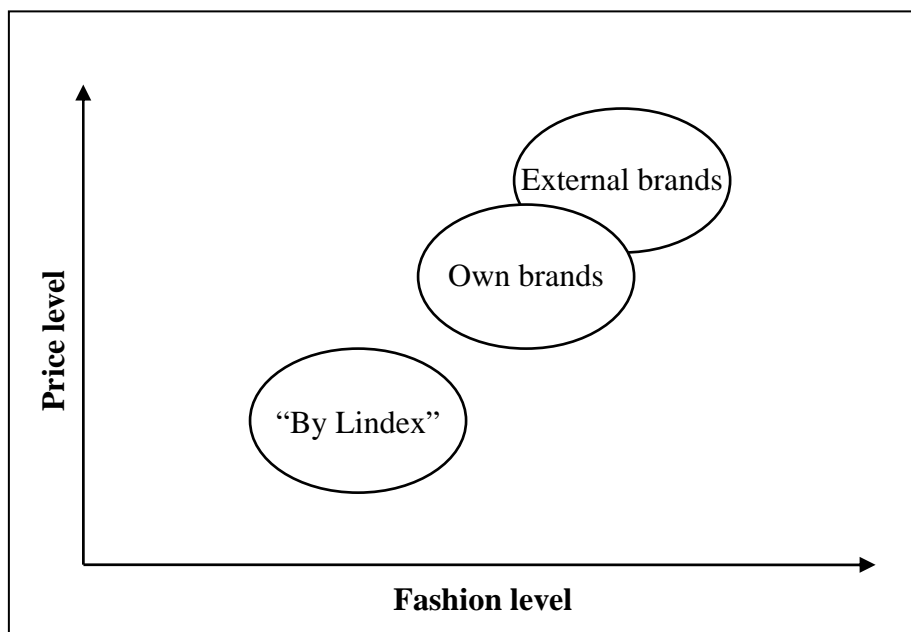


Figure 20: Product branding strategies

The own product brands for lingerie, which is the only product segment containing external brands, could be divided into the "By Lindex" brand, other own brands (e.g. Ella May), and external brands (e.g. Triumph). The aim with the own brands is that consumers should perceive them as external brands and more exclusive than the "By Lindex" brand. The profit margin of external brands is low, so the branding strategy is to position own brands close to external brands, but a little cheaper and only a little less fashionable aiming at being perceived as more price worthy. Even though own brands cost less, profit margins is high, much higher than both "By Lindex" products and external brands. An example of an own brand in the children's clothing segment that by most customers is perceived as external is *Fix*. That brand was purchased in 1996 and has allowed Lindex to stretch their in-house designed children products to a more exclusive segment, with 15-20% higher price level.

7.3.3 Purchasing and freights

A prerequisite to be able to deliver the value proposition is that Lindex has a well functioning system of suppliers that manufactures the products designed at the head office in Sweden. Lindex strive for high control over the supply chain, as it is the foundation for matching market demand. The backbone in this work is claimed to be a global network of purchasing offices. Between 1994 and 2001 Lindex established six such offices in Hong Kong, Istanbul, Dhaka, Bucharest, New Delhi, and Shanghai. Through these offices Lindex gets closer geographically as well as juridical, with increased opportunities to source (arrange purchases) to the right country and supplier regarding price, quality and export/import regulations. Having local purchasing offices also simplifies the process of making sure that codes of conducts concerning factories' work environment is followed.

Similar to most clothing retailers Lindex has outsourced production to low wage countries. The decision to manufacture in the Far East or Eastern Europe is very common; the fact that clothing manufacture is still labor intensive has meant that developing countries competing with low wages have been able to gain market shares, thus leading to an increased internationalization in the industry. In Sweden, the import share of the total clothing industry was 95 % in 1995 (Nationalencyklopedin). A share we believe has increased. All Lindex' suppliers are located in Eastern Europe or in South or East Asia. The level of cooperation with suppliers varies, as illustrated in figure 21.

<p>Basic suppliers</p> <ul style="list-style-type: none"> • Specialist competence • Good relation based on compliance with Lindex requirements 	<p>Strategic suppliers</p> <ul style="list-style-type: none"> • High volume suppliers • Key relation with shared goals and mutual dependency • Shared risks and returns
<p>Suppliers for development</p> <ul style="list-style-type: none"> • Future markets and/or competence • Test evaluation with management follow-up 	<p>Suppliers to be phased out</p> <ul style="list-style-type: none"> • Poor competence and/or performance • Should not be used

Figure 21: Classification of Lindex' suppliers
(Lindex information material)

Our interviewee estimates that approximately 70% of Lindex 400 suppliers are so called basic suppliers, 15% is suppliers for development, 10% is to be phased out, and 5% are strategic suppliers. A guideline is that Lindex should not represent more than 30% of any single supplier's sales, if so the relation must be taken to a deeper level. Around 10 suppliers have Lindex as their only customer. Lindex evaluates their suppliers twice a year with a balanced scorecard approach with measures on gross profitability, delivery accuracy, order quality, and number of consumer complaints.

An estimate is that the number of suppliers will be reduced to about 300 in a few years; the goal is to have deeper relationships with the remaining suppliers. The relation with strategic suppliers in figure 21 resembles what is often depicted in literature about SCM. These relationships are characterized of mutual dependency and trust; one example would be that garments are not quality controlled.

Of all products sold at Lindex, 65% are produced in the South or East Asia and 35% is manufactured in Eastern Europe. The decision where to produce depends on several variables, e.g. fashion level, price competition on consumer markets, and suppliers' expertise. The best lingerie is stated to be produced in China. Children's clothing is extremely price sensitive and must therefore be produced where it is cheapest, i.e. in Asia. Also, children's clothing is not as fashion sensitive either, hence lead times is not as crucial as it is for ladies' wear. The product lead times is illustrated in figure 22.

Process	Lead times (from identified need- store)	Value of total
Basic Flow	1-3 weeks	15%
Quick Flow	6-12 weeks	30%
Collection Flow	12-26 weeks	55%

Figure 22: Product lead times
(Lindex information material)

The “basic flow” in figure 22 is made up of products with long life cycles, somewhat basic clothes from existing styles. These are delivered to stores on a

continuous replenishment basis with lead times on 1-3 weeks, which implies that products are held as inventory somewhere in the supply chain. The “quick flow” is products that are either re-bought in-season or completely new products but still in-season. This is products with high fashion risk and lead times on 6-12 weeks. The “collection flow” is seasonal purchases with high design level and low or medium fashion risk. These lines have the longest lead times, 12-26 weeks, and optimal prices are sought from suppliers.

When it comes to freights, everything that is produced in Europe is delivered by truck. Depending on the time pressure on clothes produced in Asia, Lindex can choose to have it delivered by sea (4 weeks), by air (days), or the combination sea-air (2 weeks). The fastest lead times from order to delivery are 6 weeks and the average is 14 weeks. The fastest lead times have products produced in Turkey. Lindex buys all shipments themselves believing they will get better prices compared to suppliers due to the position as a big freight purchaser. That also enables more control over the supply chain. Next section deals with the final distribution activities before the products arrive in stores.

7.3.4 Quick response

Lindex' has recently invested in a new distribution center north of Gothenburg. This QR project started during the autumn 2002 and involves implementation of a new logistics and IT system. It is expected that that the QR project will be completed within one or two years. The DC and the shipments to stores are a third party logistic solution outsourced to Schenker. Before, Lindex did not have a DC but instead applied a cross-docking approach; products were shipped to a warehouse where they were sorted according to stores after a quite standardized allocation basis. Today after the QR implementation about 50% of the clothes that arrive to the DC are forwarded to stores after a detailed allocation basis. The remaining 50% is held as picking inventory and is delivered to stores based on sales, i.e. fact based distribution. This system leads to a more even product flow and a reduced need for stores to carry inventory, which is strategically important due to high store rents which makes holding inventory at store level expensive. Instead stores will get continuous replenishments, which in the end will allow Lindex stores to increase the sales areas without raising rents. Today the continuous replenishment system works for basic garments which can be delivered every second day, but in the future it will work also for items with higher fashion level.

All in all, the QR and IT implementation leads Lindex into fact based retailing. Sales data can be analyzed more easily with the new IT system and used when grading stores' assortment. Such grading has been difficult and costly before. When fully implemented the project's IT system will enable a detailed store grading arrangement, stores in small and medium sized cities will have a narrower assortment and a lower overall fashion level. All in all, the purpose is to get "the right product to the right store in the right time" <www.lindex.com>.

7.4 Lindex' strategic position

In order to investigate Lindex strategic position we have produced an activity map as in the two earlier case studies, and figure 23 is the result regarding how we believe their value proposition is contained in their company specific set of tailored activities designed to deliver it. As Lindex is in the process of changing their business model, we will here make the assumption that the intended changes are realized.

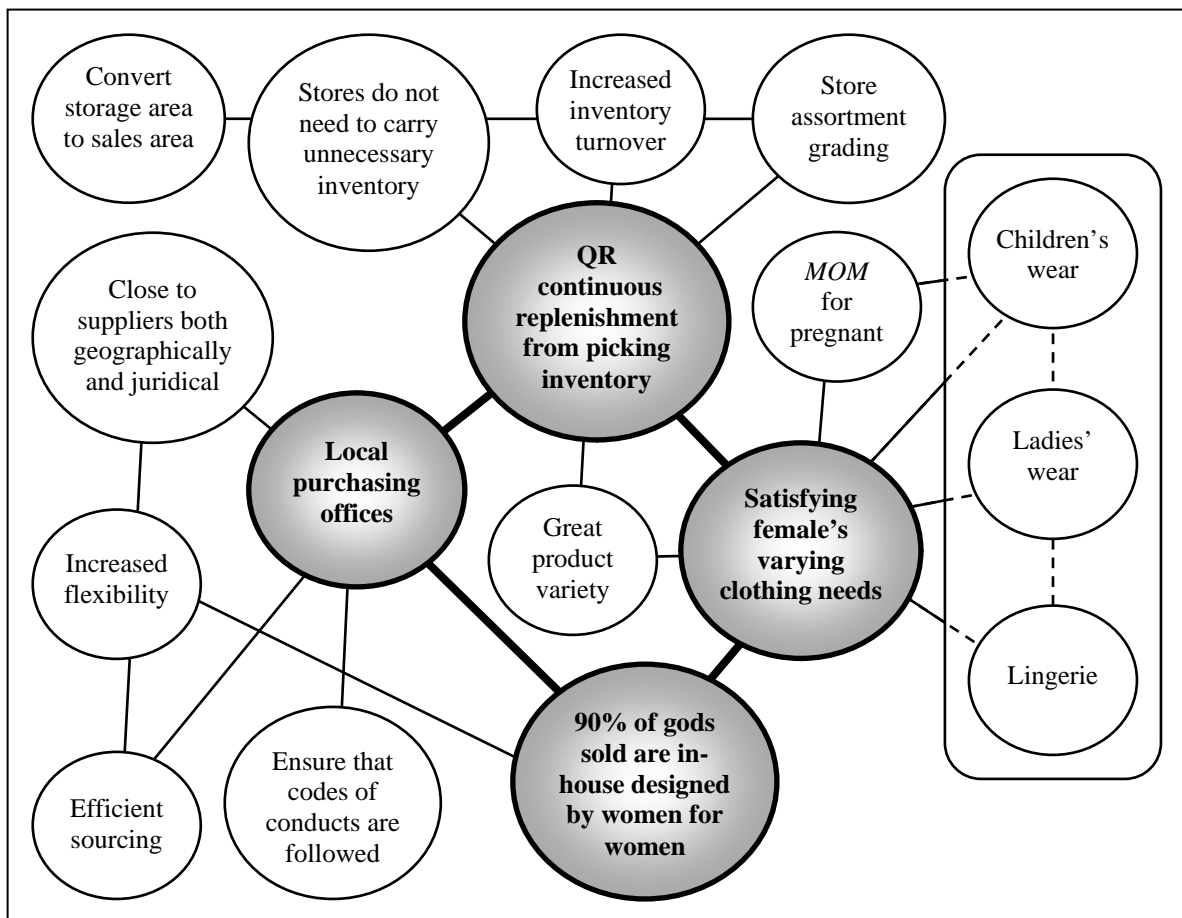


Figure 23: Activity map of Lindex

Lindex value proposition basically revealed that the company offer fashion clothing for women, marked as a higher order strategic theme in order to show the significance. Following this belief, Fisher (1997) argue companies offering fashion apparel need to have a responsive supply chain as such products are said to be innovative, thus deployment of a physically efficient process would direct a mismatch between the value chain and the product. The primary focus of such a market responsive process is to respond quickly to unpredictable demand in order to minimize stockouts, obsolete stocks and forced markdowns, which argues that any company trying to be responsive need to invest aggressively in ways to reduce lead-time, as this is the focal point. However, Lindex have different lead-time flows for different products depending on level of fashion. We believe this set up argues Lindex have adopted a combination of Dvorak and Paasschen's (1996) retail strategies of *fast to market* and *waves of fresh assortment*. The fast to market strategy include making trade offs in the form of cost for speed and flexibility, which could be exemplified by the fact that some of Lindex high fashion risk products are transported from the supplier by air freight, as a shorter lead time reduce the risk for obsolete stocks. The second strategy implies that one should try to reside with longer lead times in order to drive lower purchase costs, while balancing speed and cost using low cost transportation modes like shipping by boat. Children's clothing are one product segment that has a lower fashion risk and small margins, thus Lindex have to live with longer lead times and more cost efficient transportation for this segment.

Christopher's (1998) three variables characterizing the importance of time: shorter life cycles, reduced inventory and increased volatility of markets, are all areas that Lindex try to cope with by implementing the new QR system, thus increasing responsiveness. All activities along their supply chain need to be arranged and structured according to the system, optimizing the *time to market* according to the existing market pace, as any late market entrance for higher fashion risk products increase the risk for obsolete stocks. Lindex have established purchase offices in each country of production as the closeness to production sites ensures more efficient control, claiming that they, for example, can make quick adjustments if trading quotas change in a specific country of production. As Lindex deploy a responsive supply chain, Fisher (1997) argues such companies need to select suppliers primarily based upon speed, flexibility and quality, which argues the on site surveillance increase Lindex ability to control and respond to situations or manufacturing related problems in a more

efficient manner, thus shortening the lead times. Also, integration with strategic suppliers occurs, with shared goals, risks and returns, leading to mutual dependency and more efficient resource allocation as well as increased control over these activities.

Lindex have with the establishment of the new distribution center taken a first step towards reduced inventories and shorter order to delivery time or *time to serve*. The new arrangement forward about 50% of the clothes that arrive to the DC to the stores while the remaining 50% is held as picking inventory, and is delivered to stores based on sales. The fact based distribution system leads to a more even product flow and reduces the need for stores to carry surplus inventory. This set up of inventory surplus reduction release inventory holding costs, as the cost for holding inventory is less at the DC than the stores, hence allowing a substitution of information for inventory. It also makes Lindex more effective when responding to demand of existing products, thus continuous replenishment is cost saving and increases the service level for the end customer at the same time. One could possibly state that all activities accumulated ads to Lindex ability to be responsive as a short *time to react* reduces the risk for forecast errors, thus shortened lead times have become the key for sustainable competitive advantage in the fashion industry.

Following our configuration analysis of Lindex, all the activities in the figure should be reinforced through all other activities, and thereby enabling Lindex to deliver their value proposition. As for all companies, Lindex strategic position would not be sustainable unless they had made tradeoffs with other positions, meaning that if changing some strategic activities the value proposition might fail to deliver what is expected. The most obvious trade off is the company's strategy off focusing solely on women. All things being equal, this choice should increase Lindex strength and ability in producing clothing and lingerie for women as no resources is allocated for male wear development and production. Since Lindex core competence is said to be fit, this means fit regarding products made for women, and as the company has a long tradition in producing lingerie their female focus is a way of strategically positioning themselves from the rest of the market. If Lindex were to start producing items for men as well, they would have to learn how to design and develop products with a great fit for men as well, which more likely would decrease the attention towards the female segments, possibly leading to a smaller share in the ladies clothing and lingerie market.

Lindex choice of outsourcing all production could be seen as a trade off as there are a number of other possibilities. Furvik and Jörnmark (in Nationalencyklopedin, 2003) argue companies in the industrialized part of the world have developed three strategies to cope with the low wage competition from the developing countries: (1) To perform activities like design and product development in the home country and place manufacturing in a low wage area. (2) Manufacture close to the market using the knowledge about the market and fashion trends, thereby reducing lead times, and thus be able to introduce new clothes on the market earlier than competitors producing in low wage areas. (3) To focus on more advanced products like work, protection and sport clothes, or niche products for special local markets. With regards to this discussion, Lindex has deployed a combination of the first and second strategies as 65% of their products are produced in the South or East Asia and 35% is manufactured in Eastern Europe, which is closer to the market. The decision where to produce depends on fashion level, price competition on consumer markets, and suppliers' expertise.

Following this discussion, we know that Zara is using the second strategy as they produce most of their products in Europe. This choice is crucial as their main strategy is to be extremely responsive towards shifting trends, thus they need to have the shortest lead times. This is also true for Lindex but only for the parts of their segments that are more fashionable. If Lindex were to produce these products in Asia, they would probably experience lower production costs but longer lead times, arguing for obsolete stocks due to late market entrances, thus products with a higher level of fashion need to be produced in areas similar to where competitors produces theirs, in order to keep up with the existing market pace. Children's clothing is a segment representing opposite requirements compared to ladies wear, as these products are extremely price sensitive. Therefore, children's wear need to be produced where it is cheapest, i.e. in Asia, and if production were to be moved closer to the market, the products would be too expensive and the benefits with shorter lead times would not be materialized.

Closing this chapter, we have learned that Lindex utilize a market responsive chain, in which the fashion intensity decides when, where and how each product segment should be produced, in order to fully capitalize their resources in the process of delivering their value proposition.

8 Conclusions

The purpose with this concluding part is to sum up our main findings from the case studies and to link these to our theoretical frame of references. A reflection of applied theories will be conducted. Lastly, we will give recommendations for further research.

8.1 Main findings

8.1.1 Ge-kås

Ge-kås' value proposition were found to be based on offering a wide range of products from clothes to home electronics at the lowest possible price, targeting any person who is willing to pay higher than ordinary transportation and search costs. The value proposition is delivered by performing activities that fit together. Everything Ge-kås does has an extreme cost focus, as that is the only way to ensure sustainability in the low price business model. All sales and activities are performed at one location, allowing Ge-kås to have high cost efficiency in all logistical activities. The decision not to advertise or to have any discount campaigns not only eliminates advertising costs and coordination costs between logistics and advertising, but helps in smoothening out the customer flow, which importance should not be underestimated considering the tremendous number of customers Ge-kås attracts; recall that it is Sweden's most visited tourist attraction. Furthermore, due to the decision not to advertise or to have any promise of specific assortment, customers will have no specific expectations regarding assortment and will thus have no reason to be dissatisfied about stockouts.

When it comes to supply chain activities Ge-kås has a 100% retail focus, leaving everything else to suppliers; Ge-kås is not involved in design or production and do not have any purchasing offices, but instead lets suppliers come to Ge-kås and show their products. Besides these main themes, a number of complementary activities are performed that further reinforces Ge-kås value proposition, as was illustrated in figure 6.

Recalling Porter's (2003) arguments that tradeoffs are incompatibilities between strategic positions creating a need to choose, we believe Ge-kås has

managed to find a truly unique position that would be extremely difficult to copy, due to mutually reinforcing activities and strategic tradeoffs in choosing what not to do. Just as important as having a business model that is hard to copy is whether competitors *want* to copy it. We do not think this is the case either considering that when relying upon one location and word of mouth marketing it would take very long time to reach a sales level that could generate large profits. Summarizing how Ge-kås delivers its value proposition, we believe the business model is sustainable and, with Porter's words, that they definitely have chosen to run a different race.

8.1.2 Ica

Ica's value proposition is based on the ability to satisfy customers' needs for groceries. These needs vary substantially between individuals and between different occasions for the same individual. Ica meets customers through more than 1.760 stores and four different concepts, from vast Maxi Ica Stormarknad stores having 35.000 articles on 10.000 m² to narrow and convenient Ica Nära stores with 4.000 articles on less than 500 m². Ica supply all these store concepts with the same logistics system, enabling the whole constellation to benefit from high efficiency in DCs, full quantity discounts in purchasing, efficiency in JIT deliveries and low need for stores to carry inventory.

In general, price levels on a competitive grocery market is a function of operating costs meaning that it is difficult, if not impossible, to outperform competitors in service output terms and at the same time having lower prices. Logistics related activities' part of total operating costs has been found to be between 70-80%. Having this knowledge and applying fundamental laws of economies of scale, it is not surprising that convenient stores with high service output have much higher prices than larger store formats, even though it has been found that this effect to a small extent is neutralized at Ica, as all stores' purchasing prices are they same, irrespective of smaller stores relatively higher resource consumption in DCs and transports. However, with a holistic view incorporating, for example, marketing activities and banking service for customers, high market coverage is most likely important, recalling that *Ica Nära* is by far the largest concept in numerical terms consisting of 1.061 stores. In this light the subsidizing might be strategically important.

Whether Ica has a unique position or not depends on how one defines uniqueness, and in what areas one consider. We believe that many grocery retailers have a similar supply chain like Ica has. The reason they have become so dominant is probably to be found somewhere else, perhaps in the decision to have stores operated by individual retailers as there own companies, thereby arguably bringing in a motivation that an employed store manager would not have; that is however outside this thesis' scope. We believe Ica has made strategic trade offs when having the low cost chain *Netto* operated as a separate company as it probably would be difficult to efficiently combine a distribution system with DCs carrying 7-8.000 articles with a discount store concept's much narrower assortment. Furthermore, by having it structured this way Ica also avoids inconsistencies in image, which would jeopardize the Ica brand. Focusing on supply chain activities only, we consider Ica to be practicing an optimizing competition running the same race faster than competitors.

8.1.3 Lindex

Lindex' value proposition revealed that the company offers fashion clothing and lingerie for women in different phases in life, with such a great variety in sizes that all women should be able to satisfy their needs. Further, the complementary assortment offered for children is of a strategic nature as we believe most children's clothing are being purchased by mothers, while these assortments might create brand awareness in low ages, thus creating customer loyalty in the end. Regarding the nature of demand of Lindex' products, they are primarily innovative, thus arguing for a market responsive supply chain which purpose is to respond quickly to unpredictable demand in order to minimize stock outs, forced markdowns and obsolete inventory.

Lindex' approach in dealing with the challenges of time-based competition has been to develop a system aiming at increasing responsiveness by shortening the lead times. But, there is a limitation to this idea as our analysis argues Lindex' products represent varying levels of fashion intensity, which suggest different product segments need different supply chains. For example, children's wear has high price sensitivity and low fashion sensitivity, which mean Lindex need to live with longer lead times in order to find a balance between speed and cost. The same formula would be devastating if used for ladies wear, which are more fashion sensitive and less price-sensitive, thus Lindex tend to produce such items closer to the market in order to decrease lead times. Even though reduced

lead times generally mean higher distribution costs, it is motivated in this case as a faster response to consumer demand mean a more accurate forecast, higher sales and hence a decrease in market mediation costs.

The above time to market scenario refers to the initial stage of a products life cycle, and Lindex' attempts to meet demand during the life cycle is materializing through their fact based retail system. The end customer triggers the EDI system with purchases and a response is send to the DC, which replenish the stores continuously. The lead times are shortened by the QR system, increasing responsiveness by meeting demand quicker and more accurately while releasing inventory storing costs.

The strategic position Lindex occupies is based upon their female focus, this trade off containing no offerings targeting males, should maximize their resource allocation towards the deliverance of their value proposition. If male items were to be introduced incompatibilities between products and service attributes would more likely appear as Lindex' whole concept is directed towards females. For example, the stores would more likely have to be redesigned in order to attract males at all, which would lead to inconsistencies in image. Regarding the configuration of activities at Lindex, we believe the QR project is developed in a manner that should lead to mutually reinforcement between activities; thus the cost of performing one activity is lowered because of the manner in which other activities are performed. But, as this project was only recently established, it might be too early to say how successful this project is as the full materialization is yet to happen. When this occurs, Lindex' strategic position needs to be compared to main competitors, which will reveal if the fit between activities are enough to enable sustainability.

8.1.4 It all matters

Even though we have not had the intention to compare our case companies with each other, as that has not been included in our research purpose, it would be interesting to illustrate how activities that companies perform are reflected in end customer prices. Such an attempt is performed in figure 24. Sizes of costs are not 100% precise, but that is not important here as the purpose is to exemplify how total costs are accumulated by all activities.

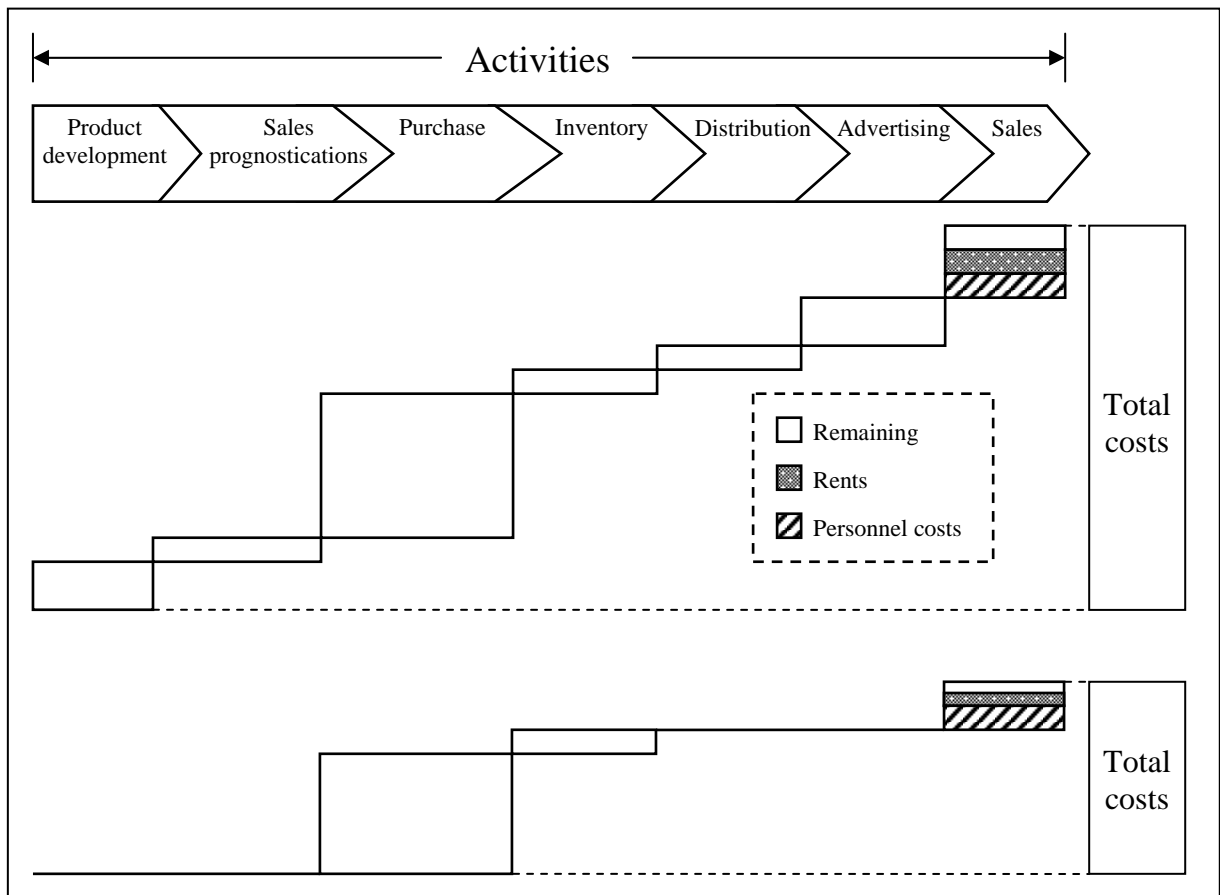


Figure 24: Division of the cost of activities
(Ingemar Claesson Konsult, 2003, remodeled)

Lindex supply chain could be depicted as the upper chart in figure 24, with costs allocated for each activity performed in their supply chain, leading to a specific amount of total cost. Comparing with Ge-kås' supply chain depicted as the lower chart (comparable with Lindex as they are both retailers offering clothing), Ge-kås' total cost is much lower due to their strategy of not being involved in any production related activities meaning Ge-kås do not have any costs for product development or forecasting. The one spot location means they do not have any distribution costs or multiple locations rents. Nor do they have advertising costs. Hence, their total costs become much lower compared to Lindex', which mean lower prices for the end customer. On the other hand, shopping at Ge-kås is much more inconvenient as the service output of such a supply chain is significantly lower than in Lindex', implying that most customers pay high transportation and search costs when visiting Ge-kås and hence must make a tradeoff between service level and costs. Connecting this discussion to our research question, these two companies' supply chains are ultimately direct products of their value propositions.

8.2 Reflections upon applied theories

Having conducted this research project we can now reflect upon the theories used, starting with the general writings about SCM. In light of our own findings and experiences they appear a bit too utopian, or perhaps too theoretic; our findings give no support for a practitioner view of supply chains going from extraction of raw material to end customers. Second tier suppliers (i.e. suppliers' suppliers) were the most remote actors we came across during interviews, which was the case when Lindex purchased textiles for some of their manufacturers. Our findings are thus in line with Stern et al's (2001), that a perspective going from raw material to end customers is too comprehensive and that managers' view is more arbitrary setting their own supply chain borders. Bucklin's theory for end-user preference has been very useful for our study, especially regarding Ica's store concepts. The biggest contribution was the framework's pedagogical qualities concerning logistic activities' contribution to end customer prices.

Fisher's (1997) framework for the divisions of products when based upon their demand pattern into primarily functional or primarily innovative and supply chains into primarily physically efficient or primarily market responsive have also been found useful in our research. However, in our opinion the division of products and supply chains into two distinct categories feels too straight forward. When reading Fisher (1997) one gets the feeling that the groupings are almost mutually exclusive, but according to our findings it is definitely not a dichotomy. In the grocery sector this could be exemplified by the differences in supply chain activities between sensitive perishables and colonial assortment articles (like flour and sugar); furthermore Ica has also centralized low frequent articles to one central warehouse, which implies that the demand for different groceries varies a lot. In the clothing sector it could be exemplified by Lindex' strategy for having garments produced in different parts of the world as well as the opportunities of choosing freight alternatives depending upon garments' fashion content. We believe that Fisher's (1997) uncertainty framework is better described as a supply chain continuum, on which there are functional products and efficient supply chains on one end and innovative products and responsive supply chains on the opposite. Between are products and supply chains with varying differences in demand versus efficiency and responsiveness.

The separation of supply chain competition into cost-based versus time-based competition feels logical from a theoretical perspective, but also in light of our findings. Even though we found many examples of typical cost-based activities in the Ge-kås and Ica cases (distribution efficiency, JIT, economies of scale thinking, etc) and time-based activities in the Lindex case (QR, air-freights, etc) we consider it also here to be better described as a continuum, as the borders between the different ways of competing are not sharp.

8.3 Recommendations for further research

This study has had a quite broad and explorative approach, investigating very different value propositions and business strategies. It would be interesting to conduct a more detailed study, focusing on one case company. Such a study could include detailed product life cycles and product flow analyses, in which figure 16 could be used to find ways of reducing non-value adding time. An activity based costing study would illustrate where costs occur and also how much the costs of performing activities is reflected in end customers prices.

Another interesting area to examine would be what kind of management accounting that is used in SCM. One performance measure could probably be cash to cash cycles (i.e. the time it takes to convert expenditures at raw material or supplier level to incomes from sales to consumers). The development within the IT area has enabled companies to increase their control over product flows and inventories, arguably allowing reductions in safety stocks. Most likely, these developments have had impacts on companies' cash flows. A cash flow analysis with a SCM perspective would be very interesting.

All case companies included in this study were retailers. Another angle when studying SCM could be to include different actors in a supply chain, for example one retailer and one or two of that retailer's suppliers. Such a study would perhaps benefit from having a relationship focus, examining the value of trust, information sharing, and possible occurrences of open book accounting in supply chain relationships.

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