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**SUPPLY CHAIN MANAGEMENT IN FINNISH RETAILING, COMPARISON TO
WORLD-CLASS COMPANY. CASE KESKO FOOD AND SEVEN-ELEVEN JAPAN**

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1. INTRODUCTION

The subject for this thesis is Japanese and Finnish retail industry supply chains. Inspiration for this subject came from an article by Hau L. Lee titled The Triple-A Supply Chain. In the article Lee picks up one world-class company that has excelled in designing its supply chain to meet the three points that make supply chains effective according to Lee. Those three are the long and short time flexibility and interest group commitment. The example company he uses is Seven-Eleven Japan, largest single actor in Japan's retail industry. Seven-Eleven has received worldwide recognition as a company that has gained tremendous growth in both sales and income, but at the same time managed to decrease its logistic costs. Seven-Eleven Japan uses many interesting solutions in its supply chain design, for example very advanced electronic inventory tracking system.

Originally this thesis was only meant to describe this renowned Seven-Eleven Japan logistic system, but after some research questions arise. How were the same logistic solutions handled in Finnish environment? Could the same effective methods also be used in Finland? Finnish retail industry has lately gone through challenging times, with growing competition from both domestic and international players combined with ever growing efficiency and customer needs. This has forced the sector to concentrate even more in improving and developing their supply chains so the questions above are very valid.

Kesko Food was chosen as a comparison company mainly for its significant position in Finnish food retail sector and for the extensive existing source materials of the company. Kesko Food has also recently concentrated to greatly improve its logistic solutions, so it should present a fine example of the state of Finnish retail industry in this subject.

1.1 Thesis goals and outlines

The goals of this thesis are to examine the two case companies and their supply chain solutions, and to find possible similarities and differences between them. Subjects of particular interest are the operation of logistic chains and the use of electronic tools in managing them. The chosen case companies are Seven-Eleven Japan for the Japanese perspective and Kesko Food for the Finnish.

1.2 Thesis questions and definitions

This thesis has one primary and two secondary questions. The main thesis question is as follows:

1. How are the supply chains of Japanese and Finnish retail companies different or similar with each other?

Secondary problems are:

1. How can Finnish retail companies improve their supply chains?
2. What kind of electronic tools are used in retail supply chains?

The goal is to answer to these questions by using the vast available public material and literature as a help.

1.3 Thesis structure

This thesis is composed from theory portion and case company descriptions. The theory portion is based on literature and is includes descriptions for supply chain management (SCM), Triple-A Supply Chain and efficient consumer response (ECR). Company descriptions give basic financial information and explain the operations of the logistics in the companies. The structure of the thesis is portrayed in figure 1.

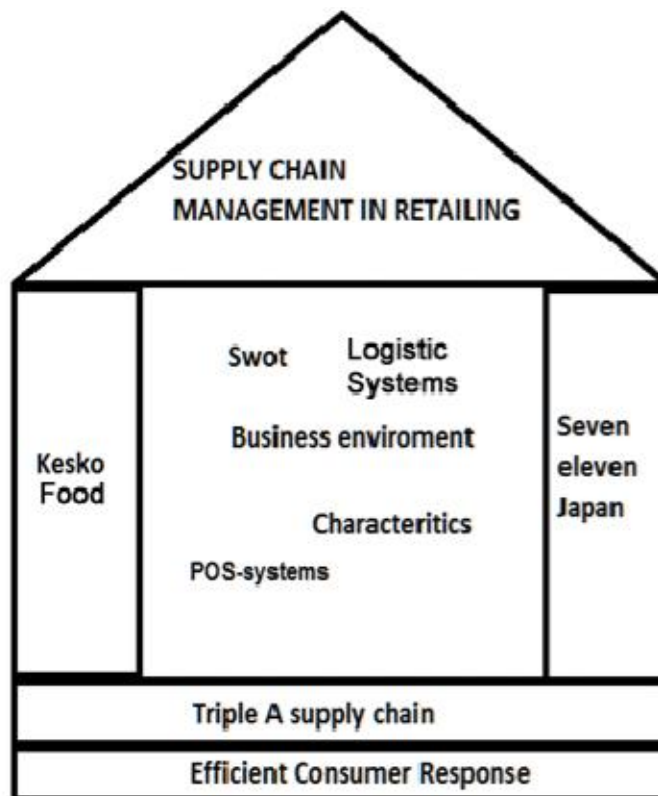


Figure 1. Structure of the thesis

2. SUPPLY CHAIN MANAGEMENT

Over the past decade more and more attention has been given to the concept of supply chain management. There is not one single unified definition for supply chain management. According to one definition, SCM is an approach where material, product, and information flows are designed, implemented, and evaluated among multiple actors. The actors in the supply chain are suppliers, manufacturers, wholesalers, and retailers who are involved in business processes, such as procuring, producing, and delivering products. (Arns et al. 2002, 886)

Other definition suggest that supply chain management should be seen as a concept, with a primary purpose to use a complete systems perspective to manage and integrate sourcing, material flow and control across various functions and various levels of suppliers. In this perspective, SCM can be seen as a long-term relationship of multiple parties based on trust and commitment to develop the relationships. These kinds of relationships include integration of logistics activities and sharing of demand and sales information with the focus in controlling logistics processes. (Monczka et al. 2001, 5)

All in all, supply chain management is an approach to view the channel as a whole rather than as a set of fragmented parts. SCM differs from traditional approaches on inventory control and focuses on the management of inventory control through the entire supply chain. Successful SCM relies on forming strategic partnerships with trading partners along the supply chain, with one partner playing a key role in coordinating and overseeing the whole supply chain. Cooperation both inside a company and between companies in synchronizing and combining operational and strategic capabilities is vital. The primary focus in managing supply chain should be in creating customer value and aiming for customer satisfaction. (van Weele 2002, 208-209)

According to van Weele, the five basic components of SCM are Plan, Source, Make, Deliver, and Return. Plan is the strategic portion of SCM. A strategy for managing all the resources that go toward meeting customer demand for your product or service is

needed. It is essential to monitor the supply chain so that it is efficient, costs less and delivers high quality and value to customers. Source means choosing the suppliers and developing a set of pricing, delivery, payment, and constant improvement processes with them and building an efficient inventory management, including the reception, verifying and transport of shipments. Make is the manufacturing step which includes scheduling, production, testing, packaging and preparation for delivery and measuring quality levels, production output and worker productivity. Deliver is the logistics portion which includes coordinating the customer orders receipts and developing a system of warehouses and customer delivery. Final component Return is about creating system for receiving faulty and excess products back from customers and supporting customers with problems with delivered products. (van Weele 2002, 208-209)

In practice, there are multiple benefits received from successful implementation of SCM. The three main benefits can be seen as lower costs, improved customer value and satisfaction, and competitive advantage. Other benefits include reduced likelihood of selling out items, reduced markdowns and improved sales figures. (Mentzer et al. 2001, 24)

2.1 The Triple-A Supply Chain

In the past many companies have focused on making their supply chains more efficient and cost-effective. In truth, companies haven't gained sustainable improvement over their rivals with this. Supply chain efficiency is needed, but it isn't enough to ensure that firms will do better than their rivals. According to the research by Hau L. Lee, top-performing supply chains possess following three qualities. All three are fairly different from one another but still equally essential. (Lee 2004, 102-103).

Good supply chains are agile, meaning that they have the ability to react rapidly to short-term changes in demand or supply and take care of external disturbances smoothly. This can be gained by improving the information flows with suppliers,

building inventory buffers for key components and acquiring dependable logistics systems for the company. (Lee 2004, 103-105)

Adaptability in supply chains means that the design of the supply chain is able to change according to fundamental changes in the markets, company strategies, products or technologies. By identifying structural shifts early, companies are able to move facilities, change suppliers and outsource manufacturing. This is possible by constantly monitoring new supply bases and markets globally, performing customer need surveys, creating more flexible designs for products and determining their current position in technology and product life cycles. (Lee 2004, 105-106)

Third quality found in world-class supply chains is proper alignment, meaning that constant performance improvements in the supply chain are encouraged. Supply chains optimized for the goals of each individual company's business will not optimize the supply network as a whole and therefore companies should unite the interests of the partners in their supply chains with their own. For example, companies should exchange information and knowledge with vendors and customers without restraints, share the cost of the risks and gains of the improvements, and organize carefully the roles, tasks and responsibilities of the whole supply chain. (Lee 2004, 106-107)

2.2 Re-defining the Triple-A Supply Chain

Four years after Hau Lee's article was published, John Gattorna revisited the ideas in his article and added some new refinements. The following are his suggestions for improving the groundwork Lee has made.

According to Gattorna, agility has become increasingly critical in today's volatile markets. But companies pay a price for this. Being agile and cost-efficient at the same time is not possible, one or the other has to give. Giving an agile response at lowest cost-to-serve level only rewards customers for behaving badly. Gattorna has developed a concept called "supply chain alignment", which approaches this problem of supply chain design and operation from the customer's dominant buying behavior

perspective. A relatively small number of supply chain types are capable of covering up to 80 % of the market. To align with the four main behavioral segments Gattorna suggest four types of supply chain configurations: Continuous Replenishment, Lean, Agile, and Fully Flexible. (Gattorna 2008, 39)

Lean configuration is the best solution for the customers who simply seek lowest cost in products. In these cases the market environment is relatively predictable. These customers are risk-averse and have transactional mindset. In Lean configuration lot of emphasis is put on making and fulfilling forecasts, creating scale and using process improvement techniques such as Six Sigma to lower costs. The most important value shared by both customers and the supplying organization is cost-efficiency. To successfully execute a low-cost solution for the customer, removing all waste in routine processes, in addition of cost-controller leadership mentality, is needed. The risk is that the more you cut cost, the more fragile the supply chain becomes and the weaker its ability to respond fast to sudden changes in demand. Fortunately, there is likely to always be a sizable segment of customer-markets that demand a consistent low-cost response. For customers with a requirement for speed, risk taking, who place low importance on relationships and who are time-sensitive, an Agile response is needed. (Gattorna 2008, 39)

Changing the supply chain configuration is needed if there are structural shifts in a marketplace, which re-shape the behavioral segment mix for a particular product/service category. For example, if a loyal customer is being served by a Continuous Replenishment supply chain, and that customer shifts to the low-cost/efficiency segment, it is required to recognize that fact and engage the Lean supply chain. Whether you call it adaptability or flexibility, what is needed is a shift of gears from one type of supply chain configuration to another as fast as possible. According to Gattorna, this is the very essence of dynamic alignment. If it is possible to eliminate over-servicing in Lean and Agile type supply chains, and recognize under-servicing in Continuous Replenishment supply chains, and getting paid the appropriate prices in each case, margins overall will improve significantly. (Gattorna 2008, 40)

Alignment can be seen as the over-arching organising principle that needs to be used to drive business success by aligning company's strategies, internal sub-cultures and leadership styles with the customers and suppliers in the marketplace. It is the best way to achieve long term operational performance. Gattorna's concept of dynamic alignment goes well beyond the idea introduced by Lee where he focuses mainly on aligning the interests of all firms in their supply chain. That is also vital, but first the internal resources of the firm must be aligned to have any chance of delivering high-performance on a consistent basis. And when it comes to aligning with customers downstream in the chain, different value propositions are needed to address the range of buying behaviours in the target market. (Gattorna 2008, 40)

In Gattorna's opinion, Lee's article is missing a comprehensive explanation of how the internal culture of the firm plays such a pivotal role in executing these value propositions. In Gattorna's view there are at least eleven levers to pull in order to shape a particular sub-culture: organisation design, positioning of individual people within the structure, processes, information technology, internal communication styles, Key Performance Indicators (KPIs) and corresponding incentives, training and development, role modelling, recruitment, and the influence of leadership style. All of these components are well known individually, but the potentially different recipes seem to be understood by very few. That is why there have been very few successful business transformations over the last few decades. (Gattorna 2008, 41)

The problem is that re-configuring the existing corporate culture in an organisation into three, possibly four sub-cultures takes time. Based on their respective records, companies like Zara (Spain), Li & Fung (Hong Kong), Adidas (Germany), JBS (Brazil), Dell (US), and Seven-Eleven (Japan) have been very successful with this. (Gattorna 2008, 41)

3. EFFICIENT CONSUMER RESPONSE

This chapter will discuss efficient consumer response. Efficient consumer response (ECR) in itself is a vast framework with multiple different aspects, but the discussion in this chapter will be limited on issues related to this thesis' focus area.

As globalization and ever developing information technologies have changed the way business is done in retail industry, the concept of efficient consumer response (or ECR in short) has received large interest from many retail companies over the past few years. ECR is a supply chain management strategy initiative developed particularly for the needs of fast moving consumer goods retail. It was introduced originally in the United States in the early 1990's by large grocery retailers and branded manufacturers (Corsten & Kumar 2005, 90). ECR was brought out as a response and counterforce for the intensifying competition that traditional retail was experiencing from alternative retail stores and formats such as discount and convenience stores. (Kurnia et al. 1998, 130)

Since its introduction, ECR has developed and is now one of the most important frameworks for managing various issues related to retail supply chain. It could be described as the competence to meet efficiently on individual consumer demands through integrated product management, assortment management and business logistics. ECR is designed to increase the competitiveness of traditional retail industry, especially against low-cost retailers. In essence, ECR aims to cut out inefficiencies and improve performance throughout the retail supply chain. (van Weele 2002, 317-318)

Besides providing a strategic approach for traditional retail to face new challenges, ECR is also used on developing supplier-retailer relationships with a goal of creating competitive edge. The idea is that the retailers and the manufacturers all need to work together more closely and use efficiently all sales information in order to meet this objective. The idea is to work together to fulfil customer wishes better, faster and at less cost. The aim is to have a win-win situation for all involved parties. By sharing

knowledge and information from different sources and using it in the right way all parties can benefit. (van Weele 2002, 317-318)

ECR implies that retailers should develop an intensive commercial policy per product category tailored for specific consumer segment and that they should communicate this policy with their partners in the supply chain. This should result in optimized logistics and materials flows, much better communication and better sales results from jointly developed promotional and advertising campaigns. ECR should be considered as an integrated business concept which focuses on improving both commercial and logistics activities of all partners in a specific supply chain. In doing so, companies involved should work several improvement areas such as automatic ordering, optimized promotions and so on. (van Weele 2002, 317-318)

ECR has been criticized for lacking a solution on providing a true win-win situation. ECR is widely considered to significantly benefit retailers, but suppliers who are required to put in a major effort are often left with little benefit. Usually suppliers put in more investments while retailers take home the major benefits, which can create a sense of inequality in a collaboration relationship (Corsten & Kumar 2003, 22-23).

ECR has existed in the industry and research for roughly two decades. Ever since its introduction, it has been under considerable discussion and scrutiny both from a professional and from an academic perspective. Even though having been in the spotlight for some time, ECR doesn't seem to be a temporary fad, and seems to be here to stay. Things like electronic payment systems and customer loyalty cards provide insight into purchasing regularity, composition of the consumer's daily shopping basket and the customer's address. Scanning gives the retail buyers a direct insight into the actual sales in their stores and the stock situation in the distribution centres. Space management enables them to stimulate display layouts, based on detailed cost information, so that the optimal return can be gained. With ECR the buyer's role in progressive retail companies evolves from just a buyer to a product group or category manager. (van Weele 2002, 317-318)

3.1 Point of sale information systems

One crucial aspect of efficient consumer response are the point of sale (or POS) information systems. They are used to measure the sales, demand, cost, and profitability information of various products and product groups. POS-systems universally work on various barcode based product indexation schemes, such as EAN (European Article Number) in Europe and UPC (Union Product Code) in the U.S.A. These barcodes can be read with handheld sized device, and they usually contain detailed information concerning the product. Every customer purchase is registered in the POS-system, which enables retail companies to find profitable or non-profitable products and predict future sales, which then can be used for efficient order sizes and quantities. Figure 2 shows an example of a point of sale information system. The retailing industry is one of the main users of POS terminals. (Kautto 2004, 28-30)

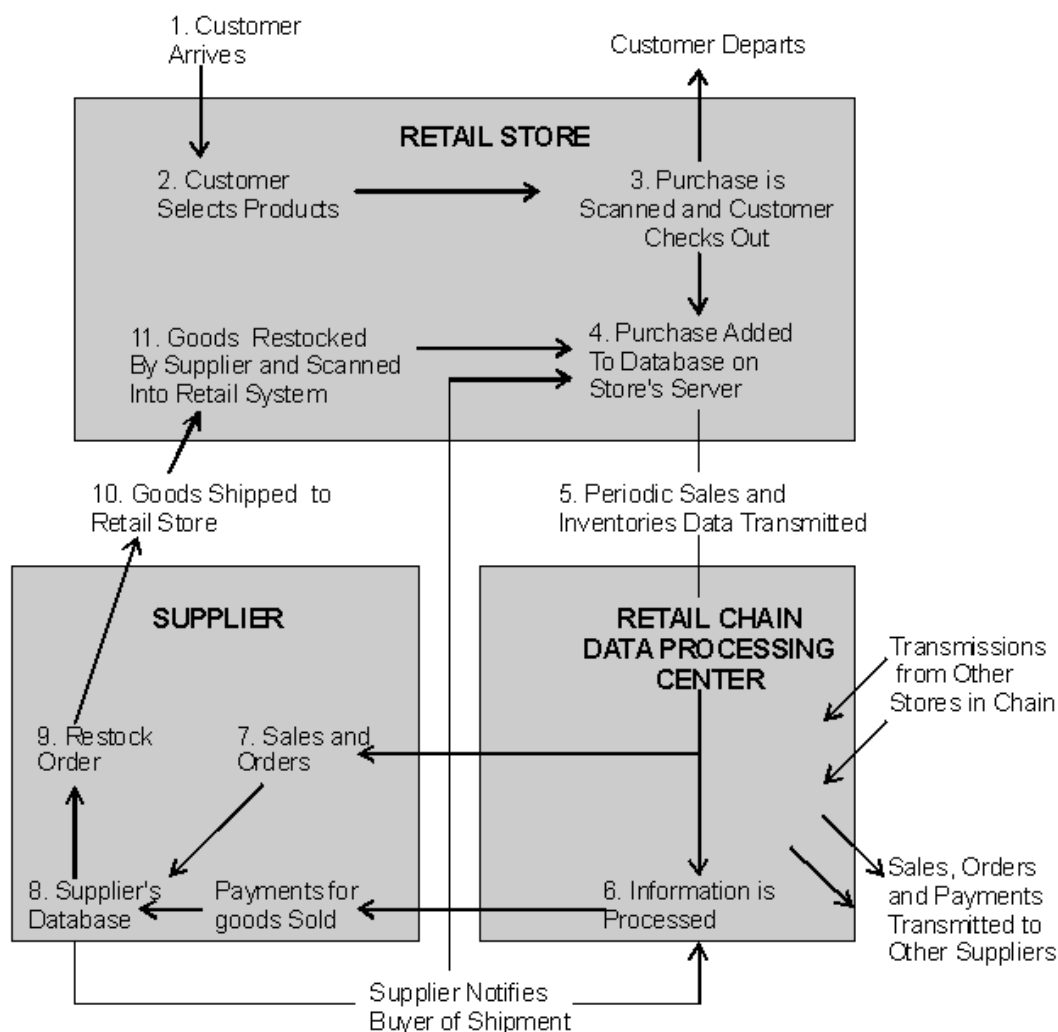


Figure 2. Point of sales system integrated using electronic transmission (Burt et al. 2003, 189)

3.2 Automatic data acquisition

Automatic data acquisition is operative activity where the target is to simplify the collection of data into information systems. It is a vital part of a precise and real-time data collecting that is necessary in ECR. It reduces change for errors and speeds up work. Several identification techniques have been developed to implement automatic data acquisition, which include barcodes, RFID-tags and machine vision. (Pastinen 2003, 113)

Barcodes are machine-readable representations of data, which contain information about items origin, destination, type and so on. In logistics, barcodes are used to help to identify, track, process and deliver items and materials. Barcodes can be used to in various parts of the production and distribution chains. They are used to ensure the accuracy of stored data, speed up input of new data and deliver an easy and affordable way to read information. (Pastinen 2003, 113-114)

Barcodes are used in retail industry to collect data about sale types and quantities. At the same time inventory is kept up to date. When stock of an item is starting to run out, an automatic order can be sent to the supplier. (Pastinen 2003, 113-114)

RFID (Radio Frequency Identification) is a radio wave based data acquisition method. RFID-system consists out of data reading handset and a RFID-tag. RFID tags contain two parts: an integrated circuit that stores and processes information, modulating and demodulating a radio-frequency (RF) signal, and an antenna for receiving and transmitting the signal. (Pastinen 2003, 115-116)

RFID has many applications. For example, it can be used for customer identification in public transportation or in enterprise supply chain management to improve the efficiency of inventory tracking and management. The main advantages of RFID system compared to barcodes is that it enables the reading of multiple products at the same time, the reading is automatic and does not require manual handling, and the electronic chips can contain much more information.

Radio Frequency Identification systems are predicted to replace barcodes in the future. (Pastinen 2003, 115-116)

In addition to RFID, machine vision can be used for data acquisition. For example in manufacturing machine vision is used to identify barcodes and the shapes of cartons. (Pastinen 2003, 115-116)

4. CASE COMPANIES

In this chapter two prominent retail industry companies from two different countries are presented. Basic economic facts, SWOT analysis, and description of supply chain management policies are given from both companies.

4.1 Seven-Eleven Japan

Seven-Eleven Japan is a Japanese convenience store chain and currently Japan's largest retailer in terms of operating income and number of stores. Established in 1973 and headquartered in Tokyo, it employs about 4,800 people. With gross profit margins of 30 %, it is also one of the most profitable retailers in the world. (Chopra 2005, 1-3)

In the last 20 years have been period of phenomenal growth for the company. Between 1985 and 2006, the number of Seven-Eleven stores has gone up from 2,299 to 11,310, sales has increased from 386 billion Yen to 2498 billion Yen and net income has improved from 9 billion Yen to 119 billion Yen, while simultaneously it has decreased its inventory relative to sales. This success story is attributed primarily to the companies supply chain design and management ability. (Chopra 2005, 1-3)

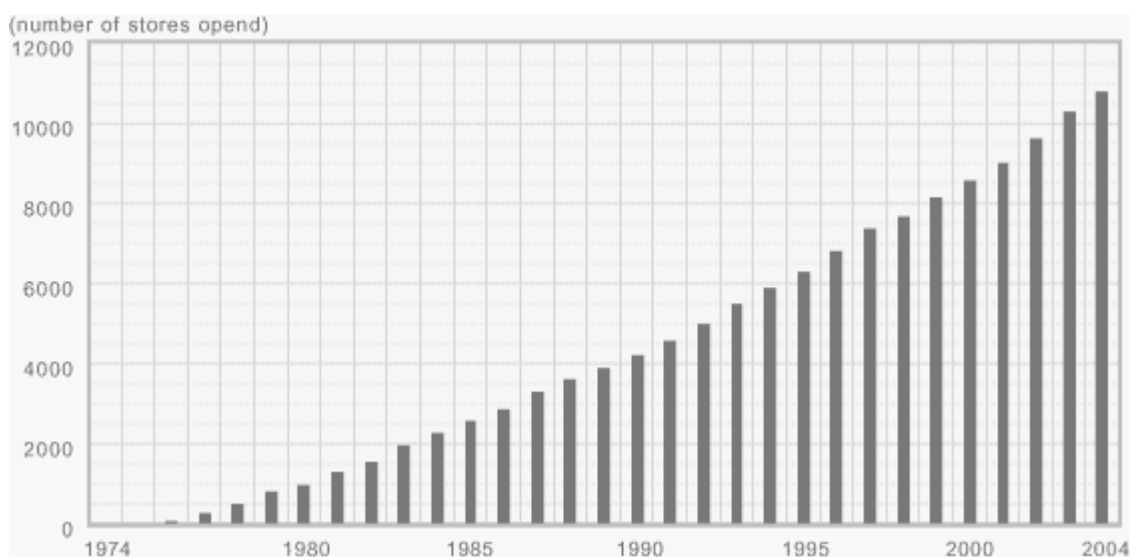


Figure 3. Growth of Seven-Eleven Japan (Datamonitor 2005, 5)

Seven-Eleven Japan has developed an extensive franchise network and performs a key role in the daily operations of this network. The Seven-Eleven Japan network includes both company owned stores and third-party owned franchises. To ensure efficiency, Seven-Eleven Japan has based its network expansion policy on a market-dominance strategy, meaning it builds clusters of 50-60 stores when entering new market areas. This gives the company a high-density market presence and enables an efficient distribution system. As part of this strategy, Seven-Eleven Japan has opened the majority of its new stores in areas where it already has presence, which means that the company has surprisingly limited presence in many parts of Japan. (Chopra 2005, 2-3)

4.1.1 Seven-Eleven Japan and the grocery industry in Japan

Seven-Eleven is the leading convenience store operator in Japan with 31.5 % market share. This gives the company a firm strategic foothold in its sector. The company has skilled middle and high management staffs that have succeeded in implementing various effective operational improvement initiatives in the company, for example the advanced utilization of the point of sales data collecting system. In addition, Seven-Eleven also has a strong parent company Ito-Yokado behind it. Ito-Yokado is one of the largest and most well known brands in Japan. (Datamonitor 2005, 6-7)

Seven-Eleven Japan can be considered to be operating in a mature market where future growth will be limited. The company has also had some challenges on handling its declining cash balances and parent companies weak economic performances in the past few years, which could impact Seven-Eleven in the future. (Datamonitor 2005, 6-7)

Seven-Eleven Japan has sought growth from entering number of new businesses where customer needs are increasing, for example banking. Japan's economy has lately seen growth after a decade of depression. Increasing capital and consumer spending should improve demand for the company's products. The company has also taken active involvement in team merchandising where it works with suppliers in

product planning, development and manufacturing, which should result in new product development. (Datamonitor 2005, 6-7)

The growth rate for the number of new convenience stores opened has dropped recently, which is seen as a sign of maturity for Japanese convenience store industry. This is likely to affect the company's chain of convenience stores. Japanese retail industry has also seen significant deregulation and growing international competition in recent years, which can be seen as a threat. (Datamonitor 2005, 6-7)

4.1.2 Seven-Eleven's logistic system

Seven-Eleven Japan has developed an advanced system for multiple merchandise categories, with a goal of going beyond the boundaries of regular convenience store chains. This has been achieved with multiple ways like including suppliers as merchant wholesalers and manufacturers and then developing an inter-organizational system with these suppliers. The aim is to synchronize the production of the manufacturers, the logistics and the inventory holdings with the consumers purchasing behaviours. (Fujimoto 2006, 28-29)

Seven-Eleven Japan's delivery system is strongly characterized by a information system with a systematic integration of orders, manufacturing and delivery. The system Seven-Eleven Japan uses for distribution tightly links the entire supply chain of the company for all its product categories. The Seven-Eleven distribution centres and the company's information network play a key role in that regard. Its main objective is to carefully track sales of items and offer short replenishment cycle times. This allows a store manager to accurately forecast sales corresponding to each order. (Chopra 2005, 4-6)

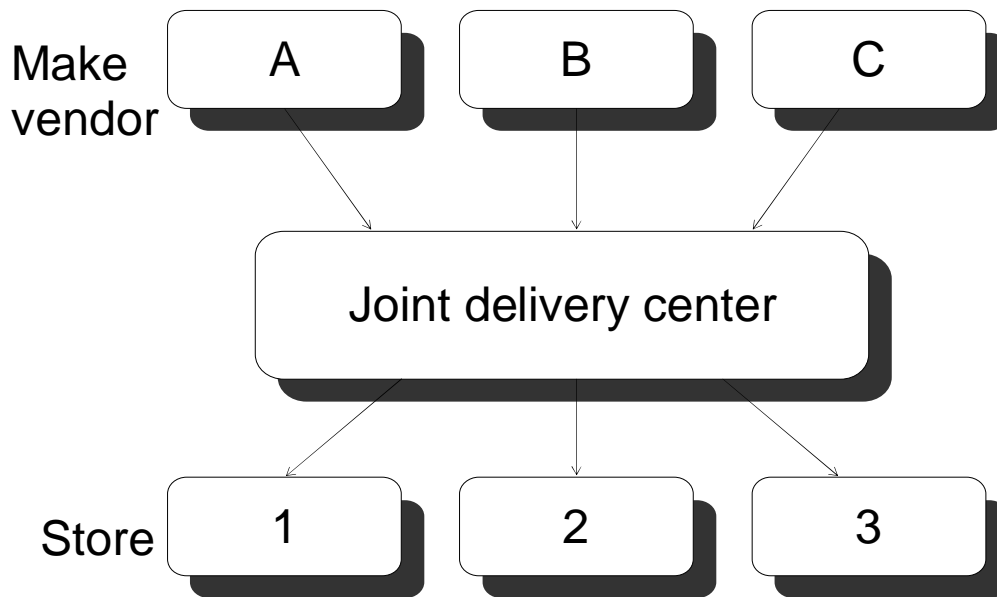


Figure 4. Seven-Eleven Japan's joint delivery system (Ishikawa & Nejo 2002, 55)

Since March 1987, Seven-Eleven has offered three-times-daily store delivery of all rice dishes (which comprises most of the fast-food items sold). Bread and other fresh food are delivered twice a day. The distribution system is flexible enough to alter delivery schedules depending on changing customer needs. For example, ice cream is delivered daily during the summer, but only three times a week at other times. The replenishment cycle time for fresh and fast-food items have been shortened to less than 12 hours. For example, a store order for rice balls by 10 am is delivered before the dinner rush. (Chopra 2005, 4-6)

Store managers use graphic order terminals to place orders. All stores are given dedicated time for breakfast, lunch and dinner ordering. When a store places an order, it is immediately transmitted to the supplier, as well as the distribution centre. The supplier receives orders from all Seven-Eleven stores and starts production to fill the orders. Then the supplier sends the orders by truck to the distribution centre. Each store's order is separated so the distributor centre can easily assign it to the appropriate store truck using the order information it already has. (Chopra 2005, 4-6)

The key to store delivery is what Seven-Eleven calls the combined delivery system. At the distribution centre, delivery of the products from different suppliers is directed into a single temperature-controlled truck. There are four categories of temperature-

controlled trucks: frozen foods, chilled foods, room-temperature processed foods and warm foods. Each truck makes deliveries to multiple retail stores. The number of stores per truck depends on the sales volume. All deliveries are made during off-peak hours and are received using the scanner terminals. The system works on trust and doesn't require the delivery person to be present when the store personnel scan in the delivery. This reduces the delivery time spent at each store considerable. Seven-Eleven Japan's goal has been not to have direct store deliveries from vendors to the stores, but they rather are processed as described above. The Seven-Eleven Japan's franchise system helps to facilitate this supply strategy. (Chopra 2005, 4-6)

This advanced distribution system enables Seven-Eleven to reduce the number of vehicles required of daily delivery service to each store, even though the delivery regularity of each item was quite high. In 1974, 70 vehicles visited each store every day. In 1994, only 11 were necessary. This has dramatically reduced delivery costs and enabled rapid delivery of a variety of fresh foods. (Chopra 2005, 4-6)

As of February 2004, Seven-Eleven Japan has a total of 290 dedicated manufacturing plants throughout the country that only produce fast food for Seven-Eleven stores. These items were distributed through 293 dedicated distribution centres that ensure rapid, reliable delivery. None of these distribution centres carry any inventory. They merely transfer inventory from supplier trucks to Seven-Eleven distribution trucks. The transportation is provided by company called Transfleet Ltd for exclusive use for Seven-Eleven Japan only. (Chopra 2005, 4-6)

4.1.3 Seven-Eleven Japan's integrated store information system

Seven-Eleven Japan has been developing its own system involving its vendors. The first step for developing the system started with the reforming of its distribution and logistics system. It resulted in a reconstruction of the delivery system for multiple frequent and small-volume items. The new system included a new electronic ordering and collaborated logistic systems, intensified relationships with vendors and introduced a new point of sales information system. (Fujimoto 2006, 28-29)

In the second step Seven-Eleven Japan made alliances with manufacturers in merchandise categories of daily foods. Fresh lunch boxes, rice balls and sandwiches were included in these merchandise categories. These alliances have brought a decrease of inventories, a reduced loss of sales opportunities and new product developments and assortments in response to consumers needs. These were achieved mainly with information sharing with manufacturers and suppliers. (Fujimoto 2006, 28-29)

The new system has also reduced two types of risks. The first type is from the excessive holding of inventories. Japanese retailers have typically believed that the more inventories they had the better sales they would have. Retailers holding small amount of inventories was seen as a sign of weak competitive powers and passive strategies. The second type of risk that was reduced was from the out-of-stock of merchandises, which means lost sales opportunities for retailers, and disappointment and dissatisfaction for customers. The basic aim of the convenience store system of Seven-Eleven Japan has been to combine the just-in-time assortments for customers and the just-in-time supplies from vendors. (Fujimoto 2006, 28-29)

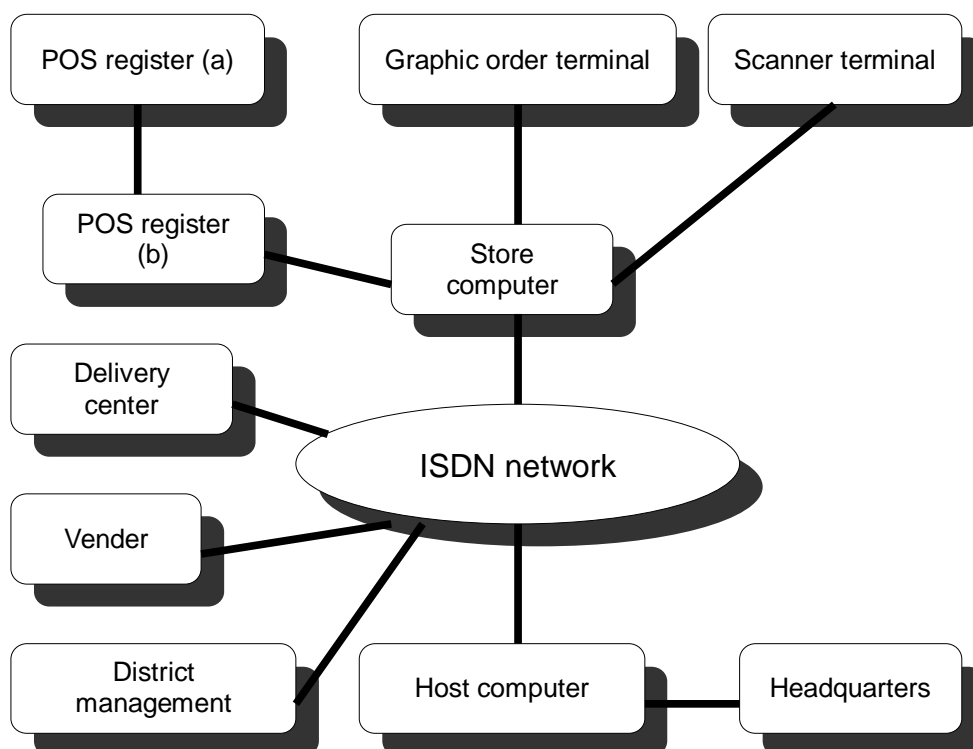


Figure 5. Seven-Eleven's information system (Ishikawa & Nejo 2002, 38)

From the start, Seven-Eleven Japan's aim has been to simplify its operations with information technology. Major part of this has been the so called Total Information System which is installed in every store and is connected to company headquarters, suppliers and distribution centres. The high-speed online communication capabilities of the system enable Seven-Eleven Japan to collect, process and feedback point of sales information quickly. Sales data gathered in stores in the evening can be processed and used for analysis by the next morning. This information enables the company to boost their sales by continuously modifying their merchandise mix and developing new products. Seven-Eleven Japan's integrated store information system plays a key role in the company's ability to micro-match supply and demand. Figure 5 show the design of this system (Chopra 2005, 5-8)

The hardware system used by a Seven-Eleven store includes graphic order terminals for placing orders, scanner terminals for scanning incoming deliveries from distribution centres, store computer connected to the online network and point of sale registers for collecting customer and purchase information. (Chopra 2005, 5-8)

4.2 Kesko Food Ltd

As a major branch of Kesko Group, Kesko Food Ltd. controls the company's food retail chains. Kesko Food offers versatile grocery retail services for consumers and for companies in Finland and in Baltic countries. Kesko Food is responsible for the management and development of K-store chains, and it also provides them with marketing, procurement and logistics services, as well as with store site and retailer resources. Kesko Food combines the orders, arranges effective logistic and marketing schemes, but leaves the individual shop-owners to satisfy the end-customer needs. Kesko Food's franchise system is based on the assumption that shop-owners are best motivated for constant improvement of their business when they are left with considerable responsibilities in their individual areas. (Kesko yritysesittely 2007, 2-20)

Kesko Food has four different grocery store brands: K-Citymarket, K-Supermarket, K-market and K-extra. K-Citymarket is a hypermarket chain with more than 50 outlets

around Finland. K-Supermarket chain is known for its food expertise and wide range of fresh products with over 150 outlets. K-market is a supermarket type of store, but with less floor space with over 350 outlets. Smallest of the outlets, K-extra acts as a neighbourhood store chain, which offers essential daily groceries with personal service. Usually located in the rural areas, K-Extra stores offer additional services such as agricultural products, fuel, lottery and postal services. The K-Extra chain is comprised by over 200 outlets. (Kesko yritysesittely 2007, 2-20)

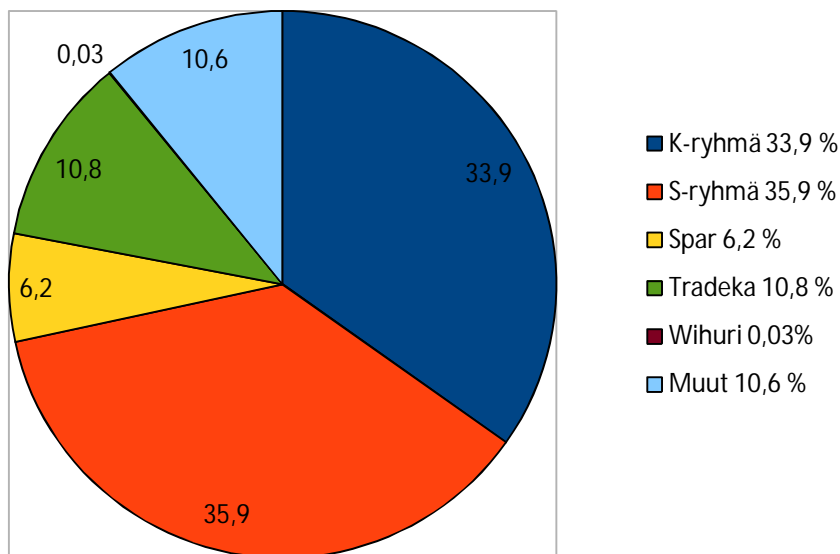


Figure 6. Finnish retail industry market shares (Kesko yritysesittely 2007, 20)

Kesko Food's turnover for 2006 was 3615 million Euros with increase of 5.4 %. This comprises for 46 % of Kesko Groups turnover. Total profit was 129 million Euros. Finnish daily item retail markets are estimated to be about 12.5 billion Euros, 2006 increase being 4.5 %. Kesko Food has a 33.9 % market share, main competitors being S-Group, Tradeka and Lidl. In Finland the retail market is very centralized. The three biggest retail companies (S-Group, Kesko and Tradeka) make up 80 % of the whole grocery retail sales in Finland. For comparison, only Sweden, Denmark and Norway have more centralized retail sales. On the other hand, in countries like Holland, Germany and Spain the market share of the three biggest retail companies accounts for less than 60 %. (Kesko yritysesittely 2007, 2-20)

Recently price competition has been emphasized in the sector, and the main reason for that has been the appearance of the discount chain, Lidl, which brought up a new trend in the grocery retail market. Increasing competition has also led to major re-arrangements and centralization in the industry. In 2004, the whole Kesko group's purchases from Finnish suppliers totalled about 5 billion Euros, while purchases from foreign suppliers totalled about 1.5 billion Euros. The total number of suppliers was 19,700. (Kesko yritysesittely 2007, 2-20)

4.2.1 Kesko Food and the grocery industry in Finland

Major strengths for Kesko Food in the Finnish grocery industry are its comprehensive store network, high consumer appeal, wide and locally differentiated product assortments and services, effective procurement and logistic functions, and a strong loyalty card program with over three million consumers signed. The loyalty card program has expanded rapidly and constitutes a very important part of Kesko Food's marketing. Typical elements of a loyalty card scheme involve recognition of customers, customer data storage and analysis, and loyal customer refund based on the value of their monthly purchases. In comparison to other bonus card programs abroad, where data is collected and analyzed on the base of each single customers purchase, in Finland the data is analyzed only on the total value of all purchases. This helps the company to analyse customer information and to do effective market researches. (Kesko yritysesittely 2007, 22)

Areas where the Kesko Food can take advantage of the analysis of customer's data are in target marketing, in the measurement of the efficiency of advertising and sales activities, and in the regional assortments planning, with emphasis on specific customer groups. The company's knowledge about its customers gives a base for product development and Kesko Food's own brand designs enable an increase of the company's power and influence in the market. Kesko Food has good knowledge of its home market and has the capacity to react fast to changing competitive conditions. (Kesko yritysesittely 2007, 22)

Kesko Food is weak on issues relating to pricing, especially with the discount stores presence growing fast. The corporate structure of the company, with its dependence on independent retailers, means that it is less agile compared to other retailers. There are also various regulations in the Finnish grocery retail business, which limit the stores freedom to decide on important issues concerning their operations. These issues include the opening hours of the stores, sales of strong alcohol and pharmacy products, and regional store planning. (Kesko yritysesittely 2007, 22-23)

Kesko Food holds a strong position with established grocery outlets such as supermarkets. The re-organisation of the food business with focus on the K-market brand aims to simplify operations and to create a stronger brand image. The new trend in the Finnish grocery industry, which brings significant changes in the retail market, is cooperation with international retail companies, which makes it possible to increase the volume of purchases and consequently gives possibility to negotiate better conditions and lower prices. All this has given a clear new competitive advantage to the Finnish suppliers and wholesalers. (Pastinen 2003, 26)

The structure of Finnish retail market has seen radical changes during the last years. The total number of outlets has gone down and bigger outlets have replaced small outlets. The number of grocery store chains has also gone down significantly. In the beginning of 1990's there were still a great number of different chains with small number of outlets. Today there are only few store chains operating in the Finnish grocery retail market with several hundreds of outlets. (Kesko yritysesittely 2007, 23-24)

Concentration in the Finnish retail market has created larger competitors to challenge Kesko Food's strong market position. Competition from foreign companies, such as Lidl, has lowered profit margins for everyone and potential for other international players to move into the Finnish market is strong. Even more, the internal re-organisation of Kesko's food business may hinder dynamics within the company. (Kesko yritysesittely 2007, 23-24)

Kesko Food has not been a passive player in the internationalization process. With only 5 million potential customers in the Finnish retail market, it is understandable

that the companies cannot reach significant sales volumes. Therefore Finnish grocery retailers, Kesko Food among them, are planning or have already expanded their activities to foreign markets, mainly to Baltic countries and Russia, where there are good possibilities for market growth and development. (Kesko yritysesittely 2007, 23-24)

4.2.2 Kesko Food's logistic system

In Kesko Food's logistic system, every goods characteristics determine the supply chain structure, material, information and capital flow, and places the product should pass across the distribution channel. Some parties involved in the supply chain process can be bypassed depending on the product and type of store. For example, imported products go directly to the wholesaler's central warehouse facilities. Typical imported products consist of industrial and non-food goods, frozen food products, and fruits and vegetables. These goods are then distributed from the central warehouses to the regional terminals or warehouses. This kind of distribution system concerns usually small and medium sized stores and supermarkets. With largest sized hypermarkets, the terminal stage is skipped because of much bigger transport quantities. (Finne & Kokkonen 2005, 266-329)

Kesko Food's aim is to get the products through the various stages of distribution chain as fast as possible. The main factor that determines the delivery times for a product are its characteristics. The target for Kesko Food is to get fresh goods to reach their destination within maximum of couple of days from production. (Karrus 2001, 188-189)

The final stage of the grocery supply chain of Kesko Food is the outlet, with its own replenishment processes, product handling and shifting from one place to another.

The outlet replenishment process starts with the arrival of the goods to the outlet's terminals and continues until customers check out. As the goods arrive at the outlet's premises, they are received usually by the staff. The documentation is handled and possible lacks and damages are noticed. At the same time the products are registered in the store's stock database. Next the goods are transferred from the

outlet's storage rooms to the shelves. The goods are set on the shelves according to the Kesko Food's shelf design. It is estimated that nearly 60% of the product total logistics costs are caused by the management of logistic processes in the store. (Finne & Kokkonen 2005, 316-317)

The logistic system of Kesko Food has lately gone through major improvements. This can be visible seen from decreased handling of items. Kesko Food has moved from retail stocking to supply chain management. Its goals are to improve the collaboration in the logistic network for maximal efficiency. In environment of increasing competition, logistic is seen by Kesko Food as a key factor. (Mattila 2005, 2)

Previously efficiency improvements have been sought from stock logistics, but in that area further changes would only decrease quality. As previously mentioned, 60 % of Kesko Food's logistic cost came from the outlets compared to 20 % of transport and stock handling costs, so naturally improvements have been sought from there. (Mattila 2005, 3)

Recently Kesko Food has centralized its warehousing. The main warehouses are located in Vantaa, Turku and Tampere, and they are all specialized in their own product groups. Warehouses in Vantaa stock industrial, frozen and non food products, Turku handles chilled fresh food products and Tampere vegetables and fruits. Centralizing stocks has enabled system, where warehouses can be organized with the same shelf order with shops, which speeds the shelving process in stores. In addition to these three main warehouses, Kesko Food has 11 local terminals that handle most of fresh food items, working as a place where shipments are combined and send forward into individual stores (Liikanen 2004, 1-3). In January 2005 Kesko Food opened a new terminal in Vantaa in proximity from HK Ruokatalo food factoring facility. The supply chain is as short as it can get as the products come straight from the production line. The same terminal is also used by other suppliers, like Atria and Saarioinen and the same distribution trucks are used for all the suppliers (Mattila 2005, 3)

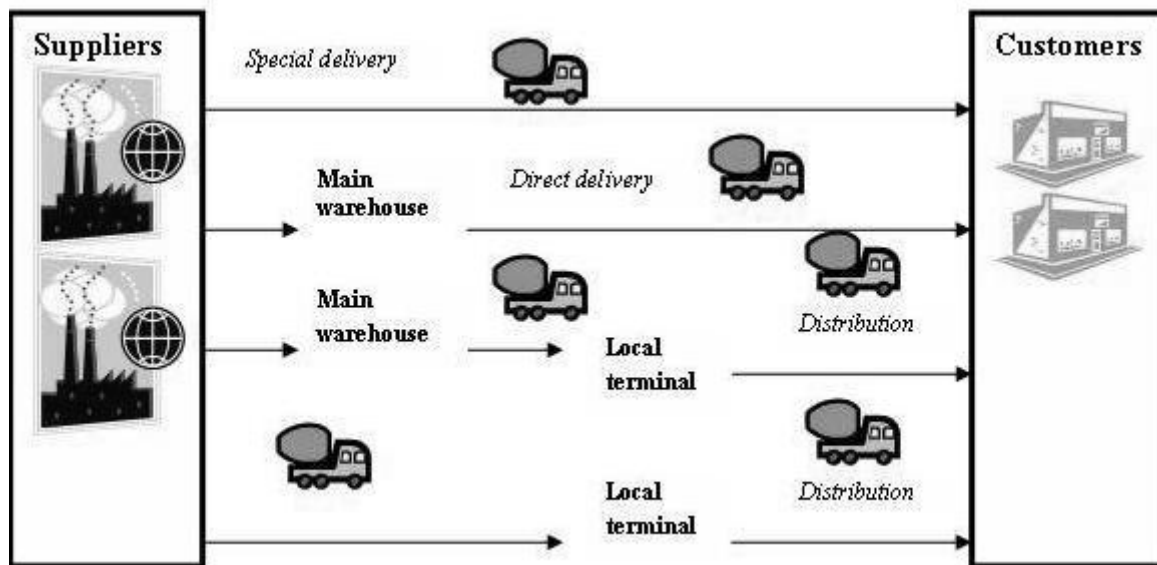


Figure 7. Kesko Food logistic system

SAP-resource planning system has been gradually taken in to use in Kesko Food's warehouses. The system connects both the department stores and logistics centres into the same system where the stores place electronic orders directly, which are then send to the suppliers. (Mattila 2005, 3)

5. CONCLUSIONS

The purpose of this thesis was to find out how the supply chains of Japanese and Finnish retail companies are different or similar with each other, how can Finnish retail companies improve their supply chains and what kind of electronic tools are used in retail supply chains. The scope of the study was limited to the supply chains of grocery retail business in Finland and Japan, and in particular Kesko Food and Seven-Eleven Japan. The current situation of the grocery retail industry in Finland and Japan and the main trends of the grocery retail markets in both countries were described. With the help of literature and public material, the central operations and parties involved in the performance of the supply chain of both Kesko Food and Seven-Eleven Japan was described.

Although vastly different business environments give them their own flavours to both companies' supply chains, both Kesko Food and Seven-Eleven Japan do have many surprisingly similar solutions in their supply chain design. Both rely heavily on electronic tools on controlling their logistic and customer data, and they both have tried to simplify their logistic chain with emphasis being on minimizing individual deliveries from suppliers to shops. Dedicated and specialized distribution centres play a major part in both companies' logistic chains. In all above described examples, Seven-Eleven Japan has had more than 20 years head start, but Kesko Food has recently improved steadily. Major differences occur in the companies' franchising schemes, where Seven-Eleven Japan gives the main office more control and leadership for the whole chain of outlets, while Kesko Food's style is based on more of giving the individual stores more freedom.

The finding of this thesis is that the three qualities of Triple-A Supply Chain introduced by Hau L. Lee and refined by John Gattorna are present in both companies' supply chains. The use of supply chain management and electronic tools such as point of sale information systems in the grocery retail industry has had a lot of benefits for both Kesko Food and Seven-Eleven Japan. The operations in retail industries in both Finland and Japan have been made much more efficient compared to the past with the synchronization of production and distribution. This has been

achieved by minimizing the physical inventories and substituting them with information. Uncertainties are unavoidable in retail industry, but with accurate information, both companies have found it possible to deal with it without surplus inventories. At the same time, information sharing with vendors seems has become not only necessary but vital. Particularly in Japan, vendors job today seems to be monitoring the buyer's inventory levels and controlling the uncertainty of demands with he's own decision-making. In both countries the variety of merchandises in grocery retail means, that a store has to transact with multiple vendors and manufacturers. The synchronization of production and distribution will in the future be an issue of increasing importance. Particularly Kesko Food should continue to work on this area.

Interest for future further research could be measuring and evaluating the logistics activities in the supply chains of both Kesko Food and Seven-Eleven Japan from the company's perspective in order to fully understand and identify the stages and processes where it should concentrate to assure even more value to the customers.

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