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The Role of Top Management in Supply Chain Management Practices

Erik Sandberg

Linköping University
INSTITUTE OF TECHNOLOGY

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Department of Management and Engineering
Linköpings universitet, SE-581 83 Linköping, Sweden

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Erik

Linköping in October 2007

ABSTRACT

Supply chain management (SCM) has been discussed by researchers as well as business practitioners for more than two decades now, but still surprisingly little of this philosophy can be seen in today's business practices. One important enabler for taking the SCM philosophy from theory into practice that is often mentioned, but not investigated in-depth, is top management support. The role top management plays in a company's SCM practices could be an important piece of research that is not yet in place in the big SCM puzzle. The purpose of this dissertation is therefore to describe and explain the role of top management in a company's supply chain management practices. The purpose is approached with the aid of two studies, where the second is partly built upon the findings from the first. The first study is an explorative, broad survey study aimed at investigating how companies' SCM practices, here limited to include a focal company's logistics collaboration with suppliers and customers, are performed. In the second study, which is an explanative, multiple case study, the role of top management is investigated more in detail.

The empirical foundation for the survey study is a questionnaire that was constructed based on SCM literature. The questionnaire was sent in November 2004 to 482 logistics managers at Swedish manufacturing companies and a response rate of 177 usable questionnaires (37.8%) was achieved. Apart from purely descriptive statistics such as mean values, standard deviation and frequencies, other tests were used such as factor analysis, cluster analysis, analysis of variance (ANOVA), and cross tabulations with χ -square tests. The results are summarised into five major findings, concluding that (1) existing collaborations are mainly performed at an operational level in the companies, (2) there are differences in the focal company's attitude and behaviour depending on if the collaboration partner is situated downstream or upstream in the supply chain, (3) increased intensity in the collaboration results in more positive effects, (4) top management involvement is an important driver for increased intensity of the collaboration, and (5) top management involvement in a dyadic collaboration is an important driver for increased collaboration with supply chain members on the other side of the focal company.

The empirical basis for the multiple case study is three companies considered to be best practice within SCM. In total 15 focused, open-ended interviews with members of the top management teams were conducted during winter 2006-2007. All interviews were typed and transcribed, and objective case descriptions with citations were thereafter written. The analysis includes separate analysis of each case as well as cross case analysis. The SCM framework that was used in the first study was complemented with a framework on business strategy theory in the second study. More specifically, the analysis incorporates the positioning perspective, the resource based view, and Mintzberg's view on the strategy formation process.

The theoretical contribution of this dissertation is mainly given to the SCM field. In short, the results include a more thorough explanation of top management's role in a company's SCM practices. Six archetypes of this role are presented; the supply chain thinker, the frame setter, the process designer, the relationship manager, the controller, and the organiser for the future. Other implications for SCM literature being discussed in the conclusions are that (1) a systems approach should be considered separate from collaborative thinking, (2) the interdependencies in the investigated supply chains are mainly serial, (3) a systems approach is not the same as having a pure process orientation, (4) the responsibility for logistics issues is shared among members of the top management team, and (5) top management is not directly involved in the company's distinctive logistics capabilities.

Sammanfattning

Supply chain management (SCM) har flitigt diskuterats av forskare och näringsliv i över två decennier nu, men fortfarande kan mycket lite av denna filosofi ses ute i verkligheten. Stöd från företagsledningen (top management) är en av de mest omtalade faktorerna som kan möjliggöra att steget från teori till praktik kan tas. Trots detta har inte företagsledningens roll beforskats mer ingående, och syftet med denna avhandling är därför att beskriva och förklara företagsledningens roll i ett företags praktiserande av SCM. Syftet besvaras med två studier, där den andra delvis är baserad på resultaten från den första. Första studien kan karaktäriseras som en bred enkätstudie som syftar till att undersöka hur företag praktiserar SCM. Mer specifikt behandlas ett fokalt företags logistiksamarbeten med dess kunder och leverantörer. I den andra studien, som är en explanativ, multipel case-studie, undersöks företagsledningens roll mer i detalj.

Den empiriska basen för den första studien är en enkät som är baserad på SCM-teori. Den skickades i november 2004 ut till 482 logistikchefer på svenska, tillverkande företag med mer än 100 anställda och 100 miljoner SEK i årlig omsättning. Med en svarsfrekvens på 177 (37,8%) användbara svar gjordes förutom rena deskriptiva analyser (medelvärden, standardavvikelser och frekvenser) också analyser med hjälp av faktoranalys, klusteranalys, ANOVA (Analysis of Variance), samt korstabeller med χ -tester. Studien kan summeras i fem huvudresultat: (1) Existerande logistiksamarbeten sker på en operativ nivå inom företagen, (2) Företagets attityd och uppförande gentemot sin samarbetspartner skiljer sig beroende på om denna är en leverantör eller kund, (3) Ökad intensitet i samarbetet leder till mer positiva upplevda effekter, (4) Involvering från företagsledningen är en viktig drivkraft för ökad intensitet i samarbetet, samt (5) Involvering från företagsledningen i ett pågående samarbete på antingen kund- eller leverantörssidan är en viktig drivkraft för att öka intensiteten i samarbeten på företagets andra sida.

Den empiriska basen för den multipla case-studien är tre företag som anses vara "best practice" inom SCM. Under vintern 2006-2007 gjordes totalt 15 semistrukturerade intervjuer med personer från företagsledningarna. Alla intervjuer blev inspelade och transkriberade, för att sedan forma basen i objektiva case-beskrivningar med citat. Analysen innehåller både separat analys av varje case, såväl som en korsanalys (cross case analysis). Den teoretiska referensramen om SCM som användes i första studien är här kompletterad med en referensram om strategiteori. Mer specifikt grundar sig analysen på ett positioneringsperspektiv, resursbaserade teorier, samt Mintzberg's arbete om strategiformeringsprocesser.

Det teoretiska bidraget från avhandlingen ges först och främst till SCM-litteraturen. I korthet innehåller resultaten en mer noggrann beskrivning av företagsledningens roll i ett företags SCM-praktiserande. Sex arketyper för denna roll presenteras; "the supply chain thinker", "the frame setter", "the process designer", "the relationship manager", "the controller", samt "the organiser for the future". Andra implikationer som diskuteras i slutsatskapitlet är att (1) en systemsyn ska ses som helt separat från att idén att ha samarbete, (2) den typ av beroende som undersöks i försörjningskedjan är framförallt seriell, (3) en systemsyn är inte samma sak som att ha en ren processorientering, (4) ansvaret för logistikfrågor delas mellan olika personer i företagsledningen, samt (5) företagsledningen är inte direkt involverade i de logistikrelaterade förmågor (distinctive capabilities) som ger företaget dess konkurrensfördelar (sustainable competitive advantage).

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Part I

Introduction

1 Background

During the last two decades a trend towards integration and collaboration rather than arm's-length agreements between suppliers and customers has been recognised by researchers as well as business practitioners. Companies participating in the same supply chain identify tradeoffs with their adjacent customers and suppliers and have started to realise the importance of integration in the chain in order to focus on what is offered to the end customer in terms of cost and service. Excellence within the own company is not good enough anymore; there is also a need for external excellence in the whole supply chain. This management philosophy is called supply chain management, SCM, and has received enormous attention in research journals as well as in industry and consultancy firms. (Christopher, 1998; Lambert and Cooper, 2000)

The core message of SCM is that companies in a supply chain should create a collaborative atmosphere where mutual trust, the sharing of risks and rewards and extensive information sharing, should prevent suboptimisations in the supply chain. It is suggested that collaboration will lead to more integrated supply chains where independent companies act together as one single entity and work towards jointly agreed goals. One of the most important functions embraced by the SCM philosophy, and perhaps the field where SCM has got the most attention, is logistics. Logisticians are by nature occupied with cross-functional and interorganisational matters and the SCM philosophy therefore fits well together with the fundamentals of modern logistics thinking.

The physical flow of goods through the whole chain should be prioritised before functional boundaries are considered so that a process orientation is achieved. Actions and strategic decisions taken in the supply chain should be in accordance with demand from the supply chain's

end customers, since these in the long run will have a crucial impact on how successful the supply chain members will be. (Christopher, 1998; Stevens, 1989; Lambert and Cooper, 2000)

Despite an ongoing discussion in research as well as management journals for more than two decades, SCM remains to be an unclear expression. The large amount of research in the SCM area, and the fact that SCM spans over several disciplines (Tan, 2001), has led to a wide range of definitions, expressions and concepts (Larson and Halldorsson, 2004; Mentzer et al., 2001). The discussions and conclusions about SCM are seldom based upon rigorous theory (Bechtel and Jayaram, 1997) or empirical material (Lee and Whang, 2000; Stank et al., 2001) and SCM literature therefore often becomes superficial and comprehensive. In addition, empirical studies indicate that many of the expected positive effects of SCM have not been realised (Fawcett and Magnan, 2002; Moberg et al., 2003; Skjoett-Larsen, 1999, Spekman et al., 1998; Stank et al., 1999; Skjoett-Larsen et al., 2003; Småros, 2003). Hence there seems to be a gap between the ideal SCM theory and the performance in existing supply chains, i.e. SCM practice.

1.1 *SCM in theory*

This dissertation's theoretical understanding of SCM is based on Mentzer et al.'s (2001) literature review on SCM. The authors identify three streams of literature with different understandings of what SCM is, namely (1) SCM as a management philosophy, (2) implementation of a management philosophy, and (3) a set of management processes. Mentzer et al. (2001) argue that one reason for the confusion and many definitions of SCM could be that authors often try to include two different things within the same definition. It is argued that the content in the first stream of literature, where SCM is considered as a management philosophy, should more correctly be addressed supply chain orientation, SCO. The SCO is defined as "the recognition by an organisation of the systemic, strategic implications of the tactical activities involved in managing the various flows in a supply chain" (Mentzer et al., 2001, p. 11). It is considered to be "a set of beliefs" (p. 7) that advocate integration and coordination of intraorganisational as well as interorganisational operational and strategic capabilities. The supply chain should be improved as a unified whole with a systems approach as the fundamental way of thinking. A SCO also clearly recognises that more than cost reductions can be achieved with this philosophy; "SCM as an integrative philosophy [i.e. SCO] directs supply chain members to focus on developing innovative solutions to create unique, individualized sources of customer value." (p. 7). This means that not only are logistics issues embraced in the SCO, but all other functions that contribute to customer value and satisfaction.

SCO is seen as a prerequisite for SCM, which is interpreted as the actions undertaken to realise the philosophy. This is recognised in the second and third streams of literature that were identified by the authors. SCM is defined as “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole” (Mentzer et al., 2001, p. 18). To conclude, the main difference between the SCO and SCM is that while SCO is considered to be a “set of beliefs” or opinions about how the company and the supply chain should be governed, SCM means to do things, i.e. put the set of beliefs into actions, either in the form of activities, or in the form of processes. In chapter four an in-depth discussion on SCM theory is provided.

1.2 *SCM in practice*

Even if the distinction between SCO and SCM made by Mentzer et al. (2001) contributes to a better understanding of the broad SCM field, the SCM definition presented in the previous section is still very vague and therefore needs to be explained and interpreted further. The coordination of intra- and interorganisational functions is considered by most authors as key tasks for SCM. But when Mentzer et al. (2001) state that SCM is about “coordination of the traditional business functions and the tactics across these business functions”, what is then being suggested? This dissertation’s understanding of what SCM in practice means includes the involved companies’ planning and strategy for coordination of their supply chain, including collaboration between functions internally as well as across company borders. Collaboration plays a key role for the coordination and is frequently discussed in SCM literature (Barratt, 2004; Skjoett-Larsen et al., 2003; Simatupang and Sridharan, 2002). In fact, Horvath (2001) argues that collaboration is a prerequisite to SCM; without collaboration, a SCM environment can not be achieved, and therefore collaboration becomes important for this dissertation.

The definitions of collaboration made by researchers as well as column writers in business magazines are not incongruous, nor are they ever the same; it seems extremely difficult to develop a general one-sentence definition of collaboration (Barratt 2004). Collaboration can (similar to Mentzer et al.’s (2001) understanding of the SCM term), be considered to contain two different things. First, collaboration can be characterised as a certain type of relationship between independent companies or functions in a company where trust, win-win thinking, commitment and openness are important ingredients (e.g. Ireland and Bruce 2000; Lee and Billington, 1992; Lee and Whang, 2000; Skjoett-Larsen et al., 2003; Spekman et al., 1998). This can be compared to Mentzer et al.’s SCO expression. Second, collaboration also consists of activities that are performed by the participating actors within the collaboration (to be compared with SCM in

Mentzer et al., 2001). Collaboration within the logistics area, which is the focus in this dissertation, typically means sharing information and jointly negotiating and deciding upon logistics activities in the supply chain such as transportation and inventory. This means a two-way communication with jointly, voluntary agreed goals (Simatupang and Sridharan, 2002). Since collaboration should contribute to improvements in the supply chain, the possibility for the involved parties to influence the collaboration is important; otherwise there is a risk that major opportunities for improvements can be lost as well as the win-win situation. (Cooper et al., 1997a; Cooper et al., 1997b; Ireland and Bruce, 2000; Simatupang and Sridharan, 2002)

1.3 *The role of top management*

As stated above the SCM expression is unclear and empirical studies indicate a difference between the ideal SCM theory and practice. Taking the SCM philosophy from theory to practice seems to be a difficult task for companies, despite the many obvious advantages discussed. An often mentioned key enabler, and a necessary prerequisite for performing SCM in real life, is top management support (e.g. Lancioni, 2000; Matchette and Lewinski, 2005; Gibson et al., 2005; Lambert and Cooper, 2000; Andraski, 1998; Moberg et al., 2003; Mangan and Christopher, 2005). This is also supported by a recently conducted survey study (Larson et al., 2007) among senior members of the Council of Supply Chain Management Professionals, CSCMP, where top management support is identified as the most important facilitator for implementation of SCM.

This dissertation takes a stance on the call for top management support, with the clear assumption that top managers have a significant impact on realising and developing a company's SCM practices; without proper top management support, SCM will be nothing more than a promising theory (Sandberg, 2007). Considering the survey results from Larson et al. (2007), the importance of top management also becomes clear when looking at the main implementation barriers found in the study. These were functional silos, incompatible technology/systems, lack of a common SCM perspective, conflict among supply chain members, and inadequate employee skills. Indeed, these barriers can be brought down with strong top management support.

Despite the massive call for top management support, most articles within the SCM literature avoid going into details on the subject. Typically SCM authors acknowledge top management's importance, but do not take the discussion further and therefore surprisingly little in-depth research on top management support in SCM has been published. The role top management plays – or should play - in SCM is not yet clarified and can be an important piece of research that is not yet in place in the big SCM puzzle (Sandberg, 2007). For instance, the question can be raised whether the word “support” is the best formulation for the role top management should

play. Perhaps “involvement” would be more appropriate, indicating that passive support is not enough in order to overcome SCM barriers.

1.4 Purpose and research questions

Based on the sections above,

The purpose of this dissertation is to describe and explain the role of top management in a company's supply chain management practices.

This dissertation ultimately aims at increasing the understanding of top management's role in SCM and, in the extension, reducing the existing gap between SCM theory and practice. More specifically, this dissertation aims at contributing to theory in two ways. First, a more thorough description and explanation of top management's role in a company's SCM practices is given. As stated above, this role has been highlighted as a key driver for realising the SCM philosophy, but has not been investigated in detail. An in-depth study on top management's role will therefore cover one of the missing pieces in SCM literature. With the improved knowledge about top management's role, the SCM expression can be further developed and reduce the gap between theory and practice. In short, the theoretical contribution means that some of the myths provided in the ideal SCM theory are redefined into a more correct theory (i.e. closer to today's management practice) that better mirrors real existing SCM practice.

The purpose contains two major parts that require a more thorough explanation; “the role of top management” and “a company's supply chain management practices”. These are related to each other in the sense that the company's SCM practices must be understood before entering the discussion about what role top management should play in these practices. This dissertation therefore approaches the purpose with two separate studies where the second is partly built upon the findings from the first. The first study, which is an explorative, broad survey study, aims at investigating how companies' SCM practices, here limited to include logistics collaboration with suppliers and customers, is performed. As a result of its broad approach, a long range of different SCM issues are investigated in the study, where top management support is one of them. With this survey as a starting point, the second study is an explanative multiple case study where top management is investigated more in detail. In the subsequent sections these two studies are discussed.

1.4.1 SCM practices: Logistics collaboration

Starting with “a company's supply chain management practices”, collaboration about logistics issues with suppliers and customers is an essential ingredient regarding the discussion above and

is therefore focused on in this study. Based on the ideal theoretical framework, which is presented in chapter four, the following key dimensions of logistics collaboration are identified: process orientation within the collaboration, planning of logistics activities, information sharing, and SCO. In essence, these four dimensions cover the most important aspects discussed in SCM based collaboration literature and are further discussed and operationalised in chapter five.

In line with previous research the question of what SCM and collaboration really means for an individual company could be asked, i.e. how is collaboration performed with respect to the four key dimensions? What parts of the very broad spectrum of actions suggested by literature have been accepted and realised? For what reasons is collaboration applied and what barriers for collaboration exist? In addition, as a consequence of previous empirical findings concerning ambiguous results of the collaborative efforts, the effects of the collaboration also becomes interesting to study. To answer these questions, the situation in real existing supply chains concerning logistics collaboration must be explored. This leads to the purpose of the first study, which is to explore how logistics collaboration in supply chains is performed. Reformulated, it also gives the first research question for the dissertation as a whole:

Research question one: How is logistics collaboration in supply chains performed?

The research question is approached by three subquestions. First of all, the content of the collaboration, i.e. what companies actually do when they collaborate and in what logistics areas this is performed, will be investigated. Secondly, driving forces, barriers and effects are related to the content of the actual collaboration. Finally the number of companies involved in the collaboration is considered. These issues and the more specific subquestions are presented in chapter 5.

This study has theoretical relevance since more specific knowledge is needed about which areas of the SCM literature that are actually applied, and what type of improvements SCM based collaboration gives. The findings also indicate the importance of top management involvement, hence it gives valuable input to the second study.

Research done on the effects of collaboration is also relevant from a practitioner's perspective. This study can contribute by providing a clearer picture of possible actions and ways to come forward in relationships based on a SCM philosophy, and indicate possible effects of the efforts taken.

1.4.2 The role of top management

The second expression in the purpose that needs to be clarified is “the role of top management”. Top management should be understood here as a function rather than individuals, which has decisive impact on a company’s supply chain performance. From a SCM viewpoint, its role is to influence and link the physical flow of products with the overall strategic content in the company, see Figure 1.1. In terms of strategy theory (which is one of the theoretical bases for the dissertation, see below) this task is incorporated in the strategy formation process (e.g. Mintzberg et al., 1998) that links the physical flow of goods with the company’s content strategy. Note that in accordance with Mintzberg’s understanding of the strategy formation process, top management is involved in the strategy formation over time, which means that top management has a dynamic role rather than a static one. The physical flow of goods and the content strategy constantly changes and as will be argued below, one of the most important tasks for successful companies is, therefore, to continuously develop SCM practices and secure a sustainable competitive advantage vis-à-vis competitors over time. The double sided arrow in the strategy formation process also indicates that top management has to consider emergent events coming from the physical flow of goods, as well as deliberate planning issues based on the strategy content.

Figure 1.1. The role of top management and the strategy formation process

The fact that many empirical studies indicate sparse top management support in SCM issues (e.g. Eisenstein and Thompson, 2006; Fawcett and Magnan, 2002; Gibson et al., 2005) means that companies with these features can be considered as best practice. An appropriate methodology to fulfil the purpose above is therefore a case study approach, where the situation in best practice companies is investigated. This choice is further discussed in the next chapter.

How then can these best practice companies be further described? What are their main characteristics and how is top management involved in SCM issues in these companies? Consulting the ideal SCM literature, three general characteristics are suggested:

- Best practice companies have a strong supply chain orientation, SCO.
- Best practice companies are mainly concerned with the internal as well as external coordination of activities and functions in order to improve the physical flow of products in the supply chain.
- For best practice companies, SCM is not about having a static condition, it is about continuously developing new supply chain concepts and adapting to changing requirements from customers and the environment.

Given these three characteristics for best practice companies, the second study aims at answering the following three research questions:

Research question two: How can top management's supply chain orientation be described?

Research question three: What is top management's role in the coordination of supply chains?

Research question four: What is top management's role in the development of supply chain practices?

These three characteristics and the research questions are further elaborated in chapter nine.

1.5 An outline of the dissertation

This dissertation is divided into four parts:

Part One: Introduction and methodological discussion

Part Two: An explorative survey study about logistics collaboration in supply chains

Part Three: A multiple case study about top management's SCO and involvement in a company's coordination and continuous development of supply chain practices

Part Four: Contribution from the studies and future research

Part one (chapter 1 and 2) introduces the purpose of the study and the two studies that are incorporated, and discusses methodological issues. More detailed methodological descriptions on how the studies were performed are provided in part two and three respectively, where the studies are presented.

Part four (chapter 16 and 17) summarises the findings from the studies and discusses contributions from the dissertation and further research topics.

An overview of the two studies presented in part two and three are shown in Table 1.1 below:

Table 1.1. The two studies included in the dissertation

	The Survey Study	The Multiple Case Study
Type of study	Quantitative, explorative survey study	Qualitative, explanative multiple case study
Unit of analysis	A focal company's external collaboration with suppliers and customers	A focal company's internal and external coordination of functions
Theoretical framework	SCM literature	SCM literature and business strategy theory
Type of companies studied	Manufacturing companies	Retailing companies
Contribution	A description of the situation concerning logistics collaboration in supply chains	An explanation of top management's role in a company's SCM practices, and development of the SCO and SCM expressions.
Research questions	RQ1: How is logistics collaboration in supply chains performed? <i>-RQ1.1: The content of logistics collaboration</i> <i>-RQ1.2: Driving forces, barriers and effects of logistics collaboration</i> <i>-RQ1.3: Type of collaboration</i>	RQ2: How can top management's supply chain orientation be described? RQ3: What is top management's role in the coordination of supply chains? RQ4: What is top management's role in the development of supply chain practices?

Figure 1.2 illustrates the research process:

Figure 1.2. The research process

1.5.1 The survey study

Part two (chapter 3-8) is concerned with the survey study on logistics collaboration. It includes a short introduction and description of how the study was performed, a theoretical framework on SCM, specification of research questions, and results. The results are summarised into five main findings presented in chapter 8.

As a consequence of the difference between SCM in theory and practice, it becomes obvious that more research about logistics collaboration based on the SCM ideas is needed. This also has broad support in the existing literature (e.g. Småros, 2003). Before a correct view of how SCM is practiced, the role of top management is also difficult to explain. As argued above SCM in theory covers a long row of different aspects and company functions. This study is therefore limited to include logistics related SCM, where collaboration concerning the physical flow of products in the supply chain is an important cornerstone. Such collaboration can be performed internally as well as externally, but this study is limited to incorporate external collaboration with a focal company's adjacent customers and/or suppliers, see Figure 1.3 below. Focus for the study is how the focal company acts and behaves in the supply chain in comparison to the SCM literature. Note that the investigated collaborations are dyadic as well as triadic, i.e. a collaboration that includes suppliers and customers to the focal company. In this type of collaboration all three parties plan and manage the physical flow of goods together. For instance, inspired by the business concept of Collaborative Planning, Forecasting and Replenishment (CPFR), an example of such an arrangement could be the sharing of forecasts between the three companies or where one single forecast is developed for all three companies.

Figure 1.3. The three types of collaboration investigated in the survey study

Manufacturing companies (with SNI code D) is the targeted population in the survey. The reason for this is above all the research design, where the focal company is asked about their collaboration with both suppliers and customers. In order to reduce the risk that the companies in the targeted population do not have business-to-business relationships with their customers, manufacturing companies were targeted. Another reason is that existing SCM literature is often based on this type of companies, especially older literature.

1.5.2 The multiple case study

Part three (chapter 8-15) presents the multiple case study. This part begins with a short introduction, methodological description of how the study was performed, followed by a theoretical framework on business strategy theory, which complements the SCM framework provided in part two. After the case descriptions, single analysis as well as cross case analysis follows.

The second study takes stance in previous SCM literature and the results from the survey study, where it is argued that one of the most important differences between SCM theory and practice is the lack of a strategic dimension in real existing logistics collaborations. As a consequence of the missing strategic dimension, it can be stated that SCM, as described in theory, is more of utopia than reality, and that major improvements have still not been realised. Bringing SCM related work to a strategic level means that it should be consistent with, or even integrated with, the company's overall business strategy. Hence, SCM thinking must support and be a natural part of the company's overall strategy so that it impacts a company's planning, decisions and actions. For this to happen, the involvement from top management including the CEO becomes decisive – it is not only the logistics managers who consider logistics and SCM issues as important. Top management must be influenced by, or perhaps even actively drive, the development of a corporate wide business strategy where SCM is one of the ingredients.

Due to the need for a strategic dimension and top management involvement, it is necessary for companies to go outside functional boxes, for instance the ‘logistics box’ or ‘production box’ where SCM related issues are normally dealt with in companies. Abrahamsson (2006) presents two different models of how the role of logistics in a company can be seen, which can be extended to how SCM can be interpreted in the company. Today the most common model is a ‘transaction based model’, where logistics has been a mean to achieve low cost and increased productivity. However, some best practice companies (Dell, Zara, Nokia, IKEA, Lidl, etc) have applied a ‘value for customer model’ where the main role of logistics is instead (in addition to cost reduction) to support profitability and growth (Abrahamsson, 2006). The latter model incorporates a strategic dimension and is therefore in accordance with SCM theory, where it is suggested that collaboration and coordination of functions results in cost efficiency but also increased profitability and growth.

The two models represent two different views on the role of logistics in the company, which is illustrated in Figure 1.4 below. The transaction cost model is focused on working within the ‘logistics box’ (i.e. the logistics function) where the logistics and SCM questions are driven only by the logistics function in the company. The logistics managers themselves understand the strategic importance of logistics, but do not have the support or mandate to work outside their own function. In the customer for value model the logistics is considered as a natural part of the company’s business strategy and is therefore on the CEO’s agenda. (Abrahamsson, 2006)

Figure 1.4. Two different views on logistics (Source: Abrahamsson, 2006)

While the survey study is based on SCM literature, the multiple case study is complemented with a theoretical framework on business strategy theory. This type of literature gives the opportunity

and tools to perform a more comprehensive analysis on the role top management plays for SCM issues in the company. Furthermore, it enables a better insight into how a company's SCM practices are mirrored in the overall business strategy.

The multiple case study was done on retail companies instead of manufacturing companies, which were investigated in the survey study. The reason for this is that best practice companies within SCM is expected to be found easier in these types of companies where production does not complicate the picture. For retail companies, logistics operations become even more essential for competitiveness and therefore it should be more focused in these companies. In logistics research this trend has also been seen in recent years, where retail companies have now got more attention than before (c.f. Abrahamsson, 2006). The results drawn from the study concerning top management involvement are, however, expected to be valid also for other types of companies, e.g. manufacturing companies. From a logistics and SCM point of view, the reasoning for the importance of the physical flow of goods, the systemic view, the focus on end customer satisfaction and need for coordination within and across company borders, are also highly valid for manufacturing companies that are involved in a supply chain with a physical flow of products. Hence, despite the differences between manufacturing companies and retailers, it can be argued that the results from the case study are valid also for companies with production. Generalisation and selection of cases are further discussed in chapter 9.

1.6 *Research focus and definitions*

SCM with a focus on logistics

As argued above, SCM literature spans over a wide range of different functional areas and involves several research disciplines. It can be argued that this dissertation has a clear logistics focus, meaning that the idea of SCM having a collaborative atmosphere directed towards other members of the supply chain, a supply chain perspective, end customer focus, supply chain integration etc, is mainly applied to the physical flow of goods, which is typically in focus for logisticians. A common definition of logistics is provided by the Council of Supply Chain Management Professionals, CSCMP: "The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements. This definition includes inbound, outbound, internal, and external movements." (www.cscmp.org). Following this definition, what is being investigated in this study is how SCM is practiced when it comes to the physical flow of goods. Other important SCM areas that are not discussed in this dissertation are, for instance, product development and supply chain finance. This delimitation has obvious importance for the type of findings that can

be expected from the dissertation. For instance, based on the Resource Based View (RBV) the combination of operational logistics processes in the warehouses and well-functioning, adjusted IT systems is in the second study identified as a distinctive capability. Other distinctive capabilities might have been found if the study had another focus, e.g. a marketing or sales focus.

An intersectionist view on logistics and SCM

As is argued by Larson and Halldorsson (2004) and Larson et al. (2007), the relationship between SCM and logistics is not always easily understood and different opinions exist about what they actually encompass. Many times they are interpreted in the same way and, hence, used interchangeably in the literature. With results from a survey as a basis, Larson & Halldorsson (2004) highlight the different understandings of the terms among logistics/SCM experts in the United States. The survey shows four different views on how to interpret the functional scope of SCM vs. logistics, see Figure 1.5. All four opinions are present among SCM research literature (Larson et al., 2007).

Figure 1.5. Four different understandings of the scope of SCM (Source: Larson & Halldorsson, 2004, p. 19)

This dissertation takes the intersectionist’s viewpoint, arguing that SCM and logistics overlap each other, but are also to some extent separated from each other. According to Larson et al. (2007) the intersectionist concept of SCM focuses on “the strategic, integrative elements across purchasing, logistics, operations, marketing, and other functions” (Larson et al., 2007, p. 5). This means that for instance a negotiation of a strategic, long-term deal with a third party logistics provider can be placed at the overlapping area, while tactical or operational decisions concerning e.g. picking and packing becomes a pure logistics issue outside the SCM domain (Larson et al., 2007).

Both an internal and external focus

Other ways to distinguish logistics and SCM can also be found in the literature. One often mentioned difference, according to the literature, is whether they are occupied with internal or external issues. Christopher (1998) argues that SCM is “no more than an extension of the logic of logistics” (Christopher 1998, p. 16) and claims that “Logistics management is primarily concerned with optimising flows within the organisation whilst supply chain management recognises that internal integration by itself is not sufficient.” (Christopher 1998, p. 16). In this dissertation the “supply chain management practices” that are mentioned in the purpose are concerned with internal as well as external issues. In the first study the main focus is on external logistics collaboration while the scope in the second study is extended to also include internal SCM practices. In both studies coordination in the form of collaboration are important cornerstones, in line with the view that SCM is often practiced through collaboration.

The framework on business strategy

In order to avoid discussing strategy solely from a logistics perspective (compare with Figure 1.4 above) the theoretical framework strategy in chapter 10 is mainly based on general strategy literature, with non-logistics references such as Porter and Mintzberg. Strategy theory and SCM have, however, been related to each other in recent years (Cheng and Grimm, 2006; Ketchen and Giunipero, 2004; Olavarrieta and Ellinger, 1997; Stank et al., 2005; Mentzer et al., 2004), indicating the importance of logistics and SCM issues for the strategy field and in the theoretical framework some of this literature is also included. Examples of such interesting areas where logistics and SCM are discussed are the strategy-structure-performance literature (e.g. Stock et al., 1998, Chow et al., 1995), and RBV (e.g. Olavarrieta and Ellinger, 1997; Mentzer et al., 2004). The RBV literature in particular, including the development of the field into knowledge and human and intellectual capital (Bartlett and Ghoshal, 2002), has been the dominating area within the strategic management field in recent years (Ketchen and Giunipero, 2004). In this literature it is argued that logistics and other SCM practices can be seen as distinctive capabilities that are valuable, rare and difficult to imitate, which in turn gives the company a sustainable competitive advantage vis-à-vis competitors (Ketchen and Giunipero, 2004).

A note on the SCO expression

A key concept in this dissertation is the supply chain orientation expression, which was launched by Mentzer et al. (2001). In essence, as was described above, the authors refer to the SCO expression as a “set of beliefs” and “philosophy” for the company and is, thus, closely related to the cultural aspects of the company. The second study goes into detail about top management’s SCO as being one of the main characteristics for best practice companies within SCM. The study recognises top management’s SCO and describes their main content, but when it comes to the role of top management this study is not aimed at explaining how top management influences

and manages the company through changing values and beliefs in the company, i.e. manages the company at a cultural level. The focus in this study is instead placed on how top management manages the company through activities (i.e. what Mentzer et al. label SCM).

As argued by Mentzer et al. (2001), the SCO is a prerequisite for proper SCM performance and the SCO, hence, influences the SCM practices. By considering how top management manages the company at an activity level, this study captures and describes the SCO. In other words, by investigating the output from the SCO rather than the SCO itself, the SCO expression will be investigated. In the analysis the findings from what top management actually do will be referred back to Mentzer et al.'s (2001) understanding of SCO in order to further describe and define the expression, see Figure 1.6.

Figure 1.6. The analysis of SCO in the study

Top management

As was stated above, the top management expression should in this dissertation be considered as a function rather than individuals involved in the company's strategy formation process. The strategy formation process in turn links the physical flow of goods with the company's content strategy, see Figure 1.1. The group of people included in the top management expression are members of the highest management authority that manages the company. Typically this team includes a CEO, COO, Purchasing manager, Production manager, Logistics or warehouse manager, CFO, Marketing manager, etc. Not included in the top management expression as it is understood in this dissertation is the board of directors, that function above, and hence outside, the company. This limitation is obviously difficult in reality; members of the board of directors can be involved in operations in the company or the CEO can be a member of the board.

2 Methodology

In this chapter research philosophy and the design of the study are discussed. This overall methodological discussion is complemented with a more thorough description of the different steps in the studies in part two and three in the dissertation. In addition, a discussion on research quality is done in connection to these.

2.1 *Research philosophy*

My research philosophy is based on the systems approach. A systems approach presumes an objective reality that can be (more or less) “discovered”. The researcher stands outside the research setting and the research results should be free from the values and background of the researcher. Even if I admit that these requirements are difficult to live up to in a research project like this, I have strived for these ideals during the research process.

As the name suggests, the systems approach means that the world can be thought of, and divided into, different systems. Arbnor and Bjerke (1997) define a system as a “set of components and the relations among them” (Arbnor and Bjerke, 1997, p. 111), where a component means e.g. a function or a department in a company. As a result of its focus on the relationships between components, the systems approach does not consider the totality as the same thing as the sum of its parts and, hence, positive or negative synergy effects can be created in a system. In line with the systems approach, I believe that in order to carry out good research and answer my research questions in a satisfactory way, it is necessary to consider the whole as well as the parts it consists of, and the relationship between the different parts. Indeed, the relationships between variables are just as interesting as the individual components.

When defining the system that is to be investigated, it is important to define the boundaries of the system, since most business studies assume that the system is affected by its environment, thus is an open system (Arbnor and Bjerke, 1997). Important delimitations for both studies (i.e. defined system boundaries), is the focus on logistics and SCM issues. As a result of this, a distinctive capability that is concerned with operational logistics processes is identified in the second study, the multiple case study. In relation to this, another delimitation is the use of strategy theory, which e.g. means that I identify distinctive capabilities in the study. Another system border is the focal company perspective, meaning that the analyses performed in both studies are done from this company's perspective.

A systems approach also normally removes, or at least diminishes, the importance of people from the studied systems. However, since the second study in this dissertation is about top management, a complete omission of people is not possible. As argued in the previous chapter, I consider the top management as a function rather than the individuals themselves. In line with this, I have tried to ignore the interviewee's background, education level, personal contacts, etc.

I believe a major reason for my philosophical view is the research community I belong to. This community (i.e. the Logistics division at the department of Management and Engineering, Linköping Institute of Technology), can be described as having a strong positivistic foundation according to Vafidis (2007), who investigates methodological approaches in logistics doctoral dissertations from Finnish and Swedish universities. Furthermore, similar to the other universities that were included in the study, my research community often takes a systems approach in the research (Vafidis, 2007).

2.1.1 Theory generation

The ultimate goal of research is to generate new theory. Bacharach (1989) defines theory as a "statement of relationships between units observed or approximated in the empirical world. Approximated units means constructs, which by their very nature cannot be observed directly (e.g. centralization, satisfaction, or culture). Observed units means variables, which are operationalized empirically by measurement." (Bacharach, 1989, p. 498). The primary goal for a theory is to answer "how", "when" and "why" questions. The theory expression can be contrasted to a description, which primarily aims at answering "what" questions (Bacharach, 1989). In my own words, I consider theory as a body of knowledge that is constantly and systematically acquired, arranged and developed. It says something about how the empirical world functions and is consciously simplified and brought to a high level of abstraction in order to expand the arena/field where it is valid. Expressed differently, I consider theory as general rules and assumptions for how something, e.g. a company, will behave under certain circumstances.

This dissertation aims above all to generate new SCM-related theory. This is done from a logistics perspective, which can be considered to dominate the SCM field of literature. In my opinion and in accordance with Arlbjörn and Halldorsson (2002), “SCM theory”, or “SCM literature”, which I refer to interchangeably in the thesis, can be considered as a theory on a low level of abstraction and close to practice. This “loose theory” (Arlbjörn and Halldorsson, 2002) can be put in relation to e.g. transaction cost analysis, which is a theory on a higher level of abstraction and can be referred to as a more “solid” theory.

It is here also in place to make a note on the theoretical contribution and how it is related to the frame of references chosen. I am convinced that there is a connection between the chosen frame of reference and the results I deliver in the sense that different theories will put light on different aspects of the objective world I investigate. Again, the main distinctive capability found in all three cases is the combination of efficient operational logistics processes and adjusted IT systems that support the processes. The combination of RBV literature and logistics and SCM literature is probably the reason for this finding. If a different frame of reference had been chosen, other results would probably have been found. It therefore becomes important to note that the results depend on the theoretical framework and that this is a dissertation that gives a theoretical contribution to the logistics and SCM literature.

Apart from generating new theory at this low-abstract level, the dissertation also aims to document and inform about how top management in best practice companies handles SCM issues. Thus, another important task of the thesis is to inform practitioners about my findings. In general, I believe that all research should indirectly (i.e. via theory) and/or directly guide practitioners towards improved performance.

2.2 *Research Design*

Indeed, the reader should note that the 4.5 year period as a PhD candidate has been a journey where important decisions concerning e.g. the main theoretical contributions, chosen methodological approaches, case companies etc have been decided along the way. The research process has been influenced by many things. Of major importance are my supervisors and colleagues that have diverse backgrounds in the logistics and strategy fields. During my time as a PhD candidate I have also published several papers, attended PhD courses and conferences that have influenced my research. The first study, the survey study, has even been published separately as a licentiate thesis in 2005 (Sandberg, 2005). The time and parallel research projects and findings have also affected the results of the study. For instance, since 2003 when I started my PhD studies, retail companies have got a stronger position in SCM literature as best practice

companies. This is one of the reasons for changing from manufacturing companies to retail companies in the second study.

2.2.1 An abductive research process

One important aspect that distinguishes different research is whether the research process is inductive or deductive, or if it is an iterative combination of them, i.e. an abductive research process (Alvesson and Sköldbberg, 1994). While case studies based on e.g. a grounded theory method (see e.g. Alvesson and Sköldbberg, 1994) advocate an inductive approach where the empirical data collection is done early in the process, other authors such as Yin (2003) and Eisenhardt (1989) suggest the opposite. To avoid being overwhelmed by the volume of data, Eisenhardt (1989) suggests that some constructs based on theory should be set up, which can help to shape the research design. If the constructs prove to be important as the study progresses Eisenhardt (1989) argues that the researcher will have a firmer empirical grounding for the emergent theory.

In total, the dissertation includes two main empirical data collections, one survey and one multiple case study. In the first study, which has a clear deductive approach, the theoretical framework of SCM literature functions as the basis for the research question which in turn are broken down and further specified into questions in the questionnaire. In Appendix C the relationship between the research question and the survey questions are described. As a result, the analysis from the survey study can best be described as a comparison between theory and the situation in real existing supply chains.

Despite the different methodologies, a similar pattern can be recognised in the second study. Before collecting empirical material, a pre-understanding was created by writing a theoretical framework on business strategy. Additionally the way I have prepared interview questions that are relevant to my research questions is similar to my approach for creating a questionnaire in the survey study. From theoretical constructs the research questions have been broken down into smaller questions that are possible for a respondent to understand. For both studies, it is important for the quality of the research to keep a clear chain of evidence between the results and the theoretical constructs that were the basis for the questions (e.g. Forza, 2002; Yin, 2003). In a case study approach, Yin (2003) compares this with a forensic investigation where the reader should be able to follow the derivation of any piece of evidence that ranges from the original research questions to the final case study conclusions.

In comparison to the survey study, the multiple case study is apart from verifying existing theory also aimed at generating new theory, hence the empirical material is at the end discussed at a theoretical level more carefully than was the case in the survey study. The second study can

therefore be labelled inductive, rather than deductive (Alvesson and Sköldbberg, 1994). To conclude, this dissertation contains one deductive and one inductive study. However, as was shown in Figure 1.2, at an overall level an abductive research approach can be identified in the research process, since I have had an iterative journey between theory and empirical data throughout my doctoral studies. The second study takes stance in strategy theory because of the empirical results from the survey study where top management is identified as an important driver for increased collaboration. The journey as a PhD candidate has continuously influenced the research process and the strategic decisions taken. As Figure 1.2 shows, the starting point and final destination has, however, been the SCM literature, which is the main uniting theme for the whole dissertation.

2.2.2 The choice of research approach

When deciding upon the research approach for a study, the researcher can choose among several research approaches, all characterised by specific strengths and weaknesses. The most important condition for choosing an appropriate approach is to identify the type of research questions that should be answered. Yin (2003) presents five different types of questions: “who”, “what”, “where”, “how”, and “why”-questions, to which different approaches are suitable. Due to the differences between the two studies included in this dissertation, they are discussed separately below.

The approach in the survey study

Regarding the type of questions in the survey study, the “what”-questions dominate. “What”-questions can be further divided into exploratory and descriptive “what”-questions (Yin, 2003). In this study the difference between the two types are ambiguous and both types can be identified. The latter type is characterised as “how many” and “how much”-questions. Examples of such questions are how many of the respondents have defined and documented their collaboration in terms of a process?; and how much joint planning can be seen in the collaboration, i.e. to what extent does the actors jointly plan logistics activities?

Other important groups of questions to be answered in the first study can be labelled “who” and “where”-questions. The “who”-questions are concerned with the characteristics of the respondents. For example, are there any differences among the industries considering how much collaboration there is? An example of a “where”-question is where in the supply chain is collaboration performed?

To conclude, the research questions for the survey study can all be characterised as typical “what”, “who” and “where”-questions. Common for these types of questions is that they are all suitable for a survey study (Pinsonneault and Kraemer, 1993; Yin, 2003), and therefore this approach was chosen. Researchers in the area point out that there is a difference between “surveys” and “survey research”. While a survey can be made for many reasons not connected to research, such as political opinion investigations and TV viewing polls, survey research aims to increase the scientific knowledge in a research area. Thus, the study applies a survey research approach, which aims to increase the scientific knowledge within the research area of collaboration and SCM. (Malhotra and Grover, 1998; Pinsonneault and Kraemer, 1993)

Three main characteristics distinguish a survey approach from other approaches such as case studies or experimental studies. First, the collection of information is done by *asking people* in a structured manner. Collection methods in a survey approach could be mailed questionnaires, interviews face to face, or telephone calls. Second, a survey approach is a *quantitative method* that demands standardised information from and/or about the studied subject, e.g. individuals, groups or organisations. Third, information is generally *gathered from a sample*, which is a fraction of a specific population. The sample should be chosen in such a manner that the answers from the sample can be generalised to the whole population. (Malhotra and Grover, 1998; Pinsonneault and Kraemer, 1993)

In the survey study a suitable method to collect the empirical material was a questionnaire that was mailed to logistics managers. Since the purpose of the study is to explore logistics collaboration, i.e. to explore and describe a situation, it is important that the chosen method reach many potential respondents. This is characteristic for a mailed questionnaire and is also a rather cheap way of conducting a survey. The main reason for mailing the questionnaire instead of using email (which would have been even cheaper and reached even more possible respondents) was the belief that a mailed questionnaire would result in a better response rate.

Depending on its purpose, three different kinds of survey research are presented in research literature: explorative, descriptive, and explanatory surveys (e.g. Yin, 2003). In accordance with the questions to be answered in the study, the questionnaire can in the first place be characterised as an explorative and descriptive survey. According to Forza (2002) an explorative survey is characterised by research on topics where no clear models or concepts are present and where e.g. a phenomenon has to be further discovered and better understood. Furthermore, an explorative study can help to draw preliminary evidence of association between different concepts or constructs. Examples of a descriptive survey can be to investigate the level of adoption of software for statistical process control (Forza 2002), or documenting the types of manufacturing processes being used by small and large manufacturing firms (Malhotra and Grover, 1998).

Above all, a descriptive survey aims to describe “what situations, events, attitudes, or opinions are occurring in a population” (Pinsonneault and Kraemer, 1993, p. 80). Hypotheses as a means of connections between variables can be investigated. However, in contrast to an explanatory study, no causal hypotheses are set up and tested; “Analysis stimulated by descriptive questions is meant to ascertain facts, not to test theory. The hypothesis is not causal but simply that common perceptions of the facts are or are not at odds with reality” (Pinsonneault and Kraemer, 1993, p. 80).

In the study no clear, determined hypothesis will be tested. However, since the questions in the questionnaire were all generated from the SCM literature, they can all be considered as theoretically underpinned and therefore the SCM literature is indirectly tested towards the empirical material. For example, the SCM literature suggests that a process approach will improve the supply chain performance and effects of a collaboration. This thesis investigates whether or not this can be seen among the respondents of the questionnaire.

The approach in the multiple case study

For the second study, where the role of top management is described and explained, a multiple case study methodology was applied. This choice is in line with Yin (2003), who argues that a case study is suitable for research questions characterised as “how” and “why” questions “being asked about a contemporary set of events, over which the investigator has little or no control” (Yin, 2003, p. 9). A case study can use qualitative as well as quantitative data, or a mixture of both (Ellram, 1996; Eisenhardt, 1989; Eisenhardt and Graebner, 2007). This study is mainly based on qualitative data in the form of focused, open-ended interviews (Yin, 2003). In comparison to the survey study, the topic for the second study is more difficult to fully break down into reasonable single survey questions that are possible for the respondent to interpret in the same manner as the researcher. In other words, a case study approach was chosen because the questions were too “difficult” to put in a mailed survey. Instead, they required interviews where the researcher could better motivate and describe the questions so that they were understood in a correct manner by the respondent. Furthermore, the case study approach enables a deeper understanding of the answers, where the researcher is able to directly discuss the respondent’s answers with follow-up questions.

Considering the research questions of the second study, they have above all an explanatory objective. A common misinterpretation according to Ellram (1996) is that case studies are only used for exploratory studies. This is, however, wrong; case studies can also be used for explanatory studies (see also Eisenhardt, 1989; Yin, 2003; Flyvbjerg, 2006). In fact, Ellram (1996) argues that a case study approach can be excellent for creating new theory, explain best practice companies, and to provide a better in-depth understanding of something. The explanatory

direction of the study's research also fits well with the use of qualitative data according to Ellram (1996), because qualitative methods "provide a depth and richness, allowing the researcher to really probe the how and why questions and construct idiographic knowledge" (Ellram, 1996, p. 97).

Part II

The survey study

3 Introduction to the survey study

3.1 Background and purpose

As argued in chapter one, most SCM literature tends to be conceptual and it can therefore be argued that a more solid empirical foundation is needed. To understand how SCM is practiced, broader survey based empirical material on collaboration is needed in order to further develop the research field. Existing research also indicates that collaboration based upon SCM still cannot be considered fully implemented in many supply chains. For instance, Spekman et al. (1998) conclude from their survey-based research into the subject that “It is apparent from these findings that although we espouse the benefits of supply chain management and sing the virtues of closer ties throughout levels of the supply chain, the results suggest that business has not yet fully operationalised the concept of supply chain management” (Spekman et al., 1998, p. 646).

In order to facilitate SCM implementation and create a true SCM environment, different firms in different industries have developed suitable business and management concepts for them (Svensson, 2003). Very often consultants and other experts have been involved in this when investigating the effects and working out strategies and structures for how to best start collaborations. The promised effects of SCM, such as a lower total cost, service improvements and reduced inventory levels, should via the management concepts be achieved more easily. Within the field of logistics, concepts such as Quick Response (QR), Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI), and Collaborative Planning, Forecasting and Replenishment (CPFR), are examples of such concepts. However, even if the journey towards the ultimate SCM performance has been facilitated by the business and management

concepts, these issues have still proved to be a difficult task for most companies, and therefore not many companies have successfully arrived at a total SCM environment. When reading research literature as well as management magazines, titles like “How efficient is Efficient Consumer Response” (Knill, 1997), and “VMI – Very Mixed Impact?” (Cooke, 1998) confirm the difficulties.

Apart from the fact that collaboration based upon SCM is still something unusual, there also seems to exist a gap between the ideas behind the concepts and empirical research about the promised effects of collaboration. It seems like those companies that have realised SCM and started to collaborate have not always been rewarded with all the positive effects that are outlined by the concept advocates. As an example, empirical research into CPFR shows that many of the promised effects could not be seen (Skjoett-Larsen et al., 2003; Småros, 2003; Stank et al., 1999). In an article Stank et al. (1999) present a survey from 1998 focusing on CPFR. In the article it is concluded that:

“This research fails to verify the existence of broad-based performance enhancements related to implementation of CPFR, but it does indicate that firms engaging in high levels of CPFR can expect to realize reduced overall cost. That is good, but it does not speak of the many other benefits often attributed to CPFR. Significant improvements in customer service, reduced stock-outs, less instance of damaged, returned and refused goods, and lower inventory levels with faster returns are all expected benefits of collaborative demand planning that were not supported at a statistically significant level by this research.” (Stank et al., 1999, p. 84)

With the discussion above it becomes evident that more research about collaboration based upon SCM is needed. This has also broad support in existing literature. For instance, Småros (2003) argues that more research into different types of CPFR-based collaboration is needed:

“Still, considerable research efforts are required before we can reach the goal of being able to understand what kind of collaboration is successful in different situations. There is currently very little descriptive research available on how companies collaborate in logistics planning and forecasting. Practice-oriented case studies as well as surveys from both the USA and Europe would be very valuable.” (Småros, 2003, p. 257)

The purpose of this dissertation is to describe and explain the role of top management in a company’s SCM practices. As argued in chapter one, a necessary first step is to provide a better view of existing SCM practices. Therefore, the purpose of the first study is to explore how logistics collaboration in supply chains is performed, and the first research question to be answered in this dissertation becomes:

Research question one: How is logistics collaboration in supply chains performed?

In order to provide a complete description of logistics collaboration in supply chains, the study covers a number of issues, including the content of the collaboration, i.e. what companies actually do when they collaborate, the number of companies involved in the collaboration, and driving forces, barriers and effects of the actual collaboration. These issues are more thoroughly discussed and elaborated in chapter 5.

3.2 The different steps in the survey study

Before presenting the theoretical framework on SCM which forms the basis for this study, this chapter discusses the different steps in the study, and are illustrated in Figure 3.1 below.

Figure 3.1. The different steps in the survey study

3.2.1 Preparation of a questionnaire

Constructing a questionnaire means a thorough break down procedure starting with the purpose and ending with a number of questions that are possible for a respondent to answer in a questionnaire (Forza, 2002). The breakdown procedure in this study should be regarded as a translation of the theoretical concepts and ideas presented in the frame of reference into concrete questions. All questions in the questionnaire have their origin in the SCM literature and can therefore be related back to existing literature about SCM and collaboration. This means that the empirical material can be compared with existing literature in order to investigate e.g. what parts are really applied in existing collaborations, i.e. investigate the gap between theory and practice.

The presentation of the purpose and the focus of this study should be seen as the first step in the break down process. As a second step towards reasonable questions to be put into the questionnaire, is the presentation of the more specific research questions in chapter 5. In regard to the research questions, a short discussion follows each question where it is further defined and broken down. For example, the content aspect information sharing was narrowed down to include four more concrete subquestions, namely what type of information was shared, the frequency of sharing, the degree of processed data, and what communication means that were used in the collaboration. The connection between these subquestions and the questions in the questionnaire can be seen in Appendix C.

3.2.2 Layout of the questionnaire

The final version of the questionnaire consists of 30 questions on ten pages and can be seen in Appendix B. The questionnaire is divided into two main sections where the first deals with general questions about the respondent's company profile and their internal process approach. In addition to these, three questions about information sharing in general were attached but are not further discussed in this study.

In the second section, the respondents are instructed to choose one specific relation they have that can be described as a collaboration. The respondents are asked to primarily choose a collaboration they have involving both customers and suppliers. If the respondent does not have any such relation, he or she is asked to choose either a supplier- or customer relation. Thereafter follow questions about this specific collaboration based upon the nine aspects taken up in the research questions presented in chapter 5.

The respondents also received a cover letter together with the questionnaire (see Appendix A). In this letter the purpose of the research project was described and some further instructions on how to answer it were given. To ensure that the respondent would have the same understanding

of the expression “collaboration” as presented in this thesis, the cover letter also included a more thorough description of how to interpret the term.

3.2.3 The pilot

An obvious prerequisite for properly carried out survey research is that the respondents must understand and interpret the questionnaire in the same way as the researcher. Even if the researcher has a perfect understanding of the content and knows exactly how it should be analysed, the answers can be useless if the respondents interpret the questions in a different manner. To avoid this, the questionnaire was tested on senior colleagues at the logistics division. Above all these colleagues looked for important questions that were not in the questionnaire and for readability, i.e. how difficult/easy it was to understand the questions. Thereafter the questionnaire was further developed using their opinions. As a final step before mailing the questionnaire, three logistics managers at Swedish manufacturing firms (which is the chosen population for the study) were contacted as a final test. These people were asked for their opinions on the readability of the questions and how possible it would be to answer them.

3.2.4 The sample

To fulfil the purpose of this thesis, suitable respondents had to be found. The population, which in literature can be defined as “the entire group of people, firms or plants or things that the researcher wishes to investigate” (Forza, 2002, p. 163), should here be interpreted as Swedish manufacturing companies (SNI codes starting with D). Furthermore, the population only covers companies with more than 100 employees and a yearly turnover of more than SEK 100 Million. The reason for choosing this population is that this type of company is the one most considered in SCM literature, especially in older literature. Much of the existing research on SCM issues is performed on this group and it can therefore be considered as a target group for SCM research. This population also represents different industries which all have specific characteristics and constraints, but which have many similar logistics challenges in common. In addition, because of the design of the study, an important requirement was to secure that the respondents’ companies had business to business relationships on both sides of the company. This feature was expected from the manufacturing companies chosen.

Since the chosen population contains a huge number of companies, the questionnaire could not be mailed to the whole population. Instead a subset of the population, a sample, was mailed. The selection of companies and individual respondents that should be included in the sample is called the sampling process. It is very important that the sampling process is performed correctly; otherwise there is a risk that the possibility of generalising the answers to the total population can be lost. (Forza, 2002)

The sampling process was done by hiring the company PAR. This company provides information about Swedish companies, such as addresses and names of responsible managers in the companies. PAR was ordered to list all the manufacturing companies (SNI codes starting with D) in their database where they also had a name for the logistics manager. The reason for this was to increase the response rate by only sending personal letters. Furthermore, PAR was instructed to only select companies with at least 100 employees and with a yearly turn over of at least SEK 100 Million.

500 randomly chosen names of logistics managers in 482 manufacturing companies were delivered from PAR. In 18 companies there were two names mentioned as logistics managers. In these cases only one of the two managers was mailed, which means that in total 482 questionnaires were mailed. Some of the logistics managers on the list from PAR belonged to the same company group. They belonged however to different parts of the organisation (different subsidiaries) and were therefore considered as different legal companies. Also note that the respondents were instructed to only answer questions about collaboration with external companies that did not belong to the same legal organisation. The reason for this was to avoid logistics managers in large companies answering the questionnaire with internal customers or suppliers in mind.

As a key informant the logistics manager was considered as a good choice. If one single person at the company would be able to answer the questionnaire, it would probably be he or she. At least, it was expected that this person would be able to forward the questionnaire to a more suitable respondent at the company.

3.2.5 Data collection and response rate

The questionnaire and the cover letter were mailed to the 482 logistics managers in November 2004. After two weeks, 105 randomly chosen respondents were phoned and reminded about the questionnaire. If they did not answer the phonecall, the respondent was later e-mailed and reminded about the survey. The purpose of the phone call was above all to increase the response rate (Forza 2002), but also to investigate why the respondent had not answered the questionnaire, see missing data analysis below.

As an overall “gross response rate”, including all questionnaires received (which was 182) and with no adjustment to the possible total number of respondents, 37.8% (182/482) was achieved. Of the answers received, 177 questionnaires were considered useable and were coded in SPSS. After considering returned mail with unknown receiver, and the reminders with phone calls, the possible numbers of answers could be reduced to 468, due to the following reasons shown in Table 3.1 below.

Table 3.1. Reasons for the reduction of possible respondents

Reason	No of reduced respondents
Same receiver was mailed twice due to employment in two different companies within the same business group	3
Finished employment/sent back because of unknown receiver	9
The questionnaire not applicable on the receiver company	2
In total:	14

Thus, this means a net response rate of 37.8% (177/468). In her doctoral thesis, Forslund (2004) makes a literature review on response rates in other similar research projects. Those response rates ranged between 5 and (10 16 19 20 24 27 31 33 38 39) 58%. In comparison, it can be concluded that the response rate received in this thesis is satisfactory. Furthermore, 37.8% is far more than the minimum suggested by Forza (2002), which is 20% for mailed questionnaires.

3.2.6 Missing data analysis

A net response rate of 37.8% with 177 useable answers can be considered good enough for the analyses made in this thesis. However, the amount of missing data is large and therefore needs to be tackled properly. In order to be able to generalise the findings, assurance that the sampling frame is representative for the whole population is needed (Forza, 2002; Malhotra and Grover, 1998). In other words, it must be certain that there are no systematic differences between respondents and non-respondents. For example, there is an obvious risk that the logistics managers in the sample without collaboration will not have answered the questionnaire to the same extent as those who have logistics collaboration. As a consequence of this the rate of collaboration would be higher by the respondents than by the non-respondents. In a similar way the logistics managers with a less positive attitude towards the actual collaboration are perhaps less willing to answer the questionnaire, which leads to differences between the respondents and the non-respondents.

Three actions were undertaken to investigate possible differences among respondents and non-respondents. First, the differences in the number of employees were investigated between respondents and non-respondents. The respondents as well as the non-respondents were divided into three groups, see Table 3.2 below. With a χ^2 square test it was concluded that no differences on a 5% significance level could be found between the groups (Dahmström, 2000).

Table 3.2. The number of employees among respondents and non-respondents

Number of employees	No of respondents in the sample	Received responses	Expected responses
100-199	145	46	53
200-499	157	54	58
More than 500	180	77	66
Total	482	177	177

As a second action to investigate differences between respondents and non-respondents 105 randomly chosen logistics managers that had not answered the questionnaire were phoned. 41 were contacted by phone. These were interviewed briefly with the following results, see Table 3.3 below.

Table 3.3. Results from telephone interview

Main outcome from the interview:	No of respondents:
Promised to answer the questionnaire	21
Have no time to answer the questionnaire, but have collaboration with customers or suppliers. These are in all cases regarded positive for the company.	18
Have no time and no collaboration with customers or suppliers	2
Interviewed respondents in total:	41

Note that the respondents that promised to answer the questionnaire after they had been phoned did not get any further information about the questionnaire, as this could have meant that some respondents had more information than others when answering the questionnaire.

The phone interviews described above can not be regarded as statistically sufficient since only 20 of the respondents were asked about their situation concerning collaboration. Still the interviews show that time is undoubtedly the main reason for not participating, and nothing actually points to other factors. 18 of 20 of the respondents who ignored the questionnaire due to lack of time had collaboration that they considered positive. Thus, nothing points to a low interest in answering the questionnaire because of bad experiences of collaboration.

Despite these results, no general discussion about how “common” collaboration is in supply chains will be taken in order to avoid drawing bad conclusions. A more thorough investigation of the non-respondents would have been needed for this. Instead, the focus of this thesis is on the differences in existing collaborations’ content, driving forces, barriers and effects, and type of collaboration.

Finally, as a third action to investigate systematic differences between respondents and non-respondents, early respondents (i.e. those respondents that answered the questionnaire within two weeks) were compared with late respondents (those respondents that answered after two weeks). The variable tested was what type of collaboration they had chosen to answer questions about (question v12, see Appendix B), including whether they had collaboration or not. The results are shown in Table 3.4 below. A χ -square test on a 5% significance level shows that no significant differences between early and late respondents exist.

Table 3.4. Investigation of systematic differences between early and late respondents

Type of collaboration	Counted early respondents	Expected early respondents	Counted late respondents	Expected late respondents
Collaboration with both supplier and customer	33	31	11	13
Collaboration with supplier	43	42	17	18
Collaboration with customer	35	39	21	17
No collaboration	13	12	4	5
Total	124	124	53	53

3.2.7 Analysis methods in SPSS

The data analysis of the questionnaire was made in SPSS 11.5. Apart from purely descriptive statistics such as mean values, standard deviation, and frequencies, factor analysis, cluster analysis, ANOVA (Analysis of Variances), and cross tabulations with χ -square tests were also used.

The main purpose of factor analysis is to investigate if some “hidden” factors could be found from a larger number of variables, i.e. the results of the variables can be explained by a smaller number of hidden variables (factors). In this thesis factor analysis was used as a means to confirm expected (based on the literature) correlations between variables. Thus, the method was used with a purely descriptive purpose and no further studies with e.g. factor scores were performed.

Cluster analysis means to find groups of respondents that have answered similarly on a set of variables, e.g. the variables investigating effects in this study. Thereafter, characteristics of the different groups could be investigated with e.g. ANOVA analysis.

Another way to group respondents is to have the researcher himself specify the criteria that would decide what group/cluster a certain respondent should belong to. This method was also applied here. For example, the respondents were divided into two groups depending on how intensive the information sharing they had was. The criterion that divided the respondents was the number of information types that was shared with a certain frequency; respondents that

shared at least two types of information at least once a week were placed in the first group, and the others in the second.

A third way to group respondents that was applied in this study was to group respondents with high answers (i.e. answered 4 or 5 on a specific Likert scale) in one group and respondents with low answers (i.e. 1 or 2) in another. Thereafter mean values between the different groups were investigated with ANOVA analysis. In these analyses the respondents that had answered 3, and therefore represented a neutral opinion, were removed so that the extremes could be seen better.

Mean values between clusters/groups of respondents were investigated with ANOVA analysis. All differences were tested on a significance level of 5%. The use of ANOVA demands from the material that parametric tests can be performed, i.e. that the variables have a normal distribution. Most of the variables in the questionnaire have Likert scales, which is the same as ordinal scales. In practice, ordinal scales are often handled in the same manner as interval scales (Hays, 1974). As such, it is assumed that these scales are parametric, i.e. have a normal distribution. When three or more groups were compared Levenes homogeneity of variance test was performed. In the case of similar variance Bonferroni's post hoc test was used. In the case of non-homogeneous variance, Tamhane's T2 test was used. (SPSS, 2002)

For variables measured on nominal scales, cross tabulations and χ -square test (which is a non-parametrical test), were used to investigate differences between groups. All significance levels were set to 5%.

3.2.8 How the analysis was performed

Research question one in total consists of three categories that in turn can be divided into nine different aspects of collaboration (see also Figure 5.1). These are:

- The process approach
- The planning of the supply chain activities
- Information sharing
- The focal company's supply chain orientation
- Logistics areas where collaboration is performed
- Driving forces
- Barriers
- Effects
- The different types of collaboration

A short presentation of the different steps in the analysis is given below. The same order is followed in chapter 6 where the results of the study are presented.

Step one: Separate analysis of each aspect

As a starting point, each variable (i.e. a question in the questionnaire) was analysed one by one with mean values, standard deviation and frequencies. The main goal of this part of the analysis was to present an overall picture of the empirical material and comment on some of the more interesting results. This step was also necessary in order to get a better grip of the material as a starting point for further analysis (Forza, 2002).

Many of the answers in the questionnaire are given on a five point Likert scale where value one stands for a negative view, e.g. “disagree”, and a five for a positive view, e.g. “agree”. This means that the answer 3 could be interpreted as a neutral position. Even if the respondents are given the possibility to answer “do not know”, etc., it is in some cases meaningful to investigate if the answers are really distinguishable from 3. This was done with one-sample t-tests on a 5% significance level. If relevant, these analyses are presented in chapter 6. Furthermore, the distribution of the respondents is shown for some of the variables presented in chapter 5 as a complement to the mean values and standard deviations.

Finally, some relations to the characteristics of the respondents were also presented and discussed briefly.

Step two: Analysis of relationships between aspects included in the same category

In two of the subquestions more than one aspect is included. The relations between these aspects were therefore investigated in order to get a better understanding of the results for the category as a whole. The analysis methods presented in the previous section were applied to investigate the relations. The results are presented as a last section under each category, see chapter 6.2.6 and 6.3.4.

Step three: Analysis of relationships between aspects corresponding to different categories

In order to answer the fourth subquestion, analyses of relationships between the first three research questions were performed. As in the case for step two, the analysis methods presented in the previous section were applied. For example, ANOVA analysis was used to investigate if there were any differences in the effects experienced of the collaboration between the respondents who had defined a process in their collaboration and those without.

Note that not all possible combinations amongst the three questions were investigated. The analyses that were performed were all theoretically based, i.e. before each analysis a hypothesis/idea about the result was set up.

3.2.9 Further analysis and discussion

Based on the analyses in SPSS presented in chapter 6, a more comprehensive description of logistics collaboration and analysis could be presented in the following chapter. Chapter 7 aims to answer the research question on a higher, more qualitative level, and relate the findings to previous literature and research in the area.

When performing statistical studies it is important to distinguish between statistical correlations and causal relationships. A statistical correlation does not necessarily mean that a causal relationship exists between the variables (Hinkle et al., 1994). In chapter 6 only statistical relationships between variables are considered. This means that when, for instance, considering the content of logistics collaboration, it is not concluded whether one aspect leads to another or vice versa. For example, the results in this study show that respondents with more intensive frequency of information sharing also use EDI and Internet based EDI more often. No effort has, however, been made to investigate if the implementation of EDI caused an increased frequency of information sharing, or if a high frequency of information sharing caused the implementation of an EDI solution between the participating players in the collaboration.

Another important issue when performing this type of research is to assure that the correlation between the variables is not caused by a third, “hidden” variable that is the reason for the relationship. The discovered correlations and relations between variables were all investigated and discussed on a qualitative level with support from relevant literature (Dahmström, 2000; Hinkle et al., 1994). In some of the analyses performed on variables corresponding to research question one (the content) and two (driving forces, barriers and effects) relations between them could not be found to be valid independently from the type of collaboration that was performed. In these cases the reader is informed by a footnote in chapter 6.

To conclude, no causal relationships will be investigated in this study. However, in some cases the relationships could be interpreted as causal due to differences in time between the variables (Hinkle et al., 1994). In this study this is valid for the relationships between e.g. the content of collaboration and questions about experienced effects of the collaboration. In such a case it could be argued that the content comes before the experienced effects and therefore can be considered as causal relations. Possible causal relationships are discussed in chapter 7.

3.3 Quality

Validity and reliability are the most important quality criteria when conducting a survey and need to be handled carefully in order to achieve good results. Validity measures to what extent the chosen method really measures what the researcher wants to be measured (Björklund and Paulsson, 2003). One prerequisite for obtaining good validity is good reliability, which can be defined as the capability to generate the same result at different points of time, i.e. to avoid influence by chance. An example of low reliability would be when measuring attitudes or perceptions and when the same attitude results in different answers. This can be caused by e.g. tiredness, stress or bad motivation of the respondent. (Rosengren and Arvidsson, 2002)

3.3.1 Validity

A common and obvious mistake is to first design the questionnaire and then, when the questionnaire has already been mailed, discover the more thorough and correct questions to be asked. There is a risk that “wrong” questions will be put in the questionnaire and that the respondents cannot answer the research questions posed and thus jeopardise the purpose of the study. An important first step in the breakdown procedure is therefore to assure that the research questions fulfil the purpose of the study. The next step and important task when constructing a questionnaire is to ensure that theoretical concepts that should be measured really can be measured by the questions in the questionnaire. It is also important that the concepts are correctly “translated” into the questions in the questionnaire. Expressed differently, it is important that the empirical questions correspond well with the theoretical concepts. A lot of effort in constructing the questionnaire can help to increase the validity. An important step when constructing the questionnaire was to perform pilot tests (Dahmström, 2000). Many valuable comments on the translation of the theoretical concepts were considered and improved the validity of the questionnaire.

Perhaps the most difficult theoretical concept that was translated in the questionnaire for this study is the supply chain orientation expression, explained in the frame of reference. One of the purposes behind the questionnaire was to investigate to what extent players in a supply chain have a SCO when they collaborate. To be able to break down the expression, a literature review in Mentzer et al. (2001) was used as a basis. The authors claim that according to existing SCM literature, the SCO expression is preceded by eight aspects; trust, commitment, interdependence, organisational compatibility, vision and key processes, leader, and top management support. Thus, in order to achieve a high validity, all eight aspects had to be considered in the questionnaire. Some of the aspects were represented with one single question (e.g. the trust aspect, v19_3 in the questionnaire, see Appendix B) while others were answered with several questions (e.g. vision and key processes, v19_5, v19_6, and v19_7, see Appendix B).

Validity can not be measured exactly, but can only be estimated. It can be argued that since all aspects were covered in the questionnaire, a high validity was achieved. However, whether or not more questions should be asked to cover the SCO expression even better is a matter of concern for discussion. For example, is one single question about trust enough?

Finally, a crucial question connected to validity is the chosen perspective of the study. The fact that only one party (the focal company) answers the questions about the collaboration will have great impact on the type of conclusions that can be drawn. Obviously, it is impossible to draw conclusions of type; “most of the actors participating in collaborations have a positive attitude towards the collaboration”. To make this conclusion, all actors involved must be contacted. In this study only one half (in the cases of dyadic collaborations), or one third (in the cases where both customers and suppliers are involved) of the actors participate. Even if studies where all participating actors are considered exist (see e.g. Forslund, 2004; Spekman et al., 1998), the most common perspective is, however, similar to the perspective taken in this study (Gimenez and Ventura, 2005).

Such pitfalls as those described above have been avoided in the result and analysis of this thesis. Instead the focus has been on matters such as the differences among the respondents concerning effects depending on what area the collaboration is performed, or what type of planning is performed, or what barriers the respondents think have been the most difficult to overcome. Such analysis can be performed without opinions from the other part of the collaboration.

3.3.2 Reliability

To improve the reliability of a survey, the construction of the questionnaire is important. It must be easy to understand and answer the questions. These should be neutral, and strong words and ambiguity should be avoided as far as possible. In the pilot study, these concerns were tested carefully. To further increase reliability, the crucial question about what collaboration the respondent would answer questions about, and its content (see Appendix B, question v12 and v13), was followed by an open question (v14). The purpose of this question was to check and assure that the respondents had understood the former two questions properly. When coding the questionnaire into SPSS five questionnaires were excluded from the study due to suspicions of low reliability on these questions and other answers in the questionnaires.

Another crucial aspect when constructing a survey is the risk of making the questionnaire too extensive, which will take too long to answer. In such cases there is an obvious risk that the response rate would be lower and the reliability less, due to a higher risk of tiredness and lack of motivation by the respondent. The constructed questionnaire includes 30 questions and is 10

pages. In comparison to similar research (see e.g. Forslund, 2004; Nehler, 2001), the scope of this questionnaire seems reasonable.

Apart from the questionnaire, the cover letter also provided the respondent with important information in order to increase reliability. For example, the cover letter included a discussion about how the expression “collaboration” should be interpreted. Telephone number and email contact was also provided in the cover letter to make it possible for respondents to ask questions about the questionnaire. The fact that very few respondents took this opportunity speaks for a well constructed questionnaire and thereby a high reliability.

4 Supply Chain Management – a theoretical framework

The theoretical framework of SCM presented in this chapter can be divided into three main parts, where the first part considers the scope and content of SCM from different perspectives. The second part consists of a short presentation of three collaborative-based business concepts with strong logistics profiles. These concepts can be regarded as examples of how to implement the somewhat blurry and not well-defined SCM term. Hence the main purpose for this part is to provide the reader with a better picture of how SCM can be realised. The third part summarises the frame of reference with four important aspects of SCM to consider from a focal company's perspective. These four aspects together provide the reader with a clearer picture of how the SCM literature suggests that a focal company should behave in its supply chain.

Since this thesis has a logistics perspective on SCM, the chapters below are dominated by literature from the field of logistics research.

4.1 *The scope of Supply Chain Management*

In this section, the development of the functional and organisational scope of SCM is described and it is concluded where the SCM literature stands today concerning these issues.

4.1.1 The functional scope of Supply Chain Management

The term supply chain management was founded and developed in a logistics context. Within this area there is a natural need for cross functional thinking and in the beginning of the 1980s, SCM was introduced by consultants as a term for how to manage inventory across several functions in the supply chain more efficiently and effectively (Cooper and Ellram, 1993; Cooper and Lambert, 2000). Over the years SCM has become a very popular research area in many different disciplines. In their literature review Croom et al. (2000) presents eleven different bodies of literature, all dealing with SCM:

- Purchasing and supply literature
- Logistics and transportation literature
- Marketing literature
- Organisational behaviour, industrial organisation, transaction cost economics and contract view literature
- Contingency theory
- Institutional sociology
- System engineering literature
- Network literature
- Best practices literature
- Strategic management literature
- Economic development literature

As many different research disciplines are involved in SCM research, its functional scope has been widened more and more (Cooper and Lambert, 2000). Studying articles published from the 1980s until now shows this development clearly. Houlihan (1985), one of the first authors writing about SCM, found that there was a need for a new approach within the area of materials management in order to avoid a sub-optimal utilisation of assets. Jones and Riley (1985) claimed that “supply chain management deals with the total flow of materials from suppliers through end-users” (Jones and Riley, 1985, p. 19). Stevens (1989) extended SCM to also contain the information flow connected to the physical materials flow. Lee and Billington (1992) mentioned for the first time R&D in an inventory context and argued that the involvement of R&D could reduce inventory and distribution costs. Hence, in literature, the focus on inventory levels and logistics was broadened and in 1997 Cooper et al. stated the following: “There is definitely a need

for the integration of business operations in the supply chain that goes beyond logistics. New product development is perhaps the clearest example of this since all aspects of business ideally should be involved, including marketing for the concept, research and development for the actual formulation, manufacturing and logistics for their respective capabilities, and finance for funding.” (Cooper et al., 1997a, p. 1)

The authors argue that this development is natural and explains the logic behind it; to be able to decrease the inventory levels there is a need for increased information availability. Marketing and customer service also become involved since these must have access to accurate information about product availability etc. These functions will in turn influence other functions in the company. Thus, soon all “traditional intrabusiness functions” (Mentzer et al., 2001) are encompassed in the SCM term. Today, this is the most common understanding of the functional scope of SCM. However, even if the focus on inventory management has decreased in the literature, it is still considered one of the major tasks of SCM. For example Childerhouse and Towill published an article in 2003 with the title “Simplified material flow still holds the key to supply chain integration” (Childerhouse and Towill, 2003).

4.1.2 The organisational scope of Supply Chain Management

The organisational scope of SCM should be interpreted as the number of companies involved. Two main views about the organisational scope of SCM exist in the literature. The first considers all companies from point of origin to point of consumption to be involved, while the other requires that at least three companies should be involved. Just as the question about the functional scope of SCM, the opinion about the number of involved organisations in SCM has changed. In earlier articles, which represent the first view, the authors seem to agree that the scope covers all companies involved “from the supplier to end customer” (Houlihan, 1985, p. 26; Jones and Riley, 1985, p. 17) or that SCM involves “the entire channel and not just a few channel pairs” (Cooper and Ellram, 1993, p. 13)

In recent years however, the organisational scope of the supply chain seems to have been narrowed. The reason for this is perhaps the increased efforts in the literature and by companies to realise and implement SCM, and that a company perspective therefore is often taken instead of a supply chain perspective. Some of the older articles have very high demands on what can be called SCM and therefore it is almost impossible to see such SCM in reality. Cooper et al. (1997b) argue instead that the supply chain (and the organisational scope) can be defined as “three or more organisationally distinct handlers of products” (Cooper et al., 1997b, p. 67). They argue that the focus on the total supply chain system was “a lofty and difficult goal to achieve. Few organisations, if any, even have a good understanding of how various functions, teams, and other units within their own organisation interact.” (Cooper et al., 1997b, p. 68).

The interpretation of the organisational scope is closely related to the understanding of what a supply chain is; some authors distinguish between “traditional commodity chains” and supply chains, whereas other authors do not. Cooper and Ellram (1993) and Cooper et al. (1997b), who represent the first view argue that not all companies are automatically involved in a supply chain. Cooper and Ellram (1993) identifies a number of aspects that differentiates a traditional commodity chain from a supply chain, see Table 4.1 below:

Table 4.1. Aspects that distinguish a traditional commodity chain from a supply chain (Source Cooper and Ellram, 1993, p. 16)

Element	Traditional	Supply chain
Inventory Management Approach	Independent efforts	Joint reduction in channel inventories
Total Cost Approach	Minimize firm costs	Channel-wide cost efficiencies
Time Horizon	Short term	Long term
Amount of information sharing and monitoring	Limited to needs of current transaction	As required for planning and monitoring processes
Amount of Coordination of Multiple Levels in the Channel	Single contact for the transaction between channel pairs	Multiple contacts between levels in firms and levels of channel
Joint Planning	Transaction-based	On-going
Compability of Corporate Philosophies	Not relevant	Compatible at least for key relationships
Breadth of Supplier Base	Large to increase competition and spread risk	Small to increase coordination
Channel Leadership	Not needed	Needed for coordination focus
Amount of Sharing of Risks and Rewards	Each of its own	Risks and rewards shared over the long term
Speed of Operations, information and inventory flows	“Warehouse” orientation (storage, safety stock) interrupted by barriers to flows; localized to channel pairs	“DC” orientation (inventory velocity) Interconnecting flows; JIT, Quick Response across the channel

Thus, according to these authors, the supply chain only exists where there is SCM. In other words, the supply chain is equivalent to the organisational scope of SCM.

The second view is that all companies are always involved in a supply chain. For instance, Mentzer et al. (2001) do not demand more than the existence of a set of companies structured so that one organisation (or individual) supplies another and that this organisation in turn supplies another organisation, to call it a supply chain. Thus, no distinction between commodity chain and supply chain is made. The reason for this approach is the opportunity to more easily be able to distinguish between a “supply chain” and “supply chain management”. They argue that: “...we draw a definite distinction between supply chains as a phenomena that exists in business and the management of those supply chains. The former is simply something that exists (often also

referred to as distribution channels), while the latter requires overt management efforts by the organisations within the supply chain.” (Mentzer et al., 2001, p. 4).

Lambert and Cooper (2000) also discuss the fact that all firms participate in supply chains all the time, reaching from raw material to the ultimate consumer. However, which parts or links of the supply chain that should be managed – and how – is, according to the authors, another matter of concern that can be labelled SCM.

Combining the number of companies involved and the understanding of a supply chain, results in four possible views on the organisational scope of SCM, which are all represented in the literature, see Figure 4.1:

Number of involved organisations			
All organisations	Cooper & Ellram (1993)	Houlihan (1985)	
	Cooper et al. (1997b)	Mentzer et al. (2001)	
At least three organisations			The view of the supply chain
	A supply chain does not always exist	A supply chain always exists	

Figure 4.1. Different opinions on the organisational scope of SCM

Another example of how to simplify and clarify the organisational scope of SCM is to distinguish between primary and supporting members of the supply chain (Lambert and Cooper, 2000). Primary members are defined as “those autonomous companies or strategic business units who carry out value-adding activities (operational and/or managerial) in the business processes designed to produce a specific output for a particular customer or market.” (Lambert and Cooper, 2000, p. 70). Supporting members in turn are defined as “companies that simply provide resources, knowledge, utilities, or assets for the primary members of the supply chain.” (Lambert and Cooper, 2000, p. 70). This classification can be compared with Mentzer et al.’s (2001) three degrees of “supply chain complexity” (Mentzer et al., 2001, p. 4); direct supply chain, extended

supply chain and ultimate supply chain. In a direct supply chain a focal company, a supplier and a customer are involved. This view, with three independent units, is seen as a minimum to SCM. In the extended supply chain, the supplier's supplier and the customer's customer are also added. Finally, in the third type called ultimate supply chain, all "organisations involved in all the upstream and downstream flows of products, services, finances, and information from the ultimate supplier to the ultimate customer" (Mentzer et al., 2001). This means that e.g. carriers and third party logistics companies are also covered in the organisational scope of SCM (see also Tan 2001).

The increased efforts in recent years to realise SCM and make it less difficult to achieve, has also meant a discussion in literature on that all relations should not be embraced by the SCM philosophy and characterised with a collaborative atmosphere (Cooper et al., 1997b). Barratt (2004) is for example questioning collaborative relationships with all other members in a supply chain:

"What is not clear in the literature is whether we can collaborate with everybody. The answer is probably "no", but it is not as disappointing as it may sound. Organisations need to realise that the resource intense nature of collaboration means that they need to focus their attention on a small number of close relationships rather than trying to collaborate with everyone. But why would organisations want to collaborate with everyone; some relationships may well be "optimal" in the sense that they are most suited to an arm's-length, purely cost based type of relationship, i.e. collaboration would not create any further added value or benefit" (Barratt, 2004, p. 33)

To conclude, the interorganisational scope of SCM nowadays seems to be considered as at least three organisationally independent actors; in its simplest form this could be a supplier, a third party logistics provider, and the supplier's customer. When considering only primary members of the supply chain (which is the case in this study) a supply chain could consist of a focal company and its customer and supplier.

4.2 Three perspectives on SCM

The fundamentals of SCM, i.e. the content, can be described from a functional, a processual, and an organisational perspective. The reason for the choice of these perspectives is the strong focus on processes in recent SCM literature; the process view is becoming more and more central and therefore has to be studied further. In contrast to the process view, the functions are often discussed and are therefore closely related to the discussion about the processes. Finally, since the process approach puts new demands on the organisations involved, this perspective also

becomes important; without an organisation that manages the change towards a process approach, SCM will always be nothing other than a utopia.

When considering the content of SCM from the three perspectives, the following picture is clear (see Figure 4.2 below); the essence of SCM is about solving the problems with functional silos that occur within and between independent organisations (functional perspective). The suggested prescription to do this is a change towards a process view (processual perspective) where the whole supply chain (i.e. all functions) acts as one single entity with focus on end customer demand. This change is, however, not easily made and lots of barriers are presented in the literature, where organisational issues (organisational perspective) above all are discussed.

Figure 4.2. The content in the three perspectives on a conceptual level

4.2.1 SCM from a functional perspective

In SCM literature function is often equivalent to a company's different departments such as e.g. sales, marketing, purchasing and logistics. As such, a functional description of a company therefore hints at how a company's resources are utilised and organised. Within each function a number of activities are performed. A function is always specialised in some way, and therefore the activities performed by the function are similar and/or needs the same type of resources/knowledge provided by the function.

From a functional perspective, most SCM literature is concerned with the so-called "functional silos" (see e.g. Lambert and Cooper, 2000), both within companies and between companies. The authors recognise that there is a trade off between the functions and that the main task for SCM is to balance and coordinate the functional objectives and find the best overall solution. Houlihan (1985) for example proposes the idea that the objectives of marketing, sales, manufacturing and distribution are constantly in conflict with each other; "The imbalances resulting from these conflicts have become almost structural in nature and traditionally have been bridged by inventory and excess capacity. It is not necessary to challenge the direction of the individual

strategies of each of those functions. What is rather needed, is a critical evaluation of the opportunities for trade-offs between the key elements of these strategies, and examination of the implication...Supply chain management suggests a quite different approach: addressing the imbalances directly and evaluating opportunities for minimising them.” (Houlihan, 1985, p. 30)

The need for trade-offs between the functional silos can also be interpreted as the trade-off between costs and service, which is also discussed by many authors. For example, Stevens (1989) argues that “To achieve the necessary balance between cost and service involves trade-offs through the chain. For the benefit of such trade-offs to be fully achieved it is necessary to think in terms of a single integrated chain rather than narrow functional areas.” (Stevens, 1989, p. 3)

To conclude, there is a natural need for trade-offs between different organisational functions. For example a production department, which can be considered as a function, can be measured and managed with functional related measurements such as production cost per unit. In such cases, there are no incentives to increase production cost per unit in order to improve service towards the department’s customers. The service towards its customers is outside the scope of the function and the credit for an improved service would be taken by another function, e.g. a marketing function. In such cases it is therefore not beneficial for the production department to make service improvements with higher production costs.

In the SCM literature, an example like this is perhaps the strongest argument for SCM since SCM helps to tackle these problems and avoid suboptimisations as described above. In recent literature, the way to overcome the problem becomes very clear; the supply chain members should focus on, and be organised around, a number of processes in order to achieve better coordination and avoid suboptimisations (Cooper and Ellram, 1993).

4.2.2 SCM from a processual perspective

As stated in the previous section, more recent SCM articles stress the importance of managing the supply chain with a process approach. In fact, when considering the section above, almost everything written about functions can be seen as an argumentation for a more process oriented view of the organisation. The functional oriented organisation with its functional silos should be reorganised in favour of a more process-oriented management. The processes should penetrate the functional silos and stretch over different functions as well as different organisations (Lambert and Cooper, 2000).

According to Cooper et al. (1997a) a process is “a specific ordering of work activities across time and place, with a beginning, an end, and clearly identified inputs and outputs, a structure for action.” (Cooper et al., 1997a, p. 5)

Since the expression “process” can have many different meanings, Willoch (1994) calls this type of process “a working process” in order to make a clearer statement of its meaning. Willoch (1994) further concludes that a working process has two main characteristics:

- It always has an internal or external “customer”, i.e. a receiver of the output from the process.
- It goes through different functions and crosses organisational borders, both internal as well as external ones.

One of the main advantages of a process approach is that it increases the awareness of the different activities performed by a company and how they are related to each other (Melan, 1993). This makes better coordination and integration possible and is therefore in line with the objectives of SCM. Furthermore, since a process approach always pays attention to what comes out to its customer, the service towards the receiver becomes more important and gets more attention in the SCM literature. The service focus is one of the main differences between the process approach and a more functional approach (Cooper et al., 1997a).

Tan (2001) argues that it is the service aspect and customer satisfaction that actually drives the change towards SCM and the importance of having a process approach: “A key facilitating mechanism in the evolution of supply chain management is a customer-focus corporate vision, which drives change throughout a firm’s internal and external linkages.” (Tan, 2001, p. 41).

4.2.3 SCM from an organisational perspective

To get the SCM philosophy to work in a supply chain means to move from a functional orientation towards a process view, which puts new demands on the organisations involved. Organisational change is not easily accomplished and many SCM articles only briefly discuss common problems connected to the implementation of SCM (exceptions exist though, see e.g. Sabath et al., 2001, who discuss the impact of the organisational structure in automatic replenishment programs).

Above all, human-related and often more intangible problems are mentioned by authors. At an interorganisational level, Mentzer et al.’s (2001) SCO discussed in chapter one, put new demands on e.g. organisational compatibility and trust. Because of its interorganisational nature, thinking in terms of processes means an increased need for such circumstances. Human related problems are however not only an interorganisational matter, but also an intraorganisational issue. Typical intraorganisational problems mentioned are the company’s tradition and corporate culture (Jones and Riley, 1985; Melan, 1993; Tan, 2001). Coordination and interplay among departments and

functions within the same organisation is also of great importance (Cooper and Ellram, 1993; Melan, 1993).

A central question of concern and a main task for SCM is how actors in the supply chain should be integrated with each other. Extensive information sharing between actors is considered to be a prerequisite for this and many problems related to this are highlighted in the SCM literature. For Mason-Jones and Towill (1999) “sharing in-depth information sounds easy, but does not come naturally for most companies. In fact, company policy has in the past frequently actively discouraged it. Information has traditionally been perceived to be power, that is, those with the knowledge have a strategic advantage.” (Mason-Jones and Towill, 1999, p. 16)

Another issue, which can be regarded as both an intraorganisational as well as an interorganisational problem, is the demand for process related measurements instead of functional ones. One of the main problems with working processes is that by nature they cross functional borders and this makes them difficult to measure with common functional related measurements. In a completely functionally managed organisation, no single department or person will have the full responsibility for a process; the process becomes “invisible” (Melan, 1993; Willoch, 1994). Therefore, to be able to manage and improve the process properly, new measurements have to be found (see Figure 4.3) that measure the performance of the whole process; otherwise there is an obvious risk for suboptimisation.

Figure 4.3. Process related vs. functional related measurements

4.3 *Logistics business concepts based on the SCM-philosophy*

Since the expression SCM was founded in the early 1980s, several approaches and concepts have been applied to realise the main idea behind SCM. This chapter aims to describe three of the concepts further in order to clarify what SCM can mean in an actual existing supply chain environment. Since much research in SCM deals with concepts, it is useful to give a short presentation of the concepts in order to provide the reader with some necessary information.

The three concepts to be presented below are Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI), and Collaborative Planning, Forecasting and Replenishment (CPFR). ECR was chosen due to its widespread use in companies and since it is considered to be a foundation for many other collaborative concepts (www.cpfr.org). VMI is perhaps the most common and famous collaborative concept and has been applied in many different types of industries over the last twenty years. VMI is also representative for a number of other similar concepts such as Automatic Replenishment Programs (Sabath et al., 2001), and Co-Managed Inventory (www.cpfr.org). Finally, the concept CPFR was chosen because of the attention it has received in recent years. This is considered to be the latest concept following in the footsteps of ECR and VMI and its importance is expected to increase over the next few years (www.cpfr.org).

4.3.1 Efficient Consumer Response, ECR

In the 1980s and beginning of 1990s the grocery industry in the United States was characterised by distrust between trading partners and arms length agreements. This “war” in the industry led to a loss of productivity and market shares (Alvarado and Kotzab 2001). At that moment, the grocery industry started to look at other industries and was inspired by the garment industry and their concept of QR (Hoffman and Mehra, 2000; Kurt Salmon Associates, 1993; Schary and Skjoett-Larsen, 2001), which can be considered as a precursor to ECR, although less comprehensive and more focused on bar coding and the technology base of Electronic Data Interchange, EDI (www.cpfr.org). In 1992, 14 trade association sponsors in the grocery industry in the United States created a group called Efficient Consumer Response Movement whose purpose was to change the business climate considerably. The ECR Movement hired the consultant firm Kurt Salmon Associates to investigate how to optimise the business practice for the management of the supply chain. (Barratt and Oliveira, 2001)

The report from Kurt Salmon Associates was presented in 1993 and can be seen as the foundation document for ECR. In the report ECR is defined as “a grocery-industry strategy in which distributors and suppliers are working closely together to bring better value to the grocery consumer. By jointly focusing on the efficiency of the total grocery supply system, rather than the efficiency of individual components, they are reducing total systems costs, inventories, and

physical assets while improving the consumer's choice of high quality, fresh grocery products.” (Kurt Salmon Associates, 1993, p. 1). As the definition implies, the report and the cornerstones of ECR are clearly influenced by the thoughts of SCM.

The report from Kurt Salmon Associates identifies four main processes where interorganisational activities should be harmonised and improved, se Table 4.2 below. To realise the ideas it is suggested that special interorganisational and interdepartmental working groups should be formed:

Table 4.2. The scope of the four ECR processes (Based on Kurt Salmon Associates, 1993, p. 29)

ECR Process	Scope
Efficient Store Assortments	Providing a complete, easy-to-shop, assortment of products wanted by the consumers
Efficient Replenishment	Maintaining high in-stock levels of the required assortment
Efficient Promotion	Harmonising the promotion activities between manufacturer and retailer by communicating benefits and value
Efficient Product Introductions	Developing and introducing new products the consumers really want by meeting their ultimate needs

European companies, with their own organisation for ECR similar to the American one, have a similar understanding of ECR. They divide the ECR-concept into three so-called focus areas (Bernardi et al., 1997):

- A. **Category Management** is the process whereby supplier and customer work together with product categories such as strategic business units in order to improve marketing activities.
- B. **Product Replenishment** concerns logistics in the supply chain and its goal is to minimise the total logistic costs and improve the service levels.
- C. To make the two first areas work, **Enabling Technologies**, such as EDI (Electronic Data Interchange) solutions are needed. Many of the technologies are not new and are already well established in many companies. However, through ECR they are linked and synchronised with each other in a new way.

With the three focus areas as a base, ECR Europe has defined 14 “success concepts” that companies can combine in different ways depending on individual conditions and circumstances. These are:

A1. **Establish Infrastructure:** the choosing of a partner and to start cooperation in Category Management and Product Replenishment.

A2. **Optimise Product Introductions:** cooperation concerning product introductions.

A3. **Optimise Assortment:** the supplier and customer together evaluate different product categories and plan the assortment and placement in the shop.

A4. **Optimise Promotions:** planning concerning special campaigns and offerings.

B1. **Automated Store Ordering:** to use bar coding and other scanning methods for forecasting as a base for ordering.

B2. **Continuous Replenishment:** letting the supplier be responsible for the replenishment of the customer's warehouse on the basis of POS data.

B3. **Cross Docking:** to organise deliveries from supplier to the customers' shops without having conventional inventory warehouse.

B4. **Synchronised Production:** to make production plans based upon continuous sales information, which will minimise the total inventory level.

B5. **Reliable Operations:** to improve service levels according to production and deliveries.

B6. **Integrated Suppliers:** to integrate the sales with raw material and packaging material.

C1. **Electronic Data Interchange (EDI):** using electronic technology to automatically send business documents and sales information between companies.

C2. **Electronic Funds Transfer (EFT):** using electronic technology to automatically send invoice messages and payments.

C3. **Item Coding and Database Maintenance:** to implement and use European Article Numbering, EAN, to verify purchase and invoices.

C4. **Activity Based Costing (ABC):** to use ABC calculations within and between companies to better control introduction of Category Management and Product Replenishment.

The 14 suggested concepts/actions presented above shows that ECR is a broad concept, with possibilities to make improvements in many business areas. But, even if ECR involves more areas than only pure communication and bar coding, which is the case for QR, above all ECR is about information sharing (Christopher, 1998). Hoffman and Mehra (2000) means that the underlying idea with ECR is that sharing e.g. point-of-sales data will create a natural pull strategy in the supply chain. These thoughts are also supported by e.g. Larsson (2002): "Behind this thinking lies the belief that consumer activity information is more valuable than order or delivery information. The effectiveness of production and inventory management depends very much on the forecast accuracy. The more accurate the forecast, the less amount of safety stock is required...The ECR program provides access to such data to the suppliers" (Larsson, 2002, p. 19).

Looking closer to ECR, it can be seen that ECR is more of a strategy than a concept. The ECR strategy can be seen as an umbrella term (Christopher, 1998), including and suggesting a wide range of more concrete concepts, see e.g. the 14 concepts suggested by ECR Europe above. However, ECR in itself lacks more thorough guidelines to implement and realise the concepts and could therefore be interpreted as a strategy to try to make channel members starting communicate with each other. Above all, ECR contributes to the idea that sharing information will create mutual benefits for the parties involved. Barratt and Oliveira (2001) also regard ECR as, above all, an enabler for other more concrete actions in the supply chain: “Whilst ECR brings many potential benefits to both suppliers and retailers in terms of efficiency improvements, the biggest opportunity it presents is to enable real supply chain collaboration. By sharing information, it enables supply chains to become demand driven and in so doing, to deliver enhanced customer value. Therefore, ECR can be seen as an enabler of the drives towards an integrated supply chain.” (Barratt and Oliveira, 2001, p. 267)

Applying an ECR strategy does not mean the same for all companies; the parties can choose from a range of different concepts and solutions. Therefore, it is difficult to foresee the effects from ECR implementations. Instead, other more concrete concepts, which are sometimes included in an ECR strategy, must be evaluated. One of the most common which is often connected to ECR is VMI.

4.3.2 Vendor Managed Inventory, VMI

The need for more concrete results forced the grocery industry to go from the strategies in ECR to developing concepts to implement them. One of the most commonly mentioned outcomes from ECR which is more of a concept ready to implement, is VMI (Sabath et al., 2001). Even if VMI existed before 1992 when the ECR Movement was founded, ECR can be seen as the driving force behind the spread of VMI (Barratt and Oliveira, 2001; Cooke, 1998; Schary and Skjoett-Larsen, 2001). Probably one of the most common examples of a fully implemented VMI is the one between Procter & Gamble and Wal-Mart in the USA. This project was considered to be very successful and is one of the explanations for the spread of VMI in the grocery industry. Nowadays, VMI is well established in many industries and is especially successful in the automotive industry. (Cooke, 1998; Sabath et al., 2001)

Since VMI has been adopted by many industries and among many types of companies (both suppliers, manufacturers as well as retailers can be involved in VMI collaborations), the understanding of the concept differs. However, the main idea is the same in all VMI collaborations; the normal order procedure from customer to supplier (vendor) is omitted and the vendor automatically replenishes the customer’s inventory. The source of information that is the basis for the replenishment decision (instead of a purchase order) varies. According to Waller

et al. (1999) the inventory level at the customer's warehouse is the information source. However, other possibilities or other complementary sources also exist, e.g. point of sales data transferred from the customer.

As in the case for all business concepts, VMI is expected to have many positive effects for the involved parties. Waller et al. (1999) argue that VMI contributes to two main effects, namely reduced costs and service improvements. In their article, they describe the benefits for both parties (supplier and buyer) separately.

From the supplier's point of view, the main, basic explanation as to why VMI reduces costs according to the authors is that the concept can reduce uncertainty of demand and allow a smoother demand pattern. This results in less need for capacity in production and inventory buffers. With VMI, it is also possible for the supplier to coordinate transports to several customers and make better, more efficient route planning of transports. The buyer in turn, can be absolved from his performance measurements dilemma. It is argued that the performance measurement inventory level, usually measured at the end of each month, is in conflict with another common measurement, namely the service level; the buyers normally decrease their inventory level at the end of the month to get better inventory level result with a decreased service level as a result. With VMI, the replenishment is performed more often and the inventory level can be decreased without any negative consequences on the service level. (Waller et al., 1999)

When considering service, it is argued that both parties gain from a high level of service towards the end customer (in this case the buyer's customer). With VMI, the supplier can better give priority to critical orders by balancing different buyers' needs and deliver to those buyers who have the most urgent need. If the supplier owns what lies in the buyer's inventory, it is also possible for the supplier to move inventory between different buyers' warehouses if needed. (Waller et al., 1999)

The authors that define VMI as a concept where "only" inventory level data is transferred argue that many companies nowadays have abandoned VMI because of the uncertainty in the supply chain and the lack of accurate forecasts, see e.g. Barratt and Oliveira (2001). These authors argue that more positive effects can be achieved with the visibility of POS-data so that more accurate forecasts can be made. Giving POS data instead of inventory level data from the customer to its supplier will contribute to an even smoother material flow, which will have a positive influence on, for example, the manufacturer's production, see e.g. Småros et al. (2003).

However, with access to POS data, VMI is not an efficient tool to manage e.g. customers' promotional activities. The VMI concept is built upon historical data, and no efficient way to deal with information about the future (such as promotions) can be found in the VMI concept. Barratt and Oliveira (2001) argue that this causes a lack of visibility in the supply chain and that this leads to serious problems with linking the supply side with the demand side in a proper way.

To conclude, another division of planning responsibilities than the traditional can improve the supply chain performance in many ways (as is the case for VMI collaboration), but it will not change the prerequisites for the supply side and the demand side. To be able to do this some kind of "negotiation" or joint agreement is needed in order to make the ends meet. When to hold promotional campaigns is one example where there is a need for joint decision making; even if the supplier has access to the customer's POS data, a promotion campaign without the full support and readiness of the supplier can cause scarcity in the supply chain.

4.3.3 Collaborative Planning, Forecasting and Replenishment, CPFR

The grocery industry realised the problems with VMI and other concepts with similar structures and in 1995 Wal-Mart along with its supplier Warner-Lambert and the IT companies SAP and Manugistics, and the consulting firm Benchmarking Partners, started up a new way to collaborate in the supply chain. (Småros 2003) This concept, first called CFAR, was later named Collaborative Planning, Forecasting and Replenishment (CPFR). The CFAR project was successful and soon the association Voluntary Interindustry Commerce Standards Association (VICS), was given the responsibility to develop the concept further.

CPFR has a more comprehensive approach than earlier concepts, and includes planning, forecasting and replenishment processes (Skjoett-Larsen et al., 2003). A subgroup of VICS, which holds the copyright on the name of CPFR, explains CPFR as "a set of business processes that entities in a supply chain can use for collaboration on a number of buyer/seller functions, towards overall efficiency in the supply chain" (www.cpfr.org). Skjoett-Larsen et al. (2003) have a more thorough definition: "Collaboration where two or more parties in the supply chain jointly plan a number of promotional activities and work out synchronised forecasts, on the basis of which the production and replenishment processes are determined" (Skjoett-Larsen et al., 2003, p. 532). As an example of what CPFR means, Lee (2000) describes the CPFR collaboration between Wal-Mart and Warner-Lambert very well:

"Knowledge exchange is the basis for Wal-Mart's collaboration with Warner-Lambert (now part of Pfizer) on the forecasting and replenishment of pharmaceuticals and health-care products. Retailers such as Wal-Mart usually have the best knowledge of local consumer preferences

through their interactions with customers and their possession of point of sale (POS) data. Pharmaceutical companies know about the properties of the drugs they produce and can make use of external data, such as weather forecasts, to help project demand patterns. Both parties contribute their respective knowledge and collaborate closely to determine the right replenishment plan.” (Lee, 2000, p. 4)

Barratt and Oliveira (2001) list some of the issues CPFR addresses in order to “cover the gaps left by previous business practices (such as VMI). With CPFR, several issues are more fully addressed for the first time, such as:

- The influence of promotions in the creation of the sales forecast (and its influence on inventory management policy)
- The influence of changing demand patterns in the creation of the sales forecast (and its influence on inventory management policy)
- The common practice of holding high inventory levels to guarantee product availability on the shelves
- The lack of co-ordination between the store, the purchasing process and logistics planning for retailers
- The lack of general synchronisation (or co-ordination) in the manufacturer’s functional departments (sales/commercial, distribution and production planning)
- The multiple forecasts developed within the same company (marketing, financing, purchasing, and logistics)” (Barratt and Oliveira, 2001, p. 269)

Another difference in comparison to earlier concepts is the thorough guidelines and standardisation of the concept. Today, VICS has standardised CPFR to be implemented with the help of a nine-step model. The nine steps can be seen in Figure 4.4 below.

Figure 4.4. The nine step model of CPFR by VICS (Source: www.cpfr.org)

In the literature, authors often state that CPFR is a joint concept, requiring that both the supplier-side and the customer side are active. CPFR is not only equal to information sharing, but it also demands that the partners jointly plan a number of supply chain activities.

Stank et al. (1999), argue that “CPFR attempts to lessen the problems associated with traditional anticipatory demand forecasts by co-operating with trading partners to better match supply and demand. Thus, it makes firms better prepared and ready to respond to market signals.” (Stank et al., 1999, p. 75) As in the earlier concepts such as VMI, and following the VICS-definition, the authors mean that the aim is to lower inventory levels and avoid stock-outs in the supply chain; “Rather than trying to independently project demand patterns, buyers and sellers share

information in advance and work together to develop realistic, informed, and detailed estimates that can be used to guide business operations.” (Stank et al., 1999, p. 76)

In the footsteps of CPFR, which today is considered by many researchers as one of the most influential approaches to managing the supply chain (Esper and Williams, 2003), new concepts are continuously being developed. One example is Collaborative Transportation Management (CTM), which can be seen as an extension of CPFR. The CTM concept is rather new and is driven by the VICS organisation. Browning and White (2000) present it as “the missing link”, which focuses on transportation management. It is argued that “the natural extension beyond actual order generation is to convert the order forecasts into shipment forecasts and insure their accurate fulfilment. Otherwise, some of the benefits of CPFR will be lost.” (Browning and White, 2000, p. 1). Unlike the CPFR concept, CTM involves not only the supplier and customer, but also third party providers.

4.4 *SCM from a focal company perspective*

In chapter 1 it was stated that collaboration among supply chain participants is a necessary prerequisite for successful implementation of SCM. This chapter summarises the frame of reference with four important aspects of SCM and interorganisational collaboration for an individual company situated in a supply chain to consider. The first three aspects are (1) the importance of having a process approach in the collaboration, (2) how the planning of supply chain activities are performed within the collaboration, and (3) the importance of information sharing between the participating actors. These three aspects together summarise the frame of reference for suggested actions to be undertaken by a focal company.

As stated in chapter 1, SCM and collaboration respectively, are however not only about actions, but also about the intentions behind the actions. Therefore, another important aspect for a focal company to consider is their SCO, as this forms the basis for their collaboration.

4.4.1 *Process approach*

In the first part of this chapter it was stated that the SCM philosophy clearly advocates a process view when the supply chain is designed. The change towards a process view is undoubtedly one of the most important characteristics of SCM. For an individual company, this can mean an organisational restructuring, both internal as well as towards adjacent suppliers and customers in the supply chain (Skjoett-Larsen et al., 2003). For example, special management teams responsible for business processes can be set up in order to visualise the processes and their ownership (Cooper and Ellram, 1993). Another important task for the individual company and often discussed in the literature, is to find suitable measurements for the processes. Note that the

whole process should influence the measurements. This is the main characteristic of process related measurements. (Melan, 1993)

What drives the change towards a process approach is the focus on end customer demand that the SCM philosophy advocates (Tan, 2001). In the ideal supply chain, customer demand would be met 100%, but in most cases however this is just a utopia since it is not achievable at a reasonable cost. Instead, focus should be on creating as much value as possible for the end customer for a reasonable cost. (Stank et al., 2001)

For the individual company, the superior goal with the focus on end customer demand, could sometimes also be difficult to realise. This is a lofty and difficult goal to work towards, especially for supply chain actors that are situated several companies away from the end customer. Thus, in cases of dyadic and triadic collaboration, this goal can be operationalised so that the collaboration must be designed and managed as a process in order to create as much value as possible for the next level in the supply chain.

4.4.2 Planning of supply chain activities

A process approach in the collaboration puts a natural focus on the coordination and integration of the activities involved (Melan, 1993; Willoch, 1994). Aronsson (2000) suggests that the question of organisational responsibility for the different activities should be considered later when the process is already optimised. From this it follows that the division of the organisational planning responsibility between actors in a collaboration could be changed from a traditional view towards other, better integrated, solutions. Defining and describing a process could make these possible options more visible for the actors.

In the dyadic, collaborative-based concepts presented above, the planning responsibility of the logistics activities is one of the most important features that distinguishes them. In the case of ECR the participating actors plan the collaboration design jointly, but on a more operational level no change in planning responsibility for logistics activities can be seen. When, instead, considering VMI, this change of responsibility can be seen clearly since the main idea behind VMI is the recognition that the vendor has a better position in the supply chain to plan and decide the replenishment of the customer's warehouse. When finally considering CPFR, the participating actors do the planning of some activities jointly. Thus, the three concepts represent three different opportunities for handling the responsibility for planning of activities involved in the collaboration.

4.4.3 Information sharing

Information sharing among the supply chain members is an important prerequisite for collaboration (Lee and Whang, 2000; Xu and Dong, 2004; Yu et al., 2001) and has a great impact on the performance in the supply chain (Barratt 2004). The general reason for this statement is that information sharing among supply chain members can reduce different kinds of uncertainties that cause higher costs. Yu et al. (2001) explain the logic behind this: “While every single member [of the supply chain] has perfect information about itself, uncertainties arise due to a lack of perfect information about other members. To reduce uncertainties, the supply chain member should obtain more information about other members. If the members are willing to share information, each of them will have more information about others. Therefore, the whole system’s [supply chain’s] performance will be improved because each member can gain improvement from information sharing.” (Yu et al., 2001, p. 115)

The research into information sharing in supply chains is, to a great extent, based on Forrester’s research about order information visibility among supply chain members and its effects on inventory levels, namely the dampening of the so-called bullwhip effect. In the literature (Larsson, 2002; Lee, 2000) it is argued that an increased knowledge about inventory levels and expected demand, i.e. forecasts, will make the flow of material through the supply chain smoother and reduce the bullwhip effect.

Information sharing between supply chain members is one of the most explored areas within SCM, and is perhaps therefore one of the most theoretically underpinned areas. As an example, Croom et al. (2000) deal with Forrester’s work in their literature review and mean that models such as Forrester’s industrial dynamics model are needed “to inform our understanding of the supply chain phenomena” (Croom et al., 2000, p. 68). Childerhouse and Towill (2003), for example, test and validate 12 rules about simplified material flow for the practitioner which are based upon the work from Forrester’s research. Another example of this is from Mason-Jones and Towill (1999) who use Forrester’s work when they investigate where in the supply chain the information decoupling point should be placed.

The development within the IT and technology sector over the last decades has had a great impact on information sharing in supply chains and is seen as an enabler. Apart from the fact that technology for effective information sharing now exists, it also exists at a reasonable price (Lee and Whang, 2000). The importance of information sharing with advanced IT tools can be seen in the concepts presented above. They are all built upon information sharing and contain massive use of IT.

Lee and Whang (2000) list and discuss a number of information types that are common for information sharing in supply chains. These are presented further below.

Inventory levels

Inventory levels are one of the most common pieces of data that is shared between actors in supply chains. This type of data is closely related to the research into the Bullwhip effect presented above, and therefore a lot of research is being done in order to describe the effects of sharing information about inventory levels. It can be argued that inventory and communication can be substituted for each other and that access to information about inventory levels can lower the total amount of inventory in the supply chain.

Sales data

Another important piece of information that can help dampen the Bullwhip effect is sales data. The reason for this is that the variance of orders is often larger than the variance of sales data, which means that the uncertainty can be reduced if sales data is shared.

Order status for tracking/tracing

Since a typical supply chain involves many different functions and independent actors, it can be difficult to track and trace an order and check its status. Lee and Whang (2000) suggest that in practice these problems can be reduced by linked web sites or access to each other's databases.

Sales forecast

The sharing of sales forecasts and its impact on performance (see e.g. Småros, 2003) has been highlighted in the literature during recent years. The basic underlying assumption is that other actors in the supply chain may have better knowledge to make better, more accurate, forecasts. A common form of forecast sharing is when actors share their forecasts with their suppliers upstream in the supply chain. In such cases, it is expected that the actor situated closest to the end customer will have better knowledge and therefore make a better judgement of future demand.

The other opposite situation is, however, also interesting sometimes. Lee and Whang (2000) take Warner-Lambert, a pharmaceutical manufacturer, as an example. This company is considered to have better knowledge about end customer demand than the retailers because of their in depth knowledge about how weather conditions influence the sales of their pharmaceutical products. Thus, Warner-Lambert is able to make accurate forecasts based on weather reports.

Production/delivery schedule

Another type of information that can have great impact on supply chain performance concerns production and delivery schedules. When a supplier shares this type of information, the customer's manufacturing processes can be improved because of better planning possibilities. The same reasoning also applies for information sharing about different types of capacities, e.g. production capacities.

Performance metrics

Performance metrics can be shared and used in order to identify bottlenecks in the supply chain and thereby function as a first step towards identifying different possibilities to improve the performance in the supply chain. This reasoning could also be compared with the discussion about the need for process related measurements in the section above.

4.4.4 Supply chain orientation

As stated and shown in the sections above, SCM and collaboration can mean a broad range of activities for companies in a supply chain. However, apart from suggesting what the actors actually should do, most authors also comment on (even if they seldom discuss it extensively) and stress the importance of undertaking the actions with the "right" intentions, referring to trust, win-win thinking and common goals. In their literature review Mentzer et al. (2001) call these intentions supply chain orientation (SCO). The authors regard SCO as a first step (and a prerequisite) towards SCM and summarise it into three main characteristics of the supply chain members;

- The supply chain members should have a *systems approach* and regard the supply chain as a whole.
- A *strategic orientation* where cooperative efforts by the supply chain members should synchronise and converge operational as well as strategic capabilities into a unified whole.
- A *focus on customer value* in order to create customer satisfaction.

In their literature review on the subject, the authors list seven antecedents for a SCO:

Trust towards partner/partners

Trust towards partner is perhaps one of the most commonly mentioned prerequisites and cornerstones of the SCM philosophy. Trust will contribute to stability and long term relationships between the parties (Barratt, 2004; Waller et al., 1999). The importance of trust between the participating actors has also been shown empirically in a Danish study where trust is considered as the most important prerequisite for successful collaboration (Skjoett-Larsen et al., 2003).

Commitment

Commitment, i.e. a willingness to cooperate with other supply chain members is of central concern for a SCO and is also an important factor for a successful collaboration (see e.g. Hoffman and Mehra, 2000). Win-win thinking is a prerequisite for this, otherwise the other part will not collaborate of their own free will which is a must for a true SCO.

Interdependence

In order to get an actor committed, a mutual dependence is needed since this will foster and develop a “supply chain solidarity”. It is this interdependence that motivates the willingness to share things such as resources and information with other supply chain members.

Organisational compatibility

It is important that the cultures in the organisations are compatible. Cultural aspects are important for the collaboration (Barratt, 2004; Cooper et al., 1997a).

Vision and key processes

All parties involved must share the same vision and what key processes exists (Spekman et al., 1998). To succeed with this a win-win thinking is a must, it is not possible to say “I win, you figure out how to win” (Ireland and Bruce, 2000).

Closely related to the vision and key processes, the understanding of each other’s businesses is seen as an important prerequisite for the collaboration to be successful. As an example, Hoffman and Mehra (2000) state that one of the reasons for the moderate success for the ECR concept is the low rate of understanding between the companies.

Leader

Research shows that a leader is needed for successful SCM. Cooper and Ellram (1993) argue that a prerequisite for SCM to function is a channel leadership, i.e. that one actor is responsible for the formation and coordination of the supply chain. The channel leader, referred to as “the champion”, should “have a profound effect on the character and makeup of the supply chain”, and “strategic planning during the life of the supply chain will be heavily influenced by the channel leader”. (Cooper and Ellram, 1993, p. 20)

Top management support

The company’s top management must support the struggle towards SCM. To carry out the change needed for SCM, there is definitely a need for top management and senior management support (Andraski, 1998; Ireland and Bruce, 2000).

5 Specification of questions to the survey study

The purpose of this survey study, and the first research question of this dissertation, is to explore how logistics collaboration in supply chains is performed. In this chapter more detailed subquestions to the research question are presented. The discussion is based on the frame of reference about SCM in chapter four. Looking at this framework it is evident that SCM literature is not provided with a generalised, straightforward road map of actions and behaviour that can be undertaken in all situations. As an example, the business concept CPFR presented in the previous chapter is concerned with the joint planning of a common forecast. In ECR, extensive information sharing with other supply chain members is performed but no joint planning is, however, suggested. What actually is done in a collaboration depends on the situation and therefore never looks the same. A natural start for this study is therefore to focus on what is done by companies when they collaborate. At the end of the previous chapter, four different aspects were discussed and considered to be important for a company when implementing the SCM philosophy. Three of them, namely the process approach, the planning of the supply chain activities, and information sharing, are concerned with the question of what is done when collaborating.

The fourth aspect discussed at the end of the frame of reference was the SCO; collaboration based on SCM according to Mentzer et al. (2001) is not only about what is done in the collaboration, but also about what intentions and attitudes that precede the actions undertaken. The focal company's SCO must therefore also be included in the survey. A fifth aspect to consider is the playground for the collaboration, i.e. in what logistics areas it is performed.

Following logistics literature a broad range of different areas such as transportation, warehousing, etc exists.

These five aspects can together be considered as the content of logistics collaboration. Note that the study includes both a separate description of each aspect as well as a comparison between them. The discussion above leads to the first subquestion to be investigated in the study:

RQ 1.1 What is the content of logistics collaboration?

The literature states that SCM and collaboration contribute to many positive effects for the participating actors; both cost as well as service improvements are expected. These expected effects could be considered as the strongest reason for why companies should collaborate. To verify if the expectations, i.e. the driving forces, match the experienced effects, it is of interest to investigate what motivates the collaboration.

With regard to the effects of the collaboration, there is a gap between the results from the case studies of best practice companies on one hand, and more rigorous survey-based studies on the other. In general, the survey-based studies are more sceptical about the effects achieved by the collaboration. This study, which considers a broad spectrum of effects suggested in the literature, can further contribute to an increased understanding of what effects can really be expected from collaboration initiatives in the supply chain.

Finally, the barriers of collaboration will be considered. Research has shown that surprisingly little SCM-based collaboration can be seen despite the many obvious advantages. A reason for this could be that the problems are larger than suggested in the literature and advocates of the SCM concepts. It is therefore of interest to investigate this issue further.

The questions about driving forces, barriers and effects of the collaboration can be summarised in the following question:

RQ 1.2 From a focal company's perspective, what are the driving forces, barriers and effects of logistics collaboration?

Finally, the perspective of a focal company automatically pays attention to another important aspect to investigate, namely whether the collaboration is performed with a supplier, a customer, or both. Since recent SCM literature demands the involvement of at least three participating actors in the collaboration to refer to it as SCM (e.g. Mentzer et al., 2003), it is of interest to investigate if such collaboration exists. This leads to a third subquestion to be investigated:

RQ 1.3 What types of logistics collaboration are performed?

Figure 5.1 below summarises the different parts of the study. In total nine aspects included in three categories have been presented. Together they cover the scope of the research well, and contribute to a good description of logistics collaboration in supply chains.

Figure 5.1. Research question one, the categories, and the nine aspects considered

This study, however, is not only concerned with the presented subquestions/categories individually. The connections *between* the categories are also essential in order to fully explore logistics collaboration (a similar discussion can be seen in Barratt, 2004). Starting with the connection between the content and driving forces and barriers and effects of the collaboration, it can be concluded that there is a need to relate the questions to each other. Since collaboration is interpreted as a very broad term a discussion about e.g. effects in general would not contribute to a better description of logistics collaboration than that which already exists. Instead, it is necessary to investigate what part of the content contributes to a specific effect. The same reasoning is also valid for driving forces and barriers.

The three different types of collaboration are also interesting to relate to the content aspects, as well as driving forces, barriers and effects. SCM literature does not normally distinguish between the three different types of collaboration that are investigated in this study. There is, however, empirically based research (Spekman et al., 1998) that indicates important differences in attitudes and behaviour in dyadic collaborations depending on if the collaboration is performed with a supplier or a customer. For example, the study by Spekman et al. (1998) shows that companies with supplier collaborations are less likely to consider their partner irreplaceable and essential to their future business and that they tend to focus more on cost issues: “We wonder whether buyers are trained to be more sceptical or whether they are reluctant to acknowledge a mutual dependence for fear of the consequences one might pay, literally. Certainly, to focus on price

minimises the leverage and loyalty engendered from one's supply base. Such behaviour ignores the contribution one's suppliers can make to a buyer's corporate strategy." (Spekman et al., 1998, pp. 640-641) Since these differences are a serious threat against SCM based collaboration, the question about types of collaboration can not be ignored in this study.

Moreover, many authors (see e.g. Cooper et al., 1997b) indicate that dyadic collaboration is good for the supply chain as a whole, but that triadic collaboration is even better. This study can verify whether or not this is true when considering effects experienced by the different collaboration types. It could also be questioned if companies involved in triadic collaboration experience more internally related problems than others since the company should be able to connect its customer with its supplier and vice versa. In dyadic collaborations this is not needed to the same extent.

The discussion above leads to a fourth subquestion in this study:

RQ 1.4 What are the relations between the content, driving forces, barriers and effects, and type of collaboration?

Below follows a discussion about the three categories and how each aspect can be further broken down. An even more thorough break down to questions in the questionnaire can be found in Appendix C.

5.1 *The content of logistics collaboration*

The content of logistics collaboration will be investigated with five aspects that will be clarified below.

5.1.1 The process approach

As discussed in the frame of reference, one of the main messages of SCM is that a process approach, instead of a functional approach, should be taken in the supply chain. In this thesis the process approach will be described and evaluated by three variables: if the involved companies together have defined and described the activities involved in the collaboration as a process, if the collaboration is measured by process related measurements, and if the participating actors have a standardised procedure for how costs and savings in the collaboration should be shared between the partners. Together, these three variables give a good indication whether the actors have a process approach or not.

Defined and described the collaboration as a process

A first necessary step towards having a process approach in the collaboration is to define and describe the collaboration in terms of a process. Because of its cross-functional nature and due to the fact that the process concerns two or more actors, all participating actors must jointly define and describe the process. To define a process, one must be able to describe the starting point, the end point, and what triggers the process.

Process related measurements

In order to focus on the process and be able to improve it, proper measurements for the collaboration must be set up and used. Metrics that evaluate the whole process must be applied, stretching over all actors involved in the collaboration. Such measurements are difficult to carry out and most existing measurements are in fact internal measurements, limited to measuring the performance of a specific function. Barratt (2004) argues that as long as no supply chain metrics are used, i.e. metrics that measure the whole process and not only internal activities at one actor, the supply chain actors will “continue to operate in different directions and will not be aligned” (Barratt, 2004, p. 38).

The process related measurements in this thesis are divided into three main subgroups: total logistics costs for activities involved in the collaboration (performed in all participating companies), different types of lead times between the actors, and service related measurements between the actors.

How costs and savings are shared

A process view means that the focus is on end customer demand and output from the process as a whole, even if the process stretches across organisational borders. In real life this view can mean that to improve the process, the company's own cost could be increased in order to facilitate even greater savings for other organisations involved in the process. To get this to function and make improvements happen, the company with the increased costs must be compensated with a part of the savings from the other actors involved. To facilitate the improvements, it is preferable if the procedure of sharing is predefined and standardised. It is therefore interesting to investigate to what extent the collaboration has a predefined procedure as to how to share costs and savings between the participating actors.

The focal company's internal process approach

Related to the discussion above about the importance of having a process approach in the collaboration, the supply chain members' internal process approach is also of interest in this study. The reason for this is that there is an expectation that the internal process approach will become a necessary prerequisite for successful triadic collaboration when the focal company's

supply side is appropriately linked with its customer side. A proper internal process approach in the focal company will avoid internal barriers in the company, such as synchronisation problems between the production and the procurement department (see e.g. Skjoett-Larsen et al., 2003).

When considering dyadic collaboration, the internal process view also becomes interesting, due to the expectation that a developed internal process approach would lead to better effects on the other side of the company. The reasoning for this is similar to that in the case of triadic collaborations; a properly functioning internal process approach will help to integrate the internal functions and make the possibilities of the collaboration visible for the other side of the focal company.

As in the case for the external process approach, the focal company's internal process approach will be investigated with the extent of internal process documentation and the use of internal process related measurements. Moreover, the internal process approach can be influenced by the organisation's degree of centralisation when considering logistics development issues and should therefore also be considered.

5.1.2 The planning of supply chain activities

In the frame of reference it was shown that the business concepts represent three different ways of handling the planning of the logistics activities performed in the collaboration. Below follows a more thorough description of the different possibilities.

Individual planning

As in the case of e.g. ECR, collaboration does not necessarily mean any change in how the logistics activities are planned; collaboration can mean nothing other than sharing information. In such cases, no efforts to coordinate or synchronise the activities between the participating actors in the supply chain is made *together*. Attempts to coordinate and synchronise the activities may be made, but these are done individually by the supply chain actors, without specific knowledge of how the other actors plan.

Delegated planning

Instead of individual planning, a rearrangement of the planning responsibility of the supply chain activities where one actor plans for one or several other members, can sometimes improve the supply chain performance considerably.

A concept based on this is VMI. As explained in the frame of reference, the logic behind VMI is that the supplier is found to be the most suitable planner when for example the customer's inventory should be replenished. Waller et al. (1999) mean that the supply chain can be improved

both with regard to costs and service with VMI. The authors argue that VMI facilitates better planning possibilities concerning production, inventory levels (in order to lower them) and transportation, which improves both the service and costs. For example, the supplier is provided with a better overview and can therefore coordinate transportation to several customers, improve filling rates in trucks and get a more efficient route planning. Another benefit of VMI is the possibility to balance inventory between customers.

In practice, the two parties only negotiate on e.g. lowest in-stock level in the customer's warehouse (see e.g. Lee, 2000), and then it is up to the supplier to manage the replenishment. Lee (2000) explains this with an example: "The exchange of decision rights in VMI programs is not simply for the sake of dampening the bullwhip effect and improving forecasting and replenishment decisions. It also recognizes that the vendor is the best position to analyze and coordinate the optimum shipment plans for replenishing goods to customers. For example, the vendor may coordinate the replenishment plans of multiple customers to maximize the number of full truckloads. This leads to significant savings in freight costs while at the same time providing more responsive customer service." (Lee, 2000, p. 5)

Joint planning

Another possibility is shared planning and decisions regarding one or more business processes. This planning can be performed on an operational as well as a strategic level. CPFR is an example of a mixture of both operational and strategic joint planning with two actors involved. For the first time, such collaboration allows the demand side and the supplier side to agree upon one, joint plan for forecasts and replenishment. This allows the supply chain to become even smoother. Joint planning can only be done with a frequent, continuous dialogue between the actors. This in turns leads to increased knowledge about each other, which can contribute to other, more intangible improvements.

5.1.3 The information sharing

The sharing of information is central to all collaboration based on SCM. Apart from the type of information, i.e. what the information is about, the frequency of sharing and whether the information is processed or not, have shown to be important aspects for the success of the collaboration. Related to these statements, the importance and influence of means of communication have been investigated and discussed by several authors.

Type of shared information

A lot of different types of information can be shared among the members of a supply chain. Since this thesis is about logistics, information connected to this area is focused. Lee and Whang

(2000) list a number of possible information types to be shared in supply chains, see chapter 4.4.3. Examples of such information types are forecasts, inventory levels and POS-data.

Frequency of sharing

The value of information sharing can be measured by how often the information is shared. Angulo et al. (2004) discuss the implications of using “delayed” information, i.e. “old”, not updated information instead of new. Their research shows that this can have a great impact on several performance factors in the supply chain. Waller et al. (1999) also conclude in their article about VMI that the inventory reduction achieved by VMI could to a great extent be realised for instance through more frequent inventory reviews and order intervals.

The degree of processed data

For information sharing to be successful is however not only a question about sharing the right information with a high frequency, but also how the transferred information is used and implemented by the receiving company. Lee and Whang (2000) conclude that the information sharing in itself should only be considered as an enabler, and not a solution, to achieve better effects in a supply chain:

“Finally, we should note that information sharing is only an enabler for better coordination and planning of the supply chain. Hence, companies must develop capabilities to utilise the shared information in an effective way. We have heard that some manufacturers demanded POS data from the retailers, but then did not know how to make use of the data to improve their forecasts. Consequently, the benefits of information sharing were not fully realised.” (Lee and Whang 2000, p. 385-386)

Thus, how the received information is implemented is often crucial for a positive impact on supply chain performance. An important factor to facilitate the implementation and usage of the information is to share processed data instead of non-processed, i.e. share data that is more specifically developed for the receiver’s needs. Such data is often more valuable and will have a greater impact on planning efficiency and performance in the supply chain (Xu and Dong, 2004).

Means of communication

Related to the aspects of information discussed above are the different means of communication, which can be used in order to facilitate information sharing. This study divides means of communication into three main areas, namely: traditional means such as telephone, fax and e-mail, Electronic Data Interchange (EDI), and Internet based EDI (based on extensible markup language, XML)

5.1.4 The supply chain orientation

Another important part of a content description of logistics collaboration is whether the participating actors have the right conditions and intentions towards other members in the supply chain. As presented in the frame of reference, Mentzer et al. (2001) discuss these issues in a broader sense and call it supply chain orientation. They list a number of factors (antecedents) that can be considered as prerequisites for having a SCO. These will form the basis for how the focal company's SCO is to be investigated in this study.

Since the study is limited to a focal company's perspective, it will only investigate the focal company's view on the antecedents. This makes the antecedent interdependence suggested by Mentzer et al. (2001) impossible to answer in a satisfactory way and is therefore considered as outside the scope of this thesis. Furthermore, Mentzer et al. (2001) argue that this orientation should be directed towards both the supplier side as well as the customer side. This is true in the case of triadic collaboration where both sides of the focal company are involved. In cases of dyadic collaboration however, only a SCO towards the partner will be considered.

5.1.5 Logistics areas where collaboration is performed

A description of the content of logistics collaboration should also include which logistics areas are involved in the collaboration. The understanding of the functional scope of SCM is today very broad and covers all the traditional "intra-business functions" within the company (Mentzer et al., 2001). From a logistics perspective this means a broad range of different kinds of areas, where numerous collaboration possibilities exist.

Since logistics is not a well defined expression with regard to functions (activities) that are embraced, a generally accepted division of logistics areas do not exist. In this thesis the following five areas are considered to embrace logistics collaboration on a general level:

- Production planning
- Forecasting
- Inventory management and replenishment
- Transportation/distribution
- Strategic planning of e.g. outsourcing, supplier sourcing, etc

These areas were chosen on the basis of the nature of companies investigated in this study (i.e. the fact that the sample of this thesis is manufacturing companies) and the three business concepts presented in the frame of reference.

To start with, production planning is probably one of the most dominant areas due to the fact that the sample for this study is manufacturing companies. Many logistics activities could directly influence the production and the production planning. Furthermore, the production planning and logistics are often placed in the same organisational unit in these types of companies.

When considering CPFR, forecasting is one of the most important areas in this concept and is a well known area for logistics collaboration. The same applies to inventory management and replenishment, which is central to the VMI concept.

The transportation area is important in order to connect the companies and has a great impact on the inventory management and replenishment decisions. Furthermore, it has a direct connection to the concept of CPFR since over the last few years this has been widened to include transportation (see chapter 4.3.3).

Finally as the areas presented above are all rather operational in their character, it is also necessary to include a more strategic area where the focus is on strategic planning.

5.2 Driving forces, barriers and effects of collaboration

Presented below are the expected driving forces, barriers and effects of collaboration (i.e. those suggested by the literature). These form the basis for the questions to be put in the questionnaire.

5.2.1 Driving forces

According to the SCM literature and from a theoretical point of view, collaboration among supply chain actors results in many positive effects. On a general level, when authors discuss the effects of SCM and collaboration, lowered total costs, improved service and shorter lead times are often mentioned. In addition more intangible effects, such as the wish to strengthen the company's market position and increase its competitiveness, can be seen as driving forces. These expected positive effects should be seen as the strongest argument and driving force for SCM and collaboration.

In this thesis it will be argued that all driving forces could be related back to either a wish to lower costs and/or to improve service. Thus, this thesis will investigate whether it was service and/or cost related factors that were the driving force for the collaboration.

5.2.2 Barriers

As was argued in chapter one, research indicates that surprisingly little SCM and collaboration among companies can be seen in supply chains. Despite the many obvious advantages, collaboration is still something unusual. Furthermore, the positive expected effects of the collaboration can not always be seen.

A reason for the absence of logistics collaboration and positive effects could be that barriers for collaboration have not been tackled successfully. An interesting question therefore becomes what types of barriers mentioned in SCM literature are really experienced by the focal company. Two main categories of barriers can be identified in SCM literature: those related to technology and those related to human beings.

For technology related barriers, a collaborative technology infrastructure (Horvath, 2001) is needed, since SCM and collaboration is built upon extensive information sharing between independent actors. In previous literature, the large investments connected to e.g. EDI solutions, were assumed to make it difficult for small companies to collaborate successfully. However, more recently developed Internet based technology offers alternatives to EDI with lower costs, which also gives also small companies access to the technology and opportunities to more extensive and advanced collaboration. Despite this, barriers related to technology may still exist in many supply chains since the question about successful implementation of the technology is still a matter of concern. The possibility to buy technology at a reasonable price is good, but it does not automatically guarantee that it is successfully implemented and used. In their study about the adoption of ECR among companies in the grocery industry, Hoffman and Mehra (2000) discuss this problem and state that technology barriers still have to be tackled: "If there is one element that can cause the breakdown of any "best designed" supply channel, it is the technology factor. In this stage, a clear understanding of the technology needs of all partners must be assessed followed by information flow planning." (Hoffman and Mehra, 2000, p. 372)

As a consequence of technological development, new problems emerged that were not an issue before. Horvath (2001) argues that the security aspect of the new technology is important in collaborative relationships. Nowadays, when technology has made it possible to integrate and connect actors' computer systems rapidly and efficiently, the partners must be able to make fast and accurate decisions concerning the other company's access to sensitive information.

With regard to human related problems a main barrier to SCM is the absence of a SCO towards the partners (Mentzer et al., 2001). In SCM literature and in the discussion above, the voluntary nature of collaboration is taken for granted, i.e. that all participating actors in the collaboration should have a true SCO as described by Mentzer et al. (2001). However, collaboration in reality is

not always built upon solid SCOs among the supply chain members. In fact, the balance of power between actors in a supply chain can mean that actors are forced to collaborate (Mattsson 2002). Such a forced collaboration initiated by coercion from one side does not guarantee mutual gains and better optimisations for the whole supply chain which are in line with the purpose of SCM (Hoffman and Mehra, 2000).

Another often discussed, and perhaps most common, human related barrier to collaboration is trust. Moore (2003) argues that two types of trust are needed to get the collaboration functioning, trust between actors and trust between humans and the technology.

5.2.3 Effects

SCM literature suggests that there are both positive cost and service related effects from logistics collaboration. Furthermore, intangible effects such as increased competitiveness have been recognised and suggested. However, research in the area seems to be incongruous. Some research, often more quantitative studies such as surveys, indicates that there is a mismatch between theory based upon case studies represented by e.g. Wal-Mart, and existing collaboration (Stank et al., 2001). Thus, the effects of collaboration are important to investigate further to see what kind of effects really are experienced by the focal company involved in the collaboration. As in the case for the other aspects, the effects should also be related to the content of the collaboration in order to explain what parts of the content contribute to a specific effect.

Another important area to investigate further is the implications of collaboration on other actors in the supply chain. It could for instance be questioned if dyadic collaborations influence relations with actors situated on the other side of the focal company. For example, does dyadic collaboration on the customer side of the focal company also result in positive effects for the supplier companies?

5.3 Type of collaboration

In the frame of reference it was concluded that at least three independent actors in a supply chain should be involved in the collaboration to regard it as implemented SCM. Hence, dyadic collaboration is good, but not seen to be enough to regard it as realised SCM. The question could be raised as to how much triadic collaboration exists in today's supply chains. Successful dyadic collaboration can certainly be found in many companies, while triadic collaboration is a much greater challenge and puts new demands on the focal company's internal capabilities to function as a unified entity. Among other things, it can be argued that an internal process approach reaching all the way from procurement to the sales office is needed.

Following the research results from Spekman et al. (1998) presented above, it becomes interesting to differentiate the types of collaborations and investigate possible differences. For instance, it could be questioned if the focal companies' SCO is the same for respondents with supplier collaborations and those with customer collaborations.

6 Data analysis

This chapter presents the findings from the questionnaire. In total, 177 answers were found to be usable and are the basis for the presentation below. The chapter begins with some general information about the respondents' companies and thereafter follows a description based on the detailed questions from the previous chapter. Each section starts with an individual presentation of the aspects included in the particular category (see Figure 5.1), and is finished with a presentation of the relationship between the different aspects. The findings, if relevant, are also related to the company characteristics presented in the first section. Finally, results of the fourth subquestion, i.e. analyses done on variables that correspond to different categories, are presented.

6.1 *Basic characteristics of the companies*

The defined population in this study is manufacturing companies (companies with SNI codes starting with the letter D). Furthermore, only companies with more than 100 employees and SEK 100 Million annual turnover are included in the population. The largest subgroup of companies (27.7%) is "Basic metals and fabricated metal products". This is also the largest group in the sample, represented by 24%. A complete list of the distribution of companies in the different subcategories is shown in Table D.1, see Appendix D.

Because of the chosen industry, most of the respondents characterised their companies primarily as a supplier or manufacturer (14.7% and 83.1%, respectively). Furthermore, a majority of the companies belong to a business group (94.4%). The mean number of employees of the companies was 490 and the mean annual turnover was SEK 1344 million.

The characteristics of the products manufactured by the companies were investigated with two five point Likert scales; one ranging from “single products” to “volume products”, and the second ranging from “customer specific products” to “standard products”. The mean values and standard deviations are presented in Table 6.1 below:

Table 6.1. Characteristics of the companies’ products

Type of product	Mean	Standard deviation
Single vs volume products	3.84	1.18
Customer specific vs standard products	2.66	1.35

6.2 *The content of logistics collaboration*

6.2.1 The process approach

As discussed in the frame of reference, SCM literature stresses the importance of a process approach in order to avoid sub optimisations in the so-called functional silos within and between companies. The focal company’s process approach is therefore an important aspect to consider when describing logistics collaboration. In the questionnaire a process was defined as “a repetitive and planned chain of logistics activities that are performed after each other in a predefined way” (translated from Swedish). As a follow up question, the respondents were also asked (if they had defined a process in their collaboration) to describe the process’ beginning, end, and what event triggered it.

Despite the importance of a process approach discussed in the literature, only 24% of the companies have, together with their partner/partners, described and defined their collaboration in terms of a process.

The use of three different types of process related measurements in the collaboration was investigated: total logistics costs for the collaboration, and different kinds of lead times and services between the actors. The mean values and standard deviations of the answers, given on five point Likert scales, can be seen in Table 6.2 below¹. In general it can be stated that different types of services and lead times are much more common measurements than logistics costs.

¹ One-sample t-test shows that the values for total logistics costs and service between the companies are significant separated from 3.

Table 6.2. The use of process related measurements in the collaboration

Type of measurement	Mean	Standard deviation
Total logistics costs	1.97	1.19
Lead times between the companies	3.16	1.38
Service between the companies	3.28	1.35

With ANOVA analysis, it can be concluded that companies with a defined process in their collaboration also measure the collaboration more (see Appendix D, Table D.2). This is valid for measurements related to total logistics costs as well as measurements related to different types of lead times and services between the companies involved.

The third variable that was investigated in the process approach in the collaboration was to find out what extent costs and savings as a consequence of the collaboration were shared between the parties in a predefined way². The mean value (standard deviation in parenthesis) for the companies was 2.54 (1.19), which implies a rather low rate of predefined ways of how to share costs and savings.

No relation between the sharing of costs and savings and if the companies had defined their collaboration as a process could be found³. The same also applies for the use of measurements in the collaboration⁴, which implies that the variable of how costs and savings are performed in the collaboration is independent of the other variables that investigate the process approach in the collaboration.

The questionnaire also contained questions about the respondents' internal process approach. The respondents were asked to estimate to what extent⁵ they had documented their processes in the different areas procurement, production and distribution of their company. They were also asked about the documentation of their whole internal process stretching through the entire company. The mean values (standard deviation in parenthesis) are shown in Figure 6.1 below.

² Measured on a five point Likert scale ranging from "the cost/the saving always goes to the partner where it is created" to "the cost/saving is always shared between the parties in a predefined way".

³ Investigated with ANOVA analysis.

⁴ Investigated with ANOVA analysis with respondents using the particular measure to a greater respectively lesser extent (i.e. have answered 4 or 5, or 1 or 2, respectively).

⁵ Measured on a five point Likert scale ranging from "Not at all" to "To a high degree".

Figure 6.1. The degree of internal process documentation at the focal company

The use of internal measurements was investigated on a nominal scale with four different process related measurements. The Table 6.3 below shows the percentage of the companies that use the measurement, i.e. how common the measurements, respectively, are⁶. As in the case for the use of measurements in the external collaboration, service related measurements are in general more commonly used than cost related ones.

Table 6.3. The use of process related measurements at the focal company

Process related measures at the focal company	Frequency	Percent
Total logistics costs of the company	60	33.9
Throughput time	86	48.6
Customer order lead time	81	45.8
Delivery service towards customer	155	87.6
Other process related measures	8	4.5
Do not use process related measures	9	5.1
No answer/Don't know	2	1.1

Furthermore, the degree of centralisation of the respondent's company, with regard to the development of the logistics, was investigated⁷. The mean value (standard deviation in parenthesis) for the companies was 3.26 (1.00)⁸.

ANOVA analysis shows that no differences in mean values between companies with a defined process in their collaboration and those without exist as far as the degree of internal process approach is concerned (i.e. internal process documentation and the degree of centralised development of logistics issues). Thus, no positive relation between internal and external process approaches can be identified in this study.

⁶ Note that since respondents can use more than one measure, the total percent is not 100%.

⁷ Measured on a five point Likert scale ranging from "Development completely decentralised" to "Development completely centralised".

⁸ One-sample t-test shows that this value differs significantly from three.

No differences in company characteristics, such as company size or if the company is a supplier or manufacturer, and the degree of process approach (both internal as well as external) could be found in the study⁹.

6.2.2 The planning of supply chain activities

In the frame of reference it was stated that there are three main opportunities to plan logistics activities within a collaboration: individual planning, joint planning, and planning where one actor plans for not only himself, but also for other actors in the supply chain (delegated planning). Furthermore, these planning possibilities can be done on an operational and/or a strategic level. In the questionnaire, the planning of the supply chain activities was investigated by three questions as shown in Figure 6.2 below¹⁰.

Figure 6.2. How planning of logistics activities is performed in the collaboration

Figure 6.2 above indicates that the most common way to plan logistics activities within a collaboration is to use joint planning on an operational level. This can also be considered as the least advanced and less demanding type of planning. Interestingly the degree of joint operational planning is not positively related to the degree of joint strategic planning and vice versa¹¹.

⁹ Investigated with cross tabulations and ANOVA analysis.
¹⁰ The questions were put as a statement as to what extent the collaboration had changed the planning of supply chain activities. The answers were given on a five point Likert scale ranging from “do not agree” to “completely agree”.
¹¹ Investigated with ANOVA analysis.

46% of the respondents have answered with a four or five to the planning type, where one actor plans for all parties including himself. This relatively high percentage is probably due to the fact that many of the collaborations are inspired by the logistics business concept VMI. Even if they were not specifically asked in the questionnaire, many of the respondents have answered on open questions (follow up questions) that their collaboration is a “typical VMI-collaboration” etc.

6.2.3 The information sharing

This study shows that the type of information that is shared within collaborations and the frequency of sharing differ considerably. Table 6.4 shows mean values (in days) of sharing frequency of a certain type of information.

Table 6.4. The mean values for frequency of sharing on different types of information

Information type	Number of respondents	Percentage of respondents sharing the type once a month or more often	Mean (in days)	Standard deviation
Production planning	111	71%	9.09	7.37
Inventory levels	118	76%	8.97	7.52
Forecasts	149	94%	12.23	7.49
Sales information (point of sales data)	68	43%	13.37	8.09
Error messages etc	126	81%	8.67	7.16
Product campaigns	58	37%	16.76	6.09
Price levels and pricing	35	22%	18.17	4.91
Future deliveries etc	124	79%	11.84	7.75
Confirmations, track and trace, etc	104	66%	6.85	6.20

Note that the mean values in days are only based on those companies that share the certain type of information at least once a month (for example 111 companies, or 71%, share information about production planning at least once a month and the average number of days between sharing for these companies are 9.09 days).

58.8% (104 companies) of the companies share at least two types of information at least once a week with their partner/partners. In the coming analyses this group of companies is considered to be companies with a high frequency of information sharing.

The degree of processed data, i.e. the degree of adjustment for the specific receiver, of the shared information was investigated with a five point Likert scale, ranging from “the information is not adjusted/processed” to “the information is very adjusted/processed”. The mean value (standard deviation in parenthesis) for the answers was 3.66 (1.12). This indicates a high degree of adjustment of the information that is shared, which in turn speaks for good possibilities for the receiver to use the information properly.

With ANOVA analysis it can also be stated that companies with more frequent information sharing (i.e. sharing at least two types of information at least once a week) also share information that is considered to be more processed and adjusted for the receiver (see Appendix D, Table D.3).

The respondents were also asked questions about what main means of communication they used in the collaboration. Table 6.5 below shows how common traditional communication means, EDI and Internet based EDI is in the collaborations¹²:

Table 6.5. The use of communication means in the collaboration

Used communication means in the collaboration	Frequency	Percent
Traditional communication means, such as telephone, e-mail, fax etc	111	69.8
Electronic Data Interchange, EDI	59	37.1
Internet based EDI (based on XML)	33	20.1
Do not know	1	0.6

When grouping companies with either EDI and/or internet based EDI it can be concluded that 50.6% (N=78) of the companies belong to this group. The other 49.4% (N=76) only use traditional communication means in their collaborations.

Cross tabulation and χ -square test shows that companies with EDI or Internet based EDI in their collaboration also belong to the 58.8% of the companies that share at least two types of information at least once a week. This result was expected due to the better possibilities to share information in a more efficient manner with EDI and other Internet based alternatives.

With ANOVA analysis (See Appendix D, Table D.4) it can be concluded that it is, above all, the more operational information types, such as inventory levels, error messages etc, that are shared more often by companies with EDI and/or internet based EDI. When considering more strategic information types (e.g. future process and information about future campaigns) no significant differences can be found.

6.2.4 The respondents' supply chain orientation

With Mentzer et al.'s (2001) definition and antecedents as a starting point (see chapter 1), a number of questions were included (in the questionnaire) about the respondent's SCO.

¹² Note that since respondents can have answered more than one communication mean, the total percent is not 100%.

Experienced problems connected to the antecedents trust, organisational compatibility, commitment, vision and key processes were investigated with statements on a five point Likert scale ranging from “Do not agree” to “completely agree”. A high value indicates more problems experienced. The mean values and standard deviation are shown in Table 6.6 below¹³:

Table 6.6. Mean values of experienced problems connected to the SCO of the focal company

Antecedents measuring the SCO at the focal company	Mean	Standard deviation
Trust between the participating companies	2.48	1.10
Personal chemistry and different cultures	2.40	1.17
Different logistics competence	2.96	1.12
Understanding from the own company	2.18	1.11
Involved companies have different goals	2.54	1.10
Different opinions of how costs and savings shall be shared	2.61	1.26
Different opinions about responsibility areas	2.30	1.06

The antecedent top management support from the focal company was investigated with two statements about the management’s involvement during the initial phase of the collaboration and the involvement during the ongoing collaboration. The answers were given on a five point Likert scale ranging from “do not agree” to “completely agree”, which indicates a high involvement for high values. The mean values and distribution of companies can be seen in Figure 6.3 below.

Figure 6.3. The degree of top management support from the focal company in the collaboration

¹³ All variables apart from “Different logistics competence” differs significantly from 3 (investigated with one-sample t-test)

Finally, the question about leadership in the collaboration was also investigated by a question about which of the participating actors (relative to each other) was the most influential in the collaboration. The question was investigated on a five point Likert scale ranging from “Our partner/partners are the most influential party” to “We are the most influential party”. The result implies that the companies feel that they are able to influence the collaborations to a high extent. Mean value and distribution of companies are shown in Figure 6.4 below.

Figure 6.4. The possibility to influence the design of the collaboration

6.2.5 Logistics areas where collaboration is performed

The respondents were asked to specify on a five point Likert scale¹⁴ to what extent their collaboration was performed in a certain logistics area. The mean values are presented below in Table 6.7 and can be interpreted as a measurement on how common logistics collaboration is in a specific area:

¹⁴ Ranging from “The collaboration is not performed in this area” to “The collaboration is to a great extent performed in this area”

Table 6.7. Mean values investigating to what extent the collaboration is performed in a certain logistics area

Logistics area	Mean	Standard deviation
Production planning	2.77	1.29
Forecasting	3.88	1.07
Inventory management and replenishment	3.44	1.27
Transportation planning	3.43	1.24
Strategic planning	2.25	1.19

As can be expected, strategic planning (e.g. warehouse localisations, supplier selection etc) is the most unusual area to collaborate within. Note that there is a difference between the question of how the planning of logistics activities is performed and the logistics area strategic planning. While the planning of the supply chain activities is an interorganisational issue which focuses on how the participating actors share the planning responsibility for the activities performed within the collaboration, the strategic planning as a logistics area is concerned with how the company regards the collaboration from their own company's perspective.

6.2.6 Relations between aspects corresponding to the content of logistics collaboration

In this chapter the five aspects that investigate the content of logistics collaboration are related to each other.

Actions undertaken in the collaboration

Starting with the three first aspects, which together represent what actions are undertaken in the collaboration, it can be concluded that they are closely related to each other. On a general level it can be stated that “more of one thing also means more of the other two”. Below follows some separate analyses on relationships between variables corresponding to the three different aspects, which are summarised in Figure 6.5.

To start with, companies with a defined and documented process in their collaboration have more joint operational planning¹⁵. There is also a positive relation between the extent in which measurements are used (valid for all three types of measurements: total logistics costs, lead times, and services) and companies with a higher intensity in joint operational planning in the collaboration¹⁶; respondents with more joint planning also measure more. Furthermore, companies with a defined process in their collaboration belong to the group of companies with more intensive information sharing (sharing two types of information at least once a week)¹⁷.

¹⁵ Investigated with ANOVA analysis. The significance level is 5.2%, see Appendix D, Table D.5.

¹⁶ Investigated with ANOVA analysis.

¹⁷ Investigated with cross tabulations and χ^2 -square test, see Appendix D, Table D.6.

Moreover, companies with more intensive information sharing also use measurements (valid for all three types of measurements) to a higher extent than others¹⁸. This group of companies has also more joint operational planning in their collaborations¹⁹.

Finally, as already discussed in the section above about information sharing, companies with more intensive information sharing also use EDI and Internet based EDI alternatives to a greater extent. Related to this, cross tabulation and a χ -square test also shows that companies with a defined process also use EDI and Internet based EDI alternatives more. Furthermore, companies with EDI and Internet based alternatives also measure significantly more in their collaborations (valid for all three types of measurements).

Figure 6.5. Relations between aspects describing the content of logistics collaboration

In the figure, the process approach is represented by the variable concerned with the definition and documentation of the process within the collaboration, and the extent in which different types of measurements are used. When considering how the sharing of costs and savings in the collaboration is performed, which was also investigated in the respondent’s process approach, no relations to variables in the other aspects could be found. This was also expected due to the description of the process approach given in chapter 6.2.1 where it was concluded that no correlation between how costs and savings in the collaboration were shared and the other variables used when investigating the process approach (i.e. documentation of the process and use of measurements) could be found.

Similar to the reasoning above about the process approach, the joint planning of supply chain activities is only represented by joint operational planning in Figure 6.5. The reason for this is the lack of correlation between the two levels of joint planning (see chapter 6.2.2) and the lack of

¹⁸ Investigated with ANOVA analysis.

¹⁹ Investigated with ANOVA analysis.

relation between strategic joint planning and the other variables describing the actions undertaken in logistics collaboration. The only statistically relationships that could be found were that companies with a defined and documented process in their collaboration also have more joint strategic planning and that this is positively related to the usage of cost and lead time measurements.²⁰

With regard to the degree of delegated planning this is, as can be expected, positively related to the frequency of information sharing in the collaboration; companies with more delegated planning also share information more frequently²¹. This can be interpreted as something necessary to get delegated planning to function. The degree of delegated planning is however not related to the process approach in the collaboration and is therefore not included in the Figure above.

As can be seen in the Figure 6.5 above, the use of EDI and Internet based alternatives are related to both the variables investigating the intensity of the information sharing as well as the process approach. These are in turn related to the degree of joint operational planning. But when considering the direct connection between the usage of EDI and Internet based EDI and the degree of joint planning in the collaboration, no such connection can be found²². Thus, the use of EDI and Internet based alternatives does not in itself contribute to more joint planning of the supply chain activities.

The logistics areas where the collaboration is performed and their relation to the actions undertaken in the collaboration

Several analyses were performed to investigate if there were any differences in actions undertaken in the collaboration depending on what logistics area the collaboration was performed. Without success, factor analysis as well as ANOVA analysis was used to find possible correlations between the actions undertaken and certain logistics areas. The result implies that the logistics area where the collaboration is performed and the actions undertaken are independent from each other, i.e. no specific actions are undertaken in certain logistics areas.

The supply chain orientation related to the other aspects describing the content of collaboration

According to SCM literature the respondent's SCO is an important prerequisite for successful collaboration and it could therefore be expected that companies with more intensive collaboration would be forced to have a better SCO in order to be successful in the collaboration.

²⁰ Investigated with ANOVA analysis.

²¹ Investigated with ANOVA analysis.

²² Investigated with ANOVA analysis.

This can, however, not be supported by this study. For companies with a defined process in their collaborations, ANOVA analysis shows that these companies in fact experience significantly *more* problems with different goals between the participating actors in the collaboration. Moreover, when considering the planning of supply chain activities and information sharing no significant differences can be found that indicate a better SCO for companies with more intensive collaboration²³.

There is, however, one exception from the statement above; top management is more involved in more intensive collaborations when considering the frequency of information sharing and the degree of joint operational planning. ANOVA analysis (see Appendix D, Table D.7) shows that in collaborations with more frequent information sharing the top management is also more involved in the ongoing collaboration²⁴. The involvement from top management, both in the initial phase as well as in the ongoing collaboration, is also higher in collaborations with more operational joint planning²⁵. However, there can, surprisingly, not be found any correlation between the degree of top management involvement and the degree of joint planning on a strategic level²⁶.

ANOVA analysis also shows that cost related measurements were also used significantly more by companies with a high degree of top management involvement in the ongoing collaboration as well as in the initial phase of the collaboration.

6.3 Driving forces, barriers and effects of logistics collaboration

6.3.1 Driving forces for logistics collaboration

The driving forces for the collaboration, i.e. the reasons for why the collaboration was started, were categorised and measured by two main factors: cost- and service related ones²⁷. Figure 6.6 below shows the mean values and distribution of the results²⁸:

²³ Investigated with ANOVA analysis and cross tabulations.

²⁴ Note that in chapter 6.5 a significant difference between supplier and customer collaborations when considering the intensity of information sharing is presented. Due to the low number of respondents, the presented analysis above can not be shown to be valid independently from the type of collaboration. When considering only customer collaborations a significant difference is, however, found between respondents with different rates of top management involvement and intensity of information sharing (investigated with cross tabulation and χ^2 -square test).

²⁵ Investigated with ANOVA analysis, see Appendix D, Table D.8.

²⁶ Investigated with ANOVA analysis.

²⁷ In service related measurements answers related to lead times and “create more efficient information flow” are included.

²⁸ The questions were put as a statement and the answers were given on a five point Likert scale ranging from “Do not agree” to “Completely agree”.

Figure 6.6. Mean values for variables measuring the driving forces for the collaboration

As can be seen in the table, both factors are considered to be very important for setting up the collaboration. No differences in company characteristics and driving forces for the collaboration can be found.

6.3.2 Barriers for logistics collaboration

The barriers of the collaboration were investigated with statements about the extent in which different factors had made the collaboration more difficult. Eight statements on a five point Likert scale ranging from “disagree” to “agree” were included in the questionnaire. Figure 6.7 below shows mean values and distribution of the respondents. Note that a high value indicates more problems experienced.

Figure 6.7. Mean values of experienced barriers to the collaboration

Apart from human related barriers (i.e. barriers related to a poor SCO) such as trust between the participating companies often discussed in the SCM literature, problems with IT and technology were also investigated in this study. In comparison to the other mean values, the variable “technology related problems” has the second highest value after the variable investigating problems with different logistics competences between the participating actors.

No differences were found concerning barriers and background variables such as e.g. company size, type of product etc.

6.3.3 Effects of logistics collaboration

Nine statements on a five point Likert scale ranging from “disagree” to “completely agree” investigated the extent in which the companies had experienced specific effects of the collaboration. Figure 6.8 below shows mean values and distribution of answers for the nine statements.

Figure 6.8. Mean values of experienced effects of the collaboration

When considering the statements in the Figure above it could be expected that the variables would be correlated to each other. Considering the first five variables, factor analysis results in two main factors with costs and service related issues (See Appendix D, Table D.9). The

remaining four variables could be either cost and/or service related and were therefore investigated one by one in factor analysis together with the five first variables.

With regard to the variables “shorter lead times”, “more competitive”, and “clearer division of responsibility” it can be concluded that these are related to both costs and services. Considering the variable “more follow ups and measurements” it can be concluded that this is only correlated to service. (See Appendix D, Table D.10)

To further investigate the effects of collaboration, cluster analysis was used in order to group companies who experienced more or less positive effects of the collaboration. The final cluster centres for the companies in the more positive effect cluster were, in all nine variables, found to be 4. In the less positive cluster, the corresponding figures were in all nine variables found to be 3. Thus, the two clusters differ from each other in their opinion in all nine variables. (See Appendix D, Table D.11)

Using the two clusters based on the nine “effect” variables, ANOVA was used to investigate differences in background variables and in that way get a better picture of the companies included in each cluster. No such differences could, however, be found. Instead, other characteristics such as the content of the collaboration seem to be decisive for how successful (concerning better effects experienced) the collaboration would be. In the sections below differences in content and effects experienced are further discussed.

In cases of dyadic collaborations, this study also investigated the impact of the collaboration on relations with other supply chain members on the other side of the respondent’s company. I.e., respondents answering questions about a supplier collaboration were asked questions about its impact on relations with their customers and vice versa. Effects on relations on the other side of the company are shown in Figure 6.9 below. From the figure it can be concluded that improved service towards other members of the supply chain is the most experienced effect.

Figure 6.9. Experienced effects on relations with supply chain members on the other side of the respondent's company

Finally, in order to measure the respondents' overall attitude towards the collaboration, the respondents were also asked to define²⁹ how positive they were towards the collaboration as a whole. Distribution of the answers and mean value are shown in Figure 6.10. As can be seen in the table, the mean value was 4.43, which implies that the companies in general are very satisfied with their chosen collaborations.

²⁹ The question was put as a statement and the answer was given on a five point Likert scale.

Figure 6.10. The respondents' attitude towards their collaboration as a whole

6.3.4 Relationships between driving forces, barriers and effects of the collaboration

When considering relationships between driving forces, barriers and effects of the collaboration, few can be found, despite the fact that some could be expected. For example, the driving forces for the collaboration would be mirrored in the effects experienced. However, no such relationship³⁰ could be found in the material. Factor analysis also shows that the variables in the three aspects (i.e. driving forces, barriers and effects) are correlated to each other in the first place and can therefore be regarded as three separate factors.

Furthermore, no differences in mean values of the driving forces were found between the two clusters with more or less positive experienced effects³¹. Thus, the reasons why (i.e. driving forces) the collaboration was once started, do not seem to be related to the outcome (i.e. the effects) of the collaboration.

When considering the differences between companies in the two effect clusters and their experienced barriers, ANOVA analysis shows that companies belonging to the cluster with more positive effects also experience more problems related to technology. The reason for this could

³⁰ Investigated with factor analysis and ANOVA analysis.

³¹ Investigated with ANOVA analysis.

be due to the fact that the companies belonging to the cluster with more positive effects also share information more extensively and use EDI and Internet based EDI to a higher extent.

Apart from more experienced technology related problems, no differences in experienced barriers could be found between the clusters.

6.4 Type of collaboration

In this study three possibilities for a focal company to collaborate with other actors in the supply chain were investigated: triadic collaboration where both adjacent suppliers as well as customers are participating, or dyadic collaboration with either a supplier or a customer. In the questionnaire the respondents were asked to choose one of their relations that they considered a collaboration within the logistics field. In the remaining part of the questionnaire the respondents were instructed to only consider this particular relation when answering the remaining questions. The respondents were also instructed that they should in the first place choose a collaboration where both customers and suppliers were involved. Only in such cases where they did not have any triadic collaboration, they were asked to choose a dyadic collaboration with either a supplier or a customer.³²

Collaboration was in the questionnaire defined as “a relation characterised by openness and trust and where risks, rewards and costs is shared between the parties” (translated from Swedish). Furthermore, the respondents were informed that a basic prerequisite to regard a relationship as a collaboration was that all involved parties should be able to influence the design of the collaboration.

Figure 6.11 shows the distribution of what type of collaboration the respondents chose to consider when answering the questionnaire (percentage in parenthesis).

³² The respondents were also instructed to only consider collaborations with other primary members of the supply chain (see also chapter 1.3), which leaves collaboration with e.g. third party logistics providers out of the scope of this thesis.

Figure 6.11. The distribution of chosen type of collaboration

17 of the respondents (9.6%) answered that they had no relationship that they considered as a collaboration.

As far as company characteristics in the different types are concerned, a significant difference³³ between supplier collaborations and triadic collaborations with regard to the degree of customer specific products were found; companies involved in triadic collaborations had more customer specific products than those involved in supplier collaboration. The mean value for companies with customer collaborations was placed between the other two types. Apart from this, no differences between background variables and type of chosen collaboration were found. For example, ANOVA analysis shows that there were no significant difference in company size (number of employees and yearly turn over) for the different types of collaboration.

6.5 Relationships among different categories

This chapter corresponds to subquestion 1.4, in which variables that belong to different categories in the subquestions are related to each other. In the three subsequent sections the interfaces between the categories are investigated one by one.

6.5.1 The content and driving forces, barriers and effects of the collaboration

The content vs. driving forces

With regard to driving forces for the collaboration, these seem in general to be independent from the content of the collaboration. With ANOVA analysis, factor analysis and cross tabulations it

³³ Investigated with ANOVA analysis.

can be concluded that e.g. the intensity of information sharing or degree of process approach³⁴ are not related to the reasons why the collaboration was set up.

One exception can be found when considering the respondents' SCO; companies with a high degree of top management in the initial phase as well as in the ongoing collaboration considered cost related factors to be more important for setting up the collaboration³⁵.

The content vs. barriers

With ANOVA analysis and factor analysis it can be concluded that, similar to the driving forces discussed above, experienced barriers in general seem to be independent of the content of the collaboration. However, some exceptions can be found. For example, ANOVA analysis shows that companies with a defined process in their collaboration also experience more problems with different goals among the participating actors in the collaboration (see also chapter 6.2.6).

Furthermore, companies with more intensive information sharing (i.e. sharing at least two types of information with their partner at least once a week) also experience significantly more technology related problems. The reason for this could be that these companies also use EDI and Internet based EDI more often (this relation was discussed in chapter 6.2.3 above). However, when considering the mean values³⁶ between companies with more complicated technology (companies using EDI and/or Internet based alternatives) and companies using traditional means of communication (telephone, e-mail etc) no such significant difference can be found. Thus, technology related problems are experienced to the same extent by those companies that only use traditional communication means.

The content vs. effects

In the frame of reference it was stated that a process approach would lead to better effects from the collaboration. When comparing mean values between companies with a defined and documented process in their collaboration and those without, it can be seen that for eight out of nine variables (the variable "partner has got lower costs" differs slightly from the others) the mean values are higher for the companies with a defined process. However, a significant difference³⁷ can only be found for the variable "clearer division of responsibility between partners".

³⁴ Measured by if the respondent had defined and documented a process in their collaboration, and to what extent process related measures were used

³⁵ Investigated with ANOVA analysis.

³⁶ Investigated with ANOVA analysis.

³⁷ Investigated with ANOVA analysis, see Appendix D, Table D.12.

Related to the process documentation discussed above it can also be concluded that companies who use cost related measurements to a high extent (i.e. have answered 4 or 5) in their collaboration also experience significantly more positive cost related effects than their colleagues with a low rate of cost related measurements (i.e. have answered 1 or 2)³⁸. The same pattern can be seen when considering the use of service related measurements related to the effects experienced; companies with a high usage of service related measurements also experience more positive effects related to service³⁹.

When it comes to lead times, this measure can be related to both service and cost issues according to the literature. The result of this study shows, however, only connections with improvements of service related effects. The results from the use of measurements and their relation to effects experienced are shown in Table 6.8. An “S” indicates that significantly more positive effects were experienced by the companies with a high rate of usage of the specific measurement.

Table 6.8. The usage of measurements and its relationship to experienced effects of the collaboration

Effect	Use of cost related measurements	Use of service measurements	Use of lead time measurements
Focal company has got lower costs	S	S	
Partner has got lower costs	S		
Focal company's service improved towards partner		S	S
Partner's service improved towards focal company		S	S
Focal company's service improved towards other actors in supply chain		S	S
Improved lead times between partners			S
Focal company has been more competitive			S
Clearer division of responsibility between partners	S		S
More measurements and follow ups	S	S	S

According to the questions in chapter 5.1.1 about internal process approach, the degree of internal process documentation and degree of centralised organisation could have a positive impact on the effects experienced in triadic collaborations; a better internal process approach would lead to more positive effects of the collaboration. No such relations could however be found.

³⁸ Investigated with ANOVA analysis.

³⁹ Investigated with ANOVA analysis.

The joint operational planning of the supply chain activities and its relation to effects experienced by the collaboration was investigated by first dividing the respondents into two groups, one with high answers on the question about joint operational planning (respondents that have answered 4 or 5), and the other group with low answers (respondents that have answered 1 or 2). Thereafter, ANOVA analysis was performed to investigate differences in mean values between the groups. The results show that the group of companies with a high degree of joint operational planning have higher mean values for all nine variables that investigate the experienced effects of the collaboration.

Table 6.9 below shows that significant differences could be found for five variables. An “S” indicates that the companies with a high degree of joint operational planning experience significantly more positive effects of the particular effect.

Table 6.9. The degree of joint operational planning of supply chain activities and how it relates to different effects of the collaboration

Effect	Joint operative planning of supply chain activities
Focal company has got lower costs	
Partner has got lower costs	
Focal company's service improved towards partner	S
Partner's service improved towards focal company	
Focal company's service improved towards other actors in supply chain	S
Improved lead times between partners	S
Focal company has been more competitive	S
Clearer division of responsibility between partners	
More measurements and follow ups	S

When making the same analysis for joint strategic planning, no significant differences in effects between companies with high respectively low rates of joint strategic planning could be found.

SCM literature also suggests that the frequency of information sharing has an impact on how successful the collaboration is in terms of positive effects. On a general level this study can confirm this with cross tabulation and χ^2 -square test between the two clusters of companies experiencing more or less positive effects, and the two groups with different intensity in information sharing. With ANOVA analysis it can be concluded that the group of companies

with more intensive information sharing experience significantly better effects with regard to increased competitiveness and more measurements and follow ups⁴⁰.

When comparing the two effect clusters to variables which investigate the respondents' SCO, no differences were found. The exception is a significant difference⁴¹ between the two clusters with regard to the degree of top management support in the ongoing collaboration, where companies that belong to the cluster with more positive effects have more active top management. As in the case for the frequency of information sharing, further analyses of the relationship between top management and effects experienced were not performed due to differences in degree of top management involvement between the types of collaboration, see chapter 6.5.2 below.

When considering logistics areas where the collaboration is performed, no differences between the areas and effects experienced could be found.⁴²

The analyses presented above were concerned with the direct effects experienced from the collaboration by the involved actors. In the questionnaire, respondents with dyadic collaborations were also asked about the consequences (effects) of the collaboration for relations on the other side of the focal company (see chapter 6.3.3 above about effects). According to existing literature in the area, companies with dyadic collaborations that have a better internal process approach could be expected to experience more positive effects on the other side of their company. No such relationships could, however, be found in this study. The degree of internal process documentation as well as the degree of centralised organisation concerning logistics development seems to be independent of the effects experienced on the other side of the company⁴³.

Differences in the intensity of dyadic collaborations (with respect to the degree of process approach, planning of supply chain activities, and frequency of information sharing) and effects experienced on the other side were also investigated with ANOVA analysis. No differences could, however, be found, which implies that the intensity of the collaboration does not influence the effects experienced on the other side of the focal company.

Instead, a positive significant relation was found between the rate of top management involvement in the ongoing collaboration and the extent in which the collaboration led to

⁴⁰ As will be presented in chapter 6.5 there is a difference between supplier and customer collaborations concerning the intensity of information sharing; respondents with customer collaborations share information more intensively. Since the number of respondents is too small to make the analysis with the different collaboration types separately, the effects of a higher intensity of information sharing could not be investigated independently from type of collaboration.

⁴¹ Investigated with ANOVA analysis.

⁴² Investigated with ANOVA analysis.

⁴³ Investigated with ANOVA analysis where the respondents were divided into two groups depending on their degree of internal process approach.

increased collaboration also on the other side of the company⁴⁴. These findings are valid for both types of dyadic collaborations, i.e. both upstream and downstream in the supply chain.

6.5.2 The content in the different types of collaboration

Type of collaboration vs. process approach

With regard to the process approach in the different types of collaboration, few differences can be found. To start with, the companies in the different types of collaborations have defined and described a process in their collaboration to the same extent⁴⁵. Also the sharing of costs and savings in the collaboration are in all types predefined to the same extent⁴⁶.

When considering use of measurements, the only significant difference⁴⁷ occurs between triadic and supplier collaborations considering lead time and service measurements; companies involved in triadic collaboration use them more frequently.

Another expected difference was that the degree of internal process approach was expected to be higher in triadic collaborations. Companies with such a collaboration were expected to have a better internal process approach due to challenges with linking the customer side with the supplier side. This expectation can, however, not be supported in this study; ANOVA analysis shows that companies in triadic collaborations do not have a higher degree of internal process documentation, nor do they have a more centralised organisation with regard to logistics development in the company.

Type of collaboration vs. planning of supply chain activities

ANOVA analysis shows that no differences can be found between the types of collaboration and how the planning of the supply chain activities is performed in the collaboration. For example, joint strategic planning is performed to the same extent in all of the different types of collaborations.

Type of collaboration vs. information sharing

Cross tabulation and χ -square test show that there are differences between supplier and customer collaborations concerning information sharing. Companies with customer collaborations tend to belong to the group of companies sharing at least two types of information at least once a week.

⁴⁴ Investigated with ANOVA analysis, see Appendix D, Table D.13.

⁴⁵ Investigated with cross tabulation and χ -square test.

⁴⁶ Investigated with ANOVA analysis.

⁴⁷ Investigated with ANOVA analysis.

Furthermore, these companies also use EDI and Internet based EDI more extensively than their colleagues with supplier collaborations.

Type of collaboration vs. SCO

When considering the respondents' SCO in the different types of collaboration, it can be concluded⁴⁸ that in supplier collaborations top management is significantly less involved in ongoing collaborations than in the other two types. Thereafter, when considering the extent in which the companies in the different types can influence the collaboration, the situation is the opposite; companies in supplier collaborations experience that they can influence the collaboration significantly more than the companies with customer collaborations (no significant differences between triadic collaborations and supplier collaboration could, however, be found).

With regard to top management support in the initial phase of the collaboration no significant difference can be found between the three types.

Type of collaboration vs. logistics areas

ANOVA analysis shows that there are no differences in mean values between types of collaboration and in what logistics areas the collaboration is performed. The exception is the logistics area called "strategic planning", where a significant difference between customer collaborations and the other two types can be found. Companies with customer collaboration consider their collaboration to be less involved in strategic planning.

At first glance, this result does not seem to be logical since the degree of joint planning of supply chain activities did not differ between the types. However, the logistics areas represent their own company's thoughts about the collaboration and their expectations of it. Hence, their own company can regard the collaboration as strategic but the joint planning of the logistics activities does not necessarily need to be on a strategic level.

6.5.3 The driving forces, barriers and effects in the different types of collaboration

Driving forces vs. type of collaboration

No significant differences can be found between the types of collaboration and whether cost or service related factors were the reason for the collaboration⁴⁹. Table 6.10 below shows the mean values of the driving forces (standard deviation in parenthesis) for the different types.

⁴⁸ Investigated with ANOVA analysis, see Appendix D, Table D.14.

⁴⁹ Investigated with ANOVA analysis.

Table 6.10. Mean values of reasons for setting up the collaboration in the different types

Driving force	Triadic collaboration	Supplier collaboration	Customer collaboration	Total mean
Cost related factors	3.81 (1.07)	3.84 (1.01)	3.96 (1.10)	3.87 (1.05)
Service related factors	4.52 (0.55)	4.34 (0.75)	4.45 (0.70)	4.43 (0.68)

Barriers vs. type of collaboration

The mean values (standard deviation in parenthesis) of the barrier variables for each type of collaboration are shown in Table 6.11 below.

Table 6.11. Mean values of experienced barriers in each type

Barrier	Triadic collaboration	Supplier collaboration	Customer collaboration	Total mean
Technology related problems	3.02 (1.24)	2.45 (1.17)	3.02 (1.14)	2.80 (1.21)
Personal chemistry and different cultures	2.51 (1.12)	2.29 (1.11)	2.44 (1.26)	2.40 (1.17)
Trust between the participating companies	2.40 (1.09)	2.32 (0.96)	2.72 (1.22)	2.48 (1.10)
Different logistics competence	3.07 (1.07)	3.03 (1.22)	2.78 (1.05)	2.96 (1.12)
Involved companies have different goals	2.64 (1.06)	2.42 (1.18)	2.60 (1.05)	2.54 (1.10)
Different opinions of how costs and savings shall be shared	2.77 (1.22)	2.31 (1.21)	2.83 (1.30)	2.61 (1.26)
Different opinions about responsibility areas	2.26 (1.06)	2.31 (1.15)	2.33 (0.98)	2.30 (1.06)
Understanding from the own company	2.24 (1.14)	1.98 (1.15)	2.33 (1.03)	2.18 (1.11)

As stated in chapter 5, two main categories of barriers to logistics collaboration are discussed in existing SCM literature, human related and technology related barriers. With regard to technology related barriers these are experienced less by companies with supplier collaborations, probably due to the fact that this type of collaboration also shares information less frequently⁵⁰.

Concerning human related barriers no differences in mean values between the respondents with triadic collaborations and dyadic collaborations can be found. When taking into account only the dyadic collaborations in ANOVA analysis, differences occur on the variable “Different opinions

⁵⁰ Investigated with cross tabulation and χ -square test.

of how costs and savings shall be shared”, where respondents with customer collaboration experience more problems than their colleagues with supplier collaborations.

Effects vs. type of collaboration

The mean values (standard deviation in parenthesis) for the nine variables investigating effects for each type of collaboration are presented in Table 6.12 below:

Table 6.12. Mean values of experienced effects in the different types of collaboration

Effect	Triadic collaboration	Supplier collaboration	Customer collaboration	Total mean
Respondent has got lower costs	3.65 (1.17)	3.64 (1.06)	3.37 (1.19)	3.55 (1.14)
Partner has got lower costs	3.78 (1.04)	3.40 (1.14)	3.61 (1.00)	3.59 (1.07)
Respondent's service towards partner has been improved	4.23 (0.83)	3.82 (0.98)	4.31 (0.80)	4.11 (0.90)
Partner's service towards respondent has been improved	3.98 (0.86)	3.98 (0.76)	3.69 (0.97)	3.88 (0.87)
Respondent's service towards other actors has been improved	3.93 (0.85)	3.68 (1.10)	3.59 (1.16)	3.72 (1.06)
Improved lead times between companies	4.02 (0.95)	3.84 (1.27)	3.81 (0.89)	3.88 (1.06)
Respondent has been more competitive	3.98 (0.78)	3.51 (0.97)	4.00 (0.85)	3.82 (0.90)
Clearer division of responsibility between partners	3.70 (0.94)	3.48 (0.82)	3.40 (1.00)	3.52 (0.92)
More measurements and follow ups	3.73 (1.11)	3.09 (1.10)	3.49 (1.20)	3.41 (1.16)

Comparing the mean values, a significant difference⁵¹ between supplier and customer collaborations can be found for the variable “Respondent’s service towards partner has been improved”; respondents with customer collaborations claim that they have improved this type of service more. The respondents with customer collaborations as well as those with triadic collaborations also experience that their competitiveness has been improved significantly more in comparison to the respondents with supplier collaborations.

Finally, the respondents with triadic collaborations also experience significantly more positive effects for the variable “More measurements and follow ups” than the respondents with supplier collaborations.

⁵¹ Investigated with ANOVA analysis, see Appendix D, Table D.15.

As far as the dyadic collaboration types are concerned, no differences in effects experienced on the other side could be found, i.e. the companies experience effects to the same extent independent of whether the collaboration is performed upstream or downstream in their supply chain. Mean values (standard deviation in parenthesis) are shown in Table 6.13.

Table 6.13. Mean values of experienced effects on the other side by respondents with supplier and customer collaborations

Effect on the other side	Supplier collaborations	Customer collaborations	Total mean
Increased collaboration	2.92 (1.23)	3.04 (1.27)	2.98 (1.24)
Increased and faster information sharing	2.88 (1.24)	3.17 (1.27)	3.02 (1.26)
Improved service by the respondent towards other actors	3.62 (0.99)	3.55 (1.36)	3.58 (1.17)

7 A comparison to the literature

In the previous chapter a description of logistics collaboration in supply chains was given in accordance with the first research question of this dissertation. In this chapter the most important findings are analysed and compared to the existing literature.

7.1 *The content of logistics collaboration*

Five aspects to describe the content of logistics collaboration have been investigated. The first aspects three (process approach, planning of supply chain activities, and information sharing) together can be used to give a description of actions undertaken in the collaboration. The fourth and fifth aspects correspond respectively to the respondents' SCO and in what logistics area the collaboration is performed.

7.1.1 The process approach

Starting with the process approach, it can be seen that the companies to a relatively great extent have documented their internal processes in all parts of their companies. This can be interpreted as a consequence of the widely spread application of ISO 9000 certifications.

The use of processes in the collaboration with adjacent suppliers and/or customers is, however, very low, and does not seem to be related to the internal process documentation. Only 24% of

the companies have, together with their partner/partners defined and described their collaboration in terms of a process. This figure must be considered surprisingly low due to the massive amount of literature advocating a process approach in the past two decades; SCM literature and logistics business concepts such as CPFR as well as other management concepts such as business process reengineering all stand for a more process oriented view of the firm.

According to the frame of reference, the definition and documentation of a process facilitates a proper measurement of it. The results of this study confirm this; companies with a defined and documented process in their collaboration also measure it more, both with regard to costs, lead times and service.

In general, lead times and service measurements are considerably more used than measurements related to the total logistics costs. This also agrees with the internal use of measurements at the respondents' companies where service related measurements are applied far more. Other studies report similar findings (see e.g. Aronsson, 2003) and can probably be explained by the difficulties of measuring logistics costs. The exact cost for different logistics activities involved in the collaboration is often not available at the companies. Furthermore, even if the total cost figures for a certain activity can be found, there could still be difficulties in identifying a correct cost driver.

The companies have not applied a predefined way of how to share costs and savings in the collaborations to any great extent (a mean value of 2.54 on a five point Likert scale). This result is also in line with the results presented by Spekman et al. (1998), who found that risks and rewards were shared equally between the partners to a very low extent. These findings indicate a great potential for improvements in this area for future collaborations.

7.1.2 The planning of supply chain activities

When considering the planning of supply chain activities involved in the collaboration, joint planning on an operational level is regarded as the most common way. The degree of joint strategic planning is lower when regarding mean values and distribution for the companies (see Figure 6.2). 66% of the companies have answered one or two at the question about to what extent joint strategic planning of supply chain activities is performed. This indicates a low degree of strategic joint thinking in most of the collaborations. Thus, when considering the planning of supply chain activities involved in the collaboration, it seems to involve operational joint issues, but at a strategic level the planning is done individually. Furthermore, the extent of joint, operational respective strategic planning in the collaboration, are not positively related to each other. Thus, more strategic planning does not seem to facilitate or lead to more operational planning or vice versa.

7.1.3 The information sharing

58.8% of the companies share at least two types of information at least once a week, which has been considered in this study as the lower limit to describe the information sharing as intensive. The type of information that is shared by most companies at least once a month is forecasts (see Table 6.4), which is shared by 94% of the companies. Forecasts are relatively easy to share and are also reported as the most commonly shared type of information in other survey based studies, see e.g. Selldin (2002).

When considering mean values for the frequency of sharing for the companies sharing a specific type of information at least once a month, operational information types such as confirmations, error messages and inventory levels are the most frequently shared, as can be expected.

According to the respondents the shared information is on average to a great extent processed and adjusted for the specific receiver. The degree of processed/adjusted information is also significantly higher for the respondents that belong to the 58.8% that share information more intensively.

EDI and Internet based EDI are considered to be the main means of communication by 50.6% of the companies. This group of companies also shares information more frequently than those with only traditional means. This result was expected due to the better opportunities to share information in a more efficient manner with EDI and other Internet based alternatives.

The use of such communication means, however, does not seem to influence and facilitate the extent in which the shared information is processed and adjusted for the receiver. The results imply that the use of EDI and Internet based alternatives facilitates the transferring of information, but not the content of the information, i.e. to what extent the information is processed and adjusted for the receiver. This is also supported when considering what types of information are shared significantly more frequently in collaborations with EDI or Internet based EDI. Above all, it is operational information types such as error messages and inventory levels that are shared more frequently by EDI users. The need for adjustments of these types of information is probably lower than, for instance, forecasts and other information types that are more difficult for the receiver to interpret.

7.1.4 The actions undertaken in the collaboration

Considering the three aspects that together represent actions undertaken in the collaboration, Figure 6.5 shows statistical relations between several variables investigating the different aspects. On a general level, the results of this study show that “the more of one aspect, the more of the

other two”. On an operational level, the “intensity” of the three aspects that investigate the actions undertaken in the collaboration are closely related to each other.

According to the literature about SCM and collaboration, a higher intensity of information sharing and joint planning of supply chain activities could be facilitated by a clear process approach. As discussed in the frame of reference, a clear process description will increase the knowledge about the activities involved and how they are related to each other. In addition, the output from the process becomes clearer and can therefore be more focused. This could lead to better incentives for the participating actors to increase their information sharing and the degree of joint planning since the advantages will be more obvious.

However, this study only investigates statistical relations and what comes first of the three aspects in the collaboration is therefore not investigated. Most probably, it would not be possible to make a strictly causal order of the aspects. For example, as stated above, a collaboration could start with a clear process approach and cause more intensive information sharing due to an increased understanding for the need of sharing more information. The opposite order is, however, also possible; an intensive information sharing could force the actors involved to specify their collaboration in terms of a process in order to be able to use the shared information in an efficient way. Furthermore, a need for an intensive information sharing could justify implementation of EDI between the partners, which in turn could demand a process definition to bring about correct use.

7.1.5 The respondents’ supply chain orientation

As stated in the frame of reference, the companies’ SCO is considered an important prerequisite to collaboration based on SCM. On a general level when considering mean values and distribution of answers in the different variables, the companies seem to have a good SCO.

Apart from a prerequisite in the ongoing collaboration, a good SCO could also function as an important trigger for improvements of the collaboration. It could be argued that companies involved in more intensive collaborations would in general have a better SCO than their colleagues with less intensive collaboration. For example, in the planning of supply chain activities, an intensive joint strategic planning would most probably demand a well functioning SCO with a high degree of trust, good personal chemistry, compatible company cultures etc.

The results of this study can however not support this view since most of the variables investigating the respondent’s SCO are independent from the other content variables. In fact, in one case the contrary relation is found; companies with a defined process in their collaboration experience *more* problems with different goals between the companies. This result is further

discussed in chapter 7.4, which examines the content and barriers experienced in the collaboration.

The only SCO variable that seems to be positively related to the intensity of what is done in the collaboration is the involvement of top management in the ongoing collaboration. The results in chapter 6 show that top management is more involved in collaborations with more frequent information sharing and joint operational planning of the supply chain activities. A reason for this could be that involvement from top management gives the logistics department the authority to carry out the collaboration and bring it to a more intensive level. As stated in the frame of reference, the involvement from top management means an increased focus on the collaboration and is regarded as a necessary prerequisite to get SCM based collaboration to function (see e.g. Ireland and Bruce, 2000).

For the same reason a higher degree of involvement from top management should also increase the degree of joint strategic planning between the actors. No such relation can however be found in this study; a higher degree of top management involvement in the ongoing collaboration is not positively related to the degree of joint strategic planning of supply chain activities.

To conclude, top management has a more active role the more intensive the collaboration is on an operational level, but however not in collaborations with more joint strategic planning. A reason for this interest could be that it is the intensity of the collaboration on an operational level that causes the positive effects of the collaboration rather than if the collaboration includes joint planning on a strategic level (see also chapter 7.4). The results can be interpreted as if the top management engages in operational issues since these are connected to the intensity of the collaboration. It is the intensity that in turn causes the positive effects of the collaboration, rather than joint planning on a strategic level.

7.1.6 Logistics areas where collaboration is performed

In chapter 5 it was stated that logistics collaboration covers a broad range of different logistics activities/areas. This study shows that collaboration is performed within all the areas of production planning, forecasting, inventory management and replenishment, and transportation management. Forecasting is, as can be expected when looking at the information types that are shared, also considered to be the most common logistics area where collaboration is performed.

Collaboration in the fifth area, strategic planning, was less common. This can probably be explained due to its more strategic character in comparison to the other areas, which can be considered as more operational. When compared with the results for how planning of supply

chain activities were performed the same pattern can be seen; the respondents' collaborations are in general more operational than strategic in their character.

7.2 Driving forces, barriers and effects of logistics collaboration

The second subquestion to research question one is concerned with the driving forces, barriers and effects of the collaboration. Below, each aspect is discussed one by one.

7.2.1 Driving forces

With regard to driving forces for the collaboration, 72.6% of the companies have answered 4 or 5 to the question of how important cost related factors were. The same question for service related factors was 95.3%. Mean values were 3.87 and 4.43 respectively. The results are valid for all types of companies, i.e. size of company and product characteristics.

The results indicate that both cost and service are considered as important reasons for setting up a collaboration. This is in line with the SCM literature, which advocates improvements to both cost reduction as well as service enhancements as a result of increased SCM and collaboration. The findings are also in line with previous survey based research done by Spekman et al. (1998), who found that the most important reasons to engage in SCM collaboration could be found both on issues related to cost reduction as well as service. The most important reasons for this, according to their study, were increased end customer satisfaction, improved profits, satisfy supplier/customer requests and reduction of overall operating costs.

7.2.2 Barriers

In chapter 5 the barriers investigated in this study were divided into two main groups, human related and technology related barriers. The results are shown in Figure 6.7. When considering the human-related barriers, which to a great extent are the same questions that were investigated in the respondents' SCO discussed above, the problems experienced can generally be considered as low.

One factor that can be considered as especially important is the involvement from top management. The positive relationship between the degree of top management involvement and the intensity of collaboration discussed in chapter 7.1.5 indicates that top management involvement is needed in order to make intensive collaboration happen. Thus, an important barrier for collaboration could be a lack of top management involvement.

Technology related barriers are the second most commonly experienced problem according to the respondents. The results of this study are in accordance with the results presented by Hoffman and Mehra (2000) discussed in chapter 5, and show that technology related problems still occur and can not be ignored. Despite the development in the area over the past few decades, IT and technology related problems could still be considered as a main barrier in ongoing collaborations.

7.2.3 Effects

Figure 6.8 shows that companies in general experience positive effects from their collaborations. More positive effects are in general experienced on service related issues than cost related ones, even if the differences are small. Apart from positive effects directly connected to either cost reduction or service improvements, this study indicate more intangible effects of the collaboration, i.e. increased competitiveness, clearer division of responsibility between partners, and more measurements and follow ups.

The high mean values on experienced positive effects, together with the rather low rates of experienced barriers, can probably explain the very high mean value (4.43) of the variable which investigates how positive the companies were towards their collaborations as a whole. The results were not unexpected due to the method chosen in the study. The respondents were asked to choose one of their collaborations and answer questions about this specific relationship. Even if they were asked to choose the most important relationship, many respondents have probably chosen a collaboration they were fairly satisfied with.

In dyadic collaborations the effects for the other side was also investigated. The most commonly experienced effect considering mean values is that the focal company has improved their service towards actors situated on the other side of the company. 42.4% of the respondents have answered 4 or 5 to this variable, indicating a high degree of service improvements. From this result it can be concluded that the respondents' dyadic collaborations on one side of the company have also had an impact on companies situated on the other side of the company. This is valid for both types of dyadic collaborations, i.e. independent of whether the collaboration is performed with a supplier or with a customer.

These results could be due to the information sharing between the collaborating actors, which could facilitate an improved service towards actors situated before and after the collaborating partners in the supply chain. Thus, the increased transparency of information can explain why the companies experience their service towards other actors in their supply chain has been improved.

7.3 *The type of collaboration*

The third subquestion to research question one investigates what type of collaboration was performed. In the questionnaire the respondents were asked to choose one of their existing relationship that they regarded as a collaboration and answer questions about this specific collaboration.

The distribution of what type the respondents chose to consider when answering the questionnaire is roughly one fourth choosing triadic collaborations and one third in each type of dyadic collaboration, see Figure 6.11. The remaining 9.6% answered that they had no relationships that they considered as a collaboration. The distribution shows that the majority of all companies are not engaged in triadic collaboration, which is considered as a minimum for SCM.

7.4 *Relationships among the different categories*

The fourth subquestion is concerned with relationships among the three categories. The main results that will be discussed and analysed further in this chapter can be summarised as follows:

- According to existing literature, a process approach, a high intensity of information sharing and joint planning would cause more positive effects in a collaboration. This study can confirm the positive relations between a process approach and joint operational planning on the one hand, and more positive effects on the other.
- Involvement from top management, apart from its importance in the collaboration (see chapter 7.1 above) seems also to be important in order to achieve positive effects towards companies situated on the other side of the focal company.
- There are some main differences in attitude and behaviour between the different types of collaboration.

7.4.1 *The content of logistics collaboration and experienced barriers and effects*

In chapter 7.1 it was concluded that the three aspects investigating actions undertaken in the collaboration were closely related to each other and that “more of one thing also means more of the other two”. According to SCM literature, a high intensity of these actions would lead to improved supply chain performance, which in turn would lead to more positive effects, see Figure 7.1.

Figure 7.1. The intensity in actions undertaken in the collaboration and their relation to more positive experienced effects

Below follows a discussion based on existing literature and the results from this study.

The process approach

Starting with the process approach, the argumentation in the literature for the importance of a process approach in the collaboration can be summarised and related to this study with a logic chain of reasoning starting with a description of a process and leading to better achieved effects: a description and definition of the collaboration in terms of a process will lead to a better understanding of what activities are involved in the collaboration and how they are related to each other. This becomes especially important in interorganisational collaboration where the process stretches over company borders, since it is often difficult to understand and get good insight into other actors' internal activities. Good knowledge about the objectives of the process (i.e. the collaboration), and how involved activities are structured and related, is considered as a prerequisite in order to be able to measure the outcome from the collaboration properly. The measurement is in turn a prerequisite for improvements of the collaboration; without proper measurements it is far more difficult to know if a certain change in the collaboration really contributed to an improvement of the collaboration. (Melan, 1993; Willoch, 1994)

In chapter 6 analyses were presented that confirm the importance of having a process approach in order to achieve positive effects in the collaboration. To start with, companies with a defined process in their collaboration experience a significantly clearer division of responsibilities between the participating actors. As discussed above, the description of a process will make the actors aware of the activities involved and this will contribute to a better understanding of the collaboration. Thus, a clearer division of responsibility between the participating actors can be interpreted as a consequence of a clear process approach. It can also, together with proper measurements, be interpreted as an important driver for improvements of the collaboration. A

clear responsibility description makes it less possible to avoid taking actions for improvements and instead leave that to someone else.

The companies with a defined process also measure the collaboration more, both in terms of costs and lead times as well as service. Moreover, the results show that companies that measure more also experience better effects of what they measure. In Table 6.8 it can be seen that companies who measure costs also experience more positive cost related effects. The same can be seen for those companies that use service related measurements to a high extent. Concerning lead times this seems to have an impact on service related effects and the more intangible effect of being more competitive.

Related to the process approach, the importance of having a predefined way of how to share costs and savings in the collaboration was discussed in chapter 5. This would further facilitate improvements to the collaboration being made. This study can, however, not support any differences in effects experienced between companies with more or less predefined ways of how to share costs and savings. As discussed in chapter 7.1.1 the low rate among the companies regarding a predefined way of sharing, implies a great potential for further improvements. This reasoning is also applicable for the low rate (24%) of companies with a defined and documented process in their collaborations.

Information sharing

The positive relationship shown in Figure 7.1 between a more frequent information sharing and more positive effects experienced is another fundamental relationship when considering SCM literature. As stated in chapter 4.4.3, information sharing is a prerequisite for collaboration and has a great impact on performance in the supply chain. The underlying basic explanation for this statement is that access to information can reduce uncertainties in the supply chain (Yu et al., 2001). An increased frequency of information sharing can help to reduce uncertainty and dampen the Bullwhip effect, and thereby reduce the need for e.g. inventory as a buffer between actors in the supply chain.

On a general level the arrow in Figure 7.1 between a higher frequency of information sharing and more positive effects could be confirmed in this study; companies that belong to the cluster with more positive effects (see chapter 6.5.1) also share information more frequently. However, due to the differences in intensity of information sharing among the types of collaboration and a too low rate of respondents, the results can not be considered as independent from what type of collaboration is performed. Thus, this study can neither support nor disprove the existing literature.

The planning of supply chain activities

The explanation as to why a higher rate of joint planning causes better effects of the collaboration could also be explained with the starting point in the reduction of uncertainty. Joint planning can be considered as a kind of information sharing since it demands communication between the actors. As stated in the frame of reference about the concept of CPFR, this communication with a constant “negotiation” connects and integrates the actors with each other, which in turn leads to problem solving and improved effects. (Barratt and Oliveira, 2001)

As shown in chapter 6, this study can confirm the relationship between a high level of joint operational planning and more positive effects from the collaboration. It is above all service related effects, lead time improvements, and other more intangible effects that are improved by the joint operational planning.

The expected positive relationship between a high degree of joint strategic planning of supply chain activities and better effects (as shown in Figure 7.1) can not be confirmed by this study. The lack of relationship could be due to the fact that the study also shows on weak relationships between a higher rate of strategic planning and increased intensity in the collaboration (concerning actions undertaken in the collaboration). Thus, a reason for the lack of relationship could be that it is the intensity that causes the positive effects, and a high degree of joint strategic planning does not contribute to this.

The increased process approach and intensity in information sharing and joint operational planning is, however, not easily carried out and is in some cases connected to more problems experienced in the collaboration. For example, companies with a defined process experience more problems with the variable “different goals of the participating actors”. This should, however, not be interpreted as if documentation of processes makes the collaboration more difficult. Instead, this result should be interpreted as companies who work with processes in their collaborations become more aware of the problems and thus have a better possibility to deal with them and minimise them. Actors collaborating without processes may not even be aware of some of the problems.

7.4.2 The content and effects on the other side of the company

Respondents with dyadic collaboration were also asked questions about effects experienced on the other side of their company, i.e. a respondent with a supplier collaboration was asked if this collaboration had generated positive effects for his relations with customers, and vice versa.

Ireland and Bruce (2000) state that dyadic collaboration is good due to the increased integration of interorganisational issues in the supply chain. It provides a great step forward but still the main

challenge exists, namely to link the supplier side with the customer side. To make this happen, internal collaboration is needed, which is often harder to carry out than external due to factors such as the lack of internal performance metrics (Barratt, 2004). Based on existing literature, it was in chapter 5 assumed that an internal process approach was needed to facilitate the internal collaboration and link the two sides of the company more properly.

The results of this study can however not support this argumentation. The degree of internal process documentation was not positively related to experienced effects on the other side of the company. This result should however not be interpreted as if internal process documentation is unimportant. Instead, the lack of a positive relationship could be due to the fact that the respondents' internal process documentation is not used and applied properly in the company.

Rather than an internal process approach, this study shows that an important factor for achieving positive effects on the other side of the company seems to be the involvement from top management in the collaboration. A positive relationship between top management involvement in the ongoing collaboration and increased collaboration on the other side was found. It could be argued that a high degree of commitment in the collaboration makes the top management aware of the possibilities for the other side of the company. Thus, thanks to the top management involvement in the dyadic collaboration on one side of the company, relations on the other side of the company could be positively influenced.

Andraski (1998) claims that external as well as internal collaboration “will only become reality if driven by effective leadership” (Andraski, 1998, p. 11). Top management must understand what the collaboration means (Ireland and Bruce, 2000), and have an *active* role and be *involved* in the collaboration. Note that the word “driven” used by Andraski above indicates that “support” is not enough. In this study the word “involvement” has been used in order to be distinguished from top management support.

7.4.3 Differences between types of collaboration

When considering the results of subquestion one (the content) and two (driving forces, barriers and effects), some important significant differences between the types were found. These differences are discussed in this chapter.

Supplier vs. customer collaborations

Starting with the dyadic collaborations, it can be concluded that some main differences in attitudes and behaviour between supplier and customer collaborations exist, despite the fact that no differences concerning background variables such as e.g. company size and characteristics of the products can be found. The most important differences are shown in Table 7.1.

Table 7.1. Differences between companies with supplier and customer collaborations

Supplier collaborations	Customer collaborations
More influence on the design of the collaboration	More top management involvement
Less problems with the sharing of costs and rewards between the parties	More intensive information sharing and use of EDI and internet based alternatives
Involves more strategic planning	More technology related problems
	More improvements on service towards collaboration partner
	More increased competitiveness

According to conceptual SCM literature these differences should not exist. SCM philosophy advocates a focus on end customer demand and that the whole supply chain should be managed as one single entity. This leaves possible differences in behaviour depending on if the partner is a supplier or a customer out of the scope of most SCM literature. In comparison to the supplier collaborations, customer collaborations seem to be more important for the focal company and are in general more advanced. They are getting more attention from top management and contain more intensive information sharing. Related to this, (probably as a consequence thereof) EDI and internet based communication means are used to a greater extent. This is also mirrored in the barriers experienced by the collaboration; companies collaborating with their customers also report significantly more technology related problems.

Despite the lower top management involvement, respondents with a supplier collaboration consider their collaboration to involve more strategic planning than their colleagues with customer collaborations (even if the rate still is low). Note that this is the respondent's own opinion and that the discussed strategic planning is done within *their own* company; no differences can be found when considering the degree of *joint* strategic planning in the collaborations.

An explanation for why companies with a supplier collaboration feel that their collaborations contain more strategic planning could be that these companies also feel that they have significantly more influence on the design of their collaborations. The more the own company can influence and manage the collaboration, the more strategic it becomes for the company.

When considering the effects of the collaboration, the difference between upstream and downstream relations becomes even clearer. Companies with customer collaborations experience to a significantly greater extent, that their service towards their partner has been improved and that they have been more competitive as a consequence of their collaboration. These results are in line with Mattsson (2002), who discusses differences in attitudes between suppliers and customers. The differences can be explained by the fact that companies with customer

collaborations often find themselves in a weaker negotiation position than their colleagues with supplier collaborations. They feel that they need to struggle to keep their customers and therefore the service towards their customers becomes important. The collaboration can also increase their competitiveness due to the closer ties with the customer, which in turn strengthens the possibilities of keeping the customer.

Triadic vs. dyadic collaborations

When considering the results of triadic collaborations and comparing these to the other two types, it can be stated that triadic collaborations are similar to supplier collaborations in some respects and similar to customer collaborations in others. Not a single analysis in SPSS was done where a significant difference could separate the triadic collaboration from both customer and supplier collaboration. Triadic and supplier collaborations are similar with respect to their greater ability to influence and design the collaboration, and it is considered to involve more strategic planning (in comparison to the customer collaborations). With its position in the middle of the collaboration, these features of the triadic collaborations can be considered to be expected. As already discussed, the focal company should be able to link the supplier with the customer and has probably a great responsibility for the transfer of information etc between the customer and the supplier. The fact that the companies with triadic collaborations also use considerably more service and lead times related measurements also supports this⁵². The measurements could be an important instrument used in order to link the other actors successfully and facilitate the recognition of possible sources of errors in the collaboration.

When considering top management involvement in ongoing collaboration and the effect “we have been more competitive”, the triadic collaboration resembles the customer collaboration. The high degree of top management support in ongoing collaborations can be explained in the same way as for its importance for achieving effects on the other side of the company in dyadic collaborations; the focal company’s position in the middle demands an active top management. As is the case for the involvement of top management in dyadic collaborations when considering effects on the other side of the company, top management support is expected to remove functional silos and enable an efficient and effective collaboration.

Similar to companies involved in dyadic customer collaborations, respondents with triadic collaborations experience that their collaborations have increased their competitiveness significantly more than respondents with supplier collaborations. In the same way as in the case for dyadic relations, earlier studies (Mattsson, 2002) show the importance of having close relations downstream.

⁵² As discussed in chapter 6.5.2, a significant difference was found only between triadic and supplier collaborations, but the mean values between triadic and customer collaboration also differ considerably.

8 Findings from the survey study

As discussed in the introduction chapter, SCM aims at improving the total supply chain performance through collaboration among independent supply chain members. The supply chain should be managed as one single entity where end customer satisfaction is the superior goal for all involved companies. This demands collaboration at a strategic level (Stank et al., 2005) and that all involved parties have a true supply chain orientation (Mentzer et al., 2001). This way of thinking and acting, which requires an extensive strategic change in the mindsets of the supply chain members, should enable them to work and act in one common direction towards jointly agreed goals.

The previous chapter compared the survey findings to SCM literature and indicated great differences between theory and practice. The description of logistics collaboration given here shows that companies involved in collaboration are concerned with operational issues and that their collaboration is seldom brought to a strategic level. In addition to this, the results indicate that there are serious differences in attitude and behaviour between supplier and customer collaborations. The study also shows that it is more intensive collaboration at an operational level that contributes to the achievement of better results, and that top management involvement has shown to be an important driver for such collaboration. Below, the most important results from the study are summarised into five major findings concerning logistics collaboration among Swedish manufacturing companies.

1. Logistics collaboration as practiced today is concerned with operational issues, and is seldom brought to a strategic level

When considering the content of the investigated collaborations, it can be concluded that they are to a great extent concerned with operational issues and that the degree of strategic elements is very low, see Figure 8.1 below:

Figure 8.1. Logistics collaboration as practiced today is concerned with operational issues

A major difference between logistics collaboration in practice and theory is hence the lack of a strategic content in the collaborations. Collaboration based only on operational issues can not be regarded as enough to consider SCM implemented; it is first when a strategic level becomes involved that a shift towards real SCM based collaboration can be possible (Stank et al., 2005). When for instance Mentzer et al. (2001) consider SCM as “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole” (Mentzer et al., 2001, p. 18), the survey results provide another picture.

The poor SCM practice by most of today’s companies becomes even more worrying when considering empirical investigations that acknowledge a direct linkage between SCM and company performance. The recognition of the importance of logistics and SCM issues from a company strategy perspective has been made in a number of articles the last years. One example of this is D’Avanzo et al. (2003), who identify a statistical relationship between superior supply chain performance (measured by the company’s inventory turns, cost of goods sold, and return on assets), and financial performance (measured by compound average growth rate, CAGR). In a similar way Poirier and Quinn (2004) concludes from their survey based study that: “Perhaps the most important insight from our survey is that the real business benefit of advanced supply chain management remains largely untapped. The result only hint at what can be achieved in terms of

cost savings, revenue increase, profit improvement, customer satisfaction ratings, and more. If businesses keep an open mind and dedicate themselves toward real advancement, they can start to see breakthrough results in all these areas.” (Poirier and Quinn, 2004, p. 31)

To conclude, the survey results show that SCM in practice does not resemble SCM in theory. The gap consists of the lack of a strategic level in the collaborations. As a consequence of the missing dimension, it can be argued that the many promising advantages with SCM have not yet been realised.

2. There are differences in attitude and behaviour between customer and supplier collaborations

Apart from a low rate of strategic issues in the collaborations, the differences identified between supplier and customer collaborations (see Figure 8.2 below) also indicate that SCM based collaboration is more of an utopia than a reality. In general the results of this study points to the fact that the focal company upstream seems to be able to manage and design relations in the supply chain much more than in the case for relations downstream. From a SCM theoretical point of view, this recognised pattern can have serious consequences for the collaboration performance in the supply chains.

Figure 8.2. Differences between supplier and customer collaborations

As is the case for the first finding, the results of this study are in line with other similar empirical studies. For example, Spekman et al. (1998) conclude in a survey based study that there are serious differences in attitude and behaviour between collaborations with suppliers and customers which inhibit a proper SCM practice:

“In summary, we have implied that business has yet to crack the code; supply chain partners still do not share a common vision or react to the same set of metrics. If this is true, opportunities have been lost and many challenges remain. For a number of firms, talk is cheap and supply chain management is still only part of today’s jargon. A number of firms are sacrificing cost effectiveness, revenue enhancement, and customer satisfaction because they are unable to work effectively across the firms that comprise their supply chains.” (Spekman et al., 1998, p. 648)

Mattsson (2002) describes this situation as the traditional view of supplier-customer relations where the customer “demands what he wants” from the supplier. The differences can be explained by the fact that companies with customer collaborations often find themselves in a weaker negotiation position than their colleagues with supplier collaborations. They feel that they need to struggle to keep their customers and therefore the service towards their customers becomes important. The collaboration can also increase their competitiveness due to the closer ties with the customer, which in turn strengthens the opportunities to keep the customer. (Mattsson, 2002)

Spekman et al. presented their disappointing survey results about the differences among supplier and customer collaborations in 1998. For Swedish manufacturing companies these results can still be considered as valid seven years later when this study was conducted.

3. Companies with more intensive collaboration at an operational level achieve better effects from their collaborations

Together, the two first findings give a discouraging picture of logistics collaboration in practice. The study, however, also gives signals concerning the positive effects of collaboration that are discussed in theory. In accordance with SCM literature, several of the analyses presented in this study show that companies with more intensive collaborations at an operational level achieve better effects of their collaborations, see Figure 8.3:

Figure 8.3. Increased intensity of the collaboration at an operational level contributes to the achievement of better effects

Existing collaborations can, however, despite the obvious advantages not always be considered as intensive. As discussed in the previous chapter, the process approach in the collaborations is perhaps the area with the greatest potential for improvements in order to bring about more intensive collaboration. For instance, only 24% of the companies had together with their partner/partners described and defined their collaboration in terms of a process. An improved process approach could be an important enabler for more strategic collaboration, which is today not present in the collaborations. Following the SCM logic, a larger degree of strategic content in the collaboration would imply that even better results can be achieved when it comes to service improvements as well as cost reductions.

4. Top management involvement is an important driver for increased intensity in logistics collaboration

This study supports the view that together with an improved process approach in the collaboration, top management involvement is an important driver for increasing the intensity of the collaboration and thereby achieving better effects, see Figure 8.4. The need for top management attention is discussed by several authors within the SCM field (Andraski, 1998; Ireland and Bruce, 2000) as well as in other related fields such as the strategic alliance literature (Moss Kanter, 1994) and this study confirms that the call for top management involvement is justified.

Figure 8.4. The connection between top management involvement, intensity of the collaboration and experienced effects

5. Top management involvement in dyadic collaboration is an important driver for increased collaboration on the other side of the focal company

Considering the dyadic collaborations in the study, top management has also proven to be an important driver for increased collaboration with companies situated on the other side of the focal company. Standing above the functional silos, top management is expected to facilitate the internal collaboration at the focal company, which is a prerequisite for linking the supplier side with the customer side and vice versa. Thus, as a consequence of their involvement in dyadic collaboration on one side of their company, top management also functions as a driver for more collaboration on the other side, see Figure 8.5:

Figure 8.5. Top management involvement drives collaboration on the focal company's other side

Part III

The case study

9 Introduction to the case study

9.1 *Background and research questions*

In the previous chapter, five major findings concerning collaboration in Swedish manufacturing companies' supply chains were presented. In accordance with the purpose of this dissertation, which is to describe and explain the role of top management in a company's supply chain management practices, the survey study provides a view of what these SCM practices actually means. The findings can be summarised into the following two overall statements: (1) despite the many promising advantages, the collaboration performed does not incorporate a strategic level and hence SCM as described in theory is a rare occurrence, and (2) top management is an important driver for collaboration and hence for SCM.

These statements form the basis for the second study included in this dissertation, which is focused on the role top management plays in a company's SCM practices, here extended to also include internal SCM practices such as planning of logistics activities, collaboration and coordination between functions. Since little SCM exists as described in theory, a multiple case study on best practice companies is a suitable methodology for the study. Following SCM theory, these are expected to have the following three main characteristics:

- Best practice companies have a strong supply chain orientation, SCO.
- Best practice companies are mainly concerned with the internal as well as external coordination of activities and functions in order to improve the physical flow of products in the supply chain.
- For best practice companies, SCM is not about having a static condition, it is about continuously developing new supply chain concepts and adapting to changing requirements from customers and environment.

Given these three characteristics for best practice companies, the second study incorporates the following three research questions:

Research question two: How can top management's supply chain orientation be described?

Research question three: What is top management's role in the coordination of supply chains?

Research question four: What is top management's role in the development of supply chain practices?

Below follows a further discussion about the research questions.

9.1.1 Supply chain orientation

As was described in the introduction chapter, the SCO term was introduced by Mentzer et al. (2001). In their literature review on SCM, the authors identify three streams of literature where one of them is rephrased to supply chain orientation instead of supply chain management. According to the authors, this stream of literature considers SCM as a philosophy, and define it as “the recognition by an organisation of the systemic, strategic implications of the tactical activities involved in managing the various flows in a supply chain” (Mentzer et al., 2001, p. 11). A SCO is seen as a prerequisite to SCM, which in turn is interpreted to be actions undertaken to realise the SCO philosophy. Hence, the authors state that a SCO in itself is not enough; it should rather be considered as a catalyst in order to make actions easier and more likely to occur. For example, as many SCM authors recognise, SCM implementation requires a fundamental shift from functional to process thinking. As a start for such a change, a strong SCO is required.

In the survey study the SCO was broken down and investigated with a number of antecedents for SCO listed in the article from Mentzer et al. (2001). It was argued that these factors should result in a proper SCO. Consequently, what was investigated in the survey study was the antecedents leading to a SCO, but not the SCO in itself.

In the article the authors do not go into detail about what a SCO in itself really means, but summarise SCO by arguing that it includes the following three things:

- A systems approach where the supply chain is considered as a whole and managed from the supplier to the ultimate customer
- A strategic orientation for cooperative efforts in order to synchronise and converge intraorganisational and interorganisational operational and strategic capabilities into a unified whole
- A customer focus in order to create customer satisfaction

As was suggested above, best practice companies within SCM should have a strong SCO. Related to business strategy, the SCO should support, or even be a natural part of this strategy. Consequently, a company that possesses a SCO should in their strategy consider their supply chain as a whole and not only focus on internal issues. This holistic view of the supply chain also means that the company should strive to synchronise and converge intra- and interorganisational operational and strategic capabilities so that suboptimisations can be avoided. This understanding for the importance of coordination issues in the supply chain is undoubtedly a key issue for SCM in general. In line with the antecedents described in the SCM frame of reference, also note that the efforts should be made in a cooperative manner, suggesting a win-win thinking and mutual trust as a basis for the orientation.

The customer focus suggested by Mentzer et al. (2001) means that best practice companies consider SCM activities as an important strategic weapon in order to keep old customers as well as gain new ones. It also implies that there is more than a cost focus behind the work efforts in the supply chain; SCM can increase service and the revenue of a company and lead to profitable growth for the company (D'Avanzo et al., 2003).

According to Mentzer et al. (2001) top managers need to have a SCO. It is stated that "a company possesses a supply chain orientation (SCO) if its management can see the implications of managing the upstream and downstream flows of products, services, finances, and information across their suppliers and their customers." (Mentzer et al., 2001, p. 11). Matchette and Lewinski (2005) argue that top management functions as the main driver for a SCM friendly culture in the company and the usage of proper measurement that facilitates SCM initiatives. Top management

also naturally has the position to coordinate and relate the SCO to the company's business strategy and culture.

9.1.2 Coordination

In accordance with Mentzer et al.'s (2001) definition, the SCM literature in general stresses the importance of internal as well as external coordination and integration in the supply chain (Fugate et al., 2006). For example, in his description of the transaction based and customer value based models (that was described in chapter one) Abrahamsson (2006) stresses the importance of integration by arguing that the difference between the two models is the focus on the interfaces between functions and/or companies in the supply chain. In the customer based value model, similar to the understanding of what SCM is, these interfaces are considered as "the missing link" in supply chain development. Abrahamsson (2006) states that an improvement of these interfaces can give greater economies of integration, based on Håkansson and Persson (2004). Indeed, because of the economic rationale, coordination and integration issues are in the heart of SCM practice (Håkansson and Persson, 2004) and due to increased specialisation in the supply chains with more actors involved as a consequence (e.g. logistics service providers), it has grown in importance (Jahre et al., 2006).

Because of its importance, coordination is also seen as the main challenge from management's point of view. In his article concerning new developments in SCM for the new millennium Lancioni (2000) states: "The greatest challenge that supply chain managers will face in the millennium will be coordinating the activities of the various management groups in firms that affect supply chain operations. Integrating the influences of these management groups and developing a set of common goals that they can all work toward is paramount." (Lancioni, 2000, p. 5)

Concerning coordination, the nature of SCM needs a force standing above the functional silos and focusing on the "horizontal organisation" (Mangan and Christopher, 2005). Top management has this position and should therefore be the main enabler for SCM initiatives. Top management can also overcome the walls between historically separated functions such as demand functions (e.g. marketing and sales) and supply (Matchette and Lewinski, 2005).

Similar to SCM literature, the strategy content literature also has a coordination focus where it is an important cornerstone in positioning theory as well as RBV, but with a slightly different focus. While the SCM literature discusses the importance of coordination of processes in order to improve the physical flow of products in the supply chain by e.g. parallelisation, reduction of activities etc (see e.g. Mattsson, 2002), strategy theory discusses coordination in a broader sense. The strategy theory is occupied with the idea of cross-functional linking of activities, but also of

functions, competencies etc. For instance, Porter (1996) argues; “General management is more than the stewardship of individual functions. Its core is strategy: defining and communicating the company’s unique position, making trade-offs, and forging fit among activities.” (Porter 1996, p. 77)

Despite the different focus, the reasoning in strategy theory has much in common with the SCM argumentation and the SCM literature’s more narrow focus on coordination of the physical flow fits well with what the strategy literature suggests.

Since SCM as well as strategy literature are using the words ‘integration’ and ‘coordination’ in a long row of different contexts, their meanings are not always well defined (Fugate et al., 2006). In general they are given a broad meaning, without specific definitions and sometimes they are used interchangeably. In order to better develop the research question, it is therefore needed to specify the expressions and relate them to each other.

Malone and Crowston (1994) developed a “coordination theory” and argue that a discussion on coordination can be found in a long row of different disciplines such as computer science, organisation theory, operations research, economics, linguistics, and psychology. The authors argue that common for the different disciplines is that there must be interdependency between the activities; otherwise coordination does not make sense. Based on their review, they therefore state that coordination is about managing dependencies between activities (Malone and Crowston, 1994).

When it comes to integration, Rehme (2001) based on an extensive literature review, states that coordination and integration often are used interchangeably, but that a slight difference can be found when considering definitions. He argues that while coordination refers to actively do something (which is the case in Malone and Crowston’s definition above), integration can be interpreted as a state of an organisation. He defines integration as “the degree and quality of links and collaboration between units” (Rehme, 2001, p. 15). Thus, the more and better a company coordinates its activities, the higher degree of integration is achieved. For the purpose of this thesis the definitions by Malone and Crowston (1994) and Rehme (2001) are suitable, and will therefore be applied.

On coordination modes

As the definitions by Malone and Crowston (1994) and Rehme (2001) imply, interdependency among activities is needed for coordination and integration to make sense. The different types of interdependencies pooled, serial, and reciprocal were first introduced by Thompson (1967) and

have since then been discussed and elaborated on by a number of other authors (Håkansson and Persson, 2004; Malone and Crowston, 1994; Rehme, 2001; Van De Ven et al., 1976).

According to Thompson (1967) pooled interdependence means that two activities (or functions) are related to a third activity, or share a common resource. By exploiting pooled interdependencies in the form of shared resources, economies of scale can be achieved (if the activities are equal) or economies of scope (if the activities are similar but not equal) (Håkansson and Persson, 2004). Serial interdependence means a sequential dependency between two activities (or functions) where the output of one activity is the input to the other. Finally, reciprocal interdependency means that there is a mutual exchange of inputs and outputs between two activities or functions. This means that, when for instance, one function changes its behaviour, the other dependent functions also change in some way in order to adapt.

Thompson (1967) (see also Van De Ven et al., 1976) suggests that there is a hierarchy in terms of what type of coordination it takes for the three interdependencies. The third type of interdependence, the reciprocal, requires mutual adjustments, which is a more “advanced” type of coordination, than the pooled and sequential interdependencies, which instead causes standardisation and planning respectively.

The three types of interdependencies are complemented by Van de Ven et al. (1976) with an even more advanced fourth category called team work. This type of interdependency refers to when a work is “undertaken jointly by unit personnel who diagnose, problem-solve and collaborate in order to complete the work.” (Van De Ven et al., 1976, p. 325) The major difference in comparison to reciprocal interdependence is that there is no time lapse between the adjustments in team work interdependence.

Van De Ven et al. (1976) call for more research about coordination processes, i.e. how to coordinate, and presents the coordination modes impersonal, personal and group modes. The impersonal coordination mode refers to “the use of pre-established plans, schedules, forecasts, formalised rules, policies and procedures, and standardised information and communication systems” (Van De Ven et al., 1976, p. 323), where a minimum of personal contact is required. Personal coordination occurs when an individual, by communication with other people, coordinate activities. This communication can be both vertical (top-down in a company) as well as horizontal. Finally, the group mode means coordination in scheduled as well as unscheduled meetings.

In their study, Van De Ven et al. (1976) investigate how the three different coordination modes are related to the different interdependencies described above. In addition to this, they also study how the task uncertainty, defined as “the difficulty and variability of the work undertaken by an organizational unit” (Van De Ven et al., 1976, p. 324), and organisational unit size (i.e. number of employees) affects which coordination modes will be used.

From their study it can be concluded that in case of a high task uncertainty, the use of impersonal coordination decreases whereas the personal and group coordination increases. Thus, with a difficult task with high uncertainty there is less possibility to plan and schedule actions in advance. This means that in order to achieve a higher degree of integration, personal and group meetings must occur in order to sort out problems.

Concerning the four different types of interdependencies, Van De Ven et al.’s (1976) study supports Thompson’s (1967) view that the interdependencies can be related to the coordination modes ranging from pooled interdependency, which is often coordinated by the impersonal mode, to reciprocal and team interdependency which are preferably coordinated by the group mode. Finally, the findings indicated that when the unit size increased, the impersonal coordination mode increased. Thus, unit size seems to have an impersonalising effect on the coordination.

9.1.3 Continuous development

Following SCM literature, SCM is concerned with improvements at an operational level as well as on a strategic level. If the improvements are done continuously it is possible for companies to stay ahead of competitors and gain a first mover advantage. For example, referring to the logistics business concepts VMI and CPFR, these concepts are on their own highly replicable and cannot be a source of sustainable competitive advantage. On their own, they are more similar to what Porter (1996) calls operational effectiveness. However, by continuously developing the concepts and combining them in new ways, a sustainable competitive advantage can be achieved.

As a consequence of the need for continuous development, SCM has a long term focus; it is about establishing relationships with supply chain partners built on trust and commitment. This is a prerequisite for successfully making improvements on a continuous basis. D’Avanzo et al. (2003) argue that it is important to continuously develop and improve the supply chain practices a company perform. Leading supply chain companies “understand that successful execution is a journey that combines focused completion of everyday tasks with continual supply chain innovations. Put another way, they recognize the importance of continuous improvement and innovation, but never at the expense of smooth, ongoing execution.” (D’Avanzo et al., 2003, p. 45)

In addition, Matchette and Lewinski (2005) state that SCM is strategy which requires distinctive, hard to replicate capabilities, which can be a key to execution excellence as well as market creation. They stress the importance of flexible supply chains that can change in order to meet new customer demands; “Therefore, companies must adopt new supply chain practices, technologies and organization structures that enable them to quickly capitalize on new revenue opportunities.... In short, companies must be able to continuously refresh and renew their distinctive capabilities to maintain their competitive essence.” (Matchette and Lewinski, 2005, p. 4)

It can be argued that top management with its position at the top of the company, must actively manage and drive the continuous improvements. This task cannot be delegated down to the functional areas since the basis for the development and improvement is the integration and coordination issues between different functions. In other words, since it is the interfaces that should be improved (see e.g. Abrahamsson, 2006), this must be led by someone with authority standing above the functional silos.

9.2 *The different steps in the study*

This chapter goes into details of how the multiple case study was performed.

9.2.1 The theoretical framework on strategy

The theoretical framework that was used in the survey study was in the second study complemented with a framework on general strategy theory. This field is vast and therefore the study is limited to include the strategy content literature and Mintzberg’s (e.g. Mintzberg, 1994 and Mintzberg et al., 1998) view on the strategy formation process about how deliberate and emergent strategies form strategies as patterns of actions. The strategy content literature in turn consists of the positioning perspective and the resource based view, RBV.

Concerning the positioning perspective, this chapter is based on Porter’s work. The reason for this is his obvious dominant position in this stream of literature; to include other authors, that base their work on Porter’s, would not be valuable for this research. When it comes to the RBV literature, this has been dominating the strategy content field for the last decade, and a long list of different authors have been contributing to its development. Therefore the RBV chapter covers the most important authors from earlier years such as Penrose (1959) and Wernerfelt (1984), and the first RBV authors in the beginning of the 1990s represented by e.g. Barney (1991), Grant (1991) and Day (1994), to the more recent publications dealing with dynamic capabilities (e.g. Teece et al., 1997; Zollo and Winter, 2002).

The literature has mainly been found in different online databases available at Linköping University and Cranfield University. In general, the literature used for the theoretical framework can be divided into two streams. While the first is dominated with “classic” articles on positioning theory, RBV and the strategy formation process, the second stream is SCM and logistics literature that is concerned with the the combination of business strategy and SCM and logistics issues. Articles included in the first stream of literature do not directly deal with SCM or logistics, and have mainly been found through senior colleagues and by looking into other articles’ references. The goal for this collection has been to cover the most important pieces of work done in each area. The second stream of literature that is incorporated in the theoretical framework has mainly been found by using a long list of different search strings including words such as “supply chain management”, “logistics”, “business strategy”, “competitive advantage”, “profitability” etc. The main part of these searches was conducted during autumn 2005 and spring 2006. As in the case for the first stream of literature, many important articles have also been found by looking into other articles’ references. During the search I have tried to be objective and relate my work to different groups of authors and types of methodology used. However, special attention has been given to articles concerned with top management’s role and logistics-related issues.

As a complement to these searches on databases and tips from colleagues etc, a more structured literature search was also conducted during autumn 2007. Abstracts from 2002 until September 2007 in five logistics and SCM journals were searched for articles using business strategy literature as a theoretical framework. The purpose with this search was to identify what has been done in recent years in these types of journals concerning business strategy theory. The structured literature search confirms the poor existence of general business strategy literature (e.g. RBV and Positioning theory) in SCM and logistics related research. Table 9.1 below shows the five journals and the number of matches in each journal. Appendix E shows a more detailed description of the articles found.

Table 9.1. Number of articles with business strategy theory found in the investigated journals

Journal	Number of articles
Journal of Business Logistics	6
International Journal of Logistics: Research and Applications	2
International Journal of Physical Distribution & Logistics Management	4
International Journal of Logistics Management	3
Supply Chain Management: An International Journal	5

It should be stressed here that only articles that are related to general business strategy are included in the Table above. During the literature search a number of articles were found that elaborated on logistics strategies without discussing business strategy, and these were consequently kept outside the scope of the search. For instance, McGinnis and Kohn (2002) with the title “Logistics strategy – Revisited”, discusses logistics strategy in terms of process, market and information, was rejected because it was not based on general business strategy.

Considering the contribution of this dissertation it is worth mentioning that apart from the use of strategy-structure-performance (SSP) literature, no article was concerned with the strategy formation process. This is hence to a large extent a new application. It is also notable that none of the articles found directly dealt with top management issues, indicating this dissertation’s uniqueness.

It is important to note here that the main theoretical contribution will be given to the SCM field, and strategy literature should first of all be seen as a tool for a better understanding of how the top management is involved in SCM issues in a company. It can be argued that the strategy theory has provided me as a researcher with a number of tools and a language that simplifies the description and analysis of the empirical data material.

9.2.2 The selection of case companies

The selection of case companies is important in order to achieve good results from the study. The selection for this study has not been a question of finding cases representative for a larger group of objects, e.g. companies (Eisenhardt, 1989). Instead a theoretical sampling (Eisenhardt and Graebner, 2007) has been made; “the goal of theoretical sampling is to choose cases which are likely to replicate or extend the emergent theory. In contrast, traditional, within-experiment hypothesis-testing studies rely on statistical sampling.” (Eisenhardt, 1989, p. 537). As Bryman (2002) states, results from case studies should be generalised to theory, and not to a population, which is the case for quantitative studies, e.g. survey research. Consequently, in this study three companies have been selected not for being representatives of other companies, but because they are expected to contribute to theory building. As Eisenhardt and Graebner (2007) argue, they are particularly suitable for the illumination and extension of relationships and logic among constructs. In a similar way Flyvbjerg (2006) argues that a random case selection within a given sample may not be the most appropriate strategy. Instead cases with rich information content should be selected and these cases often represent some kind of extreme. These cases better facilitate a deeper understanding of causes behind a given problem, and since this is desired more than the description of the symptoms, extreme cases are often preferable.

As previously stated, the three selected companies are to be considered as best practice when it comes to logistics and SCM performance and can, hence, be considered to be what Flyvbjerg (2006) labels as extremes. It is important here to note that the term “best practice” is difficult to use in the sense that it can always be questioned if the companies really are best practice, i.e. how can I be sure of that? However, the cases fulfil a number of criteria that make them possible to at least consider them to be “good practice”, and this is good enough for making the theoretical contribution in this thesis.

The selection of “best practice” companies – or at least “good practice” companies – has been based on four main criteria. The first one is that the companies selected should have had an above normal profitable growth in the last years. In terms of strategy literature, this indicates that the companies have had some kind of sustainable competitive advantage over competitors. As a second criterion, SCM and logistics issues should be an obvious part of the company’s main strategy, and be a natural part of the company’s business. As a consequence of this, the companies chosen have been retailing and trading companies that sell commodities. Their success can therefore not be related to e.g. a unique product or similar. Expressed differently, the absence of production enables another focus on logistics issues. The production can inhibit a focus on logistics and SCM and following this logic, there is a greater chance of finding SCM best practice in retailing and trading companies. As a third criterion for the selection, top management should have a documented knowledge and understanding of SCM issues. Several possible companies have therefore been mapped and identified via conferences, newspapers, colleagues etc. For instance, Bama was first identified as a suitable candidate after a conference, and Clas Ohlson’s CEO has several times in newspapers expressed the importance of well functioning logistics.

A fourth important reason for the choice of the three case companies is their size in terms of turn over and number of employees. All three companies are relatively large companies that have a well functioning organisation with a defined and organised top management team. If smaller companies would have been targeted, there would have been a risk of unclear roles and too low complexity in their logistics system. On the other hand, all three case companies are possible to overview and to grasp. If the companies targeted had been larger, there would have been a risk that the complexity would have been too high in the companies’ logistics system. Furthermore, to get access to the top management team would probably have been more difficult. In addition to these four criteria, pragmatism and the willingness to be interviewed have been obvious major factors in the case selection process.

9.2.3 Data collection

To gather the empirical data from the three case companies, a number of focused, open-ended interviews (Yin, 2003) were conducted from November 2006 to January 2007. The respondents were mainly members of the companies' top management teams, or had a management position that was concerned with logistics. The initial contacts with the chosen companies have been taken by professor Mats Abrahamsson. An initial letter where the research project was presented along with inquiries as to who would be interesting to interview was thereafter emailed to a contact person, who guided me further to suitable people to interview.

The number of interviews conducted varies from 7 (Dustin), 6 (Bama) to 2 (Clas Ohlson), see Table 9.2. The low number of interviews at Clas Ohlson is a consequence of two long interviews with key people (the CEO and the Head of Central warehouse) and the fact that Clas Ohlson is noted on the Stockholm stock exchange market thus a large amount of secondary empirical material is available. More interviews were therefore not necessary. In the other two cases, two respectively three visits were made. In between the visits the empirical material was worked through and a judgement on the need for further interviews as well as search for more suitable respondents was made.

Table 9.2. List of respondents

Company	Title	Name	Date for interview
Dustin	Founder and co-owner	Bo Lundevall	2006-11-09
	CEO	Andreas Ståhl	2006-11-09
	Warehouse Manager	Fredrik Carlsson	2006-11-10
	Marketing Manager	Stefan von Stein	2006-11-16
	Purchasing Manager	Lars Lundevall	2006-11-16
	COO	Per-Anders Barhag	2006-12-01
	Sales Manager	Jonas Pircher	2006-12-01
Clas Ohlson	Head of Central Warehouse	Rolf Andersson	2006-11-20
	CEO	Gert Karnberger	2006-11-20
Bama	Company Director	Svein-Egil Hoberg	2006-12-05, 2007-02-01
	Operating Director	Terje Woldsnes	2007-01-31
	Marketing Director	Jan Hammarström	2007-01-31
	Logistics Manager	Pål Sandberg	2007-02-01
	Company Director	Öjvind Briså	2007-02-01

All interviews have been conducted together with another researcher from Linköping University who has gathered empirical material for his PhD dissertation. Our research projects have been totally separated from each other but the interview questions overlap to a large extent. As a consequence of this the interview guide shown in Appendix F also covers the other PhD student's questions. Since both researchers have been present at all interviews conducted, better discussions on the interviews have been achieved and we have been able to help each other to find the "right" follow-up questions in the right order. Thus, the fact that there have been two interviewers has increased the quality of the interviews.

All interviews were recorded and transcribed. The transcriptions were not done word for word, but covered all the questions and answers that were given from the respondents. The transcription had above all two purposes. First, the transcription meant that the content of the interviews was repeated so that a better understanding of the cases could be achieved. Second, the transcription also meant that citations could be gathered. The citations have been an important part of the case descriptions as well as the analysis and cover the most important parts of the information given in the interviews. The citations thus aim to strengthen and clarify the content in the cases. Since the interviews were held in Swedish and Norwegian languages, the author has translated the citations. The citations have not been translated word by word, but on a sentence level so that each sentence has the same meaning as the original one.

After the transcriptions had been written the objective case descriptions, presented in chapter 11, 12 and 13, were written. The cases are divided into three main chapters: the company, the strategy, and the management of the company. The case descriptions have also been sent to all respondents in order to verify them.

9.2.4 The analysis

The analysis consists of an individual analysis of each case in order to let the characteristics of each case emerge before a cross case analysis was conducted (see Eisenhardt, 1989). When performing an analysis, Yin (2003) stresses the need for an analytic strategy and suggests that the most preferred strategy is to follow the theoretical propositions that led to the case study. These theoretical propositions are the same as Eisenhardt's (1989) suggested constructs which are to be developed in the frame of reference that should form the basis for appropriate questions when collecting data. This was done in the sense that the theoretical frameworks used for the analysis was to a large extent developed before the empirical data collection. In other words, the headlines in the analysis and what main theoretical constructs that the data should be related to were decided before the data collection. In addition to different analytical strategies, Yin (2003) also suggests five analytic techniques: pattern matching, explanation building, time-series analysis,

logic models, and cross-case synthesis. In this thesis a mixture of pattern matching, explanation building and cross case synthesis have been applied.

In line with the analytical strategy of relying on theoretical propositions, a first step in the analysis was to describe the cases in theoretical terms based on the strategy framework. In other words, the cases were discussed and compared to strategy theory in a pattern matching way.

Yin (2003) considers the explanation building technique to be a special type of pattern matching with the goal of building an explanation of the case, i.e. “stipulating a presumed set of causal links about it” (Yin, 2003, p. 120). He describes the explanation building technique as an iterative process where one case is first analysed, and based on this analysis the initial propositions are revised. Thereafter the revised version is compared to other cases from which the propositions are developed and refined even more. This process can then be iterated as many times as needed.

In the second part of the analyses the proposed characteristics SCO, coordination and continuous development are analysed and further defined. This part of the analysis has been developed in what can be described as an iterative process where the analysis has been shaped and refined continuously. The analysis from the first two chapters, i.e. the strategy content and strategy formation process, also function as a basis for the following three chapters.

A third analytic technique suggested by Yin (2003) that is applied in this thesis is the cross case synthesis. In line with Yin (2003), the cross case synthesis has been based on a word table where an overview of the most important findings concerning the three arenas as well as the three characteristics are presented. From this table, general patterns can more easily be identified and described. Just as important are the differences between the cases (Yin, 2003; Eisenhardt and Graebner, 2007), and these differences have, therefore, also been considered in the analysis

During the analysis, six archetypes of top management’s role were developed. These six archetypes are based on the analysis, and can be considered as more or less valid for all the three case companies. No formal method for developing the archetypes was used. Instead, the archetypes have been developed, tested and refined continuously during the analysis process. They should be seen as a summary of the findings concerning the role of top management, and are presented in chapter 16.

9.3 *Quality*

Yin (2003) lists the following four criteria for judging the quality of a case study:

- Construct validity, i.e. establishing correct operational measures for the concepts that are studied.
- Internal validity, i.e. establishing a causal relationship where a specific condition leads to another condition (only applicable for explanatory and causal studies).
- External validity, i.e. the establishment of how the findings can be generalised to other domains.
- Reliability, i.e. the study can be repeated with the same results.

To secure a high construct validity Yin (2003) suggests three actions, namely; the use of multiple sources of evidence, the establishment of a chain of evidence, and to let key informants review the case study report. Interviews have been the main source of evidence, but also secondary material such as internal presentation material and physical visits at the warehouses have been used as complementary sources of evidence. To avoid bias, several respondents have also been asked the same questions, and the issues have hence been angled from several perspectives (Eisenhardt and Graebner, 2007).

A chain of evidence from research questions to the analysis and conclusions via the frame of reference and empirical data collection has also been followed throughout the research. Finally, two of the main respondents in each case company have been contacted and emailed a draft of the case description in order to ensure an accurate description. No great differences were identified in the case descriptions.

Concerning internal validity, Yin (2003) considers it difficult to identify specific tactics to secure a high internal validity, but suggests among other things the pattern matching and explanation building techniques. These two techniques have been applied in this study. Flyvbjerg (2006) discusses a topic related to the internal validity, namely the question about bias towards verification, which is a common criticism of case study research. This criticism, meaning that researchers tend to “fulfil the prophecy” and confirm expected circumstances, is however unfair according to Flyvbjerg. Just as other methods the case study approach has its own rigor and it is not less strict than any quantitative methods. In fact, Flyvbjerg (2006) argues that there is plenty of case study research where the researcher has concluded the opposite to what the expected outcomes were. This is also valid for this study, where several findings were not expected. For instance, as will be discussed in the analyses in chapter 14 and 15, the lack of collaboration in the

case companies' supply chains was highly unexpected. Another unexpected finding was the absence of one single person held responsible for the physical flow of goods, see the analysis.

When it comes to the external validity, I consider it necessary to be able to generalise my results so that they become valid not only for the particular case companies. Yin (2003) discusses the possibility to generalise results from a case study. He argues that a case should be considered as an experiment, and not a sample, where the goal is to make an analytic generalisation instead of a statistical one (as was the case in the survey study). Based on Yin, Ellram (1996) discusses the issues similarly, and points out that it is important to understand the difference between considering the case as a single observation of an experiment, and considering the case as the experiment in itself. In a multiple case study the cases should be seen as discrete experiments (Eisenhardt and Graebner, 2007).

Several authors (e.g. Yin, 2003; Ellram, 1996) discuss the difference between single and multiple case studies. When it comes to generalisation, Yin (2003) argues that a multiple case approach is preferable to the single case study approach, since multiple case studies provide better and more robust evidence for generalisation. Again, referring to that cases should be seen as experiments rather than a sample, the cases should be seen as a number of experiments on which a replication logic rather than a sampling logic should be applied. All else being equal, several experiments are then expected to provide an even more solid and robust foundation for theory generation (Eisenhardt and Graebner, 2007). For the multiple case study approach there are two different forms of replication logic, namely the literal replication (predicts similar results) and the theoretical replication (when contrasting results are achieved by predictable reasons) (Yin, 2003). Based on Yin, Ellram (1996) concludes that "multiple cases, like multiple experiments, represent replications that allow for development of a rich, theoretical framework. Thus, multiple case design should be used to either predict similar results among replications, or to show contrasting results, but for predictable, explainable reasons." (Ellram, 1996, p. 102).

To ensure good reliability, the goal is to repeat the study and see if the findings and conclusions from the second study are the same as those in the first. To increase reliability it is therefore important to carefully document all the steps in the research process. The two previous chapters describing the different steps in the studies are partly aimed at doing this. Further, the interview guide in Appendix F provides the reader with detailed information about how the study was performed. In addition, all interviews have been recorded and transcribed in order to clarify the chain of evidence.

10 Strategy – A theoretical framework

In order to describe and understand the involvement of top management in SCM it is necessary to go outside the logistics box of literature. One suitable literature field is business strategy theory. This has successfully been applied by other authors in the area (Cheng and Grimm, 2006) and the connection between SCM and strategy literature is obvious; as assumed in the previous chapter SCM should influence or be a part of a company's business strategy.

Strategy is a well-developed theoretical field and the body of literature is vast. Numerous opinions and “schools” have dealt with the topic from different angles and perspectives. These are partly mirrored in Mintzberg's (1987) general explanation of what the term strategy means, where five different definitions and understandings of what a strategy is offered, the five Ps.

First, strategy can be seen as a plan – a direction and guide to go from one point to another. Second, a certain type of plan could be a ploy, which is a specific manoeuvre with the purpose of outwitting an opponent or a competitor. A strategy is, however, not only something intended (as a plan is by definition) but also realised. As a consequence of this a third way to regard strategy is to consider it as a pattern in streams of actions that has been performed in the past. A fourth way is to consider strategy as a position, locating particular products on particular markets. In such a case the strategy is about matching the company with its environment in a successful way. The fifth P is strategy as a perspective, which focuses on one's own company's resources and capabilities. With this understanding strategy is considered as a concept to be compared with the character of a person. (Mintzberg, 1987; Mintzberg et al., 1998)

The theoretical framework below consists mainly of so-called strategy content literature that is concerned with the what-questions of strategy (e.g. de Wit and Meyer, 1998). The field incorporates the positioning perspective mainly represented by Porter, and the Resource based view of the firm (see Figure 10.1 below). After the strategy content literature is discussed, Mintzberg’s strategy formation process with deliberate and emergent strategies is described. In this chapter some theoretical aspects considering the role of top management are also discussed.

Figure 10.1. An overview of the theoretical framework on strategy and their relationship to the studied objects

10.1 Strategy content

Bartlett and Ghoshal (2002) describe the development within the strategy content area and argue that the development can be described in three steps as shown in Table 10.1 below. The authors explain that the changed focus in strategy content has left many top managers with an outdated understanding of what strategy means. Today’s leaders have not yet left Porter’s competitive strategy thinking where senior managers should decide what businesses should grow and which to harvest from. This planning and analytical ideal, where the environment and market is taken as a starting point for making strategies, was however already during the late 1980s outdated with a strategy where a sustainable competitive advantage based on internal capabilities was searched for. This strategy ideal, below referred to as the resource based view (RBV) of the firm, has over the years been further developed and now, the authors argue that people are in the centre of strategy making. A key strategic resource that the company’s strategy should be built on is human and intellectual capital. (Bartlett and Ghoshal, 2002)

Table 10.1. The evolving focus of strategy (Source: Bartlett and Ghoshal, 2002, p. 35)

	Competition for Products and Markets	Competition for Resources and Competencies	Competition for Talent and Dreams
Strategic Objective	Defensible product-market positions	Sustainable competitive advantage	Continuous self-renewal
Major Tools, perspectives	<ul style="list-style-type: none"> • Industry analysis; competitor analysis • Market segmentation and positioning • Strategic planning 	<ul style="list-style-type: none"> • Core competencies • Resource-based strategy • Networked organization 	<ul style="list-style-type: none"> • Vision and values • Flexibility and innovation • Front-line entrepreneurship and experimentation
Key Strategic Resource	Financial capital	Organizational capability	Human and intellectual capital

Despite their view on the strategy content development, the positioning perspective and the RBV remains to be important for the strategy field and Bartlett and Ghoshal's (2002) third view on strategy is strongly related to the RBV field and can therefore be seen as a part of this. In fact, as will be discussed below, the RBV field has been developed towards knowledge and other human aspects (especially when it comes to the discussion concerning dynamic capabilities) that are in line with Bartlett and Ghoshal's view. Therefore, the theoretical framework below incorporates the positioning perspective and the resource based view.

10.1.1 The positioning school

The positioning school takes its starting point in the market position of a company, arguing that it is this position that gives a company a sustainable competitive advantage and, as a result of this, an above normal profitability. One of the most prominent authors representing the positioning school is Michael Porter (Mintzberg et al., 1998).

In essence, Porter (1985; 1980), suggests that in order to achieve high profitability and a sustainable market position a company should (1) choose an attractive industry to operate within, and (2) choose one of three possible generic strategies, i.e. decide whether it should be a cost leader, differentiator, or focused firm relative to other players in that industry. Correct strategic choices concerning these two questions will lead to a sustainable competitive advantage. In order to analyse and choose an attractive industry, Porter (1980) introduced the well-known framework for the five forces (potential entrants, suppliers, substitutes, buyers, and industry competitors) that determines industry profitability. In Porter (1980) the three generic strategies are also introduced. The first is cost leadership, which means being the customers' low cost producer in an industry and from that achieve a better position vis-à-vis competitors. The second is differentiation, i.e. to be unique in some dimensions that are highly valuable for the customers. As a result of its uniqueness, the company can get a higher price for its products or services. A

third generic strategy is called focus strategy, where the company select a more narrowed segment of the customers and tries to satisfy the customer needs better than other companies for just this segment of customers. The focus strategy can either be directed towards cost or differentiation. Porter (1980, 1985) recommends that a company should stick to one of the generic strategies, otherwise he argues that the company will become “stuck in the middle” without ability to compete with companies that have better defined their strategy.

In order to be sustainable, the competitive advantage achieved by the generic strategies must “resist erosion by competitor behaviour or industry evolution” and the firm must “possess some barriers that make imitation of the strategy difficult” (Porter, 1985, p. 20). Risks related to the three strategies are shown in Table 10.2 below.

Table 10.2. The risks of the generic strategies (Source: Porter, 1985, p. 21)

Risks of Cost Leadership	Risks of Differentiation	Risk of Focus
<p>Cost leadership is not sustained Competitors imitate Technology changes Other bases for cost leadership erode</p> <p>Proximity in differentiation is lost</p> <p>Cost focusers achieve even lower cost in segments</p>	<p>Differentiation is not sustained Competitors imitate Bases for differentiation become less important to buyers</p> <p>Cost proximity is lost</p> <p>Differentiation focusers achieve even greater differentiation in segments</p>	<p>The focus strategy is imitated</p> <p>The target segment becomes structurally unattractive Structure erodes Demand disappears</p> <p>Broadly-targeted competitors overwhelm the segment the segment's differences from other segments narrow the advantages of a broad line increase</p> <p>New focusers sub-segment the industry</p>

Apart from the five forces model and the three generic forces, Porter has also introduced the value chain concept (Porter, 1985). Porter argues that the sources of the competitive advantage can be found in the activities the company performs, since these are the basis for the creation of value (Porter, 1985). The discrete activities are considered as the “basic unit of competitive advantage” (Porter, 1991, p. 102), i.e. “value activities are the discrete building blocks of competitive advantage” (Porter, 1985, p. 38). Simply put, activities are the basic units that create value, which is the overall goal for all of the three generic strategies. A sustainable competitive advantage requires that the company can create value for the customer, which is higher than the costs it causes. Value should be interpreted as the perceived value by the customer and can thus be defined as “the amount buyers are willing to pay for what a firm provides them” (Porter, 1985, p. 38).

As a result of this view, strategy can be understood as the configuration of the activities and how they are interrelated with each other. The activities can be schematically presented and evaluated by the concept of a value chain (Porter, 1985). The value chain, shown in Figure 10.2, consists of both primary and support activities. Primary activities (which is divided broadly into five different types as shown in the figure), are activities directly involved in the physical creation of the product, the sale and transfer of it to the customer, and the after sale activities. Support activities are supporting activities for the primary ones. They are divided into four different groups as shown in the figure.

Figure 10.2. The generic value chain (Source: Porter, 1985, p. 37)

Porter (1985) also expands value chain logic to the whole supply chain. Each company’s value chain can be depicted in a long chain as in Figure 10.3 below. This value system indicates the influence of a focal company’s internal value chain on its supplier and customers.

Figure 10.3. The value system of a single industry firm (Source: Porter, 1985, p. 35)

The activities are often dependent on each other and a competitive advantage can therefore derive not only from an individual activity, but also from the linkage between several activities. In fact, since the linkages are often more difficult to recognise and manage (than individual activities) due to higher complexity, they are more often a source for a sustainable competitive

advantage. More specifically, a linkage can lead to competitive advantage in two ways; either by optimisation or coordination. The optimisation of a linkage is made when a trade off between the activities are made. For example, when a more expensive design of a product leads to reduced service costs. Coordination of activities can also lead to reduction of costs as well as enhancement of differentiation. For example, lower inventory costs can be achieved by better coordination between activities. (Porter, 1985)

The linkages also exist between companies in a supply chain (see the value chain depicted in figure 10.3 above), i.e. vertical linkages exist between a focal company and its suppliers and customers, and follow the same logic as within a company. Thus, the linkages between supply chain members provide opportunities for competitive advantage. Improved coordination and optimisation between the companies can thus increase value for companies situated downstream in the supply chains. Porter states that as a consequence of this; “the relationship with suppliers is not a zero sum game in which one gains only at the expense of the other, but a relationship in which both can gain.” (Porter, 1985, p. 51)

Porter’s value chain concept is criticised by Normann and Ramirez (1995; 1993). They argue that the value chain concept presented by Porter is old-fashioned and insufficient to explain how value is created. The value creation is not possible to describe in an array of activities, where the value is created and transferred downstream to the company’s customers, but is instead created in complex value-creating constellations, which span over several company borders. With reference to Thompson’s (1967) types of interdependency, Norman and Ramirez (1995) consider Porter’s value chain reasoning to be limited to sequential interdependencies, while their own understanding of value creation is built upon reciprocal interdependencies. In essence, this means that value is co-produced by several companies, and it is therefore not possible to separate the activities and evaluate them one by one in a predetermined sequence.

Furthermore, Norman and Ramirez (1995) argue that it is not possible to distinguish between products and services as Porter does in his value chain concept. Instead “the offer”, which is a combination of products and services, should be considered, (Normann and Ramirez, 1995). Thus the offerings are central for a strategy since it is the offerings, and not the individual companies, that compete for customers.

The authors also discuss what strategic implications their new view of value has. The authors suggest that for companies it is no longer a question of how to create/produce value for the customer. Instead, strategies should be focused on giving the customers opportunities (with their help) for creating value for themselves. Second, as a consequence of the complex value creation process, relationships with other companies such as suppliers and customers and other allies

become more important. It is only via these relationships value can be created. Normann and Ramirez (1993) conclude in their article that due to the “new logic of value, only two assets really matter: knowledge and relationships or a company’s competencies and its customers.” (Normann and Ramirez, 1993, p. 74). Therefore, the main challenge and role for strategy will be to integrate knowledge and relationships in a suitable manner.

This development is also in line with Rainbird (2004), who argues that value is migrating in many industries from production towards the more complex marketing and service processes. As a result of this, value chains are competing with other value chains.

Porter’s operational effectiveness vs. strategy

Porter’s positioning perspective has been criticised and, therefore, Porter (1996) defended the positioning as a key element for strategy making. He argues that in the last decade, i.e. middle of the 1980s to middle of 1990s, a number of management techniques such as total quality management, TQM, benchmarking, outsourcing, and time-based competition has taken strategy’s place. These management techniques, which are aimed at improving operational effectiveness, are indeed important in order to create profitability for a company. However, since they are highly replicable by competitors, they will not contribute to a sustainable competitive advantage, which is the major feature of a strategy. Competing only with improved operational effectiveness will not be enough over time, since the margins will be cut when competitors imitate the improvements made. Porter means that the struggle to improve business in the two dimensions of cost and differentiation means a race between competitors for being at the “productivity frontier”, where all companies are becoming more and more similar to each other. This development erodes the margins and all companies will lose on this in the long run.

While improved operational effectiveness achieved by the management techniques means performing similar activities better than competitors so that the inputs can be better utilised, Porter argues that strategic positioning means performing different activities or performing them in a different way. Thus, “strategic positioning means performing different activities from rivals’ or performing similar activities in different ways” (Porter, 1996, p. 62).

In the article, Porter repeats the linkages between individual activities as being the basis for strategy making and discusses the importance for a proper “fit” between the company’s activities, “Positioning choices determine not only which activities a company will perform and how it will configure individual activities but also how activities relate to one another. While operational effectiveness is about achieving excellence in individual activities, or functions, strategy is about combining activities.” (Porter, 1996, p. 70)

Apart from defending the positioning as the starting point for strategy making, Porter (1996) also further develops his three generic strategies of cost leadership, differentiation and focus. He argues that the sources of sustainable competitive advantage can be based on choosing one of the following three positions on the market: variety-based position, needs-based position, or an access-based position.

The variety-based position means to choose to produce a subset of an industry's products or service. This makes economic sense when the company can offer the market competitive prices or services through specialisation of the certain product. Thus, the product or service often serves a wide range of customers, but not their whole need.

The needs-based position on the other hand means that the company tries to offer most of the needs for a specific type of customers, i.e. a company with this position has focused on a particular customer segment. An example of this is IKEA, according to Porter (1996), who cover most of the needs when it comes to furniture for the group of people who want to buy relatively cheap and modern furniture.

Finally, the access-based position means segmenting customers that can not be reached as other customers. This means a need for another set of activities than normal due to e.g. the customer's geographical position, in order to reach the customer in a good way.

10.1.2 The Resource-based view of the firm

The resource-based view of the firm, RBV, also known as the inside-out perspective, has its roots based on a reaction towards Porter's work where it is suggested that a company's strategy should be designed with the market as a starting point (the outside-in perspective). Grant (1991), representing the RBV, agrees with Porter (1985) that a company's ability to be profitable is decided on two things; the attractiveness of the industry in which the company is situated, and its competitive advantage over rivals in that industry. However, the borders between different industries have increasingly been eroded due to global competition, technological change and companies' diversification in different industries. As a result of this, the competitive advantage over other companies has become more and more important. According to Grant (1991) the positioning question (i.e. choosing one of Porter's three generic strategies) does not consider if the company has the suitable resources and capabilities for a particular strategy. Therefore, he argues that in order to build a solid strategy, it should rather be based on a company's internal resources and capabilities since these are more stable than the rapidly changing market conditions.

To differentiate between the positioning perspective and RBV, Barney (1991) takes his starting point in the Strengths-Weakness-Opportunities-Threats (SWOT) model and argues that while the positioning models are based on the external opportunities and threats (see Figure 10.4), the RBV takes its starting point in the company's strengths and weaknesses (see also Wernerfelt, 1984).

Figure 10.4. The relationship between SWOT, Resource-based view, and environmental models (Source: Barney, 1991, p. 100)

Two main assumptions made in the environmental models of competitive advantage is criticised by the resource based view according to Barney (1991). First, these models assume that all companies within an industry (or firms within a strategic group) to the same extent have access to critical strategic resources. Second, if this balance is changed (e.g. through a new company entrance onto the market) this temporary resource heterogeneity will soon disappear since the resources are considered to be highly mobile. The RBV discards these assumptions and takes a fundamentally different approach, assuming that (1) companies within an industry (or group) may have access to different resources leading to competitive advantage, and (2) that these resources may not be highly mobile, i.e. difficult to imitate. These two assumptions concerning resource heterogeneity and immobility are the core of RBV and are considered to be the source for a sustained competitive advantage. (Barney, 1991)

Resources and capabilities

The RBV consider firms as bundles of resources (Penrose, 1959; Wernerfelt, 1984), which are the source for competitive advantage. However, there is a great range of expressions and definitions of what a resource is. For example, Barney (1991) considers firm resources as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (Barney, 1991, p. 101). Barney divides firm resources into three main categories: physical capital resources (e.g. plants, equipment, etc), human capital resources (training, experience, relationships, intelligence, etc by individual firm employees), and organisational

capital resources (e.g. reporting structure in the company, planning, controlling and coordinating systems etc).

In comparison to Barney, Grant (1991) makes a more distinct difference between resources on one hand, and capabilities on the other. While resources are tangible and intangible inputs to the production process (e.g. capital equipment, skills of individual employees, patents, brand names, finance etc) capabilities are concerned with the “cooperation and coordination of teams of resources” (Grant 1991, p. 119). Thus, Grant (1991) concludes that “while resources are the source of a firm’s capabilities, capabilities are the main source of its competitive advantage.” (Grant 1991, p. 119) However, Grant (1991) also stresses that resources can sometimes directly lead to a competitive advantage.

In addition, Day (1994) argues that there are two main sources of competitive advantage: assets, (i.e. resources a company owns such as investments and location of activities), and capabilities. He defines capabilities as “complex bundles of skills and collective learning, exercised through organizational processes, that ensure superior coordination of functional activities.” (Day, 1994, p. 38)

As a third category, in addition to resources (called assets) and capabilities, Olavarrieta and Ellinger (1997) adds input factors, which are generic factors that can be acquired in the market. However, these resources become assets or capabilities when applied by a specific company. Logistics examples of input factors are “raw factors” (such as fork-lifts, warehouse racking and so on) and “raw skills” (loading skills, picking skills etc)

Similar to Day (1994) and Grant (1991), Olavarrieta and Ellinger (1997) defines capabilities as “complex bundles of individual skills, assets and accumulated knowledge exercised through organizational processes, that enable firms to co-ordinate activities and make use of their resources.” (Olavarrieta and Ellinger, 1997, p. 563)

Day (1994) investigates the role of capabilities when creating a market-oriented organisation. Day (1994) presents three major types of capabilities depending on their orientation and focus in the processes where they are embedded. These are outside-in processes, inside-out processes, and the spanning processes, see Figure 10.5 below.

Figure 10.5. Three different types of capabilities (Source: Day, 1994, p. 41)

With this figure, Day thus points out the importance of having both internally oriented as well as externally focused capabilities. Furthermore, the importance of connecting the outside-in and inside-out capabilities is captured by the spanning processes.

To conclude the discussion thus far, a number of different interpretations of what a resource and capability is, exist. In general, the term resource seems to be considered broader and covers physical assets, capital, relationships and human skills for example. The capability term is defined more narrowly and is seen as a special resource, which includes intangible aspects such as relationships, human skills etc.

Competitive advantage vs. sustainable competitive advantage

Many authors (see e.g. Barney, 1991; Day, 1994; Olavarrieta and Ellinger, 1997) distinguish between competitive advantage and sustained competitive advantage. According to Barney (1991) a competitive advantage vis-à-vis competitors (and potential competitors) is achieved when a company implements a strategy before competitors and potential competitors, which in turn creates value for the company. However, this competitive advantage is challenged by other companies in the industry and can disappear after a while when other companies manage to duplicate it. A sustained competitive advantage is only achieved in those cases where other companies fail to duplicate the advantage and cease to try. In such cases the sustained competitive advantage will last until major structural changes in the industry makes the sustained competitive advantage invaluable. Thus, as Barney (1991) also stress, whether a competitive advantage is sustained or not is independent of the period of time a company enjoys it.

Related to the discussion on sustainable competitive advantage vs. competitive advantage, Day (1994) distinguishes between capabilities and distinctive capabilities. The latter are those capabilities that lead to a sustainable competitive advantage. Hence, not all capabilities a company possess will automatically lead to a sustainable competitive advantage.

To summarise the discussion about terminology, a capability should, in this thesis, be seen as a specific type of resource, which often has an intangible character. A sustainable competitive advantage can be built up from distinctive resources but more often from intangible, cross-functional distinctive capabilities.

Identifying the critical resources and capabilities

The core task for the companies applying a resource-based view of their company is to identify their capabilities and develop them further (Day, 1994). Due to their complexity, capabilities can however be difficult to identify. Day (1994) suggests that a careful process mapping can help to give a better understanding of the capabilities. The reason for this is that capabilities are often, but not necessarily, spanning over several functional areas of the company which makes it harder to grasp. Further Grant (1991) argue that some capabilities can be identified with a standard function classification, but that the most important capabilities often arise from an integration of individual functional capabilities. Thus, a key characteristic of a capability would be integration and coordination of resources (Grant, 1991). Prahalad and Hamel (1990) also stress the cross-functional element of their expression “core competence”, which is similar to the understanding of the expression capability. They argue that core competence is about “communication, involvement, and a deep commitment to working across organizational boundaries. It involves many levels of people and all functions.” (Prahalad and Hamel, 1990, p. 82). In addition Stalk et al. (1992) point out that capabilities are collective and cross-functional in their nature. They are often “a small part of many people’s jobs, not a large part of a few”. (Stalk et al., 1992, p. 63)

Grant (1991) means a capability can essentially be seen as an “organisational routine”, which is compared to an individual skill performed semi-automatically: “Routines are to the organization what skills are to the individual. Just as the individual’s skills are carried out semi-automatically, without conscious coordination, so organizational routines involve a large component of tacit knowledge, which implies limits on the extent to which the organization’s capabilities can be articulated.” (Grant, 1991, p. 122)

In order to get the routines to function appropriately so that resources can be coordinated smoothly, Grant stresses the importance of the organisation’s style, values, traditions, and leadership. A similar reasoning is presented by Day (1994). He mean that the capabilities are hard to identify because of their “knowledge component”, which is “tacit and disperse” (Day, 1994, p.

39), meaning that the capabilities are built up from the employees knowledge and skills embedded in the technical as well as management systems, and in the values and norms of the company.

Despite the obvious difficulties with identification of distinctive resources or capabilities, Barney (1991) lists four empirical indicators on the resources leading to sustained competitive advantage:

- The resource must be valuable, so it can enable opportunities and/or neutralise threats in the company's environment (compare with the SWOT model)
- The resource must be rare among competitors and potential competitors
- The resource must be imperfectly imitable, i.e. not easy to obtain for other companies.
- There must be no other resources that can be strategically equivalent and rare and valuable (substitutability)

As shown in Figure 10.6 below, these attributes can be seen as a description of how (much) heterogeneous and immobile a company's resources are.

Figure 10.6. The relationship between resource heterogeneity and immobility, and the four empirical indicators, and sustained competitive advantage (Source: Barney, 1991, p. 112)

The four indicators have been widely recognised over the years and are called the VRIN variables (valuable, rare, imperfectly imitable, and not substitutable). These are discussed more in detail below.

Valuable

In order to be a resource leading to a competitive advantage it must be valuable, i.e. when it improves a company's efficiency and effectiveness (Barney, 1991). Barney (2001) states that: "In all high-quality resource-based work, researchers must begin by addressing the value of resources with theoretical tools that specify the market conditions under which different resources will and will not be valuable". (Barney, 2001, p. 43)

Peteraf (1993) and Grant (1991) state that in addition to RBVs focus on a firm's strategic resources, it also considers the rents, rather than profitability made by the company. Thus, in order to create value, the resources must generate rent. Peteraf presents two types of rents, the Ricardian and the monopolistic rent. The Ricardian rent, which is called the economic rent by Olavarrieta and Ellinger (1997), is decided by the excess return caused by more efficient usage of resources. The monopolistic rent is caused by a monopoly situation, i.e. when a company can earn money due to scarce competition rather than more efficient usage of resources. A company can gain from the two types of rents at the same time, which means that the rents (or value if using Barney's understanding) are caused by both more efficient usage of resources than their competitors and more strategic, monopoly situations (Peteraf, 1993). The Ricardian, as well as the monopolistic rent, are created by the resources and capabilities a company have (Grant, 1991).

As a link between the environmental models focused on a company's opportunities and threats, and the resource based view, Barney (1991) suggests that Porter's value chain perspective can be used in order to identify potential valuable resources for their firms. He considers Porter's value chain logic as a first step and a tool in order to identify potential resource based advantages in a company, "The resource based view of the firm developed here simply pushes this value chain logic further, by examining the attributes that resources isolated by value chain analyses must possess in order to be sources of sustained competitive advantage" (Barney, 1991, p. 105).

Rareness

In order to cause a competitive advantage, the resource must also be rare, i.e. not possessed by many other competitors. As Barney (1991) states, the same reasoning is also valid for bundles of resources if they are all needed in order to implement a strategy. Exactly how rare the resource or resources must be in order to form the basis for a competitive advantage is difficult to say. In general, a capability should be considered rare as long as the number of owners of the capability is lower than the number needed for "perfect competition dynamics in an industry" (Barney, 1991, p. 107). The industry constraint is, however, strongly questioned in a later article by Barney from 2001, due to eroding industry borders (i.e. nowadays no strict borders can be found and companies from other industries can more easily compete in different industries).

Imperfect imitable

According to Barney (1991) the two first characteristics together can give a company a competitive advantage. This can be compared to the expression "first mover advantage". However, in order to achieve a sustained advantage the resource must also be imperfectly imitable (Barney, 1991), i.e. difficult for other companies to obtain. Otherwise, companies who did not have access to the resource in the first place would soon acquire it and the competitive

advantage would have been eroded. Thus, it is the ease of imitation that determines the sustainability of a competitive advantage (Teece et al., 1997).

Barney (1991) discusses three different reasons for why a resource can be difficult to imitate: (1) unique historical conditions, (2) causal ambiguity (3) a socially complex resource. To start with, the RBV acknowledges the importance of a company's history in order to have resources that are imperfectly imitable. This means that a particular history can explain a company's resources as well as the difficulties for other companies with another history, to acquire it (Barney, 1991). This is what Teece et al. (1997) refers to as "path dependency".

Another reason for being imperfectly imitable is the existence of causal ambiguity, i.e. when the link between a particular resource and the company's sustainable competitive advantage is unclear (Grant, 1991; Lippman and Rumelt, 1982; Teece et al., 1997). Note that it should be unclear for all parties involved including the company who enjoys the sustainable competitive advantage. If this company realises what causes the sustainable competitive advantage, it is assumed that this knowledge would sooner or later be spread to competitors and is, thus, possible to imitate. Having a hypothesis or a vague explanation for the linkage is, however, not enough. (Barney, 1991)

A third reason for being imperfectly imitable is when the resource is a complex social phenomena. For example, the resource could consist of personal relationships, reputation among customers or a specific company culture. (Barney, 1991)

Substitutability

Finally, the resource should not have any substitutes, i.e. there should not be any other types of resources that could lead to the same sustainable competitive advantage. Thus, there should not be two different resources which can be exploited separately and implemented with the same strategy. Two main types of substitutability exist according to Barney (1991): (1) where two resources leading to the same sustainable competitive advantage are very similar (but not completely), or (2) where two resources are completely different but despite that lead to the same sustainable competitive advantage.

In more recent research, this indicator is considered as a part of being imperfectly imitable, and is therefore not discussed on its own. (see e.g. Barney, 2001)

Logistics as a distinctive capability

In existing literature a number of logistics and SCM related capabilities leading to sustainable competitive advantages are discussed. One example is an article from Olavarrieta and Ellinger (1997). Based on Barney's (1991) characteristics of a resource leading to sustainable competitive advantage, Olavarrieta and Ellinger (1997) show that logistics capability can qualify to be a distinctive capability:

- Concerning value, logistics can contribute to both increased customer value as well as lower costs. In fact, the authors argue that many SCM-based concepts such as Quick Response and Efficient Consumer Response are enabled through a strong logistics platform.
- The rareness (scarcity) of logistics capabilities are explained by two things. First, logistics capabilities are a "complex combination of physical assets, organizational routines, people skills and knowledge, which are not obvious and which require time to develop and integrate." (Olavarrieta and Ellinger, 1997, p. 572). Second, distinctive logistics capabilities may require the formation of collaborative relationships with suppliers and customers, which are not easily realised.
- The difficulties with imitating the logistics capabilities of a firm is also explained with the complexity of logistics in a similar way as the rareness.

Hence Olavarrieta and Ellinger (1997) shows that logistics capabilities can become distinctive, i.e. leading to sustainable competitive advantage and that the resource based theory can be useful for strategic logistics thinking. The authors further point out that the most challenging and important issue is how to identify in advance, acquire and develop these resources. This notation is discussed in terms of dynamic capabilities in a long row of more recent articles within the field of RBV.

Recent developments in RBV – Dynamic capabilities

In recent years, the resource based view has been extended to include a discussion based upon dynamic capabilities. For example, Teece et al. (1997) developed a dynamic capabilities framework. Even if recognised by previous authors such as Wernerfelt (1984) and Grant (1991), Teece et al. argue that the older RBV literature does not deal with the important question of how resources/capabilities should be developed over time. They argue that sustained competitive advantage requires an exploitation of existing resources and capabilities, but also development of new ones that match the requirements of a continuously changing environment (Eisenhardt and Martin, 2000; Teece et al., 1997). The latter is referred to as dynamic capabilities, and is in Teece

et al. (1997) defined as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.” (Teece et al., 1997, p. 516)

The work by Teece et al. (1997) is discussed and further developed by Zollo and Winter (2002), who define dynamic capabilities as “a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness” (Zollo and Winter, 2002, p. 340). With that definition, the authors argue, the near tautology of capability and ability (as was used by Teece et al., 1997, in their definition of dynamic capabilities) can be avoided. Furthermore, Zollo and Winter’s (2002) definition gives a clearer picture of the characteristics of the dynamic capabilities when they state that they are “learned and stable patterns of collective activities”.

Zollo and Winter (2002) and other RBV literature suggests a strong relationship between the dynamic capabilities and the ability to learn new things and develop. For example, Olavarrieta and Ellinger (1997) combine resource-based theory with an organisational learning perspective. It is argued that the combination with organisational learning perspective is fruitful since companies need to learn “in order to acquire and maintain their distinctive capabilities” (Olavarrieta and Ellinger 1997, p. 576). As a result of this, the authors conclude that understanding and facilitating learning processes becomes critical for developing, enhancing and keeping sustainable competitive advantage.

According to Teece et al. (1997), a company’s competencies and dynamic capabilities can be found in the company’s managerial and organisational processes and that these processes in turn are shaped by positions (assets) and the company’s evolutionary paths.

Process: Managerial and organisational processes are defined as “the way things are done in the firm, or what might be referred to as its routines, or patterns of current practice and learning” (Teece et al., 1997, p. 518). Building on previous articles such as Grant (1991) other authors, (Eisenhardt and Martin, 2000; Zollo and Winter, 2002) similarly refer to these processes as “routines”. Teece et al. (1997) argue that the processes plays three roles: (1) the integration and coordination of activities both internal as well as external to the company, (2) the learning on an individual as well as organisational level, and (3) reconfiguration and transformation of the company’s asset structure, i.e. its resources/capabilities.

The latter requires constant search for new opportunities in markets and technologies, and the willingness to adopt best practices. Thus, reconfiguration and conforming the business is in itself a learning process, i.e. the more frequently transformation is performed, the more skilled (e.g.

accomplish change fast in order to keep ahead competitors and to a low cost) the company becomes on transformation. (Teece et al., 1997)

Similar thoughts to Teece's et al. (1997) have recently been presented in the logistics and SCM literature. Jahre et al. (2006) discuss "resourcing", i.e. the processes involved in the changes of resource combination, arguing that a systematic combining of resources is the key to efficient and effective use of logistics resources. The combination of different resources thus gives emphasis on the interfaces between different resources. The knowledge of how to combine the resources and thus create the interfaces is embedded in organisational as well as interorganisational routines. These routines are to be considered as a repetitive mechanism for the storing and accumulation of organisational knowledge and learning; expressed in other words, in the routines, the experience of how to coordinate different resources are stored over time. (Jahre et al., 2006)

Positions: Positions are decided by a company's current assets in terms of technology, intellectual property, customer base, external relationships etc. These assets, which all should be difficult to trade (Teece et al., 1997), i.e. are difficult to acquire, are similar to the resources and capabilities described by e.g. Barney (1991).

Path dependencies: Similarly as in Barney (1991), Teece et al. (1997) also stress the importance for a company to look at the "path it has travelled" (p. 522), i.e. the current position of a company as well as possibilities for the future is caused by actions in the past. The reason for this is the notion that the learning concept is important; a company learns from actions taken and therefore the history of the company, i.e. what actions that have been taken, becomes important constraints for current capabilities.

Eisenhardt and Martin (2000) state that the processes in the dynamic capabilities approach have often been criticised for being tautological and a vague term meaning "routines to learn routines" (p. 1107). However, the authors mean that the dynamic capabilities actually consist of clear, identifiable routines and have in common the ability to lead to more effective processes in a company known as 'best practice'. As an example, research has shown that effective productive development routines include collaboration in cross-functional teams and extensive external communication facilitated by a strong team leader.

As a consequence of viewing dynamic capabilities as having commonalities, Eisenhardt and Martin (2000) stress that the dynamic capabilities are possible to duplicate and thus, the value for competitive advantage lies in the resources they configure. Expressed differently, the dynamic capabilities on their own cannot be a source of sustainable competitive advantage.

The path dependency as a requirement for something to be a dynamic capability, or indicator, for sustainable competitive advantage discussed by Teece et al. (1997), is questioned by Eisenhardt and Martin (2000). The reason for this is that in their view, there are some key features of dynamic capabilities that they have in common. These can be gained independently from which path the company has travelled. This equifinality means that even if companies start their journey in different ways and travel different paths, they can end up with the same type of dynamic capabilities.

10.1.3 Combining the two perspectives

Most authors tend to present the positioning perspective and the resource based view as opposites, or two extremes of the broad spectre of strategy content literature (de Wit and Meyer, 1998). The two perspectives are, however, not mutually exclusive and can be used as complementary to each other (Hedman and Kalling, 2003; Teece et al., 1997). The use of both perspectives as complementary also has support in previous empirically based research (e.g. Kihlén, 2005; Kindström, 2003) where it is indicated that both perspectives can be considered as valid.

From both sides, there are many examples of recognition of the importance of the other perspective. From a positioning perspective point of view, as de Wit and Meyer (1998) recognise, the importance of company resources is clearly acknowledged. One example of this is Porter (1991) where a “dynamic theory of strategy” is presented. Porter (1991) argues that a dynamic model of strategy should consist of two parts, a cross-sectional part aimed at explaining a company’s superior performance at a given point of time, and a longitudinal part where the dynamic process by which a position is created over time, is dealt with. In the model, a number of strategic concepts/tools such as his five forces model, the three generic strategies, and the resource-based view are combined and linked to each other. In essence, the message from Porter (1991) is that the positioning perspective is dealt with in the cross-sectional part of the model, whereas the resource-based view (i.e. the inside-out perspective) is focused in the longitudinal part, and that therefore both perspectives are important for understanding strategy.

In the longitudinal part of his model Porter goes into the resource based view and argues that this field of literature can give important contributions addressing the question of how a company can achieve and sustain a competitive position over time. He means that the concept of resources is meaningful to explore since they can allow, or enable, companies to perform certain activities needed for a sustainable competitive advantage. Resources can also be created by performing activities over time so that e.g. skills are created. However, despite his recognition of resource-based view, he also states that “Yet, the resource-based view cannot be an alternative theory of strategy. It cannot be separated from the cross-sectional determinants of competitive advantage

or, for that matter, from the conception of a firm as a collection of activities. Stress on resources must be a complement, not substitute for, stress on market positions.” (Porter, 1991, p. 108)

From the resource based view, many authors take their starting point in Porter’s work. Grant (1991) representing the resource based view, argues that, as Porter states, a company’s ability to be profitable is decided on two things; the attractiveness of the industry in which the company is situated, and its competitive advantage over rivals in that industry. However, the borders between different industries have more and more been eroded due to increased global competition, technological change and companies’ diversification in different industries. As a consequence of this, the competitive advantage over other companies has become more and more important. According to Grant (1991) the positioning question (i.e. choosing one of Porter’s three generic strategies) has been dealt with without considering if the company has the suitable resources and capabilities for the strategy. Thus, even if recognising Porter’s work as important, the RBV goes one step further and deals with the question of what is needed inside the company. This view has many similarities with the ideas behind Porter’s (1991) “dynamic theory of strategy”.

To conclude, common for the two views is their argumentation that a combination of activities or functions is in the heart of strategy making and creating sustainable competitive advantage. As Porter (1996) states; “Positions built on systems of activities are far more sustainable than those built on individual activities (Porter, 1996, p. 73). This can be compared to e.g. Wernerfelt’s (1984) view of firms as “bundles of resources”, or Day (1994) who defines capabilities as “complex bundles of skills and collective learning, exercised through organizational processes, that ensure superior coordination of functional activities.” (Day 1994, p. 38)

10.2 The strategy formation process

Concerning strategy formation at an organisational level, Mintzberg has developed and depicted the strategy formation process over time as in Figure 10.7 below.

Figure 10.7. Deliberate and emergent strategies (Source: Mintzberg et al., 1998, p. 12)

As stated in the five Ps definitions, an intended strategy or plan can be viewed as the same as the realised strategy. However, in real world the intended plan is seldom realised exactly in the same manner as was planned and the intended plan is therefore not equal to the realised one. During the time the intended strategy is implemented, a part of it will never be carried out and what is left, i.e. the deliberate strategy, will be mixed with new, emergent actions that become a part of the realised strategy. These emergent actions were not intended, but happened in spite of this.

Following Mintzberg's view on strategy formation, a realised strategy thus consists of both deliberate and emergent strategies. With this view in mind, two main different perspectives on strategy formation process can be identified, advocating the two extremes of considering the realised strategy as a pure product of planning on one hand (i.e. minimum of change between the deliberate and realised strategy), and strategy as streams of actions reacting ad hoc to upcoming, emergent events, on the other.

10.2.1 Two different perspectives

The first view, often referred to as the planning school, regards strategy as a deliberate, top-down managed planning process performed in the three phases of analysis, formulation and implementation. This group, which represents the classical view on strategy, regards strategy making as a rational, straightforward process. Strategy is about analytical planning trying to find

out the one most suitable “solution” for how a company should act (de Wit and Meyer, 1998). Therefore, a number of analytical tools form the basis for the first phase of the strategy formation. Examples of such tools are the Boston Consulting Group’s Growth-share matrix, and SWOT (Strengths-Weakness-Opportunities-Threats) analysis. Based on the analysis phase, where one of many possible options has been chosen, the formulation of the most suitable strategy and the implementation of it is then performed. The school is occupied and focused around the analytical instruments, and therefore the formulation and implementation is seen as relatively unproblematic and straightforward. (de Wit and Meyer, 1998)

One research field representing the planning school is the strategy-structure-performance (SSP) paradigm, which has been developed since the beginning of the 1960s with its start in Chandler’s (1962) work. In short, the SSP paradigm predicts that a company’s strategy affects the company’s organisational structure (Chandler, 1962; Galunic and Eisenhardt, 1994), and that the performance, i.e. the “output” from the system, depends on the fit between the strategy and structure. A higher degree of strategic fit between the company’s strategy and structure enables the company to perform better (Defee and Stank, 2005; Galunic and Eisenhardt, 1994; Stock et al., 1998). Performance is described both in financial terms such as sales, profitability and Return-on-investments, ROI, as well as in non-financial measures such as customer satisfaction and market share (Defee and Stank, 2005).

Chandler (1962) defines strategy as “the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” (Chandler, 1962, p. 13). The strategy expression in SSP literature is often considered similar to a “managerial game plan” (Chow et al., 1995, p. 296) or a plan “which specifies how a business unit will achieve and maintain competitive advantage within its industry” (Stock et al., 1998, p. 40) and is often based in Porter’s (1985) three generic strategies (e.g. Chow et al., 1995; Galunic and Eisenhardt, 1994; Stock et al., 1998). From a logistics perspective though, these strategies are criticised since they lack time, variety and quality aspects, which are important elements in logistics (Galunic and Eisenhardt, 1994). The recommendation by Porter to stick to one generic strategy is also criticised, Stock et al. (1998) for instance argue that logistics “provides a way for a firm to achieve simultaneously the necessary level of performance on multiple competitive dimensions” (Stock et al., 1998, p. 38).

Structure, is by Chandler (1962), defined as “the design of the organization through which the enterprise is administered” (Chandler, 1962, p. 14). Thus, the structure is considered the tool and the framework in which to implement the strategy (Chandler, 1962; Stock et al., 1998). In general, structure is considered to be a broad term (Galunic and Eisenhardt, 1994), which incorporates a formal organisational design illustrated on an organisational chart. It also encompasses the formal

processes, which includes the lines of authority and communication between different administrative elements in the organisation, as well as the information and data that flows through these lines (Chandler, 1962). The structure also consists of “informal patterns” (Galunic and Eisenhardt, 1994, p. 218), including informal communication patterns, personal interaction and social networks. In addition to this, corporate organisational values, i.e. principles and culture, are included in the structure expression (Galunic and Eisenhardt, 1994).

In the SCM literature, following the trend that supply chains are competing against supply chains rather than companies against companies (Christopher, 1998), the SSP logic has recently been extended to also be valid for the whole supply chain and not only an individual company, see Defee and Stank (2005), and Chow et al. (1995). This means that the fit between several companies’ strategies and structures must be aligned. To achieve this fit, appropriate logistics, which focus on integration between different organisational units and different functions, are highlighted as a key ingredient (Stock et al., 1998).

Another important part in the research within the SSP paradigm describes contingency variables that affect the strategy and structure. Chow et al. (1995) lists five of the most common contingency variables from a logistics perspective:

Centralisation, which consists of, according to Chow et al., two dimensions: the extent to which logistics decision making is concentrated in the organisation, and what hierarchical distance there is between the logistics decision makers and the senior executives in the company (called “proximity to the top”).

Span of control is focused on the number of people that reports to a person, and is defined as “the number of subordinates who report to a single superior” (p. 289).

Scope of responsibility is defined as “the degree to which logistics activities are grouped together in the same organization or organizational sub-unit.” (p. 289)

Formalisation refers to what extent an “appropriate” behaviour is described in writing, i.e. by formal rules, standard policies and procedures.

Integration is defined by the authors as “the degree to which logistics tasks and activities within the firm and across the supply chain are managed in a coordinated fashion.” (p. 291). This interpretation is congruent with the understanding of what coordination is, see chapter 9.

Other authors distinguish between external and internal contingency variables and list other factors. Examples of external, or environmental, contingency factors are customer requirements, competitors and industry structure, and more general economic and government controls (Defee and Stank, 2005). Internal contingency variables, or infrastructural factors, can be the company's technology and systems, core competencies, capabilities, and firm culture (Defee and Stank, 2005).

Based on the planning school's ideas, Vancil and Lorange (1975) described management's role in the top-down strategic planning process. The authors argue that larger, diversified companies require more formal strategic planning than smaller ones, even if the principles are the same also for smaller companies. According to the authors, three levels of strategy can be identified in diversified companies. The highest is the corporate planning- and strategy level where the highest top level managers (chief executives) decide the company's objectives and goals, acquires resources needed to attain these goals, and allocates resources among different businesses in the diversified company. Below that level the division managers develop a business strategy and plan that incorporates the division's objectives and goals and the policies adopted to attain these goals. Finally, functional planning and strategy is performed by functional department managers that develop a set of feasible action programs to implement the division strategy. In the article, a three step cycle process for how to implement strategy from the very top level at the company down to each functional area is then developed. The article is, thus, a good example of the planning school's top-down thinking and what role top management should play in the strategy making process. An important feature is the view of the higher management levels setting the boundaries for the strategies made on the lower levels.

The planning school has been criticised by a number of authors and other strategy schools. One of them is by Mintzberg et al. (1998) called the learning school. These authors distrust the potential of planning and instead believe in incrementalism, i.e. that strategies emerge over time and cannot be planned in advance (Mintzberg et al., 1998). As a consequence of this view the company must continuously evolve and learn from the emergent events.

In Mintzberg (1994) the classic planning school is criticised in terms of three fallacies. First, it is argued that a prerequisite for planning is predetermination, i.e. the world is possible to predict in a good manner. This is, according to Mintzberg (1994), not the case and the plans are therefore not useful. The second fallacy is concerned with the planning school's detachment between making plans on the one hand, and implementing these plans on the other. This separation makes it difficult to react on, and learn from, reality when the plans are being implemented. As a third fallacy, Mintzberg argues that the formalisation as a consequence of planning is counterproductive. Arguing that strategy formation is the same as innovation, he argues that

these ideas cannot come out of analytical, formalised planning procedures. In fact, a high degree of formalised planning can, on the contrary, impede the innovation process of finding a strategy.

Based on these three fallacies, the learning school distrusts the potential for planning and regards strategy formation not as planning, but as an incremental process where the company learns new things over time which impacts the strategic direction of the company. This way of regarding strategy formation emphasizes the ability to respond to upcoming events, often on an operational level, that may change the direction of the company's strategies. Managers must in this case be able to learn from the emergent strategy, thereof the name of the school. As an example, the classic Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis cannot be used for the purpose of creating strategies, since it is not possible to know exactly the company's strength and weaknesses beforehand. Instead organisations have to discover their strengths and weaknesses (Mintzberg et al., 1998). Thus, the advocates of this view consider strategy as patterns in actions, while the planning school considers it as patterns in decisions (de Wit and Meyer, 1998).

In other words, the strategy formation process, according to the learning school, is not concerned so much with figuring out strategy in advance, but with finding out by doing things and learning from them. As a consequence of this the organisation should be managed with only vague visions about the future and support the emergent strategies. Nonaka (1988) discusses the original concepts of "top-down" and "bottom-up" management and synthesises them in what he calls "middle-up-down" management, or "compressive management". Nonaka's point is that both types of management are needed for effective management. He explains the tasks for different layers of management and especially stresses the importance of middle management who communicates both up and down in the managerial hierarchies. The middle-management should function with an entrepreneurial status and only receive "broad directions" to work towards, and time limits, from the upper layer of management. The role for the highest layer of management is described as a "catalyst", and the one who sets up the broad lines and "an overall theory" for the business. The strategy formulation for specific areas and its implementation is dedicated to the middle-management.

The essential logic of the compressive management style is, thus, that "top management creates a vision or dream, and middle management creates and implements concrete concepts to solve and transcend the contradictions arising from gaps between what exists at the moment and what management hopes to create. In other words, top management creates an overall theory, while middle management creates a middle-range theory and tests it empirically, within the framework of the entire organization." (Nonaka, 1988, p. 17)

Similar ideas are presented by Bartlett and Ghoshal (1994). They argue that top management must take a more “soft” approach where a philosophy, rather than a straightforward, detailed plan, is communicated to the employees. The authors argue that the classic view of strategy-structure-system should be replaced by purpose-process-people. This fundamental shift in managing an organisation is necessary in the more complex reality of today. This argumentation is also in line with Bartlett and Ghoshal’s (2002) view on the evolving focus of strategy (see Table 10.1) where recent development is focused on a competition for human and intellectual capital. In the article, three important changes for the CEO function are identified. First, a change from considering capital as the main critical resource to instead prioritising human related issues, is necessary. According to the authors, the main constraint for many companies today is not capital, but talented people. Second, since human talent is key for the companies’ strategies, it becomes important to keep talented people in the organisation. As a result, the employees become important in relation to the values of the company and thus are allowed take part in the company’s earnings in the form of e.g. stock options or similar. Third, senior managers are expected to rethink their role in shaping the company’s strategic positions. As suggested in Bartlett and Ghoshal (1994), “Their [senior management] main contribution has shifted from deciding the strategic content to framing the organizational context. That means creating a sense of purpose that not only provides an integrating framework for bottom-up strategic initiatives, but also injects meaning into individual effort.” (Bartlett and Ghoshal, 2002, p. 36).

It is important to note that the two views of the planning school and of the learning school represent extremes and the reality is somewhere in between (Mintzberg, 1994, Mintzberg and Waters, 1985). Mintzberg (1994) states that “few, if any, strategies can be purely deliberate, and few can be purely emergent. One suggests no learning, the other, no control. All real-world strategies need to mix these in some way – to attempt to control without stopping the learning process. Organizations, for example, often pursue what may be called umbrella strategies: the broad outlines are deliberate while the details are allowed to emerge within them. Thus emergent strategies are not necessarily bad and deliberate ones good; effective strategies mix these characteristics in ways that reflect the conditions at hand, notably the ability to predict as well as the need to react to unexpected events.” (Mintzberg 1994, p. 25)

Mintzberg’s (1994) view is in line with the findings from Regner (2003). Regner examines the strategy formation process, especially how managers in the organisation create and develop strategy in practice, and relates it to strategic change on a macro-level in the company. Based on a multiple case study, two main ways of strategy creation are identified: one that is created in a peripheral, and one in a more central setting in the company. In short, Regner shows that strategy creation in a peripheral setting is mainly driven by middle-level managers and entrepreneurs in the company, without much interference from higher managerial levels. Important drivers for

strategy creation are typically external relations with e.g. suppliers or customers, and can be described as an inductive process where new knowledge is explored with trial and error, informal inquiries etc. Strategy activities in the centre are described by Regner as being mainly deductive and controlled by top level management and boards of directors. This strategy creation is considered to be within any given industry and emphasis on current knowledge structure, i.e. the strategies created were more consistent with existing organisation and industry.

The peripheral and central strategy making are dependent on each other. Over time, Regner (2003) shows that many ideas and goals are generated in the periphery and that these strategies are acknowledged and subsequently developed further and implemented in the centre so that strategic change on a macro level occurs. Thus, while inductive strategies from the periphery are creating totally new strategies, the deductive centre strategies are based on the existing ideas and thus refine these instead of creating completely new ones. Since both types of strategy making is essential for a company, top management has to consider both. As Regner (2003) argues: “Given the sharp differences observed between the two settings it is doubtful that the centre deliberately could initiate or develop radically new strategies. However, top management could be receptive to critical everyday activities in the periphery, especially if they clash with historical and existing business and strategy since this might indicate a more fundamental shift in products, markets and business logic.” (Regner, 2003, p. 79)

10.2.2 Planning and strategy

Even if, as described above, Mintzberg (1994) considers the world not possible to fully predict, planning has, despite this, an important role to play in an organisation. His main critique against the classic planning school is that they compare planning and strategy making and consider it to be the same thing. Mintzberg (1994) mean that planning is not the same as strategy creation but that planning instead has an important role to play for the strategy formation process before, during, as well as after the process. Figure 10.8 below illustrates the relationship between the planning and the strategy formation process.

Figure 10.8. The relation between strategy formation and planning according to Mintzberg

Planning as input to the strategy formation process

Starting with planning as input to strategy formation, analysing “hard data”, i.e. figures and other quantitative information, can function as an important input to the strategy formation process. For the planning school described above the analytical planning tools thus play an important role. Mintzberg does however not consider the use of these tools as a part of the strategy formation process. He also stresses clearly that the analysis of hard data is only one part of the input to the strategy formation process. Soft data, i.e. information not possible to quantify plays a far more important role.

Planning as a support during the strategy formation process

Secondly, Mintzberg also stresses the important role planners play as catalysts for strategic thinking during the strategy formation. In this position, it is more the planner as a person rather than his plan that is important. “In our view, it is not “planning” or “plans” that planners should be urging on organizations so much as the propensity “to plan”. In other words, they should be promoting, not necessarily formalized procedure to produce articulated result so much as future thinking in its broadest sense.” (Mintzberg, 1994, p. 381)

Planners can also bring order and some form of structure to the strategy formation process by e.g. arranging meetings for strategic discussions and so on. However this statement, Mintzberg notes, has a converse message compared to the fallacy of formalisation discussed above.

Planning as output from the strategy formation process

Finally, planning after the strategy has been set is necessary according to Mintzberg for the realisation and implementation of a strategy. The transformation of the strategy into concrete actions is called “strategic programming”, and serves as a description for what to do in the organisation. Mintzberg stresses two main differences between the view of strategic programming vs. the planning school’s thought, which at a first glance seems to be similar to the strategic programming suggested by Mintzberg. The first difference is that in strategic programming the planning is clearly separated from the strategy formation; strategic programming in itself does not contribute to any new strategies, it only converts existing strategies into concrete action programmes, i.e. “what to do”-lists. Secondly, strategic planning is only applicable under specific circumstances when there is e.g. a high degree of stability and predictability.

Mintzberg (1994) also recognises planning, or more correct plans, as important for the communication of a strategy in an organisation, giving directions for how to behave and how to carry out future actions. Furthermore, they also function as a tool for control: was the intended strategy realised?

Planning, or more specifically the people who make the plans, play an important role in finding out, and making emergent strategies explicit. This step can be important in order to be able to roll out a strategy in the whole company. Mintzberg (1994) name these people “finders of strategy” or “pattern recognizers”.

10.3 About the theoretical framework and the analysis

The analysis of the three case companies is conducted in two steps, where the first includes single analyses of the case companies and the second a cross case analysis. The single analyses as well as the cross case analysis are divided into five sections. The first two consider the company’s strategy content, respectively the strategy formation process, and are based on this chapter. Thereafter follows an analysis of the three main characteristics for best practice companies within SCM that were discussed in chapter 9; SCO, coordination and continuous development. These three characteristics are based on the theoretical framework on SCM in chapter 4, as well as findings from the analyses on the strategy content and strategy formation process. Figure 10.9 illustrates how the different sections and the theoretical frameworks are related to each other.

Figure 10.9. The theoretical frameworks and the five sections in the analysis

The **strategy content** is, in the case companies, analysed and related to the positioning perspective and the RBV. The purpose of this is to better understand the fundamentals of the case companies’ strategies in terms of how they have positioned themselves on the market and what their main strengths are in comparison to competitors. As stated in chapter 10.1.3 this dissertation takes the view that a combination of the two perspectives are possible and that they together can give a better, more comprehensive understanding of a company’s strategy.

The **strategy formation process** thereafter enables a more accurate description and understanding for how top management is involved in deliberate and emergent strategies of the company. As stated in chapter one, this dissertation considers top management to be involved in the strategy formation process, which in turn links the strategy content with the physical flow of goods. In short, Mintzberg's view on the strategy formation process provides a suitable tool for how to describe and explain the role top management plays. In the analysis the role of top management is analysed mainly from a deliberate perspective, but emergent events are also considered, especially regarding how top management creates effective organisations for how to deal with these events.

Top management's **Supply chain orientation** is analysed from the starting point in Mentzer et al.'s (2001) article where it is stated that SCO means (1) having a systems approach to the supply chain, (2) a strategic orientation for cooperative efforts in order to synchronise and converge intraorganisational and interorganisational operational and strategic capabilities into a unified whole, and (3) a focus on end customer satisfaction.

How **coordination** of supply chain activities and functions is achieved is thereafter analysed. The discussion is based on Thompson's (1967) three types of interdependencies and Van de Ven et al.'s (1976) coordination modes.

Lastly, the **continuous development** of supply chain activities is analysed. In the individual case analyses the different approaches to continuous development are discussed, while the dynamic capability term is focused in the cross case analysis. In the analysis a distinction is made between distinctive capabilities on the one hand, and dynamic capabilities on the other. While distinctive capabilities are understood as the source for a company's sustainable competitive advantage (based on Day, 1994), dynamic capabilities are interpreted as the ability to create and maintain new distinctive capabilities over time. The distinctive capabilities are hence more static even if "sustainable" implies some resistance for erosion over time. As noted by e.g. Teece et al. (1997) the two expressions are not mutually exclusive and the dynamic capabilities approach can be seen as an extension of the RBV literature where distinctive capabilities are dealt with.

11 Dustin – The Case

11.1 The company

Dustin AB was founded in 1984 by Bo and Ulla Lundevall with the business idea to import computer software from the United States to Sweden. Using logistics experience from former import companies, the Lundevalls sold their products via mail order catalogue to larger Swedish companies. Soon the assortment was extended and today Dustin Group AB is the largest retailer of IT products and home electronics in Sweden. In July 1995 the sales on the Internet began and today it represents 75% of the turnover, yet it is still possible to order via telephone, fax or ordinary mail. In addition, mail order catalogues are still published every year and are seen as an important tool for advertising.

In 2006 the Lundevalls sold 80% of the company to the private equity company Altor Equity Partner AB, from here on referred to as Altor. The year before Andreas Ståhl became the CEO and the Lundevalls have now taken the role as passive owners of their remaining share. Andreas Ståhl has a long history in the company as a sales person and sales manager.

Approximately 65,000 articles are provided in 22 different product groups, e.g. PC's, networks etc, and the concern has 160 employees. For 2005, the net sale was SEK 2.2 billion and the profit margin was 7.31%, see Table 11.1:

Table 11.1. Dustin's operating income and profit margin

	Sept 2005 - Aug 2006	Sept 2004 - Aug 2005	Sept 2003 - Aug 2004	Sept 2002 - Aug 2003
Operating income (thousand SEK)	2 172 806	1 899 185	1 798 168	1 669 593
Change from previous year (%)	14.41	5.62	7.70	11.10
Profit margin (%)	7.31	3.78	4.01	4.31

11.1.1 Organisation

The concern Dustin Group AB, from now on referred to as Dustin, today consists of three companies, Dustin AB, Dustin Home AB and Dustin Partner AB, see Figure 11.1.

Figure 11.1. The three companies within the Dustin Group AB

Even if private consumers since the start in 1984 have been able to buy products from Dustin AB, the main focus has been on the business-to-business side with three main customer categories; SMEs (50 to 300 employees), the public sector, and larger companies. Today Dustin AB has a share of 50% of the Swedish market. On the Internet the share is about 70-80%.

In order to better serve the private consumers and handle the customer service department more efficiently, Dustin Home was founded in 2004 and a special homepage (www.dustinhome.se) adjusted to the consumer market was launched. This new business in Dustin has grown rapidly each month by 60-70% compared to the same months last year. Dustin AB's and Dustin Home's assortments overlap by approximately 70-80% and the operations and business processes are to a high extent the same as for Dustin AB. Dustin Home is thus more or less seen as a virtual company with only minor organisational differences from Dustin AB's organisation. For example, the logistics processes in the warehouse are identical except that the picking orders have different colours. In the marketing and purchasing departments the same people are working with both companies' products, even if the marketing strategy as well as the pricing strategies for the companies to some extent differ. The sales, results etc are also accounted for, measured and followed up for each company individually.

Dustin Partner was founded in 1994 and sells software licenses to companies on the webpage www.dustinpartner.se. The reason for having this business in a separate company was that previously the supplier Microsoft required that the sales of licenses should be made by a separate company. This requirement is, however, not valid anymore and during 2007 Dustin Partner will be fully integrated in Dustin AB's business, which will then be able to offer a more complete assortment of hardware as well as software products. As is the case for Dustin Home, Dustin

Partner’s operations are more or less treated like a virtual company and are integrated in Dustin AB’s organisation. Dustin’s organisation can be depicted as follows, see Figure 11.2:

Figure 11.2. Dustin Group AB’s organisation

Below the department levels the different companies are organisationally divided, which means that each department manager is involved in, and is responsible for, all three companies’ businesses.

The top management team, through which the company is managed, consists of the CEO, CFO, COO, and the managers for the department of sales, purchasing, marketing, warehouse, and human resources. The IT manager shown in the Figure 11.2 is not a member of the top management team, but reports directly to the CEO.

As a consequence of Altor’s new ownership, Dustin went during 2006 through a major review concerning their business. According to CEO Andreas Ståhl, the new owners have a more strict focus on financial measurements such as growth and profit. His main tasks are to consider the financial growth in line with the new owners’ agenda, and larger marketing issues such as expansion to new markets. This development is also one of the reasons why COO, Per-Anders Barhag, has been installed. He has taken over much of the CEO’s daily work and functions as the main link between CEO and owners on one hand, and the organisation represented mainly by the department managers on the other.

11.1.2 Staff

The organisation is in general described as flat by the top management, with a high degree of personal responsibility, and little “we and them” feeling between the top management and the employees. The management style is far from “an American way of managing a company”, and top management is not very focused on the titles in the company, as Andreas Ståhl, CEO, comments. The department (e.g. purchasing, sales, inventory, and marketing) managers are, most of the time, physically present in the daily operations and consider themselves as part of the team. According to Purchasing manager Lars Lundevall this gives them a possibility to listen to the personnel, encourage them and have better control of the situation.

The personnel at Dustin is described as committed and considered as one of the main reasons for Dustin’s success:

“One of the main reasons for Dustin’s success is our committed personnel. If you are not finished at 5 pm, you do not leave until you are done. You are dedicated to what you are doing and interested in your job. Furthermore, we also have a rather flat organisation structure, which means that each person has a big area of responsibility where they can develop and do things on their own. That is something I believe is not common in comparison to other companies.”

(Stefan von Stein, Marketing manager, author’s translation)

Top management strives for a high competence in the staff. The hiring of people is therefore important for Dustin and all candidates are carefully evaluated, including personnel for the warehouse. Important criteria are how well the person will function in the team and their capacity for a future career within the company. From day one all employees have historically been expected to deliver with their own responsibilities and this is one of the reasons for the extremely low personnel costs according to Per-Anders Barhag, COO;

“That is one of the reasons for our success; we have never had excess personnel capacity. We have grown slowly and just before the personnel cannot cope anymore with the amount of work another person has been hired. We have extremely low personnel costs in relation to our turnover.”

(Per-Anders Barhag, COO, author’s translation)

One important competence aspect is knowledge about the products. To keep this at a high level, suppliers are invited each week to Dustin for education of the personnel. This is done on the initiative from the suppliers since this will give them an opportunity to sell more to Dustin.

Related to the flat organisation and skilled personnel is the general culture of keeping things in order in the organisation. In comparison to other companies, there is a strong sense for order and control which enables an effective and efficient business, Andreas Ståhl states:

“I believe a competitive advantage for us is that we are a well structured company. With a well structured company one can make money on most things. If you are not well structured or do not know what you are doing, or are going to do, it normally does not look good at the bottom line result, no matter how good the business idea is.”

(Andreas Ståhl, CEO, author’s translation)

Most activities are made in-house at Dustin. This is another reason for the good control and order in the company according to Stefan von Stein. One exception though is the IT system Dacsa, which is nowadays provided by a separate company.

11.1.3 The IT system Dacsa

All departments at Dustin are operating in the IT system Dacsa. Apart from a bookkeeping module, Dacsa covers all functionalities needed at Dustin. Dacsa was developed and launched by Dustin in 1995 since no suitable system for sales over the Internet was available on the market. The system consists of one single database, where employees as well as customers are operating, and is updated in real time. This creates rapidness in the operations according to Bo Lundevall and correct information is always provided to the employees as well as the customers. This in turn is key for good customer service and therefore Dacsa is seen as strategically important for the company. In fact, Bo Lundevall states that the development of Dacsa was the starting point for Dustin’s success since all the employees are working in it, which contributes to the good control and communication between the departments.

During the years, the system has continuously been developed and improved based on the company’s needs. New types of reports and other functions are continuously made available in the system. Stefan von Stein stresses the advantages of having a self-developed system such as Dacsa:

“Many of our advantages are due to the fact that we have not considered what an IT-system can do for us and adapted us, but what we want to do and make the IT-system adapt to how we work”

(Stefan von Stein, Marketing manager, author’s translation)

Today, Dacsa is placed in a separate company and the system is provided on the market. However, since Dustin has grown so fast, almost all development has been put on Dustin’s needs and requirements and Dustin is still the dominant customer so far. The Dacsa company works very close to Dustin and can more or less be compared to an internal function at Dustin. Dustin has a super user group which consists of Dustin’s IT manager and COO, who are responsible for investments to further develop the system. Together with relevant department managers the IT manager and the COO set the specification and Dacsa employees thereafter execute the programming.

11.1.4 The central warehouse

Dustin’s supply chain can be depicted as in Figure 11.3:

Figure 11.3. Dustin’s supply chain

Dustin purchase all their products from approximately 110 distributors of which 60 are active. The distributors in turn purchase from manufacturers around the world and are responsible for all transportation in to Dustin’s central warehouse situated next to the head office in Stockholm.

The central warehouse is 4,000 square meters and has around 40 employees. In addition, a number of part time workers are hired if needed. The inventory turnover is 50 times per year. Apart from the financial advantages of a high turnover rate, this is also necessary due to the fact that the warehouse is small and there is physically not enough space for large single shipments from the distributors. This means that there is a continuous flow of products in and out of the warehouse. The four largest distributors, representing 85% of Dustin’s sales, each deliver to Dustin three times a day and on the outbound side, Posten pick up and distribute goods as much as 6-8 times a day.

The warehouse operations are by the Warehouse manager divided and managed in six processes; goods reception, labelling, handling in, picking, packaging, and delivery. The processes, or routines, in the warehouse are continuously improved by the employees but no planned or conscious improvement projects are driven:

“We are not working with long, grinding meetings. But if an idea comes up we test it and evaluate if it works. Many of the permanent employees are creative thinkers who want to improve things... It is the small details that make the difference. For me it is ok to test things as long as there is no danger for life.”

(Fredrik Carlsson, Warehouse manager, author’s translation)

Despite the improvements and rapid growth of Dustin’s turnover, the basic design concerning the warehouse processes and routines are the same and the warehouse is managed by Fredrik Carlsson, without much interference from COO or CEO:

“Until now no significant changes have been needed here at the warehouse. Compared to for example the marketing department, our growth has caused greater changes there. For example, they must continuously come up with new things for how to become more aggressive in marketing, find new customers etc... Here [at the warehouse] the growth just simply means that we have to work a little bit faster. We are like a spinning wheel that goes on and on, and we just have to adjust our work around how much we have to do. It does not require any significant changes so far... As long as I solve the task in a satisfactory way, I am left in peace, but if I do not, I am sure a pointer will come down.”

(Fredrik Carlsson, Warehouse manager, author’s translation)

The COO, Per-Anders Barhag, argues that the development of today’s effective and efficient processes in the warehouse and the IT system Dacsa has not been deliberately planned, but has emerged over the years and thus, he holds the founder Bo Lundevall as responsible for today’s processes.

“Bosse is the one who has designed many of the routines we have today. He has been everywhere in the company. Less in recent years, but still. Previously one could argue he had my role, but was also owner and CEO... Many of the functions we have created in Dacsa have caused new processes in our business. Without thinking so much we have created new functions in Dacsa since Bosse has wanted to keep control on a new figure. This has in turn led to new jobs being created and so we have been hiring new staff... But no one has ever been sitting and writing product flows etc, I have never seen that.”

(Per-Anders Barbag, COO, author's translation)

Even if not all products are stored by Dustin, all products sold are distributed via Dustin's central warehouse. The main reason for this is to minimise transportation costs, provide the customers with one single delivery, and keep a high service level. For example, it enables better possibilities to track lost products. Posten is solely responsible for all deliveries from the central warehouse to the customers, except for specific rush orders where different companies are hired.

11.1.5 The order and delivery process

Dustin's order and delivery process begins with the customer placing an order. Ordering can be done by telephone, fax, ordinary mail etc, but 75% of the ordering is today done on companies' homepages on the Internet. The order is immediately placed into the Dacsa system and all orders coming from Dustin AB's homepage, i.e. stem from company customers, are visually checked in order to discover fraud etc. When ordering, the customer is provided with inventory status and predicted delivery time for if the product is available in Dustin's own warehouse, but also if the product is available in any of the four largest distributors' warehouses. Dacsa is, hence, integrated with these distributors' warehouse systems. If not an ordered article is available at the central warehouse, a purchase order is automatically created and sent to the purchase department. Due to the frequent deliveries from the distributors a product available in a distributor's warehouse can be delivered to Dustin the same day or the day after. When all products requested in the order are physically in place in Dustin's warehouse, Dacsa automatically generates a picking list. On the picking list, the order lines are sorted after their storing places so that the shortest picking distance is achieved. All picking and the subsequent packing is done manually.

The picking and packing procedure is controlled by a bar code system. For each article that is picked a bar code is scanned and compared to bar codes on the picking list. This means that if the wrong article is picked by mistake, the bar code on the picking list will be different, and the system will warn about this. As an additional security procedure, the packaging is filmed so that it is possible to go back afterwards and confirm a certain content, e.g. a correct number of an article ordered, in a certain package. When all articles in an order are packed, a final scanning is done

and if the picked articles are identical to the ordered ones, a delivery note with the receiver's address is printed to confirm this. At the same time, Dacsa also creates an invoice. The invoice is sent with a separate ordinary mail, except for a few large customers that are sent an e-invoice. Furthermore, the scanning also creates a parcel identification code that goes into Posten's computer system, making it possible to track the parcel on its way to the customer.

The packaged goods are loaded on to trucks going to the Stockholm area or to the rest of Sweden. Customers within the Stockholm area that order before 12 pm receive their parcels the same day. The south of Sweden receives their parcels the next day and the north of Sweden (north of Sundsvall) the day after that. For security reasons against theft, all trucks are plumbed when they leave the warehouse.

Dustin Home's customers do not get any credit and are asked to pay immediately by debit card, cash on delivery, or part payment when ordering. Dustin AB normally operates with 30 days credit for old customers and 10 days for new. All payments and transactions are automatically handled in Dacsa.

11.2 Strategy

11.2.1 Vision

Dustin's vision is to provide IT-products to customers in a rapid and profitable way, and continue to be market leader with a high market share. The vision is mirrored in what the founder and owner Bo Lundevall calls a "business model" or "plan", which contains a number of strategic aspects. The content in the business model is not formalised or provided in a written document, but has been the same ever since Dustin was founded in 1984 and can thus be considered as a part of the Dustin philosophy or culture.

Members of the top management team mention the following parameters as important for Dustin's business model:

- High availability of products
- Speed, i.e. short customer order lead times
- Competitive prices, but not necessary the lowest
- Good and generous customer service
- High quality products

The most important aspect stressed by top management is to provide a high availability of products, which also opens up the possibility for having short customer order lead times. It is argued that the availability and short lead times distinguishes Dustin from their competitors and is considered as an important explanation for Dustin's high market share. The availability is kept high due to well functioning communication with the distributors and fast and frequent deliveries, and also because of Dustin's willingness to have products in their own warehouse:

"We have dared to have things on the shelf while others have considered that as a devastating scenario in a rapid business like this. That is the big difference. The rest of the Swedish retailers have removed their inventories... The big difference is that we, with a calculated risk taking, store the products."

(Bo Lundevall, owner and founder, author's translation)

An enabling factor for this risk taking is, again, good communication and relations with the distributors. Because of Dustin's high market share and relatively large purchased volumes, the distributors offer price guarantees for their products, which means that Dustin is financially secured if the market price on a product goes down.

The prices aimed for customers are seen as important for keeping up the market share and by that creates economies of scale in e.g. purchasing, but no outspoken strategy of becoming cost leader exists. Instead, with competitive prices, old customers will remain, and new ones will be won by good customer service and a generous return policy. This generosity is characteristic of Dustin according to Bo Lundevall, who argues that it creates goodwill and advertisement for the company. In other words, Bo Lundevall reasons that the extra cost for having generous return policies and good customer service in general pays back due to increased future sales.

Finally, top management also stresses the need for good, reliable quality products from well-established brands. Since the products are associated with Dustin's brand, the quality needs to be high. To achieve this, Dustin carefully evaluates their products and prefers good quality at a higher price than the opposite. It is also considered important to be the first with the latest products and about 100 new products are added in Dacsa (and thus provided on the Internet) everyday. The same amount is deleted. Own brands are at the moment not an issue for Dustin:

“No such plans exist at the moment, because quality is one of Dustin’s main advantages... Even if the gross margin can be increased the net margin could be considerably lower due to returns caused by bad quality. We are adamant when it comes to quality and if the returns go up to 3-4% the product is removed at once... The strategy is to work with brands that we know are good and if we take in something new we carefully check it to see if it lives up to the standard. Our customers are rather demanding, they do not come to us because they want a cheap product, they come to us because they want a premium brand product that they know is functioning well and has good support.”.

(Stefan von Stein, Marketing manager, author’s translation)

In summary, Dustin strives for being the most reliable supplier in the industry and top management has a strong customer focus in their business model:

“The main thing is that we always take the customer’s perspective. It is the customer that is the reason why we are here, so you should not cut out in things that make it worse for the customer. That is something I believe is important.”

(Bo Lundevall, owner and founder, author’s translation)

Top management stresses that common to the above mentioned components and a main success factor behind Dustin is the well functioning logistics system where the meaning with logistics is centred around the central warehouse and Dacsa. For example, Bo Lundevall considers Dustin’s logistics as the main reason for why Dustin has managed to enter the private consumer market with Dustin Home. The warehouse manager Fredrik Carlsson himself is also well aware of the importance of the logistics function in the company and confirms that other top managers also understand its importance:

“Perhaps I am self-righteous, but it [the logistics] is the most important thing... I mean, imagine buying a new car and the seller is a pretty skilled and nice salesman, and then when you drive away, the car does not work. We can not sit here and promise that we deliver in time if we do not do it. All functions in the company are important, but we indeed have a very important function in the whole chain.”

“The importance of the function as such is everybody aware of. We get attention for what we say and we are respected for doing a great job down here... This is also raised by Andreas [the CEO] relatively often, and not only by him, but also by many others.”

(Fredrik Carlsson, Warehouse manager, author’s translation)

The sales manager Jonas Pircher has a similar explanation:

“Our competitors’ warehouses can not be compared to our warehouse, neither in size nor speed. And the whole logistics system really... If you compare our warehouse with our competitors’, you find a huge difference in delivery times.”

(Jonas Pircher, sales manager, author’s translation)

In the subsequent sections Dustin’s supply and market strategies are presented more in detail.

11.2.2 Supply strategy

Dustin purchases all of its products from distributors. The main advantage of having a distributor as an intermediary in the supply chain is the decreased number of companies to purchase from and the competitive relationship between the distributors which has a positive effect on the purchasing prices. Many suppliers also prefer delivering only to larger multinational intermediaries in order to decrease their number of customers. In addition, Lars Lundevall means that the distributors are able to offer Dustin better deals concerning availability and returns than the manufacturers normally do. The purchasing is in general seen as a handicraft, with a lot of individual feeling. Even if there are general guidelines for purchasing prices, the staff’s fingertip feeling is decisive according to Lars Lundevall.

Even if it is not core to Dustin’s business model, the price is important for the purchasing department. With Dustin’s growth, their negotiation power against the distributors has increased, and the purchasers compare the distributors’ prices continuously. The bargaining and purchasing prices are also carefully followed up and presented for the employees. In line with the importance of the gross margin, each month all purchasing orders where the purchaser has been able to haggle are presented in a special report for the employees. However, more important than a good price is availability – the distributor that has the product on the shelf and gives the lowest price gets the order from Dustin. The purchasers have online access to the four largest distributors’ stock levels and prices, which means that when a customer orders something from Dustin, these products might not be in Dustin’s own warehouse, but can be bought from the distributors and rapidly distributed to Dustin’s central warehouse.

Because of the limited space in the warehouse, the purchasers have to carefully consider the volumes that are bought and a close contact between the purchasing department and the warehouse is necessary. The purchasing manager considers the inventory turnover rate and volume as much as four times each day and keeps a continuous dialogue with the warehouse manager in order to avoid trouble there.

Bo Lundevall claims that even if Dustin is a pure trading company where the distributors and manufacturers are kept at arms-length distance, Dustin works actively with their upstream relations in order to improve the supply chain. One example of this cooperation is that Dustin frequently makes deals with the distributor to purchase large quantities, e.g. half a container, from manufacturers situated in Asia. For Dustin, this type of arrangement guarantees a low price and for the distributor it means a lower risk of obsolete products since a great deal of the purchased batch is sold already. Dustin also requires that each distributor have one single contact person responsible for all operational matters with them. This person is directly informed if there is anything that can be done in order to improve the supply chain and better satisfy Dustin's needs. The reason for this is to improve the information flow internally at the distributor thus be more able to rapidly and effectively influence and improve the business so that Dustin's needs can be better fulfilled. That person is considered to be better able to improve internal functions such as returns, sales, inventory etc at the distributor than Dustin's people.

Even if all products are bought from the distributors, Dustin also has a close relationship to the manufacturers. The product managers (persons responsible for a specific part of the assortment) have contact on a daily basis with their manufacturers concerning product information, new releases etc. The manufacturers also continuously visit Dustin and educate the sales staff about their new products. Furthermore, Dustin holds a dialogue with the manufacturers about marketing activities in order to speed up the supply chain and inform the manufacturers about upcoming events and sales campaigns. Dustin also has agreements with distributors as well as manufacturers which give them a "kick-back", i.e. an extra bonus payment, if they purchase over a given amount of money over a certain period of time.

Contacts with distributors and manufacturers are mostly held on a functional management level by the purchasing department and marketing department respectively. The CEO is only involved in highly strategic matters where the counterpart is on an executive level. Thus, the main responsible drivers for the development of the relations with the distributors and manufacturers are the purchasing and marketing departments respectively.

11.2.3 Market strategy

Dustin's products have in general a short life cycle and the market situation is continuously changing. This means that Dustin has to continuously be developed in order to cope with these changes according to Andreas Ståhl:

“We are not a static company, we live in a changing world to which we constantly adapt ourselves. As a consequence, even if you have plans, these are changed during the journey. Both concerning what we sell, in what way we sell, and the way we reach the market.”

(Andreas Ståhl, CEO, author’s translation)

One example of the unpredictable business environment is Dustin Home’s enormous growth, which has led to an increased attention for this part of the business. One of the main reasons for this development is the sponsoring of the Swedish television program *Idol* during autumn 2006, which gave Dustin a great opportunity to reach new customers.

*“For example, Dustin Home that was recently started has gone extremely well, considerably better than we thought... A reason for this could be that we sponsored the TV program *Idol*, which has given us access to a new customer group. This market has been there, but has not been open to us, so now we have to adjust ourselves and take care of that market.”*

(Andreas Ståhl, CEO, author’s translation)

Growth is seen as an important goal for Dustin and within three years, the turnover goal is set to SEK 5 billion. In order to achieve this, Dustin works actively with different marketing strategies. For the marketing department, that drives the more operational market strategy development, the most important marketing tool is the website and the offerings there. Changes here are continuously measured and followed up in order to stay ahead of competitors according to Stefan von Stein. An active offering strategy on the website also makes it possible to better synchronise the sales with what is stored in the warehouse. Thus, by promoting certain products, the inventory levels of these can be lowered and a better inventory turnover can be achieved.

Since Dustin’s main distribution channel is the Internet, Dustin has little or no contact with their customers. Andreas Ståhl admits that this is one of the problems with selling over the Internet since the distance to the customers limits the opportunities for additional sales. One important event meant to reach the customer is Dustin’s annual trade fair, Dustin Digital Expo. At this trade fair, the customers are given the opportunity to get to know the company Dustin behind the website better and to buy more from them. Furthermore, the manufacturers are able to reach their end customers.

Another step taken to increase growth is that Dustin has started to work more proactively with existing customers; instead of waiting for a customer to call and place an order, the sales personnel now phones them and tries to increase Dustin’s share of wallet. Another step in this

direction is to differentiate the catalogue. Dustin nowadays distributes specific and adjusted catalogues for existing customers as well as a more general version directed towards new customers. Apart from the catalogue which is still seen as an important tool to reach customers, Dustin also works with advertising via email.

The growth goal of SEK 5 billion will also be achieved by a geographical expansion to the other Nordic countries. According to Andreas Ståhl an advantage with the Nordic market is that it is rather small and thus “protected” from larger multinational players, it is simply not large enough to attract the largest multinational companies.

One of the most important measures at Dustin is the gross profit margin and the pricing is therefore seen as strategically important. It is the purchasing department that is responsible for the pricing, which gives them good control of the gross profit margin. According to Lars Lundevall, the basis for the pricing is a simple mark up costing model with fixed, targeted gross profit margins on each product category, but above all the pricing towards customers, just as the purchasing price, is a genuine handicraft according to Andreas Ståhl. The market situation and Dustin’s position on that market are important factors for the pricing. Another reason for individual pricing is the bundling of products.

While the pricing is a matter for the purchasing department, eight product managers in charge of the 22 product categories belong to the marketing department. As a result of their organisational loyalties, the offering on the website can be made more efficiently and rapidly since all persons involved in this are organisationally placed at the marketing department, Stefan von Stein states. In other words, the organisation allows for fast and efficient action. Another factor that speeds up Dustin’s ability to offer new products to the customers is that the product managers, who are the main contact for the manufacturers, directly bring this information into the marketing department without going via e.g. a purchasing department. The fact that the product managers belong to the marketing department requires intensive contact with the purchasing and sales departments:

“We have a good dialogue and collaboration with the purchasing department. Historically purchasing has been sitting together with us on the market. One could say that the design we have requires that we have meetings at least once a month with purchasers, product managers and market people. Even the sales personnel are participating in these meetings so that they become informed of what will be sold the next coming months.”

(Stefan von Stein, marketing manager, author’s translation)

Apart from the meetings there is also intense contact on a daily basis:

“A product manager speaks to a purchaser ten times every day. It is a very close collaboration, it is definitely not we and them, but a team. If you break down the functions operationally, it is suddenly a product manager, a market area manager and a purchaser that work in teams, even if we do not physically sit together.”

(Stefan von Stein, Marketing manager, author’s translation)

Examples of topics that are dealt with are prices, bundling of products, promotions and campaigns, etc. In practice, much of the work is performed in cross functional teams. An example of this team work can be seen by studying how Dustin’s catalogues are made. A standard way of working starts with creation of a PDF file with the specific products made by the production personnel at the marketing department. This is sent to the product manager who considers if any changes should be made. Thereafter, the actual purchaser gets the PDF-file and types in the correct prices. Thereafter it is sent back to the production personnel who are responsible for the printing and distribution of the catalogue.

In general the cross functional communication has increased in the last years. According to Stefan von Stein this is due to the enormous growth which requires more intensive interplay between the departments so that e.g. the turn over rate in the central warehouse can be kept high. However, Stefan von Stein has great confidence in the other department’s competence and ability to cope with the growth. As Stefan von Stein, Marketing manager puts it:

“We [the departments] have tighter communication now. If I tell the top management team that we should increase our marketing efforts and that this will be seen in the sales figures, then the IT people control the servers and manage the traffic; purchasing stands ready... and the warehouse is small and we have to get the stuff in there, but I mean they can work three shifts, hire more people and so on.”

(Stefan von Stein, Marketing manager, author’s translation)

11.3 Management of the company

11.3.1 The management levels and their main responsibilities

As a result of the growth of the company and Altor's ownership, Andreas Ståhl and Bo Lundevall consider general financial issues and larger strategic changes in the marketing strategies, e.g. expansion to new markets, or larger investments such as a new warehouse etc, as the key responsibility areas for the CEO and the owners of Altor. Therefore, Andreas Ståhl as well as Bo Lundevall avoid consciously going into details about the different functions and stress their confidence in the department managers. Instead, goals for the company in the form of financial targets are communicated to the department managers, who in turn are responsible for making business plans and realising the goals.

The marketing manager has a similar view, and argues that the CEO, on behalf of the new owners Altor, has financial growth on his agenda and leaves the strategy making concerning marketing activities to him. The growth goal of SEK 5 billion in three years has been communicated by the owners, and the marketing manager is mainly responsible for how to achieve this goal. Thus, he makes strategies concerning for example focus on product groups, market segmentation, advertisement, how competition from competitors should be handled etc.

According to Bo Lundevall, he previously managed Dustin with a financial model called 10-10-4. The figures in the model have now been slightly changed, according to the present CEO Andreas Ståhl, but the principle is still valid. The main message with the model is to direct the company towards an annual growth of the turnover of 10%, an increase of gross profit margin of 10%, and a bottom line result of 4%. Bo Lundevall argues that as long as the growth and gross profit margin are correct, nothing is wrong with the pricing, purchasing or the business model, i.e. the strategy, in general. However, if the bottom line result is wrong, other parameters might be wrong such as too high personnel costs, investment rates, marketing costs etc. These tasks are in such case a matter for top management to consider according to Bo Lundevall. To conclude, Bo Lundevall states that the requirements on the "model" of gross profit margin and bottom line result are to be communicated within the company:

"That is the only thing you manage from up here. You decide a gross profit margin and say that this is what we are going to work with...It is a simple model that can easily be followed over time. It means that you have a management that does not need to be present on a detail level that they do not understand anyway."

(Bo Lundevall, owner and founder, author's translation)

The present CEO, Andreas Ståhl, has a similar approach according to Per-Anders Barbag, COO:

“He tells the measurements and says ‘deliver’, and then it is up to me to figure out how to take it from there with the department managers.”

(Per-Anders Barbag, COO, author’s translation)

Apart from financial measures, the CEO and owners are often involved in strategies that are considered as being outside the annual business plan, e.g. the future geographical expansion. As Andreas Ståhl puts it:

“Today I am working with where we are heading in the future, and financially together with our CFO, i.e. that we are on the right track, what the profitability and costs looks like etc. I also work with larger strategic marketing issues, e.g. how we should market ourselves in the future and in what way. This of course I do together with our marketing manager, but he works more with issues inside the marketing plan, while I am involved in the things outside the plan.”

(Andreas Ståhl, CEO, author’s translation)

Concerning the geographical expansion, which is a matter for the CEO and Altor, the sales manager, Jonas Pircher, express it in a similar way;

One can say that when it comes to that [i.e. the geographical expansion], it is above all a case for Ståhl [the CEO] and Altor to manage that. Me and Perka [the COO] takes care of Dustin today, while they take care of Dustin tomorrow.”

(Jonas Pircher, Sales manager, author’s translation)

Coming from a family-owned history, where many decisions have been handled ad hoc, Dustin’s growth and changed ownership now requires a stricter and defined organisation. Andreas Ståhl has therefore developed and refined the organisation structure. One of the results from this is that each department manager produces a business plan for their respective department where purpose, proper measurements, responsibility areas, goals etc are clearly defined. The design of the business plans are not formally decided, but include, according to COO, roughly the same parameters and are congruent with each other. Important ingredients in the business plans are a specified business idea or vision for the department and how the department should work in order to realise the idea. In addition to this, measurable KPI’s are specified that support the business idea. Furthermore, the department’s future is discussed, for example in terms of a SWOT analysis which is the case for the purchasing department’s business plan. KPI’s to be reported on the weekly top management meeting are also specified.

Andreas Ståhl states that the development of the organisational structure has led to a better defined and easier organisation to manage;

“Today much is managed through the organisation. This is to get a clearer organisation where everyone knows what they must do. We come from a family company where everybody has done everything and everything has been managed a bit randomly.”

(Andreas Ståhl, CEO, author’s translation)

However, even if a lot of attention has been given lately to defining the organisational responsibility interfaces, Andreas Ståhl stresses the importance of improvement of the physical flow as the main target for Dustin. When managing and changing the organisation, the physical flow can be affected and it is therefore, according to Andreas Ståhl, important that all involved department managers discuss and take part in the change:

“When we want to change something that is strategic, the flows will be affected no matter what we change. Therefore all parties involved in that flow participate in the discussion about the change. It is important that everybody participate and influence the change, and it is also important to understand the change and why we are doing it, and then execute it.”

(Andreas Ståhl, CEO, author’s translation)

With the business plans as a basis, each department manager is held as the main person responsible in respective functions to live up to the components in the business model discussed above and works rather independently from the CEO and the owner Altor. Operational logistics decisions concerning the warehouse and the logistics processes are thus taken solely by the warehouse manager, unless it requires large investments.

“Concerning the daily, operational business all decisions are taken by the warehouse manager...When it comes to larger changes, for example investment decisions or changes in the business model, I have it on my table. But I am not involved in how the flow functions or any separate processes. That is managed by themselves at logistics.”

(Andreas Ståhl, CEO, author’s translation)

As an example of a larger strategic decision where the CEO as well as the owners Altor would be involved in, would be a decision to invest in a new warehouse. This particular question, which is being considered at the moment, would be taken jointly by Fredrik Carlsson, Altor, and Andreas

Ståhl. Fredrik Carlsson argues that this would be driven mainly by him, but there is great support for this in the rest of the organisation since the capacity limits Dustin's ability to expand its business and growth.

The view on the importance of not going into details by the CEO is also shared by the department managers. These all stress the need for individual responsibility and they further break down and operationalise strategic goals at respective departments. This is in turn seen as important for the development of the personnel's competence in the company:

“It is a matter of delegating responsibility down more and more so that they grow up and take their own responsibility. Otherwise I will sit here with all the problems and that is not possible.”

(Lars Lundevall, Purchasing manager, author's translation)

11.3.2 Meetings and communication

The main communication channel for strategy communication from the CEO to the other top managers as well as between the departments is a meeting held every week with all the members of the top management team. The weekly meetings are not based on a formal agenda, but are by the department managers seen as the natural place to inform each other about changes and issues that affect other departments and the company as a whole. For example, personnel issues or forthcoming campaigns are discussed. Formally the person in charge of the meetings is the COO, Per-Anders Barhag, but CEO Andreas Ståhl also participates. Andreas Ståhl functions as the link to the new owners Altor and informs the top management team about their plans for the company. Apart from these meetings, larger sessions are held for strategy development and budget work every year.

After Altor's entrance, the CEO's tasks have been more directed towards Altor. Apart from the weekly top management meetings, an important link between Altor and CEO on one hand, and the department managers on the other, is the COO. He keeps Andreas Ståhl informed about the business on a daily basis. As for the department managers, the COO considers himself to be a coach with the main task being to streamline the business plans so that they are congruent with each other (which they already are according to COO) and help and follow up on the functional managers when implementing their business plans:

“Each department manager makes his own business plan, where he really must sit down and figure out what he wants to do with his department. What goals they should have, specify them and draw a line through it when they are achieved. My goal in this is to see that the department managers are following their business plans.”

(Per-Anders Barbag, COO, author’s translation)

The IT system Dacsca plays another important role for the communication in the company. From Dacsca, all top management members follow general financial measures such as sales, but also more specific measures that are important for their department. These are continuously, most of them everyday, followed up.

For instance, the purchasing manager focuses on the gross margin for Dustin’s (including Dustin Home) 22 product categories. As the purchasing price as well as the pricing towards the customer is controlled by the purchasing department, the gross margin is controlled solely by the purchasing department.

The marketing manager measures the sales at a product category level on a daily basis. The pricing is followed up each month in order to plan where, i.e. in what product categories, improvements can be made in terms of market shares. This is also a comparison among competitors.

The warehouse manager’s most important goal is to pick and pack all incoming picking orders the same day as it arrives. Apart from this measurement, the rate of packages with correct content is measured and followed up. Since the warehouse is a profit centre, the budget is also continuously followed up by Fredrik Carlsson. In order to plan capacity for the future, e.g. picking capacity, he also follows the sales.

The CEO Andreas Ståhl continuously follows a long row of key ratios, including the net margin, gross margin and operating profit. Apart from this, he follows the sales and cost development, the liquidity, as well as more “soft” measurements such as absence of personnel due to sickness etc. Concerning logistics related key ratios, the CEO follows the inventory turnover rate and returns in order to follow up on the total logistics flow.

12 Clas Ohlson – The case

12.1 The company

Clas Ohlson Group AB is a Swedish retailer of do-it-yourself products for house and homes, technology and hobbies. It was founded in 1918 by Clas Ohlson as a mail-order company based in Insjön, Sweden. In 1989 the company opened its first outlet store in Insjön and was soon followed by another one in Stockholm. The expansion has continued and in January 2007, Clas Ohlson had in total 65 stores in Sweden, Norway and Finland. In 2008 the first store in the UK is expected to open. Apart from the stores that represents 97% of the turnover, Clas Ohlson still has a mail order business as well as an e-shop on the Internet. The base is still in Insjön, where the headquarters and central warehouse are located.

Clas Ohlson's main target group is private consumers and offers more than 15,000 different products in the four products areas tools, home & storage, electrical & electronics, and hobby & household. In 2005 the stores had over 36 million visitors which resulted in 18.6 million purchases. For a long time Clas Ohlson has managed to grow with sustained profit, see Table 12.1, and for the financial year of 2005/2006 the turnover was SEK 3.6 billion. Its operating margin of 13-15% is also considerably higher than the competitors', which normally have 3-5% according to Gert Karnberger.

Table 12.1. Clas Ohlson's operating income and profit margin

	May 2005 - April 2006	May 2004 - April 2005	May 2003 - April 2004	May 2002 - April 2003
Operating income (thousand SEK)	2 975 200	2 487 200	2 146 200	1 768 866
Change from previous year (%)	19.62	15.89	21.33	19.78
Profit margin (%)	12.81	13.37	14.27	12.28

Relatives of the founder, Clas Ohlson, still own a great share in the company and are members of the board of directors, but since 1999 it has been listed on the stock exchange market in Stockholm.

12.1.1 Organisation

Today Clas Ohlson Group AB consists of the parent company and two subsidiaries in Norway and Finland. For the Clas Ohlson Group AB an organisation chart is shown in Figure 12.1:

Figure 12.1. Organisation chart for Clas Ohlson Group AB

Clas Ohlson has a top management team consisting of the CEO, a deputy CEO (who also functions as CFO), head of purchasing, Head of warehouse, Head of new store openings, Head of human resources, and the Head of business area Sweden. The members of the top management team meet once every month. Every now and then the top management team is expanded with the CEO's for the subsidiaries Clas Ohlson OY in Finland and Clas Ohlson AS in Norway. The contact between the management for the parent company in Sweden and the subsidiaries is intense and the CEO as well as the deputy CEO are members of the boards in the subsidiaries.

12.1.2 Personnel

Clas Ohlson's 2,300 employees is an important reason for Clas Ohlson's success according to Gert Karnberger. The importance of the personnel goes far back in the company's history and has its roots in the fact that Insjön is a small town where Clas Ohlson has been the dominating

employer. The connection to the company's roots in Insjön was, in the first years of the 1990s, strengthened when the board of directors, partly governed by the relatives of the founder, decided that a new central warehouse was going to be placed in Insjön, and thus decided to have a continued presence there.

Based on the historical roots, the company strives to keep a special "Clas Ohlson-spirit" in the company. This is featured by a mix of entrepreneurial and familiar ideas where a high degree of positive attitude, commitment and loyalty is important. A strong customer focus in all operations is also characteristic. The Clas Ohlson spirit is mirrored in the organisation, which is despite the rapid growth characterised as flat with short decision lines and little bureaucracy.

As an important step to keep the Clas Ohlson -spirit, a campus has been opened in Insjön, where all new employees stay for two weeks in order to be introduced to each other and to get to know the company better. A special training department takes care of all internal education. Logistics competence is kept high due to internal education and hiring of education companies. Also, Rolf Andersson states that Clas Ohlson has a long history of continuously exchanging ideas and knowledge concerning e.g. warehouse equipment, with colleagues at other companies and via professional networks etc. For example, the management of the central warehouse has visited a long range of warehouses with the purpose of benchmarking the business.

In order to involve the personnel in the many change projects that are necessary for the future growth, Clas Ohlson often works in project form with cross functional presence:

"The change process often takes place in the form of projects so that we can make the most of the knowledge, experience and commitment of our staff. The groups include staff from various departments and with various skills. As the basis for the decisions has been created by these groups, the change process becomes firmly established throughout the organisation, the result is better and implementation time is reduced. The enlargement of our central warehouse is an example of how staff from different departments have been involved in teams that work on premises and future ways of working."

(Annual report 2005/2006)

The opening of a store is another example of where the project team form is used. The project team is set up 10 weeks before the store is planned to open for customers and consists of around 8 people that are internally recruited from their normal jobs within Clas Ohlson. The people have different positions in the company which is valuable for the team. This standardised way of opening stores has shown to be a successful concept and the task is popular among employees in

the company and is also seen as important to strengthen the employees' understanding of other parts of the business:

"The project group works for about ten weeks before the opening of a new store. The purpose with the group is to have a mix of people with different backgrounds and experiences from the organisation. They can also later bring back experiences from the team work back to their original departments. This increases the understanding of the company and the business as a whole. It becomes less "we and them"-thinking. One can more easily have an opinion about how the company is managed and understand problems in their neighbour's department. It has been a very successful way of working."

(Gert Karnberger, CEO, author's translation)

12.1.3 The IT system Raintance

Important tools used to keep the company together are Clas Ohlson's IT systems:

"We have been working to develop IT systems intended to support our operation for many years. These systems make it easier to handle ordering, delivery, replenishing, picking and final delivery of the goods. Our priority has always been to make use of modern technology to improve the efficiency with which both goods and information is handled. All systems affecting the handling of goods are fully integrated, that is to say the information is only registered once and is displayed in real time."

(Annual report 2005/2006)

The main platform is called Raintance and was bought from VM data, but the development and maintenance is made in-house, and it is thus considered to be a unique company system. 25-30 employees work with development and maintenance of the system. Having a "home made" IT system is in line with Clas Ohlson's philosophy according to Rolf Andersson:

"Clas Ohlson has the philosophy to do things in-house. We do not have many activities outsourced. For example, we have our own in-house advertising agency that does everything from the first idea to electronic material ready to be printed... there is not much we have outside our own organisation."

(Rolf Andersson, Head of central warehouse, author's translation)

Apart from the central system Raindance, each store has its own computer system and a special checkout system that are fully integrated in Raindance. Raindance is thus covering all activities in the company, including bookkeeping, measurements, report making, etc. Indeed, Raindance is a tool used by the whole company and employees at Clas Ohlson carefully measure a long range of things on different hierarchical levels in the system.

12.1.4 The central warehouse

Clas Ohlson buys its products from around 800 manufacturers in 30 countries. The main part, 56% of the total purchases in the financial year of 2005/2006, was bought from Swedish suppliers. The amount from Asia is however steadily increasing and represented in the financial year of 2005/2006 38% of the total purchases. In addition to this, the Swedish and European suppliers import from Asia, which means that in total around 55% of Clas Ohlson's purchases came from this part of the world (the financial year of 2005/2006). The 38% that was directly bought from Asia, where China is the dominating country, were mainly bought via trading houses.

The responsibility for the central warehouse starts when the goods arrive at the goods reception and ends when it reaches the stores or the mail order and internet customers. In total 330 employees work in the central warehouse and in the seasonal peaks before Christmas and in the summer, extra labour is hired. December 2006, when the turnover was doubled in comparison to the other months, almost 400 people worked there. The inventory turnover in the central warehouse is approximately 6 times per year, but is slowly decreasing as a consequence of the increasing flow from Asia which means larger delivery batches and higher safety stocks. In the larger stores the turnover rate is 8-10 times, while the smaller ones have a lower rate.

The central warehouse has, due to the rapid growth, been enlarged three times during the last decade. The existing warehouse, which is 52,000 square metres, is planned for a capacity of 90 stores and was finished in 2006. However, it is at the moment doubtful if the storage capacity is enough to store for 90 stores; with today's growth and the fact that the assortment has been more voluminous due to e.g. more languages in the manual, other short term solutions might be necessary to consider according to Rolf Andersson. Already with today's 65 stores the storage capacity is near maximum at the seasonal peaks in summer and Christmas. A short term solution, before the central warehouse is further extended, could be to hire a third party logistics provider and crossdock the goods so that the stores only receive one delivery. Rolf Andersson, however, stresses the importance of avoiding direct deliveries from the suppliers to the stores. This is due to the fact that the stores do not have their own inventory and it would therefore be impossible to receive large deliveries from suppliers. Furthermore, Rolf Andersson believes it is an advantage for the stores to only receive one delivery at a certain time each morning instead of several.

Concerning the organisation in the central warehouse, the Head of central warehouse is nowadays involved in the more strategic development of the warehouse and he has therefore left the operational management to an inventory- and distribution manager.

“As a result of the growth we have had in recent years, I am to a great extent involved in strategic change programmes, enlargement of the warehouse, etc. A couple of years ago I was responsible for the daily operations at the warehouse as well as strategic development issues, but this has changed and now I do not have as much to do with the operational issues anymore. I have got more time to look around the corner now, and I am working more with questions concerning the future.”

(Rolf Andersson, Head of central warehouse, author’s translation)

The inventory- and distribution manager in turn has four department managers under him, who are responsible for the goods reception, mail order and Internet distribution, and the deliveries to the stores. A number of team managers report to these four people.

The personnel have become used to the expansion of the warehouse and the many new stores that they deliver to. Rolf Andersson claims that earlier it was a big event when a new store was opened. Nowadays, however, it is business as usual and no great changes or adjustments are needed in the warehouse operations more than a new outbound delivery place:

“Ten years ago it was a great stir, but nowadays we are used to it and it happens almost unnoticed. Of course it generates one extra address to deliver to, but otherwise it is almost unnoticed in the organisation.”

(Rolf Andersson, Head of central warehouse, author’s translation)

In the same way, Rolf Andersson is not worried about the forthcoming expansion to the UK, since no big changes in the warehouse will be necessary. Investments made in technical innovations at the warehouse such as a new sorting facility make the expansion smooth. He concludes that the UK stores will be delivered to in two days, in exactly the same manner as for existing stores in e.g. Trondheim or similar.

Another reason for Rolf Andersson’s confidence is the well functioning IT system, Raindance, which enables good control of the flow and costs. Rolf Andersson and his employees at the central warehouse are frequent users of Raindance; they use it to follow different types of measurements. For example, on a daily basis Rolf Andersson himself follows order lines received from the stores and how many should be delivered the next day. Furthermore, Raindance enables

him to further break down the order lines to different zones in the warehouse and is thus a helpful tool for capacity planning.

The role of the central warehouse is undoubtedly seen as important for top management in general and new investments in the warehouse are also met by understanding in the board of directors;

“I have to acknowledge that when it comes to the enlargement of the central warehouse, the board of directors is well aware of the fact that this requires large investments...if we do not extend we will not be able to continue to grow. And since we are skilled at warehousing, TPL solutions are a more expensive solution in the long run.”

(Rolf Andersson, Head of central warehouse, author’s translation)

Gert Karnberger, CEO, states Clas Ohlson is a retailer that lives of selling products to a higher price than they were bought for. For this reason the central warehouse becomes decisive and it is therefore allowed to cost. Indeed, the central warehouse is Clas Ohlson’s largest investment. The inventory is also seen as necessary for an efficient flow of products:

“We do not consider the products in the central warehouse as a cost. Inventory is obviously not very exciting and analysts do not get very thrilled when talking about inventory, but we argue that the central warehouse should be seen as a terminal – at Arlanda they handle people and here we handle goods...The turnover rate is more than six times per year, i.e. more often than once every second month, and in the stores the turnover is between 8 and 10 times. Thus, the whole company is based very much on the flows of material.”

(Gert Karnberger, CEO, author’s translation)

12.1.5 The order and delivery process

Figure 12.2 below shows the flow of goods in the central warehouse:

Figure 12.2. The flow of goods in Clas Ohlson’s central warehouse

The flow of products between the central warehouse and the stores can be described as a simple pull system with defined ordering points and order batches for each product and each store. These are determined by the store’s number of customers, volumes sold, and number of products in each package. At the end of the day, Raindance automatically considers the inventory levels in each store and generates a delivery order for all articles that have passed below the defined ordering point. In the order, the article number, batch size, and information about where in the store the product is exposed, are given.

Except for the deliveries to the stores, the central warehouse also manages the flow of products to mail and internet customers. 60% of the orders in this flow come from the Internet, but it is still possible to order via fax, phone or ordinary mail. When the order from a customer arrives, they are first manually checked in order to discover discrepancies, fraud etc. Thereafter they are sent further into Raindance (for internet customers) or manually typed into Raindance (mail- and other customers).

Orders from mail and internet customers, which are relatively small orders, are picked and packed in a special picking area. Raindance optimises picking routes depending on the orders' volume, and generates picking lists. The orders, at most 32 at the same time, are then picked and packed.

The picking for the stores starts with Raindance generating picking lists divided into the different areas in the warehouse. From the automatic high-bay storage, which contains most of the goods, the requested amounts of parcels are picked and each parcel is labelled with the end destination (i.e. store). Thereafter the parcels are automatically sorted in a special sorting facility. In addition to this flow, other voluminous and seasonal products that are not possible to store in the high-bay area, are picked from the bulk storage area and brought together with the parcels from the high-bay storage on an outbound area. After picking in the different areas, the goods for a specific store is gathered in a specific outbound area and prepared for transportation. When packing goods to a store, the products are packed depending on how the products are stored in the actual store so that the reception and handling at the stores is facilitated. For the same reason, on each picking label at the central warehouse the shelf number in the store is also indicated.

Posten is responsible for the deliveries in Sweden, and DHL to Norwegian stores. As for deliveries to Finland, Posten delivers to Åbo and from there the goods are further distributed to the Finnish stores. The stores in southern Sweden receive their products in the morning between 6.30 and 7.00 am the following day and northern parts of Sweden, Norway and Finland the day after that.

The goal is that the products delivered in the morning should be placed on the shelves before the store opens the same day. The refill process of the stores has been developed and refined during the years in order to make it as efficient as possible and a lot of effort has been made to do this:

"We have constantly been working with this since 95-96, so for us it is nothing new. It is simply a part of the daily business. And I guess that is one of the reasons why the customers enjoy our stores."

(Rolf Andersson, Head of central warehouse, author's translation)

When handling the incoming products, the personnel at the stores use scanners connected to the in-store computer system (which in turn is linked to Raindance). During the sales, the inventory levels are then updated in real time and at the end of the day, the inventory levels for each store are automatically gone through and an order line for each product that has reached the ordering point is created.

For internet and mail order customers, a normal order is picked the day after it is received and the customer gets it delivered one or two days after that depending on where the customer is located. Mail and internet order customers are also able to order express orders. In the case where the order is received before 12.00 pm the customer receives his parcel the same day (or the day after if the customer is located in Finland or northern Sweden or Norway).

12.2 Strategy

12.2.1 Vision

In Clas Ohlson's annual report from 2005/2006 it is stated that:

"Our business concept is to sell do-it-yourself items at competitive prices in stores and by mail order and the Internet. We aim to operate with good product quality and a high level of service."

(Annual report 2005/2006)

The business should be characterised by the two watchwords simplicity and professionalism;

"We have chosen simplicity and professionalism as our watchwords, because we believe that a flexible organisation with short decisions lines benefits our customers, staff and shareholders. We have even managed to retain this simplicity in the organisation in our recent years of dynamic growth, without becoming caught up in longer decision-making lines and greater bureaucracy."

(Annual report, 2005/2006)

Gert Karnberger argues that the simple way of doing things is in fact often the hardest and that one of the reasons for Clas Ohlson's success is its simple organisation, which is easy to survey and control:

"The simple is often the hardest...You can dig yourself down in different analyses and do a lot of work, but if you have a simple organisation as we have, it is easy to analyse what we should do and where we should be."

(Gert Karnberger, CEO, author's translation)

Based on the watchwords, a strong growth strategy dominates the company strategy. According to Gert Karnberger the overarching goal for the company decided by the board of directors is a 15% annual growth rate:

“Our goals and strategies are simple. We shall grow by 15% sales increase every year. This should be done by increasing our sales in existing stores, as well as through openings of new ones. This financial year [2006/2007] we shall open 12-15 stores and the year after 15-20 stores... We shall also manage to have a 13-15% operating margin and within three years from now 25% of the sales should consist of our own brands.”

(Gert Karnberger, CEO, author’s translation)

Even if growth is the focused strategic goal, Gert Karnberger states the importance of keeping the profitability. To do this, the expansion should be made without risking the business and the existing stores and markets should continuously be improved and penetrated;

“You shall not grow faster than that you can take care of what you already have won. To take care of what you already have got is not glamorous. It is more glamorous to inaugurate new stores, especially in a new country. But it is the care of the business you already have that generates opportunities for the expansion.”

(Gert Karnberger, CEO, author’s translation)

Gert Karnberger recalls a couple of years ago when high growth tended to make top management more willing to take costs than before. When realising this dangerous development, the expression “it is easier to relinquish things you don’t have, than remove things you have”, was coined in the organisation. This expression goes well in line with Clas Ohlson’s philosophy and watchwords.

In order to live up to the vision and watchwords and secure future growth, Clas Ohlson has defined three focus areas for their business where they continuously strive to make improvements. The three areas are product range, logistics, and sales channels and are considered as key for Clas Ohlson’s further success. To work with improvements in these areas is deeply rooted in the company culture according to Gert Karnberger.

Product range

For Clas Ohlson, it is necessary to have an attractive range of products that the consumers are willing to buy. The mixture is also important and Clas Ohlson continuously balances their assortment between the more typical Clas Ohlson products, do-it-yourself, finished products and consumables. A high degree of renewal of the product range is also done and every year 1,500-2,000 out of 15,000 products are replaced.

The products should be considered as "good value for money" by the customers. The latest news is, however, not necessary according to Clas Ohlson's philosophy;

"We are not the first with the latest – let the other [competitors] take care of the child diseases; thereafter we enter the market."

(Rolf Andersson, Head of central warehouse, author's translation)

In the case of Clas Ohlson, this means selling products at a reasonable price with high quality. A successful strategy for this has been to have their own brands. Today their own brands account for 12% of the sales (annual report 2005/2006), but the goal set by the board of directors is to increase this share to 25% within three years.

Logistics

The logistics area is to a great extent the same as the central warehouse and the flow of goods to the stores and the mail order and internet customers. According to Rolf Andersson, the warehouse is continuously updated through different kinds of technical means, and via logistics networks of colleagues, there is an exchange of knowledge and ideas for improvements. Furthermore, the working routines in the warehouse are constantly improved in order to streamline and make the operational processes more efficient. In addition to this, the working situation concerning ergonomics for example has been improved in the last years.

Another important mission for the logistics focus area is to have a smooth exchange of products in the assortment so that excess inventory and larger realisations can be avoided. This is managed by the product managers in the purchasing department and requires planning in advance and a good feeling for the market.

Sales channels

The third focus area is the sales channels, which are the stores and the mail order and internet sales. The main issue in both channels is to keep good customer service with satisfied customers before, during and after the purchase, independent of what sales channel is used. The customers should appreciate good service and competence of the personnel in all situations.

The transparency between the two channels is also an important issue from a customer service perspective. Products bought by mail order or via the Internet can easily be bought back in all physical stores and vice versa. There should also be transparency between stores, which means that all stores offer the full product range.

12.2.2 Supply strategy

The purchasing department plays a decisive role for Clas Ohlson, and until recently the CEO also functioned as purchasing manager. The department has three main responsibilities; the product range, the purchasing, and the pricing towards customers. The department consists of 60 employees divided into five product group teams. Each team is managed by a purchasing manager who is also responsible for a part of the product range. In addition to the purchasing managers, 12 product managers also have responsibility for a specific part of the assortment. The product range is solely decided by respective purchasing or product managers.

In order to keep themselves updated on the supplier market the product managers and the purchasers frequently visit suppliers and fair trades etc for inspiration. No specific guidelines for the assortments are given more than that they should be consistent with the company's overall four product categories tools, home & storage, electrical & electronics, and hobby & household. The range of products is therefore dependent on the individual judgements made by the responsible product managers and purchasers.

The five purchasing managers are also responsible for the purchasing from the suppliers and therefore keep close contact with Rolf Andersson at the central warehouse for consultation concerning, for example, extra storage or handling and transportation costs for voluminous products so that calculated margins are not eliminated. The limited space in the warehouse has also intensified the contacts between the departments.

In addition to the product assortment and purchasing, the purchasing and product managers are also responsible for the pricing for the Swedish customers. On the Norwegian and Finnish market, the subsidiaries in their respective countries are mainly held responsible for the pricing due to their better knowledge of the price situation in their own country. However, they have intense contact with the product managers in Sweden in order to secure that the gross profit margins are satisfactory. The most important tool for a proper pricing is the gross profit margins. No specific directives concerning margins are defined, but each year the catalogue is gone through page by page. The 50 worst pages from a gross profit margin perspective is looked over and adjusted. Thus, Clas Ohlson works with a lower limit for gross profit margin for each page in the catalogue.

As it is one of the most important measures for Clas Ohlson, the gross profit margin is not only controlled in the pricing procedure, but also by the assortment and purchasing prices:

“There is a continuous dialogue about how to improve the margin on our products. We shall offer competitive prices, but one can affect the margin also through the mix of our products and the purchasing prices.”

(Gert Karnberger, CEO, author’s translation)

Gert Karnberger points out the organisational advantages of having the purchasing department fully responsible for the purchasing, assortment as well as the pricing. This gives them total control and responsibility for the gross profit margin;

“I remember in 1996-1997 when we changed this division of responsibility. Before we had a rapid stream of people from the market side who wanted to discuss prices and no one wanted to raise the prices, just lower them. So we changed the organisation. Instead of having a purchasing department thinking that their purchased products were sold too cheap, and a market side who thought that they were given products impossible to sell, the purchasing department got the whole responsibility which means that they own the gross profit margin. ... It is nowadays a simple division of responsibility.”

(Gert Karnberger, CEO, author’s translation)

Clas Ohlson provides around 15,000 different items to the customers. Since this figure is kept on a constant level, each time a new item is introduced in the assortment another one is removed. 12,000 of the items in the assortment are provided on a regular basis and is thus offered in the annual mail order catalogue, while the other 3,000 items are seasonal products. On average 13,000 items are provided at the same time in a store or on the Internet.

Clas Ohlson normally does not sell back products to suppliers and it is therefore important to remove or replace old products in such a way that large realisations are avoided. To facilitate this process the responsible product manager puts a red flag in Raindance for products that are to be removed. When the inventory level of the product goes below a certain point and a purchasing order is created the purchaser is warned. It is then up to the product manager to decide if more should be purchased or if the product should be removed. This judgement depends on the market situation and possible substitutes.

Clas Ohlson has, over the last few years, increased their purchasing in Asia. Clas Ohlson has however no purchasing department in Asia, which is the case for most other companies in Clas Ohlson's situation according to Gert Karnberger. Instead, Clas Ohlson partly purchases via Asian trading houses which function as an extended arm with good presence and knowledge about the Asian market. It is argued that the trading houses are able to keep track of the market in order to secure high corporate social responsibility and perform other kinds of quality tests etc.

Even if a part of the amount purchased from the Asian market is made via trading houses, Clas Ohlson has direct contact with all their suppliers and the trading houses are more or less told in detail what they should buy for Clas Ohlson's account. Many times the price is already agreed upon between Clas Ohlson and the supplier when the trading house is hired.

12.2.3 Market strategy

As previously discussed, growth is an important part of Clas Ohlson's strategy and the goal is an annual growth of 15%. To achieve this, 12-15 new stores are planned for the financial year of 2006/2007 and 15-20 stores the year after that. Apart from growing on today's market in Sweden, Norway and Finland, the board of directors have decided to start up sales with 2-4 stores in the United Kingdom during the financial year of 2008/2009.

The choice of the UK as the next market is threefold. First of all, the UK is a large market which provides opportunities for volume synergies. Gert Karnberger claims that an increasing share of the purchases is done in Asia which means larger volumes per purchase. This in turn requires larger markets which makes the UK a promising market to enter. Secondly, the UK market is considered to have a high demand for, and match with, Clas Ohlson's range of products. Thirdly, the price picture is positive, i.e. the gross profit margins are expected to be high in the UK. This was decided by what the customers are used to paying for the type of products Clas Ohlson offers.

In order to reach the growth goals it is however important for Clas Ohlson to also continue the growth on the existing markets in Sweden, Norway and Finland, Gert Karnberger states. Even if Clas Ohlson now is heading for the UK market, more establishments will be made in these countries. To better penetrate the existing markets, a new concept store which will be called "Medium" will be introduced. Today all existing stores are large and are approximately 15,000 square meters. The catchment area for these stores are 60,000 possible customers. The store concept medium will be based on smaller stores in terms of square meters and less personnel and have a catchment area of 30,000 and more. The whole range of products however will be sold also in the Medium stores. To sell only parts of the product range would be difficult according to

Gert Karnberger since the customers expect to find the same range of products in all Clas Ohlson's stores.

Despite the fact that the fast expansion and openings of new stores is accelerating, Gert Karnberger claims that the organisation is capable of handling it. He argues that they have learned how to open the stores in an efficient manner and have a suitable model to work from in the form of projects. An acknowledgement that this is a successful method is that within twelve months after the opening, all new stores have been profitable.

Despite the fact that price is obviously important for Clas Ohlson, the service aspect is seen as more important in the long run for satisfying and keeping the customers:

"Our prices should be competitive. The total price for what you buy should be lower than if you buy it in the specialist trade. But we have no strategy or ambition to always offer the lowest price. Our customers should experience that it is "good value for money" to buy from us. We should compete in all areas; the quality, the customers' needs, a generous service and return policy etc. Focusing on only price is very simple, but it will not help in the long run."

(Gert Karnberger, CEO, author's translation)

An attractive product range is obviously important for a retailer like Clas Ohlson and one of the components of this is to offer their own brands that are considered to be good quality for lower prices. In 2006 these represented 12% of Clas Ohlson's sales, but the board of directors has defined a goal of having this share increased to 25% in 2009. 25% is expected to be the right mix between their own brands and other brands, and thus more than 25% would not be favourable at the moment.

In addition to having an attractive product range, another prioritised area handled by the marketing department is the layout of the stores. The stores are carefully designed and the products are exposed in such a manner that the customers are encouraged to go through the entire store. In the same way, the strategy for the offering on the Internet is to promote products that make the customer interested to further investigate Clas Ohlson's range of products.

12.3 Management of the company

12.3.1 The management levels and their main responsibilities

The highest authority that plays an important role for the management of Clas Ohlson is the board of directors; it is involved in all major strategic decisions concerning e.g. investments, brands, growth rate etc. The board of directors has been more and more active over the years and is seen as an important source for inspiration and new strategic ideas for the company according to Head of central warehouse, Rolf Andersson.

Below the board of directors, Clas Ohlson's business is managed by a top management team, which is not an official hierarchical level that is able to make decisions, but often functions as an advisor to the board because of their knowledge about the business and the daily operations. Much of the strategic work is done in collaboration between the board of directors and the top management team. For larger strategic issues such as the expansion to the UK market, a specific strategic project group has been set up. The project groups report their findings to the top management team as well as to the board of directors, depending on what issues it is concerned with. Another example of such a project is the enlargement of the central warehouse, where Rolf Andersson has played an important role and has been responsible for investigations which will form the basis for a formal decision to be taken by the board of directors.

According to the CEO, his main tasks are to handle investor relations and participate in strategic project groups such as the expansion to the UK. Clas Ohlson has no information department and with help from the deputy CEO and CFO, the CEO personally handles all investor relations. This is a time consuming job and occupies about 25% of the CEO's time. In general, he functions as the major front figure for the company. For instance, he personally opens all new stores.

The CEO seldom has time to go into details in the company's operations. Instead he participates in the strategic development projects, which gives him a good overview of the operations and enables him to act as a middleman between the organisation and the board of directors. In other words, his presence in the company is directed towards long term strategic matters:

“It is not a mere accident that I am the one who takes care of such things as investor relations – I am the least operational person in the organisation and thus the organisation can afford my absence.”

(Gert Karnberger, CEO, author's translation)

Gert Karnberger, however, tries to keep track of the business by following the sales and other figures in Raindance on a regular, almost daily, basis. Given that the costs are normal, the aggregated sales figures are, according to Karnberger, a good indicator for the company result. If he discovers greater changes in the figures he would probably contact the responsible manager (e.g. the Head of purchasing if the gross profit margin has decreased) and discuss the reasons for the dip. He himself does, however, not go into details and leaves the issue to the involved department manager.

The department managers are thus given a great portion of freedom in their daily operations, but have despite this, close contact with their CEO. One example of this is the recent discussion concerning a preliminary third party logistics solution in order to solve the space limitations while a new enlargement of the warehouse is done. Rolf Andersson explains that even if he has the mandate and is trusted to take such a decision, this is a “policy question” and that he therefore had consulted at least the CEO and deputy CEO, or even the board of directors, before taking any action. In addition, he argues that the CEO would probably like to know in order to be kept informed about the business.

“I do not need any formal mandate from Gert to do it, however he wants me to inform him so that he knows about it.”

(Rolf Andersson, Head of central warehouse, author’s translation)

Concerning the relationship between different departments, the managers for the different departments have, in general, close contact regarding the business also outside the formal top management meetings. However, they have clear, separate responsibility areas and do not go into details in each others business. Rolf Andersson describes the relationship as follows:

“If you put it like this; they [the other top managers] do not interfere, but know very well what I am doing.”

(Rolf Andersson, Head of central warehouse, author’s translation)

12.3.2 Meetings and communication

The top management team meets once each month with the main purpose of letting the departments inform each other about activities and events that are of importance for the company as a whole. For example, the Head of central warehouse, Rolf Andersson, informs the other members of the top management team about the activities in the warehouse by discussing key performance indicators such as the delivery service towards the stores and mail order and internet customers. In addition, the CEO, who is a member of the board, informs the team about decisions taken by the board. Furthermore, strategic issues such as further expansion plans in

order to achieve the given growth goals are discussed. For instance, the expansion to UK has been a recurring topic in the recent years.

In March every year the board of directors formally decide and agree upon a strategy for the next years. Before this, the top management team usually has had a meeting with the board of directors where long term as well as short term strategies have been discussed.

Specific goals and measurements for each function in the company is followed up on a regular basis and communicated from the top management team. Here, Raindance plays an important role according to Gert Karnberger; he stresses the importance of Raindance for strategy communication at the company. The system enables efficient control and communication in the company and is thus an important tool for managers at all hierarchical levels in the company. However, just as important as the communication of specific goals and measurements is to develop and maintain a correct business acumen among the staff:

“We do not consider each focus area in detail at the meetings. Instead we require business acumen and competence at each management level in the company...One can not have complete manuals for how to work. You know, our employees have a life outside Clas Ohlson where they make lots of bad decisions. We want them to learn from this and bring the knowledge into the company. And you are excused if you make mistakes at Clas Ohlson. We have, of course, no tolerance for irregularities, but mistakes can always be made. Our employees must feel comfortable with this. This has created an organisation with enormous commitment and confidence. The worst thing you can have is an organisation that is afraid. In such cases it becomes paralyzed and this is often management’s fault. The management should instead create good conditions for commitment and confidence, something that is impossible to order.”

(Gert Karnberger, CEO, author’s translation)

13 Bama – The Case

13.1 The company

Bama was founded by Christian Matthiessen in 1886 as an import company of wood products. In 1905 the company became the first importer of bananas to the Scandinavian market. Bananas are still an important product for Bama Gruppen AS (from now on referred to as Bama) but the assortment has been broadened to include a long range of different fruits, vegetables and flowers to the Norwegian market.

Today's Bama was formed in 1998, when Bama, with a long term agreement, took over its competitor Gartnerhallen's sales organisation. Gartnerhallen is today purely a producer organisation owned by Norwegian farmers. The two former competitors' businesses matched each other well since Gartnerhallen, through their members, had good access to the Norwegian farmers, while Bama had good access to the market via local dealers they had acquired around Norway. With the merge in 1998, the farmers in Gartnerhallen got via the long term agreement direct access to the market via Norgesgruppen, who owned parts of the Bama company. Norgesgruppen owns a long range of grocery chains that together have a share of almost 40% of the sales of fruits and vegetables on the Norwegian market. Thus, the three players Bama, Gartnerhallen and Norgesgruppen together control the whole supply chain from producer to end customer and form the foundation for Bama's success.

Norgesgruppen is the largest owner with 46 % of the shares followed by the old owner family Nergaard that holds a share of 34% of the company. The third largest owner, with a share of around 20%, is Rema 1000 who is a competitor of Norgesgruppen.

In 2005 Bama had a turnover of NOK 5.6 billion with a profit margin on 5.8%. Bama has grown with sustained profitability for many years, see Table 13.1:

Table 13.1. Bama's operating income and profit margin

	2005	2004	2003	2002
Operating income (thousand NOK)	5 637 100	4 950 400	4 787 300	4 474 900
Change from previous year (%)	13.87	3.41	6.98	9.05
Profit margin (%)	5.8	5.1	5.0	4.2

13.1.1 Organisation

Before Bama merged with Gartnerhallen in 1998 the company had a strategy of buying control in a large number of local businesses around Norway in order to get better access to the local markets. As a consequence of this, Bama is a straggling organisation with many of the former local companies as subsidiaries. In some cases the old owners still have a minority of the shares and are even still managers in the subsidiaries.

Concerning the organisational structure, the company is divided into a centralised supply organisation (Bama Trading) and 5 divisions which are focused on one type of customer segment each. The organisation chart shown in Figure 13.1 provides an overview of the organisation. In total, Bama has around 1,700 employees.

Figure 13.1. Bama's organisation chart (Source: Annual report, 2005)

As indicated in Figure 13.1 above, Bama Trading is a centralised division responsible for the supply of products to the different divisions. Over the year, around 40% of the supplied products come from Gartnerhallen, i.e. Norwegian farmers, while the other part is imported from all over the world. The economies of scale and Trading's buyer competence when it comes to fruits and vegetables are two of the main uniting factors for the heterogenous customer side of Bama, i.e. the divisions.

Because of their different customers, businesses, and owner structures, the five divisions are managed very differently. Below follows a short description of each division:

- The Grocery division stands for 62.2% (annual report 2005) of Bama's turnover. The chains in Norgesgruppen and Rema 1000 are the customers to the division. Despite that they are both owners of Bama, they are also competitors on the grocery market and are therefore served in two separate companies, Gode Grossister (serving Norgesgruppen) and BaRe (serving Rema 1000). BaRe is 50% owned by Bama and 50% directly by Rema 1000.
- The Horeca division (HOfel-REstaurants-CAtering) represents 16.6% (annual report 2005) of Bama's turnover. The division has a long range of different large customers to which they offer customised solutions. Examples of their customers are the Norwegian Armed Forces, schools, restaurants, etc. The types and requirements of the products differ from the grocery division. For example, while the grocery division preferably handles immature avocado pears, the Horeca division is served with mature avocados, ready to be used at once.
- The Industry division represents 14.6% (annual report 2005) of Bama's turnover, and specialises in the production of frozen and fresh processed products that are sold on the grocery, catering and KPS (Kiosk-Petrol-Service shops) markets. The division manages a number of different factories and business units that are spread all over Norway.
- The Flower division represents 5.1% (annual report 2005) of Bama's turnover. It delivers all types of flowers to the Floriss franchise chain, KPS market as well as to the grocery chains.
- Finally, the KPS (Kiosk-Petrol-Service shops) division has 1.3% (annual report 2005) of Bama's turnover. The customers to this division are mainly petrol stations, but also for instance training centres.

To sum up, the divisions in Bama are highly decentralised and consist of local companies supporting a long range of different types of customers. In some cases the companies are not even totally owned by Bama. On the supplier side though, Bama Trading is indeed centralised. As will be discussed below, the divisions in Bama are also linked by a common IT platform and accounting functions.

The Bama Group AS is managed by a top management team which also plays an important role for unifying the company. The team consists of a CEO and three company directors, who together cover all important divisional areas (including Trading) and functional areas in a matrix organisation. The Figure 13.2 below illustrates the top management team and their responsibility areas:

Figure 13.2. The members of Bama’s top management team and their responsibilities

The organisation in the different divisions below the top management team is complex, and it will not be presented in detail in all parts in this study. Instead, the Trading organisation and Gode Grossister, the company within the grocery division that serves Bama’s largest customer, Norgesgruppen and its chains, are described below.

Bama Trading’s organisation

Company director Öyvind Briså, member of the top management team, is in charge of Bama Trading, which handles all purchasing for the divisions. Trading has a flat organisation structure with nine people who directly report to Briså. These people are product managers responsible for different types of products such as bananas, potatoes and citrus fruits. There is also a logistics

manager who is responsible for all transports from supplier to the DCs. The nine people and Brisa meet once each week, where sales development, forecasts etc are discussed.

At Trading, the purchasing for the different customers are synchronised. Product managers are responsible for different product categories, e.g. citrus fruits, and are responsible for the supply of this category to all divisions.

Except for purchasing, Bama Trading also manages the transportation to the divisions in Norway. For this reason, Trading has two terminals in Oslo which function as hubs for the transportation from the suppliers and to the customers. Today around 50% of the flow of goods goes via the terminals, where about 90 people work.

Gode Grossister’s organisation

Company Director Svein-Egil Hoberg is in charge for the Gode Grossister’s organisation (in addition, he is also responsible for the IT function company wide and member of the top management team). Under him, Operating Director Terje Woldsnes and the Marketing Director Jan Hammarström (who is also responsible for marketing activities company wide at Bama) are responsible for the physical flow of goods and the market and sales strategies respectively. Thus, under Svein-Egil Hoberg, two people divide the responsibility in the organisation, see Figure 13.3 below:

Figure 13.3. Gode Grossister’s organisation

The Operating Manager is responsible for the distribution of goods to the stores in Norgesgruppen’s chains. The distribution is done via 15 local DCs spread around Norway. For BaRe and the Horeca division, which resemble Gode Grossister’s structure and management, the number of DCs are 8 respectively 16, but many of them are physically the same as the ones serving Norgesgruppen.

As previously described, many of the DCs have historically been independent companies that were bought during the 1990s in order to strengthen Bama's local presence. They are often considered local independent companies and all of them are own profit centres. The term "Distribution Centres" will, however, be used throughout this study. Each DC is today managed by a DC manager (who sometimes is the former owner), and a deputy manager who is responsible for the operations and the internal purchasing from the Trading organisation. The DCs have no accounting or IT-function, which are centralised at the Headquarters in Oslo.

The marketing director, responsible for the sales towards Norgesgruppen's chains, manages a number of key accounts, each responsible for contact with one chain within Norgesgruppen. Under each key account a number of sales consultants operate in each chain's stores in a regional area. The sales consultants function as advisors to the store personnel concerning layout of the fruit and vegetable area, and other operational sales activities and campaigns in the store.

13.1.2 The IT systems Olfi and Lorry

Common for the whole Bama organisation is the two linked IT systems Olfi and Lorry which have been developed over time by Bama. Olfi is a sales focused system used by the divisions in their sales work, while Lorry is directed towards purchasing and transport planning at Bama Trading. In general the two linked systems work well according to top management, and enable good control of sales and costs, as well as good traceability of the origin of the products. The principle in the systems is simple; each purchase is dedicated a number which follows the goods throughout the flow. In each step in the flow, different types of costs are added to the number.

The systems are used in all parts of the company and have over the years been developed and adjusted to fit Bama's special needs and requirements. All support and development of the systems are today handled centrally under the supervision of Svein-Egil Hoberg. The fact that Bama develops and handles the system internally has been an important advantage according to Svein-Egil Hoberg, who argues that a part of Bama's core competence lies within the uniqueness of their IT systems.

"We have been very focused on the idea that we should own the information and manage the systems. If we let this go I believe we will become more vulnerable strategically."

(Svein-Egil Hoberg, Company Director, author's translation)

However, some problems have occurred in the interface between the two parts and at the moment Bama is considering a new development of the systems in order to create one system that incorporates the whole flow of goods from supplier to customer. The new system will

probably consist of standard modules that will be developed and adjusted in-house at Bama. Top management stresses the importance of keeping control of the system also in the future.

13.1.3 The physical flow of products

On an overall level, Bama's supply chain contains the following four steps: (1) international suppliers or Norwegian farmers in Gartnerhallen, (2) Two terminals in Oslo managed by Trading or factories or packaging units managed by the Industry division, (3) Regional distribution centres managed by the Grocery or Horeca divisions, and (4) the divisions' customers, including e.g. Norgesgruppen's and Rema 1000's stores, petrol stations, restaurants, flower stores etc.

In Figure 13.4 below, the supply chain for Gode Grossister serving the chains within Norgesgruppen is illustrated. The flow to the stores belonging to Rema 1000 is handled by BaRe, and the flow to Horeca's customers have a similar layout, while products from the industry division are often distributed directly from the factory or packaging unit to the customers. The flow of flowers is also kept in a separate flow, with a larger terminal and inventory in Holland as a hub for the distribution.

Figure 13.4. Gode Grossister's supply chain

As described above, Bama Trading is responsible for all of the purchasing within the Bama Group. They base their purchasing on electronically sent orders from the local DC's, after the DC personnel have visually inspected their inventory and future needs.

Over the span of a year, approximately 40% of the fruits and vegetables sent to the grocery division are purchased from Gartnerhallen, i.e. Norwegian farmers. The other part is imported from the international market. Around 50% of the goods are directly delivered from the suppliers to the different DCs. For example, a full truck load of oranges from Spain can go directly to three

different DCs without any intermediaries. The purchasing and rather complex transportation planning for this is made in the IT system Lorry. Since some purchasing is done on speculation with the purpose of buying full truck loads, it is also possible in the system to dedicate goods that are on the way to Norway to a certain customer. In other words, the goods can be sold meanwhile it is physically moved from the supplier to Norway.

For the other 50% of the flow, Trading also manages two terminals in Oslo, one for fruits and one for vegetables. These terminals have a turnover of more than one time each day and functions as a hub and repackaging zone for incoming goods from international suppliers as well as Gartnerhallen. The goods passing the terminal should arrive before 2 pm every day, where it is checked for quality in the goods reception. Thereafter the goods are either directly given an address label and moved to the outbound area where it is loaded into trucks with local destinations around Norway, or directed to a picking zone, where the pallets are repacked into smaller units. When the goods have been loaded on the trucks in the outbound area an electronic copy of the consignment bill is automatically sent to the receiver, i.e. the DC.

Bama does not have a truck fleet, and purchases all transportation. Sometimes the transportation is also handled by the supplier. The lead time from European countries like Italy, Spain and France (who are the largest supplier countries in Europe after Norway) is from the ordering to the physical reloading in the DCs and takes about one week.

Due to space limitations in the terminals the share of goods passing through the terminals must be low and the turnover there high. At the moment, Bama is planning to build a new larger terminal in Oslo and a building site for this has been bought. This new terminal will enable an increased flow of products to go via the terminals which will make distribution more cost efficient due to higher fill rate. Furthermore, the space in the terminal will also allow larger purchasing volumes for better prices.

Bama Trading's responsibility for the physical flow of goods ends when the goods are delivered to the DCs, where Operating Manager Terje Woldsnes and the local DC managers at Gode Grossister take over the responsibility. Woldsnes manages the flow of products through the 15 DCs and further out to Norgesgruppen's stores. The transportation between the local DCs and the stores is managed by the local DC manager, who reports to Woldsnes. When the goods have arrived in the stores, Marketing Director Jan Hammarstöm takes over the responsibility, who is in charge of the key accounts and their sales consultants who in turn takes care of operational issues in the store, i.e. helps the store with layout and other operational sales strategies. In line with Bama's overall strategy of creating profitability for their customers (see next chapter), Bama is thus present also in the stores until the goods are sold to the end consumers.

For keeping the quality of Bama's products, the most important logistics measurement for the physical flow of products is, according to Svein-Egil Hoberg, lead times. The number of days left before it is destroyed when it comes to the store is decisive for the profitability. As a result of this, the frequency of deliveries from the DCs to the stores is important to keep high. This logic is opposite to the trend for other commodities sold in the stores, where fewer deliveries are dominating.

Since Trading purchases products continuously on large international e-auctions the prices on the products for the customers are often changed, but Gode Grossister tries to offer their customers weekly pricelists that are sent out at the end of each week. Based on this information, the individual stores order new products electronically with hand computers that are linked to the nearest DC.

BaRe AS, which serves the Rema 1000 Group and the division Horeca, serve their customers in a similar way and in some regions, the DCs are physically the same as Gode Grossister's. However, the products are divided and defined as three separate flows of goods due to the competition between Norgesgruppen and Rema 1000 and the different characteristics of the customer segments. This means that the DC is divided into three separate rooms with three separate picking areas etc. Some overlap exists though and for products that are the same for both customers, balancing the flow can occur. In addition, the localisation at the same place also simplifies economies of scales for Trading when it comes to transports; a truck with oranges from Spain can in these cases be unloaded at the same place with different types of oranges for the customers' stores.

13.2 Strategy

13.2.1 Vision

Bama's vision is to be, and to be considered as, their customers' best collaboration partner (Annual report, 2005). Bama has succeeded very well with this and was e.g. in 2005 awarded by their largest customer Norgesgruppen their best supplier of the year. The fruits and vegetables are today important products for a grocery store and how the quality and department is experienced by the customers is of great importance for the stores. As Svein-Egil Hoberg states, customers are nowadays willing to drive a longer distance to another store if it can offer better fruits and vegetables, these types of products have become important for the stores' overall profitability. In accordance with the vision, creating profitability for their customers is seen as Bama's most important goal:

“Our strategy to achieve our vision has been to create good profitability for our customers and always, in everything we do, be focused on this. Everything we do is with concern for our customers. Of course we should also be aware of our own profitability, but above all it is our customers’ profitability that is in focus for us. That has been our largest success factor.”

(Terje Woldsnes, Operating manager, author’s translation)

As a result of this view, Marketing Director Jan Hammarström argues that Bama’s strategy making is very much about making strategies for the customers. For example, when it comes to the largest customer, Norgesgruppen, Bama plays an important role for the concern’s overall strategy for fruits and vegetables, as well as for the different chains and their particular strategies. Bama, with their unique competence, does in collaboration with Norgesgruppen’s product manager for fruits and vegetables everything from overall strategies to concrete action plans for the individual stores. This involvement in all management levels is characteristic of how Bama works close to their customers according to Jan Hammarström. In one sense, Jan Hammarström considers himself to work more for Norgesgruppen than Bama in his operational work with creating strategies for the different chains within Norgesgruppen.

Company Director Öjvind Briså also states that the key strategy for Bama is to develop their customers’ profitability and strategy. This can be a demanding task since the largest customers (as well as owners) are competitors. Bama must continuously balance and satisfy both Norgesgruppen’s and Rema 1000’s requirements. Furthermore, Briså points out that Bama is also forced to balance between the customers’ strategies on the one hand, and Bama’s long term strategies on the other. This balance is necessary in order to keep Bama as an independent player in the supply chain;

“Our strategies are closely connected to our customers. We mirror the customers’ thoughts and ideas and try to give them input for how to develop our relationship further. It is a balance; we try to offer our competing owners what they want, so that they feel that we are helping them 100%. At the same time, we must develop and bring our own company forward. This is quite a demanding balance from time to time.”

(Öjvind Briså, Company Director, author’s translation)

An important factor for profitability is to offer high quality products. This is deeply rooted in the organisation:

“The message of the importance of the customers’ profitability in our strategy is well rooted in the marketing department, i.e. the key accounts and the local sales consultants; they live with that every day. It is also anchored at the DC managers and the management level under that, but perhaps not that much when it comes to the people working on the floor. But an important parameter when it comes to profitability is quality, and that is something that all employees at the company are well aware of. All employees function as quality controllers through the whole chain.”

(Terje Woldsnes, Operating Director, author’s translation)

Contributing to their customers’ profitability in the long run, Bama also has a strategy of developing the fruit and vegetable area. This development is made mostly within the Industry division, which continuously does research on new methods for packaging and how to keep the products fresh etc. An important prerequisite for this is Bama’s unique competence when it comes to fruits and vegetables Öjvind Briså argues. In order to survive in the long run it is therefore necessary for Bama to keep this competence and continuously develop it. It is the competence which makes Bama independent from their customers and owners and the ability to contribute strategically to the customers’ development Jan Hammarström argues.

“The customers have thousands of products. They do not have a chance to keep their competence in all product categories. As long as we drive the development on fruits and vegetables we can survive as the Bama Group AS.”

(Jan Hammarström, Marketing Director, author’s translation)

13.2.2 Trading and their strategy

Bama Trading is responsible for all of the purchasing for the different divisions within the Bama Group and plays according to Svein-Egil Hoberg a decisive role for keeping Bama together, since it is via Trading economies of scales can be made:

“To manage the total flows and to try to achieve economies of scale is what characterises the central administration. The big volume effects are achieved in purchasing and transports. If we take oranges for example we have 50% of the Norwegian market. This means volume advantages when considering purchasing, but also in transportation prices. Our separate companies do not have these advantages; they are created through the Trading organisation.”

(Svein-Egil Hoberg, Company Director, author’s translation)

Approximately 40% of the goods are bought from Norwegian farmers belonging to Gartnerhallen, and the other 60% is acquired from international, world wide producers of fruits and vegetables. In general, important criteria for Trading when choosing suppliers are high quality products and suppliers that takes a social responsibility for the production. As Öjvind Briså notes, Bama is dependent on its good reputation and can not afford any scandals when it comes to reputation and social responsibility.

The relationship between Gartnerhallen and Bama is stable with long term agreements that plan and match the demands with the production. As a result of this planning, Bama and Gartnerhallen both profit from the collaboration.

When it comes to the import, the purchasing prices have been decreased in the last years as a consequence of excessive production. Bama strives to keep long term win-win relations with the suppliers where continuity is seen as a prerequisite for Trading in order to secure good quality and reliable deliveries for the future. Trading works with seasonal planning horizons for their suppliers based on the specifications concerning e.g. quality, sizes etc, given by the divisions. The companies in the divisions, e.g. Gode Grossister, have in turn made these specifications in agreement with the customers, when creating their customers' strategies.

“Bama has taken responsibility and has been working seriously with supplier relationships for many years now and our customers trust us for this. We have long term relationships with our suppliers. This helps us fulfil certain goals better than our competitors. We are there every day, the suppliers know that and they are working together with us. They know that our requirements are amongst the toughest in Europe and accept this because they know that we will also be there next year. It is a collaboration we have. It would be impossible to manage a development if you could not be there the next coming year as well.”

(Öjvind Briså, Company Director, author's translation)

Trading wants to involve their suppliers and educate them in what is happening in the supply chain and link them better to the customers and their needs;

“We want to give back to the suppliers some of the predictability and long term view we have been given from our customers. This makes it possible for them [the suppliers] to also develop themselves. This is a part of our working philosophy – we work with a long term horizon...So we try to get them as close as possible to the stores so that they can understand how their products are sold and give them a sense of how their products are developing. Therefore they can better understand why they should do things in a particular way.”

(Öjvind Briså, Company Director, author’s translation)

The long term relationships must, however, also include flexibility because of the characteristics of the products. The production is sensitive to e.g. weather and climate changes that affect the quality of the products. This means that Bama constantly needs to have alternative producers ready when e.g. the weather requires it. According to Öjvind Briså this is routine in the company and deeply rooted in the organisation. An example of Bama’s supply flexibility is how Gode Grossister’s Bend-it campaign of bananas in 2005 was handled. This campaign, with the main purpose of increasing the sales of high quality bananas, was Bama’s largest campaign ever and two weeks before the sales started the producer’s production in Costa Rica was destroyed in a storm. The Trading organisation was then forced to rapidly find a new producer in another area. Thanks to good relations with the supplier Dole, an alternative producer was found and the sale of bananas was increased by 15% that year despite the crisis. Another important part of the flexibility was Gode Grossister’s ability to increase sales of alternative products while waiting for the bananas. Gode Grossister planned alternative campaigns and promoted alternative products that kept the sales figures on a normal level. For these alternatives, a close collaboration between Gode Grossister and Trading was needed.

The special characteristics of the products also have an impact on what measurements Trading uses. Purchasing prices are seen as an extremely difficult measure since the quality and products on the market continuously vary due to the weather and other circumstances. Instead Öjvind Briså, considers the sales towards the customers and the gross profit margin as more reliable measures. The prices are, however, also followed up continuously, but it is difficult to judge if the figures are good or not, Briså argues.

Trading’s interface and responsibility towards the divisions is simple; the divisions are responsible for the assortment and strategy towards the customers, while Trading executes the purchasing of specified fruits and vegetables, e.g. colour, size etc, and handles transportation to the DCs around Norway. From time to time the Trading organisation also suggests suitable purchases and can recommend the divisions purchase certain products, but on a general level the assortment is handled by the divisions. In order to simplify the communication and better understand the

customer needs, Trading has one contact person for the different divisions responsible for important customers within Norgesgruppen and Rema 1000.

13.2.3 The market divisions and their strategy

In order to create profitability for the customer, growth is seen by the owners as well as top management as an important instrument.

“We believe that growth for us and our markets is the most important goal. With good growth and good volumes comes profitability. Both profitability for our customers and profitability for us.”

(Svein-Egil Hoberg, Company Director, author’s translation)

To continue growth, a penetration of the Norwegian market is expected to further increase the sales volumes. No plan for geographical expansion exists at the moment. Furthermore, a continued focus on the industry division’s work with developing new products and different types of semi finished products that can increase value for the customers, are seen as an important part of the growth in the future.

An important prerequisite for growth as well as for profitability is a high product quality. According to Marketing Director Jan Hammarström, the focus on high quality is valid for the whole company and he, representing the marketing side of the company, has tight communication with the purchasers on Trading concerning the quality:

“They [Trading] are constantly aware of our need for good quality products. They know that if we can acquire high quality oranges in August, September and October, we are able to double the sales of oranges that period. The entire Bama organisation has a focus on how to create good results at our customers. It is quality, quality, and quality that matters.”

(Jan Hammarström, Marketing Director, author’s translation)

The quality of the products is also continuously followed, so that the assortment can be rapidly changed if the sales go down earlier than expected due to e.g. bad quality. It is therefore necessary to have close contact between the grocery division and Trading.

As described in the previous chapter, the purchasing prices are difficult to predict since the quality and offering varies depending on the weather. Another factor that complicates the pricing model is the transition periods from when the products are purchased from Gartnerhallen to

when they are imported. In order to level out price differences, Bama uses a fund system in the pricing model.

The pricing towards customers is built on a simple mark up costing model. In general, the divisions are from Trading given a price that consists of the purchasing price plus Trading's transportation costs. Thereafter, the divisions add their own distribution costs and a profit margin. For the larger customers and owners Norgesgruppen and Rema 1000, Bama is working with open books, which means that the pricing method and margins are always given to the customers. The mark up cost model and the margins are thus made together with the customers and is negotiated every season. In order to meet low cost competitors and offer the whole spectrum of different qualities, Bama has developed a dual concept where more expensive premium bananas, as well as the low cost alternative "First price", are offered to their customers within Norgesgruppen.

As previously discussed, Bama works closely together with their customers and strives to increase their customers' profitability by developing their strategy for selling fruits and vegetables. Together with the responsible person for fruits and vegetables at the customer, the Marketing Director Jan Hammarström, and the key accounts for the different chains develop the chains' marketing strategies concerning e.g. assortment or sales campaigns. Jan Hammarström argues that many employees in the marketing department are in fact working more with the customers' strategies than Bama's own.

"We work closely together with the assortment manager at Norgesgruppen and we [Gode Grossister, Bama] come up with the suggestions on assortment strategies for the chains and how to implement them. Thus, via the assortment manager at Norgesgruppen we take an active part in the strategy making concerning fruits and vegetables in the different chains... It is important for us to be considered the best collaboration partner. This is what we are measured by and judged on by our customers every year. We go into each relationship and ask: what concepts do you want to implement in your stores? What role should the fruits and vegetables concept play for your stores? Thereafter we sit down and describe the concept and here economic goals such as growth and average purchase rate also come into the picture. Our business is then measured against how well these targets are achieved. So our sales business is thus measured on what goes out from the customers' stores, not what we sell to the stores."

(Jan Hammarström, Marketing Director, author's translation)

Hence, Bama plays a key role for the implementation of the strategies via the local sales consultants who are responsible for a certain chain's stores in a geographical area. The sales consultants function as the main contact between Bama and the stores and help the customer with knowledge concerning the products and operational issues such as layout planning, exposure of products, and promotion campaigns. Together with quality, which is obviously the most important factor, the store layout deciding what products should be promoted, and how to expose them, is extremely important for the sales results according to Svein-Egil Hoberg. Indeed, the selling performance in the store is decisive for Bama's results;

"What happens out in the stores means a lot for our success. That is the moment of truth, what our products looks like out in the stores. We are working closely together with the stores when it comes to exposure and quality. That is extremely important for us. We can be world champions to get products from the suppliers, but if it looks bad out in the stores it does not help."

(Svein-Egil Hoberg, Company Director, author's translation)

As a basis for the close collaboration is Bama's unique competence in fruits and vegetables, Jan Hammarström explains;

"If we were a pure logistics company and only optimised our logistics costs, we would be able to lower them 10-15%. But in such a case we would shift the whole responsibility to our customers so that they would manage this category out in the stores. And they do not have the necessary competence or resources needed... This is what justifies our role in the supply chain. Our customers do not appreciate Bama for how fast we are driving our trucks, what means something is instead our knowledge about where to purchase the products. Not only the area, but what specific part of the valley that is best. We are thus the one who knows best where the best products to get are. Bama has that knowledge. Apart from this, we shall also have the best knowledge about how fruits and vegetables are handled in the store."

(Jan Hammarström, Marketing Director, author's translation)

Due to the fact that there are differences between the divisions' customers, the customers for the Horeca division, Gode Grossister, and BaRe are handled in three separate flows of goods, even if their DCs in some cases are physically the same. Despite that some overlap can be made to level out the differences in the flows, the policy is to keep the flows separate, since they are expected to develop better if they are kept separately. Previously the products from Gode Grossister and Horeca were incorporated in the same flow, but since Norgesgruppen represented 80% of the flow, Horeca's customers were prioritised down. When the two flows were separated, it enabled a

specialisation in the Horeca flow that better served the customers and this has led to increased sales according to Terje Woldsnes. Thus, he argues that the advantages of having the two different types of customers in the same physical flow to create economies of scales were less than the advantages with specialised flows. Jan Hammarström points in a similar fashion:

“When the Horeca division was handled by people at the Grocery division, they did not manage to get it to grow. It is necessary to have special competence in the different market segments. That is, I believe, one of the reasons for why Bama is successful today. We have divided our business into different market segments. It is quite another thing to work with Rema 1000 than with Norgesgruppen, because Rema 1000 has chosen to position itself in a different way.”

(Jan Hammarström, Marketing Director, author’s translation)

Meanwhile, the uniqueness and individuality of each division is stressed as described above; Bama has, in other dimensions, tightened the control and centralised functions such as IT and accounting. This has led to a better overview and specialisation of the DCs’ activities. The main task today for the DCs is the service and sales towards the local customer. All other decisions concerning e.g. assortment, transportations to the DCs (but not between the DCs and the stores which is still handled locally), and allocation of products if there is scarcity etc has been centralised. However, the DCs are still their own profit centre with responsibility for the local pricing to the stores. The reason for this is, again, that it is believed that the local presence and local knowledge can better adjust to the local market and better decide correct prices.

13.3 Management of the company

The heterogenous Bama organisation is managed by a top management team that consists of four people. The members of the team have a functional responsibility area as well as a customer segment (divisional) responsibility as indicated in Figure 13.2 above.

The reason for the small number of members in the top management teams is twofold. First, the reasons are historical, where the old tradition of control by the owner family is still a part of Bama’s management style. A high degree of personal control and rapid decisions from top management is seen as important and this is simplified with fewer people in the top management team. Before 2001 the top management team consisted of 10-12 people and included several hierarchical management levels. This group became, according to Svein-Egil, too large and not effective enough and therefore the top management team was reduced to four people with larger responsibility areas. Secondly, the small number of people is also a consequence of the owners Norgesgruppen and Rema 1000 that are competitors on the market. The competition can more

easily be kept outside the company with a smaller group of top managers who can act more independent from the owners. In general, the owners have the philosophy that, as long as Bama performs well, there is no reason for interference.

“It has historical reasons I believe. We have always been an organisation with a keen eye for a small and concentrated organisation. Another reason for why we have a small top management team I believe has to do with the owner structure. The balance between Norgesgruppen and Rema is important, otherwise we in Bama could have become a war zone. We simply manage to balance them. If the top management team had been too large this would have been more difficult. We are a small concentrated organisation and the top management team is trusted and has access to all information. These four people thus manage to keep the balance and control.”

(Terje Woldsnes, Operating Director, author’s translation)

The top management team meets every Friday for lunch. During the meetings mainly structural aspects are discussed including larger investments, overall goals and visions for the company, managerial issues in the different parts of the organisation, and more operational issues are discussed concerning the management of the company. Another important purpose with the meetings is to keep each other informed of the other parts of the business. All four also follow, on a daily basis, a long range of general measurements such as sales and profitability figures, but also specific figures within their responsibility areas.

The organisation and management style is in general described by Svein-Egil Hoberg as being far from hierarchical and many meetings and contacts are held informally. He explains this tradition by stating that many employees have been employed at Bama for many years, and many personal links between employees have made it common and acceptable to skip hierarchical management levels if needed. Jan Hammarström has a similar view;

“We are a rather small organisation so everybody speaks to everybody. The organisation is open, i.e. everybody can talk to everyone. There are no limitations when it comes to who is speaking to who. Rune [the CEO] can speak directly to my KAMs or my sales consultants – that is natural.”

(Jan Hammarström, Marketing Director, author’s translation)

Because of the small number of people and the straggling organisational structure, the task for the top management team is very much about giving the broad directives and goals for the company:

“Our organisation is built very much on freedom with responsibility. As long as a unit can bring good results each one of us is managed separately. That is a part of the values in the company. But this makes it also demanding to structure the company from time to time. The DC manager is responsible for the profit and as long as he can keep what he promises there is no reason to react. We are very much organised around taking responsibility for results and since we have freedom with responsibility a large top management team is not necessary. Instead the guidelines and strategies become our task to mediate.”

(Öjvind Briså, Company Director, author’s translation)

Öjvind Briså means that the top management team sets the general framework for the company and that the top managers divide the tasks between themselves of how to implement the directives:

“One of the things we have discussed in the top management team and where I have had the responsibility has been to purchase a piece of land here in Oslo in order to build a new terminal. That is a decision we took 5-6 years ago and the responsibility for finding a suitable piece of land etc has been my responsibility. The others [in the top management team] have not been involved in this work. So we together decide the direction and then we go in that direction... Another person in the top management team is responsible for the Horeca division and there we have decided that our strategy there is to acquire other businesses. Then he goes in that direction and acquires other businesses... I am also responsible for our Industry division and in 199-2000 we decided to go from 26 to 3 packaging units, and so I have realised that objective. But of course we report our progress to each other in the top management team.”

“Then the organisation below me becomes involved in what are my responsibility areas, while other people become involved under the other people [in the top management team]. Thus, it can be so that not all people in the organisation are updated on what is going on in the organisation. We are working sector by sector or division by division. But we four people up here are sitting on a lot of information and set the direction for how we shall work. And I definitely mean that we manage to get the organisation to do what we have decided upon.”

(Öjvind Briså, Company Director, author’s translation)

The members of the top management team have close contact with their respective divisions. In the case of Svein-Egil Hoberg, who is managing Gode Grossister within the grocery division, he keeps daily contact with the larger units (i.e. the DCs) within Gode Grossister. Once a week he also receives a special report concerning key measurements from each DC. He is also a member of the board of directors in a couple of them. All DC managers, Svein-Egil Hoberg and Terje Woldsnes meet personally 8-10 times per year where the sales development, budget and forecasts etc are discussed. In addition to the formal meetings, the DCs also have intense communication between themselves with the purpose of benchmarking their ideas with each other etc.

An important task for the top management team has been to balance between the individual divisions' business on one hand, and the economies of scale in assortment and transportation on the other. In the Grocery division this is continuously evaluated and the last couple of years the pendulum has been more towards economies of scales and less customer service:

"We have recently had a period of more focus on reducing the transportation costs than increasing the store's competitiveness by supplying them with fresh goods. If this development goes too far, we will loose our competitiveness. Terje [Operating Manager at Gode Grossister] is occupied with reducing the distribution costs, but I am occupied with supplying fresh goods to the stores. That is the future. I think reducing the transportation frequency to the stores is wrong way to go."

(Jan Hammarström, Marketing Director, author's translation)

Thus, the trend is moving towards a higher degree of centralisation and Bama has, over the last few years, tightened the central government which means that the local managers, and perhaps former owners, have now less responsibility when it comes to product assortment, purchasing, marketing activities etc:

"These local DCs were previously local kings that decided alone how to run their business; they set their prices individually and made the calculations, they individually did the marketing, they individually decided whether they should give bonuses to larger customers etc. In recent years we have been centralised more and more like this. The former owners who are still out there in the companies, sometimes feel that their freedom to act is limited. Now it is we who centrally tell them what prices they should have etc."

(Svein-Egil Hoberg, Company Director, author's translation)

“Previously the DC manager had more responsibility for marketing and sales activities than what he has today. Today he is told what assortment he should buy, what price he should buy it for, and what price he should sell it for. All this is managed centrally today. He should focus on a defined assortment and deliver it out to the stores as efficiently as possible.”

(Jan Hammarström, Marketing Director, author’s translation)

This development has also been driven by the fact that the largest customers Norgesgruppen and Rema 1000 have centralised their decisions and management of their grocery chains. Thus, in order to synchronise activities better and offer one negotiation partner, Bama has also been forced to centralise their business, Svein-Egil Hoberg argues.

However, even if it would be possible to centralise the business even more today, Bama does not necessarily find this a good idea. Svein-Egil Hoberg argues that the reason for this is twofold. First, Bama still utilises the old owners’ competences, contacts and local presence. Their work in Bama today is still valid and in order to utilise this, a too centralised government would be negative. Therefore the DCs are managed as separate profit centres. Secondly, smaller units do not necessarily mean worse results than larger units. In fact, in Bama’s case, the opposite can many times be true. The local presence gives better control of the quality on the products and an ability to follow the local markets better:

“We are thus afraid to build large units with professional people that manage the company and the flow of goods in front of a computer. We are afraid to loose much of the unique in our organisation.”

(Svein-Egil Hoberg, Company Director, author’s translation)

Instead, Hoberg and his closest manager, the Operating Manager Terje Woldsnes, function more as “problem solvers”. This view is also supported by Terje Woldsnes, who argues that:

“They must feel the responsibility and that it is their business. My role is to delegate work. I am not the kind of person who goes down in the organisation and actively points out what to do. I am a delegating person. That freedom and responsibility the DC managers must take.”

(Terje Woldsnes, Operating Director, author’s translation)

Svein-Egil Hoberg is also aware of the balance between the DCs as their own profit centres on one hand, and the flow of goods and the total business on the other. He argues that logistics is more of a philosophy than a function in a company:

“What I mean is that independent of what end of the system you are, you should experience that we are working with the entirety and that one helps each other, that one understands each other’s challenges... That is a balance. To understand the entirety and at the same time create good results. That is similar to the matrix thinking that has been an organisational issue for many decades now.”

(Svein-Egil Hoberg, Company Director, author’s translation)

14 Single analyses of the cases

This chapter presents individual analyses of the three case companies. As described in chapter 10, the analysis is divided into five parts; the company's strategy content, the strategy formation process, SCO, coordination and continuous development. At the end of this chapter Table 14.1 summarises the findings from each case.

14.1 Analysis of Dustin

14.1.1 Strategy Content

Dustin has no formal vision or outspoken overall strategy, but a number of guiding principles, which influence strategy making in the company. Bo Lundevall refers to these as Dustin's "business model" and it consists of the following components:

- High availability of products
- Speed, i.e. short customer order lead times
- Good and generous customer service
- Provide high quality products
- Competitive prices, but not necessary the lowest

In terms of Porter's (1985) three generic strategies, it can be argued that the applied "business model" seems to be consistent with a differentiation strategy where private consumers and the professional market are targeted in two separate companies. According to Porter (1996) this can

be defined as a needs-based position where Dustin and Dustin Home serve company customers respectively private consumers with a broad range of different IT products. Common for the customer segments is that they should experience high availability and fast deliveries, high quality products, and good customer service in general, including generous return policies. Dustin has consciously chosen to not have their own brands and does not consider price as their main selling argument. They have, instead, consciously placed themselves on the market as a retailer of premium brands and are not afraid of having products in their own warehouse if this helps to increase availability, even if this ties up more capital.

Thus, at a first glance Dustin seems to have applied a differentiation strategy. However, at the same time Dustin has also managed to have competitive prices, due to cost efficient warehouse operations and high volumes that create economies of scale. In summary this means that Dustin is “stuck in the middle” (Porter, 1985) and can offer the customers high availability and service and at the same time keep their prices reasonably close to their competitors. The recommendation by Porter to stick to one generic strategy is criticised in the logistics literature (Mentzer et al., 2004; Stock et al., 1998) where it is argued that a proper logistics performance enables competitive positions in several of the strategic dimensions simultaneously.

This argumentation seems to fit well with Dustin’s position, and from a resource based view the double generic strategy position can be explained by the combination of efficient operational processes in the central warehouse and the IT system Dacsa. These two aspects are considered to be more or less equal to “logistics” by top management. Even if Dustin is willing to tie up capital in inventory if necessary, Dustin’s central warehouse still manages a turnover rate of 50 times per year where goods from the four largest distributors are delivered several times each day and goods leave the warehouse 6-8 times every day. According to top management the availability and speed are the most important competitive advantages they have. To manage this flow of goods and keep the high availability and speed, efficient and standardised processes are required. The warehouse operates more or less in the same, highly standardised way for the customers in the three companies Dustin, Dustin Partner and Dustin Home. In addition, the IT system Dacsa has one common platform for the different companies in which employees as well as customers operate – but is linked to three different websites that are adjusted to the targeted market segment.

The operational processes in the warehouse are supported with suitable in-house made IT system, which has been developed and adjusted over the years to fit Dustin's needs:

"Many of our advantages are due to the fact that we have not considered what an IT-system can do for us and adapted us, but what we want to do and make the IT-system adapt to how we work"

(Stefan von Stein, Marketing manager, author's translation)

The warehouse processes are also to be considered as a robust system where the same, simple standardised processes have coped with the rapid growth of Dustin and no dramatic changes have been done:

"Until now no significant changes have been needed here at the warehouse. Compared to for example the marketing department, our growth has caused greater changes there. For example, they must continuously come up with new things for how to become more aggressive in marketing, find new customers etc... Here [at the warehouse] the growth just simply means that we have to work a little bit faster. We are like a spinning wheel that goes on and on, and we just have to adjust our work around how much we have to do. It does not require any significant changes so far... As long as I solve the task in a satisfactory way, I am left in peace, but if I do not, I am sure a pointer will come down."

(Fredrik Carlsson, Warehouse manager, author's translation)

The processes in the warehouse and the IT system Dacsä, and their interplay in between, can be viewed as Dustin's main distinctive capability and in terms of Barney's (1991) characteristics for distinctive capabilities it is valuable, rare and imperfectly imitable. In terms of value creation, it can be argued that the value is mainly created by high efficiency in the operations that gives excess returns, which means that the Ricardian rent is high (Peteraf, 1993). It is also valuable in the sense that it is a prerequisite for Dustin's competitive advantage of providing high speed and availability. The rareness as well as the imperfect imitable criterion are both explained by the combination of efficient warehouse processes and the in-house made IT system Dacsä, which has been developed over the years to suit Dustin's requirements. The development of Dacsä to suit Dustin's operational processes can be viewed as historically unique (Barney, 1991) and is therefore difficult for competitors to imitate.

14.1.2 The strategy formation process

Andreas Ståhl and Bo Lundevall consider financial management and larger marketing strategies (e.g. expansion to new markets, or larger investments such as a new warehouse etc), as the key responsibility areas for the CEO and the owners, Altor, to be involved in. The more operational “what to do” -strategies are left to the department managers to be developed in their business plans. Similar to Vancil and Lorange’s (1975) classical top-down strategic planning process, two major steps in Dustin’s strategy formation process can therefore be identified: (1) the financial goals such as growth and profit, and larger strategic changes in the marketing strategies, determined by Altor and the CEO, and (2) the business plans that are made by the department managers and include more operational strategies that describe how the financial goals and marketing strategy should be achieved. These steps together decide the strategy if considering strategy as patterns in streams of actions (Mintzberg et al., 1998).

As for the financial management, the former CEO Bo Lundevall previously used a model that was called 10-10-4, (which has now slightly been changed by the new CEO but still can be considered as representative) meaning that the goal for the company was an annual growth of the turnover of 10%, an increase of gross profit margin of 10%, and a bottom line result of 4%. These were the main control figures for the company and thus the main management tool for the CEO. Bo Lundevall’s view can be compared to what Mintzberg et al. (1998) call the planning school where strategy making is a rational, straightforward process when he states:

“That is the only thing you manage from up here. You decide a gross profit margin and say that this is what we are going to work with...It is a simple model that can easily be followed over time. It means that you have a management that does not need to be present on a detail level that they do not understand anyway.”

(Bo Lundevall, owner and founder, author’s translation)

The present CEO Andreas Ståhl has a similar approach according to Per-Anders Barhag, COO;

“He tells the measurements and says ‘deliver’, and then it is up to me to figure out how to take it from there with the department managers.”

(Per-Anders Barhag, COO, author’s translation)

When it comes to larger marketing strategies, the CEO considers himself to be involved if the strategy is outside the normal business plan:

“Today I am working with where we are heading in the future, and financially together with our CFO, i.e. that we are on the right track, what the profitability and costs looks like etc. I also work with larger strategic marketing issues, e.g. how we should market ourselves in the future and in what way. This of course I do together with our marketing manager, but he works more with issues inside the marketing plan, while I am involved in the things outside the plan.”

(Andreas Ståhl, CEO, author’s translation)

The financial goals can be seen as a framework given to the department managers from Altor and CEO and it is then up to them to decide suitable strategies and actions for their department to realise the goals. As Marketing manager Stefan von Stein argues, the growth goal of SEK 5 billion in three years has been communicated from Altor, and he is the main person responsible for how to adjust his department in order to achieve that goal. This work is specified in the departments’ business plans and includes e.g. strategies concerning focus on product groups, market segmentation, advertisement, how competition from competitors should be handled etc.

When it comes to issues concerning the physical flow of products through the supply chain, i.e. logistics as defined in academia, several of the members of the top management team are concerned with this, thus, logistics’ proximity to the top (Chow et al., 1995) is good. Interestingly Dustin has no “Logistics manager”, but “only” a warehouse manager. In academia a logistics manager (where “logistics” should be broadly defined as in the literature) is often called for to be placed centrally in the company and be a member of the top management team (e.g. Abrahamsson et al., 2003). However, in Dustin’s case, thanks to the absence of a logistics manager, logistics becomes several persons’ responsibility and in the end, even on the CEO’s agenda (even if financial and market strategies are the main focus at this level of the company).

The proximity to the top has, however, in the last years been prolonged due to growth and Altor’s ownership. Another hierarchical management level in the form of a COO has been created and the CEO with support of Altor are now more concerned with financial issues and larger marketing activities related to the expansion and growth, while the department managers and the COO manage the business, i.e. “what to do” – issues in the company. The COO, positioned in between the CEO and the department managers, is a key person for proper linkage between the emergent events and deliberately planned strategies. He is organisationally placed in between Altor’s and the CEO’s financial requirements and the department managers’ business plans. His role is to act as a coach for the department managers and synchronise the activities in the company. One important mission for him is to judge how Dacsa should be developed. Dacsa is an important management tool for the whole company and the department managers can ask

the COO for improvements such as new applications. The COO together with the IT manager then decide what to develop further.

From an emergent perspective on strategy formation, it can be concluded that far from everything in Dustin's business is planned in advance; much is created ad hoc as a response to emergent events. An important driver for these events is the rapidly changing market, which supports the learning school's view (Mintzberg et al., 1998) that plans are emerging over time and cannot be planned in advanced. As Andreas Ståhl states:

"We are not a static company, we live in a changing world to which we constantly adapt ourselves. As a consequence, even if you have plans, these are changed during the journey. Both concerning what we sell, in what way we sell, and the way we reach the market."

(Andreas Ståhl, CEO, author's translation)

One example of this is when more and more private consumers started to buy Dustin's products. These types of customers were demanding another type of customer service than the business customers and to better serve the customers Dustin Home was founded and a special, adjusted homepage was launched. Dustin Home has grown more rapidly than was expected and has become increasingly important for Dustin. Due to the emergence of Dustin Home and the new market, the marketing department has started to advertise on television:

"For example, Dustin Home that was recently started has gone extremely well, considerably better than we thought... One reason for this could be that we sponsored the TV program Idol, which has given us access to a new customer group. This market has been there, but has not been open to us, so now we have to adjust ourselves and take care of that market."

(Andreas Ståhl, CEO, author's translation)

To summarise Dustin's strategy formation process, the process has similarities to what Nonaka (1988) refers to as "middle-up-down" management, where the middle management consists of the department managers whose main task is to have an entrepreneurial role and receive "broad directions" from the top management (in Dustin's case the CEO and owners Altor) and formulate and implement more specific strategies in different areas in the company. The highest layer should, according to Nonaka (1988), function as a "catalyst" and set up an "over all theory" for the company. This is, in Dustin's case, done by defining financial goals and larger market strategies such as geographical expansion etc. This is also similar to what Mintzberg and Waters (1985) labels umbrella strategy, which is a combination of a deliberate overall strategy that

decides the general boundaries for the emergent, upcoming strategies that are formed en route. Top management thus “set general guidelines for behaviour – define the boundaries – and then let other actors manoeuvre within them. In effect, these leaders establish kinds of umbrellas under which organizational actions are expected to fall...” (Mintzberg and Waters, 1985, p. 263). Thus the umbrella strategy can be labelled “deliberately emergent” according to the authors. The deliberate boundaries are, in Dustin’s case, the financial goals and the larger marketing strategies, which both set the framework for the department manager’s business plans. This is also in accordance with Vancil and Lorange’s (1975) classic top-down view on the strategic planning process, where the higher management levels define the boundaries for the lower levels.

14.1.3 Supply chain orientation

A key aspect in SCM literature and subsequently in Mentzer et al.’s (2001) SCO expression, is win-win thinking and trust between supply chain members. This traditional view can, however, not be found in Dustin’s supply chain setting. Even if Dustin considers their relationships with the distributors and manufacturers as friendly, they can not academically be labelled as “collaborative” as discussed in this thesis. The supply chain is far from single sourcing and Dustin indeed plays the distributor market and goes for the best price available. Haggling is common and encouraged at the purchasing department; for example the haggling performance is presented every week in a special report for the employees. From the customer side the relationships are also above all transaction based and the purchasing is mainly made via the Internet.

However, despite the poor degree of collaboration, it can be argued that Dustin has a systemic view of their supply chain and a strong process orientation as a foundation for their supply chain tactics. Even if arms-length agreements and transaction based thinking dominate, Dustin keeps a close dialogue with the distributors and the manufacturers. For example, Dustin frequently makes deals with the distributors where they agree to buy large quantities of products so that the distributors can risk to purchase a whole container with products from Asian low-cost suppliers. Another example of Dustin’s supply chain tactics is to require that there is only one single contact person at the distributors’ quarters (a key account manager) in order to simplify the flow of information and the contacts between the distributor and Dustin. From a customer perspective Dustin has a good platform for offering good service, and with superior IT-system and logistics processes Dustin’s existence in the supply chain is therefore justified, even if the customer relationships are far from collaborative.

To conclude, Dustin has a clear view of its role in the supply chain and plays successfully the role as an intermediary between the manufacturers and distributors on the one side, and the end customers on the other. To be successful in the role as an intermediary, a strong logistics system

that consists of the operational logistics processes at the warehouse and the IT system Dacsa are decisive. This is Dustin's distinctive capability which justifies Dustin's role in the supply chain.

In line with this logistics, mainly considered be to equal to warehouse activities and the IT system Dacsa, is on an overall level definitely by top management considered to be one of Dustin's most important areas. In order to get the components in the business model in place, good logistics is necessary:

"Perhaps I am self-righteous, but it [the logistics] is the most important thing... I mean, imagine buying a new car and the seller is a pretty skilled and nice salesman, and then when you drive away, the car does not work. We can not sit here and promise that we deliver in time if we do not do it. All functions in the company are important, but we indeed have a very important function in the whole chain."

(Fredrik Carlsson, Warehouse manager, author's translation)

Carlsson continues:

"The importance of the function as such is everybody aware of. We get attention for what we say and we are respected for doing a great job down here... This is also raised by Andreas [the CEO] relatively often, and not only by him, but also by many others."

(Fredrik Carlsson, Warehouse manager, author's translation)

The sales manager Jonas Pircher has a similar view:

"Our competitors' warehouses can not be compared to our warehouse, neither in size nor speed. And the whole logistics system really... If you compare our warehouse with our competitors', you find a huge difference in delivery times."

(Jonas Pircher, sales manager, author's translation)

However, despite logistics' importance for Dustin's position in the supply chain and top management's support at an overall level, more detailed decisions concerning logistics and activities in the central warehouse and the IT system Dacsa are left to lower hierarchical levels in the company.

From a supply chain perspective Dustin's systemic view of their supply chain also enables a proper end customer service. Considering the components in the business model, it can be argued that Dustin is a customer focused company where high availability and speed is considered to be the main competitive advantage. As the founder Bo Lundevall comments:

“The main thing is that we always take the customer’s perspective. It is the customer that is the reason why we are here, so you should not cut out in things that make it worse for the customer. That is something I believe is important.”

(Bo Lundevall, owner and founder, author’s translation)

High availability is enabled, among others, through the linking of the IT system Dacsu with the distributors' systems so that the end customer can also see their inventories when ordering products from Dustin's homepages. Furthermore, the availability is also enabled by the fact that Dustin is willing to have inventory thus willing to take the costs for tied up capital.

14.1.4 Coordination

As discussed above, Dustin coordinates their external relationships in the supply chain through a transaction based style, but at the same time with a systems approach. The systems approach is also seen internally at Dustin, where coordination is achieved by defining clear responsibility borders between departments. The interfaces are defined in such a way that they support an effective and efficient flow of products and information where functional silos are eliminated, see Figure 14.1. For example, the purchasing department is responsible not only for the purchasing of goods from distributors, but also for the pricing towards the customers so that better control of the important gross profit margin can be accomplished. Meanwhile, the product managers responsible for the assortment and main contact with the manufacturers are situated organisationally in the marketing department for smoother marketing activities such as advertising, campaigns etc.

Figure 14.1. Example of Dustin's process oriented organisation

A high degree of integration in the company is also achieved through the business plans that give structure and guidance about who should do what in the company. This creates structure and order in the company according to the CEO:

“I believe a competitive advantage for us is that we are a well structured company. With a well structured company one can make money on most things. If you are not well structured or do not know what you are doing, or are going to do, it normally does not look good at the bottom line result, no matter how good the business idea is.”

(Andreas Ståhl, CEO, author’s translation)

The CEO also means that the increased focus on organisational structure and organisational responsibility has led to an easier organisation to manage:

“Today much is managed through the organisation. This is to get a clearer organisation where everyone knows what they must do. We come from a family company where everybody has done everything and everything has been managed a bit randomly.”

(Andreas Ståhl, CEO, author’s translation)

Discussed below is the shapening of the organisation support coordination and a process view of the physical flow of goods through the supply chain. The CEO is well aware of the relationship between the flow of goods and strategy:

“When we want to change something that is strategic, the flows will be affected no matter what we change. Therefore all parties involved in that flow participate in the discussion about the change. It is important that everybody participate and influence the change, and it is also important to understand the change and why we are doing it, and then execute it.”

(Andreas Ståhl, CEO, author’s translation)

When making their strategy, the department managers have to balance between optimising their own function and the rest of the company. In other words, the department managers have to develop and specialise their processes and internal businesses, meanwhile they are also forced to look beyond the functional silos and adjust their business to the other parts of the company. This balance, which is one of the main obstacles discussed in SCM literature, is something which has been successfully managed at Dustin. The fact that the CEO and the COO leave all the details to the department managers gives the necessary degree of freedom for proper internal specialisation.

At the same time, the business plans are streamlined and congruent. At an overall level the explanation for this is the business model components, which all top managers are well aware of and have a congruent view on. In other words, the top managers agree on the components and work with these in mind.

Related to Thompson's (1967) discussion about different interdependencies, the relationship between the departments can be characterised as reciprocal, or as Van de Ven (1976) put it; team work type. In order to function as a process oriented company with a strong customer focus, the departments are highly dependent on each other. For example, the small warehouse limits purchasing volumes, which has led to close contact between the purchasing department and warehouse in order to secure that the warehouse is able to receive what is ordered. The purchasing manager checks the inventory turnover rate and volume as much as four times each day and keeps a continuous dialogue with the warehouse manager in order to avoid trouble there.

The Marketing manager Stefan von Stein argues for the need of close communication between the departments in a similar way:

"We have a good dialogue and collaboration with the purchasing department. Historically purchasing has been sitting together with us on the market. One could say that the design we have requires that we have meetings at least once a month with purchasers, product managers and market people. Even the sales personnel are participating in these meetings so that they become informed of what will be sold the next coming months."

(Stefan von Stein, marketing manager, author's translation)

Apart from congruent business plans, the departments' high degree of integration is made possible by three things: the role of the COO as a link between the departments, the weekly held meetings, and information sharing in Dacsa. All three aspects help to coordinate Dustin's internal flow of goods and information. The COO considers himself to be an important link between the departments, where he is the department managers' closest manager and link to the CEO and the owners, Altor. The COO's role is to delegate orders from the CEO as well as to meet with the department managers in order to streamline their departments so that they function better as a whole. The COO has to balance between giving more direct guidelines for the department; e.g. he has to approve as well as reject suggested developments in Dacsa, and arrange meetings with the department managers where a dialogue is in focus rather than top-down decision making. The COO is thus using a mixture of the personal and group coordination mode (Van de Ven et al., 1976).

The weekly meetings are obviously a good example of the third coordination mode, the group coordination mode. Closely related to this, much of the operational work at Dustin is also done in cross functional teams according to Stefan von Stein:

“A product manager speaks to a purchaser ten times every day. It is a very close collaboration, it is definitely not we and them, but a team. If you break down the functions operationally, it is suddenly a product manager, a market area manager and a purchaser that work in teams, even if we do not physically sit together.”

(Stefan von Stein, Marketing manager, author’s translation)

Finally the IT system Dacsa is an example of an impersonal coordination mode that is frequently utilised at Dustin. All personnel as well as customers and distributors are linked to each other via Dacsa. Dacsa enables information transparency all the way from the customers, through to Dustin and further on to the distributors, and plays an important role for coordination. Another important example of the impersonal coordination mode is the financial goals provided by the owners and the CEO. They give the framework and thus coordinate Dustin’s activities to some extent, but do not directly give any orders for how Dustin’s department should coordinate their activities.

14.1.5 Continuous development

As stated by the CEO, the most important factor for changes in Dustin’s business are changes on the market. Dustin’s products typically have a short lifespan and 100 new products are introduced every day by the marketing department. In order to survive and keep their leading position, Dustin carefully follows trends and adapts to the environment. One example is the foundation of Dustin Home and its rapid growth.

Dustin has, until Altor’s entrance in 2006, been managed and owned by the founder family. This has created an entrepreneurial company culture where the management style is considered far from “an American way of managing a company”, a flat organisational structure, and much of the communication is done informally. The personnel is considered one of the main reasons for Dustin’s success and is trusted by top management:

“One of the main reasons for Dustin’s success is our committed personnel. If you are not finished at 5 pm, you do not leave until you are done. You are dedicated to what you are doing and interested in your job. Furthermore, we also have a rather flat organisation structure, which means that each person has a big area of responsibility where they can develop and do things on their own. That is something I believe is not common in comparison to other companies.”

(Stefan von Stein, Marketing manager, author’s translation)

Dustin has a tradition of delegating much of the responsibility to its employees as Lars Lundevall states:

“It is a matter of delegating responsibility down more and more so that they grow up and take their own responsibility. Otherwise I will sit here with all the problems and that is not possible.”

(Lars Lundevall, Purchasing manager, author’s translation)

Dustin has no formal development programmes or similar, but trust their organisation’s informal culture and the committed personnel:

“We are not working with long, grinding meetings. But if an idea comes up we test it and evaluate if it works. Many of the permanent employees are creative thinkers who want to improve things... It is the small details that make the difference. For me it is ok to test things as long as there is no danger for life.”

(Fredrik Carlsson, Warehouse manager, author’s translation)

The COO, Per-Anders Barhag, has a similar view, stating that no formal development of processes with writing product flows has ever been done at Dustin. Instead, an important driver for development has been the IT system Dacsa. By improving the Dacsa system, the company has been developed. The founder Bo Lundevall has been the main driver for the development of Dacsa;

“Bosse is the one who has designed many of the routines we have today. He has been everywhere in the company. Less in recent years, but still. Previously one could argue he had my role, but was also owner and CEO... Many of the functions we have created in Dacsa have caused new processes in our business. Without thinking so much we have created new functions in Dacsa since Bosse has wanted to keep control on a new figure. This has in turn led to new jobs being created and so we have been hiring new staff... But no one has ever been sitting and writing product flows etc, I have never seen that.”

(Per-Anders Barbag, COO, author’s translation)

In line with their trust in the personnel and importance of delegating responsibility, the CEO and Altor are (as discussed in previous sections) mainly working with financial goals and larger, strategic marketing issues such as the planned geographical expansion. The operational planning is left to the department managers who make the business plans and specify and translate what the general growth goals from the CEO and Altor means for their departments. This pattern can clearly be seen when it comes to logistics issues in the company. The warehouse operations are left to the warehouse manager Fredrik Carlsson, and top management does not question the processes in there and in general considers these as relatively unproblematic. For example, when it comes to the rapid growth and increased flow of products through the company, Stefan von Stein argues that this requires tighter communication between the departments, but does not question if the warehouse will be able to cope with the new situation. As Stefan von Stein puts it:

“We [the departments] have tighter communication now. If I tell the top management team that we should increase our marketing efforts and that this will be seen in the sales figures, then the IT people control the servers and manage the traffic; purchasing stands ready... and the warehouse is small and we have to get the stuff in there, but I mean they can work three shifts, hire more people and so on.”

(Stefan von Stein, Marketing manager, author’s translation)

Operational logistics decisions concerning the warehouse and the logistics processes are thus taken solely by the warehouse manager, unless it requires large investments.

“Concerning the daily operational business, all decisions are taken by the warehouse manager...When it comes to larger changes, for example investment decisions or changes in the business model, I have it on my table. But I am not involved in how the flow functions or any separate processes. That is managed by themselves at logistics.”

(Andreas Ståhl, CEO, author’s translation)

Regarding the discussion about Dustin's distinctive capability, this is thus left to be managed by the warehouse manager, and the employees under him. This behaviour is not in line with the RBV literature, where it is argued that top management's priority should be to identify, support and develop the company's distinctive capabilities (e.g. Olavarrieta and Ellinger, 1997).

14.2 Clas Ohlson – Analysis

14.2.1 Strategy content

Clas Ohlson's business concept is to sell do-it-yourself products in stores, by mail order and the Internet, where good quality products and service should be offered at competitive prices. General watchwords that characterise the organisation are simplicity and professionalism, which means a flat, flexible organisation that has so far been able to cope with the company's rapid growth. Based on the watchwords, three focus areas have been defined which should be given great emphasis in the organisation and continuously be developed. These are the product range, logistics and the sales channels.

When considering Clas Ohlson's strategy from a positioning perspective, it can be argued that the company has taken a needs based position (Porter, 1996), where the targeted customer segment private consumers is served with a broad range of do-it-yourself products for house and homes, technology and hobbies. In terms of Porter's three generic strategies, Clas Ohlson leans towards using a focused cost leadership strategy for the private consumer market. The price is many times decisive for Clas Ohlson's customer segment and the company therefore strives to offer low costs. Clas Ohlson also actively follows the development in the low cost countries in Asia and has in the last years increased their import share from these countries in order to decrease purchasing costs. These countries offer low purchase prices and since Clas Ohlson's sales volumes have been increasing, it is possible to buy more and more from these countries. In addition, the investment in their own brands gives Clas Ohlson the opportunity to offer their customers relatively high quality products at low prices. The products should be considered as "good value for money" by the customers. Furthermore, Clas Ohlson has no strategy of being the first with the latest. As Rolf Andersson states:

"We are not the first with the latest – let the other [competitors] take care of the child diseases; thereafter we enter the market."

(Rolf Andersson, Head of central warehouse, author's translation)

To conclude, Clas Ohlson's strategy can best be described as a cost leadership strategy, even if Gert Karnberger argues that low prices can not be the only thing to compete with in the long run:

“Our prices should be competitive. The total price for what you buy should be lower than if you buy it in the specialist trade. But we have no strategy or ambition to always offer the lowest price. Our customers should experience that it is “good value for money” to buy from us. We should compete in all areas; the quality, the customers’ needs, a generous service and return policy etc. Focusing on only price is very simple, but it will not help in the long run.”

(Gert Karnberger, CEO, author’s translation)

For instance, an important element in Clas Ohlson’s service strategy is the policy of having transparent sales channels, which means that the whole product range is provided in all stores as well as on the Internet. It is also possible to return goods in one channel (e.g. a store) that are bought in another channel (e.g. on the Internet).

From a resource based view, Clas Ohlson argues that their success is built around the three focus areas product range, logistics, and sales channels. For this, an efficient logistics system, which mainly consists of the internal processes in the central warehouse, and the replenishment process to the stores, and their connection to the IT system Raindance, is a prerequisite. Concerning the internal processes, Clas Ohlson has made larger investments in the enlargement of the warehouse, and also in new technology such as an automatic sorting facility. This has made the warehouse capable of managing the rapid growth and increased amount of handled goods. The Head of central warehouse is confident with the rapid growth and does not consider e.g. the expansion to the UK market as problematic for the warehouse. He concludes that this market will be replenished in the same manner and in the same time as stores in e.g. northern Norway, e.g. Trondheim. The opening of a new store is managed in a standardised way in the warehouse where the only obvious news is that it generates an extra delivery address at the outbound area;

“Ten years ago it was a great stir, but nowadays we are used to it and it happens almost unnoticed. Of course it generates one extra address to deliver to, but otherwise it is almost unnoticed in the organisation.”

(Rolf Andersson, Head of central warehouse, author’s translation)

When it comes to the replenishment process to the stores, this has been developed and refined for many years now, according to Rolf Andersson. He states that:

“We have constantly been working with this since 95-96, so for us it is nothing new. It is simply a part of the daily business. And I guess that is one of the reasons why the customers enjoy our stores.”

(Rolf Andersson, Head of central warehouse, author’s translation)

In terms of Barney's (1991) requirements for a distinctive capability, the internal warehouse operations and the refill process, and their synchronisation with the IT system Raindance, can be seen as valuable, rare and imperfectly imitable. Indeed, the warehouse operations and replenishment process to the stores is crucial for Clas Ohlson's business and can thus be considered as valuable. Above all, the value created is built on the Ricardian rent, where high efficiency in operations means excess returns (Peteraf, 1993; Grant, 1991; Olavarrieta and Ellinger, 1997). Concerning rareness, it is important to note that the warehouse operations, the replenishment process, and the IT system on their own can not be considered as unique and rare. What fulfils the rareness criterion is the complexity in the combination of them. This can be compared to the logistics capabilities discussed by Olavarrieta and Ellinger (1997). They argue that logistics capabilities are a "complex combination of physical assets, organizational routines, people skills and knowledge, which are not obvious and which require time to develop and integrate." (Olavarrieta and Ellinger, 1997, p. 572)

The complexity in the relationship between the warehouse operations and replenishment process on the one hand, and the IT system on the other, also means that they are to be considered as imperfectly imitable (Barney, 1991). In order to function, a bundle of resources (Wernerfelt, 1984) are needed to be combined in a unique way. The exact relationship between the resources is difficult to clarify and therefore they can be considered as causally ambiguous (Grant, 1991; Lippman and Rumelt, 1982; Teece et al., 1997). Raindance is also clearly contributing to the logistics system's "path dependency" (Teece et al., 1997) and historical unique conditions (Barney, 1991), since the system has been developed in-house for many years at Clas Ohlson and adjusted to fit the company's requirements:

"We have been working to develop IT systems intended to support our operation for many years. These systems make it easier to handle ordering, delivery, replenishing, picking and final delivery of the goods. Our priority has always been to make use of modern technology to improve the efficiency with which both goods and information is handled. All systems affecting the handling of goods are fully integrated, that is to say the information is only registered once and is displayed in real time."

(Annual report 2005/2006)

Thus, to imitate this system would be difficult for a competitor. Concrete proof of this is that Rolf Andersson and his colleagues at the central warehouse often get visits from other companies and show the warehouse operations to them. They are thus confident that their warehouse operations are not easy to imitate and do not treat them as a secret.

14.2.2 The strategy formation process

Clas Ohlson has an active board of directors which takes all the major strategic decisions in the company. Examples of issues that are decided in this group are the geographical expansion to the UK and investments in the enlargement of the central warehouse. While the board of directors often makes the formal decisions, these have been prepared and communicated by the top management team. The top management team is not a formal hierarchical level in the company, but the case description indicates two main tasks for it. First, the top management team is seen as an advisory function to the board because of their knowledge about the business and the daily operations. Second, the top management team executes the decisions taken by the board.

Top management's role as an advisory function is utilised in the many strategic project groups that consist of employees in the organisation. For example, the Head of central warehouse is trusted here for his competence and has played a key role in the project group responsible for developing a plan for the enlargement of the warehouse.

"The change process often takes place in the form of projects so that we can make the most of the knowledge, experience and commitment of our staff. The groups include staff from various departments and with various skills. As the basis for the decisions has been created by these groups, the change process becomes firmly established throughout the organisation, the result is better and implementation time is reduced. The enlargement of our central warehouse is an example of how staff from different departments have been involved in teams that work on premises and future ways of working."

(Annual report 2005/2006)

In the projects, the strategic guidelines are worked through and are thereafter presented for the board of directors who makes the decisions that are needed in order to implement the strategy. To conclude, much of the ideas in the strategic work is done as a collaboration between the top management team and the employees in the form of a cross functional project. The project group's work function as input for the board of directors who thereafter takes the formal decisions based on the project group's recommendations.

Top management's second role consists of breaking down and carry out the strategic decisions that are taken by the board of directors and can thus be compared to what Mintzberg (1994) labels as "strategy finders" or "pattern recognisers". In this strategic programming process (Mintzberg, 1994), the board of directors and the CEO give a large amount of freedom and responsibility to the departments. This can be seen at the central warehouse, which is led by Rolf

Andersson. He considers himself as more or less solely responsible for the strategic development within the warehouse.

Complementary to the strategic decisions from the board of directors, the general watchwords simplicity and professionalism, the Clas Ohlson spirit and business acumen should function as input for the strategy implementation. These should also handle emergent events and guide the company into the right direction. This can be compared to Bartlett and Ghoshal (1994), who argue that top management should take a more “soft” approach and mediate a philosophy rather than a straightforward detailed plan:

“We do not consider each focus area in detail at the meetings. Instead we require business acumen and competence at each management level in the company...One can not have complete manuals for how to work. You know, our employees have a life outside Clas Ohlson where they make lots of bad decisions. We want them to learn from this and bring the knowledge into the company. And you are excused if you make mistakes at Clas Ohlson. We have, of course, no tolerance for irregularities, but mistakes can always be made. Our employees must feel comfortable with this. This has created an organisation with enormous commitment and confidence. The worst thing you can have is an organisation that is afraid. In such cases it becomes paralyzed and this is often management’s fault. The management should instead create good conditions for commitment and confidence, something that is impossible to order.”

(Gert Karnberger, CEO, author’s translation)

The strategy formation process can be compared to what Nonaka (1988) refers to as middle-up-down management, where the middle managers, e.g. the Head of departments, are contributing with their knowledge and actively influencing the strategy making. At the same time, Rolf Andersson argues that the involvement from the board of directors has been increased over the last years and that this is an important source for inspiration and new strategic ideas for the company. This is also congruent with the role of top management described by Nonaka (1988) who argues that top management should function as a “catalyst” and set the overall broad goals and time constraints for the company.

14.2.3 Supply chain orientation

Clas Ohlson has a strong company culture that is labelled “the Clas Ohlson spirit”. Entrepreneurial and a feeling of familiarity is encouraged and a strong customer focus should constantly be present. Short decision lines and little bureaucracy should characterise the

organisation. The Clas Ohlson spirit is expressed with the two watchwords simplicity and professionalism:

“We have chosen simplicity and professionalism as our watchwords, because we believe that a flexible organisation with short decisions lines benefits our customers, staff and shareholders. We have even managed to retain this simplicity in the organisation in our recent years of dynamic growth, without becoming caught up in longer decision-making lines and greater bureaucracy.”

(Annual report, 2005/2006)

The Clas Ohlson spirit is supported by top management and has several similarities with Mentzer et al.'s (2001) SCO expression. It can be argued that the synchronisation of capabilities advocated by Mentzer et al. (2001) is facilitated by quick decision lines and little bureaucracy, hence it fits well with the content in the SCO expression. The customer focus discussed in the Clas Ohlson spirit is indeed also congruent with Mentzer et al.'s (2001) call for customer focus and satisfaction. However, in comparison to Mentzer et al.'s (2001) suggested collaborative approach, the cost leadership strategy applied by Clas Ohlson means little collaboration with the suppliers and hence Clas Ohlson's supply chain behaviour does not resemble theory. The supplier relationships cannot be considered collaborative and the responsible purchasers often purchase via trading houses in order to get better access on the local markets in Asia; this is done without any collaborative approach. Often the prices are already agreed upon with the supplier and the trading houses thus only execute the transactions.

The SCO also goes well in line with the commitment top management shows towards logistics issues in the company. On an overall level logistics issues including the warehouse are indeed acknowledged by top management and the board of directors as important for Clas Ohlson. The importance of a well functioning warehouse also means that large investments have been made in the enlargement, new equipment etc;

“I have to acknowledge that when it comes to the enlargement of the central warehouse, the board of directors is well aware of the fact that this requires large investments...if we do not extend we will not be able to continue to grow. And since we are skilled at warehousing, TPL solutions are a more expensive solution in the long run.”

(Rolf Andersson, Head of central warehouse, author's translation)

As was described in the previous chapter, Clas Ohlson's distinctive capability was identified to be the internal operational warehouse processes and the replenishment process to the stores, together with their interplay with the IT system Raindance. Overall, the board of directors and the CEO are supporting this capability by continuously investing in the extension of the central warehouse and new equipment. It is considered as a necessary prerequisite for the physical flow of products and future growth:

"We do not consider the products in the central warehouse as a cost. Inventory is obviously not very exciting and analysts do not get very thrilled when talking about inventory, but we argue that the central warehouse should be seen as a terminal – at Arlanda they handle people and here we handle goods...The turnover rate is more than six times per year, i.e. more often than once every second month, and in the stores the turnover is between 8 and 10 times. Thus, the whole company is based very much on the flows of material."

(Gert Karnberger, CEO, author's translation)

But when it comes to the operational, standardised processes and their connection to the IT system Raindance, the Head of Central Warehouse Rolf Andersson and his employees are trusted to run and develop the operations. To conclude, top management generally acknowledges the importance of a well functioning logistics and central warehouse, and has therefore supported larger investments there, but does not go into details in the company and is therefore not directly involved in Clas Ohlson's distinctive capability.

14.2.4 Coordination

The case description indicates that Clas Ohlson has an organisation that supports the physical flow of products where the defined responsibility borders between departments bridge the functional silos. A key role in the company is played by the purchasing department, who is given a large scope of responsibility (Chow et al., 1995) when it comes to logistics related issues in the company. Apart from purchasing, this department is also responsible for the product range and the pricing towards the Swedish customers. As the CEO states, this responsibility leaves the department solely responsible for the important gross profit margin, which can be influenced in three ways which is all controlled by the purchasing department:

"There is a continuous dialogue about how to improve the margin on our products. We shall offer competitive prices, but one can affect the margin also through the mix of our products and the purchasing prices."

(Gert Karnberger, CEO, author's translation)

The CEO strongly points to the advantages with the existing organisational division of responsibility:

“I remember in 1996-1997 when we changed this division of responsibility. Before we had a rapid stream of people from the market side who wanted to discuss prices and no one wanted to raise the prices, just lower them. So we changed the organisation. Instead of having a purchasing department thinking that their purchased products were sold too cheap, and a market side who thought that they were given products impossible to sell, the purchasing department got the whole responsibility which means that they own the gross profit margin. ... It is nowadays a simple division of responsibility.”

(Gert Karnberger, CEO, author’s translation)

Apart from the purchasing department, another key player in the flow of physical goods is obviously the central warehouse. While the first is concerned with purchasing volumes, i.e. the amount of goods that flows through the supply chain, the latter is responsible for the physical flow of goods. To coordinate the functions, close contact is necessary. For example, purchasers contact the central warehouse for consultation concerning extra storing, handling and transportation costs for voluminous products so that calculated margins are not eliminated. The limited space in general has also intensified the contacts between the departments. In terms of proximity to the top (Chow et al., 1995), the presence of the Head of Central warehouse and the Head of Purchasing in the top management team means that logistics issues concerning the physical flow of products are handled, and the responsibility shared, among several people in the top management team, hence no single person has sole responsibility.

In terms of Van de Ven et al.’s (1976) coordination modes, the case gives examples of group, personal as well as impersonal coordination modes. An example of a reciprocal interdependency (Thompson, 1967) that is managed with the group coordination mode is the relationship between the central warehouse and the purchasing department. Their relationship is characterised by close communication and continuous “negotiation” concerning purchasing volumes, inventory carrying costs etc.

14.2.5 Continuous development

As described described, the development of Clas Ohlson’s business, including logistics issues, is to a great extent made via the project groups. This standardised way of working secures a continuous development of the company’s practices when it comes to e.g. the enlargement of the central warehouse:

“The change process often takes place in the form of projects so that we can make the most of the knowledge, experience and commitment of our staff. The groups include staff from various departments and with various skills. As the basis for the decisions has been created by these groups, the change process becomes firmly established throughout the organisation, the result is better and implementation time is reduced. The enlargement of our central warehouse is an example of how staff from different departments have been involved in teams that work on premises and future ways of working.”

(Annual report 2005/2006)

Another example of when Clas Ohlson works with projects is the opening of a new store. This is, nowadays, a standardised procedure:

“The project group works for about ten weeks before the opening of a new store. The purpose with the group is to have a mix of people with different backgrounds and experiences from the organisation. They can also later bring back experiences from the team work back to their original departments. This increases the understanding of the company and the business as a whole. It becomes less “we and them”-thinking. One can more easily have an opinion about how the company is managed and understand problems in their neighbour’s department. It has been a very successful way of working.”

(Gert Karnberger, CEO, author’s translation)

Interestingly, the CEO also states that working with projects also has more long term effects in the company since the employees that have participated in a project have got a better understanding for the company as a whole, which can have a positive effect on the development of the company.

Clas Ohlson has also structured their continuous development work by defining three focus areas that are considered as crucial for the company and where the business should be improved on a continuous basis. These three areas are product range, logistics and sales channels. Concerning the product range, Clas Ohlson’s purchasers and product managers are given the responsibility to replace the assortment and about 1,500-2,000 new products out of a total of 15,000 are replaced every year. The purchasers and product managers are continuously following the trends and visit frequently trade fairs etc.

The second area, logistics, is more or less equal to the warehouse operations. The warehouse has, over the last decade, been enlarged several times and investments in new equipment have been made. Clas Ohlson has the ambition to always utilise new technology in their business in order to improve efficiency. In addition, the working routines in the warehouse are constantly improved in order to streamline and make the operational processes more efficient. In this development top management plays an important overall role by supporting investments and their commitment towards logistics as a prioritised part of the business. However, top management cannot be considered to be directly involved in the development and management of the warehouse operations and the board of directors and the CEO are not involved in the details of the company. As described above, the basis for strategic decisions are proposed by strategic project groups. The strategic project groups then present their findings and propositions for the board of directors, which take the formal decisions. Even if the CEO participates in a number of the groups, he considers himself as the least operational person in the company:

“It is not a mere accident that I am the one who takes care of such things as investor relations – I am the least operational person in the organisation and thus the organisation can afford my absence.”

(Gert Karnberger, CEO, author’s translation)

Regarding Clas Ohlson’s distinctive capability, it can thus be concluded that top management is not directly involved in the distinctive capability. This is also valid for the Head of central warehouse, who argues that the operational issues are handled by an inventory- and distribution manager:

“As a result of the growth we have had in recent years, I am to a great extent involved in strategic change programmes, enlargement of the warehouse, etc. A couple of years ago I was responsible for the daily operations at the warehouse as well as strategic development issues, but this has changed and now I do not have as much to do with the operational issues anymore. I have got more time to look around the corner now, and I am working more with questions concerning the future.”

(Rolf Andersson, Head of central warehouse, author’s translation)

Lastly, the sales channels is a prioritised focus area for continuous improvements. The main issue for the sales channels is to keep high customer service with satisfied customers before, during and after the purchase, independent of what sales channel is used. For this the logistics area becomes crucial since a proper distribution to the stores is necessary. Therefore, Clas Ohlson has, as Head of Central warehouse argues, constantly worked with, and improved, the refill process in the last decade.

14.3 Bama – Analysis

14.3.1 Strategy content

Bama is working with a niche of products that is becoming more and more important for their customer segments. Bama's vision, which is basically to make profits for their customers, is achieved by working closely with the customers on a strategic as well as an operational level. Based on their unique competence when it comes to fruits and vegetables, Bama together with the customers develop and implement suitable strategies for the customers. An important measure for Bama's performance is the customers' sales figures – not what Bama has sold to them:

“We work closely together with the assortment manager at Norgesgruppen and we [Gode Grossister, Bama] come up with the suggestions on assortment strategies for the chains and how to implement them. Thus, via the assortment manager at Norgesgruppen we take an active part in the strategy making concerning fruits and vegetables in the different chains... It is important for us to be considered the best collaboration partner. This is what we are measured by and judged on by our customers every year. We go into each relationship and ask: what concepts do you want to implement in your stores? What role should the fruits and vegetables concept play for your stores? Thereafter we sit down and describe the concept and here economic goals such as growth and average purchase rate also come into the picture. Our business is then measured against how well these targets are achieved. So our sales business is thus measured on what goes out from the customers' stores, not what we sell to the stores.”

(Jan Hammarström, Marketing Director, author's translation)

Because of the diversity among the customers, they have different requirements and applying Bama's strategy means to adapt their business in order to satisfy the different customer needs. For this, the supply organisation Trading enables economies of scales, and the IT systems Olf and Lorry facilitate the control needed for the diversification towards the customers. The strategy can be characterised as a variety based position on the market where a wide range of customers are served with fruits and vegetables, but where only a subset of the customer needs are satisfied (Porter, 1996).

In terms of Porter's (1985) three generic strategies, Bama is above all practising a differentiation strategy where service in the form of knowledge about fruits and vegetables, and high quality is characteristic for the strategy. Indeed, the market is sensitive to high quality, and it is therefore considered as a necessary prerequisite. As Jan Hammarström argues:

“They [Trading] are constantly aware of our need for good quality products. They know that if we can acquire high quality oranges in August, September and October, we are able to double the sales of oranges that period. The entire Bama organisation has a focus on how to create good results at our customers. It is quality, quality, and quality that matters.”

(Jan Hammarström, Marketing Director, author’s translation)

A balance between costs and service is, however, always present in Bama’s strategy. In recent years, top management claims, more focus has been put on e.g. economies of scales in the distribution. However, as Jan Hammarström argues, frequently supplying the stores with fresh goods will always be the first priority. As a consequence of unpredictable weather that can rapidly change the quality of the products, it is also necessary to have an offering of products that covers the whole range of varying quality. In addition, to meet low cost competitors, Bama offers Norgesgruppen via their Dual-concept both more expensive premium bananas, as well as the low cost alternative “First price”.

From an RBV perspective, and as described above, a distinctive capability is Bama’s unique knowledge of fruits and vegetables, which justifies Bama’s role as an independent player in the supply chain. In order to survive in the long run it is therefore necessary for Bama to keep this competence and continuously develop it. It is this competence which makes Bama independent from their customers and owners and gives them the ability to contribute strategically to the customers’ development;

“The customers have thousands of products. They do not have a chance to keep their competence in all product categories. As long as we drive the development on fruits and vegetables we can survive as the Bama Group AS.”

(Jan Hammarström, Marketing Director, author’s translation)

In the grocery division, their knowledge helps Bama to be a long term collaboration partner instead of an ordinary supplier. Gode Grossister together with the responsible management at Norgesgruppen develop and help to implement Norgesgruppen’s chain strategies. Bama thus plays an important role from strategic issues such as assortment policy, to operational issues such as exposure in the stores and educating the employees in the stores about a proper way to handle the products. In terms of Porter’s (1985) value chain it can be argued that Bama has taken a role where they stand for a significant part of the value creation in the supply chain:

“If we were a pure logistics company and only optimised our logistics costs, we would be able to lower them 10-15%. But in such a case we would shift the whole responsibility to our customers so that they would manage this category out in the stores. And they do not have the necessary competence or resources needed... This is what justifies our role in the supply chain. Our customers do not appreciate Bama for how fast we are driving our trucks, what means something is instead our knowledge about where to purchase the products. Not only the area, but what specific part of the valley that is best. We are thus the one who knows best where the best products to get are. Bama has that knowledge. Apart from this, we shall also have the best knowledge about how fruits and vegetables are handled in the store.”

(Jan Hammarström, Marketing Director, author's translation)

In the Industry division, Bama's customers are changing but despite this, Bama keeps their role in the supply chain because of their leading position when it comes to development and innovation of new products.

In terms of Barney (1991), Bama's fruit and vegetable knowledge can be considered as valuable, rare and imperfectly imitable for the following reasons. First, the knowledge is directly contributing to the customer's strategy making and sales activities thus forms the basis for the growth of fruits and vegetables. The competence of fruits and vegetables is niche knowledge that gives Bama a position that is close to monopolistic and thus the value creation of this capability is built mainly on a monopolistic rent (Peteraf, 1993). The unique knowledge is difficult to buy or acquire on the open market and because of the relatively specialised industry, this knowledge can be considered rare. When it comes to Barney's (1991) third criterion imperfect imitable, the knowledge has been acquired over a long period of time by people who have been employed at Bama a long time. Thus, the knowledge is based on a unique historical pattern (Barney, 1991).

In addition to knowledge, the combination of the 'Trading organisation and the IT' systems Olfi and Lorry can be seen as a distinctive advantage. Costs are kept low because of 'Trading's centralised organisation where product managers are responsible for the different product groups, e.g. citrus fruits and potatoes. Each product manager is responsible for the purchasing to all the customer segments which enables economies of scale in the purchasing prices as well as in the transportation:

“To manage the total flows and try to achieve economies of scale, that is what characterise the central administration. The big volume effects are achieved in purchasing and transports. If we take for example oranges we have 50% of the Norwegian market. This means volume advantages when considering purchasing, but also in transportation prices. These advantages do not our separate companies have, they are created through the Trading organisation.”

(Svein-Egil Hoberg, Company Director, author’s translation)

Another basic reason for Bama’s success, and related to the Trading organisation, is the IT systems Olfi and Lorry, which are a prerequisite for Bama’s control and well functioning logistics operations. The systems are made in-house and have over the years been developed and adjusted to fit Bama’s special needs and requirements. Today, Svein-Egil Hoberg is responsible for the systems and he argues that the unique systems are a part of Bama’s core competence and that these should therefore be kept in-house in the future:

“We have been very focused on the idea that we should own the information and manage the systems. If we let this go I believe we will become more vulnerable strategically.”

(Svein-Egil Hoberg, Company Director, author’s translation)

As discussed in the strategy framework, distinctive capabilities are typically cross-functional (Day, 1994; Grant, 1991; Stalk et al., 1992), and Bama’s Trading organisation together with the IT systems fits in well to this description. Together they fulfil Barney’s (1991) requirements for a distinctive capability. Starting with value, the combination of the Trading organisation and the IT systems forms the basis for an efficient supply of goods in terms of economies of scale and control, and is therefore obviously bringing value to Bama’s business. The IT systems give a good overview of sales, costs and a control of the physical flow of goods. With the systems as a basis, the rather complex physical flow of goods can be planned and controlled. For example, the system enables Trading to purchase goods based on forecast and “sell” goods to the divisions when it is on its way to Norway. The fact that only 50% of the total amount of goods goes via the terminals in Oslo means that a proper IT tool is necessary. Above all, it can be argued that the value is built on the Ricardian rent, meaning that the value is created because of high efficiency in the operations (Peteraf, 1993; Grant, 1991).

Secondly, the rareness criterion can be considered to be fulfilled on the basis of the scale of the business. Bama is the largest distributor of fruits and vegetables in Norway with a yearly turn over of NOK 5.6 million. Finally, the Trading organisation and the IT systems can be seen as imperfectly imitable. The IT systems have been developed over the years and adjusted to Bama’s

business, which means that they have a unique historical condition (Barney, 1991). Also, the exact combination and interplay between the IT systems and Trading's business is also difficult to recognise more than on an overall level. This means that causal ambiguity is also present in the distinctive capability (Barney, 1991).

14.3.2 The strategy formation process

Due to the fact that the owners Norgesgruppen and Rema 1000 are competitors, the board of directors is kept at a distance from the daily management of the company. Instead, the Bama Group is, to a large extent, managed by the four members in the top management team. These four stand independent from the owners and, thus, a balance between the competitors' interests is established.

The top management team is mainly concerned with structural issues for the company regarding e.g. larger investments, overall goals and visions for the company, managerial issues in the different parts of the organisation, but also more operational issues. The decisions taken in the team can be described as general guidelines and broadly defined goals for the organisation to work towards. This is similar to what Mintzberg and Waters (1985) labels umbrella strategy, where the top management team sets the general boundaries for the company, but where there is room for emergent events that can influence the strategy en route.

However, in the case of Bama the four top management members also have the responsibility for implementation of the decisions taken by the team. Each of them has divisional as well as functional responsibility areas where the guidelines and goals are implemented by each one of them. When a strategic decision is taken by the top management team, the responsibility to implement it is given to one of the members in the top management team and the others are not directly involved in this process. Öjvind Briså explains the working method as follows:

“One of the things we have discussed in the top management team and where I have had the responsibility has been to purchase a piece of land here in Oslo in order to build a new terminal. That is a decision we took 5-6 years ago and the responsibility for finding a suitable piece of land etc has been my responsibility. The others [in the top management team] have not been involved in this work. So we together decide the direction and then we go in that direction... Another person in the top management team is responsible for the Horeca division and there we have decided that our strategy there is to acquire other businesses. Then he goes in that direction and purchases other businesses... I am also responsible for our Industry division and in 1999-2000 we decided to go from 26 to 3 packaging units, and so I have realised that objective. But of course we report our progress to each other in the top management team.”

(Öjvind Briså, Company Director, author’s translation)

When the decision is taken, the responsible member of the top management team involves suitable employees in his part of the organisation:

“Then the organisation below me becomes involved in what are my responsibility areas, while other people become involved under the other people [in the top management team]. Thus, it can be so that not all people in the organisation are updated on what is going on in the organisation. We are working sector by sector or division by division. But we four people up here are sitting on a lot of information and set the direction for how we shall work. And I definitely mean that we manage to get the organisation to do what we have decided upon.”

(Öjvind Briså, Company Director, author’s translation)

The management style used when implementing the guidelines and goals can be described as having a high degree of independence for the divisions and the companies and business units within them. For example, the DCs within the Gode Grossister company have their own profit centres where the local DC manager manages the DC without much interference from his manager Terje Woldsnes. Top management in general stresses the importance of this freedom in order to maintain the presence and sense for the local markets.

“Our organisation is built very much on freedom with responsibility. As long as a unit can bring good results each one of us is managed separately. That is a part of the values in the company. But this makes it also demanding to structure the company from time to time. The DC manager is responsible for the profit and as long as he can keep what he promises there is no reason to react. We are very much organised around taking responsibility for results and since we have freedom with responsibility a large top management team is not necessary. Instead the guidelines and strategies become our task to mediate.”

(Öjvind Briså, Company Director, author’s translation)

Terje Woldsnes and his manager Svein-Egil Hoberg instead function more as “problem solvers”. For example, in Gode Grossister the key account managers, each responsible for a certain chain within Norgesgruppen, are able to answer and adjust their specific chain strategies without interference from the top management team members:

“They must feel the responsibility and that it is their business. My role is to delegate work. I am not the kind of person who goes down in the organisation and actively points out what to do. I am a delegating person. That freedom and responsibility the DC managers must take.”

(Terje Woldsnes, Operating Director, author’s translation)

On the other hand, some of the responsibility areas such as accounting and IT have been centralised to the head quarters in Oslo in order to achieve better economies of scale and to let the DCs focus on their core business; serving the stores with high quality products. There is thus a balance between what should be done in a decentralised and a centralised manner, see the discussion in the subsequent chapter.

14.3.3 Supply chain orientation

In line with existing SCM literature, Bama recognises (on the customer side as well as on the supplier side) the importance of long term relationships that can be described as collaborative. Starting with the customer side, a facilitating circumstance is obviously the fact that some of the largest customers also partly own Bama. This keiretsu relationship gives strong and stable supply chain boundaries (Cooper et al., 1997b). The relation towards Norgesgruppen and Rema 1000 can be described as genuinely collaborative where Bama takes great responsibility for their customers’ strategy development when it comes to fruits and vegetables. Bama’s most important goal is also to create profitability for their customers:

“Our strategy to achieve our vision has been to create good profitability for our customers and always, in everything we do, be focused on this. Everything we do is with concern for our customers. Of course we should also be aware of our own profitability, but above all it is our customers’ profitability that is in focus for us. That has been our largest success factor.”

(Terje Woldsnes, Operating manager, author’s translation)

Supporting the customers’ profitability is deeply rooted among management in the company, and each division strives to enhance the highest possible service for their customers. As Marketing Director Jan Hammarström argues, Bama’s strategy making is very much about making strategies for the customers. From this follows that he himself works more for Norgesgruppen than Bama in his operational work where he is creating strategies for the different chains within Norgesgruppen.

On a lower level in the company, the strategy for developing the customers’ profitability is translated to the need of offering high quality products, which is a prerequisite for high profitability:

“The message of the importance of the customers’ profitability in our strategy is well rooted in the marketing department, i.e. the key accounts and the local sales consultants; they live with that every day. It is also anchored at the DC managers and the management level under that, but perhaps not that much when it comes to the people working on the floor. But an important parameter when it comes to profitability is quality, and that is something that all employees at the company are well aware of. All employees function as quality controllers through the whole chain.”

(Terje Woldsnes, Operating Director, author’s translation)

The goal of creating profitability for the customers is also seen when considering relationships on the supplier side. By having long term relationships on a collaborative basis, Bama’s customers should continuously be supplied with high quality fruits and vegetables:

“Bama has taken responsibility and has been working seriously with supplier relationships for many years now and our customers trust us for this. We have long term relationships with our suppliers. This helps us fulfil certain goals better than our competitors. We are there every day, the suppliers know that and they are working together with us. They know that our requirements are amongst the toughest in Europe and accept this because they know that we will also be there next year. It is a collaboration we have. It would be impossible to manage a development if you could not be there the next coming year as well.”

(Öjvind Briså, Company Director, author’s translation)

Bama Trading also consciously want to involve their suppliers and educate them in what is happening in the supply chain and link them better with the customers and their needs:

“We want to give back to the suppliers some of the predictability and long term view we have been given from our customers. This makes it possible for them [the suppliers] to also develop themselves. This is a part of our working philosophy – we work with a long term horizon...So we try to get them as close as possible to the stores so that they can understand how their products are sold and give them a sense of how their products are developing. Therefore they can better understand why they should do things in a particular way.”

(Öjvind Briså, Company Director, author’s translation)

To better integrate and link the suppliers with the customers is also in line with improving lead times through the supply chain. In order to keep quality on Bama’s products, lead times are considered to be the most important measure at Bama, according to Svein-Egil Hoberg. The number of days in the store before it is destroyed is decisive for the profitability.

Internally at Bama, top management stress the importance of having a balance between centralisation and decentralisation in the company. Svein-Egil Hoberg discusses the DCs as their own profit centres and the total flow of goods, and argues that logistics should be seen more as a philosophy than a function in the company:

“What I mean is that independent of what end of the system you are, you should experience that we are working with the entirety and that one helps each other, that one understands each other’s challenges... That is a balance. To understand the entirety and at the same time create good results. That is similar to the matrix thinking that has been an organisational issue for many decades now.”

(Svein-Egil Hoberg, Company Director, author’s translation)

This view has clear similarities with the systems approach, which is an important cornerstone of having a SCO (Mentzer et al., 2001). Another feature of SCO is to satisfy the end customers. This feature can be identified in Bama where the divisions are highly decentralised and adjusted towards the different customer segments in order to fulfil specific customer needs and requirements. It is argued that the different customers are better served if the management and supply chains are kept separate from each other. This is the reason why one physical DC can contain as much as three separate flows of goods for Gode Grossisters', BaRe's and Horeca's customers. Previously, the customers of Gode Grossister and Horeca were handled in the same flow, but as a consequence of that Gode Grossister's flow represented 80% of the total flow, special needs and requirements of Horeca's customers were not taken into account in a satisfactory manner. The flows were therefore separated, and since then Horeca's sales have rapidly increased due to the possibility for a better specialisation. As Jan Hammarström argues:

"When the Horeca division was handled by people at the Grocery division, they did not manage to get it to grow. It is necessary to have special competence in the different market segments. That is, I believe, one of the reasons why Bama is successful today. We have divided our business into different market segments. It is quite another thing to work with Rema 1000 than with Norgesgruppen, because Rema 1000 has chosen to position itself in a different way."

(Jan Hammarström, Marketing Director, author's translation)

On the other hand, many activities have been centralised in recent years and within Gode Grossister, the DC's freedom to act has been limited when it comes to product assortment, purchasing, marketing activities etc:

"These local DCs were previously local kings that decided alone how to run their business; they set their prices individually and made the calculations, they individually did the marketing, they individually decided whether they should give bonuses to larger customers etc. In recent years we have been centralised more and more like this. The former owners who are still out there in the companies, sometimes feel that their freedom to act is limited. Now it is we who centrally tell them what prices they should have etc."

(Svein-Egil Hoberg, Company Director, author's translation)

Jan Hammarström has a similar view:

“Previously the DC manager had more responsibility for marketing and sales activities than what he has today. Today he is told what assortment he should buy, what price he should buy it for, and what price he should sell it for. All this is managed centrally today. He should focus on a defined assortment and deliver it out to the stores as efficiently as possible.”

(Jan Hammarström, Marketing Director, author’s translation)

To summarise Bama’s SCO, it is well in line with what is suggested by Mentzer et al. (2001). Indeed Bama has a systems approach to their supply chain and collaborates with the other supply chain members in order to achieve the seamless, fully integrated supply chain. A strong customer focus is also naturally present in Bama’s strategy and vision.

14.3.4 Coordination

As a consequence of the different customer segments and Bama’s strategy of focusing on the customers’ profitability, Bama’s organisational structure on the customer side can be described as straggling and highly decentralised. The heterogeneous divisions are totally separated from each other, both when it comes to strategy and management issues as well as the physical flow of goods. The DCs located all around Norway for the flows of goods for the Industry division, Gode Grossister and BaRe are in some cities physically located in the same building, but despite that the flows are kept separate. This separation has two reasons. First, within the grocery division the two customers (and owners of Bama) Norgesgruppen and Rema 1000 are competitors and can therefore, according to them, not be served in the same flow of goods. Secondly, the separation is due to the fact that the different flows can be developed and adjusted more efficiently on their own. For example, in the past the goods for Gode Grossister and the industry division were included in the same flow but since Gode Grossister represented 80% of the flow, their interests were prioritised on the cost of the industry division’s customers needs. When the flow was divided into two separate flows, the industry division improved their business rapidly.

If the customer side of Bama with the five divisions are straggling and decentralised, the other side, the supplier side, is highly centralised (Chow et al., 1995). Bama Trading handles all the purchasing as well as the transportation of goods for the different divisions which enables economies of scale in transportation and handling. Another issue that is centralised is the IT systems Olfi and Lorry, this enables control and benchmarking opportunities for the different divisions.

In summary, the organisation can be characterised as highly centralised on the inbound side (the Trading organisation) and when it comes to the IT systems that coordinate the whole supply chain. On the outbound side (represented by the divisions) the organisation is diversified and thus decentralised towards the customer segments. This organisation requires clear responsibility borders between the divisions and Trading, something which is achieved by giving the divisions the complete responsibility for the assortment and strategy towards the customers, which means that they, together with the customer, specify the assortment in terms of e.g. size, colour, etc. The Trading organisation thereafter executes the purchasing of specified fruits and vegetables, e.g. colour, size etc, and handles transportation to the DCs around Norway without much interference from the divisions.

Another issue that facilitates coordination in the company is the flat organisational structure. In terms of “proximity to the top” (Chow et al., 1995) it can be argued that the four members of the top management team have control of the company and the Trading organisation as well as the divisions represented there. Additionally, under each division or function in the company, there is a close proximity to the top. For instance, nine people reports directly to company director Öjvind Briså, who is in charge of the Trading organisation. He and his team meet once each week. The flat structure also means that top management is having direct contact not only with their closest managers, but also with other employees on lower managerial levels in the company. There is thus an acceptance for skipping managerial hierarchical management levels when necessary. This also enables opportunities for better integration.

“We are a rather small organisation so everybody speaks to everybody. The organisation is open, i.e. everybody can talk to everyone. There are no limitations when it comes to who is speaking to who. Rune [the CEO] can speak directly to my KAMs or my sales consultants – that is natural.”

(Jan Hammarström, Marketing Director, author’s translation)

14.3.5 Continuous development

Bama has no formal plan for how continuous development should be performed in the company. In the case description, however, some factors can be identified that facilitate a continuous development. For instance, top management gives a great amount of freedom to the independently managed divisions. Within the Gode Grossister, the DCs are managed as their own profit centres where they are allowed to adapt to the local requirements. At the more centralised Trading organisation, continuous development is facilitated through the flat organisation structure and by the acceptance for communication beyond adjacent hierarchical management levels.

Important drivers for continuous development can also be identified at the customer as well as on the supplier side. To maintain Bama's position at the customer side with having expert knowledge means that a continuous improvement of products is needed. Here the Industry division is leading the development. On the supplier side the products' dependence on climate changes requires that the Trading organisation is alert to rapid changes and new relations must be searched for on a continuous basis.

Concerning logistics issues, Bama is at the moment also working with larger projects that will improve the physical flow in the future. For example, a development of the IT systems in order to better follow up the physical flow is discussed. Another important improvement project is the new terminal to be built in Oslo, where there will be more space so that larger quantities of goods can pass through there. This will enable improved service. Furthermore, the new terminal will not only allow for larger purchase volumes (which in turn will mean better purchasing prices), but also better qualities since it will enable better possibilities to buy when products of the right quality is available on the supplier market.

14.4 Summary of the findings

Table 14.1 below summarises the most important findings from the analyses presented in this chapter:

Table 14.1. A summary of the findings from the single analyses

	Dustin	Clas Ohlson	Bama
Strategy content	A combined differentiation and cost leadership strategy, enabled by a distinctive capability that consists of the interplay between operational warehouse processes and the IT system Dacsa.	Above all a focused cost leadership strategy on the private consumer market. A distinctive capability is the combination of the internal operational warehouse processes, the refill process to the stores, and the IT system Raindance.	A differentiation strategy where the vision is to create profitability for their customers. Enabled by the distinctive capabilities (1) knowledge about fruits and vegetables, and (2) combination of the Trading organisation and the IT systems Olf and Lorry.
Strategy formation process	Strategy formation process in two major steps; (1) financial goals and larger marketing issues and (2) department business plans. COO on a mediating position between the CEO and Altor on one hand, and the department managers on the other.	Strategy formation process often begins with strategic cross functional project groups where employees and members of the top management team participate. Formal decisions are then taken by the board of directors and thereafter implementation is managed by top management.	The four members of the top management team decide the strategic direction for the company. The team members, all with functional as well as a divisional responsibility, are also responsible for the strategy implementation.
Supply chain orientation	(1) Not a collaborative supply chain, but a strong systemic view of the supply chain, (2) logistics considered as important, but the details are left to the warehouse manager, and (3) a strong customer focus.	(1) A systemic view of the supply chain, but no collaboration, (2) central warehouse considered as important, but top management is not directly involved, and (3) a strong customer focus built on the "Clas Ohlson spirit".	(1) A supply chain position based on expertise knowledge, (2) Collaborative relationships with customers and suppliers, (3) an internal balance between centralisation and decentralisation, and (4) a strong customer focus.
Coordination	The departments' responsibility borders facilitates the physical flow of products. Important factors that increase the integration is the role of COO, weekly top management meetings and Dacsa.	The departments' responsibility borders facilitates the physical flow of products. A key role is played by the purchasing department who has the responsibility for the purchasing, product range and the pricing towards customers.	A decentralised customer side (the divisions) that is in line with the Bama's business strategy, and a centralised supply organisation (Trading) that facilitates economies of scale and coordination. Clear responsibility borders between Trading and the divisions and a flat organisation in general.
Continuous development	A driving force for development is the market. Committed personnel that are given much responsibility and a flat, informal organisation is the basis for continuous development, rather than formal change programmes.	Continuous development and change is induced by creating project groups that work through and suggest actions for the board of directors. Three focus areas are also defined, the product range, logistics and the sales channels.	No formal development programmes, but factors such as independent, highly customer oriented divisions and a flat organisation structure facilitates continuous development. Bama is also working with larger improvement projects concerning the physical flow, e.g. IT systems and new terminal.

15 Cross case analysis

In this chapter a cross case analysis is provided. The structure is the same as in the previous chapter with the five sections being; the company's strategy content, the strategy formation process, SCO, coordination and continuous development.

15.1 Strategy content

The case companies' strategy content was, in the previous chapter, analysed from a positioning perspective and a resource based view. In terms of the positioning perspective, the case companies differ from each other and lean toward different generic strategies. Whereas Clas Ohlson and Bama have applied relatively distinct and clearly outspoken focused cost leadership and differentiation strategy respectively, Dustin is what Porter (1985) labels "stuck in the middle", with a mixed strategy that consists of ingredients from both the cost leadership strategy and the differentiation strategy. Dustin is differentiated from competitors in terms of higher availability and fast deliveries, but competes at the same time on price due to cost efficient warehouse operations and economies of scale. As suggested by e.g. Mentzer et al. (2004) and Stock et al. (1998), an enabler for this position might be the logistics related distinctive capability that was found in the analysis.

Despite the different positions chosen, the Clas Ohlson and Dustin cases indicate (from a logistics perspective) one common distinctive capability. This capability is concerned with the combination of efficient operational logistics processes in the warehouse and the IT systems. The IT systems are considered as strategically important in both companies and have been developed in-house over the years in order to support the companies' requirements. The combination of

efficient logistics processes and aligned IT systems means a capability that is valuable, rare and imperfectly imitable and is thus to be considered as a distinctive capability (Barney, 1991).

Porter (1996) warns that the development of management techniques has taken the role of strategy making in many companies, and that many companies are occupied with improving their operational effectiveness instead of their strategies. In the cases, however, the operational processes in the warehouse and the IT systems can not be considered what Porter (1996) labels operational effectiveness. The reason for this is due to the combination of the processes and the adjusted IT systems. As Porter himself argues; “While operational effectiveness is about achieving excellence in individual activities, or functions, strategy is about combining activities.” (Porter, 1996, p. 70). The combination also makes it rare, and is what Porter (1996) calls for when he argues that strategic positioning means to perform different activities than the competitors, or perform similar activities differently.

When it comes to Bama’s distinctive capabilities, these differ slightly as a result of another distribution system where only about 50% of the products are distributed via a terminal in Oslo. The direct deliveries from foreign countries to the local DCs require, however, as in the case for Clas Ohlson and Dustin well functioning IT systems that enable good control of the product flow in the supply chain. Similar to the other case companies, Bama is also considering the IT systems as strategically important for the company and the systems have over the years been developed in-house. Moreover, Trading’s centralised organisation gives economies of scale that is necessary to keep purchasing costs at a reasonable level and secures control of the physical flow of goods. The combination of the Trading organisation and the IT systems Olfi and Lorry was identified as being one of Bama’s distinctive capabilities.

While the distinctive capabilities discussed so far are all directly related to logistics, another SCM related, but not necessarily logistics related, distinctive capability was identified in the Bama case. The knowledge of fruits and vegetables is key for the collaborative relationship between Bama and their suppliers and customers, and is considered as the main reason for why Bama is allowed to exist as an independent player in the supply chain, despite the fact that it is partly owned by its customers Norgesgruppen and Rema 1000. Indeed, the knowledge component plays an important role for Bama’s supply chain relationships and position, and can be considered as valuable, rare as well as imperfectly imitable (Barney, 1991).

To sum up the discussion about strategy content, it can be concluded that the three case companies have chosen three different strategic positions on the market. The cases therefore indicate that best practice companies within SCM and logistics are not to be found in any specific market position, but can be situated anywhere on the continuum between cost leadership and a

differentiation position. Common to all of the cases is a distinctive logistics capability that consists of the combination between operational logistics processes and an in-house developed IT system that supports the processes. In all three cases this distinctive capability is able to provide support for the companies' market position. This match between internal capabilities and the external market position is discussed by e.g. Porter (1991) and Grant (1991) and the findings from this study support their view that there is a connection and need for a match between internal capabilities and the market position.

15.2 Strategy formation process

As argued in Mintzberg and Waters (1985) and Mintzberg et al. (1998), a real-world strategy can be found somewhere on a continuum between the poles of a perfectly deliberate, respectively, perfectly emergent strategy. What is mainly described in the cases is the deliberate part of the strategy formation processes and the top-down planning process for making strategies. In Dustin this process is done in two steps, where financial goals and larger marketing strategies are made by the CEO and Altor, while the departments' business plans further specify these loose strategies at a lower level in the company. In line with Vancil and Lorange's (1975) classic top-down planning, the CEO and Altor decide the framework for the second level, where the department managers have the role of developing and implementing the more hands on, i.e. "what-to-do" –strategies. The COO stands organisationally in between the two layers and has the role of coordinating them. In the case of Clas Ohlson the top management has an advisory function as well as an implementation function. The strategy formation process resembles Nonaka's (1988) middle-up-down management process where strategic project groups consisting of employees work through suggestions for strategies. This is followed by a formal decision at the board of director's level, and the strategy is thereafter supervised and implemented by top management. Finally, the role of Bama's very small top management team is to develop, make the formal decisions, as well as control the implementation of strategies in the company.

From a bottom-up perspective it can be argued that in addition to these deliberate planning processes, emergent events are also recognized in all three cases. Top management is well aware of the constantly changing circumstances and therefore the detail planning is left to operational levels in the company. A well functioning feed-back loop is also present in the companies' strategy formation processes, which allows for a change of the deliberate strategies. IT systems that enable a careful follow-up of the physical flow, organisational variables such as flat organisation structure, and acceptance for omitting hierarchical managerial levels are examples of factors that facilitate this feed-back loop. In summary, the expression "deliberately emergent" that Mintzberg and Waters (1985) use to define what their umbrella strategy means is characteristic for the three case companies' strategy formation processes; "In fact, we can label

the umbrella strategy not only deliberate and emergent (intended at the centre in its broad outlines but not in its specific details), but also ‘deliberately emergent’ (in the sense that the central leadership intentionally creates the conditions under which strategies can emerge).” (Mintzberg and Waters, 1985, p. 263)

15.3 Supply chain orientation

Mentzer et al. (2001) describe SCO as a “set of beliefs” defined as “the recognition by an organisation of the systemic, strategic implications of the tactical activities involved in managing the various flows in a supply chain” (Mentzer et al., 2001, p. 11), and summarise its content into the following three characteristics:

- A systems approach where the supply chain is considered as a whole and managed from the supplier to the ultimate customer.
- A strategic orientation for cooperative efforts in order to synchronise and converge intraorganisational and interorganisational operational and strategic capabilities into a unified whole.
- A customer focus in order to create customer satisfaction.

In general the case companies seem to have adopted these features. Concerning the systems approach, all case companies have a clear systemic view of their supply chain where their position can easily be justified. All three companies actively work with their supply chains in order to improve the physical flow of goods. For instance, Dustin frequently makes different types of deals with the distributors and manufacturers and has also integrated their IT system with the distributors’. At Clas Ohlson the refill process from the central warehouse to the stores has constantly been improved over the years and in the case of Bama, they strive to better integrate their suppliers with their customers by informing them about their customers’ demands and requirements. All three companies also invest in warehouses and terminals and argue that this is necessary in order to improve the physical flow of goods through the supply chain. To conclude, all three companies have an internal as well as external process orientation, and it can be argued that a strong systemic view is present among top management in the three companies.

However, in the case of Dustin and Clas Ohlson, the supply chain relationships can not be considered as cooperative, i.e. collaborations that are built on trust and a win-win thinking. Ever since SCM was founded in the 1980s, trust and win-win thinking have been essential cornerstones in SCM theory and companies having a systems approach are also expected to have a collaborative view towards their adjacent suppliers and customers. This is, however, not seen in the Dustin and Clas Ohlson cases and the analyses in chapter 14 therefore identified a gap

between theory and practice. The cases clearly indicate that the companies have a systems approach, but rather than collaborative, the intense contacts can best be described as transaction based. The results from this study therefore suggest that instead of considering collaboration as always present, the systemic view of the supply chain can be present without cooperative efforts. This is discussed further in chapter 16.

The Bama case, however, resembles Mentzer et al. (2001) and other SCM literature when it comes to the requirement of a collaborative approach. On the customer as well as on the supplier side the relationships can be considered as highly collaborative. One driver for this might be the keiretsu arrangement (Cooper et al., 1997b), meaning that two of the largest customers partly own Bama. This enables natural, long term planning with stable relationships. Another factor for the collaborative relationships is Bama's expertise in fruits and vegetables, which guarantees Bama's role in the supply chain and makes the suppliers as well as the customers dependent on Bama. A third factor for the collaboration could be the type of products that is handled in the supply chain. In comparison to Clas Ohlson's and Dustin's products, fruits and vegetables are more dependent on short lead times in order to secure high quality. Lead times are considered to be the most important measurement for Bama's supply chain.

Based on the case companies' systems approaches, it can also be argued that they have the strategic orientation for synchronising and converging intra- and interorganisational capabilities in the supply chain that is called for by Mentzer et al. (2001). This strategic orientation can be identified when considering how the responsibility for logistics related tasks are organised in the companies. As will be described in the subsequent section, the case companies' organisations are designed in such a way that the physical flow of goods is facilitated. The findings from this study are in line with Aronsson (2000), who suggests that companies (when designing their supply chain) should take a processual perspective before functional and organisational aspects are considered: "The supply chain view on design is that the processual perspective should govern the design of the functions and organization. The perspectives are interdependent on each other therefore considerations have to be taken to the other perspectives as well. The process perspective is, however, suggested to be the first perspective that is addressed so that the supply chain focus is upheld." (Aronsson, 2000, p. 153) Aronsson's (2000) conclusions are, hence, in accordance with top management's SCO in the case companies. Apart from the process oriented division of responsibility, coordination is also achieved by the fact that no single person has the total logistics responsibility in the companies. Instead this responsibility is shared between several people, which forces them to take a more comprehensive view of how to coordinate the company's logistics related activities. This is further discussed in the subsequent section.

The third feature for companies with a SCO is according to Mentzer et al. (2001) a strong customer focus, which can clearly be seen in all three companies. Based on their systemic view of their supply chain, top management is genuinely interested in improving customer satisfaction. This is valid for both Dustin's and Clas Ohlson's customers, who are end consumers, as well as Bama's customers, e.g. Norgesgruppen and Rema 1000. Customer satisfaction thus plays an important role in all three companies' strategies.

15.4 Coordination

Top management in the three case companies are all concerned with how to structure the organisation when implementing strategies, i.e. the organisation is the most important tool for managing the company. For instance, at Dustin the CEO states that the business is managed through the organisation. An example of this is the department managers' business plans that are made to further structure the rapidly growing company. At Clas Ohlson, an important organisational change was according to CEO made at the end of the 1990s, when the pricing responsibility of the products was dedicated to the purchasing department. At Bama, top management recognises the need for a balance between centralisation and decentralisation of organisational responsibility.

Common for all three case companies is that they have, based on their systemic view of their supply chain, all designed a process oriented organisation where clear responsibility borders facilitate an effective and efficient physical flow of goods. In chapter 9 it was argued that top management due to its position above the functional silos should be the ones who coordinated the functions. This is done in the case companies by giving the departments and functions a division of responsibility that improves the physical flow of goods. A clear example of this can be seen in the Dustin case, where the purchasing department, apart from the purchasing prices, also is controlling the pricing towards the customers. At the same time, the product managers responsible for the product range organisationally belong to the marketing department. Clas Ohlson's organisation has a similar design and includes in addition to the purchasing and pricing (for the Swedish market) responsibility also the product range to be managed by the purchasing department.

To conclude, top management in the companies is managing their companies through their organisations. With a process orientation and a strong end customer focus as a basis, they define clear responsibility areas for the functions that improve the physical flow of goods. This in turn means less duplication work and a clear responsibility for the development of the logistics activities. It should also be noted here that the process orientation and the responsibility division has not jeopardised the functional specialisation in the case companies and all three cases are

examples of how functional skills are also supported and further developed in harmony with the process orientation. As will be argued in chapter 16, the results therefore indicate that a strong process orientation does not necessarily mean worse functional performance.

The coordination of functions internally is also facilitated by the fact that logistics issues are handled by several people in the top management teams, hence, several people share the logistics responsibility. This forces the top management team to synchronise their responsibility areas with each other and creates mutual interdependencies between the functions in the companies (Thompson, 1967). These interdependencies are managed through a team- or group coordination mode (Van de Ven et al., 1976). For example, in Dustin the responsibility for logistics issues is shared among the warehouse manager, the purchasing manager, the marketing manager, and the COO (even if other members of team are also involved). The case companies are all retail companies without their own production. To bring products from suppliers to customers in an efficient and effective way therefore becomes essential in order to keep good margins for the business. Considering the logistics function as defined in academia, this becomes decisive for the case companies' businesses.

It is interesting to note here that the meaning of "logistics" in the case companies differs considerably from academic definitions. While the academia defines logistics as "The process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements. This definition includes inbound, outbound, internal, and external movements." (www.cscmp.org) or similar, top management in the case companies gives logistics a solely operational meaning and considers it limited to transportation and warehouse operations. Dustin and Clas Ohlson do not have a formal Logistics manager, but a Warehouse manager (Dustin) respectively a Head of Central warehouse (Clas Ohlson). The title Logistics Manager is, however, often used interchangeably with these titles. In the case of Bama there is a Logistics Manager, but this person has more of an operational responsibility. He manages the transportation from the suppliers to the DCs and the activities in the terminals in Oslo, and does not have the total responsibility for the physical flow of products throughout the entire company. Considering hierarchical levels, he is situated two levels below the top management team.

15.5 Continuous development

In the case companies, continuous development of the business is a necessary prerequisite in order to keep their positions on the market. An important factor that drives this development is the market according to the cases. This is also well in line with the strong customer focus

included in the SCO discussed above. In the case of Dustin the importance of the market is clearly outspoken, where the CEO identifies the market as the main driver for development. Clas Ohlson and Bama also see the market as important. For instance, Clas Ohlson exchange about 1,500 – 2,000 products out of 15,000 every year, which in turn affects supplier relations and other logistics related issues such as the fact that the products are becoming increasingly voluminous. In the case of Bama the strategy of creating profitability for their customers automatically means that Bama has to follow the market and the customer needs.

As described in the cases, all three companies have a flat, open organisation with a lot of informal boundaries. Dustin and Bama rely heavily on this when it comes to continuous development and perform little formal development. For Dustin this is the case for the operational processes at the warehouse as well Dacsa. At Bama the DCs within Gode Grossister are responsible for the development of the local markets. Clas Ohlson differs from the other two cases in the sense that they have developed a more formal working method for the development in the form of project groups, where it becomes a natural part of the deliberate strategy formation process. As stated in their annual report, change programmes are mainly driven in the form of a project. Furthermore, Clas Ohlson has clearly identified three focus areas that are considered as key aspects for the business and are therefore to be developed on a continuous basis. These are product range, logistics and the sales channels.

Considering the cases, a distinctive logistics related capability that is concerned with operational logistics processes and the IT system was found in all three cases. From a RBV perspective, it can be argued that a company's core task is to identify their capabilities and develop them further (Day, 1994, Olavarrieta and Ellinger, 1997). In this work, top management is expected to play an active role. As argued in the previous section, at an overall level logistics is considered to be important and larger investments in e.g. warehouses are supported by top management. In fact, all three case companies are planning for a new warehouse (Dustin), further enlargement of the existing warehouse (Clas Ohlson) and new terminal buildings (Bama). In addition, investments in IT systems to improve the physical flow are supported. However, despite this support when it comes to investments, logistics is generally considered relatively unproblematic by the top management team (apart from the warehouse managers) and since it is considered to be operational, the responsibility and details are left to the lower hierarchical levels in the company. Top management stresses the importance of delegating responsibility, and operational processes in the warehouses therefore are not an issue for them. Related to the RBV literature, this behaviour means a gap between practice and theory. When theory suggests top management involvement in the distinctive capabilities, the cases indicate the opposite. With their deliberately emergent (Mintzberg and Waters, 1985) strategy formation process and the understanding of logistics as being something operational, top management becomes distant from the operational

processes. This is valid as long as they are developed and managed within the broad strategic framework communicated by top management.

However, it can be argued that top management is instead involved in the companies' logistics related dynamic capabilities. As discussed in the frame of reference, more recent RBV literature calls for a discussion on how the distinctive capabilities should be developed over time (Teece et al., 1997) and refers to this as dynamic capability. A definition of dynamic capability is provided by Zollo and Winter (2002): "a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness" (Zollo and Winter, 2002, p. 340). Even if top management is not involved directly in the distinctive capabilities leading to a sustainable competitive advantage, the cases indicate that top management plays an important role for the dynamic capabilities, i.e. the ability to over time develop the distinctive capabilities that were discussed in the analyses in previous chapters.

According to Teece et al. (1997) the dynamic capabilities can be found in a company's managerial and organisational processes and have three roles: (1) the integration and coordination of activities both internal as well as external to the company, (2) the learning on an individual as well as organisational level, and (3) reconfiguration and transformation of the company's asset structure, i.e. its resources/capabilities. Concerning the coordination of activities, top management enables this by formal as well as informal top management meetings, support of the development of IT systems enabling communication and follow up of the performance, encouragement of a flat organisation structure, etc. The development of IT tools can also be considered as a means for improved organisational learning where information can more easily be distributed and accessed in the company. Individual learning is also facilitated in the sense that the personnel are given a large amount of freedom and responsibility and are trusted by their top management. The clear focus on the personnel is consistent with Bartlett and Ghoshal (2002) who identifies human resources as the main source for sustainable competitive advantage and as a result, top management's main task becomes to acquire and attract the right personnel. As described in the frame of reference, the authors identify three tasks for the CEO function and these can be seen in how top management in the case companies is reasoning: (1) consider human capital as the main critical resource instead of capital, (2) keep talented people in the organisation, and (3) instead of deciding strategy content, the framework for the strategy should be defined.

The companies' asset structures have also been transformed in the sense that the departments are given a process oriented responsibility area that forms the basis for creating distinctive capabilities related to the physical flow of products. For example, the purchasing department at Clas Ohlson is responsible for the purchasing, assortment, as well as the pricing directed towards

the customers. Dustin's organisation has a similar design where the purchasing department is also responsible for the pricing towards the customers. In addition, the CEO has been working to further structure the company and has given the department managers clearer roles in the company.

According to Teece et al. (1997) the managerial and organisational processes are shaped by the company's position (assets) and evolutionary path. When it comes to positions, the top management teams have for instance been supporting investments in the necessary IT systems and central warehouses, and it can therefore be argued that they have indirectly supported the distinctive capabilities in the companies. Regarding the evolutionary paths, it is interesting to note that the case companies have had a consistency in their management, and many of the top managers in the three companies have a long history in the company. This can be seen by looking at the interviewees for this study. For instance, at Dustin the founder Bo Lundevall has until 2005 managed the company and still owns 20% of the shares. Also the new CEO, Andreas Ståhl, has a long history in the company as a sales person and sales manager. At Clas Ohlson, Gert Karnberger has been the CEO since 1996, and Head of Central warehouse Rolf Andersson has been an employee since 1989. At Bama many of the interviewees also have a long history in the company.

The findings about top management's absence in the distinctive capabilities above should not necessarily be interpreted negatively. Regarding Regner's (2003) findings concerning strategy creation in the periphery and centre, it can be argued that the distinctive capabilities are managed in the periphery without direct involvement from top management. As Regner argues, the peripheral strategy creation is more inductive and facilitates new strategic thinking which is contrary to the deductive, less creative thinking in the centre of the company. Keeping the responsibility and development of the distinctive capability away from top management and the centre of the company could facilitate a "thinking outside the box" mentality and in fact improve the development of supply chain practices. Instead, top management in the case companies is involved in the dynamic capabilities, creating the right circumstances for the distinctive capabilities. Hence, it can be argued that keeping top management away from the operational processes enables a better climate for development. This view is in line with the companies' flat organisations and entrepreneurial thinking where the peripheral strategy creation is encouraged. Furthermore, the deliberate emergent strategy formation process suggested by Mintzberg and Waters (1985) and Nonaka's (1988) middle-up-down management are in line with this type of management.

Part IV

Contribution

16 Conclusions

This dissertation has presented two studies that investigated logistics collaboration respectively the role of top management in a company's supply chain management practices. The first study was a broad survey with the purpose to explore how logistics collaboration in supply chains is performed. The results were in chapter 8 summarised into five general findings that described the situation concerning logistics collaboration among Swedish manufacturing companies. The findings contribute to a clearer view of the gap between theory and practice when it comes to logistics collaboration based on the SCM philosophy and indicate that more in-depth studies, especially into the role of top management, are necessary.

In the second study, which has a multiple case study approach, three best practice companies within SCM were considered; Dustin, Clas Ohlson and Bama. The analysis, presented in chapter 15, can be divided into two parts, where the first incorporates the analysis of the strategy content and strategy formation process. The cases are described by terms from strategy literature and depict a long row of strategy aspects in a SCM setting. The second part consists of an analysis of the three characteristics for best practice companies within SCM, as were presented in the introduction to the second study. Based on the first part of the analysis, and the theoretical frameworks on SCM and strategy, the three characteristics of the case companies are better explained than previous existing literature.

In this chapter the analysis is taken one step further and main the conclusions and implications are discussed from both studies.

16.1 *SCM theory differs from practice*

The survey findings strongly support similar existing studies (e.g. Fawcett and Magnan, 2002; Spekman et al., 1998) concluding that SCM in practice – in this case logistics collaboration – does not resemble theory. In short, the most discouraging findings indicate that a strategic level in the collaboration is missing, where strategic planning and information is kept inside the walls of the own company. The gap in comparison to theory becomes obvious; if the supply chain should be managed as one single entity from point of origin to point of consumption, strategic issues must be incorporated in collaboration with external partners. Indeed, the strategic level is also stressed in existing definitions of SCM (see e.g. Mentzer et al., 2001; Stank et al., 2005) and is taken for granted when discussing the many improvements on costs and service suggested by SCM authors. The absence of this level could therefore jeopardise the expected outcomes (Sandberg, 2007).

Another important difference between theory and practice is that there are serious differences in attitude and behaviour towards the collaboration partner, depending on if the collaboration is performed down- or upstream in the supply chain. In essence, the supply chain member closer to the end customer seems to be the dominant player, and therefore to a greater extent defines and manages the design of the collaboration. This behaviour goes against SCM theory, where it is suggested that supply chain members jointly, and on a totally voluntary basis, decide how the collaboration should be designed (e.g. Cooper et al., 1997; Simatupang and Sridharan, 2002). Mutual understanding and negotiation between the supply chain members should characterise the collaboration (Barratt, 2004). This situation is threatened when considering the results from this study.

To conclude, the survey findings indicate another reality than that ideal picture given in the SCM literature. At one point though, the findings confirm the existing literature; top management is an important driver for logistics collaboration, both for increasing the intensity in existing collaborations, and for creating new ones. Top management involvement is, hence, an important enabler for SCM implementation and its function is important in order to let theory become practice. However, similar to many other research projects, the findings do not indicate more specifically what role top management should play in this work. This forms the basis for the purpose of this dissertation, which is to describe and explain the role of top management in a company's SCM practices. In the second study the scope of the SCM practices are extended to not only include external logistics collaboration with suppliers and customers, but also the focal company's planning and supply chain strategy, and internal coordination of functions and the collaboration among these.

16.2 The role of top management

The findings in chapter 15 bring up issues that have both a direct and indirect impact on the role of top management in a company's supply chain management practices. In this section a more comprehensive discussion on the role of top management is therefore taken in the form of a discussion of some archetypes of top management's role seen in the cases.

The supply chain thinker – A manager with supply chain focus

Top management's attention in the case companies is given to traditional management issues including financial goals, investor relations and larger marketing issues. In line with these traditional top management areas, the organisation with its functional division is considered as the main tool for how to implement strategies and achieve financial goals.

However, based on a strong SCO, top management in the case companies has another starting point for their strategy making than traditional strategic thinking. Instead of making a strategy with the starting point in the organisation or the market as such, the physical flow of products becomes an important cornerstone and driver for the strategy making. Based on the supply chain and exploitation of its members, a strategy is created that justifies and secures a desirable position in the supply chain. This position could, for instance, be to fill the gap between large, multinational suppliers and Swedish end customers through efficient IT platforms and logistics operations, or through superior product knowledge keep a strong supply chain position as an independent intermediary. With this supply chain position as a basis, the companies become competitive on the market. The importance of the supply chain should also be valid for other types of companies, but becomes especially clear in the retailing companies investigated in this study where e.g. no superior products or patents can contribute to a competitive advantage.

Due to the focus on the supply chain, Christopher's (1998) statement that supply chains compete with other supply chains is the reality for these companies and company borders in the chain are to some extent broken down when discussing how end customers can best be served.

The frame setter – A manager with strategic goals and frames for the business

As argued above, top management implements strategies through the organisation, e.g. gives mandates or responsibilities to certain departments or functions. In terms of Mintzberg's understanding of the strategy formation process, it can be argued that top management has applied a deliberate emergent approach for strategy making. In short, this means that top management defines the frames for the strategy with, for instance, financial goals for the business. The lower management levels in the organisation thereafter further define and develop suitable substrategies.

In line with this is top management's trust in their employees, which in the case companies is very great. The personnel are described as a major reason for the success of the companies, and entrepreneurial values and norms, with individual initiatives and responsibility, are strongly encouraged.

The process designer – A process oriented designer of the organisation

Just as in a traditional management style, the organisation is considered by top management as the main tool for strategy implementation. In line with their SCO, top management has organised their organisation so that the physical flow of goods is facilitated. The interfaces among different departments is designed so that coordination of activities and functions can be improved.

Coordination of the physical flow is also enhanced by the fact that the case companies do not have a Logistics Manager, but “only” a warehouse manager or similar. No single person is thus responsible for the entire flow of goods from supplier, through the company, and further on to the customers. Instead, this responsibility is shared between several people in the top management teams, which in turn forces them to communicate and interact around logistics issues. This therefore means that logistics naturally becomes part of top management's agenda on e.g. top management meetings, strategy planning, etc.

The relationship manager – A manager of supply chain relationships

As was argued in the previous chapter, top management's SCO differs from Mentzer et al.'s (2001) understanding of the expression concerning the necessity of having collaboration in the supply chain. Instead of always having collaboration, the analyses from the case companies indicate that the type of relationship to be chosen in the supply chain can better be described as a continuum ranging from collaborative to transaction based. An important task for top management therefore becomes to judge what type of supply chain relationships are suitable, and thereafter manage these relationships so that they are congruent with, and support, the supply chain position chosen.

The controller – A manager with well functioning IT systems

Typical for the case companies' top management teams is the good control of the business, which to a large extent is facilitated by well functioning IT systems. KPIs related to functions as well as processes are continuously controlled by all members of the top management teams. The IT systems hence function as an important source for information and top management take use of this information. The systems are in all three case companies made in-house and have over time been developed and adjusted to the individual companies' requirements. In this work several top management members have had a personal involvement and the development of the IT systems is considered as a strategic matter.

The organiser for the future – A manager that plans for future success

As a result of their deliberate emergent management style, involvement in the operational business is not an issue for the top management members and they are therefore not personally involved in the distinctive logistics capabilities that were identified in this study. As argued in chapter 15 though, top management can instead be considered to take an active role when it comes to the development of new, logistics related distinctive capabilities, i.e. the dynamic capabilities. By structuring the company so that communication is facilitated (e.g. through top management meetings, IT systems, flat organisation structure, etc), by giving the personnel a large degree of freedom and responsibility so that continuous learning is facilitated, and support investments in assets such as warehouses, top management organises the company for future success.

16.3 Theoretical implications

Based on the top management role in the previous section, some of the findings will be related to existing SCM theory in this section.

Separate systems approach from collaboration

The SCO expression, which has been one of this dissertation's main constructs, has been described in-depth in the multiple case study and hence a more thorough picture of SCO has been provided than that suggested in Mentzer et al. (2001). Overall, Mentzer et al.'s (2001) understanding of the SCO seems to be consistent with top management's view of their supply chains: top management has a systemic view of their supply chains, coordination of the physical flow of goods is prioritised, and they hold a strong customer focus. The assumed collaborative atmosphere among supply chain members is, however, not present in two of the cases. This is further discussed below.

According to Mentzer et al.'s (2001) understanding of SCO, an important prerequisite for proper SCM performance is that the supply chain members have an understanding for the supply chain as a whole, i.e. have a systemic view of the supply chain. This requirement is common in SCM literature, where it is argued that companies situated in a supply chain should prioritise the supply chain's best before considering their own company. Company borders should be brought down and the supply chain members, from point of origin to end customer, should act and behave as one single organisation in order to avoid suboptimisations (e.g. Stevens, 1989). In line with this, the systemic view should automatically result in win-win thinking, trust and a collaborative approach towards at least adjacent suppliers or customers (but preferably if possible also towards suppliers' suppliers and customers' customers). In conclusion, existing SCM literature expects companies to have a systemic view as well as a collaborative approach in their supply chains.

The results from the multiple case study, however, indicate that a systemic view is possible without having a collaborative approach. This can especially be seen at Dustin, where top management combines a clear systemic view with a transaction based approach towards their distributors and suppliers. For Dustin's top management the relationships in the supply chain is to be compared with a game where different types of deals and haggling are important tools in order to create an efficient flow of products. The supply strategy based on efficient transactions means that the distributor that offers the lowest price – and has the actual product available for delivery – gets the order. This is enhanced by efficient, impersonal boundaries in the form of an IT system. The findings and analysis from the case study hence suggest that the systems approach and collaboration should be distinguished from each other, and when a systemic view always should be present, the type of relationship can be described on a continuum ranging from collaboration (as in the Bama case) to transaction based (as in Clas Ohlson and Dustin). This finding can also be related to the results from the survey study, where the absence of a strategic dimension in the collaborations becomes discouraging following existing SCM literature. However, the Dustin and Clas Ohlson cases show that a strategic dimension across company borders might not always be necessary for fulfilling other SCM features such as a systems approach to the supply chain, and focus on coordination and end customers. This means that the lack of a strategic dimension might not always jeopardise the success of SCM performance.

The argumentation about separating collaboration from the systemic view is partly supported by recent years' SCM articles, where differentiation of supply chain relationships is called for (Lambert and Cooper, 2000; Barratt, 2004; Christopher and Juttner, 2000b). For instance, Barratt (2004) argues that collaboration based on trust and win-win thinking is resource intensive and therefore a company should turn their attention to a small number of relationships instead of trying to collaborate with everybody. Consequently, some relationships might be optimal for arms-length agreements while others are more suitable for collaboration. Christopher and Juttner (2000b) have a similar view when suggesting that companies should develop and maintain a portfolio of relationships with different natures and not only have close partnerships. However, SCM authors with this type of argumentation do not distinguish between the systemic and collaborative approach, meaning that these authors still suggest that some of the supply chain relationships should be collaborative, which is expected as a direct result of the systems approach. The analysis in this case study takes the discussion one step further and argues that a systemic view can be present without any collaborative relationships, and should be separated from the type of relationship that is preferable.

What comes out of the discussion above is that one part of having a systems approach to the supply chain becomes judging and deciding what type of relationship is suitable for the specific supply chain. This can be related to the supply chain captaincy literature, where this decision

becomes an important task for the channel captain (e.g. Kohn and Sandberg, 2006). The cases indicate that examples of factors influencing this decision making are the owner structure, dependency of expertise knowledge, and type of products.

The supply chain interdependencies are serial

The discussion above can also be related to Thompson's (1967) three types of interdependencies (see chapter 9 for a description of these), which can be extended to be valid also in a supply chain setting (Håkansson and Persson, 2004). As a result of this study's focal company perspective, the dominating interdependency type seen in the case companies' supply chains are the serial ones (c.f. Håkansson and Persson, 2004). Serial interdependency means an asymmetric relationship between the supply chain members, where for instance the distributors are dependent on Dustin, who in turn sells the products further to its customers in an irreversible process (Thompson, 1967). As a result of the serial interdependency, involved companies' major concern becomes to create economies of integration, i.e. creating a more efficient physical flow of goods through coordination (Håkansson and Persson, 2004).

Based on the SCM literature, the normal way to achieve economies of integration is through collaboration. For instance, Christopher and Juttner (2000a) discuss how strategic partnerships in the supply chain can be implemented and developed and argue that "optimising the supply chain process inevitably leads to a growing interdependency amongst the parties in that supply chain. With this interdependency has come a realisation that cooperation and partnership are essential prerequisites for the achievement of long-term mutual benefit." (Christopher and Juttner, 2000a, pp. 5-6). However, as argued above, the case studies indicate that efficiency in the physical flow of goods can be created without collaboration and, hence, the existence of serial interdependency does not necessarily mean collaboration for a proper exploitation of these in order to achieve economies of integration.

A systems approach is not the same as having a pure process orientation

One of the core messages in SCM literature is that companies should overcome functional silos and adopt a process orientation. This means an organisational restructuring internally as well as externally in the supply chain (Skjoett-Larsen et al., 2003). For instance, the well-known SCM framework by Cooper et al. (1997a) suggests eight main processes for such a restructured organisation (supply chain). Lambert and Cooper (2000) brings the discussion further and propose among other things that similar names on the processes should be established among companies in a supply chain so that they can more easily be aligned to each other. The need for a process orientation is also seen in the systems approach. For instance, Bechtel and Jayaram (1997) argue that "the underpinning philosophy mentioned most often in the SCM process literature is systems thinking... Systems thinking involves movement away from functional

department suboptimization of the supply chain to a holistic optimization of the entire supply chain” (Bechtel and Jayaram, 1997, p. 21).

With the results from the case study as a basis, it can be argued that the process orientation should indeed be an important cornerstone for successful SCM practices, however without jeopardising efficiency in the individual functions. Instead the applied systems approach in the company should consider processes as well as functions in order to enhance a truly holistic view of the supply chain. This view becomes especially clear in the Bama case, where top management recognises a balance between what should be centralised and decentralised and argues that the local DCs also in the future should have a high degree of individual freedom in certain dimensions. For instance, the local sales should be adjusted to fit the local requirements and circumstances and the DCs should also remain being handled as their own profit centres. Meanwhile administration, purchasing and transportation have been centralised. Another example is the recent years’ development of Clas Ohlson’s central warehouse, where the efficiency in single functions has been improved with investments in e.g. a new sorting facility while the process as such has also been improved. The management of the organisation hence becomes a balancing act between the whole and its parts.

The results from the case study thus indicate that the case companies have successfully developed their process orientation without decreasing the efficiency of the individual functions. Having a systemic view of the supply chain should not only mean being concerned with processes, but should also mean facilitating and improving individual functions. This reasoning is often missing in today’s SCM literature.

Logistics responsibility is shared between several members of the top management team

Another major difference between existing SCM theory and the findings from the multiple case study is concerned with how the companies are organised in order to coordinate logistics issues in the company. The absence of a logistics manager (where logistics is defined as in academia) is often described as a main “problem” for logistics and for example Abrahamsson et al. (2003) calls for a logistics “platform leader” to be a member of the top management team so that logistics can be handled centrally and get a voice in the highest hierarchical level in the company. The findings from the cases in this study support the view of the need for logistics and SCM thinking in the top management team, but gives, however, another solution when it comes to the ownership of these issues in the company. The case companies all lack a logistics manager in the top management team, but the logistics function as such is represented by several people. Logistics therefore becomes important for more people than a logistics manager, and the responsibility is shared among the team members. Hence, instead of delegating the responsibility to one person, the logistics issues is coped with by several people. This way of organising logistics

related issues in the company have shown to be a successful way to coordinate intra- and interorganisational capabilities as was called for by Mentzer et al. (2001).

In terms of Thompson's (1967) interdependencies, it can be argued that the sharing of the logistics responsibility results in a high degree of reciprocal interdependency between the functions/departments responsible for logistics issues in the case companies. Due to this, and in line with what e.g. Van de Ven et al. (1976) suggest, the main coordination mode becomes the team- or group coordination mode, with frequent meetings and personal contacts.

Top management is not involved in distinctive logistics related capabilities

As previously stated, this dissertation above all gives a theoretical contribution to the logistics and SCM field. Some of the findings can, however, also be interesting from a strategic management perspective. As a result of using strategy theory as a theoretical framework, the cases have been described in terms of Mintzberg's strategy formation process and the positioning and RBV literature. It can be argued that logistics and SCM, just as e.g. project management or product development, are areas where strategy theory can be applied and thereby also develop the strategy field of literature. Hence, by studying logistics and SCM with in-depth case studies, the strategy theory can be tested and further improved.

In this dissertation the most obvious theoretical implication from a strategy theorist's point of view is that top management is not directly involved in the distinctive logistics related capabilities that were identified in the analysis of the case companies. It can be argued that this finding is a mismatch with the RBV literature, where the distinctive capabilities are considered central for the company and top management should therefore be involved in these. In the case study companies the management of these capabilities is instead left to lower hierarchical levels in the companies. What clearly can be seen, though, is that top managers instead are involved in what here is labelled a dynamic capability, i.e. the ability to develop and create new distinctive capabilities over time. This was described in chapter 15.5.

16.4 Practical implications

From a practitioner's point of view, the results from this dissertation give some important guidelines concerning how to practice SCM. Starting with the findings from the survey study, they clearly indicate the importance of top management involvement for supply chain collaboration, both when it comes to increased intensity in existing collaborations and in creating new ones. The involvement from top management becomes even more important when considering the in general poor SCM practice investigated among the companies. Indeed, when improving their supply chain performance, many companies will start from a very low level.

In the second study, where three best practice companies' supply chain activities are described, several good examples of SCM practices are given. Above all, the role of top management is focused, and from the empirical material and the analysis, some topics are concluded here. First of all it should be noted that to perform best practice logistics and SCM does not necessarily mean a dramatic change from a more traditional management style. The top management teams investigated still manage their companies through their organisations and the individual functions' performance are still considered just as important. The main focus areas are still financial issues with focus on profitability, but perhaps even more on growth, since an almost linear relationship between profitability and turnover is expected. As a result of this, an important issue for top management is larger marketing activities such as geographical expansion. Another area of special interest for top management is obviously to manage the relationship with the board of directors and act as a link between them and the company.

Top management has also, in accordance with a traditional management style, applied what Mintzberg calls a "deliberate emergent" management approach, meaning that they focus on defining the strategic frames for the business (e.g. financial goals, larger, overall marketing strategies, key development areas for the business etc), while the lower management levels put the overall strategic guidelines given from top management into operation later on. This is supported by a strong belief in the staff's competence and need for responsibility in order to develop and further improve it. The companies also have key words or similar that unify the company and guide the staff. Customer focus is one such key word that clearly can be seen in all companies.

The deliberate emergent management approach also means that top management is not directly involved in the company's distinctive logistics capabilities, giving a sustainable competitive advantage vis-à-vis competitors. These (which were identified as the combination of operational logistics processes and customised, in-house made IT systems), are instead handled by lower management levels. Top management is instead involved in what is labelled dynamic capabilities in this dissertation. The dynamic capabilities, which can be considered as the company's ability to maintain and develop distinctive capabilities over time, means for instance to:

- Enable coordination in the company by building a flat organisation structure that encourages initiatives from the personnel and personal contact between employees and managers at different hierarchical levels in the organisation.
- Attend frequent formal as well as informal top management meetings
- Support and drive the development of IT systems for improved integration
- Facilitate and drive investments in e.g. warehouse and other logistics related equipment

So far, top management's managerial style and the main issues to be involved in do not seem to differ considerably between traditional companies and the best practice companies investigated in this study. However, behind the traditional management style top management has a philosophy that goes in line with what Mentzer et al. (2001) label SCO. Generally speaking, this means that the company's strategy and organisation is designed to suit and exploit the company's supply chain so that a competitive position on the market can be achieved, and thus the physical flow of goods becomes the starting point for top management's work. In practice, this means e.g. the following:

- Top management has a clear view of their company's position in the supply chain and understands how to exploit this position. Actions are taken to support this position, e.g. investments in warehouses, IT systems etc.
- External relationships with suppliers and customers as well as internal ones within their own organisation are coordinated so that the physical flow of goods is facilitated. To do this, external collaboration is not always necessary and the type of relationship that is considered the most suitable must therefore be judged from time to time.
- Top management has a clear customer focus where the company's efforts must be synchronised with the customer's requirements.

To conclude the practical implications, top management's tasks and behaviour seem, on the surface, to be similar to traditional management. However, the difference in the form of a SCO as a starting point for the management is considerable. To acquire a proper SCO, the SCM literature (e.g. Andraski, 1998; Moberg et al., 2003; Mangan and Christopher, 2005; Lancioni, 2000; Fawcett and Magnan, 2002) suggests that a major change in the mindset must be achieved. To become best practice in SCM performance is therefore not easily achieved. However, SCM seems to be a promising strategy for many companies when considering the best practice companies' profitability and growth, and this dissertation can hopefully give practitioners some advice about improved SCM performance.

17 Further research

From the results alternative methodologies as well as further research topics close to the ones presented in this dissertation can be identified. First of all, a key expression in this dissertation has been Mentzer et al.'s (2001) SCO. The applied methodology approaches this construct at an activity level and investigate the SCO expression based on the findings at this level, i.e. how the SCO is expressed in top management's actions. A study on how top management manages the company on a cultural level, i.e. through managing employees' values and beliefs, would be valuable. This would complement the findings from this study and together the studies would contribute to a more comprehensive picture of top management's SCO and the role it plays. From a methodological viewpoint, a research project dealing with findings at a cultural level would probably require a longitudinal study. To broaden the research area it would be interesting for instance to conduct an inductive ethnographical study (e.g. Alvesson and Sköldbberg, 1994) where the top management team would be followed and documented over a longer period of time.

A second interesting study would be to expand the focal company perspective to include interviews with suppliers and customers. This would increase insight into how the supply chain functions and how supply chain partners consider the supply chain. Here, power issues become interesting. From a power and supply chain captaincy perspective, the power balance between the supply chain members is undoubtedly an interesting area for further research. An increased awareness of the power structure could facilitate and function as a catalyst for improved supply chain performance (Kohn and Sandberg, 2006). More specifically, it could for instance be

questioned how the power distribution in the supply chain affects the type of relationships chosen in the supply chain.

A third research topic for further development of SCM theory is Thompson's (1967) types of interdependencies. An in-depth study on supply chain design issues related to the three types of interdependencies would be valuable. Håkansson and Persson (2004) have started this work, but more research is needed. Based on supply chain design studies (e.g. Aronsson, 2000) and the results from this study concerning the role of top management, the interdependencies and their importance could be further explained and understood. In addition, more normative research concerning supply chain design based on interdependencies would be valuable.

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Appendix A

Cover letter to the questionnaire

Enkät om Supply Chain Management och samarbete i försörjningskedjor

Bästa respondent!

På avdelningen Logistik, Linköpings universitet, pågår just nu ett forskningsprojekt som behandlar Supply Chain Management och samarbete i försörjningskedjor. Vi undrar om Ni vill främja den svenska logistikforskningen genom att besvara en enkät som utarbetats inom ramen för projektet.

Enkäten skickas till ca 500 svenska företag inom tillverkande industri (SNI-kod D) och handlar främst om eventuella logistiksamarbeten Ni har med Era kunder och/eller leverantörer. Syftet med enkäten är att få en klarare bild över hur företag samarbetar kring logistik i försörjningskedjor och vilka effekter det egentligen får.

Enkäten tar ca 25 minuter att fylla i. I första hand vänder sig enkäten till logistikchefen på respektive företag, men om Ni anser någon annan i företaget vara mer lämplig för att besvara den kan Ni förstås låta denna person göra det.

Era svar behandlas naturligtvis konfidentiellt, dvs ingen utanför avdelningen Logistik på Linköpings universitet kommer att ta del av några enskilda företags svar. Alla svar kommer enbart att presenteras i aggregerad form, vilket innebär att inga enskilda respondenters svar kommer att kunna urskiljas.

Om Ni är intresserad av att få en sammanställning av resultatet från enkäten ber vi Er att tillsammans med enkäten bifoga Er e-mailadress.

Ansvariga för enkäten är professor Mats Abrahamsson samt doktorand Erik Sandberg. Vi vore mycket tacksamma om Ni inom två veckor besvarar enkäten och skickar tillbaka den med det bifogade svarskuvertet.

Om Ni har några frågor får Ni gärna kontakta Erik på:

Tel nr 013-284492
E-mail: ersan@eki.liu.se

Med vänliga hälsningar

Erik Sandberg

Mats Abrahamsson

Förtydligande av samarbete

Denna enkät handlar om kund- och leverantörsrelationer som kan betecknas som logistiksamarbeten. Med detta avses relationer som präglas av öppenhet och förtroende och där risker, vinster och kostnader delas mellan parterna. Ett ”grundkrav” för att få kalla en relation för samarbete är att alla inblandade parter aktivt kan vara med och påverka samarbetets utformning. Samarbetet kan handla om exempelvis utbyte av logistikrelaterad information, samplanering av leveranser, lagerpåfyllnad mm.

Sådana typer av logistikrelaterade samarbeten kan man ha med flera olika sorters företag. Vi är dock enbart intresserade av eventuella samarbeten Ni har med andra aktörer som finns i Er direkta försörjningskedja, dvs Era kunder och leverantörer av fysiska produkter. Observera att detta inte innefattar sk tredjepartslogistikföretag eller konsultbolag.

En del av respondenterna till denna enkät tillhör stora multinationella koncerner där det kan vara svårt att uttala sig om hela koncernens logistikverksamhet. Vi ber Er därför att i sådana fall enbart svara för den företagsenhet/dotterbolag eller dylikt där Ni bedriver verksamhet.

Enkätens utformning

Efter ett par inledande frågor om Ert företag (Del 1) kommer Ni bli ombedd att välja ut **en** kund- och/eller leverantörsrelation som Ni själva betecknar som ett logistiksamarbete och besvara frågor kring detta (Del 2), se figur nedan. Ifall Ni har ett samarbete där både en kund och en leverantör till Er ingår, ber vi Er i första hand välja detta samarbete. I de fall där Ni inte anser Er ha ett samarbete där både en kund och en leverantör till Er ingår, ombeds Ni att välja ut ett samarbete med **antingen** en kund **eller** en leverantör. Samarbetet Ni väljer bör ha en betydande påverkan på Er logistikverksamhet.

Appendix B

The questionnaire

ID nr: _____

Enkät

Del 1: Allmän fakta om företaget och dess interna verksamhet

1. Tillhör Ni en koncern?

☐ Ja ☐ Nej

Om Ni tillhör en koncern ber vi Er att i resten av enkäten svara för den enhet/dotterbolag där Ni bedriver verksamhet.

2. Hur många anställda har Ert företag? (Om Ni tillhör en koncern, svara då för den enhet/dotterbolag där Ni är verksam.)

_____ personer

3. Vilken omsättning har Ert företag? (Om Ni tillhör en koncern, svara då för den enhet/dotterbolag där Ni är verksam.)

_____ MSEK

4. Hur karaktäriserar Ni huvudsakligen Ert företag?

☐ Underleverantör ☐ Tillverkare
☐ Grossist ☐ Detaljist
☐ Serviceverksamhet ☐ Annat: _____

5. Hur karaktäriserar Ni Ert företags huvudprodukter?

Enstycksprodukter	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	Volymprodukter	Ingen åsikt ☐
Kundspecifika produkter	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	Standardprodukter	Ingen åsikt ☐

6. Hur är Ert företag organiserat vad gäller utveckling av logistiken inom företaget?

Utvecklingen är helt decentraliserad ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Utvecklingen är helt centraliserad ☐ Ingen åsikt/Vet ej ☐

7. Om Ni ser på samtliga Era kund- och leverantörsrelationer, förmedlar Ni logistikrelaterad information som kommer från någon av Era kunder vidare till någon av Era leverantörer, tex prognoser eller försäljningsdata?

☐ Ja ☐ Nej → *Gå till fråga 9*

8. Om Ni skickar vidare information, vad är anledningen till det?

	Instämmer inte alls			Instämmer helt			Ingen åsikt
	1	2	3	4	5		
Det är ekonomiskt lönsamt för alla inblandade parter	☐	☐	☐	☐	☐		☐
Service i försörjningskedjan kan bli bättre	☐	☐	☐	☐	☐		☐
Vi gör det för att våra leverantörer ber oss om det	☐	☐	☐	☐	☐		☐
Vi gör det för att våra kunder ber oss om det	☐	☐	☐	☐	☐		☐
Annat: _____	☐	☐	☐	☐	☐		☐

9. I sådana fall där Ni valt att *inte* skicka vidare information, vad är anledningen till det?

	Instämmer inte alls			Instämmer helt			Ingen åsikt
	1	2	3	4	5		
Vår leverantör vill inte ha den eller har ingen användning för den	☐	☐	☐	☐	☐		☐
Det är en kostnad för oss vilket gör att "det kostar mer än vad det smakar"	☐	☐	☐	☐	☐		☐
Det är idag inte tekniskt möjligt att göra det på ett smidigt sätt	☐	☐	☐	☐	☐		☐
Informationen då kan komma att utnyttjas av konkurrenter	☐	☐	☐	☐	☐		☐
	☐	☐	☐	☐	☐		☐

10. Om Ni betraktar Ert företag utifrån de tre övergripande enheterna materialförsörjning, produktion och distribution, i vilken grad har Ni dokumenterat Ert företags interna logistikprocesser?

Med "logistikprocess" avses en repetitiv och planerad kedja av logistikaktiviteter som utförs efter varandra på ett standardiserat sätt

	Inte alls			I hög grad		Ingen åsikt/Vet ej
	1	2	3	4	5	
Vi har dokumenterat våra aktiviteter i materialförsörjningen i form av processer	☐	☐	☐	☐	☐	☐
Vi har dokumenterat våra aktiviteter i produktionen i form av processer	☐	☐	☐	☐	☐	☐
Vi har dokumenterat våra aktiviteter i distributionen i form av processer	☐	☐	☐	☐	☐	☐
Vi har dokumenterat hela vår interna logistikprocess som löper genom alla tre enheterna	☐	☐	☐	☐	☐	☐

11. Mäter Ni på något sätt Er logistik med hjälp av processrelaterade nyckeltal, och i så fall vilken typ använder Ni? (Här är mer än ett svarsalternativ möjligt.)

- ☐ Total logistikkostnad för hela företaget
- ☐ Genomloppstid (tex från råvarulager till uttransport)
- ☐ Kundorderledtid (tex tid från det att en kundorder inkommer till dess att varan är färdig för utleverans)
- ☐ Leveransservice (tex andel orderrader som levereras enligt överenskommen ledtid)
- ☐ Annat: _____
- ☐ Vi använder inte processrelaterade nyckeltal
- ☐ Vet ej

[illegible]

18. Hur ställer Ni Er till följande påståenden angående er företagsledning?

Om Ni tillhör en stor koncern, tolka då "företagsledning" som den instans inom företaget dit logistikverksamheten rapporterar.

	Instämmer inte alls	1	2	3	4	Instämmer helt	5	Ingen åsikt
Företagsledningen var en aktiv och drivande kraft vid initieringen av samarbetet	☐		☐	☐	☐		☐	☐
Företagsledningen är en aktiv och drivande kraft vad gäller utveckling och förbättring av det pågående samarbetet	☐		☐	☐	☐		☐	☐

19. Vilka av följande faktorer har försvårat samarbetet?

Vi ber Er bortse från initiala problem vid samarbetets uppstart

[illegible]

20. Om Ni jämför med hur det var innan samarbetet påbörjades, vilka effekter har samarbetet fått?

	Håller inte allts med				Instämmer helt	Ingen åsikt/Vet ej
	1	2	3	4	5

21. Hur ställer Ni er till följande påstående om samarbetet som helhet?

Vi anser att samarbetet är positivt för vårt eget företag:

Håller inte alls med	☐	☐	☐	☐	☐	Instämmer helt	Ingen åsikt:
	1	2	3	4	5		☐

22. Vilken typ av information utbyter Ni och Er partner/Era partners inom ramen för samarbetet och hur ofta?

Information som handlar om...	Varje dag	Minst en gång per vecka	Minst en gång varannan vecka	Minst en gång var tredje vecka	Minst en gång i månaden	Mer sällan eller aldrig
Produktionsplanering	☐	☐	☐	☐	☐	☐
Lagernivåer	☐	☐	☐	☐	☐	☐
Prognoser/kommande behov	☐	☐	☐	☐	☐	☐
Försäljningsdata (tex point of sales data)	☐	☐	☐	☐	☐	☐
Felmeddelanden, avvikelser mm	☐	☐	☐	☐	☐	☐
Framtida produktkampanjer mm	☐	☐	☐	☐	☐	☐
Framtida priser och prissättning	☐	☐	☐	☐	☐	☐
Framtida leveranser o dyl	☐	☐	☐	☐	☐	☐
Bekräftelser och spårning av olika slag, tex leveransbesked och priser	☐	☐	☐	☐	☐	☐
Annat:	☐	☐	☐	☐	☐	☐

23. I vilken grad är informationen Ni utbyter anpassad/bearbetad för just mottagaren?

Informationen är inte alls anpassad/bearbetad	☐	☐	☐	☐	☐	Informationen är mycket anpassad/bearbetad	Ingen åsikt:
	1	2	3	4	5		☐

24. Vilken är den huvudsakliga kommunikationsformen som används inom ramen för samarbetet?

☐ Traditionella kommunikationsformer (telefon, e-mail, brev, fax mm)

☐ EDI ☐ Internet (XML eller dylikt) ☐ Vet ej

Besparingen/den ökade kostnaden tillfaller alltid den part där den uppstår	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	Besparingen/den ökade kostnaden fördelas mellan parterna på ett fördefinierat sätt	Ingen åsikt/Vet ej ☐
--	-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------------------	---	---

Nedan följer en fråga som vi vill att Ni ska besvara om Ni ovan valt **alternativ två eller tre**, dvs svarat på frågor som rör ett samarbete på antingen Er kund- eller leverantörssida. Vi är härunder intresserade av att veta mer om detta samarbets konsekvenser för Ert företags andra sida, dvs om Ni ovan besvarat frågor kring ett samarbete med en leverantör vill vi nu att Ni funderar över dess konsekvenser för Era kunder och vice versa.

29. Hur ställer Ni Er till följande påståenden om hur företag på Er andra sida (kund- eller leverantörssidan) har påverkats av Ert samarbete?

	Instämmer inte alls	1	2	3	4	Instämmer helt	5	Ingen åsikt/Vet ej
Samarbetet har lett till ökat samarbete och fördjupade relationer även på den andra sidan av vårt företag	☐		☐	☐	☐		☐	☐
Samarbetet har inneburit att företag på den andra sidan har fått mer information snabbare om tex prognoser och försäljningsinformation (point of sales data)	☐		☐	☐	☐		☐	☐
Företag på den andra sidan har tack vare samarbetet kunnat få en bättre service av oss	☐		☐	☐	☐		☐	☐
Annat: _____	☐		☐	☐	☐		☐	☐

30. Avslutningsvis undrar vi om Ni är intresserade av att vara med i en mer djupgående studie kring interorganisatoriska relationer, där ett par respondenter kommer att väljas ut och bli intervjuade. Vi ber Er i så fall namnge de företag som ingår i samarbetet Ni besvarat frågor kring ovan

☐ Ja, vi vill gärna vara med i en mer djupgående studie om samarbete i vår försörjningskedja:

Leverantörens namn: _____

Kundens namn: _____

☐ Nej tack, vi är inte intresserade

Stort tack för Er medverkan!

Mats Abrahamsson och Erik Sandberg

Appendix C

**Research question one and its relationship
to the questions in the questionnaire**

Company characteristics

v1-v5

The content of logistics collaboration

Process approach

Process documentation: v25, v26

Use of measurements: v27

The sharing of costs and rewards: v28

Internal process approach: v6, v10, v11

Planning of supply chain activities

v17

Information sharing

Type of information: v22

Frequency of information sharing: v22

Degree of processed/adjusted information: v23

Communication means: v24

Supply chain orientation

v15, v18, v19_2 to v19_8

Logistics areas

v13, v14

Driving forces, barriers and effects

Driving forces

v16

Barriers

v19

Effects

v20, v21, v29

Type of collaboration

v12, v14

Note that v7-v9 are not included in the thesis.

Appendix D

SPSS analyses

Table D.1: The distribution of the respondents in the sub industries of manufacturing

Industry	Frequency	Percent	Cumulative percent
Food products, beverages, and tobacco	9	5.1	5.1
Textiles and textile products	7	4.0	9.0
Leather and leather products	0	0.0	9.0
Wood and wood products	9	5.1	14.1
Pulp, paper and paper products; publishing and printing	17	9.6	23.7
Coke, refined petroleum products and nuclear fuel	2	1.1	24.9
Chemicals, chemical products and man made fibres	12	6.8	31.6
Rubber and plastic products	11	6.2	37.9
Other non-metallic mineral products	7	4.0	41.8
Basic metals and fabricated metal products	49	27.7	69.5
Machinery and equipment N.E.C.	14	7.9	77.4
Electrical and optical equipment	18	10.2	87.6
Transport equipment	15	8.5	96.0
N.E.C.	7	4.0	100.0
Total	177	100.0	

Table D.2: ANOVA analysis on the use of measurements between respondents with a defined process in their collaboration and those without.

Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Measurements: Total cost	Yes	33	2,48	1,278	,222	2,03	2,94
	No	97	1,79	1,117	,113	1,57	2,02
	Total	130	1,97	1,194	,105	1,76	2,18
Measurement: Lead times	Yes	37	3,70	1,412	,232	3,23	4,17
	No	104	2,96	1,350	,132	2,70	3,22
	Total	141	3,16	1,400	,118	2,92	3,39
Measurement: Service	Yes	36	3,78	1,124	,187	3,40	4,16
	No	105	3,16	1,360	,133	2,90	3,43
	Total	141	3,32	1,327	,112	3,10	3,54

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Measurements: Total cost	Between Groups	11,758	1	11,758	8,744	,004
	Within Groups	172,119	128	1,345		
	Total	183,877	129			
Measurement: Lead times	Between Groups	14,991	1	14,991	8,028	,005
	Within Groups	259,576	139	1,867		
	Total	274,567	140			
Measurement: Service	Between Groups	10,168	1	10,168	5,977	,016
	Within Groups	236,470	139	1,701		
	Total	246,638	140			

Table D.3: ANOVA analysis on to what extent the shared information is processed/adjusted for the receiver between respondents with more or less information sharing.

Descriptives

Degree of processed/adjusted info						
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Respondents sharing at least two types of infos per week	100	3,79	1,028	,103	3,59	3,99
Respondents sharing less than two types per week	53	3,42	1,247	,171	3,07	3,76
Total	153	3,66	1,119	,090	3,48	3,84

ANOVA

Degree of processed/adjusted info					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4,869	1	4,869	3,964	,048
Within Groups	185,458	151	1,228		
Total	190,327	152			

Table D.4: ANOVA analysis on the mean values of frequency of information sharing and the groups of respondents with or without EDI and Internet based alternatives in their collaboration.

Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Info: Production planning	Use only traditional communication means	50	13,18	7,550	1,068	11,03	15,33
	Use of EDI or Internet based sometimes together with trad. c	56	5,71	5,463	,730	4,25	7,18
	Total	106	9,24	7,501	,729	7,79	10,68
Info: Inventory levels	Use only traditional communication means	51	11,88	7,423	1,039	9,79	13,97
	Use of EDI or Internet based sometimes together with trad. c	63	6,90	6,981	,880	5,15	8,66
	Total	114	9,13	7,570	,709	7,73	10,54
Info: Forecasts	Use only traditional communication means	70	16,01	6,254	,748	14,52	17,51
	Use of EDI or Internet based sometimes together with trad. c	73	8,66	6,913	,809	7,04	10,27
	Total	143	12,26	7,540	,631	11,01	13,51
Info: Sales, POS	Use only traditional communication means	23	14,91	7,348	1,532	11,74	18,09
	Use of EDI or Internet based sometimes together with trad. c	44	12,84	8,325	1,255	10,31	15,37
	Total	67	13,55	8,008	,978	11,60	15,51
Info: Error messages	Use only traditional communication means	52	11,58	7,360	1,021	9,53	13,63
	Use of EDI or Internet based sometimes together with trad. c	69	6,91	6,359	,766	5,39	8,44
	Total	121	8,92	7,163	,651	7,63	10,21
Info: Product campaigns	Use only traditional communication means	19	17,68	5,697	1,307	14,94	20,43
	Use of EDI or Internet based sometimes together with trad. c	37	16,38	6,348	1,044	14,26	18,49
	Total	56	16,82	6,114	,817	15,18	18,46
Info: Prices and pricing	Use only traditional communication means	15	18,40	4,983	1,287	15,64	21,16
	Use of EDI or Internet based sometimes together with trad. c	19	17,89	5,087	1,167	15,44	20,35
	Total	34	18,12	4,971	,853	16,38	19,85
Info: Future deliveries etc	Use only traditional communication means	53	14,40	6,960	,956	12,48	16,31
	Use of EDI or Internet based sometimes together with trad. c	66	9,62	7,751	,954	7,72	11,53
	Total	119	11,75	7,754	,711	10,34	13,16
Info: Confirmations	Use only traditional communication means	46	8,67	6,746	,995	6,67	10,68
	Use of EDI or Internet based sometimes together with trad. c	56	5,55	5,383	,719	4,11	7,00
	Total	102	6,96	6,204	,614	5,74	8,18

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Info: Production planning	Between Groups	1472,295	1	1472,295	34,527	,000
	Within Groups	4434,809	104	42,642		
	Total	5907,104	105			
Info: Inventory levels	Between Groups	698,304	1	698,304	13,539	,000
	Within Groups	5776,723	112	51,578		
	Total	6475,026	113			
Info: Forecasts	Between Groups	1934,003	1	1934,003	44,417	,000
	Within Groups	6139,424	141	43,542		
	Total	8073,427	142			
Info: Sales, POS	Between Groups	64,855	1	64,855	1,011	,318
	Within Groups	4167,712	65	64,119		
	Total	4232,567	66			
Info: Error messages	Between Groups	645,003	1	645,003	13,925	,000
	Within Groups	5512,171	119	46,321		
	Total	6157,174	120			
Info: Product campaigns	Between Groups	21,406	1	21,406	,568	,454
	Within Groups	2034,808	54	37,682		
	Total	2056,214	55			
Info: Prices and pricing	Between Groups	2,140	1	2,140	,084	,774
	Within Groups	813,389	32	25,418		
	Total	815,529	33			
Info: Future deliveries etc	Between Groups	670,227	1	670,227	12,206	,001
	Within Groups	6424,210	117	54,908		
	Total	7094,437	118			
Info: Confirmations	Between Groups	245,895	1	245,895	6,752	,011
	Within Groups	3641,948	100	36,419		
	Total	3887,843	101			

Table D.5: ANOVA analysis on to what extent joint planning is performed between respondents with or without a defined process in their collaborations.

Descriptives

Joint operative planning

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Yes	38	3,63	1,051	3,29	3,98
No	104	3,22	1,123	3,00	3,44
Total	142	3,33	1,115	3,15	3,52

ANOVA

Joint operative planning

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4,688	1	4,688	3,844	,052
Within Groups	170,756	140	1,220		
Total	175,444	141			

Table D.6: Cross tabulation between respondents sharing at least two types of information at least once a week and those who do not, and respondents with or without a defined process in their collaboration.

Intensity in information sharing * Described the collaboration as a process Crosstabulation

			Described the collaboration as a process		Total
			Yes	No	
Intensity in information sharing	Respondents sharing at least two types of infos per week	Count	30	64	94
		Expected Count	24,6	69,4	94,0
	Respondents sharing less than two types per week	Count	8	43	51
		Expected Count	13,4	37,6	51,0
Total		Count	38	107	145
		Expected Count	38,0	107,0	145,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,503 ^b	1	,034		
Continuity Correction ^a	3,703	1	,054		
Likelihood Ratio	4,768	1	,029		
Fisher's Exact Test				,047	,025
Linear-by-Linear Association	4,472	1	,034		
N of Valid Cases	145				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 13,37.

Table D.7: ANOVA analysis on the involvement from top management in the ongoing collaboration and respondents with more or less intensity in their information sharing.

Descriptives

Top management involvement in ongoing collaboration

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Respondents sharing at least two types of infos per week	104	3,27	1,090	,107	3,06	3,48
Respondents sharing less than two types per week	54	2,70	1,110	,151	2,40	3,01
Total	158	3,08	1,126	,090	2,90	3,25

ANOVA

Top management involvement in ongoing collaboration

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11,368	1	11,368	9,447	,002
Within Groups	187,721	156	1,203		
Total	199,089	157			

Table D.8: ANOVA analysis on the degree of top management involvement and respondents with low respectively high degree of joint operative planning.

Descriptives						
		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Degree of top management involvement in the initial phase	Respondents with low degree of joint operative planning	37	2,59	1,166	2,21	2,98
	Respondents with a high degree of joint operative planning	82	3,35	1,251	3,08	3,63
	Total	119	3,12	1,270	2,89	3,35
Top management involvement in ongoing collaboration	Respondents with low degree of joint operative planning	37	2,65	1,086	2,29	3,01
	Respondents with a high degree of joint operative planning	82	3,23	1,158	2,98	3,49
	Total	119	3,05	1,163	2,84	3,26

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Degree of top management involvement in the initial phase	Between Groups	14,690	1	14,690	9,784	,002
	Within Groups	175,663	117	1,501		
	Total	190,353	118			
Top management involvement in ongoing collaboration	Between Groups	8,667	1	8,667	6,715	,011
	Within Groups	151,030	117	1,291		
	Total	159,697	118			

Comment to Table D.8: The respondents were divided into two groups depending on if they had given low answers (1 or 2) or high answers (4 or 5) on the question of how much joint operative planning that was performed in the collaboration.

Table D.9: Factor analysis on the five first variables investigating experienced effects of the collaboration.

Communalities

	Initial	Extraction
Effect: We have got decreased costs	1,000	,787
Effect: Partner has got decreased costs	1,000	,776
Effect: Our service towards partner improved	1,000	,728
Effect: We have become improved service	1,000	,633
Effect: Our service towards other actors improved	1,000	,709

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,396	47,924	47,924	2,033	40,665	40,665
2	1,237	24,738	72,662	1,600	31,997	72,662
3	,517	10,343	83,005			
4	,505	10,109	93,114			
5	,344	6,886	100,000			

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component	
	1	2
Effect: We have got decreased costs		,884
Effect: Partner has got decreased costs		,862
Effect: Our service towards partner improved	,841	
Effect: We have become improved service	,759	
Effect: Our service towards other actors improved	,842	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Table D.10: Factor analysis on all nine variables investigating experienced effects.

Communalities		
	Initial	Extraction
Effect: We have got decreased costs	1,000	,677
Effect: Partner has got decreased costs	1,000	,781
Effect: Our service towards partner improved	1,000	,679
Effect: We have become improved service	1,000	,565
Effect: Our service towards other actors improved	1,000	,644
Effect: Lead times shorter	1,000	,500
Effect: More competitive	1,000	,487
Effect: More thorough responsibility division	1,000	,490
Effect: More measurement and follow ups	1,000	,297

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,836	42,624	42,624	2,848	31,649	31,649
2	1,285	14,273	56,897	2,272	25,248	56,897
3	,836	9,290	66,187			
4	,752	8,353	74,540			
5	,645	7,163	81,703			
6	,576	6,398	88,101			
7	,492	5,463	93,564			
8	,315	3,498	97,062			
9	,264	2,938	100,000			

Extraction Method: Principal Component Analysis.

Rotated Component Matrix ^a

	Component	
	1	2
Effect: We have got decreased costs		,821
Effect: Partner has got decreased costs		,873
Effect: Our service towards partner improved	,813	
Effect: We have become improved service	,728	
Effect: Our service towards other actors improved	,802	
Effect: Lead times shorter	,483	,516
Effect: More competitive	,462	,522
Effect: More thorough responsibility division	,562	,418
Effect: More measurement and follow ups	,479	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Table D.11: Cluster analysis on the variables investigating experienced effects of the collaboration

Final Cluster Centers		
	Cluster	
	1	2
Effect: We have got decreased costs	3	4
Effect: Partner has got decreased costs	3	4
Effect: Our service towards partner improved	3	4
Effect: We have become improved service	3	4
Effect: Our service towards other actors improved	3	4
Effect: Lead times shorter	3	4
Effect: More competitive	3	4
Effect:Clearer division of responsibility between partners	3	4
Effect: More measurement and follow ups	3	4

ANOVA						
	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Effect: We have got decreased costs	37,058	1	,938	125	39,505	,000
Effect: Partner has got decreased costs	59,301	1	,683	125	86,790	,000
Effect: Our service towards partner improved	25,000	1	,613	125	40,759	,000
Effect: We have become improved service	26,992	1	,533	125	50,602	,000
Effect: Our service towards other actors improved	22,881	1	,956	125	23,925	,000
Effect: Lead times shorter	37,003	1	,776	125	47,662	,000
Effect: More competitive	18,310	1	,687	125	26,651	,000
Effect:Clearer division of responsibility between partners	23,773	1	,624	125	38,111	,000
Effect: More measurement and follow ups	34,610	1	1,059	125	32,669	,000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Number of Cases in each Cluster

Cluster 1	39,000
Cluster 2	88,000
Valid	127,000
Missing	50,000

Table D.12: ANOVA analysis on the variables investigating experienced effects of the collaboration between respondents with or without a defined and documented process in their collaboration.

Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Effect: We have got decreased costs	Yes	36	3,58	1,251	,208	3,16	4,01
	No	101	3,53	1,082	,108	3,32	3,75
	Total	137	3,55	1,124	,096	3,36	3,74
Effect: Partner has got decreased costs	Yes	32	3,56	1,162	,205	3,14	3,98
	No	94	3,62	1,006	,104	3,41	3,82
	Total	126	3,60	1,044	,093	3,42	3,79
Effect: Our service towards partner improved	Yes	38	4,16	,789	,128	3,90	4,42
	No	103	4,11	,959	,095	3,92	4,29
	Total	141	4,12	,914	,077	3,97	4,27
Effect: We have become improved service	Yes	37	4,11	,737	,121	3,86	4,35
	No	101	3,84	,903	,090	3,66	4,02
	Total	138	3,91	,867	,074	3,77	4,06
Effect: Our service towards other actors improved	Yes	38	3,97	1,000	,162	3,65	4,30
	No	102	3,62	1,072	,106	3,41	3,83
	Total	140	3,71	1,061	,090	3,54	3,89
Effect: Lead times shorter	Yes	38	4,11	,894	,145	3,81	4,40
	No	103	3,84	1,127	,111	3,62	4,06
	Total	141	3,91	1,072	,090	3,74	4,09
Effect: More competitive	Yes	35	3,91	,919	,155	3,60	4,23
	No	99	3,84	,889	,089	3,66	4,02
	Total	134	3,86	,894	,077	3,71	4,01
Effect:Clearer division of responsibility between partners	Yes	38	3,79	,875	,142	3,50	4,08
	No	97	3,40	,909	,092	3,22	3,59
	Total	135	3,51	,913	,079	3,36	3,67
Effect: More measurement and follow ups	Yes	38	3,71	1,063	,172	3,36	4,06
	No	101	3,31	1,189	,118	3,07	3,54
	Total	139	3,42	1,167	,099	3,22	3,61

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Effect: We have got decreased costs	Between Groups	,063	1	,063	,049	,824
	Within Groups	171,879	135	1,273		
	Total	171,942	136			
Effect: Partner has got decreased costs	Between Groups	,071	1	,071	,065	,800
	Within Groups	136,088	124	1,097		
	Total	136,159	125			
Effect: Our service towards partner improved	Between Groups	,072	1	,072	,086	,770
	Within Groups	116,878	139	,841		
	Total	116,950	140			
Effect: We have become improved service	Between Groups	1,924	1	1,924	2,589	,110
	Within Groups	101,033	136	,743		
	Total	102,957	137			
Effect: Our service towards other actors improved	Between Groups	3,510	1	3,510	3,164	,077
	Within Groups	153,062	138	1,109		
	Total	156,571	139			
Effect: Lead times shorter	Between Groups	1,885	1	1,885	1,647	,201
	Within Groups	159,094	139	1,145		
	Total	160,979	140			
Effect: More competitive	Between Groups	,149	1	,149	,185	,668
	Within Groups	106,157	132	,804		
	Total	106,306	133			
Effect: Clearer division of responsibility between partners	Between Groups	4,098	1	4,098	5,064	,026
	Within Groups	107,635	133	,809		
	Total	111,733	134			
Effect: More measurement and follow ups	Between Groups	4,498	1	4,498	3,362	,069
	Within Groups	183,301	137	1,338		
	Total	187,799	138			

Table D.13: ANOVA analysis on effects on the other side of the company between respondents with low respectively high degree of top management involvement in dyadic, ongoing collaboration.

Descriptives						
		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Effects on the other side: Increased collaboration	Respondents with low degree of top management in ongoing col	33	2,67	1,315	2,20	3,13
	Respondents with high degree of top management in ongoing co	38	3,47	1,156	3,09	3,85
	Total	71	3,10	1,289	2,79	3,40
Effects on the other side: More info faster	Respondents with low degree of top management in ongoing col	34	2,74	1,310	2,28	3,19
	Respondents with high degree of top management in ongoing co	37	3,30	1,199	2,90	3,70
	Total	71	3,03	1,276	2,73	3,33
Effects on the other side: Improved service	Respondents with low degree of top management in ongoing col	35	3,37	1,285	2,93	3,81
	Respondents with high degree of top management in ongoing co	38	3,82	1,136	3,44	4,19
	Total	73	3,60	1,222	3,32	3,89

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Effects on the other side: Increased collaboration	Between Groups	11,503	1	11,503	7,573	,008
	Within Groups	104,807	69	1,519		
	Total	116,310	70			
Effects on the other side: More info faster	Between Groups	5,596	1	5,596	3,564	,063
	Within Groups	108,347	69	1,570		
	Total	113,944	70			
Effects on the other side: Improved service	Between Groups	3,597	1	3,597	2,459	,121
	Within Groups	103,882	71	1,463		
	Total	107,479	72			

Table D.14: ANOVA analysis on SCO variables between the different types of collaboration.

Descriptives						
		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Possibility to influence the collaboration	Triadsamarbete	44	3,93	,925	3,65	4,21
	Leverantörssamarbete	58	4,00	,795	3,79	4,21
	Kundsamarbete	54	3,52	,906	3,27	3,77
	Total	156	3,81	,893	3,67	3,96
Degree of top management involvement in the initial phase	Triadsamarbete	43	3,44	1,201	3,07	3,81
	Leverantörssamarbete	60	2,87	1,268	2,54	3,19
	Kundsamarbete	54	3,17	1,145	2,85	3,48
	Total	157	3,13	1,223	2,93	3,32
Top management involvement in ongoing collaboration	Triadsamarbete	43	3,26	1,157	2,90	3,61
	Leverantörssamarbete	60	2,67	1,100	2,38	2,95
	Kundsamarbete	55	3,38	1,009	3,11	3,65
	Total	158	3,08	1,126	2,90	3,25
Personal chemistry and different company cultures	Triadsamarbete	41	2,51	1,121	2,16	2,87
	Leverantörssamarbete	59	2,29	1,115	2,00	2,58
	Kundsamarbete	55	2,44	1,259	2,10	2,78
	Total	155	2,40	1,166	2,22	2,58
Trust	Triadsamarbete	43	2,40	1,094	2,06	2,73
	Leverantörssamarbete	59	2,32	,955	2,07	2,57
	Kundsamarbete	54	2,72	1,220	2,39	3,06
	Total	156	2,48	1,098	2,31	2,65
Different logistics competencies	Triadsamarbete	42	3,07	1,068	2,74	3,40
	Leverantörssamarbete	60	3,03	1,221	2,72	3,35
	Kundsamarbete	55	2,78	1,049	2,50	3,07
	Total	157	2,96	1,123	2,78	3,13
Different goals	Triadsamarbete	42	2,64	1,055	2,31	2,97
	Leverantörssamarbete	59	2,42	1,177	2,12	2,73
	Kundsamarbete	55	2,60	1,047	2,32	2,88
	Total	156	2,54	1,097	2,37	2,72
Different opinions of how costs and savings should be shared	Triadsamarbete	39	2,77	1,224	2,37	3,17
	Leverantörssamarbete	58	2,31	1,217	1,99	2,63
	Kundsamarbete	53	2,83	1,297	2,47	3,19
	Total	150	2,61	1,263	2,41	2,82
Different opinions about responsibility areas	Triadsamarbete	42	2,26	1,061	1,93	2,59
	Leverantörssamarbete	59	2,31	1,149	2,01	2,60
	Kundsamarbete	55	2,33	,982	2,06	2,59
	Total	156	2,30	1,062	2,13	2,47
Understanding from the own company	Triadsamarbete	41	2,24	1,135	1,89	2,60
	Leverantörssamarbete	59	1,98	1,152	1,68	2,28
	Kundsamarbete	54	2,33	1,028	2,05	2,61
	Total	154	2,18	1,109	2,00	2,35

Multiple Comparisons

Bonferroni

Dependent Variable	(I) The three collaboration types	(J) The three collaboration types	Mean Difference (I-J)	Std. Error	Sig.
Possibility to influence the collaboration	Triadsamarbete	Leverantörssamarbete	-,07	,174	1,000
		Kundsamarbete	,41	,177	,063
	Leverantörssamarbete	Triadsamarbete	,07	,174	1,000
		Kundsamarbete	,48*	,165	,012
	Kundsamarbete	Triadsamarbete	-,41	,177	,063
		Leverantörssamarbete	-,48*	,165	,012
Degree of top management involvement in the initial phase	Triadsamarbete	Leverantörssamarbete	,58	,242	,055
		Kundsamarbete	,28	,247	,801
	Leverantörssamarbete	Triadsamarbete	-,58	,242	,055
		Kundsamarbete	-,30	,227	,563
	Kundsamarbete	Triadsamarbete	-,28	,247	,801
		Leverantörssamarbete	,30	,227	,563
Top management involvement in ongoing collaboration	Triadsamarbete	Leverantörssamarbete	,59*	,217	,022
		Kundsamarbete	-,13	,221	1,000
	Leverantörssamarbete	Triadsamarbete	-,59*	,217	,022
		Kundsamarbete	-,72*	,203	,002
	Kundsamarbete	Triadsamarbete	,13	,221	1,000
		Leverantörssamarbete	,72*	,203	,002
Personal chemistry and different company cultures	Triadsamarbete	Leverantörssamarbete	,22	,238	1,000
		Kundsamarbete	,08	,241	1,000
	Leverantörssamarbete	Triadsamarbete	-,22	,238	1,000
		Kundsamarbete	-,15	,219	1,000
	Kundsamarbete	Triadsamarbete	-,08	,241	1,000
		Leverantörssamarbete	,15	,219	1,000
Trust	Triadsamarbete	Leverantörssamarbete	,07	,219	1,000
		Kundsamarbete	-,33	,223	,434
	Leverantörssamarbete	Triadsamarbete	-,07	,219	1,000
		Kundsamarbete	-,40	,205	,160
	Kundsamarbete	Triadsamarbete	,33	,223	,434
		Leverantörssamarbete	,40	,205	,160
Different logistics competencies	Triadsamarbete	Leverantörssamarbete	,04	,226	1,000
		Kundsamarbete	,29	,230	,630
	Leverantörssamarbete	Triadsamarbete	-,04	,226	1,000
		Kundsamarbete	,25	,210	,696
	Kundsamarbete	Triadsamarbete	-,29	,230	,630
		Leverantörssamarbete	-,25	,210	,696
Different goals	Triadsamarbete	Leverantörssamarbete	,22	,222	,976
		Kundsamarbete	,04	,225	1,000
	Leverantörssamarbete	Triadsamarbete	-,22	,222	,976
		Kundsamarbete	-,18	,206	1,000
	Kundsamarbete	Triadsamarbete	-,04	,225	1,000
		Leverantörssamarbete	,18	,206	1,000
Different opinions of how costs and savings should be shared	Triadsamarbete	Leverantörssamarbete	,46	,258	,233
		Kundsamarbete	-,06	,263	1,000
	Leverantörssamarbete	Triadsamarbete	-,46	,258	,233
		Kundsamarbete	-,52	,237	,090
	Kundsamarbete	Triadsamarbete	,06	,263	1,000
		Leverantörssamarbete	,52	,237	,090
Different opinions about responsibility areas	Triadsamarbete	Leverantörssamarbete	-,04	,216	1,000
		Kundsamarbete	-,07	,219	1,000
	Leverantörssamarbete	Triadsamarbete	,04	,216	1,000
		Kundsamarbete	-,02	,200	1,000
	Kundsamarbete	Triadsamarbete	,07	,219	1,000
		Leverantörssamarbete	,02	,200	1,000
Understanding from the own company	Triadsamarbete	Leverantörssamarbete	,26	,225	,743
		Kundsamarbete	-,09	,229	1,000
	Leverantörssamarbete	Triadsamarbete	-,26	,225	,743
		Kundsamarbete	-,35	,208	,284
	Kundsamarbete	Triadsamarbete	,09	,229	1,000
		Leverantörssamarbete	,35	,208	,284

*. The mean difference is significant at the .05 level.

Table D.15: ANOVA analysis on experienced effects of the collaboration between different types of collaboration.

		Descriptives				
		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Effect: We have got decreased costs	Triadsamarbete	43	3,65	1,173	3,29	4,01
	Leverantörssamarbete	55	3,64	1,060	3,35	3,92
	Kundsamarbete	52	3,37	1,189	3,03	3,70
	Total	150	3,55	1,139	3,36	3,73
Effect: Partner has got decreased costs	Triadsamarbete	41	3,78	1,037	3,45	4,11
	Leverantörssamarbete	48	3,40	1,144	3,06	3,73
	Kundsamarbete	49	3,61	,996	3,33	3,90
	Total	138	3,59	1,065	3,41	3,77
Effect: Our service towards partner improved	Triadsamarbete	44	4,23	,831	3,97	4,48
	Leverantörssamarbete	57	3,82	,984	3,56	4,09
	Kundsamarbete	54	4,31	,797	4,10	4,53
	Total	155	4,11	,901	3,97	4,25
Effect: We have become improved service	Triadsamarbete	43	3,98	,859	3,71	4,24
	Leverantörssamarbete	58	3,98	,761	3,78	4,18
	Kundsamarbete	51	3,69	,969	3,41	3,96
	Total	152	3,88	,868	3,74	4,02
Effect: Our service towards other actors improved	Triadsamarbete	44	3,93	,846	3,67	4,19
	Leverantörssamarbete	56	3,68	1,097	3,38	3,97
	Kundsamarbete	54	3,59	1,158	3,28	3,91
	Total	154	3,72	1,057	3,55	3,89
Effect: Lead times shorter	Triadsamarbete	44	4,02	,952	3,73	4,31
	Leverantörssamarbete	58	3,84	1,268	3,51	4,18
	Kundsamarbete	54	3,81	,892	3,57	4,06
	Total	156	3,88	1,059	3,72	4,05
Effect: More competitive	Triadsamarbete	42	3,98	,780	3,73	4,22
	Leverantörssamarbete	53	3,51	,973	3,24	3,78
	Kundsamarbete	51	4,00	,849	3,76	4,24
	Total	146	3,82	,902	3,67	3,96
Effect: Clearer division of responsibility between partners	Triadsamarbete	43	3,70	,939	3,41	3,99
	Leverantörssamarbete	54	3,48	,818	3,26	3,70
	Kundsamarbete	52	3,40	,995	3,13	3,68
	Total	149	3,52	,920	3,37	3,67
Effect: More measurement and follow ups	Triadsamarbete	44	3,73	1,107	3,39	4,06
	Leverantörssamarbete	56	3,09	1,100	2,79	3,38
	Kundsamarbete	53	3,49	1,203	3,16	3,82
	Total	153	3,41	1,161	3,23	3,60

Dependent Variable		(I) The three collaboration types	(J) The three collaboration types	Mean Difference (I-J)	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Effect: We have got decreased costs	Bonferroni	Triadsamarbete	Leverantörssamarbete	,01	1,000	-,55	,58
		Kundsamarbete		,29	,676	-,28	,85
		Leverantörssamarbete	Triadsamarbete	-,01	1,000	-,58	,55
		Kundsamarbete	Kundsamarbete	,27	,661	-,26	,80
		Triadsamarbete	Triadsamarbete	-,29	,676	-,85	,28
			Leverantörssamarbete	-,27	,661	-,80	,26
Effect: Partner has got decreased costs	Bonferroni	Triadsamarbete	Leverantörssamarbete	,38	,272	-,16	,93
		Kundsamarbete		,17	1,000	-,38	,71
		Leverantörssamarbete	Triadsamarbete	-,38	,272	-,93	,16
		Kundsamarbete	Kundsamarbete	-,22	,952	-,74	,31
		Triadsamarbete	Triadsamarbete	-,17	1,000	-,71	,38
			Leverantörssamarbete	,22	,952	-,31	,74
Effect: Our service towards partner improved	Bonferroni	Triadsamarbete	Leverantörssamarbete	,40	,072	-,02	,83
		Kundsamarbete		-,09	1,000	-,52	,34
		Leverantörssamarbete	Triadsamarbete	-,40	,072	-,83	,02
		Kundsamarbete	Kundsamarbete	-,49*	,012	-,89	-,09
		Triadsamarbete	Triadsamarbete	,09	1,000	-,34	,52
			Leverantörssamarbete	,49*	,012	,09	,89
	Tamhane	Leverantörssamarbete	Kundsamarbete	*			
		Kundsamarbete	Leverantörssamarbete	*			
Effect: We have become improved service	Bonferroni	Triadsamarbete	Leverantörssamarbete	-,01	1,000	-,43	,41
		Kundsamarbete		,29	,318	-,14	,72
		Leverantörssamarbete	Triadsamarbete	,01	1,000	-,41	,43
		Kundsamarbete	Kundsamarbete	,30	,226	-,10	,70
		Triadsamarbete	Triadsamarbete	-,29	,318	-,72	,14
			Leverantörssamarbete	-,30	,226	-,70	,10
Effect: Our service towards other actors improved	Tamhane	Triadsamarbete	Leverantörssamarbete	,25	,480	-,22	,73
		Kundsamarbete		,34	,265	-,15	,83
		Leverantörssamarbete	Triadsamarbete	-,25	,480	-,73	,22
		Kundsamarbete	Kundsamarbete	,09	,970	-,44	,61
		Triadsamarbete	Triadsamarbete	-,34	,265	-,83	,15
			Leverantörssamarbete	-,09	,970	-,61	,44
Effect: Lead times shorter	Bonferroni	Triadsamarbete	Leverantörssamarbete	,18	1,000	-,34	,69
		Kundsamarbete		,21	1,000	-,31	,73
		Leverantörssamarbete	Triadsamarbete	-,18	1,000	-,69	,34
		Kundsamarbete	Kundsamarbete	,03	1,000	-,46	,52
		Triadsamarbete	Triadsamarbete	-,21	1,000	-,73	,31
			Leverantörssamarbete	-,03	1,000	-,52	,46
Effect: More competitive	Bonferroni	Triadsamarbete	Leverantörssamarbete	,47*	,033	,03	,91
		Kundsamarbete		-,02	1,000	-,47	,42
		Leverantörssamarbete	Triadsamarbete	-,47*	,033	-,91	-,03
		Kundsamarbete	Kundsamarbete	-,49*	,015	-,91	-,07
		Triadsamarbete	Triadsamarbete	,02	1,000	-,42	,47
			Leverantörssamarbete	,49*	,015	,07	,91
	Tamhane	Triadsamarbete	Leverantörssamarbete	*			
		Leverantörssamarbete	Triadsamarbete	*			
		Kundsamarbete		*			
		Kundsamarbete	Leverantörssamarbete	*			
Effect: Clearer division of responsibility between partners	Bonferroni	Triadsamarbete	Leverantörssamarbete	,22	,754	-,24	,67
		Kundsamarbete		,29	,368	-,16	,75
		Leverantörssamarbete	Triadsamarbete	-,22	,754	-,67	,24
		Kundsamarbete	Kundsamarbete	,08	1,000	-,35	,51
		Triadsamarbete	Triadsamarbete	-,29	,368	-,75	,16
			Leverantörssamarbete	-,08	1,000	-,51	,35
Effect: More measurement and follow ups	Bonferroni	Triadsamarbete	Leverantörssamarbete	,64*	,018	,08	1,19
		Kundsamarbete		,24	,929	-,33	,80
		Leverantörssamarbete	Triadsamarbete	-,64*	,018	-,19	-,08
		Kundsamarbete	Kundsamarbete	-,40	,204	-,93	,13
		Triadsamarbete	Triadsamarbete	-,24	,929	-,80	,33
			Leverantörssamarbete	,40	,204	-,13	,93
	Tamhane	Triadsamarbete	Leverantörssamarbete	*			
		Leverantörssamarbete	Triadsamarbete	*			

*. The mean difference is significant at the .05 level.

Appendix E

Findings from the structured literature review

Journal	Author	Title	Included theory	Type of study	Description/Purpose
Journal of Business Logistics	Wisner (2003)	A structural equation model of supply chain management strategies and firm performance	RBV and Positioning	Survey study	Investigates SCM strategies and firm performance with structural equation modeling
	Zsidisin, Ellram and Ogden (2003)	The relationship between purchasing and supply management's perceived value and participation in strategic supplier cost management activities	RBV	Survey study	Presents and tests hypotheses concerning the relationship between perceptions of purchasing- and supply management value and strategic cost management
	Sinkovics and Roath, (2004)	Strategic orientation, capabilities, and performance in manufacturer-3PL relationships	RBV	Survey study	Examines the relationships between strategy and performance on manufacturer-3PL relationships
	Rodríguez, Stank and Lynch (2004)	Linking strategy, structure, process, and performance in integrated logistics	SSP	Survey study	Presents and tests a framework based on the SSP paradigm and integrated logistics
	Stank, Davis, and Fugate (2005)	A strategic framework for supply chain oriented logistics	SSP and RBV	Conceptual	Generates hypotheses concerning the relationship between SCM as a strategic phenomena and functional areas, in particular logistics.
	Cheng and Grimm (2006)	The application of empirical strategic management research to SCM	Several	Literature review	Reviews SCM issues discussed in strategic management journals
International Journal of Logistics Research and Applications	Panayides (2004)	Logistics service providers: An empirical study of marketing strategies and company performance	Positioning and RBV	Survey	Investigates product-market and resource-based competitive strategies on various measures of company performance of logistics service providers
	Binder and Clegg (2007)	Designing and managing collaborative enterprises in the automotive industry	RBV	Survey and multiple case study	Develops a competence-based contingency framework for how to choose the most suitable company structure for interfirm relationships in the automotive industry.
	Knudsen (2003)	Aligning corporate strategy, procurement strategy and e-procurement tools	Positioning and RBV, with focus on rents.	Conceptual	Presents a framework for assessing the alignment between corporate strategy, procurement strategy and purchasing tools.
International Journal of Physical Distribution & Logistics Management	Walters (2004)	A business model for the new economy	RBV and Positioning (value chain)	Conceptual/case	Reviews the development of a new business model, using a case as an example
	Rainbird (2004)	A framework for operations management: the value chain	Positioning (value chain)	Conceptual	Suggests and discuss the value chain as a framework for analysing business models
	Rainbird (2004)	Demand and supply chains: the value catalyst	Positioning (value chain)	Case study	Discusses demand and supply chains from a value chain perspective

Journal	Author	Title	Included theory	Type of study	Description/Purpose
International Journal of Logistics Management	Defee and Stank (2005)	Applying the strategy-structure-performance paradigm to the supply chain environment	SSP	Conceptual	Develops a framework based on SSP and applies it on a supply chain environment
	Zhang, Vonderembse and Lim (2005)	Logistics flexibility and its impact on customer satisfaction	RBV	Survey study	Defines logistics flexibility, creates a framework, and relates it to customer satisfaction
	Zokaci and Simons (2006)	Value chain analysis in consumer focus improvement	Value chain	Case study	Introduces a "food value chain analysis" methodology for improved consumer focus
SCM: An International Journal	Tracey, Lim and Vonderembse (2005)	The impact on Supply-Chain Management capabilities on business performance	Positioning and RBV	Survey study	Tests empirically the relationship between business performance and outside-in, inside-out and spanning capabilities
	Adewole (2005)	Developing a strategic framework for efficient and effective optimisation of information in the supply chains of the UK clothing manufacture industry	Positioning	Case study	Applies Porter's five forces in order to explain the challenges for small UK companies within clothing manufacturing
	Zhang, Vonderembse and Lim (2006)	Spanning flexibility:supply chain information dissemination drives strategy development and customer satisfaction	RBV	Survey study	Develops and classifies the expression spanning flexibility
	Halldorsson, Kotzab, Mikkola, and Skjoett-Larsen (2007)	Complementary theories to supply chain management	RBV	Conceptual	Discusses and develops SCM theory by using four non-logistics related theories, among them RBV
	Svalin and Westerlund (2007)	The modes of supply net management: a capability view	RBV	Conceptual	Identifies key capabilities in supply net management. Presents four modes of management; influencing, controlling & monitoring, coordinating, and integrating

Appendix F

Interview guide

Interview Guide

The interview begins with us introducing the research projects. (Slides)

The respondent

1. What is your position in the organisation?
 - a. Which are your formal areas of responsibility?
 - b. To whom do you report?
 - c. Which persons/positions report to you?
2. Which are your areas of responsibility?
 - a. The daily work – which areas does the respondent work with, what is prioritised and what is delegated?

Strategy content

3. What is the strategy of your company?
 - a. The overall business strategy?
 - b. Functional strategies?
 - c. Collective picture of the strategies, i.e. how do they fit together?

Strategy implementation

4. How is the strategy implemented?
 - a. Is the organisation and/or the processes changed in order to implement the strategies?
 - b. Which are the consequences for Supply, Logistics and Marketing?
 - c. What is the role of top management in the implementation?
5. How is the strategy communicated to other parts of the company?
 - a. Written documents?
 - b. Meetings?
 - c. Set goals?

Strategic change

6. How did the company arrive at the current strategy?
7. How have the strategies evolved during the last years?
 - a. Have the developments within Logistics in any way changed the company's strategy?
 - b. When and how? Examples?
 - c. In which direction?

8. Which are the future priorities?
 - a. Will the strategies change?
 - b. How and why?
 - c. Expansion? (New geographic markets? New customer groups?)
9. What drives the changes in the company's strategies?
 - a. Internally or externally driven?
 - b. Continuous development?
 - c. What is the influence from the flow of products?
 - d. What is the influence from the organisation? (the way that it looks)
 - e. How are the strategies affected by the customers and the suppliers?
10. How do you measure and evaluate your strategies?
11. How much of top management's time is spent on business development?
12. Are there any other people involved in the business development?
 - a. Which are their roles?
 - b. How much is delegated as regards business development?

Position (Show slide)

13. Which are the most important actors in your environment?
 - a. Suppliers?
 - b. Customers?
 - c. Competitors?
 - d. Other?
14. What is your position?
 - a. In the supply chain?
 - b. On the market?
15. How has your situation changed during the last years?
 - a. The company?
 - b. The industry/The market?
 - c. The logistics?
16. What is your opinion about the future development?
 - a. The company?
 - b. The industry/The market?
 - c. The logistics?

Offering

17. What do you see as the company's offering?
 - a. When, where and how do your customers conduct business with you?
 - b. Which are the interfaces between the company and your customers? (physical stores, e-business, etc.)
 - c. What is your strategy as regards the assortment?
18. What is the logistics content in your offering? (not viewing logistics as transports only)
 - a. Do the customers view logistics as an important part of your offering? If so, how is this expressed?
 - b. Which values do you talk about with your customers? (time, availability, information, etc.)

Organisation, Processes and Activities

19. What does your organisation look like? (See slide)
 - a. Concern level
 - b. Business units, business areas or equivalent
 - c. Functions (marketing, logistics, production etc.)
20. How is logistics organised in your company?
 - a. Structure (centralised/decentralised)
 - b. Processes and activities
 1. Can you describe what happens from the point in time when a customer places an order until the product has reached its final destination?
 2. Can you describe the operative logistics in terms of physical flows and information flows between suppliers and final customer via your organisation? (Graphically?)
 3. Do the physical and information flows differ between different product groups, customer groups, markets, parts of the flows etc.?
 4. Does the scope of top management's work entail the daily flow of goods through the company?
 - c. Which overarching principles form the basis for your logistics?
 1. Do these principles differ between different product groups, different physical flows or different parts of the physical flows?
 - d. Do you apply any logistics concepts such as VMI, postponement, ECR, etc.?
21. Where are the logistics decisions made?
 - a. Centrally/Locally
 - b. Are the logistics decisions formalised, i.e. are the logistics decisions guided by a set of rules or are there considerable degrees of freedom for the individual to make his or her own decisions?

22. What kind of IT-systems do you employ and how are they utilised?

- a. Who is responsible for decisions about IT?

Resources

23. Do you consider your company to possess unique resources that are valuable in the competition on the market?

- a. Ability to coordinate activities and functions?
- b. Ability as regards business development in relation to the competition?

24. What forms the foundation on which your company's logistics abilities are built? (everything that has got to do with the flow from supplier to customer)

- a. Is this developed internally or externally?
- b. Are your abilities in logistics unique or do you consider them easy for the competition to copy?
- c. Are there historical events (e.g. introduction of e-business, centralisation, etc.) that to a considerable extent have influenced and changed your thinking and knowledge as regards logistics?

Cost and revenue

25. How do you charge your customers for your products and/or services?

- a. Are there differences between products, markets, flows, etc.
- b. How do you set the price-levels? (Costing?)

26. With which KPI's is your organisation followed up?

- a. Financial?
- b. Flow-oriented?
 - 1. What do these KPI's cover? (the supply chain from manufacturer to final customer, the company, company functions)
 - 2. Do you benchmark your KPI's against external actors?

27. How do you use the KPI's?

- a. Are they related to the strategies?

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