Coordinating demand and supply processes: Towards demand-supply chain management

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ABSTRACT

This research explores and describes the demand-supply chain management (DSCM) concept from both a theoretical and practical perspective by determining what key principles that characterize the concept as well as to illustrate its application in practice. The concept is examined through a literature review combined with a qualitative single case study. The research reveals that DSCM is about coordinating demand and supply processes within a particular company and across the demand-supply chain. It can be defined as the alignment of demand and supply processes across intra and inter-organizational boundaries for the purpose of improving the ability of the particular company and the entire demand-supply chain to enhance overall customer value while utilizing resources cost-efficiently. Key principles that characterize the concept are value creation, value delivery, customer orientation, product and supply chain differentiation, lead-time reduction, information management, and responsiveness with respect to existing products as well as changing customer needs.

1. INTRODUCTION

The customer value based theory of a company has become more prevalent than ever before [1]. It suggests that superior performance is a result of creating and delivering superior customer value [2]. This implies that companies only can outperform competitors if they can establish a difference (competitive advantage) that they can sustain [3]. This can be accomplished by providing superior value to customers or by providing comparable value at lower cost or both [4]. Hence, superior profitability is a result of creating superior customer value, which allows companies to charge higher average unit prices, and delivering customer value cost-efficiently, which results in lower average costs [5]. In view of this, companies should develop a customer-oriented business model by organizing themselves around understanding how customer needs are identified and customer value created (managing the demand chain), understanding how customer value can be delivered to customers cost-efficiently (managing the supply chain), and understanding how these processes and managements affect each other and can be coordinated.

In most companies demand chain management (DCM) and supply chain management (SCM) are dealt with separately and one of them is usually prioritized (Hilletofth et al., 2009). Consequently, the customer-oriented business model is not very common in reality [6]. Instead a demand and supply-led business model can be distinguished in most industries [7-9]. Companies embracing the demand-led business model (demand chain masters) focus on DCM, and hence have strengths in managing and coordinating the demand processes [10]. In these companies the demand-side sets the business strategy (what to sell, where to sell and how to sell) while the supply-side simply executes it by building up appropriate supply chain capabilities and advantages [11]. These demand-led companies usually focus on activities such as identifying unique customer needs, developing innovative value propositions, managing customer relationships and/or in developing strong brands. In particular, the recent trend towards customer relationship management (CRM) has enabled many companies to capture market intelligence, to segment their customer base, to customize the value propositions and to coordinate demand chains [e.g., 12-13]. Moreover, these companies use their extensive customer knowledge to apply marketing instruments in a more cost-effective way. Still, as argued by Piercy [14], a superior demand chain strength that is not linked to supply chain strength leads to a high cost base and slow delivery; problems which only can be compensated by an incredibly strong brand. Companies that are unable to deliver according to promises made eventually will lose

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credibility and customer satisfaction will decrease. Accordingly, it can be risky to focus solely, or too much, on the demand-side of the company [15], since supply chain efficiency is also essential in creating and delivering customer value and satisfaction. Typical problems faced by demand-led companies are under-delivering and over-delivering or lost share of customer opportunities, if the company cannot capitalize on the differentiated customer needs [7].

Companies embracing the supply-led business model (supply chain masters) focus on SCM, and hence have strength in managing and coordinating the supply processes [10]. This enables them to reduce time and costs in the supply chain, as well as to improve asset turnover. In these companies the supply-side sets the business strategy (competition based on price, availability and/or flexibility) while the demand-side simply support it by developing appropriate product and service offerings and promoting them accurately [11]. These supply-led companies usually focus on activities such as strategic sourcing, collaborative planning, forecasting and replenishment (CPFR) and inventory reduction [7]. Several studies report major cost savings which companies have accomplished through their supply chain excellence, for example, Rainbird [16] reports that an Australian supermarket chain has achieved major cost savings through its supply chain excellence, which could then be reinvested in lower selling prices. Still, as argued by Piercy [14], a supply chain strength that is not linked to demand chain strength usually limits the company to competing on price and availability. This implies that competition through supply chain excellence assumes that price is a major determinant of competitive advantage. Moreover, Lee [8] emphasizes the problems of SCM acting separately of DCM. Differentiated demand for products and services is a key input to SCM. If the demand and supply processes are separated, supply will view demand as exogenous and will fail to recognize that demand was influenced by the company’s customer facing functions. Also, if consistent and timely demand information does not flow, the company will not be able to respond to differentiated needs of individual customers and market segments. Accordingly, it can be risky to focus solely, or too much, on the supply-side of the company [17], as supply chain efficiency by itself will not increase customer value and satisfaction [16]. Typical problems faced by supply-led companies are suboptimal new product development (NPD), a lack of product and service differentiation and ineffective product delivery [7].

The differences between the demand and supply-led business models are differences of emphasis [18]. Depending on demand and supply characteristics, both these business models can be appropriate [19]. For example, the demand-led approach can be appropriate for manufactures of premium products, while a supply-led approach can be appropriate for manufactures of low-cost products. However, as discussed above these companies can experience major difficulties by exclusively focusing, or focusing too much on either the demand or supply-side of the company. Moreover, it can be argued that SCM should always be linked to DCM, even in markets where cost-efficiency is the basis for competitive advantage [7]. Management orientation does not take away the fact that the supply and demand logic must be balanced in one way or another. Thus, it has been recommended that companies should embrace the integrated and customer-oriented business model by coordinating the demand and supply processes [e.g., 20-23]. Developing such an integrated and customer-oriented business model is the main goal of the emerging demand-supply chain management (DSCM) concept [22]. Despite the strong arguments for an integrated DSCM approach, the supply-side still seems to be disconnected from the demand-side and supply chain managers have only a faint idea of the drivers behind demand. In a study of more than 400 companies, Mentzer [24] found that DCM, as well as the concept of demand itself, is not well understood by the supply chain community. He concludes that many companies have failed to realize that supply chain coordination is not possible without an adequate understanding of demand. In another global survey among 249 executives across 28 countries, Deloitte [6] found that only a minority (17%) of all companies have effectively linked their demand and supply processes. Moreover, they conclude that these integrated companies have outperformed their competitors on a range of performance criteria such as sales growth, market share, customer service and return on assets.

The fact that still only a minority of companies appears to have effectively coordinated their demand and supply processes could be influenced by the complexity of the tasks involved [7], but also by the lack of research addressing its benefits and how it can be accomplished. It has been concluded that there is a lack of DSCM research examining how the different demand and supply processes affect each other, how they can be coordinated, what benefits that can be obtained by coordinating them, and what the requirements are to succeed with the coordination [25-26]. Additionally, there is a lack of conceptual foundation since most of the research works only are based on best practice examples [e.g., 27-29], although notable exception exists [e.g., 11; 24]. Still, the focus of previous work has been on conceptualization rather than on an empirical examination of the concept [21]. Another shortage is that most DSCM research stem from the supply chain field [e.g., 30-31], although selected citations from the demand chain field can be traced [e.g., 21; 32]. This implies that the concept and application of DSCM still is in its infancy and needs to be researched further. The purpose of this paper is to explore and describe the DSCM concept from both a theoretical and practical perspective by determining what key principles that characterize the concept as well as to illustrate its occurrence in practice. The concept is examined through a literature review combined with a single case study. The case organization originates from Sweden, but has significant international presence.
Empirical data has been collected mainly from in-depth interviews with persons representing senior and middle management in the case company. The remainder of this paper is structured as follows: In Section 2, the theoretical framework of the research is presented. Thereafter, in Section 3, research approach and data collection are described. Section 4 presents case study, while Section 5 analyze the case study. In the final Section 6 research is discussed and concluded.

2. THEORETICAL FRAMEWORK

DSCM relies on the notion that companies have both demand and supply chains that require active management to maximize effectiveness and efficiency [7]. The demand chain comprises all the demand processes, from customers to suppliers, required to understand, create and stimulate customer demand and is managed within DCM [7]. It include processes such as understanding the forces which affect the way in which customers perceive value (customer intelligence), finding out the differing needs of customer groups (market segmentation), translating customer needs into product and service offerings and introducing them to the market (NPD), marketing the offerings through customer value propositions (pricing, branding, communication and promotion), and managing the offerings throughout its life-cycle stages (life cycle management). The supply chain, on the contrary, comprises all the supply processes, from suppliers to customers, required to fulfill customer demand and is managed within SCM [33]. It include processes such as procuring raw-materials (sourcing), producing components and products (manufacturing) and delivering products to customers (distribution), as well as managing the order fulfillment and return processes [34-35].

![Figure 1: The theoretical framework](image)

There is no difference between the demand and supply chain when it comes to the chain of organizations involved but regarding the processes considered [36]. In this sense the demand and supply chain can be seen as different perspectives on the same chain of organizations. When the demand and supply processes are considered simultaneously, yet another perspective, the term demand-supply chain (or value chain) is often used. This chain can become very complex with several parallel demand and supply processes occurring that ensure that the right products of the right quality are supplied, manufactured and delivered in the right quantities, at the right place, at the right time, in a cost-effective way [26]. The need to coordinate these processes has been emphasized in both the demand and supply chain literature as well as in the emerging DSCM concept. The main argument is that the demand processes comprise all activities required to understand, create and stimulate customer demand (revenue-oriented and focuses on effectiveness), whilst the supply processes comprises all activities required to fulfill customer demand (cost-oriented and focuses on efficiency). Evidently, together they determine the company’s profitability and hence need to be coordinated. The aim of DSCM is to coordinate the demand and supply processes within a particular company and across the demand-supply chain for the purposes of improving the long term performance of the particular company and the demand-supply chain as a whole [21]. Table 2.1 present key characteristics and benefits of DSCM.
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### RESEARCH METHODOLOGY

This research aims to explore and describe the DSCM concept from both a theoretical and practical perspective by determining what key principles that characterize the concept as well as to illustrate its occurrence in practice. The concept is examined through a literature review combined with a qualitative single case study. The chosen research approach and strategies corresponds well with the explorative purpose of this research [39]. Case study method was considered appropriate since the research analyze contemporary events, capture wider and in some extent new problem areas, and because the researcher has no control over the events [39]. The case company (to maintain anonymity here called Beta) is a Swedish manufacturer operating on international basis in the appliance industry. It sells more than 40 million products every year to consumers and professionals in 150 countries. The largest markets are in Europe and North America and the strongest market position is in Europe.

One advantage with case studies is the possibility to combine several data collection techniques; in this research empirical data was collected from various sources to enhance understanding by examining the research object from several perspectives. Firstly, this study is based on data gained from five in-depth interviews with persons representing senior management in the case company; vice president, logistics manager, customer innovation manager, IT-manager, and human resources manager. The interviews were conducted in 2006-2007; note taking was the main interview method (in combination with digital recording if permitted), and the lengths of interviews were between 90-120 minutes. In order to find relevant information the interviews were prepared in a structural way. Additionally, interviewees were able to read the transcribed interview text afterwards to avoid misunderstandings. Moreover, this study is based on several meetings and discussions with various persons in the company, e.g. one of the authors has been involved in other projects in the company as well as provided logistics courses. Furthermore, this study is based on secondary data retrieved from two strategic documents produced by the company as well as its annual report. The first document addresses how to develop and introduce products on the market, and the second document addresses how to distribute products to the market.

The data collection has been documented (and sometimes digitally recorded), which increases the reliability of the case study. However, it should be noted that all case studies are unique and the companies are continuously changing, meaning that the conditions can never be identical. Two tactics have been applied to increase the validity of this study. Firstly, multiple sources of evidence have been used, and secondly, the draft case study reports have been reviewed by the respondents. As shown above different sources have been used to answer the same questions (interviews, meetings, documents), and therefore triangulation can be said to have been used. The use of triangulation has contributed to improving the rigor, depth, and breadth of the results, which can be compared to validation [37]. However, it also enhances the investigator’s ability to achieve a more complete understanding of the studied phenomenon [38]. The overall reliability and validity of the study could have been further improved by increasing the number of informants and extending the period of data gathering to encompass multi-points in time rather than providing a retrospective snapshot.

### 4. CASE STUDY FINDINGS

The case company is a Swedish manufacturer operating on an international basis in the appliance industry. This industry is increasingly characterized by intense competition, increased global product standardization, and shorter product life cycles. To survive in this environment the case company needs to create a consumer-driven organization by focusing on consumer-oriented product development and branding as well as supply materials and products on demand. To realize this, the case company has begun to transform from a production-focused company towards an innovative, and market-driven company. It focuses on developing innovative products and services that consumers’ are willing to pay a premium for. The company regards the three above mentioned focus areas as the most important to realize this transformation. Hence, the case company has defined Product Flow, and Demand flow as their major business processes and these constitutes their DSCM approach, and these processes are described in detail below.

#### 4.1 DEMAND CHAIN MANAGEMENT

The case company has developed a process for consumer-focused product development entitled Product Management Flow (PMF). The PMF is a global and holistic process for managing products – from the cradle to the grave – and it describes all areas of creating and selling products. The purpose of the process is to develop products
that are adapted to local needs together with products that can be sold world-wide on the basis of common global needs. Employees from several functions are involved, at this time there are no logisticians involved. The PMF is run by the product line manager with support from the consumer innovation program. It was introduced in 2004 and over the next couple of years it will be implemented in all product lines. The PMF includes a structured working method, with check and decision points to make sure that no activities are omitted. It consists of three phases: (1) intent, (2) product creation, and (3) commercial launch.

The objective with the intent phase is to ensure clear identification and prioritization of opportunity areas and express this in a strategic market plan. The plan is built on corporate prerequisites (e.g. product innovation strategy, brand and design strategy as well as global needs) along with industry analyses. It also includes tools that together with the analyses allow the product line manager to set priorities and take strategic decisions and translate these into a strategic road map and a corresponding product generation plan. This is intended to provide a good frontloading of the product development as well as ensures clear directions for product development and market communication. Examples of questions that are interesting in this phase are: on which areas should we focus our innovation work, which changes in consumer behavior can create business opportunities, where are the growth markets, and what can we do that our competitors have not done?

The objective with the product creation phase is to define and develop consumer relevant and innovative products addressing well-understood consumer needs. It involves four steps: (i) consumer opportunities, (ii) concept development, (iii) primary development, and (iv) product development. During the consumer opportunity step an understanding of consumer needs in prioritized areas is developed. The consumer understanding and insight is the foundation for a successful concept and product development, as well as for the commercial launch. Through the concept development step a feasible product idea addressing the identified consumer needs is developed, with a distinct positioning, consumer value based pricing and a solid business case. The consumer opportunity and the concept development steps constitute the spark process. The first activity in the spark-process is to identify consumer opportunities by exploring a chosen target group. The case company has developed a need based segment model based on the finding that all its customers purchase products according to four different underlying demand patterns. Nowadays products are developed to meet needs that have been identified within a specific target group within the segmentation model. When a consumer opportunity is identified, the next activity is to gather consumer insight regarding the identified opportunity. The case company uses several techniques to gather these, such as observations, surveys and evaluations. However, observations are preferred, as observed behavior is richer than described behavior. The case company is in touch with tens of thousands of consumers’ world-wide every year. After some insights are identified the next activity is to group them into a few product concepts. Some insights perhaps originate from the same problem or in some other way belong together and therefore could be satisfied with the same solution. Next the identified product concepts are analyzed and prioritized resulting in a winning product concept. Then different product prototypes are developed based on the product concept and later tested on the target group leading to a winning product idea. Finally the case company makes a decision regarding if the product idea is good enough to develop further, and whether it should go to the primary and/or product development phase. All the activities in the spark process are conducted from a market strategic perspective and one important output is a business case describing how to ensure long-term profitability by answering the following questions: ‘What to sell?’, ‘Where to sell?’, and ‘How to sell?’ In the primary development step technical solutions within targeted innovation themes are developed producing verified ideas or hardware solutions that can be applied to relevant concepts in product development. In the product development step the product idea is specified, designed and verified as cost efficiently as possible as well as prepared for launch on the market.

The objective of the commercial launch phase is to ensure that developed products are properly introduced on the market with a consistent and consumer relevant message – as identified earlier during the concept development – based on true consumer needs or problems. Another objective of the commercial launch phase is to ensure that the product assortment is updated accordingly to products life cycles and that obsolete products are properly out-phased. Both these objectives rely on a consistent follow-up period.

4.2 Supply Chain Management

The most important factor to supply materials and products on demand is keeping the end-user in focus. It is also vital that the total supply chain (sourcing, production and distribution) is managed in a competitive way. To a large extent, success depends on whether the case company and their supply chain are as good as, or better than, the competitors. This requires collaboration, first internally and then with the retailers and suppliers. To realize the above, the case company has created a Demand Management Flow (DMF) including common goals and principles. The DMF has three major aims: (1) Make sure that the company delivers on time, which is the first priority. However, it is also supposed to reduce unnecessary time in doing so, thus the aim is to deliver on time in less time;
(2) Contribute significantly towards improving value creation, e.g. it aims to increase sales by making products available on time and to decrease costs and waste in the supply chain, and (3) Contribute significantly towards improving innovation. Innovation is critical to the success of new products, without new features the company will not succeed in the market. However, innovation should not only be restricted to products, it should also be applied in other areas as well, such as customer service.

The DMF can be separated into three sub-processes, strategic planning, supply chain design, and supply chain operations, and focus on meeting consumer needs while minimizing both the capital tied up in operations and the cost required to fulfill demand. The case company has developed a supply chain design process consisting of three steps. First, the case company identifies how their end-users via retailers would like to acquire their products (i.e. understand the market they serve). This is achieved through customer insight where important information that can affect their service to the retailers is collected. Retailers have a number of characteristics that need to be considered before deciding how to serve them, such as product range, required lead-time, location, and volumes. Secondly, the case company has to understand their capabilities to serve the market via the retailers. This implies definition of their production system and delivery system capabilities. It is very important to understand the capability of the production system to produce according to demand as well as to understand the capability of the distribution system to deliver the output. In addition, it is important to recognize the capability of the suppliers to supply the production system. Finally, when these steps have been completed the case company can design various approaches to serve the end-users via the retailers, commonly referred to as supply chain solutions. It may even have more than one solution for each retailer, for example in the case of supplying both their own labeled products and the retailers branded products (also known as Original Equipment Manufacturer (OEM) products or ‘private labels’). A supply chain solution is a combination of a supply method (manufacturing strategy) reflecting the production system capabilities, and a delivery method (delivery strategy) reflecting the delivery system capabilities. The case company thinks that combinations of supply methods and delivery methods into various supply chain solutions creates freedom of choice, while at the same time maintaining the efficiency of operations in the production and delivery system.

One applied supply chain solution combines the supply method make-to-stock with the delivery method called self collect. This implies that the case company produces in advance according to a demand plan and stock-keeping until the retailer collects the goods themselves from one of their regional distribution centers. Self-collection needs to be implemented carefully to maintain loading efficiency in the distribution centers. In another applied supply chain solution the case company combines the supply method make-to-order with the delivery method factory direct. This solution is used when retailers order a number of weeks in advance, which enables the case company to produce and deliver to a specified date and time. Orders are normally in the form of full truckloads dispatched direct from the factory to a retailer (i.e. deliver method factory direct). The case company also combines the supply method deliver-to-order with the delivery method home delivery. This solution implies that the case company on the retailers’ request bypasses the retailers’ distribution network and delivers directly to the consumer’s home. This delivery method is normally combined with other services, such as installation and removal of old products. In a final applied supply chain solution the case company combines the supply method vendor-managed-inventory with the delivery method of factory delivery. This implies that the case company is responsible for the inventory of their products within the retailer’s warehouses i.e. responsible for calculation of delivery dates and quantities. Deliveries are normally in the form of full truckloads dispatched directly from the factory to a retailer (i.e. delivery method factory direct). It is an advanced supply chain solution that involves a great deal of close partnering and collaboration, including total sharing of data and regular communication. Each supply chain solution has different cost implications for the case company and the retailer. One solution might be more expensive for them, but cheaper for the retailer and vice versa. It is also important to appreciate the cost to serve for a particular retailer when judging its profitability.

5. Case Analysis

The case company has realized that it needs to focus basically all its resources on customer demand and the fulfillment of this, as a result of the competitive situation on the market. As a result the company has begun to develop its own approach of DSCM. The case company’s approach is based on both demand and supply processes rather similar to the one presented in the theoretical framework but described on a more holistic level; however, the coordination between these processes is limited.

In essence, there are three important issues that need to be addressed to implement DSCM successfully. Companies have to understand how customer needs are identified and customer value created (managing the demand chain), how customer value can be delivered to customers cost-efficiently (managing the supply chain), and
understand how these processes and managements affect each other and can be coordinated. It can be concluded that the case company still manages the demand and supply processes separately and thus failed to address coordination between them. However, the case company has come a long way in developing the demand and supply processes and this is also important in DSCM. On the demand-side, the case company has succeeded in integrating several of the demand processes into a PMF. This most certainly reduces lead-times and focus all resources on customer demand. On the supply-side, the case company has begun developing something similar with its DMF but there is still much work remaining. The major shortcoming of the case company’s DSCM approach is obviously, the lack of coordination between the demand and supply processes.

To fully exploit the benefits of DSCM the company needs to coordinate the demand and supply processes in an efficient and effective way and this requires collaboration between the demand and supply-side of the company. It is also important that demand creation and fulfillment is regarded as equally important and that innovation is not restricted only to products. The case company has started to realize that it is important to differentiate the supply process to create customer value. However, currently the business is heavily influenced by DCM, which more or less gives directives to SCM. This implies that the supply chain differentiation is quite restricted and that there is not so much collaboration. For this to change, the senior management needs to initiate a cultural change, and change the business strategy. However, this can be difficult since a potential development of the company, according to some representatives, is that it can outsource all supply processes if it becomes outstanding in demand creation. Currently the company can be classified as both a marketing and supply chain specialist: however, the marketers are in charge. The case company needs to decide whether it aspires to be a marketing specialist or a market winner capable of satisfying different customer needs with differentiated supply chain capabilities.

From our perspective there exist possible linkages between the PMF and DMF since where and how to sell products (addressed in PMF) is clearly connected to DMF. However, today this kind of analysis is made by marketers. If logisticians were involved the case company could probably define and develop more efficient and effective supply chain solutions faster, which would imply shorter time-to-market. Moreover, it is not only important to carefully specify, design and verify new products, but it is also necessary to highlight the supply chain processes since some of the new products could require new processes. The move from commodities to innovative products requires a change also of the supply chain design and operation. To shorten time-to-market, supply chain representatives should be involved early in the product development phase. Furthermore, to successfully launch new products on the market requires logistics capabilities. The commercial launch process ensures that the developed products are properly introduced on the market with a consistent and consumer relevant message; however, if the right products are not delivered in right quantities, at the right time and place, this is very unlikely to be successful.

5. Concluding Discussion

It can be concluded that DSCM is an integrative philosophy for managing and coordinating the demand and supply processes across the demand-supply chain to enable a market-facing orientation to be achieved. It involves integration across organizations (intra-organizational) and throughout the entire demand-supply chain (inter-organizational). Key principles that characterize the concept are value creation, value delivery, customer orientation, product and supply chain differentiation, lead-time reduction, information management, and responsiveness with respect to changing demand for existing products as well as changing customer needs. It is a fundamentally different attempt towards an integrated approach compared to the more traditional approaches suggesting that the responsibilities of either DCM or SCM should be extended to facilitate coordination between the demand and supply processes. Instead DSCM suggests that each domain focuses on their area of expertise and on how it affects and can be coordinated with the other. Thus it should be regarded as a macro-level management aiming at coordinating DCM and SCM, not replacing them, and the term is used to stress that neither demand nor supply should rule single-handedly. In DSCM the emphasis is on effectiveness and efficiency, and value creation is not restricted to the demand-side of the company but also applied to the supply-side. Accordingly, management concern is profit-led, and attempts to gain a competitive advantage by differentiating not only the products but also the supply chain. The ultimate test of demand-supply chain success or excellence is a profit-level that allows the individual companies and the demand-supply chain as a whole to prosper in the long run. Hence, DSCM can be defined as the alignment of demand and supply processes across intra and inter-organizational boundaries for the purpose of improving the ability of the particular company and the entire demand-supply chain to enhance overall customer value while utilizing resources cost-efficiently.

DSCM goes beyond simply creating demand-driven supply chains that fulfill demand for existing products cost-efficiently. Indeed, companies embracing this customer-oriented business model (demand-supply chain masters) focus on both DCM and SCM and hence strength in managing and coordinating the demand and supply processes.
They have the capability to increase overall customer value by satisfying different customer segments with differentiated supply chain capabilities. This by creating product and service offerings focused on customer needs and the value they can provide, all based on a comprehensive understanding of customer needs and the total demand-supply chain costs. This implies that DSCM relies on customer intelligence addressing not only the varying value preferences of the different market segments but also the emerging trends in customer requirements regarding both products and customer service. It enables companies to lower prices on offerings that are of great value to the customer, to proactively address new and changing customer needs, to improve life cycle management, and to reduce time-to-market.

When implementing DSCM the influence of demand on supply, and vice versa, have to be understood and coordinated. It is also important that these types of processes are regarded as equally important and that value creation through innovation and differentiation is not restricted to the demand-side of the company. This point of view has to be clearly expressed in the business strategy and through proper incentives, otherwise the traditional view, where companies either focuses on the demand processes (demand chain masters) or supply processes (supply chain master), with some certainty will rule. Another important issue to succeed with DSCM is information management and technology. Markets are becoming more complex and fragmented since customers seek individual solutions to their needs and has resulted in that companies have to be responsive, innovative and differentiated to avoid price competition and to maintain profit margins. Still, it is important to achieve cost-efficiency through standardization, specialization and centralization. Hence, the objective should be to increase responsiveness to individual customer needs while simultaneously achieving cost-efficiency. This implies that companies have to reduce total costs and shorten lead-times in the entire demand-supply chain, reduce inventories, expand and customize product assortment, provide more innovative products and reliable deliveries, as well as improve customer service, quality, and efficiently coordinate demand with supply. To accomplish these objectives, effective information systems are required to support the demand and supply processes as well as the coordination between them.

REFERENCES


