

# **UNDERSTANDING THE CHANGES IN SUPPLY CHAIN MANAGEMENT: EXTENSIONS WITH A STRATEGIC MARKETING PERSPECTIVE**

**Mustafa Özgür Güngör, PhD. Candidate in Business Administration**

**Kaan Aktoluğ, PhD. Candidate in Business Administration**

**Yeditepe University, Social Sciences Institute, Kayisdagi Yerlesimi, Istanbul, Turkey**

## **ABSTRACT**

Supply chains are in progressive adaptation parallel to the changes in competitive business environment. “Cascaded Supply Chain” and “Unified Demand Planning” are two concepts evaluated for this dynamism of requirements to change. The ultimate demand, reaction effectiveness, satisfaction of customer are closely related with the harmonization in supply chain partners. Moreover, these networks of partners are in competition with other similar networks. The cascaded nature of supply chain partners is critical for the effectiveness of information flow and product distribution within this network. In this paper, network of supply chains and their offensive offerings are discussed with a strategic marketing point of view.

**Keywords:** Supply Chain Management, Marketing Strategy, Retail Power, Demand Planning

## INTRODUCTION

Organizations are being forced to adopt their processes according to rapid changes in technology and against the threat of severe competition. Integrated logistics prompts a study not only within a company but also extended to related supplier chains backward and customers onward. Even highly adaptive organizations need allied partners to succeed. Various inter supply chain management (SCM) approaches have been developed for this purpose: buyer-seller alliances and partnerships, consideration of upstream suppliers, and value addition through partners. Interactions between these chains are cascaded in two directions which formulate cascaded supply chain (CSC) network. First, on the basis of flows of goods, services and information along the path of transforming raw materials into end products and presenting at the right location on time is required for the upstream integration. Second, on the basis of handling customer requests and complaints, along the path of transforming demand structures into new product or enhancements of current products by the ignition of various marketing tools is pushing forward the downstream integration.

Regarding the 'Collaborative Planning Forecasting and Replenishment (CPFR)' concept, our discussion is concentrated on the structure of CSC and bringing one of its key recursive processes to explain the collaboration requirement for any organization in order to become or not a partner for any mainstream CSC network. Therefore, demand planning process is taken as an example to illustrate how redundancies occur in CSC and unification of demand planning processes across the CSC is explained to eliminate these redundancies with the support of electronic logistics systems integration.

Some of the inspirational thoughts about this problem came from the studies about the shift of retail power (Gaski,1984) and handling of conflict in the relationship of supply chain partners. Farris (1992), Lusch and Brown (1996), and Ailawadi (2001) have already discussed these effects and challenges in power relationship in supply chains. However, dynamism in the marketplace drives the importance of customer acquisition and retention. This change on the demand-side of the equilibrium, is one of the most essential bricks in the CSC foundation because of its value-based orientation.

In fact, customer holds the button to redefine the behavior of CSC network. The effectiveness of strategic marketing decision-making process throughout CSC is challenged by customer requests, habits, recommendations and complaints as loyalty and retention issues get more critical to staying in touch with customer for a lifetime. For this reason, under the umbrella of comprehensive customer relationship management, unified demand planning is discussed in this paper.

## **SUPPLY CHAIN MANAGEMENT IN MARKETING**

Increasing number of relations between companies and their suppliers bring forward the necessity of understanding and managing supply chains. SCM is analyzed from three different perspectives: buyer-seller alliances and partnerships (Corbett et al., 1999; Buzzell, 1995), consideration of upstream suppliers (Porter, 1985), and value addition through partners (Davis, 1993). From the definition, “the network of facilities and activities that performs functions and processes including procurement, manufacturing, distribution of finished goods” of Mabert and Venkataraman (1998), we claim that SCM deals with interaction of all processes across supply chain.

With a focused view to each partner in the supply chain, it is pointed out that they are found trying to achieve similar tasks (Bowersox and Closs, 1996) simultaneously. Therefore, redundancies occur if these tasks are not integrated in properly as a CSC network. Integrated logistics is not only limited within a company but extends to suppliers. Interactions between these partners in the chain are cascaded by very nature of flows of goods, services and information along the path of transforming raw materials into end products from a distribution channel point of view. Moreover, interactions between these partners in the chain are also cascaded on the flow of information collected from the customer and the markets along the path posed by marketing management for understanding the changing trends in customer behavior and capturing sales patterns. With this aspect, SCM could possibly be defined apart from systematic logistics and distribution networks. According to Larson and Rogers (1998), SCM is a limited term and should be reshaped to “demand flow leadership”, by taking the marketing side of the progress more into the concept.

## **CASCADED SUPPLY CHAIN**

Traditionally, processes of each partner in the supply chain act similar as to satisfy requirements but in a decentralized and independent manner which causes redundancies supply chain wide. Moreover, yet the most of companies foster the production with a myopic view (Levitt, 1960) rather than developing a better customer oriented perspective as the sales curve indicates the maturity.

Studies in the last decade prove that effective SCM is known as the essential function to improve customer relationship and cost reduction (Grönroos, 2004). Cost reduction can be achieved by several enhancements in business processes: innovative product development, streamlining internal business processes and integrating them across partners. CSC, by definition, depends on interactivity and optimization of internal business processes, and the integration of streamlining and synchronizing relations between its partners.

Independent decision making activities occurring in each partner actually depend on other partners sequentially. These duplications in terms of processes and operations generate problems of communication overload, frictions in-between partners as to meet their separate goals, and inefficiencies caused from the disharmony of services related. Demand planning process is the initiative for production planning, inventory planning and purchasing planning. Multiple demand planning processes in CSC cause redundancies rooting from separate sales forecasting activities, separate quantitative analyses of buying patterns, and inefficiencies in consecutive planning activities. Bullwhip effect (Lee et al., 1997) implies that demand order variability amplifies while moving up the supply chain that might cause problems of carrying excessive inventory, misguided productions, inaccurate purchasing, and missing customer orders in CSC network.

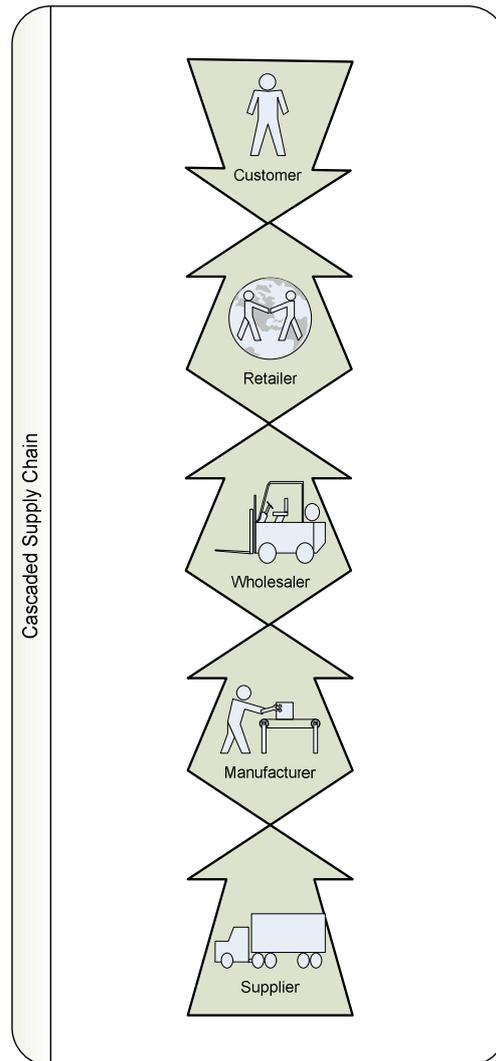


Figure 1: Cascaded Supply Chain

## CUSTOMER LOYALTY AND CONQUERING PROSPECTIVE DEMAND

Increasing the shareholder benefits is becoming more dependent on creation of better customer value as the global competition pushes the markets to tight revenue margins. Therefore, the need to build effective relationship with customer is essential for businesses to remain competitive. First of all, customer relationship management (CRM) implemented as a tool for detailed collection and analysis of customer related data. Later on, the importance of understanding behavioral changes in customer decision-making through employing CRM became apparent. Nevertheless, turning this knowledge into corporate wisdom to establish better customer loyalty is crucial. According to Grönroos (1994), "An interest in turning anonymous masses of potential and existing customers into interactive

relationships with well-defined customers is becoming increasingly important....relationship marketing that is to establish, maintain, and enhance relationships with customers and other partners, at a profit, so that the objectives of the parties involved are met.”

Loyalty is the result of mutually satisfactory relationship. The parties involved are the customer whom to avoid significant transaction costs and the retailer which plans to avoid suffering from uncertainty of sales. As a matter of fact, future purchase decisions are affected as every previous positive and satisfactory experience recorded on the customer’s mind. The most significant response that businesses must consider about their products or services is their retention capacity committed. Lerner et al. (2002), proposed two consumer-anticipated future states of retention purchase as “benefits” and “regret” and concluded that consumers are forward-looking with respect to the decision of retention purchase. As Chiou et al. (2002) underlined that satisfied customers were more likely to engage in loyalty behaviors, regardless of their experience or education. Satisfaction is an important determinant for future expectations which has the greatest potential to lead consumer to loyalty. Building up higher confidence is a long-term commitment of consumer to the brand, which is a consequence of fulfilled promises given for customer satisfaction.

As Reichheld (1993) claimed, “building a highly loyal customer base cannot be done as an add-on. It must be integral to a company’s basic business strategy”. Businesses should take customer loyalty more seriously as an important fundamental, and should be adaptive in correspondence to changes in customer loyalty schemes discussed by O’Malley (1998) about the improvement of perceived quality by the customer. The interaction frequency between retailer and customer, which creates contact and feedback opportunities, is built throughout the entire customer life cycle (Stauss et al., 2001).

With each customer contact starting from the first touch, CSC network should be ready to receive as detailed information as possible about personal status, purchasing habits, interests, and demand patterns. The customer knowledge effect is the seed for customer interaction effect, contributing to the development of customer loyalty.

Nevertheless, it is strategically important to distinguish between truly loyal customers and those appear-to-be-loyal for the business to direct marketing efforts. The codification of customer is started by building up a matrix of attributes derived from the loyalty schema introduced by Dick and Basu (1994). This enables a focused marketing effort in accordance to get the best return on marketing investment.

## **UNIFIED DEMAND PLANNING AND CASCADING SUPPLY CHAIN**

Unified Demand Planning (UDP) process is a collective, centralized decision making process to accomplish all demand planning activities across CSC. Since the ultimate goal is to satisfy consumer demand, understanding and clarifying the source of information correctly is crucial for entire CSC. Supply chain partners could focus on their core business by creation of a glass pipeline across CSC.

Application of UDP would encourage each chain to act synchronized. Therefore, UDP starts with an analysis of volatile ultimate consumer demand. It predicts customer demand by quantitative methods like traditional demand planning. UDP proposes the idea of sales data collection into a common pool, and collaborative evaluation of that data regarding the overall success of CSC. UDP also brings the opportunity of "economies of scale" for the long-run average cost reduction by centralized CPFR decision making.

Collaborative environment for UDP established by the support of an enhanced information infrastructure. This framework supports carrying out information from retailer to supplier over the same channel, across geographical and organizational borders. Integration of logistics processes using information technology is the key to optimize the internal business processes by streamlining relations between partners in CSC network. Operational efficiency of UDP in CSC depends on four critical issues which effect the cohesiveness of the partners within the network and are related with building an electronic framework for collaboration:

1. establishment of trust,
2. effective decision-making process,

3. cultivation of common culture of CSC,
4. enabling success metrics for more correspondence and productivity.

The establishment of trust occurs in two forms: technological and legal ways between partners. The most important of all is building trust through legal obligations set by agreements, tracking and keeping proof data of all the transactions and operations running between partners internally. Those legal issues can easily be carried over a secured Internet platform for exchange. Traditionally, trust in a computer system has revolved around the security mechanisms incorporated into the system. Fundamental requirements for this are enforcing security policy, marking for access control labels associated with processes, identification of individual subjects and users, accountability of information and continuous protection against unauthorized changes.

The effectiveness of decision-making process relies on the CSC wide analysis, and an extended discussion platform to clarify ambiguity and to reduce uncertainty by the push and pull of debate. It is obvious that the classical “power” shifts in the SCM, challenge decision-making process in CSC the similar way. However, collaborative decision making is the solution to replace the common goal with diverse goals of each partner. On specification of criteria for evaluating alternatives, members of a CSC committee exchange viewpoints on collected information. Decision is reached through not only preferring the rational alternative but also engaging in debate to decide common goals by common constraints taken into consideration. Implementation of collective decision making process is structured by “Vroom-Jago decision tree model” (Field and Andrews, 1998) for determining on appropriate decision. This method has advantages of broader perspective of problem definition and analysis, more knowledge and facts for evaluation.

People employed in each member of CSC and the culture formed in making business together bring out the analysis of cultural interactivity in each partner to build coherence. Effective development of CSC by technology depend on how well networks of organizations link specific skills of people in supply chain partners. Changing the basic mind-set of the organization for being less bureaucratic is provided by the focus on the quality through teamwork and participation. UDP process requires a cultural transformation

if partners do not meet on the basics. Although negotiation and bargaining is another way to get rid of conflicts, better solutions come with compromise and collaboration.

Performance measures for UDP process are well defined and monitored through complete activities. While connecting individual partner organizations on the same platform common metrics support better synthesis of the productivity in CSC network. Taking as an example, an analysis on sales data provides values such as order fill rates, lost sales and cycle times. These values are possible metrics for calculating customer response efficiency of a CSC. Also, sales data is a key for deciding the accuracy of unified demand planning. Inventory information is collected, stored and prepared for evaluation instantly for this purpose because inventory levels and turnover rates are important success measures along with estimated demand by UDP process.

## EXTENDING CASCADED SUPPLY CHAIN WITH UNIFIED DEMAND PLANNING

There are various processes executed in each partner of CSC. Some of them are common and aimed for the same target of ultimate demand. These processes are subject to be investigated and re-engineered as to meet better cost structure and satisfy the demand under competition and low revenue margins.

In response to formulate a clear definition of the problem, it is important to take a closer look to the processes in each partner of CSC employ. In Figure 2, processes are symbolized. There are three distinct groups of process integration within CSC:

- First group of processes is efficiency driven. In the upstream design of CSC, every “Customer Service” process of the upstream partner meets with “Purchasing” process of downstream one. The same nature is applicable for “Distribution” and “Receiving” as well. These connections are obvious and is subject to be seamless integration by using appropriate solutions.

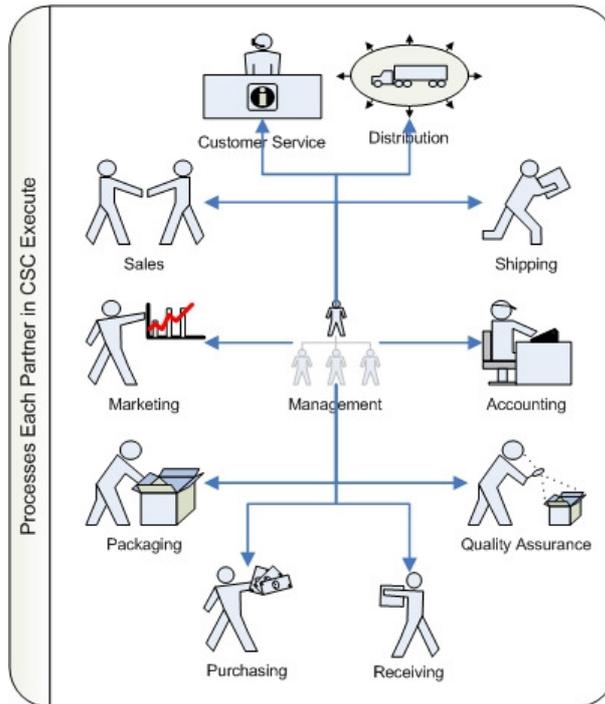


Figure 2: Processes Each Partner in CSC Execute

- Second one, is effectiveness driven. These are the processes like “Shipping”, “Packaging”, and “Accounting” those could be transformed into the minimal requirements for decreasing the cost in CSC network. However, cost carried in each partner likely to be distributed even according to collective targets of CSC.
- Third group, even more important, is productivity driven. These are processes those are to be unified and performed through out CSC apart from their necessity for each partner individually: “Marketing”, “Sales” and “Management”. Transformation of these processes for the benefit of CSC network is a result of comprehensive technology, its legal foundation and trusted relationship of the partners. CPFR holds main set of actions to organize and act upon. Productivity comes not only the unification of processes but also uniform impact by the reception of ultimate demand and using the information feedback directly on spotted inefficiency wherever it might exist in CSC. In addition, the focus of the collective marketing effort would be much closer to CSC targets rather than targets of each partner discretely.

On this perspective, as the goods and services delivered to customer, the information about the sales patterns, behavior, product and quality of service gets back to CSC

network and delivered directly to the process of partner related. Regarding this issue, Thomas et al. (2004) underline that “Maximizing customer acquisition and customer retention separately does not maximize profits. As with any supply chain, companies can get more out of direct marketing if they see it as a single system for generating profits...”.

## **CONCLUSION**

“In fact, if technological ecologies are now the basic units for strategy in the knowledge-based world, players compete not by locking in a product on their own but by building webs (loose alliances of companies organized around mini-ecology) that amplify positive feedback to the base technology.” (Arthur, 1996)

Marketing mostly deals with the determination of the structure and explanation of reasons that lie behind changing behavior of consumer depending on the value exchanged. Understanding and demystifying of behavioral intentions catapult the organizations through their customer base and harvesting its potential. As a matter of fact, one of the solution alternatives of this challenge for businesses is riding the ultimate customer demand efficiently in CSC network.

The ultimate customer demand, is managed and even manipulated through customer loyalty and CPFR. Therefore, CPFR is the key of building a world of integrated companies for delivering better goods, services and higher proposed value of exchange. The discussion in this study was definitive explanations regarding the need, requirements, solutions and results of such integration. We stated the requirement for this integration: optimization and efficiency in the satisfaction of the ultimate customer demand. As a solution for this problem we presented CSC network and symbolized its integration by the most important processes of CPFR. In addition, we defined UDP together with four critical organizational requirements: establishment of trust, decision-making process, culture and people issues and success metrics. It is obvious that, if properly managed, implementation of UDP with its extensions, would shape CSC. That would be the facelift of classical SCM for the twenty-first century.

## REFERENCES

- Ailawadi L. Kusum (2001). "The Retail power-performance conundrum ; What have we learned?". *Journal of Retailing*. Vol.77 pg 299
- Arthur, W. Brian (1996). "Increasing returns and the two worlds of business". *Harvard Business Review*, July-August.
- Bowersox, Donald J., David J. Closs (1996). *Logistical management: The integrated supply chain process*, McGraw-Hill.
- Buzzell, Robert D. (1995). "Channel partnerships streamline distribution". *Sloan Management Review*, Spring.
- Chiou, J.S, Cornelia Droge, Sangphet Hanvanich, (2002). "Does Customer Knowledge affect how loyalty is formed?", *Journal of Service Research*, November, p 113.
- Corbett, Charles J., Joseph D. Blackburn, Luk N. Van Wassenhove (1999). "Partnerships to improve supply chains". *Sloan Management Review*, Summer, 40(4).
- Davis, T. (1993). "Effective supply chain management". *Sloan Management Review*, 34(4).
- Dick, A.S., K. Basu, (1994). "Customer loyalty: toward an integrated framework", *Journal of the Academy of Marketing Science*, Vol. 22/2, pp. 99-113.
- Farris, Paul (1992)."Retail Power: Monster or Mouse?". *Journal of Retailing*. Vol.68 pg 351
- Field R.H., J.P Andrews (1998). "Testing the incremental validity of the Vroom-Jago versus Vroom-Yetton models of participation in decision making.", *Journal of Behavioral Decision Making*, Vol 11., pp. 251-261.

Gaski, John F. (1984). "The Theory of Power and Conflict in Channels of Distribution". Journal of Marketing. Vol.48 pg 9

Grönroos, Christian, (1997) "From marketing mix to relationship marketing: Towards a paradigm shift in marketing", Management Decision, Vol.32 No 2, 1994, pp. 4-20

Grönroos, Christian (2004). "The relationship marketing process: communication, interaction, dialogue, value", Journal of Business and Industrial Marketing, 19, 2, pg. 99

Larson P.D, D.S. Rogers (1998), "Supply Chain Management: Definition, Growth, and Approaches", Journal of Marketing Theory and Practice, Fall, 6, 4, pg.1

Lee, Hau L., V. Padmanabhan, Seungjin Whang (1997). "The bullwhip effect in supply chains". Sloan Management Review, Spring, 38(3).

Lernon, Katherine N., Tiffany B. White, Russell S. Winer, (2002) "Dynamic Customer Relationship Management: Incorporating Future Considerations into Service Retention Decision", Journal of Marketing, January, p 1.

Levitt T. (1960, reprinted 2004), "Marketing Myopia". Harvard Business Review, July-August.

Lusch, Robert F., James R. Brown (1996). "Interdependency, contracting, and relational behavior in marketing channels". Journal of Marketing. Vol.60 pg 19

Mabert, Vincent A.; M.A. Venkataraman (1998). "Special research focus on supply chain linkages: Challenges for design and management in 21<sup>st</sup> century". Decision Sciences, 29(3).

O'Malley L. (1998), "Can loyalty schemes really build loyalty?", Marketing Intelligence and Planning, 16/1, pp. 47-55

Porter, Michael E. (1985). Competitive advantage. Free Press, New York.

Reichheld, F.E. (1993), Loyalty-based Management, Harvard Business Review, Vol.71, March-April, pp.64-73

Stauss, Bernd, Klaus Chojnacki, Alexander Decker, Frank Hoffmann (2001), "Retention effects of a customer club", International Journal of Service Industry Management, Vol.12 No.1, pp.7-19

Thomas J. S., W. Reinartz, V. Kumar (2004), "Getting the most out of all your customers". Harvard Business Review, July-August.