



INTERNATIONAL JOURNAL OF RECENT TECHNOLOGY SCIENCES & MANAGEMENT

A Review on Supply Chain Management and its influence

Deepti Malviya ¹, Suman Sharma ², Minakshi Das ³
Truba College of Engineering and Technology, Indore

ABSTRACT

Supply chain Management has assumed a significant role in firm's performance and has attracted serious research attention over the last few years. In this paper attempt has been made to review the literature on Supply Chain Management. A supply chain is a network of facilities and distribution channels that encompasses the procurement of materials, production, assembly and delivery of product or service to the customer. The management of the supply chain and the roles of various actors involved differ from industry to industry and company to company. As a result Supply Chain Management (SCM) has become a vital issue for manufacturers, professionals and researchers. It is felt that to manage the supply chain effectively entire structure of supply chain must be understood properly.

KEYWORDS: Supply Chain, Supply chain activities, Supply chain management.

I. INTRODUCTION

In the current competitive scenario supply chain management assumes a significant importance and calls for serious research attention, as companies are challenged with finding ways to meet ever-rising customer expectations at a manageable cost. To do so, businesses must search out which parts of their supply-chain process are not competitive, understand which customer needs are not being met, establish improvement goals, and rapidly implement necessary improvements. Previously manufacturers were the drivers of the supply chain - managing the pace at which products were manufactured and distributed. Today, customers are calling the shots, and manufacturers are scrambling to meet customer demands for options/styles/features, quick order fulfillment, and fast delivery. [1]

Manufacturing quality – a long-time competitive differentiator - is approaching parity across the board, so meeting customer's specific demands for product delivery has emerged as the next critical opportunity for competitive advantage. Companies that learn how to improve management of their supply chain will become the new success stories in the global market place. Study on Benchmarking shows significant cost differences between organizations that exhibit best-in-class performance and traditionally, Supply Chain Management (SCM) has been a melting pot of various aspects, with influences from logistics

and transportation, operations management and materials and distribution management, marketing, as well as purchasing and information technology (IT). Ideally, the all encompassing philosophy of SCM embraces each of these functions to produce an overall supply chain strategy that ultimately enhances firm performance.

II. LITERATURE REVIEW

Adoption of Supply chain management practices in industries has steadily increased since the 1980s. A number of definitions are proposed and the concept is discussed from many perspectives. However Cousins et al. (2006); Sachan and Datta (2005); Storey et al. (2006) provided excellent review on supply chain management literature. These papers define the concept, principals, nature, and development of SCM and indicate that there is an intense research being conducted around the world in this field. [2]

Studies on supply chain management suggest that the scope of business processes being coordinated across supply chains is broad. Mejza and Wisner (2001) determined the scope of processes that are being integrated across organizational borders and indicated that a large number of companies that practice supply chain management are attempting to integrate logistics, marketing, and operations-oriented processes across supply chains. Gunasekaran and Mc Gaughey (2003) extended the scope of SCM beyond

material management, partnership, information technology to the Total Quality Management areas like management commitment, organizational structure, training and behavioral issues. As firms' survival lies on integration, a good understanding of the integration process is a key aspect in SCM. Stonebreaker and Liao (2006); Yih Wu et al. (2004) studied how to integrate the supply chain management business process. It is concluded that the level of investments to supply chain partners, the degree of dependence between supply chain partners, and the level of product salability of manufacturer would enhance commitment and, consequently, the integration of the SCM business process. Håkansson and Persson (2004) provided a theoretical framework and proposed the theoretical as well as empirical reasons for enhancing the underlying logic of process integration in supply chain management to capture pooled and reciprocal interdependencies. Mouritsen et al. (2003) discussed that basic hypothesis "the more integration (more wider the scope)– the better the management of the chain" is not always true and proved that it depends very much on the "environment" of the supply chain and the power relations between the participants in the supply chain.

III. THE IMPACT OF SUPPLY CHAIN MANAGEMENT ON PERFORMANCE

The literature of SCM was born on its practical positive impact on firm performance. Early research used to report anecdotal evidence about firms that had adopted the supply chain management approach and how this resulted in benefits for the firm and other supply chain members. Great part of this literature was descriptive, reporting practices of successful companies. The development of the SCM field was largely practitioner-led with theory following (Voss, Tsikriktsis, & Frohlich, 2002).

Burgess, Singh and Koroglu (2006) reviewed the most often used theoretical perspectives in the SCM literature, reporting that 20% of the articles had no discernible theory present. One of the relevant theoretical supports for the positive relation between SCM and performance is the resource-based view (RBV) and its extensions. The resource-based view (RBV) considers that firms are heterogeneous and achieve competitive advantage due to rare, valuable, inimitable and not substitutable resources and capabilities (Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993). The original approach of the RBV, focused on the internal resources owned by a firm, was broadened to consider the relationship as a source of competitive advantage. This gave rise to the Relational View (RV) (Dyer & Singh, 1998) integrating transaction cost theory (Williamson, 1985, 1996) and its critics (Zajac & Olsen, 1993). The RV considers relationships as potential sources of superior performance. It identifies four different sources of relational rents: investments in relation specific assets, substantial knowledge exchange, complementary and rare resources, and lower transaction costs. All these sources are influenced by more effective governance mechanisms based on informal safeguards, such as trust and reputation (Dyer, 1996, 1997; Dyer & Singh, 1998; Holcomb & Hitt, 2007; Rungtusanatham, Salvador, Forza, & Choi, 2003).

As in the RBV perspective, the relational resources and capabilities should be rare, valuable, hard to imitate or to substitute in order to provide sustainable competitive advantage.

The positive impact of SCM in performance can be better understood if we interpret its constructs using the relational view. Information sharing maps directly into knowledge exchange. Long-term relationships can help to reduce transaction costs through the development of trust and reputation (Cooper et al., 1997; Mentzer et al., 2001). It also can contribute to developing knowledge exchange and assure investments in specific assets. Cooperation and process integration can lead to development of both specific assets and complementary resources.

IV. UNDERSTANDING SUPPLY CHAIN MANAGEMENT

SCM is management of material, money, men, and information within and across the supply chain to maximize customer satisfaction and to get an edge over competitors.

Customers want products at the right place and at the right time. For this, there should be an excellent synchronization between the manufacturer and the customers. This was the origin of the "Barter system" as we all know. As things started becoming complicated, where one person had to reach many individuals for his needs, one of the individuals started management of gathering the products from different people and supplying to those who are in need and thus fulfilling his needs in return. This was the revolutionized form of the Barter system and today it is known as the supply chain management (Chopra & Meindl, 2001). Researchers found that the lack of commonly accepted definition of supply chain management and the problems associated with supply chain activities makes the understanding of supply chain management difficult. Let us try to understand what SCM is. Supply chain management is an enormous topic covering multiple disciplines deploying many quantitative and qualitative tools (Johnson & Pyke, 1999).

Before making review of chosen papers there is a need to make a small discussion on definition of supply chain management itself. SCM has been interpreted by various researchers. Based on the relatively recent development of the supply chain literature, it is not surprising that there has been much debate as to a specific SCM definition. Ganeshan and Harrison [3] has defined SCM as a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers. Lee & Corey [4] stated that SCM consists of the integration activities taking place among a network of facilities that procure raw material, transform them into intermediate goods and then final products, & deliver products to customers through a distribution system. Christopher defined the supply chain as the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of

products and services in the hands of the ultimate customer. SCM is the "strategic and systematic coordination of the traditional business functions and the tactics across these business functions within a particular firm and across businesses within a supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole. [5]

While the separation of supply chain activities among different companies enables specialization and economies of scale, there are many important issues and problems that need to be resolved for successful supply chain operation – this is the main purpose of SCM.

V. SUPPLY CHAIN DESIGN

Manufacturing firm's supply chain design is based on effective integration. Although supply chain management mainly concentrates on the manufacturing function, Braganza (2002) and Power (2005) examined different perspectives on integration and suggested that integration of several functions at different organizational levels achieve above average financial and performance results. It is observed that current static approaches and theoretical models are ineffective in considering all variables and constraints for designing supply chain. These often require a lot of computing time and present poor flexibility in terms of model changes as a result a large number of firms have reconfigured their supply chains. Reconfiguration is to be done through the reduction, centralization and re-location of plants and distribution centers, design of new distribution systems, and reduction of the supplier base. Lemoine and Larsen (2004) analyzed implications of such reconfiguration for freight transport showing how changes in logistic structures and decisions could affect the supply chain decision.

The manufacturing firms has witnessed lean production paradigm positively, and there is much evidence to suggest that level scheduling combined with the elimination of waste has successfully delivered a wide range of products. This has led to the emergence of the agile paradigm characterized by "quick response" and similar schemes. Manson- Jones et al. (2000) demonstrated how the "lean" and "agile" paradigms might be integrated. They designed a total performance metric and developed a route map for integration of lean production and agile supply in the total chain. The supply chain dynamics and associated control problems calls for reengineering the supply chain. In practice many organizations have adopted business process-reengineering (BPR) initiatives but the results are disappointing. Lalwani et al. (2006) suggested that one of the reasons for this might be the difficulty of grasping the full dynamic complexity of the processes and systems encountered. Authors proposed that current developments in systems thinking and continuous system simulation, when applied within the context of an operations management framework, may offer the good design of SC and improved success ratios in BPR projects.

V. CONCLUSION

In this paper the attempt has been made to review the literature on Supply Chain Management. Articles for review were chosen in random way where an only criterion for research papers was to be done after 2005. Some reviewed papers are from same category, but we did not take into consideration papers with absolutely same results. So papers can be very close in results, but there is no identical result papers included. We tried to use the discussion method in analysis of these papers and had no attempt to make any quantitative analysis, which can be used in future researches.

During selecting of research papers for literature review we used simple methods trying to select ones from different sources. The main source for using these papers was Science Direct internet portal for research papers and other Internet journals on Operations Management.

In order to have broader view on SCM we reviewed papers which have different objects, were we can divide them into such groups: papers which research SCM in context of its improvement and quality, papers which focus on sustainability of SC and logistics, papers which based on comparison of SCs or comparison of implementing methods on different locations, papers which look towards SCM through different industry, and finally the most important number of researches are about methods of supply and efficiency of SCs, which in our opinion make greater contribution for understanding of SCM.

A literature review reveals a considerable spurt in research in theory and practice of SCM. Combining and informing on features of Supply Management and distribution Management. This integration has resulted in the concept of extended enterprise and the supply chain is now manifest as the collaborative supply chain across inter company borders to maximize the value across the entire supply chain.

During the search of papers to work on we have noticed that there is a need for some further research that we have identified as following: to conduct empirical studies about the impact of Internet on several e-SCM processes, as for example the reverse and demand management processes which, so far, have only been considered by a couple of authors. Another important area of research is the application of decision models and technologies on Internet. As more and more firms have high quality and real-time information available, the use of these decision technologies will increase, since they add significant value to the members of a supply chain. The SCM is continuously redefining itself. We also have noticed that past literature reviews provided valuable results, they were based upon the random selection of articles, book chapters and conference proceedings. Other literature reviews were either more focused on operations management or examined a single journal.

The aim of this study was to provide an up-to-date and brief review of the SCM literature that was focused on broad areas of the SCM concept.

It is our hope that future researches will pay more attention on generating much needed conceptual and empirical work in the SCM literature, thereby creating a body of literature that is more heavily influenced by a deeper analysis of the supply chain on a chain wide or network basis.

REFERENCES

- [1] Aziz Muysinaliyev, Sherzod Aktamov, Supply chain management concepts: literature review, School of Management, Shanghai University, China, IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 15, Issue 6 (Jan. 2014), PP 60-66.
- [2] "Domain Of Supply Chain Management – A State Of Art", Atul B. Borade ,Jawaharlal Darda Institute of Engineering and Technology, Yavatmal (M.S), India, J. Technol. Manag. Innov. 2007, Volume 2, Issue 4, Received June 16, 2007 / Accepted September 20, 2007.
- [3] Ganeshan, R, and Harrison Terry P., "An Introduction to Supply Chain Management," Department of Management Sciences and Information Systems, 1995
- [4] Lee Hau L., and Corey Billington, "The Evolution of Supply-Chain-Management Models and Practice at Hewlett-Packard. Interfaces", (25), pp. 42-63, 5 September-October, 1995.
- [5] Christopher M., Logistics & supply chain management: strategies for reducing costs and improving services (Pitman Publishing, London, 1998)
- [6] Priscila Laczynski de Souza Miguel FGV-EAESP, Luiz Artur Ledur Brito Supply Chain Management measurement and its influence on Operational Performance, Volume 4• Number 2 • July - December 2011.