

# The Study of Supply Chain Management Strategy

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**ABSTRACT:** The paper objectives in this study are designed to investigate the effect of Supply Chain Management strategy on supply chain performance and to determine whether supply chain management practices has impact on supply chain performance. Within these objectives, there are three concepts that needed to be explored to obtain an understanding of these objectives. These concepts are (1) supply chain management strategy that encompasses lean supply chain, agile supply chain and hybrid supply chain, (2) supply chain management practices that includes supplier partnership, customer relationship and information sharing (3) supply chain performance in terms of supply chain integration, supply chain flexibility, and customer responsiveness. The study that improves understanding of SCM and researchers to undertake both theoretical and empirical investigation on the critical constructs of SCM, and the exploration of their impacts on supply chain performance.

**KEYWORDS:** Supply Chain Management, Supplier, agile and Lean

## I. INTRODUCTION

Supply chain has become an important focus of competitive advantage for organization business. The management of supply chain study emphasizes how to maximize the overall value of the firm by better using and deployment of resources across the whole of the firm. A supply chain is the set of values-adding activities connecting the enterprise's suppliers and its customers. The principle of supply chain activity is receiving input from firm's suppliers – add value – deliver to customers (Levi at al (2004). A supply chain encompasses all the parties that involved, directly or indirectly, in fulfilling a customer request. The supply chain includes manufacturer, suppliers, transporters, warehouses, retailers and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all function involved in receiving and filling a customer request. Various subject areas such as purchasing and supply, logistics and transportation, marketing, organizational behaviour, network, strategic management, management information systems and operations management have contributed to the explosion of SCM literature. From the myriad of research, it can be seen that a great deal of progress has been made toward understanding the essence of SCM

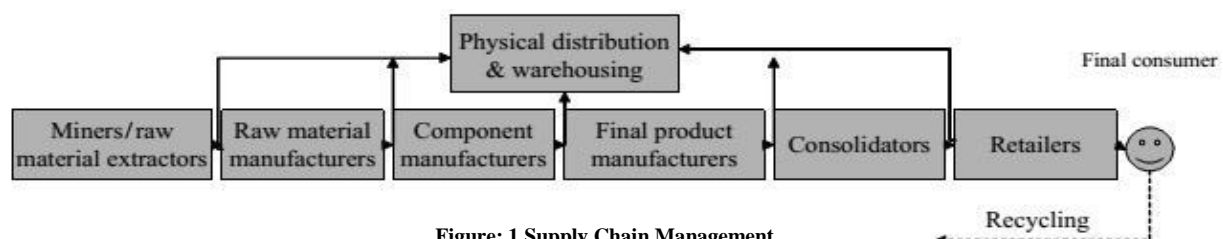


Figure: 1 Supply Chain Management

**Source:** Supply chain management: Theory, practice and future challenges -John Storey, Caroline Emberson, Janet Godsell and Alan Harrison

## II. LITERATURE REVIEW

Supply chain management has been becoming increasingly important in competitive business. To compete at the supply chain level, firms must adopt an appropriate supply chain management strategy. The strategy needs integrate and coordinate throughout the supply chain to generate the performance of supply chain members (Green Jr. et al., 2008; Cohen and Roussel, 2005; Wisner, 2003). Mason-Jones et al. (2000) and Lewicka (2011) argued that supply chains need to adopt a strategy that suits both their particular product and marketplace. Fisher (1997) suggested that the first step in developing the supply chain strategy is to consider the nature of the demand for an organization's product, proposing that these are either functional or innovative.

Vonderembse et al. (2006) discussed three types of supply chains that are necessary to match three types of products: standard, innovative, and hybrid. They demonstrate that standard products, which tend to be simple products with limited amounts of differentiation, should be produced by a lean supply chain. Lean supply chain employ continuous improvement efforts and focus on eliminating wastes across the supply chain. On the other hand, innovative products which may employ new and complex technology require an agile supply chain. Agile supply chain responds to rapidly changing global markets by being dynamic and flexible across organizations. Hybrid products, which are complex products, have many components and participating companies in the supply chain; therefore, a variety of supplier relationships may be needed, which they refer to hybrid supply chains.

Hybrid supply chains combine the capabilities of lean and agile supply chains to meet the needs of complex products. Towill and Christopher (2002) suggest that there are three types of supply chain strategies: agile supply chains; lean supply chains; and hybrid supply chains. In their study, a case study was provided to show how a lean and agile supply chain can be successfully combined to have a lean/agile supply chain strategy which they refer to as

“hybrid” or “leagile” supply chain. Naylor et al. (1999) uses the term “legality” as an integration of lean and agile paradigms with the aid of a decoupling point in the supply chain. Thus, they provide a personal computer company as a case study to demonstrate how agility and leanness can be combined successfully within the supply chain to meet customers' requirements.

The traditional domain of the information systems strategy is to improve the efficiency and effectiveness of organizations (Bakos and Treacy, 1986 cited in Sufian, 2010). Earl (1989; Sufian, 2010) argued that the information sharing strategy should originate from the business strategy. This means that information technology should facilitate implementing the business strategy (whatever that business strategy is) and help achieve its goals. Supply chain management practices encompasses set of approaches and practices that effectively integrate with suppliers, manufactures, distributors, and customers to improve the long-term business performance and their supply chain (Chopra and Meindl, 2007; Tseng 2010).

In this study, supply chain management practices are defined as several of management activities that purposed to improve the supply chain performance (Li et al., 2006; Wong et al., 2005; Zhou and Benton, 2007; Koh et al., 2007; Sufian, 2010). Strategic supplier partnerships need better coordination between the organization and its suppliers; companies tend to have a long-term relationship with suppliers that create value. In this study, a strategic supplier partnership is defined as the long term relationship between the organization and its suppliers which influences the strategic and operational capabilities of individual participating companies to help them achieve significant ongoing benefits (Li et al., 2005; Li et al., 2006; Monczka et al., 1998). A strategic supplier partnership include buying goods and services from suppliers and impacting the suppliers system and operational capabilities, adding value and improving the supply chain performance (Monczka et al., 1998' Sufian, 2010).

Li et al., (2006) stated that customer relationship is the entire array of practices that are employed for the

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purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction. Vickery et al. (2003) emphasize the importance of establishing a close customer relationship as a major practice of supply chain integration to enable organizations to respond faster to customers. Li et al. (2005) emphasize the importance of information sharing to SCM practice. The main principle of SCM is sharing of information within supply chains (Moberg et al., 2002). By sharing information with members of the supply chain, an organization can respond more quickly to the customer's changing needs (Li and Lin, 2006). Supply chain integration is degree of all the activities within an organization, suppliers, and customers are integrated together (Stevens, 1990; Stock et al., 1998; Stock et al., 2000; Narasimhan and Jayaram, 1998). Supply chain integration

involves effective communication among all supply chain members (Turner, 1993). Customer responsiveness is directly connected to information, in which suitable use of information is important to achieve customer responsiveness. To support this argument, Daugherty et al. (1995) found that information availability and customer responsiveness are positively related which resulted in improving firm performance. The need for flexibility originates from customers; since customers ask for variety, quality, competitive prices, and faster delivery. This has forced companies to make design changes quickly and respond faster to customer needs in order to sustain the company's competitive advantage. As a result, companies need to be flexible enough to react to changes in customer demands (Aggarwal, 1997).

The popularity of the supply chain concept has been stimulated from many directions including the quality revolution (Dale et al. 1994), notions of materials management and integrated logistics (Carter and Price 1993), a growing interest in industrial markets and networks (Ford 1990, Jarillo 1993), the notion of increased focus (Porter 1987, Snow et al. 1992), and influential industry-specific studies (Womack et al. 1991, Lamming 1993). Thus, researchers find themselves inundated with a plethora of terminology including 'supply chains', 'demand pipelines' (Farmer and Van Amstel 1991), 'value streams' (Womack and Jones 1994), 'support chains', and many others. The origins of the notion of supply chain management (SCM) are unclear, but its development appears to start along the lines of physical distribution and transport (Croom et al. 2000), based on the theory of Industrial Dynamics, derived from the work of Forrester (1961). Another antecedent can be found in the total cost approach to distribution and logistics (Heckert and Miner 1940, Lewis 1956). Both approaches show that focusing on a single element in the chain cannot assure the effectiveness of the whole system (Croom et al. 2000).

The term 'supply chain management' was originally introduced by consultants in the early 1980s (Oliver and Webber 1992) and has subsequently gained tremendous attention (La Londe 1998). Analytically, a typical supply chain is simply a network of materials, information and services processing links with the characteristics of supply, transformation and demand. The term 'supply chain management' has not only been used to explain the logistics activities and the planning and control of materials and information flows internally within a company or externally between companies (Christopher 1992, Cooper et al. 1997b, Fisher 1997). Researchers have also used it to describe strategic, interorganizational issues (Cox 1997, Harland et al. 1999), to discuss an alternative organizational form to vertical integration (Thorelli 1986, Hakansson and Snehota 1995), to identify and describe the relationship a company develops with its suppliers (e.g. Helper 1991, Hines 1994, Narus and Anderson 1995), and to address the purchasing and supply perspective (e.g. Morgan and Monczka 1996, Farmer 1997).

The new orthodox of SCM, however, is in danger of collapsing into a discredited management fad unless a reliable conceptual basis is developed (New 1996), and many authors have highlighted the pressing need for clearly defined constructs and conceptual frameworks to advance the field (New 1995, Saunders 1995, 1998, Cooper et al. 1997a, Babbar and Prasad 1998). Towards the journey of developing a common conceptual base, we examine and consolidate over 400 articles from diverse disciplines mentioned above. The contributions from the various studies exist in isolation, but taken together, they have many of the critical elements necessary for successful management of supply chains. This study may be the most comprehensive analysis of the multidisciplinary, wide-ranging research on SCM. Therefore, this study first contributes a coherent presentation and classification of current body of supply chain knowledge. The analysis of selected SCM literature is presented in the following two sections: critical SCM elements and supply chain performance. We then identify relevant findings and integrate them into an empirically tractable, meaningful research framework.

### **III. SUSTAINABLE SUPPLY CHAIN MANAGEMENT**

SCM is ultimately a management methodology to improve an efficiency of tasks in supply chain by composing a chain with connections of traditional tasks of firms and developing the functions of individual firms participated in chain. The objective is to generate values such as products or services for customers by interconnecting production and transportation components in the network. The recent studies about SCM are approached in various ways such as design, planning, execution, control, and monitoring of the chain. These studies have been expanded to an approach to manage the globalized supply chain efficiently which is distributed and larger as growth of value creation, competency, management of supply and demand, performance evaluation, and inventory management.

The common standard to decide the function of traditional SCM is to achieve a profit through cost reduction. However, there have been various changes about customer demand and increase of environmental cost according to the trends of changing business. Therefore, the importance of sustainability has been highlighted as a standard of performance evaluation. The economic meaning of sustainability is that how consistently the profit generated from human, nature, and society could be kept. Therefore, the sustainability in supply chain can be defined as an efficiency of utilizing the limited sources to be flexible to changeable business environment and be agile to new customer demand. The firms and organizations are exposed to many elements of change and risk and these elements are categorized into economic, environmental, and social areas so that we discussed about the corresponding elements of SSCM in terms of following three aspects.

**Economic Element:** Single companies are hard to get their own competencies as the economy varies. In addition, acquired competencies are hard to keep consistently when they are exposed to natural disasters or management deterioration. To mitigate this, the collaboration between firms is getting important way to get their sustainability. The collaboration provides the firms an opportunity to be flexible to changes by sharing the cost and profit of supply chain.

**Environmental Element:** The problem of environmental cost has been highlighted with rapid changes all over the world. In addition, spread recognition about environmental protection has dominated whole society with paradigm of green growth and requested the eco-friendly sustainability to firms. The design of products and process to increase recycle can be an example of a sustainability approach to respond to these environmental elements. Government regulation about pollution also can be a threat to firms.

**Cultural Element:** Supply chain should be coexisted with the culture and regional society not for the goals of firms. Especially, it is responsible for balanced development of society through society welfare and return. In addition, the paradigm can be changed according to the change of social environment. Furthermore, requirements of participants in society can be a reason for supply chain because they are customer and participants. Especially, the elements of environment and society are linked to the firm's responsibility. It was led by government or organizations according to social practices and paradigms in past, but currently, the firms have an initiative and lead the change. As above, the supply chain has been exposed to various risks as the change of business environment and it leads to the company for requesting the sustainability. Furthermore, its necessity has been important in that the speed of change has been faster with the change of technical improvement and social practices. The studies about SCM were mostly mathematical approach started from academic business and engineering, and these focus on the maximization of profit through supply chain by satisfying both low cost and high quality with a design of supply chain, production, transportation management. After that, with the change of paradigm and environment, the concern about sustainable supply chain has been increased. However, the related studies are in the background of the concept of traditional supply chain.

### **IV. LIMITATION AND FUTURE RESEARCH**

There are a number of limitations that influence the generalizability of this study. First, this study limited only on manufacturing industry. One of the limitations of this single-sector study is that the conclusions may not be generalizable to other sectors. Future studies replicating this research across multiple industries and sector would

increase the understanding of supply chain performance. Second, the sample selection was based on a convenience sample, which is often used for exploratory work (Zikmund, 2003), rather than a random probability sample. Additional research could be conducted using a random probability sample. Third, the sample represented a limited number of companies in limited industry. Fourth, the study is based on a self-reported questionnaire. Therefore, there is a possibility of respondents answering questions in a way that is perceived to be more desirable or acceptable than what is actually experienced or believed. Thus, the results of this study should be considered indicative rather than definitive based on these limitations.

## V. CONCLUSION

This study that improves understanding of Supply Chain Management and researchers to undertake both theoretical and empirical investigation on the critical constructs of SCM, and the exploration of their impacts on supply chain performance. The concepts includes are (1) supply chain management strategy that encompasses lean supply chain, agile supply chain and hybrid supply chain, (2) supply chain management practices that includes supplier partnership, customer relationship and information sharing (3) supply chain performance in terms of supply chain integration, supply chain flexibility, and customer responsiveness.

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