A REPRISE OF SUPPLY CHAIN MANAGEMENT IN CONSANGUINITY TO THE INDUSTRY OF TEXTILE

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Abstract:
This study investigates supply chain management (SCM) literature to categorize it as well as this study particularly explores studies of SCM for textile industry. An analysis is provided for SCM in connection to textile industry. Science Direct, ABI/INFORM Global, EBSCO Host, and Emerald scholarly databases are inspected for SCM studies. It is found that there is lack of agreement for a sole definition of SCM; moreover, textile industry is being neglected for investigation of SCM. However, categories of SCM are described in a descending order from most studied categories to least studied categories. There is a void of a sole definition for SCM; therefore, a comprehensive definition of SCM is suggested from pertinent literature. Moreover, research gaps are identified for future research of SCM particularly for textile industry.

Keywords: supply chain management, textile industry, categories of SCM

1. Introduction
SCM has been a melting pot of various disciplines, with influences from logistics and transportation, operation management and material and distribution management, marketing, as well as purchasing and information technology. Ideally, the all-encompassing philosophy of SCM embraces each of these functions to produce an overall supply chain strategy that ultimately enhances firm performance (Giunipero, Hooker, Joseph-Mathews, Yoon, & Brudvig, 2008). SCM is grown to be admired by an escalating number of practitioner and academic publications, conference, professional development programs, and university courses pertinent to SCM across the globe (Burgess, Singh, & Koroglu, 2006). SCM’s importance is acknowledged and recognized as an important area of management; practitioners and academics have developed it globally (Cousins, Lawson, & Squire, 2006).

There is little agreement for definition of SCM although scholars have proposed approximately one hundred and seventy-three definitions of SCM (Stock & Boyer, 2009). However, lack of consensus for definition of SCM leads to a vague conceptualization of SCM. It is comparatively a new field that desires a consensus for a definition. Lack of consensus for conceptualization of SCM generates several research gaps in field of SCM (Burgess, et al., 2006). Researchers and practitioners will not be proficient to advance the theory and practice of SCM without adopting an identical and mutually agreed upon definition of SCM. Researchers and practitioners of SCM will be benefitted to a great extent with an integrated definition of SCM (Stock & Boyer, 2009).
2. Review of SCM

Academic and practitioner world still have confusions about the definition of SCM (New, 1997) and there are diverse conceptualization about the definition of SCM (Burgess et al., 2006; Halldo´rsson, Larson, & Poist, 2008; J. Mentzer et al., 2001). However, the varying conceptualization of SCM have important implications for its implementation (Halldo´rsson et al., 2008). Mentzer (2001, p. 7) defined the SCM as, “Supply chains are a set of three or more entities (organizations or individuals) directly involved in upstream and downstream flows of products, services, finances and/or information from a source to a customer”.

Additionally, Seuring (2008) quoted a definition of SCM, “Supply chain management is the integration of these activities through improved supply chain relationships to achieve a sustainable competitive advantage”. Cooper and Ellram (1993, p. 13) have defined SCM as, “an integrating philosophy to manage the total flow of a distribution channel from supplier to ultimate customer.” Another definition is stated by Romano and Vinelli (2001) as, “...used to refer to the integrated management of a network of entities, that starts with the suppliers’ suppliers and ends with the customers’ customers, for the production and delivery of goods and services to the final consumers”.

Recently, supply chain management is defined very comprehensively by Stock and Boyer (2009, p. 706), “The Management of a network of relationships within a firm and between interdependent organizations and business units consisting of material suppliers, purchasing, production facilities, logistics, marketing, and related systems that facilitate the forward and reverse flow of materials, services, finances and information from the original producer to final customer with the benefits of adding value, maximizing profitability through efficiencies, and achieving customer satisfaction”.

3. SCM in Respective Industries

SCM literature constructs it noticeably that research for SCM is being carried out in various industries such as automobile, construction, food, computer, health care, retail and textile. However, automobile industry is dominating with the number of studies for SCM. Recently, a study has described a (3Cs) of modular supply networks in the Chinese automotive industry for further expansion of the theory of SCM (Lin, Zhou, Shi, & Ma, 2009). Computer industry is having a decision-making model for manufacturers to maximize their profits in reverse logistics operations (Tan & Kumar, 2006). Information technology industry is studies to explore SCM as Sahay and Mohan (2003) reported, “... the status of supply chain management (SCM) in India along four dimensions of supply chain – namely supply chain strategy, supply chain integration, inventory management and IT in the Indian set-up”.

SCM is also prevalent in construction industry, as a very comprehensive approach to construction project for SCM was introduced (Love, Irani, & Edwards, 2004) and it has projected and claimed a flawless SCM model, that puts together the design and production processes of construction projects. Moreover, some SCM issues in construction industry in the context of TQM, are also identified (A. Wong & Fung, 1999). Health care industry has been studied in the context of SCM (Allen, Wade, & Dickinson, 2009; Bakar, Hakim, Chong, & Lin, 2010). SCM research has been done in paper industry and it has reported that supply chain distribution process of North European paper industry is facing
Pharmaceutical industry is investigated for SCM to describe 'an understanding of the decisional process that leads a company, at a given point in time, to choose the subsequent supply chain management (SCM) initiative to be implemented' (Danese, Romano, & Vinelli, 2006). Internal SCM in the Chilean sawmill industry was investigated and it has originated a prospect to enhance profits of the industry further fifteen percent (Singer & Donoso, 2007).

Toy industry was explored to investigate SCM practices and revelation of practical and theoretical gaps in toy supply chains (C. Y. Wong, Arlbjorn, & Johansen, 2005). There are several studies on SCM in several industrial sectors such as automobile, apparel, chemical, computer, telecommunication, agriculture/food and grocery (C. Y. Wong, et al., 2005). Undoubtedly, SCM is well recognized concept in manufacturing; however, service industry is also acknowledging it now. Value of successful implementation of SCM in service industry is recognized by practitioners and academics, and the effect of implementation of SCM is as well beneficial for service industry (Cook, Bree, & Feroleto, 2001).

4. Textile Industry and SCM

Considerable amount of literature have been published for SCM in various industries and possibly few attempts have been made to investigate SCM in textile industry. Time consuming and labor intensive processes are the characteristics of textile and perhaps due which implementation of modern SCM is obstructed in the industry (Fernie & Azuma, 2004); therefore, SCM research is neglected in textile industry (Bruce, Daly, & Towers, 2004). The subsequent discussion focuses on distinctive purposes of research for SCM in textile industry and a number of researchers have put emphasis on contrasting purposes such as, a study explored the issues of implementation of the coordination of SCM specifically in textile (Cao, Zhang, To, & Ng, 2008).

Characteristics of textile industry are investigated in the context of lean and agile SCM (Bruce, et al., 2004; Masson, Iosif, MacKerron, & Fernie, 2007); and supply chain collaboration and its benefits are explored (Cetindamar, Çatay, & Basmaci, 2005). SCM in the context of quality, logistics, forecasting techniques lead time, inventory management is illustrated for small to medium sized companies (Teng & Jaramillo, 2006); however, an evaluation model is developed for textile manufacturers to maintain their competitiveness in the global textile business (Teng & Jaramillo, 2005). Moreover, textile industry is investigated to enhance the understanding of collective competitive advantage through SCM (Ho, 2005); while, how to create competitive advantage through SCM practices is researched recently in textile industry (Nuruzzaman, Haque, & Azad, 2010).

Further review of concept of SCM in textile revealed that forecasting errors for fashion items, long production lead time, and short product cycle for fashion articles are some distinctive problems faced by the industry (Lam & Postle, 2006). Operative and strategic consequences due to quality management with the utilization of SCM in textile industry are inquired for a single organization and the entire supply network (Romano & Vinelli, 2001). Recently radio frequency identification (RFID) system is introduced to assist the coordination and integration of supply chain functions and activities in textile (Kwok & Wu, 2009). The issues in quality and communication management for clothing supply chain models between UK and China are as well identified to offer some insights into SCM (Chen, Murray, & Jones, 2007). Additionally,
industry cluster theory within the context of supply chain management decisions for textile industry is introduced (Bozarth, Blackhurst, & Handfield, 2007). A large and growing body of literature has investigated vendor selection in industrial marketing research; however, a study has determined the vendor selection criteria for overseas vendors in textile industry (Thaver & Wilcock, 2006). Another relatively new dimension of SCM research is environmental supply chain management, environmental SCM in Danish textile industry has analyzed to identify various practices of environmental SCM (Forman & Jørgensen, 2004); while, a study has investigated Swedish supply chains for textiles made from organically grown cotton in the contexts of environmental supply chain management (Kogg, 2003). UK clothing industry is also examined to imply SCM for innovative developments within the industry (Bruce & Moger, 1999).

The above discussion reveals that researchers have studied SCM in textile industry with varying purposes and out of theses varying purpose somehow one common objectives is to create competitive advantage through the utilization of SCM. A supplier selection criterion is possibly the most researched topic in SCM and it is also explored in textile industry. Moreover, textile industry has been investigated with a new emerging concept of environmental supply chain management (Forman & Jørgensen, 2004; Kogg, 2003).

However, comparatively to another industry such as automobile, still there is a need to further the research of SCM in textile industry, specifically for the industry of the developing countries, because previously mostly studies are conducted in the industries of developed countries. The further exploration of supply chain management in textile industry of a developing country may possibly assist to improve SCM theory and its application specifically for the industry a developing country. Possibly no specific framework for textile industry of a developing country is present in the pertinent literature. Therefore, it is suggested that further exploration of supply chain management in the textile industry of a developing country can assist the practitioners and academicians of supply chain management.

5. Categorization of SCM with Most to Least Studied Areas

The past decade has seen the rapid development and diffusion of supply chain management in many industrial sectors. A consider amount of literature has been published about supply chain management; therefore, it is possible to categorize the supply chain management. Thirteen categories of SCM are identified in an investigation for a decade of SCM published literature in renowned academic journals (Giunipero, et al., 2008). The last decade has acknowledged enhanced attention for the role of strategy in supply chains and it is supposed to be aligned with the firm’s overall strategic direction (Sebastiao & Gollicic, 2008). A review of literature about the first category of SCM i.e., SCM strategy; reveals that mostly theories and conceptual frameworks for SCM research are illustrated from strategy literature, for example resource based view of the firm is taken from strategy literature (Hsu, Tan, Kannan, & Keong Leong, 2009; Hult, Ketchen, & Arrfelt, 2007). Therefore, an improved understanding of supply chain strategies is required in field of SCM (Sebastiao & Gollicic, 2008). A considerable amount of literature has been published for supply chain strategy and mostly researchers have pointed out the need for the integration of supply chain strategy with the firm’s overall strategy (Giunipero, et al., 2008).
However, some studies have attempted to explain the importance of alignment between supply chain strategy and business strategy (Mitra & Bhardwaj, 2010; Narasimhan, Kim, & Tan, 2008). Strategic alignment between corporate and supply chain is imperative to survival and to remain competitive for the firms in this globalized environment. Undoubtedly this category of SCM has received immense attention for the past twenty years and now it is possibly at the maturity stage in the context of its understanding. The supply chain literature makes available three types of supply chain strategies: lean strategy, agile strategy, and lean/agile strategy (Qi, Boyer, & Zhao, 2009). Lean strategy focuses on cost reductions, agile strategy tries to integrate networks and lean/agile strategy can quickly respond to an unpredictable demand (Morgan, 2007).

The second category of SCM is ‘SCM frameworks, trends and challenges.’ There is much discussion in literature that competition is shifted between networks despite the competition between companies; and this focus has increased complexity to the management of supply chains (Gripsrud, Jahre, & Persson, 2006). Therefore, the firms not only have to manage their own organizations but also have to manage the entire network of supply chain. However, sharing of resources and capabilities, enable channel members to offer better service at a lower cost. What we know about SCM frameworks is largely based upon the research for future trends, supply chain definitions, historical reviews, and problems/benefits of SCM (Giunipero, et al., 2008).

The third category of SCM is alliances/relationships. In recent years the strategists are trying to seek opportunities to improve the firm’s position in an existing network or creating a new network and it incorporates the concepts of partnerships and strategic alliances (Mills, Schmitz, & Frizelle, 2004) so a great deal of attention has been drawn in literature for relationships of channel members in SCM (Jean, Sinkovics, & Kim, 2010). Alliance and relationships in the supply chain networks play a vital role for SCM success and it is dependent upon the cooperation of the firms as a team-work-oriented system (D.-C. Li & Dai, 2009). Jayaram et al., (2008) proposed that close relationships with supply chain partners are imperative for the success of lean strategy. The alliances/relationship category of SCM is being researched frequently and it encompasses variables such as trust, commitment, conflict, power and communications (Giunipero, et al., 2008).

The fourth category of SCM is E-commerce/World Wide Web and E-integration, E-procurement and Website content are the contents of this category. The utilization of technological tools such as, internet and EDI, as collectively in business may be described as e-commerce and SCM is revolutionized by e-commerce (Iyer, Germain, & Frankwick, 2004). According to several authors, E-commerce is a contributory factor for the future success of SCM (Grieger, 2004). Recently private and public organizations have rendered considerable attention to e-commerce and SCM because customer satisfaction and operating performance can be improved by the utilization of e-commerce and SCM (Au & Ho, 2002). In a sense the evolution of technology works as a basis for the improvement of supply chain coordination (Soroor & Tarokh, 2006) and one side the firms are becoming more responsive to their customers just because of utilization of e-commerce in SCM, however, e-commerce is also changing the structure of strategic alliance and partnership (Williams, Esper, & Ozment, 2002). Undoubtedly this category has received immense attention and there is
a growing body of literature for the category.

The fifth category of SCM stands for Time-based Strategies and it contains the topics such as, just-in-time, inventory management, supply chain agility and flexibility, cycle time, postponement and supplier managed inventory (Giunipero, et al., 2008). Studies for just-in-time practices in SCM management literature are prevailing since 1980. Just-in-time practices encompass various aspects of total quality management, purchasing, and operations management in the field of SCM (Toni & Nassimbeni, 2000). Supplier managed inventory is practice for inventory management and it has been discussed widely in literature of supply chain management, besides it offers competitive advantage to the firms several other benefits are also identified in the literature of SCM, however, a number of challenges limit the benefits to the firms (Sari, 2007). ‘Supply chain flexibility’ has acquired interest of practitioners and researchers so this field is in the phase of empirical exploration (Stevenson & Spring, 2007).

A growing body of literature is available for the category of time-based strategies in SCM. The research for agility issues related to SCM is growing and so far an instrument has been developed to assess the supply chain agility (X. Li, Goldsby, & Holsapple, 2009).

The sixth category of SCM is information technology and it includes IT tools such as EDI and DSS, on the whole it is the utilization of information technology in the field of SCM for networking with supply chain partners to strategic alignment (Giunipero, et al., 2008). There are several research papers those deal with deployment of IT in SCM and generate comprehensive discussion for the role of IT in SCM. IT has a very deep impact on SCM and it generates several benefits for SCM and it is vital for the success of SCM (Auramo, Kauremaa, & Tanskanen, 2005). The digital revolution has also revolutionized the field of SCM and e-SCM can serve as a competitive advantage for a firm (Folinas, Manthou, Sigala, & Vlachopoulou, 2004), so much significance of IT in SCM provoked the researchers to investigate it to such an extent that it is distinguished as a separate category of SCM. IT is supporting the firms to meet their demand for a higher degree of integration of the business processes of all supply chain partners and in other words IT is also playing its role as one the main drivers of change in SCM (Evangelista & Sweeney, 2006) while scope of business is being expanded because of the advancement in information technology (Rahman, 2004).

The seventh category of SCM is concerned with the quality aspects and it contains ISO and quality management practices supply chain. Undoubtedly the quality stands as vital factor for the firms to attain competitive advantage in the global market; however, practitioners believe that true TQM be supposed to prevail in entire supply chain and operation management literature widely discuss the quality management practices in SCM (Lo & Yeung, 2006). Moreover, quality is said to be one of the most imperative factor for the firms in the context of their relationship with customers and suppliers (Azar, Kahvali, & Taghavi, 2009). Kannan and Tan (2005) have concluded that there is a linkage between TQM and SCM at strategic level and the firms can exploit the synergy of TQM and SCM. In short, the research findings for TQM in SCM evidently confirm it as a separate category of SCM.

The eighth category of supply chain management is supplier development/selection and management. It comprises of supplier selection criteria, supplier training and improvement, supplier monitoring, management and assessment (Giunipero, et al., 2008). In Japan
supplier development programs have been successful strategic moves over the past 50 year (Giannakis, 2008) and supplier development has emerged as a very important category of SCM and more than a few research issues pertinent to supplier development have been investigated for the last decade (Shokri, Nabhani, & Hodgson, 2010). Daniel R. Krause is a very renowned name for supplier development research, supplier development has been declared as strategic weapon and several activities for the supplier development practices are also reported in the literature (Krause, 1999). So the research works for supplier development in SCM make it possible to declare it as a separate category of supply chain management.

The ninth category of SCM is concerned about ethical, environmental and social responsibility faced by the firms for supply chain management. Recently environmental issues are receiving more attention, moreover; green supply chain management, sustainable supply chain management, integrated supply chain management and substance supply chain management are the terminologies in SCM due to consideration of the environment (Tsai & Hung, 2009) as well as today’s supply chains are facing challenges for responding to growing social demands (Park-Poaps & Rees, 2010) and ultimately supply chain responsibility is evolving out of corporate social responsibility (Spence & Bourlakis, 2009). There is an enhancement for acceptance of corporate social responsibility to be a new norm for multinational production networks (Smith, Palazzo, & Bhattacharya, 2010).

Third party logistics and contract management composes the tenth category of SCM named as outsourcing. A competitive advantage can be achieved and sustained by exercising outsourcing for supply chain processes and this aspect attracted the interest of academic world and practitioners for the farther exploration about outsourcing (Bolumole, 2001). The intense globalized competition demands for diminished order cycle times and inventory levels so that it generates a strong need for effective processes depending upon effective supply chain alliances through outsourcing (Bolumole, 2001). Boer et al. (2006) concludes that there is a lack of perspective and practical models to express outsourcing decision processes particularly for logistic activities of supply chain so this category of SCM needs more exploration to fill the research gaps. Human resource management stands as eleventh category of SCM. Buyer behavior in supply chain and international/global supply chain are respectively twelfth and thirteenth categories of SCM dealing respective to the topics such as new product development, information flows, organizational decision processes, and global logistics, cultural issues, international trade, global supply and demand (Giunipero, et al., 2008).

6. Conclusions

SCM is assisting firms to gain competitive advantage; therefore, a firm can compete effectively in the global business environment. Development and implementation of more effective SCM can possibly be practiced with a consensus definition of supply chain management. Thirteen categories of SCM are identified with an order from most studied to least studied categories of SCM such as: SCM strategy; SCM framework, trends, and challenges; SCM alliances/relationships; SCM in E-commerce; time-based strategies for SCM; information technology; quality; supplier development/selection and management; ethical, environmental and social responsibility in SCM; third party logistics and contract management; human resource management; buyer-behavior; and international/global supply chains. First
three categories are most widely studied as comparative to other categories. The further investigation of SCM in textile industry of a developing country will possibly assist to improve SCM theory and its application specifically for the industry a developing country. No specific framework for textile industry of a developing country is present in the pertinent literature. Therefore, it is suggested that further exploration of supply chain management in the textile industry of a developing country can assist the practitioners and academicians of supply chain management. The review of pertinent literature has identified a dire need to investigate SCM for textile industry; moreover, there is a theoretical and empirical research gap for SCM in context of a developing country particularly for textile industry. Future research can be conducted to propose a framework of SCM for textile industry of a developing country. The least studied categories of SCM as well as provide a guide line for the future research as potential areas for further investigation.

REFERENCES


