International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 5S, 2025
https://www.theaspd.com/ijes.php

Critical Review of Body of Literature of Supply Chain Management in MSMEs

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Abstract
Supply chain management (SCM) is crucial for the success of Small and Medium-sized Enterprises (SMEs) as it helps optimize processes, reduce costs, and improve overall efficiency. However, the different type of SME offers a new challenge to standardize the SCM strategies. The key aspects of SCM in SMEs include but are not limited to procurement and sourcing, inventory management, logistics and transportation, technology integration, collaboration and communication, risk management, customer relationship management, human resources development, etc. By effectively managing these aspects, SMEs can expect sustainable improvement of their supply chain efficiency, reduce costs, and gain a competitive advantage in the market. Hence, to identify various factors that govern or control the performance of the SCM in SMEs a comprehensive review of literature was conducted. For this review, only the literature published in SCI journals was referred and principles of deductive reasoning were employed. The discussion is presented in a chronological order, and in different sections such as adoption of SCM practices by SMEs, challenges and opportunities of SMEs in adapting SCM, critical success factors for implementation of SCM in SMEs, and impact/effectiveness of SCM practices on performance of SMEs. The literature review showed that most of the studies agree that there is a strong need to undertake regular research to develop customized SCM solutions for different SMEs as one size does not fit all. The study results suggest that manufacturing SMEs in developing countries substantially benefit by adopting latest SCM techniques with integration of information technology based actions. The findings of the study give insights for sustainable improvement of SMEs in general and those of India in particular.
Keywords: *Supply chain management, SMEs, inventory management, logistics, technology integration, risk management*

1.0 INTRODUCTION

It is very well known and established that supply chain management (SCM) is an integral part of most businesses and is essential to company success as well as customer satisfaction. Although most of the Micro Small and Medium Enterprises (MSMEs) work on limited budget and resources, the need for a robust SCM system is very high. Most of the MSMEs operate on B2B sector and are suppliers to bigger companies. This demands that the correct product assortment and quantity be delivered at correct time. The dynamics such as distance from the company, travelling conditions, etc. is kept in mind to ensure on time delivery of all the products. Customers expect products to be available at the right location and at right time and consistent delays will result in diminishing customer satisfaction.

Many large manufacturers depend on supply chains to quickly deliver expensive finished products to avoid holding costly inventories any longer than necessary. Manufacturers depend on supply chains to reliably deliver materials to assembly plants to avoid material shortages that would shutdown production. Also, manufacturers depend on supply chain managers to design networks that meet customer service goals at the least total cost as efficient supply chains enable an MSME firm to be more competitive in the market place. The role of supply chain personnel is very valuable because they help control and reduce supply chain costs, which has potential to result in dramatic increases in firm profits. However, the role of SCM has not been explored to its full potential. Lesser known, is how SCM can play a critical role in complete business field. SCM knowledge and capabilities can be used to support industrial emergencies, critical missions, and handle other types of emergencies.

2.0 RESEARCH METHODOLOGY

In view of the aims and objectives of this study, a comprehensive review of literature related to previous research efforts has been carried out. For this review, the background considered following aspects such as the research question being posed; theoretical background of the investigation, methodology, major findings, conclusions of the study, etc. Furthermore, the research gaps were identified on the basis of this review and it (literature review) was used for synthesizing and gaining a new perspective of the issues concerning development of an innovative supply chain management framework for new age delivery systems for small to medium sized manufacturing industries. The discussion is presented in a chronological order, so that it also indicates the underlying pattern of evolution of thoughts and ideas in the focused domain. Similarly, to the extent possible, care was taken to reproduce the original terminology used by the authors, to preserve the originality of the views. Also reviews are presented in thematically manner as follows

3.0 DISCUSSION

3.1 Adoption of SCM practices by SMEs

The analysis performed by Quayle (2003) identifies the adaptation of SCM techniques and relationships between customers and smaller suppliers and the outcomes, indicates a lack of effective adaptation from traditional adversarial relationships to the modern collaborative "e" – supply chain. Hong and Jeong (2006) compared large firms and SMEs in terms of strategic and operational choices and identified differences in supply chain relationship position and strategic focus, and the SCM transition paths. Beheshti et al., (2007) reported that Swedish small- and medium-sized enterprises used the Internet in their supply chain activities to a large degree as early as year 2007. Aichin et al., (2012) reported a massive surge of interest in SCM due to its innovation approach to business and competitive advantage in the large corporations but the larger SMEs sector was lagging behind. Khan et al., (2014) reported that E-Commerce and E-SCM adoption has a significant, positive influence on SMEs, who have significantly higher average sales growth rate, on-time order management and delivery process than non-adopters.

Matsoso and Benedict (2017) reported that SMEs do not have the negotiating power over their suppliers due to orders being on a smaller scale than those of large entities, and as a result it is difficult to operate a JIT system, however, some measures which are significant to product quality and cost effectiveness must be put in place before the implementation of JIT in order to attain a successful SCM operation. Mafini and Loury-Okoumba (2018) recently reported that four green SCM activities, namely green purchasing, reverse logistics, environmental collaboration with suppliers and green manufacturing, exerted a positive influence on operational performance. Kanabar and Padake (2019) reported that majority of firms in the western India irrespective of their size (large, medium and small) invest in ICT tools for better functioning of the supply chains. However, contrastingly, Rajagopal and Rajan (2019) found that many MSMEs are functioning without internet facilities, lack of skilled and technical workers, lack of store rooms for inventories, lack of funds for modernization and etc, and due to this situation MSMEs are not able to install separate software for SCM. These results suggest that the automation of SCM is not even in the MSME sector of India

Min et al., (2019) provide a historical review of how the article originated and the contributions the article made to both the theory and practice of SCM and proposed necessity to undertake further research on developing new frameworks to better describe, explain, predict, and shed light on the evolving nature of SCM. Mittal et al., (2021) proposed Technology Adoption Model for SCM in MSMEs, where they suggested combined use of Multi-criteria Decision Making method and Fuzzy-Analytical Hierarchy Process to aid the decision-makers in the adoption of block chain technology in their supply chain. Parilla and Abadilla (2021) revealed a positive relationship between the adoption of SCM strategies and profitability of the MSMEs. Ambadapudi and Matai (2021) showed that the health of working capital management as understood by the cash conversion cycle days are different across different tiers within the supply chain, leaving the deep tier suppliers vulnerable to financial risks and hence e-supply chains are need of the hour.

3.2 Challenges and opportunities of SMEs in adapting SCM

Towers and Burnes (2008) examine the factors which influence the ability of SMEs to align their enterprise-planning systems with the requirements and constraints of supply chain relationships in order to meet their own and their customers' strategic and operational requirements. Authors suggested use of composite framework for effective SCM operations of SME in the manufacturing sector. Hamisi (2011) identified the challenges and opportunities for Tanzanian SMEs in adapting SCM as capital availability, misalliance (phenomenon of SCM, which fails to find proper place in the domestic and global supply chain), economic policy, etc. Thakkar et al., (2012) identified one size does not fit all as the main issue in Indian manufacturing SMEs, and hence customization of SCM strategies is needed. Kumar et al., (2013) observed that on time delivery, innovativeness, flexibility of manufacturing system, location of suppliers and customers, management of transportation system are main priorities for case organization while forming SC strategy.

Narkhede and Rajhans (2019) uncovered the SCM issues MSMEs and provide insights on how SCM strategies will help in growth of SMEs, which enables SMEs to identify and overcome the possible risk factors in implementing effective and responsive supply chain strategies for improving their performance in terms of cost, quality and service to customer. Panigrahi and Rao (2018) report that SCM related research is still in its early stage and the setting offers opportunities to undertake further research on this topic. Alora and Barua (2019) reported that as an integral part of the SCM strategy, companies all over the world have recently started to adopt supply chain finance (SCF) solutions in their SCs. In view of this authors identified the barriers to adopting SCF in MSMEs as financial and IT barriers are prominent in SCF adoption. Singh and Kumar (2020) reported that in present situation human resource and knowledge management have been found to be less priority areas for SMEs, while major focus is on cost and lead time reduction by having effective SCM.

3.3 Critical success factors for implementation of SCM in SMEs

Huin et al., (2002) reported about importance of the organizational, structural, operational and supply chain related interdependencies impacting the planning and management of the internal supply chain in M-SMEs in the Southeast Asia region. Vaaland and Heide (2007) reported that SMEs give less attention to planning and control methods than large enterprises. SMEs are less satisfied with the methods applied; less concerned with methods supporting SCM on product quality, rationalisation of operations and capital cost rationalisation; less focused on system integration with other actors in the supply chain; and less focused on EDI and e-based solutions. Bhagwat et al., (2008) reported that performance measures/metrics and performance at different decision levels should be incorporated in the SCM models for SMEs. Jayaram et al., (2014) explored the relationships that "family-business" characteristics has on SCM capabilities of small and medium sized family businesses in the Indian context and found that the role of manager gets very low importance.

Baymout (2015) reiterated that IT implementation in SMEs needs to be augmented by the adoption of E-Business & E-SCM strategies in SMEs. In the current globalized world Kumar et al., (2015) stated that top management commitment, long–term vision, focus on core strengths, devoted resources for supply chain, and development of effective SCM strategy emerged as the most pertinent critical success factors for Indian SMEs. Hemilä and Vilko (2015) reported that focused studies are needed to increase the understanding of service business development for manufacturing SMEs by further developing previous conceptual frameworks for service SCM, based on the current scientific literature and empirical cases. Altmann (2015) also suggested need to conduct research in SCM for sustainable business development is SME sector.

Vijayvargy (2015) suggested that the SCM model for SMEs should be focused on sustainable productivity improvement by using process optimization. Deshmukh and Vasudevan (2016) found that cost is the most important criteria even today for the selection of suppliers in Indian MSME manufacturing industry, followed by quality, risk, service performance, delivery, environmental manufacturing management, innovation & learning and environment performance assessment. Trivedi et al., (2018) reported that ERP plays a vital role in improving the effectiveness and efficiency of a supply chain of MSMEs. Sharma and Jayant (2019) studied how to mechanize the Indian farming techniques by

considering Indian MSMEs, which manufactures agricultural equipments and reported that modelling and simulation are the best tools to predict its performance.

Using simple structural equation modeling, the study by Parilla and Abadilla (2021) revealed a positive relationship between the adoption of SCM strategies and profitability, however, there was no established effect concerning the mediating effect of the organizational profile. Sharma et al., (2022) through their study proposed an architectural framework and also provided probable applications of Internet of Things (IoT) and Artificial Intelligence (AI) for design and manufacturing MSMEs of India. Kumaran and Jeyachandran (2022) developed an interpretive structural model to understand the complexity of relationship among various factors and their influence on supply chain performance and witnessed that e-SCM attributes, e-SCM infrastructure, e-inventory management, the supply chain strategy of a firm and SCM benchmarking are the major e-business factors that drive supply chain performance. Soni et al., (2022) have recently reported that Industry 4.0 technologies such as IoT, cloud computing, big data, and analytics have a critical role to play in the development and impact of Fin-Tech and suggested that in this regard, SMEs can enhance their working capital and competitiveness by adopting Industry 4.0 technologies for sustainable supply chain finance. Mukherjee et al., (2022) suggested to conduct innovative e-SCM strategies that can help the MSMEs develop a resilient supply chain strategy, which can handle any kind of disruption.

3.4 Impact/Effectiveness of SCM practices on performance of SMEs

Koh et al., (2007) showed that both factors of strategic collaboration (SCLP) and lean practices and outsourcing and multi-suppliers (OMS) have direct positive and significant impact on operational performance. However, in contrast, both SCLP and OMS do not have a significant and direct impact on SCM-related organizational performance. Bedi et al., (2018) reported that SCM practices have a positive and significant impact on the operational performance however; there was a strong negative relationship between SCM inhibitors and operational performance in MSMEs in India. Okon (2018) stated that in order to succeed, MSMEs in Nigeria, particularly in the north-central states need to be able to increase inventory velocity, achieve the shortest possible cycle times, continually improve their supplier performance and drive their sales and market share. Ko et al., (2018) examine the effect of external supply chain flexibility on the product innovation performance of SMEs and the contingent role of informal control mechanisms in moderating such an effect and found that inbound supplier flexibility has a stronger positive effect on SMEs' product innovation performance than outbound logistics flexibility, and that the strength and direction of both effects depend on informal control mechanisms.

Demberere and Kasongo (2021) found that the manufacturing MSME sector appreciates good SCM practices, but does not practice it and also discovered that the sector has not established long term relationships with its customers and suppliers. Chatnani (2018) reported that SCM needs constant innovation as MSMEs are important contributors to the balanced growth and equitable development objectives of the Indian economy, which provide employment to masses. Manik (2022) reviewed past studies on the implementation of supply chain in MSMEs to analyze how MSMEs have implemented SCM approaches and found that there are methods or frameworks that can be used by researchers to understand the implementation of supply chain integration in business that can improve performance, efficiency, added customer value, or even competitive advantage.

4.0 CONCLUSIONS

We all know that the development of industrial world that accelerates the growth of competition between businesses is the real accelerator of economic development. It causes the need for activities or efforts to constantly increase the selling power of the company or organization SMEs in this case. The literature review showed that there are some studies that are carried out on National as well as International level. Most of the studies agree that there is a strong need to undertake regular research to develop customized SCM solutions for different SMEs as one size does not fit all. Few studies advocated need to increase the understanding of service business development for manufacturing SMEs by further developing previously proposed conceptual frameworks for further improving SCM, based on the current scientific literature and empirical cases. The literature also throws light on the consistent methodological congruence displayed by numerous studies, where structured research instrument is used to collect data

for the respective investigations. Survey procedure was employed by significantly more number of authors for the purpose of data collection.

The results of the study suggest that manufacturing SMEs in developing countries could benefit by adopting green SCM activities, with improvements being realised in terms of increases in both operational and supply chain performance in many other industries. Also, currently, the Internet has become an integral part of business activities of most companies and the SME sector is not an exception. Many studies reported that electronic SCM can improve the operational efficiency of the SMEs by streamlining processes between the company and its suppliers, business partners, and customers. The multidisciplinary literature review provides a holistic perspective on the factors influencing SCM. The critical success factors of SCM as identified in the present study will be beneficial from both the scientific and practical perspectives, which help to understand better the process and related factors in multi-actor service business development in SMEs sector. Moreover, this study contributes to the current scientific discussion of new concepts in the supply chain context, especially, the SCM related aspects. The findings of the study give insights for sustainable improvement of SMEs in general and those of India in particular. Thus the study provides new knowledge with regard to SCM development by illustrating the most essential factors and the new process framework that needs to be developed based on those. The study gives a holistic picture of the process and also has the potential to enables better consideration of the most essential points of SCM strategies by using a more reliable and valid factors.

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