

Enhancing Organizational Performance Through Supply Chain Integration: A Literature Review

Liban Abdullahi Jama, Ibrahim Hassan Mohamud, Mohamed Abdinur Hassan

Faculty of Management Science, SIMAD University, Mogadishu, Somalia
libanabdullahi@simad.edu.so (Corresponding author) gabowraage@gmail.com,
aseyr@simad.edu.so

Abstract. Due to globalization and competitive pressure, many organizations struggle to optimize their supply chain processes to achieve desired performance results. This study investigates the impact of supply chain integration on organizational performance by comprehensively reviewing the existing literature and identifying gaps in the existing knowledge base. A systematic evaluation was conducted on scholarly research articles published between 2010 and 2022. Initially, 652 references were retrieved, but after applying inclusion criteria and eligibility assessment, only 15 articles were considered appropriate for analysis. The selected articles were thoroughly examined to analyze and synthesize their objectives, methodologies, outcomes, and recommendations. The findings indicated that supply chain integration has a significant positive effect on performance outcomes related to cost, quality, delivery, and flexibility. Conversely, a lack of supply chain integration practices may have detrimental effects on overall organizational performance. This research contributes to the literature by providing evidence on the performance benefits of supply chain integration and its underlying mechanisms. Managers should adopt a holistic approach to enhancing integration both within the firm and across the extended supply chain. By identifying gaps in the existing literature, this study also provides a foundation for future research to address these gaps and further advance knowledge in this field.

Keywords: Supply chain integration, Organizational Performance, upstream, Downstream, Literature review

1. Introduction

Supply chain integration (SCI) has become an increasingly popular area of study. It emphasizes ensuring that functions and processes are coordinated and synchronized within and across business partners. It also involves the collaborative and coordination between various participants, with the aim of improving overall performance and profitability while at the same time satisfying consumer needs (Chaudhuri et al., 2018). The Supply chain integration concept entails coordination of internal business operations inside the company and collaboration with its business partners in order to cut costs, enhance customer value, and improve overall performance along the supply chain for all participants (Ataseven & Nair, 2017).

In business today, the real competition exists among supply chain networks. For this reason, integration business partners is considered as a managerial strategy that has the capacity to provide a competitive advantage (Sinaga et al., 2019). It allows businesses to improve their performance through leveraging additional resources from other entities, resulting in mutual benefits for both organizations involved (Nursyamsiah & Syah, 2019).

Effective supply chain strategies optimize internal and external processes, also necessary for firms to meet consumer demands, reduce costs, and increase performance (Pakurár et al., 2019). It is also critical to a company's performance to implement supply chain strategies and technology that enable the integration of cross-functional operations (Yu et al., 2013).

Integration of supply chains facilitates participation of suppliers and consumers in the value creation processes, consequently enhancing the overall performance of the company. (Latuconsina, 2021; Michael, 2023). Firms that are able to establish robust connection between their processes through appropriate supply chain strategies and technologies are more likely to enhance their competitiveness and flexibility within their operating environment (Liu & Jayaraman, 2019). Supply chain integration is vital and dynamic ability that has the potential to provide distinctive and positive financial outcomes (Ariadi et al., 2020). According to Somjai et al., (2019), Effective management of SCI may lead to both immediate financial benefits and long-term competitive advantage.

According to Vogel et al., (2020), internal integration plays significant role in enhancing the productivity and performance of supply chain activities. In addition, the implementation of strategies such as information sharing, cross-functional collaboration, and goal alignment among functional departments has been identified as an effective method for enhancing performance through effective supply chain management. These techniques contribute to the elimination of inconsistencies and ambiguities within supply chain system (Füller et al., 2019; Straub et al., 2013). Similarly, integration of customers and suppliers facilitates sharing of information among supply chain partners, leading to improved accuracy and reliability in demand forecasting (Georgise et al., 2014). This, in turn, results in cost reduction through the optimization of inventory levels at various stages of supply chain (Muntaka et al., 2017). Moreover, incorporation of suppliers within a company's supply chain substantially boosts sales, profitability, and performance through the mitigation of the risks associated with uncertain demand for all parties involved in the chain (Gavronski, 2010). Customer integration is determined to be single factor that has the greatest impact on business performance (Haase, 2008). Businesses can improve their performance by employing new techniques to build rapport with their customers (De Figueiredo et al., 2011). Moreover, the integration of information across businesses enables managers to make responsive decisions regarding forecasting and inventory replenishment. Such decisions are crucial for meeting the dynamic demands of international production and marketing activities, leading to optimum supply chain performance (Munizu et al., 2010).

This research aims to fill a gap in the existing literature by conducting an extensive review to identify supply chain integration dimensions, evaluate their effects, and investigate the contributing processes that enhance organizational performance. The study seeks to provide valuable insights for both practitioners and academics. These insights will be instrumental in optimizing supply chain

management, leading to improved overall business performance.

Finally, this research attempts to determine how supply chain integration affects the performance of businesses through the following objectives:

1. To identify and analyze the primary aspects of supply chain integration that are widely recognized in academic literature for their significant impact on organizational performance.
2. To evaluate the influence of various aspects of supply chain integration on organizational performance, with a specific focus on cost reduction, flexibility, and customer satisfaction, as indicated by recent studies.

The following research questions were presented to accomplish these objectives;

1. What are the primary aspects of supply chain integration that have been recognized in the literature as having a major impact on organizational performance?
2. What is the impact of supply chain integration aspects on organizational performance, particularly in terms of cost reduction, flexibility, and customer satisfaction, as demonstrated by current research?

2. Methodology

To justify the rationale behind undertaking this systematic review, an exhaustive examination of existing systematic reviews across a spectrum of prominent databases, encompassing Scopus, ProQuest, Wiley, Sage, Taylor, Springer Link, and Emerald, within the domains of supply chain integration and organizational performance was conducted. This initial phase entailed an initial keyword inquiry employing the terms "supply chain integration and Organizational performance," which yielded a quantity of 652 relevant items. Notably, this initial exploration was limited to citations and abstracts. Subsequently, the focus was narrowed to publications spanning the years 2010 to 2022, with publications outside this temporal range excluded from further consideration.

The methodical approach to article selection is depicted in Figure 1, entailing a multi-step filtration process. Ultimately, 15 empirical studies were identified from a pool of 63 papers, adhering to three stringent selection criteria: i) empirical evaluation of the effect of supply chain integration on organizational performance, ii) explicit delineation of research methodologies, and iii) accessibility to the full scope of research findings.

The intent of this review is to conduct a thorough examination of these 15 articles, scrutinizing their objectives, methodologies, principal findings, and recommendations. The researchers ensured that the studies conformed to the pre-established standards and criteria, extracted pertinent information, and appraised each study for quality and potential bias. This rigorous evaluation was critical to ascertain the currency and relevance of the research. Additionally, the abstracts and conclusions of the other articles were reviewed for their pertinence to the goals of the current study. The final selection of articles underwent an extensive review and was categorized according to their topical focus, research objectives, and outcomes.

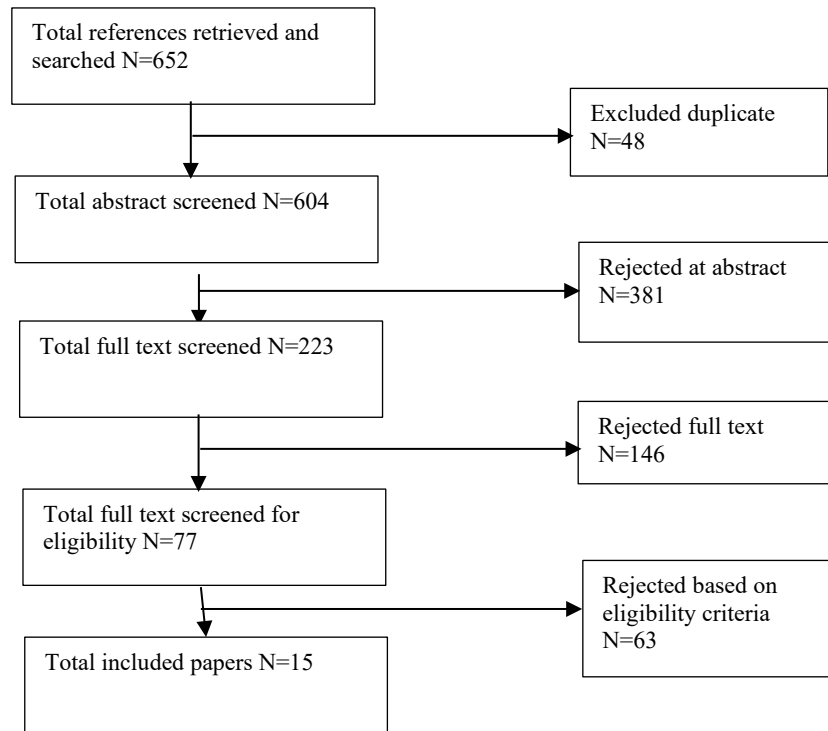


Fig. 1: Study selection process overview

3. Result and Discussion

The objectives, methodologies employed, and results of prior studies are outlined in Table 1 presented below.

Table 1: Evaluation of the content in the chosen articles

Author	Purpose	Methodology	Results	Recommendation
(Amoako et al., 2022)	To examine the moderating influence of SMEs' use of information and communication technologies (ICTs) and the relationship between internal coordination and operational effectiveness	Questionnaire	The study results indicate that ICT plays a moderating role in the relationship between internal coordination of SMEs and their performance, facilitated by external collaboration.	The study used a cross-sectional survey, but it recommends that future studies could gain insights from a longitudinal approach. Furthermore, there is potential for additional research to delve into external collaboration, particularly in the aspects of incorporating both customers and suppliers.
(X. Zhang et al., 2022)	To examine how supply chain integration affects the productivity of online Chinese companies.	Questionnaire	According to the study findings, supply chain integration boosts operational effectiveness and profits for all parties involved.	Future research should examine the relationships, contextual variables, and supply chain integration methods that have an effect on corporate performance using a larger sample size to increase the validity and generalizability of the study findings.

(Siagian et al., 2021)	To analyze the effects of supply chain integration on Indonesian manufacturing firms, focusing on the mediating roles of supply chain resilience, flexibility, and innovation systems,	questionnaire	The results showed that unified supply chain improves creativity, flexibility, and resilience by sharing product information and production planning, allowing for rapid responses to changes in consumer demand and production, and increasing overall business performance.	In order to increase productivity and reduce supply disruptions, businesses should implement robust systems for innovation and efficient processes with an adaptable and flexible supply chain.
(Le et al., 2021)	To investigate the mediating role of supply chain integration in the association between relationship quality and supply chain quality performance in the context of the hotel supply chain.	Questionnaire	Relationship quality positively impacts supply chain quality performance but indirectly influences it through supply chain integration. High relationship quality facilitates integration, enhancing overall performance.	Hotel managers may boost performance through initiatives such as education, training, cross-functional teams, reward systems, and control processes, with a focus on relationship quality and supply chain integration.
(Tiwari, 2021)	To conduct a comprehensive literature research on the relationship between Industry 4.0 and SCI in order to comprehend the various levels of supply chain integration and identify missing links.	Literature review	The study comes up with some interesting ideas that could help academics move theoretical arguments forward. The study also gives interesting advice to people who work in supply chain management in a data-driven setting.	Longitudinal studies of Industry 4.0 and SCI across sectors will be necessary to accurately assess the short-, medium-, and long-term benefits of this partnership. This will provide light on the effects of implementing Industry 4.0.
(Ataseven et al., 2020)	To investigate the relationship between food bank provider integration, food bank demand integration, and food bank internal integration.	Survey and secondary data	The results show that demand integration affects performance more than supply integration does. It is also suggested that, in the case of non-profit food banks, external integration be prioritized over internal integration.	Future studies should collect perceptual satisfaction evaluations from the food bank population to assess alternative food bank performance.
(Yeh et al., 2020)	To examine the moderating impacts of environmental uncertainty on the relationships between supply integration, relationship stability, and performance.	Questionnaire	Supply chain performance is favorably correlated with relational stability, and relational stability is positively correlated with supply chain integration. The correlation between internal integration and stable relationship was nullified by constant external change.	Managers may improve performance and meet investor expectations by allocating resources to internal integration and building relationships with supply chain partners.

(Yuen et al., 2019)	To determine the CSFs that affect SCI and SCP, and to examine how they play a role in the effectiveness of the supply chain as a whole.	Questionnaire	Studies have demonstrated a favorable connection between SCI and Supply Chain Performance (SCP). Furthermore, SCI exhibits a positive correlation with elements such as relationship management, information management, organizational dedication, alignment with strategy, and measurement of performance.	Future studies should explore factors that contribute to enhancing supply chain integration by focusing on sustainability issues such as social, environmental, and societal performance within and across supply chain partners.
(Koç et al., 2018)	To find out the relationship between developing new products and integrating supply chains.	Survey	According to the results, developing new products benefits from the collaboration among consumers, suppliers, and internal processes.	Future research should identify diverse criteria for evaluating product development performance.
(Tan et al., 2017)	To investigate how external integration affects adherence to halal standards for product integrity in the food industry..	Survey	The study's results showed a strong connection between halal assurance and external integration, However only customer integration mediated the relationship between the halal assurance system and the quality of the product and the cost to produce it.	Future studies should extend to other of food industry using measures identified in this study
(Yuen & Thai, 2016)	To critically evaluate and classify the ways in which internal and external supply chain integration affects operational performance,	Survey	Based on the study's findings, integrating an organization's external supply chain has a positive effect on operational performance. Internal and external integration also have substantial impact on overall company's performance.	Future studies are encouraged to expand the study's geographical reach and investigate additional forms of performance measurement to further broaden the scope.
(Didia & Nwokah, 2015)	To evaluate how well integrated supply chains affects business performance.	Questionnaire	Supply chain integration was shown to have a favorable relationship with firm performance within the context of Nigerian telecommunication enterprises.	Managers in the Nigerian telecommunications industry need to shift from their isolated functions to fostering supply chain integration.
(Beheshti et al., 2014)	To look at how integrating the supply chain affects the financial success of manufacturing companies in Sweden.	Survey	The result showed that completely integrated supply chains have the highest financial performance.	Companies with a basic level of integration are advised to make long-term plans for further integration, to reduce operational costs and boost financial results
(Han et al., 2013)	To analyze how SCI affects Chinese companies' ability to source and distribute pork.	Survey	The results showed that while IT integration is not significantly related to upstream or downstream linkages, internal integration and buyer-supplier coordination have a substantial	Companies need to manage material flow, simplify logistical processes within and among supply chain

			effect on company performance. But integrating operations has helped pork processors do better in business.	players, and adjust to dynamic markets.
(Gimenez et al., 2012)	To examine supply chain integration (SCI) across various situations, especially SCI effectiveness in buyer-supplier interactions with high supply complexity	Survey	The research showed that a higher level of supply complexity improves integration performance, whereas a lower level of complexity has an insignificant impact. Cost performance suffers, however, when organized ways of communicating are used in very complicated setting.	Supply chain integration research in the future should broaden its focus to include a variety of contexts, characteristics, and factors.

Supply chain integration is the process of integrating suppliers, manufacturers, distributors, and customers. A successful supply chain involves coordination between internal functions of the company and external partners, such as suppliers, distributors, and retailers, until the finished product reaches the final consumers (Asnordin et al., 2021; Cheng et al., 2016). Supply chain integration (SCI) is essential for modern businesses to better meet their customers' needs and attain the desired level of performance. Businesses must integrate their supply chain within and across channel members. For this purpose, the literature has comprehensively investigated the impact of supply chain integration on organizational performance. According to Makhdoom et al., (2016). The integration of supply chains has become necessary for improving operational performance, also supply chain collaboration is crucial to making better supply chain decisions (Sungbae & Taesoo, 2016). The cooperative behavior of businesses in the integration process enhances the strategic and financial performance of firms (Ishaq et al., 2021; Pakurár et al., 2019; X. Zhang et al., 2022). In addition, integration has the potential to improve operational efficiency, increase customer value, and provide a competitive advantage (Manik, 2022).

Internal integration is essential for enhancing organizational performance by facilitating cost reduction and assuring alignment with the company's overall objectives. It also enables cooperation between various internal functional departments (Feng et al., 2013). Furthermore, Errassafi et al., (2019), revealed that the lack of internal unity and the different goals of each team could hurt both quality and cost efficiency. Moreover, Radhakrishnan et al., (2018), stated that organizational integration helps businesses to have better relationships with their customers by making it easier for information to move around the company.

Supplier and customer integration are forms of external integration. Supplier integration refers to a scenario in which suppliers actively participate in the key decision-making processes of the business. This entails the sharing of information pertaining to demand forecasts, production, and inventory levels between the organization and its suppliers (Liu & Jayaraman, 2019). The process involves engaging in collaborative partnerships with primary suppliers in order to optimize the advantages derived from the collaboration, such as reducing lead times, fostering innovation, and increasing overall quality (Peter Ayeni, Peter Ball, 2010). In addition, Supplier integration is based on a wide range of interactions between the company and its suppliers, including the exchange of information, collaboration in strategic planning, and production capacities across organizational boundaries (Shashi et al., 2019). Supplier integration has a significant effect on the performance of businesses because it enables suppliers to have a comprehensive understanding of and anticipate the required products and services (Tanuwijaya et al., 2021).

Incorporating customers into the supply chain enables businesses to gain a thorough comprehension of their needs and specific demands, granting them a competitive advantage in providing superior service (Yachoulti & Houssaini, 2018). By actively involving consumers in the decision-making

process, businesses can collect valuable feedback and insights that can be used to improve operations and make well-informed business decisions (Toker & Pinar, 2019). Additionally, this collaborative approach fosters a sense of loyalty and trust between the firm and its customers, leading to long-term relationships and repeated business. Cooperation between businesses and customers has the potential to significantly improve order fulfilment and the overall customer experience (Vogel et al., 2020).

In order to achieve optimal supply chain performance, it is now crucial to further integrate and share information across all members of the supply chain. Businesses that collaborate are better able to meet the needs of their consumers, release new products more quickly, and provide superior customer service. (G. Zhang & Wang, 2020). In addition, information systems have grown in importance both internally and externally for businesses (Yachoulti & Houssaini, 2018). Additionally information systems enhance supply chain communication by linking people, resources, and processes (Marinagi et al., 2015). According to Zhao et al., (2015), Supply chain performance can be enhanced by integrating information and material flows more effectively within enterprises.

The reviewed articles in this study collectively shed light on the benefits of supply chain integration and its profound impact on organizational performance. Through multiple analyses of various dimensions of integration, these articles consistently underscore the positive outcomes it produces. Improved information sharing not only mitigates uncertainties but also results in reduced lead times and more efficient inventory management. Similarly, internal and external Collaborative efforts lead to innovative product development, synchronized production, and enhanced order fulfillment, ultimately strengthening organizational performance. Furthermore, these reviewed articles collectively reinforce the notion that supply chain integration is a fundamental strategy that not only improves various aspects of organizational performance but also establishes a competitive advantage.

4. Conclusion

The purpose of this study is to investigate the impact of supply chain integration on organizational performance. This study used a systematic literature review approach to get deeper insights beyond the findings of individual studies. Based on the reviewed articles, internal integration, external integration (supplier and customer integration), and information integration are key supply chain dimensions impacting organizational performance. The findings of this study confirm that the implementation of supply chain integration (SCI) enables the optimization of supply chain operations through the adoption of collaborative planning, enhanced value creation, reduced costs, flexibility, and the development of organizational growth. Moreover, improvements in the efficiency of physical material and product flows can be attained through the coordination and sharing of information, leading to higher performance. For managers, these results highlight the need to break down internal silos and forge strong collaborative relationships with external partners through information sharing, strategic partnerships, joint decision making and incentive alignment. While further research is needed, this study provides strong evidence that investments in comprehensive supply chain integration initiatives can provide competitive advantage and tangible performance gains. This study used only Scopus database for sourcing literature. While Scopus is a comprehensive database, using different databases may provide additional perspectives or findings not covered in Scopus.

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