



DOI: <https://doi.org/10.31933/dijms.v5i4>

Received: 03 February 2024, Revised: 27 February 2024, Publish: 21 March 2024

<https://creativecommons.org/licenses/by/4.0/>

Factors Affecting Supply Chain Management: Trust, Collaborative Communication, and Information Sharing

Afif Maulana Ibrahim^{1*}, Hapzi Ali²

¹Faculty of Economic and Business Bhayangkara, Jakarta, Indonesia, email: afifibrahim38@gmail.com

²Faculty of Economic and Business Bhayangkara, Jakarta, Indonesia, email: hapzi.ali@gmail.com

*Corresponding Author: afifibrahim38@gmail.com

Abstract: This research investigates critical factors influencing supply chain management, with a specific focus on trust, collaborative communication, and information sharing. This research used literature review which is drawing insights from a comprehensive review of recent literature, this study examines the findings of various authors to identify commonalities, differences, and gaps in the existing knowledge base. The results of this research are (1) Trust affects Supply Chain Management; (2) Collaborative Communication affects Supply Chain Management; (3) Information Sharing affects Supply Chain Management.

Keyword: Supply Chain Management, Trust, Collaborative Communication, Information Sharing

INTRODUCTION

The modern supply chain has become increasingly intricate and interrelated, posing significant challenges for companies to manage operational efficiency and meet consumer needs. In this scenario, the effectiveness of Supply Chain Management (SCM) is contingent not solely on internal factors within an organization but is significantly shaped by associations and engagements with external partners in the supply chain. Human factors are widely recognized as a pivotal determinant of success in SCM, particularly trust, collaborative communication, and information sharing. Faced with market uncertainties, demand fluctuations, and business environment dynamics, the sustainability of the supply chain relies on a company's ability to establish and maintain trust-based relationships with its business partners.

Trust serves as the cornerstone of successful business relationships. In the context of the supply chain, the trust between business partners is a critical asset that enables effective information exchange, strategic adjustments, and efficient collaboration. This research will investigate how the level of trust among supply chain partners can impact operational efficiency and overall SCM

Effective communication is key to navigating the complexities of the supply chain. How companies communicate with their business partners can influence coordination, swift responses to market changes, and the collective ability to overcome challenges. This study will

explore how collaborative communication practices can enhance the engagement of supply chain partners and strengthen SCM performance.

Accurate and timely information is crucial for making informed decisions and optimizing the supply chain. In this context, the research will focus on the role of information sharing in achieving end-to-end visibility in the supply chain, improving responses to changes, and reducing risks associated with supply uncertainty.

By delving deeper into the relationship between trust, collaborative communication, and information sharing in the supply chain context, this research aims to make a significant contribution to the understanding of factors influencing SCM. With the knowledge gained from this study, it is anticipated that companies can enhance their SCM strategies and practices to effectively navigate market dynamics.

METHOD

This article utilizes the research library technique, encompassing a systematic exploration, assessment, and analysis of pertinent literature obtained from diverse library sources. The selection of this method stems from its capacity to offer the author a comprehensive approach, facilitating an in-depth comprehension of the factors impacting supply chain management (SCM). The research article strategically employs the research library method to investigate crucial aspects of supply chain management, such as Trust, Collaborative Communication, and Information Sharing. This method involves thorough literature searches from diverse and credible sources, enabling the author to present arguments firmly grounded in established theories and previous research. By delving into a range of reputable materials, the research library method facilitates the exploration of the nuanced relationships between these factors.

RESULTS AND DISCUSSION

Result

Examining pertinent literature serves as the groundwork for formulating research hypotheses by elucidating findings from prior studies, delineating similarities and variances with the research design, based on pertinent antecedent investigations outlined in Table 1.

Table 1. Research Relevant Findings

Year	Author	Research Findings	Similarities with this Article	Differences with this Article	Hypthesis
2020	Paluri, R. A., & Mishal, A.	Analyzes trust and commitment in SCM; identifies various definitions, classifications, antecedents, and consequences of trust and commitment. Provides insights for practitioners and suggests future research directions.	Both studies emphasize trust in SCM; however, this study delves into a broader scope of trust and commitment dimensions.	Primarily focuses on trust and commitment; doesn't specifically explore collaborative communication or information sharing in depth.	H1
2020	Salsabil, J., et al.	Examines factors affecting trust in supply chain commitment in the Electronic Distribution business in Bangladesh. Identifies specific factors influencing trust and commitment.	Both studies explore factors affecting trust in SCM, but this study focuses on the Electronic Distribution business in Bangladesh.	Emphasizes factors influencing trust and commitment in a specific industry; doesn't extensively focus on collaborative communication and information sharing.	H1
2020	Duong, L. N. K., & Chong, J.	Conducts a literature review on supply chain collaboration in the presence of disruptions. Identifies potential disruptions and explores strategies, including collaborative communication and information sharing.	Both studies acknowledge the importance of collaboration in managing disruptions in the supply chain.	This study focuses on collaboration strategies in the presence of disruptions, providing insights into collaborative communication and information sharing.	H2

Year	Author	Research Findings	Similarities with this Article	Differences with this Article	Hypthesis
2020	Dubey, R., et al.	Examines the function of blockchain technology in improving rapid trust, cooperation, and robustness within humanitarian supply chains. Introduces a theoretical model and assesses hypotheses regarding the influence of blockchain.	Both studies explore the potential impact of blockchain on collaboration and resilience in the supply chain.	This study focuses on the humanitarian sector, proposing a theoretical model to understand how blockchain influences operational transparency and swift-trust.	H2
2020	Paliwal, V., Chandra, S., & Sharma, S.	Explores the involvement of blockchain technology in the management of sustainable supply chains. Suggests a categorization framework and recognizes traceability and transparency as significant advantages of implementing blockchain.	Both studies recognize blockchain's potential benefits in supply chain management	This study specifically focuses on sustainability and proposes a classification framework for understanding the literature on blockchain in sustainable supply chain management.	H2
2020	Wan, P. K., Huang, L., & Holtskog, H.	Utilizing blockchain for sharing information within a supply chain. The decentralized structure of blockchain provides elevated transparency, potentially improving collaboration across different supply chains. Recognizes potential challenges, including limited understanding of blockchain in businesses and conflicts of interest. Future research recommends exploring both information sharing and hiding for a more effective implementation.	Both studies focus on the impact of information sharing within a supply chain. Both recognize the importance of transparent and efficient communication.	The present research provides a more detailed analysis of trust and collaborative communication. The introduction of blockchain technology is not explicitly addressed. The multidimensional exploration in different supply chain contexts is not explicitly considered.	H3
2020	Alzoubi, H., & Yanamandra, R.	Examining the intermediary function of Information Sharing Strategy (ISS) in facilitating Agile Supply Chain (ASC) practices to attain Supply Chain Performance (SCP). Information sharing emerges as a significant intermediary factor within ASC. The research relies on an empirical survey involving supply chain managers in the United Arab Emirates (UAE).	Both studies emphasize the mediating role of information sharing in achieving superior supply chain performance. Both recognize the challenges in achieving agility and ASC.	The present research focuses on the specific context of ASC in medium-sized manufacturing companies in UAE. It addresses the gap in the literature regarding the scarcity of published literature in this area.	H3
2020	Guan, Z., Zhang, X., Zhou, M., & Dan, Y.	Explores the exchange of demand information within two rival supply chains. The sharing of information empowers manufacturers to adapt pricing and service levels promptly based on demand, ultimately contributing to the success of supply chains. The study assesses the effects of information sharing on decisions related to pricing and services, emphasizing the circumstances that promote increased likelihood of information sharing.	Both studies explore the impacts of information sharing on supply chain decisions and performance. Both recognize the potential benefits of information sharing for supply chains.	The present research specifically focuses on demand information sharing in competing supply chains with a manufacturer-provided service. It introduces a multistage game framework to examine the impacts of information sharing.	H3
2020	Wang, Z., Wang, T., Hu, H., Gong, J., Ren, X...	Presents a framework utilizing blockchain to enhance traceability and facilitate information	Both studies recognize the potential of blockchain in	The present research specifically focuses on the application of blockchain in precast	H3

Year	Author	Research Findings	Similarities with this Article	Differences with this Article	Hypothesis
		exchange within the precast construction supply chain. Tackles issues like fragmentation, inadequate traceability, and absence of real-time data. Validates the framework through a case study showcasing effective information sharing management, real-time control, and traceability.	improving supply chain management and information sharing. Both address challenges faced by the supply chain, such as poor traceability and lack of real-time information.	construction supply chains. It introduces a novel blockchain-based information management framework and validates it with a case study.	
2020	Dwivedi, S. K., Amin, R., & Vollala, S.	Proposes the implementation of a secure information sharing protocol based on blockchain technology in the pharmaceutical supply chain system. Aims to resolve critical issues in traditional supply chain management, including tampering, delays, and fraud. Presents a strategy for secure information exchange through the utilization of smart contracts and consensus mechanisms.	Both studies focus on the application of blockchain in improving the security and integrity of information sharing in the supply chain. Both recognize the limitations of traditional supply chain management systems.	The present research specifically addresses the pharmaceutical supply chain and introduces a blockchain-based secure information sharing protocol. It proposes a scheme using smart contracts and consensus mechanisms for secure information sharing.	H3
2020	Yoon, J., Talluri, S., & Rosales, C.	Studies procurement choices and information sharing amid multi-tier disruption risk within a three-tier supply chain. Explores supply chain visibility through shared information as a potential strategy for managing disruptions. Explores methods to acquire information from the second tier and assesses its influence on decisions and profitability.	Both studies recognize the importance of information sharing in managing disruptions in the supply chain. Both focus on procurement decisions and their impact on supply chain performance.	The present research specifically focuses on procurement decisions in a three-tier supply chain under disruption risk. It explores mechanisms to obtain second-tier information and their impact on decisions and profits.	H3
2020	Guggenberger, T., Schweizer, A., & Urbach, N.	Examines the potential of blockchain in enhancing information sharing for vendor-managed inventory. Develops a software prototype utilizing Hyperledger Fabric. Introduces the decentralized information hub model. Provides practical insights gained from collaborating with a healthcare technology manufacturer.	Both studies recognize the benefits of information sharing in improving supply chain processes and integration. Both acknowledge the potential of blockchain as an enabler for supply chain management.	The present research specifically analyzes how blockchain can facilitate information sharing for vendor-managed inventory. It introduces the decentralized information hub model and contributes practical insights from collaboration with a healthcare technology manufacturer.	H3
2021	Batwa, A., & Norrman, A.	Utilizing blockchain in supply chain management (SCM) for information sharing is motivated by the necessity for trust. The various dimensions of trust impact the adoption of blockchain in SCM differently, highlighting gaps in connecting trust theories to blockchain applications in this context.	Similar focus on trust and information sharing in SCM, but the emphasis on blockchain technology differs.	Focuses on blockchain's impact on trust in SCM, not specifically on collaborative communication and information sharing.	H1
2021	Al-Rakhami, M. S., & Al-Mashari, M.	Presents a trust model based on blockchain technology for managing Internet of Things (IoT) in the supply chain. Emphasizes the significance of trust in sharing data to enhance the efficiency of supply chain operations.	Both studies recognize the significance of trust in SCM, but this study specifically focuses on blockchain and IoT integration.	Centers on the application of blockchain in IoT for trust, diverging from the collaborative communication and information-sharing emphasis.	H1

Year	Author	Research Findings	Similarities with this Article	Differences with this Article	Hypthesis
2021	Collier, Z. A., & Sarkis, J.	Introduces the idea of a supply chain operating on a zero-trust framework, highlighting the potential risks tied to heightened trust levels. Illustrates the application of zero-trust principles to the supply chain and explores the transitional phases.	Both studies acknowledge the role of trust in SCM, but this article explores the concept of zero trust, presenting a unique perspective.	Diverges in proposing a zero-trust approach; doesn't extensively focus on collaborative communication and information sharing.	H1
2021	Qian, X.(A). and Papadonikolaki, E.	Investigates the impact of blockchain technology on trust within the construction supply chain management, focusing on diverse forms of trust. Explores the practical applications and consequences of implementing blockchain in SCM.	Both studies recognize the importance of trust and blockchain in SCM, but this study delves into the construction supply chain and explores trust types.	Focuses on blockchain's impact on trust in the construction supply chain, not specifically on collaborative communication and information sharing.	H1
2021	Lee, C., & Kim, S.	Recognizes connections between cooperative communication, the exchange of information, and the performance of the supply chain. Positive communication influences the overall performance of the supply chain.	Both studies explore the positive impact of communication on supply chain performance.	This study specifically focuses on collaborative communication and information sharing's influence on supply chain performance.	H1 & H2
2021	Rejeb, A., et al.	Examines the possibilities of blockchain technologies for fostering collaboration within the supply chain. Suggests a theoretical framework encompassing seven essential aspects, which include collaborative communication and the exchange of information.	Both studies recognize the potential impact of blockchain on supply chain collaboration.	This study provides a conceptual framework, emphasizing collaborative communication and information sharing as dimensions of blockchain's impact on collaboration.	H2
2021	Shekarian, M., & Mellat Parast, M.	Performs an examination of existing literature regarding the management of disruption risks and resilience in supply chains. Recognizes strategies like adaptability, nimbleness, redundancy, and cooperation as means to bolster resilience, with particular emphasis on the importance of collaboration.	Both studies highlight collaboration as a key strategy for improving supply chain resilience.	This study specifically focuses on assessing the impact of practices, including collaboration, on mitigating different types of supply chain disruptions.	H2
2021	Mehrjerdi, Y. Z., & Shafiee, M.	Develops a closed-loop supply chain that is both resilient and sustainable, concurrently addressing sustainability and resilience aspects. Utilizes fuzzy TOPSIS methodology to assess the effects of various supply chain strategies on resilience criteria. Highlights information sharing and the adoption of multiple sourcing as pivotal strategies to enhance resilience.	Both studies address the importance of sustainability and resilience in supply chain management. Both emphasize the optimization of costs and resources for facing possible risks.	The present research specifically focuses on a closed-loop supply chain and introduces information sharing and multiple sourcing as strategies for resilience. It uses fuzzy TOPSIS for identifying impacts on resilience criteria.	H3
2021	Baah, C., Agyeman, D. O., Acquah, I. S. K., ...	Investigates the impact of sharing information on the visibility, collaboration, agility, and overall performance of the supply chain. Posits that the collective influence of information sharing,	Both studies assess the critical role of information sharing in supply chains and its direct and indirect influences on performance. Both employ quantitative	The present research specifically explores the direct and indirect influences of information sharing, visibility, collaboration, and agility on supply chain	H3

Year	Author	Research Findings	Similarities with this Article	Differences with this Article	Hypthesis
		visibility, collaboration, and agility contributes to the overall supply chain performance. Utilizes a survey research design and employs PLS-SEM for the analysis of collected data.	approaches for data analysis.	performance. It adopts a survey research design and PLS-SEM for data analysis.	
2022	Alshurideh, M., et al.	Examines the impact of incorporating supply chain partners on the performance of organizations, with trust serving as a moderating element. Utilizes a quantitative research methodology and employs the PLS-SEM approach.	Both studies recognize the impact of trust on SCM performance, but this study focuses on partner integration and employs a quantitative approach.	Emphasizes partner integration's influence on organizational performance; doesn't delve deeply into collaborative communication and information sharing.	H1
2022	Ali, N., et al.	Proposes the integration of a fusion-based machine learning method for enhancing collaboration within the supply chain. Highlights the significance of shared information and data analytics in improving overall supply chain efficiency.	Both studies emphasize the importance of shared information and collaboration in supply chain operations.	This study introduces a fusion-based machine learning model for evaluating decision-making processes in supply chain collaboration, extending beyond traditional collaboration.	H2

Derived from the problem statement, pertinent deliberations, and the conducted research, the conceptual framework for this article is illustrated in Figure 1 as presented below.

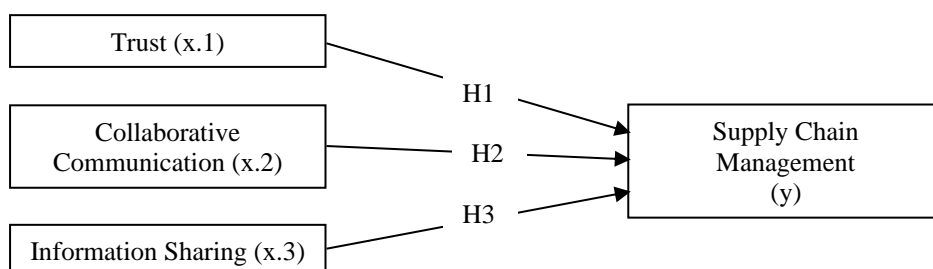


Figure 1. Conceptual Framework

Discussions

a) Trust to Supply Chain Management

In this study, the role of trust in supply chain management (SCM) has been examined in the context of factors affecting SCM, several related studies have been reviewed to provide a comprehensive understanding of trust within the SCM domain. Trust plays a pivotal role in shaping the dynamics of Supply Chain Management (SCM). The impact of trust is multifaceted, influencing various aspects of relationships and interactions within the supply chain.

Trust is fundamental for establishing and nurturing relationships among supply chain partners. In the absence of trust, partnerships can be fragile, and collaboration may be hindered. Strong relationships built on trust foster cooperation and shared goals, creating a foundation for effective SCM.

Trust enables openness and transparency in communication. Partners who trust each other are more likely to share information, experiences, and insights openly. This creates an environment where all parties can understand each other's challenges, needs, and goals.

Trust helps in managing risks within the supply chain. When partners have trust in each other, they are more likely to trust the information and promises given, reducing uncertainty

and potential risks that may arise during the SCM process. Trust supports responsiveness to change. In a dynamic business environment, partners who trust each other are more likely to collaborate and respond quickly to changes in market needs, demand fluctuations, or emergency situations.

Trust creates long-term commitment between partners in the supply chain. When trust is established, partners are more likely to commit to long-term relationships, building stable and sustainable partnerships. Trust is the foundation for effective conflict resolution. Conflicts or differences of opinion may arise in the supply chain, but trust allows partners to discuss and resolve conflicts in a constructive manner.

Trust fosters innovation and continuous improvement in the supply chain. Partners who trust each other are more likely to share ideas, invest in joint research, and implement innovations to enhance overall supply chain performance. Trust helps create resilience in the supply chain. In uncertain or challenging situations, trust allows partners to collaborate better, respond effectively to challenges, and recover supply chain performance more quickly.

b) Collaborative Communication to Supply Chain Management

Collaborative communication plays a pivotal role in enhancing the effectiveness and efficiency of Supply Chain Management (SCM). Collaborative communication facilitates the smooth flow of information across different stages of the supply chain. This ensures that all stakeholders, including suppliers, manufacturers, distributors, and retailers, have access to timely and accurate information. Effective communication enables real-time decision-making. Collaborative communication tools and practices allow stakeholders to share insights, updates, and data promptly, empowering them to make informed decisions promptly.

By fostering collaboration through communication, SCM can identify and address potential delays or bottlenecks in the supply chain. Prompt communication helps in streamlining processes and resolving issues before they escalate. Collaborative communication contributes to improved visibility across the supply chain. When different parties communicate effectively, they gain a better understanding of the entire supply chain process, leading to increased transparency and visibility.

Communication is integral to coordinated planning efforts. Through collaborative communication, stakeholders can align their plans, strategies, and goals, ensuring that everyone is on the same page and working towards shared objectives. In any supply chain, challenges are inevitable. Collaborative communication provides a platform for quick problem identification and resolution. Open lines of communication enable stakeholders to work together in finding solutions to unexpected issues.

Collaborative communication fosters a sense of trust and camaraderie among supply chain partners. Frequent and open communication helps build strong relationships, which are essential for the smooth functioning of the entire supply chain network. A culture of collaborative communication encourages the sharing of innovative ideas and best practices. This leads to a continuous improvement mindset within the supply chain, with stakeholders actively contributing to the evolution of processes and strategies.

In today's dynamic business environment, adaptability is crucial. Collaborative communication supports the adaptability of the supply chain to changes in market conditions, regulatory requirements, or other external factors. Ultimately, collaborative communication contributes to improved customer satisfaction. A well-coordinated and communicative supply chain can respond promptly to customer needs, ensuring timely delivery and high-quality service.

c) Information Sharing to Supply Chain Management

Information sharing is a critical component of effective Supply Chain Management (SCM). Information sharing provides transparency and visibility into various stages of the supply chain. When stakeholders share relevant data and insights, it becomes easier to track the movement of goods, monitor inventory levels, and understand the overall supply chain dynamics. Access to shared information enables more accurate demand forecasting and strategic planning. By sharing data related to customer demand, market trends, and inventory levels, stakeholders can collaboratively plan production, distribution, and inventory management.

Timely and accurate information about inventory levels, order status, and supplier performance supports inventory optimization efforts. This ensures that stock levels are aligned with actual demand, preventing overstocking or stockouts, thereby improving overall efficiency. Sharing information with suppliers is crucial for collaborative relationships. Information about production schedules, quality standards, and changes in demand helps suppliers align their processes with the needs of the supply chain, fostering better collaboration and responsiveness.

Information sharing is instrumental in identifying and managing risks within the supply chain. Whether it's disruptions in the supply chain, changes in market conditions, or geopolitical events, shared information allows stakeholders to assess risks and implement proactive strategies to mitigate potential impacts. Collaborative information sharing enables more accurate and timely order fulfillment. Access to data on product availability, shipping schedules, and order status ensures that customer orders are processed efficiently, leading to improved customer satisfaction.

Shared information provides the foundation for data-driven decision-making. Stakeholders can analyze shared data to make informed choices related to sourcing, production, logistics, and other critical aspects of supply chain operations. Information sharing contributes to the adaptability and agility of the supply chain. When all stakeholders have access to real-time information, they can respond quickly to changes in market conditions, customer preferences, or unexpected disruptions, ensuring the supply chain remains agile. Information sharing supports performance monitoring across the supply chain. Key performance indicators (KPIs) can be tracked and assessed collaboratively, facilitating continuous improvement efforts and ensuring that the supply chain operates at peak efficiency.

CONCLUSION

Derived from the aims, findings, and discourse, this article's conclusion involves the creation of hypotheses for future research, specifically: (1) Supply Chain Management is influenced by Trust; (2) Supply Chain Management is impacted by Collaborative Communication; (3) Supply Chain Management is influenced by Information Sharing.

REFERENCES

- Ali, N., Ghazal, T. M., Ahmed, A., Abbas, S., Khan, M. A., Alzoubi, H. M., ... & Khan, M. A. (2022). Fusion-based supply chain collaboration using machine learning techniques. *Intelligent Automation and Soft Computing*, 31(3), 1671-1687.
- Al-Rakhami, M. S., & Al-Mashari, M. (2021). A blockchain-based trust model for the internet of things supply chain management. *Sensors*, 21(5), 1759.
- Alshurideh, M., Kurdi, B., Alzoubi, H., Obeidat, B., Hamadneh, S., & Ahmad, A. (2022). The influence of supply chain partners' integrations on organizational performance: The moderating role of trust. *Uncertain Supply Chain Management*, 10(4), 1191-1202.

- Batwa, A., & Norrman, A. (2021). Blockchain technology and trust in supply chain management: A literature review and research agenda. *Operations and Supply Chain Management: An International Journal*, 14(2), 203-220.
- Collier, Z. A., & Sarkis, J. (2021). The zero trust supply chain: Managing supply chain risk in the absence of trust. *International Journal of Production Research*, 59(11), 3430-3445.
- Dubey, R., Gunasekaran, A., Bryde, D. J., Dwivedi, Y. K., & Papadopoulos, T. (2020). Blockchain technology for enhancing swift-trust, collaboration and resilience within a humanitarian supply chain setting. *International journal of Production research*, 58(11), 3381-3398.
- Duong, L. N. K., & Chong, J. (2020). Supply chain collaboration in the presence of disruptions: a literature review. *International Journal of Production Research*, 58(11), 3488-3507.
- Lee, C., & Kim, S. (2021). Collaborative communication, information sharing and supply chain performance. *The Journal of Industrial Distribution & Business*, 12(5), 27-36.
- Paliwal, V., Chandra, S., & Sharma, S. (2020). Blockchain technology for sustainable supply chain management: A systematic literature review and a classification framework. *Sustainability*, 12(18), 7638.
- Paluri, R. A., & Mishal, A. (2020). Trust and commitment in supply chain management: A systematic review of literature. *Benchmarking: An International Journal*, 27(10), 2831-2862.
- Qian, X.(A)., & Papadonikolaki, E. (2021). Shifting trust in construction supply chains through blockchain technology. *Engineering, Construction and Architectural Management*, 28(2), 584-602. doi:10.1108/ECAM-12-2019-0676.
- Rejeb, A., Keogh, J. G., Simske, S. J., Stafford, T., & Treiblmaier, H. (2021). Potentials of blockchain technologies for supply chain collaboration: A conceptual framework. *The International Journal of Logistics Management*, 32(3), 973-994.
- Salsabil, J., Alam, Z., Ahmed, S., & Afzal, M. K. (2020). Factors Affecting Trust in Supply Chain Commitment. *Journal of Supply Chain Management: Research and Practice*, 14(2).
- Shekarian, M., & Mellat Parast, M. (2021). An Integrative approach to supply chain disruption risk and resilience management: a literature review. *International Journal of Logistics Research and Applications*, 24(5), 427-455.