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Artificial Intelligence and Supply Chain Management of Small and Medium-Sized Enterprises

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Abstract

Artificial Intelligence (AI) has emerged as a pivotal instrument in the supply chain management of Small and Medium-Sized Enterprises (SMEs). Through the enhancement of operational processes, cost reduction, and the improvement of decision-making accuracy, particularly via demand forecasting, inventory optimization, risk management, process automation, and increased transparency, AI enables SMEs to achieve superior performance within today's highly competitive markets. This study focuses on investigating the interaction between AI and supply chain management in SMEs. A comprehensive review of the existing literature on the impact of AI on supply chain management, alongside prior research examining the benefits and barriers to its application in this domain, was conducted. Additionally, all referenced studies were analyzed using a descriptive approach within the empirical background section. The findings reveal that AI is being increasingly adopted in the supply chain management of SMEs, offering substantial opportunities for enhancing supply chain performance and exerting positive influences on operational efficiency, cost structures, and decision-making capabilities.

Keywords: Artificial intelligence, Intelligent supply chain management, Supply chain of small and medium-sized enterprises.

1|Introduction

1.1|Problem Statement

The primary objective of the development of Artificial Intelligence (AI) was to incorporate intelligence into machines, enabling them to undertake uniquely human problem-solving tasks [1]. The ultimate goal of AI research is the advancement of technologies that allow computers and other machines to operate intelligently

[2]. The emergence of AI has brought about significant changes in businesses, aiding in the planning and optimization of production processes. AI technologies possess high analytical capabilities and ensure improved execution and achievement of operational efficiency. Although AI itself is not a new concept, its potential for broad applications, including supply chain management, has only recently been recognized [3].

AI has the potential to transform various aspects of business operations and is employed for data analysis, demand forecasting, logistics, transportation route optimization, and the identification of inefficiencies within supply chains. This, in turn, can lead to improved responsiveness to demand fluctuations, reduced delivery times, and lower costs [4].

Today, managers' perspectives on supply chain management have evolved, and the application of information technology in this domain is increasingly prevalent [5]. AI strengthens the flexibility and resilience of supply chains [6]. It is increasingly regarded as a source of competitive advantage in operations and supply chain management [7]. Companies that are more agile in adopting new technologies gain a competitive edge over those that ignore digital trends or resist innovation [8].

If Small and Medium-Sized Enterprises (SMEs) fail to upgrade by adopting available technologies, they risk losing their competitive positions [9]. SMEs, by leveraging digital technologies and their strategic locations, can establish more flexible, sustainable, and transparent supply chains, which benefit the environment, society, and their businesses [10].

Accordingly, the interaction between AI and supply chain management in SMEs represents an emerging field for research and exploration of the nature of this relationship. It is hoped that this study contributes meaningfully to enriching the existing literature in this area.

2 | Theoretical Foundations

2.1 | Artificial Intelligence

The 1950s witnessed the emergence of AI, when researchers and computer scientists began exploring the idea of creating robots capable of thinking, learning, and solving problems like humans [2]. According to John McCarthy, the father of AI, AI is "the science and engineering of making intelligent machines, particularly intelligent computer programs" [11]. AI is defined as the capability of a system to accurately process external data, learn from that data, and use the acquired knowledge through adaptability and flexibility to accomplish specific goals and tasks [12].

AI is a rapidly growing technological phenomenon that industries across sectors are eager to exploit in order to benefit from increased productivity and reduced costs. At a broader level, AI appears capable of replacing humans by performing intelligent tasks that were once confined to the human mind [13].

2.2 | Supply Chain Management

A supply chain is an integrated process through which raw materials are transformed into final products and delivered to customers. Typically, every supply chain consists of four primary components: production, supply, distribution, and customers, each comprising several subcomponents [14]. Every business is part of one or multiple supply chains [15].

Supply chain management is a decision-making process conducted at operational, tactical, and strategic levels to optimize supply chain efficiency [16]. It refers to the process of organizing, executing, and monitoring supply chain activities, encompassing the movement and storage of raw materials, work-in-progress inventory, and finished goods from the point of origin to the point of consumption, effectively meeting customer demands [17].

Over time, supply chain management has evolved into a strategic function [18]. Companies that manage their supply chains more effectively and efficiently are better prepared to mitigate risks and overcome unexpected disruptions [19].

2.3 | Small and Medium-Sized Enterprises

In 2005, the Organisation for Economic Co-operation and Development (OECD) defined SMEs as independent, non-subsidiary companies employing a relatively small number of employees, despite acknowledging that no single definition exists among member countries and that employee count is not the sole criterion.

Precisely defining SMEs is highly complex, as each country employs its own criteria to categorize businesses as SMEs. The significance of SMEs lies in their considerable contribution to the development of economic systems, social vitality, and political stability across nations, despite their varying nature [20].

SMEs are crucial in driving economic growth, promoting exports, and generating employment. To maintain competitiveness in today's marketplace, SMEs must identify and leverage key enablers for advancing their digital transformation processes [21]. Industries worldwide are experiencing digital transformation; thus, to remain competitive, SMEs must adopt new tools and business models [22].

3 | Literature Review

Mohammadi et al. [23], in their article titled "identification and prioritization of AI applications in supply chain 4.0 (case study: Retail industry)," investigated the identification and prioritization of AI applications in the supply chain of Iran's retail industry. They concluded that the applications of providing personalized recommendations, integrated and intelligent warehouse management systems, smart customer reception systems, along with challenges such as regulatory complexity in AI system implementation, high IT infrastructure costs, and the lack of appropriate methods for chatbot training, are of the highest priority.

Farhadi [24], in his article "investigation of key indicators for the adoption of digital technologies in sustainable supply chains," states that the key indicators for adopting digital technologies in sustainable supply chains include efficiency, cost reduction, increased speed and accuracy in operations, improved communication and interactions, reduced negative environmental impacts, and enhanced transparency and reliability. He concludes that sustainable supply chains are of significant importance, and the use of digital technologies can improve their performance and sustainability.

Ghasemi Hamadani et al. [25], in their research titled "explaining the evolutionary trends of supply chain management toward intelligence: A scientometric approach," argue that utilizing emerging technologies in supply chain management creates greater value for organizations by improving their operational processes, such as transparency, product identification, and traceability. Emerging digital and intelligent technologies can facilitate real-time data collection, optimize organizational processes, and enhance the sustainability of supply chains.

Culot et al. [26], in their study "AI in supply chain management: A systematic review of empirical studies and research directions," examined the opportunities and challenges arising from the implementation of AI in supply chain management. Their study highlights that technology alone is rarely sufficient, as organizational and inter-organizational factors play a major role.

Mohsen [4], in his article "the impact of AI on supply chain management performance," investigated the use of AI in supply chain management and its impact on performance. He asserts that AI has the potential to enhance supply chain management performance by increasing responsiveness and flexibility, reducing waste, and improving collaboration and customer satisfaction. Despite its potential benefits, he emphasizes that implementing AI in supply chain management requires significant resources and expertise and raises critical ethical concerns such as data privacy and security.

Sahoo et al. [27], in their study titled "a review of digital transformation and industry 4.0 in supply chain management for SMEs," identified the practical benefits that SMEs may achieve by implementing digital transformation strategies, including reduced delivery times, improved product quality, cost savings, enhanced customer satisfaction, and gaining a competitive advantage.

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3.1 | Empirical Background of the Research

The following table presents a review of the most recent and relevant articles and research backgrounds. Ultimately, it leads to a synthesis of the presented content regarding the interaction between AI and supply chain management of SMEs.

Table 1. Review of previous studies.

Research Results	Year	Ref.	Row
This study indicates that technology alone is rarely sufficient, as organizational and inter-organizational factors play a major role.	2024	[26]	1
The results suggest that the implementation of AI-based predictive analytics in supply chains enhances operational efficiency, reduces costs, and improves resilience against disruptions. Furthermore, it significantly advances demand forecasting, inventory management, supplier selection, and risk management.	2024	[28]	2
The findings demonstrate that many digital tools and applications can improve a company's performance by simplifying internal processes, managing external stakeholders, and strengthening relationships with existing customers. Increased innovation can streamline internal processes and make operations more productive. Companies that intelligently adopt new technologies are more likely to gain a competitive advantage in their respective business fields.	2024	[8]	3
The results also show that AI has the potential to enhance supply chain management performance by increasing responsiveness and flexibility, reducing waste, and improving collaboration and customer satisfaction.	2023	[4]	4
According to the research findings, the practical benefits that SMEs may gain from implementing digital transformation strategies include reduced delivery times, improved product quality, cost savings, increased customer satisfaction, and achieving competitive advantage.	2023	[27]	5
The results indicate that demand forecasting, logistics hub management, distribution and transportation, sales, and marketing are among the key subfields of supply chain management that greatly benefit from AI. A lean and agile supply chain performance is something that AI can enhance by increasing flexibility and responsiveness, reducing waste, improving customer satisfaction, and fostering better teamwork. Despite these potential advantages, it is crucial to recognize that integrating AI into supply chain management brings significant ethical challenges, such as data security and privacy concerns, and requires a substantial commitment of time and resources.	2023	[29]	6
Furthermore, the findings reveal that technical factors (such as relative advantages), organizational factors (such as top management support and organizational readiness), and environmental factors (such as government support) positively influence the implementation of AI technologies in supply chain management.	2022	[30]	7
The study also highlights that leadership plays a pivotal role in driving AI adoption by fostering a data-driven, digital, and collaborative culture, while simultaneously enhancing the skills and competencies of employees.	2022	[31]	8
The results further confirm the widespread use of AI and its significant role in improving supply chain management.	2022	[32]	9
This study identifies five critical areas where AI can contribute to enhancing supply chain resilience: increasing transparency, ensuring delivery reliability, providing personalized solutions for upstream and downstream stakeholders, minimizing the impact of disruptions, and facilitating an agile procurement strategy.	2021	[3]	10
This study examines and evaluates eleven independent factors and three dependent factors, stating that, overall, the adoption of AI in SCRM depends on integrated data management, complexity, disruption impact, and regulatory uncertainty.	2021	[33]	11
According to the research findings, commercial organizations, in order of priority, can promote the adoption and successful implementation of AI-integrated Customer Relationship Management (CRM) systems by strengthening organizational AI readiness — meaning organizational understanding of system technical levels and complexity, establishing the required infrastructures, and enhancing awareness — and by empowering AI adoption through fostering a positive attitude toward the technology, mapping out a technology roadmap, and acquiring the necessary professional expertise. By doing so, they can benefit from the extensive advantages of AI.	2024	[34]	12

<div align="center">Table 1. Continued.</div>

Research Results	Year	Ref.	Row
The research findings indicate that the highest-priority applications include personalized recommendation systems, integrated and intelligent warehouse management systems, and AI-powered customer reception systems. Additionally, the most critical challenges include regulatory complexities in AI system implementation, high IT infrastructure costs, and the lack of suitable methods for chatbot training.	2023	[23]	13
Furthermore, the results highlight that the key factors influencing the adoption of digital technologies in sustainable supply chains include efficiency, cost reduction, increased speed and accuracy of operations, improved communication and interactions, reduced negative environmental impacts, and enhanced transparency and reliability. The adoption of digital technologies can significantly contribute to improving both performance and sustainability in supply chains.	2023	[24]	14
Based on this study, the use of these intelligent technologies in supply chain management is expected to create greater value for organizations by enhancing operational processes such as transparency, product identification, and traceability.	2023	[25]	15

3.2 | Research Objective

The aim of this study is to examine the interaction between AI and the supply chain management of SMEs.

4 | Research Methodology

This article is based on secondary research and a literature review. The data collection method includes library studies, and the statistical population in this research consists of books, scientific-research journals, theses, and scholarly articles. The collected data were used to identify the interaction between AI and the strategic management of SMEs.

The analysis in this study involved several methodological steps to ensure an accurate evaluation of the collected literature, including qualitative content analysis, comparative analysis, bibliometric analysis, and ultimately the synthesis of findings.

5 | Findings

The synthesis of previous research indicates that emerging technologies such as AI offer significant opportunities for improving supply chain management. Notable references include studies by Kallmuenzer et al. [8] and Sahoo et al. [27], which emphasize the direct and positive relationship between AI and the creation of competitive advantage.

Common themes such as reduced delivery times, improved product quality, cost savings, and increased customer satisfaction repeatedly appeared in studies conducted by Modgil et al. [3], and Farhadi [24].

However, the adoption of these technologies is not without challenges. Research by Usmani et al. [29] identified major concerns related to AI and supply chain management, such as data security and privacy issues, high costs, skill shortages, and organizational resistance to adoption. The indicators extracted from these studies are presented in *Table 2*.

<div align="center">Table 2. Extracted indicators from the studies.</div>

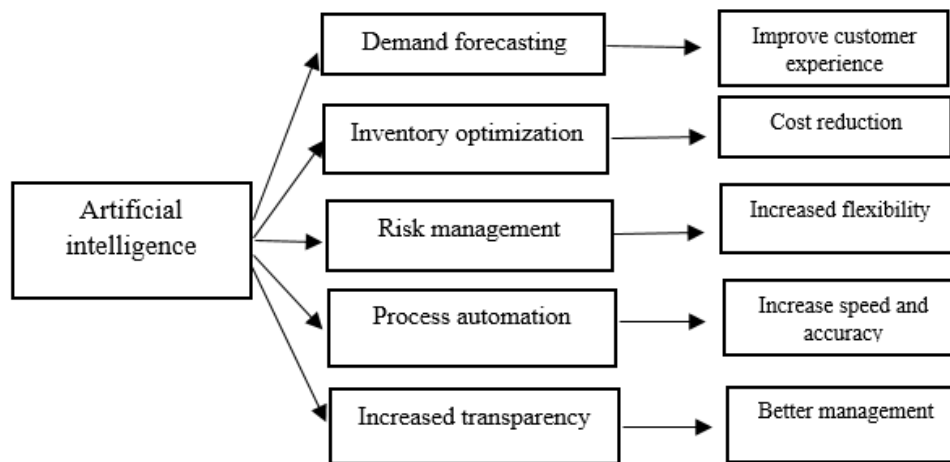| Resources	Indicators	Row
[4], [23], [28], [29], [34]	Demand forecasting	1
[3], [24], [28], [29], [34]	Inventory optimization	2
[3], [4], [23], [26], [28], [31], [33]	Risk management	3
[4], [8], [23], [24], [26]	Process automation	4
[3], [4], [8], [21], [23-25], [32]	Increased transparency	5

Fig. 1. Qualitative model of interaction between AI and supply chain management of small and medium-sized businesses.

6 | The Impact of AI on Supply Chain Management

AI is one of the most advanced and fascinating fields within computer science, having gained significant attention in recent decades. Through automation and process optimization, AI can streamline repetitive tasks such as order processing, inventory management, and customer service, freeing up human resources for more strategic activities. Furthermore, AI algorithms can optimize supply chain processes such as route planning and load optimization, thereby enhancing efficiency and reducing costs [35]. AI technologies play a vital role in enabling real-time decision-making in supply chain management by analyzing data and providing actionable insights. Additionally, AI algorithms can analyze large datasets in real time to identify patterns and predict future trends. This predictive capability enables companies to anticipate demand fluctuations, optimize inventory levels, and mitigate potential disruptions before they occur.

6.1 | The Impact of Supply Chain Management on SMEs

Supply chain management is a critical managerial tool for companies, and it appears to be even more vital for SMEs [36]. The purpose of supply chain management in SMEs is to ensure their short- and long-term effectiveness and efficiency. Management effectively ensures that SMEs, as dynamic, self-regulating, and controlled systems, can adapt to their operational environments, which are inherently dynamic, open, and stochastic [37]. Given the increasing market competition, the implementation of an effective supply chain management system can help SMEs respond more effectively to challenges and gain greater competitive advantages.

7 | Conclusion

Considering the main objective of this research—to provide a comprehensive overview and a structured review of studies on the application of AI in enhancing the performance of SME supply chains — it can be concluded that AI is increasingly utilized in the supply chain management of SMEs, yielding positive impacts on efficiency, cost reduction, and decision-making.

Some key findings regarding the use of AI in this domain are highlighted as follows: Accurate demand forecasting through the analysis of historical data and various factors such as market trends and economic conditions helps businesses optimize their inventory and avoid losses caused by overstocking or stockouts. Additionally, inventory optimization, which intelligently manages stock levels by offering suggestions to maintain optimal inventory and prevent shortages or excesses, results in reduced delivery times and lower costs.

Risk management is another critical outcome, whereby AI analyzes data to predict potential issues such as delivery delays or geographical risks, enabling proactive measures. Furthermore, AI enhances flexibility by allowing businesses to respond to new conditions through real-time data analysis, facilitating improvements in production processes and predictive maintenance of equipment, thus reducing downtime and increasing productivity.

AI tools also improve supplier selection and automate communication between them, helping to mitigate issues arising from non-payment or service delays. Moreover, AI enables precise product tracking throughout the supply chain, enhancing transparency and reducing fraud. Ultimately, the application of AI in SME supply chain management not only increases efficiency and reduces costs but also supports better decision-making and faster responsiveness to market needs.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this manuscript.

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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References

[1] Arian Kambakhsh, A. N. (2022). The future of industries in light of artificial intelligence. *Ghaleb scientific-research quarterly*, *11*(1), 25-41. (**In Persian**). https://doi.org/10.58342/.v11i36.29

[2] Rao, V. S., Satish, M. A., & Prasad, M. B. (2024). *Artificial intelligence: Principles and applications*. Leilani Katie Publication. https://books.google.com/books

[3] Modgil, S., Singh, R. K., & Hannibal, C. (2022). Artificial intelligence for supply chain resilience: learning from Covid-19. *The international journal of logistics management*, *33*(4), 1246–1268. https://doi.org/10.1108/IJLM-02-2021-0094

[4] Mohsen, B. M. (2023). Impact of artificial intelligence on supply chain management performance. *Journal of service science and management*, *16*(1), 44–58. https://doi.org/10.4236/jssm.2023.161004

[5] Sargazi Moghadam, H., & Shahesvari, M. (2016). An overview of the role of intelligent software agents in supply chain management. *Supply chain management*, *18*(53), 14-26. (**In Persian**). https://scmj.ihu.ac.ir/article_203599.html

[6] Farooq, M., & Yen, Y. Y. (2024). *Artificial intelligence in supply chain management: A comprehensive review and framework for resilience and sustainability*. https://doi.org/10.21203/rs.3.rs-3878218/v1%0A%0A

[7] Cannas, V. G., Ciano, M. P., Saltalamacchia, M., & Secchi, R. (2024). Artificial intelligence in supply chain and operations management: a multiple case study research. *International journal of production research*, *62*(9), 3333–3360. https://doi.org/10.1080/00207543.2023.2232050

[8] Kallmuenzer, A., Mikhaylov, A., Chelaru, M., & Czakon, W. (2024). Adoption and performance outcome of digitalization in small and medium-sized enterprises. *Review of managerial science*, 1–28. https://doi.org/10.1007/s11846-024-00744-2%0A%0A

[9] Bhalerao, K., Kumar, A., Kumar, A., & Pujari, P. (2022). A study of barriers and benefits of artificial intelligence adoption in small and medium enterprise. *Academy of marketing studies journal*, *26*, 1–6. https://www.researchgate.net

[10] Mnyakin, M. (2023). Implementing sustainable supply chain 4.0 in small and medium-sized enterprises (smes): a review. *Int j intell autom comput*, *6*(1), 1–16. https://research.tensorgate.org/index.php/IJIAC/article/view/5

[11] Chandra, S. S., Hareendran, S., & others. (2020). *Artificial intelligence: principles and applications*. PHI Learning Pvt. Ltd. https://books.google.com/books

[12] Hajivand, A., Khosh Manzar, A., & Sayari Zahan, S. (2023). A brief history of artificial intelligence: Past, present, and future. *Legal civilization quarterly*, *6*(18), 73–90. (**In Persian**). https://www.pzhfars.ir/article_191089.html?lang=en

[13] Hassani, H., Silva, E. S., Unger, S., TajMazinani, M., & Mac Feely, S. (2020). Artificial intelligence (AI) or intelligence augmentation (IA): what is the future? *Ai*, *1*(2), 8. https://doi.org/10.3390/ai1020008

[14] Soleiman Zadeh, M., & Abedi, M. (2006). Measuring supply chain performance. *Logistics and supply chain conference*, Tehran, Iran. Civilica. (**In Persian**).https://civilica.com/doc/8850/

[15] Hugos, M. H. (2024). *Essentials of supply chain management*. John Wiley & Sons. https://books.google.com/books

[16] Farahbakhsh Tooley, A., Ghaemi, Sh., & Abbasi, M. (2011). Intelligentization of supply chain management using intelligent software agents. *1st national conference on information and communication technology*, Abhar, Iran. Civilica. (**In Persian**). https://civilica.com/doc/294531/

[17] Govindan, K., Fattahi, M., & Keyvanshokooh, E. (2017). Supply chain network design under uncertainty: A comprehensive review and future research directions. *European journal of operational research*, *263*(1), 108–141. https://doi.org/10.1016/j.ejor.2017.04.009

[18] Zouari, D., Ruel, S., & Viale, L. (2021). Does digitalising the supply chain contribute to its resilience? *International journal of physical distribution & logistics management*, *51*(2), 149–180. https://doi.org/10.1108/IJPDLM-01-2020-0038

[19] Kaufmann, L., Carter, C. R., & Rauer, J. (2016). The coevolution of relationship dominant logic and supply risk mitigation strategies. *Journal of business logistics*, *37*(2), 87–106. https://doi.org/10.1111/jbl.12126

[20] Rahimizadeh, R. (2023). Analyzing the Concept of Competitive Strategy in Small and Medium Businesses. *Journal of strategic management and future studies*, *6*(1), 115-134. (**In Persian**). https://journal.tolouemehr.ac.ir/article_186674.html?lang=en

[21] Kumar, V., Sindhwani, R., Behl, A., Kaur, A., & Pereira, V. (2024). Modelling and analysing the enablers of digital resilience for small and medium enterprises. *Journal of enterprise information management*, *37*(5), 1677–1708. https://doi.org/10.1108/JEIM-01-2023-0002

[22] Owoade, O., & Oladimeji, R. (2024). Empowering SMEs: Unveiling business analysis tactics in adapting to the digital era. *Journal of scientific and engineering research*, *11*(5), 113–123. https://jsaer.com/download/vol-11-iss-5-2024/JSAER2024-11-5-113-123.pdf

[23] Mohammadi, M., Heidaryd Dahooie, J., & Ahmadi, A. (2024). Identification and prioritization of artificial intelligence applications in supply chain 4.0 (retail industry case study). *Journal of technology development management*, *11*(4), 78-106. (In Persian). https://doi.org/10.22104/jtdm.2024.6904.3317

[24] Farhadi, M. (2023). An examination of the key indicators for adopting digital technologies in sustainable supply chains. *Management and entrepreneurship studies*, *9*(3), 185–197. (**In Persian**). https://en.civilica.com/doc/1902416/

[25] Ghasemi Hamedani, I., Bashokouh Ajirlo, M., Rahimi Kolour, H., & Seifollahi Anar, N. (2024). Explaining the evolution process of supply chain management in the path of intelligence: a study based on bibliometric approach. *Defensive future studies*, *8*(31), 119-155. (**In Persian**). https://doi.org/10.22034/dfsr.2024.2013658.1740

[26] Culot, G., Podrecca, M., & Nassimbeni, G. (2024). Artificial intelligence in supply chain management: A systematic literature review of empirical studies and research directions. *Computers in industry*, *162*, 104132. https://doi.org/10.1016/j.compind.2024.104132

[27] Sahoo, S., Goswami, S., … S. S. S. of E., & 2023, U. (2023). A review of digital transformation and industry 4.0 in supply chain management for small and medium-sized enterprises. *Spectrum of engineering and management sciences*, *1*(1), 58–72. https://doi.org/10.31181/sems1120237j

[28] Nzeako, G., Akinsanya, M. O., Popoola, O. A., Chukwurah, E. G., & Okeke, C. D. (2024). The role of AI-Driven predictive analytics in optimizing IT industry supply chains. *International journal of management & entrepreneurship research*, *6*(5), 1489–1497. https://doi.org/10.51594/ijmer.v6i5.1096

[29] Usmani, A., Sharma, M., Bung, P., Kumar, R., Ahmad, F., & Gupta, A. (2023). Key variables influencing Artificial Intelligence (AI) implementation In supply chain management (SCM): An empirical analysis on SMEs. *Migration letters*, *20*(S11), 1284–1307. https://ssrn.com/abstract=4759869

[30] Le Tan, T., Nguyen, N. H. K., Vi, N. H. T. T., Nha, H. T., Thuy, T. T., & Danh, T. T. (2022). Critical factors affecting artificial intelligence in supply chain management (case study in Danang SMEs). *Journal of interdisciplinary socio-economic and community study*, *2*(1), 27–33. https://scholar.archive.org/work/upumxbv2nrchxf2aiin2z2ekmm/access/wayback/https://jiscos.ub.ac.id/index.php/jiscos/article/download/71/22

[31] Dey, P. K., Chowdhury, S., Abadie, A., Vann Yaroson, E., & Sarkar, S. (2024). Artificial intelligence-driven supply chain resilience in Vietnamese manufacturing small-and medium-sized enterprises. *International journal of production research*, *62*(15), 5417–5456. https://doi.org/10.1080/00207543.2023.2179859

[32] Helo, P., & Hao, Y. (2022). Artificial intelligence in operations management and supply chain management: An exploratory case study. *Production planning & control*, *33*(16), 1573–1590. https://doi.org/10.1080/09537287.2021.1882690

[33] Paul, S. K., Riaz, S., & Das, S. (2021). Adoption of artificial intelligence in supply chain risk management: an Indian perspective. *Journal of global information management (JGIM)*, *30*(8), 1–18. https://doi.org/10.4018/JGIM.307569

[34] Mohammadzadeh Vanestan, S., & Abedi, R. (2024). Investigating the role of artificial intelligence enablers and companies' readiness in adopting an artificial intelligence-integrated customer relationship management system. *Journal of business management*, *16*(1), 34-58. (**In Persian**). https://doi.org/10.22059/jibm.2023.352689.4509

[35] Du, M., Chen, Q., Xiao, J., Yang, H., & Ma, X. (2020). Supply chain finance innovation using blockchain. *IEEE transactions on engineering management*, *67*(4), 1045–1058. https://doi.org/10.1109/TEM.2020.2971858

[36] Kot, S., Haque, A. U., & Baloch, A. (2020). Supply chain management in SMEs: Global perspective. *Montenegrin journal of economics*, *16*(1), 87–104. https://mnje.com/sites/mnje.com/files/087-104-_obmen_0.pdf

[37] Sorak, M., & Dragic, M. (2013). Supply chain management of small and medium-sized enterprises. *DAAAM international scientific book*, 951–968. https://www.daaam.info/Downloads/Pdfs/science_books_pdfs/2013/Sc_Book_2013-059.pdf