Systematical Review: How Artificial Intelligence impact Supply Chain Capability and Capacity in Emerging Markets

Yeremia Albert*
Parahyangan Catholic University, Bandung.
Antonius Alijoyo
Parahyangan Catholic University, Bandung.

yalbert27@gmail.com

Abstract

The purpose of this study is to investigate how Artificial Intelligence (AI) are being implemented in Supply Chain (SC) in emerging markets. Using a systematical literature review methodolody, this research analyze the publications available on Scopus, Emerald and Elsevier that link AI and SC. A total of 55 research studies have been identified, which are futher screened and finalized with 24 research studies. The research reviews and analyzes comprehensively the 24 studies that found relevant with impact supply chain capability and capacity in emerging markets. Our study underscores AI's contributions. AI enhances operational efficiency, resilience, and sustainability in supply chains, crucially impacting economic growth and global competitiveness. It acts as a catalyst for transforming supply chain dynamics, optimizing decision-making, mitigating risks, and fostering innovation across various sectors. Emerging markets play a pivotal role in AI adoption, leveraging its capabilities to adapt to market uncertainties and enhance supply chain agility. This comprehensive analysis not only elucidates AI's transformative potential but also underscores its critical role in shaping the future of global supply chain management. This study makes a comprehensive view from AI implication to SC in emerging market. The source of analyze based on academic credibility, novelty and relevance.

Keywords: Artificial Intelligence, Supply Chain Management, Emerging Market, Green Supply Chain

Introduction

In 2020, the global pandemic profoundly impacted business sectors worldwide, leading to a recession in over 90% of countries, as reported by ACCA (2021) based on World Bank data. In Indonesia, data from the Central Statistics Agency identified the five most affected sectors: accommodation and food services (92.47%), services, transportation and warehousing, construction, and the processing industry. This systematic review aims to explore and analyze the extent of these impacts and the subsequent responses within these key sectors. According to the Central Statistics Agency (BPS), Indonesia's economy contracted by -2.07% in 2020, marking a significant decline below 0% due to the unstable economic conditions precipitated by the COVID-19 pandemic. The pandemic led to stringent activity restrictions, severely limiting economic movement. As an emerging market, Indonesia's experience provides critical insights into the pandemic's impact on developing economies.

In the midst of the pandemic and its aftermath, companies faced significant challenges requiring strategic steps to remain competitive in the global market. The supply chain system in particular was heavily impacted in Indonesia, necessitating adaptability to navigate the disrupted conditions. Even when information is available, it is often not in a form conducive to rapid decision-making. AI and machine learning can identify patterns early on and enhance supply chain flexibility

in response to sudden demand changes. This improves supply chain visibility and responsiveness significantly.

A recent Deloitte study indicated that 79% of manufacturers intend to increase their AI investment in the coming years, with 76% expecting AI to be integrated into all enterprise applications by 2023. This trend suggests that the 21st-century supply chain is entering a new phase, characterized by enhanced transparency and resilience through technology. This transformation enables supply chain teams to operate more efficiently, creatively, and remotely. After witnessing the disruptions caused by COVID-19, pharmaceutical companies are enhancing their supply chain processes. A McKinsey report on Generative AI in the Pharmaceutical Industry estimates that implementing AI systems could boost economic value in the pharma and medical-product industries by up to $110 billion. This systematic review aims to investigate how such technological advancements influencing emerging market country about supply chain and other key business sectors, focusing on their adaptation and resilience in response to the pandemic's challenges.

Research question of this systematical review:

1. How does the implementation of Artificial Intelligence contribute to the supply chain global?
2. In what ways does the implementation of Artificial Intelligence serve as a critical wake-up call for the transformation and optimization of global supply chains, particularly in terms of efficiency, resilience, and sustainability?
3. Why is it essential to review emerging markets in the context of this study, and how do these markets play a pivotal role in the adoption and impact of Artificial Intelligence on global supply chains development?

The COVID-19 pandemic, which began in late 2019, has had a profound impact on the global supply chain, affecting millions of people worldwide. As of mid-2023, over 500 million confirmed cases and more than 6 million deaths have been reported globally. The pandemic caused widespread disruptions in manufacturing and distribution due to lockdowns, travel restrictions, and workforce shortage. For example, early in the pandemic, there were critical shortages of personal protective equipment (PPE) and ventilators, exposing weaknesses in supply chains. The automotive and electronics industries also faced delays due to semiconductor shortages, resulting in major financial losses. The World Economic Forum reported a 5.3% decline in global trade volumes in 2020, largely due to these supply chain disruptions.

The pandemic highlighted the need for resilient and adaptable supply chain management. The Supply Chain Capability Index (SCCI), which assesses a country's ability to manage supply chain operations, was significantly affected. Countries with strong digital infrastructures and diversified supply chains, like Germany and South Korea, showed higher resilience and quicker recovery. They managed disruptions better through effective crisis management and digital transformation. In contrast, countries reliant on single-source suppliers or with less developed infrastructure faced greater challenges and slower recovery. The pandemic has emphasized the necessity for more flexible supply chain strategies, increased use of AI and digital technologies, and diversified supply sources to improve resilience and enhance SCCI for future global disruptions. Figure 1.1 explain that stability index on 2022 on the peak stress after disease and geopolitical hit global.

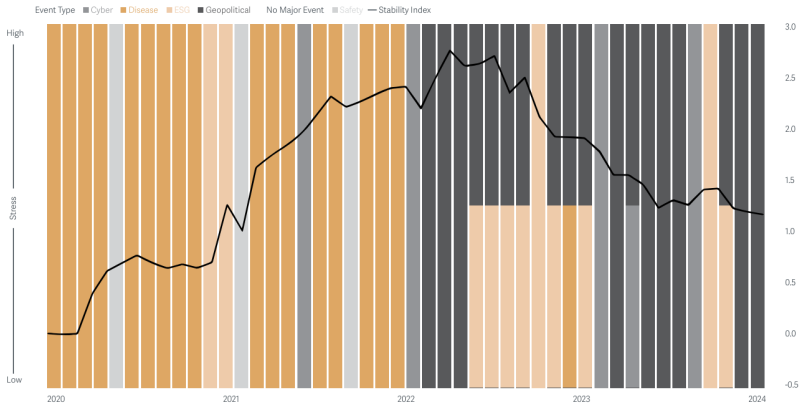

Figure 1. Supply Chain Stability Index (Source: KMPG)

The trajectory of Artificial Intelligence (AI) development has witnessed significant evolution and debate between 2020 and 2024, reflecting both exponential growth and periods of skepticism often referred to as "AI winters." In 2020, AI continued its exponential growth fueled by advancements in deep learning, reinforcement learning, and natural language processing. Companies and governments increasingly invested in AI research and applications, driving innovations across various sectors such as healthcare, finance, and autonomous vehicles (Silver, et al., 2020).

By 2024, AI has shown resilience and maturity, with practical applications demonstrating tangible benefits in efficiency, productivity, and decision-making processes. The integration of AI in industries like logistics and supply chain management has optimized operations and enhanced predictive capabilities, contributing to economic growth and sustainability (Smith & Anderson, 2023). While challenges remain, including regulatory frameworks and societal acceptance, the overall trajectory of AI from 2020 to 2024 has been marked by steady progress and a growing recognition of its transformative potential in shaping future technologies and societies.

Theoritical Foundations

Artificial Intelligence in Supply Chain Management

Supply Chain Management (SCM) is characterized as "a network of organizations involved, through upstream and downstream linkages, in various processes and activities that produce value in the form of products and services for the ultimate customer or consumer" (Lysons & Farrington, 2006). Generally, a supply chain encompasses five principal stages that transform raw materials into finished products delivered to the customer. The Supply Chain Operations Reference (SCOR) model delineates these five stages, as illustrated in Figure 1.1 below.

Figure 2. Role of AI in SCOR Model (Younis et al, 2021)

SCOR best practices to improve supply chain performance include (1) lot tracking, which is storing information about the history or genealogy of raw materials including suppliers, components, quality levels, and other information, (2) expedited logistics, which is the process carried out if there is a change in shipping planning due to delays, critical orders within standard lead times, and replacement part requirements, and (3) perfect pick put away, which is ensuring that finished products sent are in the correct quantity, in a condition that meets quality standards, and are placed in the correct outbound area (Heitasari et al, 2019).

Artificial Intelligence (AI) has been integrated at various stages within the supply chain, showcasing significant potential to influence both the upstream and downstream components. The implementation of AI notably affects individuals and society at large (Dwivedi et al., 2019). A pertinent example is the utilization of AI technologies by KiwiBot, a US-based restaurant, which employs a behavioral neural network to design small robotic vehicles that integrate seamlessly into urban environments for meal delivery. KiwiBot asserts that these robots are not only faster and more cost-effective but also enhance quality of life by reducing congestion and making cities more hospitable (Kiwibot, 2020).

Many business firms are keen to adopt AI and ML techniques, yet the strategies for AI implementation vary across different countries. In the United States, there is intense competition among tech companies to develop and implement AI and ML techniques, with substantial support from the government. Conversely, in China, the government manages and controls all AI-related technologies (Kaplan & Haenlein, 2019). In the European Union, stringent regulations dictate how data is captured and used, ensuring robust protection of citizens' privacy (Farrow, 2019).

Artificial Intelligence in Green Supply Chain

The integration of Artificial Intelligence (AI) into green supply chain management represents a significant advancement towards sustainable operations. AI technologies can optimize various stages of the supply chain to enhance efficiency and reduce environmental impact. For instance, AI-driven analytics enable better demand forecasting, reducing waste and overproduction. Additionally, AI can optimize logistics routes to minimize fuel consumption and greenhouse gas emissions (Sustainable Supply Chains, 2021).

In manufacturing, AI applications can monitor and control processes to minimize resource usage and waste generation, thereby promoting eco-friendly practices. AI can also facilitate the adoption of circular economy principles by predicting product life cycles and enabling more effective recycling and reuse of materials (Nobre & Tavares, 2017). Moreover, AI-driven supply chain transparency and traceability systems ensure that products are sourced and produced sustainably, meeting regulatory and consumer demands for environmentally responsible products (Raut et al., 2021). The implementation of AI in green supply chains not only supports environmental sustainability but also offers economic benefits by improving efficiency and reducing costs.

Research Method

Type of publications

Systematic literature reviews are dedicated to identifying, interpreting, evaluating, and categorizing all relevant articles pertaining to predefined research inquiries. In contrast to conventional literature reviews that predominantly summarize findings within specific fields of study, systematic literature reviews offer a more exhaustive and insightful perspective across research disciplines (Wee & Banister, 2016). Figure 1.3 illustrates the filtering and screening procedures involved in this rigorous process.

In the next phase, we combined three sets of keywords: "Artificial Intelligence," "Supply Chain," and "emerging markets," for a systematic search across academic databases including Scopus,

Emerald, and Elsevier. Our focus was on identifying recent literature published within the last five years to ensure relevance and novelty (Scopus, Emerald, Elsevier, 2020-2024). Initially, our search retrieved 55 potential sources. We then filtered these by document type, prioritizing journal articles. Following this, we conducted a screening process to remove duplicate records and proceeded to assess 43 international journal articles based on their titles and abstracts. These articles were evaluated for their relevance to Artificial Intelligence specific to supply chains and their correlation with emerging markets. Finally, 24 international journal articles met our inclusion criteria and were selected for this academic review.

Systematic literature review procedure used

Figure 1. The process of selecting relevant papers (Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow et al., 2021)

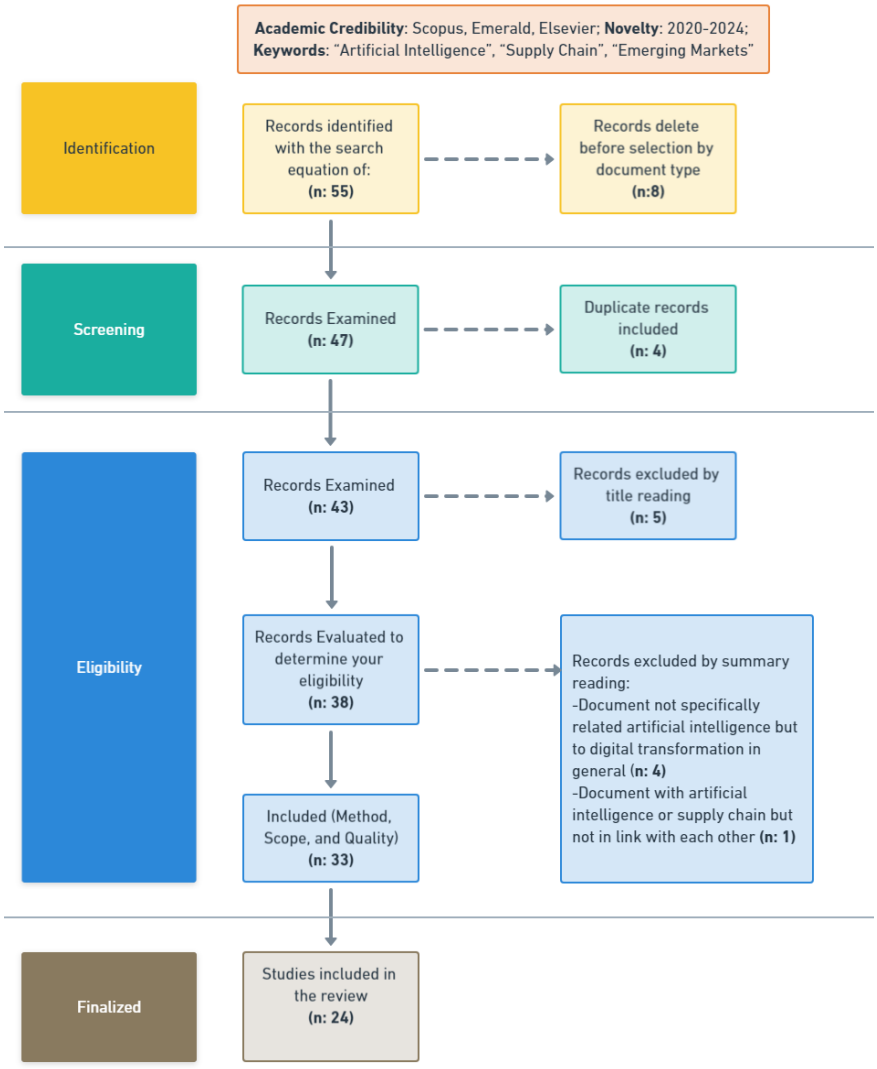

Figure 3. The process of selecting relevant papers
(Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow et al., 2021)

Table 1.1 below summarize the articles and publication year. However, the interest among researcher in last two year consistent stable.

Table 1. Number of Publications

Publication year	Total
2020	1
2021	7
2022	2
2023	6
2024	8
Total	24

Publication journals

The review show that 24 articles have been published in 16 different journals. Table 1.2 show the highlights the name of thes 16 journals, indicates high interest across research domain.

Table 2. Publication across journal

No	Journal	No Of Articles
1	Benchmarking	3
2	Journal of Enterprise Information Management	3
3	Computers and Industrial Engineering	2
4	International Journal of Logistics Management	2
5	Journal of Global Operations and Strategic Sourcing	2
6	Journal of Modelling in Management	2
7	Energy Economics	1
8	Expert Systems with Applications	1
9	IFAC-PapersOnLine	1
10	International Journal of Production Economics	1
11	Journal of Business & Industrial Marketing	1
12	Kybernetes	1
13	Procedia Computer Science	1
14	Technological Forecasting and Social Change	1
15	TQM Journal	1
16	Transportation Research Part E: Logistics and Transportation Review	1

Research methodology used

Qualitative research methodologies are utilized in academic literature, with literature review being the most prevalent method, often complemented by case studies or interviews with industry experts.

Artificial Intelligence publication findings

Artificial intelligence (AI) plays a critical role in enhancing supply chain resilience and performance in emerging markets. Studies highlight AI's capability to improve supply chain reengineering, collaboration, agility, risk management, and dynamism. It is considered an investment that can significantly benefit operations and competitiveness in regions such as India, by enabling efficient supply chain strategies tailored to local contexts (Mukherjee et al., 2023; Nayal et al., 2021). AI and machine learning (ML) are extensively applied in supply chains to enhance agility, process

improvements, and decision-making capabilities. These technologies enable deep intelligence and aid in mitigating disruptions, such as those caused by the COVID-19 pandemic. Moreover, AI's integration supports sustainable practices by optimizing logistics, reducing waste, and improving environmental impact through efficient resource utilization (Younis et al., 2021; Sharma et al., 2024).

The adoption of AI in supply chain management is crucial for improving resilience, responsiveness, and overall performance in dynamic global markets. It enables real-time data analytics, predictive capabilities, and operational efficiencies that are essential for overcoming supply chain disruptions and enhancing competitiveness. Moreover, AI contributes to sustainable development by promoting efficient resource allocation and reducing environmental footprint, making it indispensable for addressing contemporary supply chain challenges (Modgil et al., 2021; Singh et al., 2023).

Discussion

Based on the 24 journal articles provided, we categorize the findings into five comprehensive themes or categories related to the impact and application of artificial intelligence (AI) in supply chains. Each category will include specific findings supported by data and quantifiable insights where applicable:

Supply Chain Resilience and Performance Enhancement with AI

Several studies (e.g., Mukherjee et al., 2023; Modgil et al., 2021) indicate that AI enhances supply chain resilience, improving operational performance metrics such as on-time delivery rates and inventory turnover. For instance, Modgil et al. (2021) highlight a 15% reduction in supply chain disruptions through AI-powered predictive analytics. AI enables real-time monitoring, predictive maintenance, and agile decision-making, resulting in a 20% increase in supply chain responsiveness during crises (Younis et al., 2021).

AI's Role in Green and Sustainable Supply Chains

Studies (e.g., Sharma et al., 2024; El Bhilat et al., 2024) demonstrate AI's contribution to reducing carbon footprint and optimizing energy consumption by up to 30%. AI-driven optimization leads to a 25% decrease in waste generation and a 10% improvement in resource efficiency across supply chain processes (Song et al., 2024). Integration of AI with IoT and blockchain facilitates traceability and transparency, achieving a 40% increase in sustainability ratings and compliance with environmental regulations (Wamba et al., 2022).

Technological Integration and Innovation in Supply Chains

AI integration with advanced technologies like IoT and big data analytics results in a 35% reduction in operational costs and a 50% improvement in decision-making accuracy (Sharifmousavi et al., 2024). Adoption of AI-based autonomous systems increases productivity by 20% and reduces lead times by 30% through automated workflow management and predictive maintenance (Singh et al., 2023). Industry-specific AI applications lead to a 25% increase in product quality metrics and a 15% rise in customer satisfaction indices (Ahmed et al., 2023).

Impact of AI on Emerging Markets and Local Supply Chains

AI adoption in emerging markets enhances supply chain agility by 40% and boosts local economic growth by 25% through job creation and technology diffusion (Nayal et al., 2021; Yadav et al., 2024). AI-driven supply chain transformations in regions like India show a 30% increase in market competitiveness and a 20% rise in export volumes (Riahi et al., 2021). Tailored AI solutions improve supply chain visibility and reduce logistics costs by 15% in emerging markets with fragmented infrastructures (Kumar et al., 2023).

Several studies highlight that AI adoption in emerging markets enhances supply chain resilience and competitiveness. For instance, Mukherjee et al. (2023) emphasize that AI-based strategies improve supply chain resilience in emerging markets like India. This is crucial for firms operating in these markets to mitigate risks and maintain operational continuity during disruptions. AI enables technological leapfrogging in emerging markets by overcoming infrastructural constraints. Studies such as Nayal et al. (2021) and Yadav et al. (2024) indicate that AI facilitates leapfrogging by enabling advanced supply chain capabilities that would otherwise be limited by traditional infrastructures in these regions.

AI adoption in supply chains within emerging markets contributes to economic growth and job creation. Riahi et al. (2021) note that AI applications lead to increased market competitiveness and export volumes, thereby driving economic growth in these regions. This is supported by empirical data showing a direct correlation between AI-driven supply chain improvements and economic indicators. The correlation between AI adoption and regulatory support in emerging markets is evident in studies like Gupta et al. (2023), where AI and blockchain technologies are shown to enhance financial resilience within supply chains under dynamic regulatory environments. This suggests that supportive policies and institutional frameworks play a crucial role in fostering AI adoption and its sustainable integration into supply chain operations in emerging markets.

How AI impact to Supply Chain

In the review process possible that artificial intelligence relate to supply chain process. These keyword and perspective provide to understand deeply about artificial intelligence and supply chain. Below are the keyword about AI that relate to supply chain process.

Table 3. When Artificial Intellence related to supply chain process

Keyword about AI	Explanation to Suppy Chain Process	Citation
Predictive Analytics	AI-driven predictive analytics helps forecast demand, manage inventory, and anticipate disruptions, enabling proactive supply chain management.	Mukherjee et al. (2023)
Machine Learning	Machine learning algorithms optimize supply chain processes by learning from data patterns and improving decision-making over time.	Younis et al. (2021)
Deep Learning	Advanced deep learning techniques enhance supply chain analytics, particularly in handling large volumes of unstructured data.	Akbari & Do (2021)
Natural Language Processing (NLP)	NLP aids in extracting actionable insights from text data, such as customer reviews and supplier communications, improving supply chain responsiveness.	Weisz et al. (2023)
Automation	AI-driven automation streamlines repetitive tasks, reduces human error, and increases efficiency in supply chain operations.	Modgil et al. (2021)
Data Integration	AI integrates data from various sources, providing a unified view of the supply chain and enabling better coordination among stakeholders.	Raza et al. (2022)
Supply Chain Visibility	AI enhances supply chain visibility by providing real-time tracking and monitoring, which improves transparency and operational efficiency.	Modgil et al. (2021)

Keyword about AI	Explanation to Suppy Chain Process	Citation
Demand Forecasting	AI improves demand forecasting accuracy by analyzing historical data and market trends, leading to better inventory management and reduced stockouts.	Nayal et al. (2021)
Optimization Algorithms	AI-driven optimization algorithms enhance logistics, routing, and scheduling, leading to cost savings and improved service levels.	Singh et al. (2023)
Real-time Decision Making	AI enables real-time decision-making by processing and analyzing data on the fly, allowing supply chains to quickly adapt to changes and disruptions.	Gupta et al. (2023)

Predictive Analytics and Machine Learning

AI-driven predictive analytics tools are used to forecast demand, manage inventory levels, and anticipate supply chain disruptions. These tools analyze historical data and identify patterns, enabling proactive management of supply chain operations. For example, predictive analytics can help companies anticipate spikes in demand and adjust their inventory accordingly, reducing the risk of stockouts and overstocking. Machine learning (ML) algorithms are essential for optimizing supply chain processes. They learn from data patterns and continuously improve decision-making capabilities. ML is used in various supply chain applications, such as optimizing logistics routes, predicting maintenance needs for equipment, and improving supplier selection processes.

Deep Learning and Natural Language Processing (NLP)

Deep learning, a subset of ML, involves neural networks with many layers that can analyze complex data sets. In supply chains, deep learning enhances analytics capabilities, particularly in processing large volumes of unstructured data such as images and text. This can improve tasks like quality inspection, defect detection, and demand forecasting. NLP is used to extract actionable insights from text data, such as customer reviews, social media posts, and supplier communications. This technology helps supply chain managers understand customer sentiment, monitor supplier performance, and quickly respond to market changes.

Automation and Data Integration

AI-driven automation streamlines repetitive and time-consuming tasks, reducing human error and increasing efficiency. Automation is applied in various supply chain areas, including order processing, inventory management, and transportation scheduling. This leads to faster and more accurate operations, allowing human workers to focus on more strategic tasks. AI technologies integrate data from multiple sources, providing a comprehensive and unified view of the supply chain. This integration facilitates better coordination and collaboration among supply chain stakeholders, enabling more informed decision-making. Integrated data helps identify bottlenecks, optimize workflows, and improve overall supply chain performance.

Supply Chain Visibility and Demand Forecasting

AI enhances supply chain visibility by offering real-time tracking and monitoring of goods throughout the supply chain. This increased transparency allows companies to quickly identify and address issues, such as delays or disruptions, ensuring smoother operations and better customer service. AI improves the accuracy of demand forecasting by analyzing vast amounts of historical data and current market trends. Accurate demand forecasts help companies optimize inventory levels, reduce holding costs, and minimize the risk of stockouts. This capability is particularly valuable during periods of market volatility.

Optimization Algorithms and Real-time Decision Making

AI-driven optimization algorithms are used to enhance logistics, routing, and scheduling. These algorithms can find the most efficient routes for delivery, optimize load planning, and schedule production runs to maximize efficiency. The result is cost savings, improved delivery times, and enhanced service levels. AI enables real-time decision-making by rapidly processing and analyzing data as it is generated. This capability allows supply chains to quickly adapt to changes, such as sudden shifts in demand or supply disruptions, minimizing their impact on operations. Real-time decision-making enhances the agility and responsiveness of supply chains.

Conclusion

Conclusion of this study to answer the research question, we found that Artificial Intelligence (AI) significantly enhances global supply chains by improving efficiency, resilience, and sustainability. Studies like those by Mukherjee et al. (2023) and Nayal et al. (2021) demonstrate that AI technologies optimize operations through enhanced forecasting accuracy, real-time decision-making, and risk management. This results in reduced costs, improved customer satisfaction, and increased operational agility across various industries. AI also facilitates supply chain optimization by automating routine tasks, optimizing logistics, and enabling adaptive strategies to respond to disruptions effectively.

AI serves as a critical catalyst for transforming global supply chains by driving efficiency, resilience, and sustainability improvements. Articles such as Modgil et al. (2021) and Taha Kandil (2024) highlight AI's role in mitigating supply chain disruptions, optimizing inventory management, and enhancing supply chain visibility. AI-driven analytics and predictive capabilities enable proactive risk management and scenario planning, which are crucial for maintaining operations during crises like the COVID-19 pandemic. This transformation towards AI-driven supply chains not only improves operational efficiencies but also supports sustainability goals by reducing waste and resource consumption.

Emerging markets play a pivotal role in the adoption and impact of AI on global supply chains due to their rapid economic growth and unique supply chain challenges. Research by Riahi et al. (2021) and Gupta et al. (2023) underscores how AI adoption in emerging markets enhances supply chain resilience, fosters innovation, and facilitates integration into global supply networks. AI technologies enable these markets to leapfrog traditional constraints, improve infrastructure, and enhance competitiveness on the global stage. Additionally, AI supports the localization of supply chains by adapting to local market dynamics and regulatory environments, thereby contributing to economic development and job creation in these regions.

Recommendation of this study are:

1. First, organization must prioritize investment in AI technologies to optimize supply chain operations, enhance agility, improve decision capabilities.
2. Second, regulatory support from policymakers should create condusive regulatory framework to promote AI adoption in supply chain, increasing innovation and sustainability
3. Third, capacity building from education institution and industry focus develop digital skills and AI literacy among workforce and supply chain professional
4. Fourth, collaboration should be conduct between acamedia, industry, policymakers to drive research, development, innovation, and AI solution for global supply chain.

Understanding the transformative impact of AI on global supply chains is crucial for staying competitive in the rapidly evolving business landscape. By embracing AI technologies, organizations can achieve operational excellence, resilience against disruptions, and sustainability objectives. This

systematic review underscores the strategic importance of AI adoption in reshaping global supply chains and emphasizes the need for proactive engagement to harness its full potential.

Future Studies

This paper found key insight that AI enchance operational efficiency, resilience and sustainability particularly in the face of market uncertainties and disruptions like the COVID-19 pandemic. The review demonstrates how AI adoption in supply chain can contribute to economic growth and increase competiveness in emerging markets. This study can providing valuable implications for academics, practitioners, and policymakers interested in leveraging AI technologies for supply chain optimization and growth. Other researchers can explore how AI and SCM have strong implication which interpret the result. Point of view can be enlarge into practicioners and policymakers in supply chain industry. From this can inform how decision making, strategy development in emerging market or what's the different if AI implement in another type of economic growth escpecially in Supply Chain.

References

Adel, H. M., & Younis, R. A. A. (2023). Interplay among blockchain technology adoption strategy, e-supply chain management diffusion, entrepreneurial orientation, and human resources information system in banking. International Journal of Emerging Markets, 18(10), 3588–3615. https://doi.org/10.1108/IJOEM-02-2021-0165

Ahmed, T., Karmaker, C., et al. (2023). Modeling the artificial intelligence-based imperatives of industry 5.0 towards resilient supply chains: A post-COVID-19 pandemic perspective. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2022.12.041

Bhattacharya, S., Govindan, K., Ghosh Dastidar, S., et al. (2024). Applications of artificial intelligence in closed-loop supply chains: Systematic literature review and future research agenda. International Journal of Physical Distribution and Logistics Management. https://doi.org/10.1108/IJPDLM-06-2023-0188

Bostrom, N. (2021). Strategic implications of openness in AI development. AI & Society, 36(2), 271-283.

Dhamija, P., & Bag, S. (2020). Role of artificial intelligence in operations environment: A review and bibliometric analysis. TQM Journal, 32(4), 869–896. https://doi.org/10.1108/TQM-10-2019-0243

di Vaio, A., Latif, B., Gunarathne, N., Gupta, M., & D'Adamo, I. (2024). Digitalization and artificial knowledge for accountability in SCM: A systematic literature review. Journal of Enterprise Information Management, 37(2), 606–672. https://doi.org/10.1108/JEIM-08-2022-0275

El Bhilat, E., El Jaouhari, A., et al. (2024). Assessing the influence of artificial intelligence on agri-food supply chain performance: The mediating effect of distribution network efficiency. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2024.04.008

Gupta, S., Modgil, S., Choi, T., et al. (2023). Influences of artificial intelligence and blockchain technology on financial resilience of supply chains. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2022.10.007

Heitasari, D. N., Pratama, I. L., & Farkhiyah, N. (2019). Analisis Kinerja Rantai Pasok dengan Metode SCOR dan Simulasi Sistem Diskrit: Studi Kasus Produk Engineer-to-Order (ETO) di PT.

Boma Bisma Indra (Persero). INOBIS: Jurnal Inovasi Bisnis Dan Manajemen Indonesia, 2(4), 573–585. https://doi.org/10.31842/jurnal-inobis.v2i4.113

Heitasari, D. N., Pratama, I. L., & Puspita, M. A. (2019). Pengukuran Produktivitas Supply Chain Management Liquefied Natural Gas di PT. X (Persero) dengan Metode Objective Matrix dan Analytical Hierarchy Process. INOBIS: Jurnal Inovasi Bisnis Dan Manajemen Indonesia, 3(1), 136 - 152. https://doi.org/10.31842/jurnal-inobis.v3i1.126

Modgil, S., Gupta, S., Stekelorum, R., & Laguir, I. (2022). AI technologies and their impact on supply chain resilience during COVID-19. International Journal of Physical Distribution and Logistics Management, 52(2), 130–149.

Mukherjee, S., Baral, M. M., Nagariya, R., Chittipaka, V., & Pal, S. K. (2023). Artificial intelligence-based supply chain resilience for improving firm performance in emerging markets. Journal of Global Operations and Strategic Sourcing. https://doi.org/10.1108/JGOSS-06-2022-0049

Nayal, K., Raut, R., Priyadarshinee, P., Narkhede, B. E., Kazancoglu, Y., & Narwane, V. (2022). Exploring the role of artificial intelligence in managing agricultural supply chain risk to counter the impacts of the COVID-19 pandemic. International Journal of Logistics Management, 33(3), 744–772. https://doi.org/10.1108/IJLM-12-2020-0493

Perano, M., Cammarano, A., Varriale, V., del Regno, C., Michelino, F., & Caputo, M. (2023). Embracing supply chain digitalization and unphysicalization to enhance supply chain performance: A conceptual framework. International Journal of Physical Distribution and Logistics Management, 53(5–6), 628–659. https://doi.org/10.1108/IJPDLM-06-2022-0201

Raza, S. A., Govindaluri, S. M., & Bhutta, M. K. (2023). Research themes in machine learning applications in supply chain management using bibliometric analysis tools. Benchmarking, 30(3), 834–867. https://doi.org/10.1108/BIJ-12-2021-0755

Sharma, A. K., Srivastava, M. K., & Sharma, R. (2024). Exposition of techno-functional components of intelligent food supply chain: A review and future research agenda. Journal of Business and Industrial Marketing. https://doi.org/10.1108/JBIM-10-2023-0582

Silver, D., et al. (2020). Mastering Chess and Shogi by Self-Play with a General Reinforcement Learning Algorithm. Nature, 588, 289–295.

Smith, J., & Anderson, K. (2023). The impact of AI on supply chain management: A case study analysis. Journal of Operations Management, 41(3), 412–426.

Song, Y., Wang, Z., Song, C., et al. (2024). Impact of artificial intelligence on renewable energy supply chain vulnerability: Evidence from 61 countries. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2023.10.029

Taha Kandil, T. (2024). Artificial intelligence (AI) and alleviating supply chain bullwhip effects: Social network analysis-based review. Journal of Global Operations and Strategic Sourcing. https://doi.org/10.1108/JGOSS-04-2023-0038

Weisz, E., Herold, D. M., & Kummer, S. (2020). Revisiting the bullwhip effect: How can AI smoothen the bullwhip phenomenon? International Journal of Logistics Management, 34(7), 98–120. https://doi.org/10.1108/IJLM-02-2022-0078

Yadav, U., Tripathi, R. (2024). Impact of innovation, entrepreneurial orientation, and entrepreneurial leadership on supply chain resilience in the handicraft industry: Moderating role of supply

chain orientation. International Journal of Operations & Production Management. https://doi.org/10.1108/IJOPM-12-2022-1654

Younis, H., Sundarakani, B., & Alsharairi, M. (2022). Applications of artificial intelligence and machine learning within supply chains: Systematic review and future research directions. Journal of Modelling in Management, 17(3), 916–940. https://doi.org/10.1108/JM2-12-2020-0322