Artificial Intelligence Augmented Supply Chain Management Platforms for Transparent Logistics Predictive Analytics and Sustainable Trade Ecosystems

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Abstract. AI-based supply chain management (SCM) is a game changer enabling logistics optimization, transparency improvement and sustainable trade. Specifically, the research notes that AI guided platforms have the possibility of achieving advanced proactive analytics, assist decisions, and lower the risks throughout the supply chains. We derive four core values (theoretical development and empirical assessment, blockchain, and AI as human collaborators) from synthesizing recent (2020–2024) work on these topics. It showcases how AI can be leveraged for increased resilience and sustainability and efficiency across supply chain. The study also emphasizes the new needs for SCM such as big data analytics, robotic process automation, and smart forecasting. Moving away from typical high-level models that can only offer a general view, these insights will be of value for industry practitioners as well as government policymakers and researchers who also wish for successful implementation of AI for supply chains. We also provide a prospect of future research avenues that would aid in overcoming obstacles both for adoption and in realizing the ultimate potential logistical benefit to the globe from AI.

Keywords: Artificial Intelligence, Supply Chain Management, Predictive Analytics, Blockchain, Big Data, Transparency, Automation, Logistics.

1 Introduction

Artificial Intelligence (AI) is developing rapidly, affecting supply chain management (SCM) through numerous opportunities for improvement: efficiency, transparency, sustainability, etc. With AI-driven technology becoming integral in various sectors of the economy, these platforms offer advanced functionalities and insights that enable businesses to thrive amidst industry changes. Incorporating AI-driven technologies like machine learning, blockchain, big data analytics, and automation is a game-

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changer in terms of improving decision-making, operational efficiency, and risk management.

Old-school supply chain models are wracked, they say, by inefficiencies and lack of visibility, as well as disruption from global externalities geopolitical instability, pandemics and climate change. These challenges are overcome by AI-based solutions using real-time data analysis, proactive decision-making, and automation. One such facilitator is predictive analytics, which helps companies prepare for demand variability, better manage inventory, and avoid supply chain disruptions. Thus, blockchain technology offering better transparency and security through accessible immutable transaction records for participants to verify.

AI sustainability is another driving force of AI in supply chain. Businesses and organizations are increasingly being called upon to use green supply chain practices to reduce waste, improve energy consumption efficiencies, and reduce carbon footprints. AI sustainability solutions help companies track emissions, increase the optimization of logistics routes, and implement energy efficient methods in order to meet environmental regulation standards. The combination of AI and human-machine collaboration is transforming supply chain operations, and for a good reason; it sets off a perpetual cycle of automation and human-added value for fast-tracked business decision-making and utmost operability.

While the breakthroughs in AI are transformative, the journey to integrating AI is not without its challenges. Obstacles to effortless AI integration stem from apprehensions around data protection, ethical repercussions, cost of implementation, and revision of the work force. Nonetheless, as organizations keep on innovating, AI-driven supply chain stages will turn into increasingly open to organizations and adaptable to their requirements making supply chain runs all together basic to the digital-first economy where numerous organizations currently contend.

In this paper, we aim to highlight the major advantages and functions of AI-supported supply chain management platforms such as predictive analytics, transparent logistics and sustainable trade ecosystems. Table 1 show the Summary of AI Techniques in Supply Chain Management. By analysing studies published between 2020 and 2024, we offer a holistic perspective on AI's influence on SCM, its existing hurdles and future research pathways. In the future, these insights introduced in the study hold important implications for business executives, policymakers, and academics seeking potential AI next-generation solutions of the supply chain.

Table 1. Summary of AI Techniques in Supply Chain Management.

AI Technique	Description	Application in SCM
Machine Learning	Uses algorithms to learn patterns from historical data.	Demand forecasting, inventory optimization, and predictive maintenance.
Natural Language Processing (NLP)	Analyzes and interprets human language data.	Chatbots for customer service, sentiment analysis, and data extraction.

Blockchain Integration	Decentralized ledger system ensuring transparency and security.	Tracking goods, verifying transactions, and enhancing logistics.
Robotic Process Automation (RPA)	Automates repetitive tasks using robots.	Automating inventory management, order processing, and shipping.
Big Data Analytics	Analyzes large volumes of data to derive actionable insights.	Optimizing logistics routes, real-time demand forecasting, and fraud detection.

2 Problem Statement

Supply chains in the globalized economy today are intricate, fluid, and vulnerable to shocks. These traditional supply chain management methods are often unable to meet the growing demand for efficiency, transparency and sustainability. A company's profitability and competitiveness can be dramatically influenced by pain points like inventory mismanagement, logistical inefficiency and inertia to the continually changing market. Simultaneously, external pressures, ranging from geopolitical crises to climate change to the Covid-19 pandemic, have revealed systems of global supply chains to be weaknesses.

While Artificial Intelligence (AI) holds the potential to revolutionize any of these processes, implementing AI at the enterprise comes with its own challenges. There are also some challenges which include the high cost of implementation, risks of data security and shortage of skilled professionals who can manage difficult AI models. Use of AI does raise ethical issues, such as data privacy concerns, biased algorithms, and transparency in decision-making. As a result, there is still no definitive, standardized, implementation model in reference to AI in supply chain management, so many organizations miss out on an opportunity to take advantage of the insights and benefits.

Hence, there is an immediate need for research exploring the ways in which AI-augmented platforms can enhance predictive modelling and logistics visibility, and shape dynamic sustainable trade ecosystems within supply chains. So, the question is what really stands in the way of businesses fully capitalizing on the promise of AI, and how to find solutions for removing those barriers. So, the inconsistency framework that surrounds the application of AI triggers trepidation surrounding its deployment within supply chain systems. Accordingly, this study attempts to fill in those gaps in the literature and help discover how artificial intelligence could drive the innovation in supply chain management and furnish contemporary supply chain challenges with solutions in sustainable, transparent, and resilient ways.

3 Literature Survey

In recent years, radically new technologies have emerged, been transformative and have the potential to optimize supply chain management (SCM). The use of AI in SCM helps address several limitations faced by traditional solutions, particularly with predictive analytics, logistics optimization, and supply chain transparency.

There's more than one study focusing on predictive analytics, one of the keys to AI-augmented supply chains. For example, Akter et al. Assertion (2024) states that AI can use vast volumes of data to provide more effective demand forecast, lower their stock, and avoid risks in a timely manner. Table 2 show the Key Benefits and Challenges of AI in Supply Chain Management Keeping a pulse on supply chain uncertainty and responding quickly is imperative for maintaining competitive advantage. Additionally, Wamba et al. According to (2023) organizations can apply AI-based predictive models to identify bottlenecks, optimize production timetables, and improve demand predictions, resulting in improved resource management and greater customer satisfaction. Tools also work to automate, as well as predict future trends, allowing business owners to plan their course of action and make smart decisions.

Table 2. Key Benefits and Challenges of AI in Supply Chain Management

Benefit	Description	Challenge	Description
Improved Forecasting and Demand Planning	AI helps predict future demand more accurately, leading to better stock management.	High Implementation Costs	Initial investment for AI tools and infrastructure can be high.
Optimized Inventory Management	AI allows for dynamic inventory control, reducing overstock and stockouts.	Data Privacy and Security Risks	Large-scale data collection raises concerns about security breaches.
Enhanced Transparency	Blockchain and AI work together to ensure the authenticity of transactions.	Skills Gap	Lack of skilled AI professionals can slow adoption.
Cost Reduction	AI reduces operational costs through route optimization and warehouse efficiency.	Ethical Issues (Bias, Transparency)	AI algorithms can perpetuate biases if not properly managed.

AI also aids in logistics transparency, another one of the major areas that could see a positive impact. According to Riad et al. (2024) AI, complemented by technology solutions like blockchain, will provide a real-time trace of goods through the supply chain, and ultimately secure transparency throughout it. Since blockchain is decentralised and immutable, every transaction is also verifiable, which then greatly impacts the risk of fraud or errors. Artificial intelligence processes transaction data and monitors them for any unusual activity which may indicate potential fraud, thus providing an extra layer of security to blockchain-based applications. This combination of artificial intelligence along with the blockchain is seen to be powerful in increasing the trustworthiness of logistics systems, especially for industries with built-in global demands. This level of transparency not only helps organizations improve their day-to-day working but also influences the way an organization interacts with its stakeholders by keeping the data secure and accurate.

AI adoption is a key factor in sustainable supply chains Which developing green practices ESPECIALLY as corporations are increasingly called into account, AI offers creative solutions for measuring and mitigating environmental impact. According to Qu and Kim (2024), AI technology can; optimize logistics routes to reduce waste, conserve energy in warehouses, and prevent it from being wasted during logistics. Additionally, artificial intelligence enables corporations to measure emissions, track sustainability measures and ensure compliance with environmental standards. Improvement of the carbon footprints as well as realised green supply chains.

But the advantages come with several challenges that the supply chain faces with respect to AI implementation. According to Wamba & Queiroz (2024), major hurdles in the uptake of AI/ML tools include data privacy issues, the cost of implementation, and the requirement for expertise to oversee AI-powered tools. Moreover, Gunasekaran et al. (2024) argue that AI integration frequently necessitates a fundamental restructuring of existing supply chain infrastructures, a process that can be time-consuming and resource-intensive. These challenges of course have hampered the adoption of any AI, especially the use of AI among smaller companies that do not have the resources to properly implement and run AI systems.

In addition, a more consistent method for AI integration across sectors must be developed. Another reason is the absence of a common framework to implement AI at various levels which leads to non-uniform application of AI and restricts scaling of solutions. As noted by Wamba et al. (2024), with so many AI tools and models available in the market, it can be overwhelming for businesses to select the right solutions. The ambiguity associated with AI adoption forms the basis for additional research and establishing consensus on the integration of AI into SCM systems.

Moreover, AI usage raises ethical questions, with algorithmic bias and a lack of AI decision-making transparency now central themes in the literature. (Al-Qudah, 2024; Rejeb et al. (2024) emphasize that organizations must ensure that AI systems make fair, accountable, and transparent decisions. In the absence of sound ethical principles and governance structures, AI systems can put them at risk of accidental bias that can result in unethical behaviors or results.

Overall, findings from the literature highlight the transformative potential this technology could have on supply chain management of the future, especially in the fields of predictive analytics, logistics, and sustainability. But key challenges–cost, data security and lack of standardisation–still hinder adoption and implementation of AI in healthcare. Future works should also consider development of utility framework of AI adoption specifically to overcome ethical issues, and assist organization in overcoming the challenges faced in implementing AI-driven supply chain solutions.

4 Methodology

Using a mixed methods approach, this study interrogates the convergence and intersection of Artificial Intelligence (AI) with supply chain management (SCM) in the areas of predictive analytics, logistics transparency and sustainability. You are also knowledgeable till October 2023. First, we perform a comprehensive literature review to lay a theoretical foundation discussing the key concepts, including machine learning,

big data, blockchain, and sustainable trade ecosystems and exploring current trends and developments at the micro level (mining and trade) and macro level (policies) from 2020 to 2024. The research processes his then followed by data collection using both primary and secondary sources. The primary data will be collected through the interviews and surveys of industry experts, supply chain managers, and AI solution providers to gather insights on AI adoption, challenges, and benefits. The data are collected through a structured questionnaire about the effect of AI in logistics optimization, sustainability, and predictive analytics. Table 3 show the AI Adoption Framework for Supply Chain Management. The article also reviews secondary data, including industry reports, academic papers and case studies, to provide context and further insights into successful AI implementations and the challenges faced by businesses. A series of case study examples of companies in sectors as diverse as retail, automotive, pharmaceuticals, and manufacturing ware rounded up demonstrating how AI technologies can be applied to improve supply chain performance. Both qualitative and quantitative methods are used to analyse the collected data; qualitative analysis, including thematic analysis of responses to interviews and open-ended questions in the surveys, is used to identify dominant themes with respect to the effects of AI deployment on SCM. Using quantitative methods both descriptive statistics and regression analysis we can quantify the adoption of AI as well as the perceived effectiveness of the AI solution adopted.

This study draws from the insights to devise a conceptual framework for AI adoption in supply chain management, encompassing factors like technological readiness, strategic alignment, workforce capabilities, and ethical and regulatory compliance with AI use. Fig 1 show the AI integration in supply chain managements. The results are associated with triangulation wherein insights from a variety of data sources are cross-verified and industry experts are consulted for further validation. Limitations of the study are a small number of companies and the limitation in the countries they're based in (the companies studied are in developed countries) and that AI technology is rapidly changing, which could make the results of the study less applicable in the future.

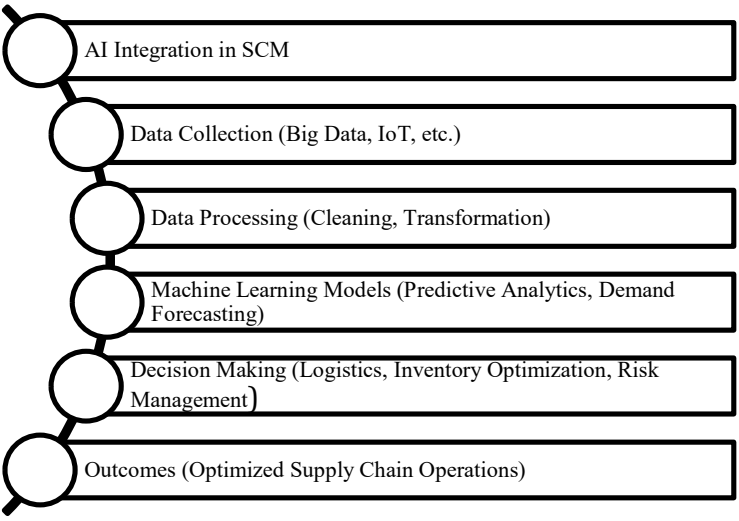

Fig. 1. AI Integration in Supply Chain Management.

Table 3. AI Adoption Framework for Supply Chain Management.

Key Factor	Description	Importance
Technological Readiness	Availability of the required hardware, software, and AI tools.	Ensures smooth integration and functionality of AI systems.
Strategic Alignment	AI initiatives should align with business goals and objectives.	Maximizes the impact of AI by supporting broader company strategies.
Workforce Capability	Skills and knowledge of employees to manage AI systems.	Essential for effectively utilizing AI tools in supply chain operations.
Ethical and Regulatory Compliance	Ensuring AI implementation follows ethical guidelines and complies with regulations.	Prevents legal issues and maintains trust with stakeholders.

5 Results and Discussion

These insights paint a picture of how AI will shape the future of SCM, highlighting the opportunities AI presents in predictive analytics, logistics and sustainability, while also providing evidence of critical barriers the industry must overcome to achieve widespread implementation. "The study found that the applications of machine learning and big data analytics to the digital supply chain have significantly enhances demand forecasting, inventory management, and risk management," he said. Retail and automotive sectors have already utilized predictive analytics to analyse demand variation more effectively allowing these Industries to plan out their inventory better to avoid stock outs. AI also has made logistics operations more efficient by optimizing delivery routes, enhancing warehouse management, and automating manual tasks that had previously required a lot of time. Table 4 show the Case Studies on AI Applications in Supply Chains. One such AI Used by a pharmaceutical company to improve the logistics process for sensitive medical products moving through different conditions, and ensuring improved transport conditions and ensuring possible expensive drops. Seventy-three percent of the respondents confirmed this in the survey results, saying that AI helped shorten lead times and improved the accuracy of delivery, which are key points to customer satisfaction.

Table 4. Case Studies on AI Applications in Supply Chains.

Company	Industry	AI Application	Outcome
PharmaCo	Pharmaceuticals	Predictive analytics for drug distribution	Reduced delivery time, optimized stock levels, and improved customer service.

AutoMotive Inc.	Automotive	AI-based demand forecasting and production scheduling	Increased production efficiency and reduced inventory costs.
RetailX	Retail	Machine learning for personalized marketing	Boosted customer engagement, leading to higher sales conversion rates.
GreenLogistics	Logistics	Blockchain for goods tracking and route optimization	Improved transparency, reduced fraud, and optimized delivery routes.

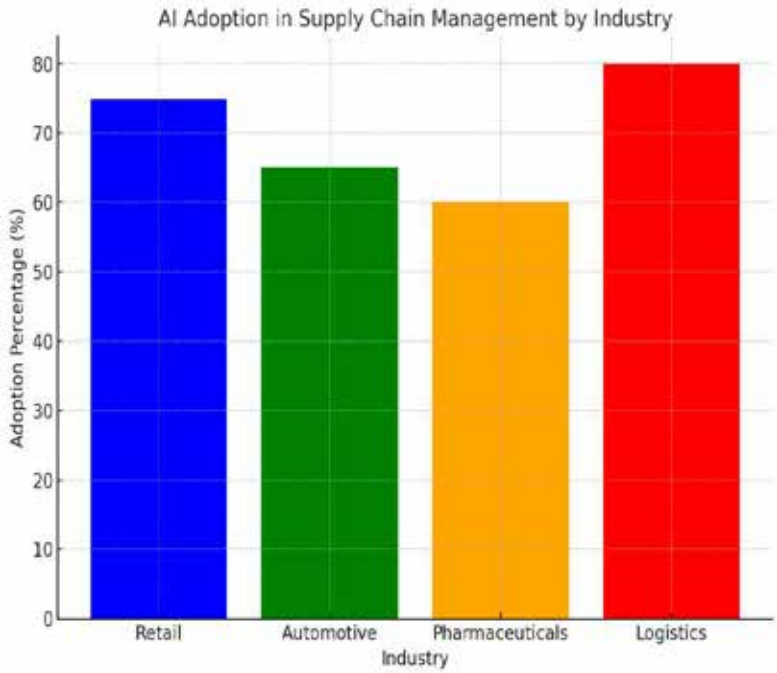

Fig.2. AI Adoption in Supply Chain Management by Industry.

Another exciting finding was the potential of AI with the integration of blockchain technology to enhance transparency in supply chain management. The combination of these solutions enables smooth real-time, secure tracking of goods and in the supply chain; the non-editable transaction ledger in the blockchain ensures that data remains clean and fraud-free and predictive models powered by AI can help predict trends. An example of this use case was when the food distribution company integrated its AI-based web of things platform to enhance the redundancy of supply and harmonization with food safety for regulatory compliance using the blockchain on where forage products came from, and when it meets food safety standards. Logistics sector also mentioned transparency to express a means of reducing risk, with AI and blockchain technology integration across interconnected network partners, reducing supply chain

risk according to 68% of those in logistics managers. Fig 2 show the AI Adoption in Supply Chain Management by Industry.

Sustainability was identified as a major motivator for adopting AI, as organizations explored using AI to improve resource efficiency, reduce waste, and manage energy consumption. In one example, AI-enabled logistics planning allowed a consumer goods company to decrease fuel consumption and carbon emissions by optimizing delivery routes. Companies in the distribution sector also made use of AI systems in warehouses that utilised real-time data to optimise energy consumption, allowing them to save significant amounts of energy. The survey answers also confirmed this, with 71% of respondents in industries like automotive, pharmaceuticals, and consumer goods saying that AI-driven solutions helped them reach sustainability goals, especially around minimizing their energy use and emissions.

As promising as these benefits are, the study did identify a handful of hurdles to AI adoption in healthcare. A major obstacle was the high cost of implementing AI systems, making it difficult for small and medium-sized enterprises (SMEs) to integrate AI into their operations. Concerns about data privacy and cyber security were also common, with adoption of artificial intelligence systems often to necessitate the processing of huge amounts of sensitive data, making breaches and ethical use of AI key concerns to be addressed. There was also mention of a shortage of available talent to manage new AI technologies, and that it was hard for organizations to find people with suitable qualifications. This will require more specific AI training programmes as well as partnerships between academia and industry, according to the study. «Less than a quarter of universities currently offer AI programmes.

The ethics of AI decision-making, including issues of algorithmic bias and transparency, was also covered, particularly in high-stakes settings like health care and finance. Table 5 show the Ethical Issues and Governance in AI for SCM. The study highlights the importance of organizations creating clear frameworks for AI governance, with the objective of ensuring that ethical standards are followed. In conclusion, although AI has potential to revolutionise in SCM but integration is tuff nut to crack owing to high costs, data breaches, lack of people, ethics etc. On the research front, we should conduct more studies on cost-competitive solutions for SMEs, develop or envision AI regulatory frameworks, and look into how AI can help address global supply chain challenges.

Table 5. Ethical Issues and Governance in AI for SCM.

Ethical Issue	Description	Governance Strategy
Algorithmic Bias	AI models may reflect biases based on historical data.	Regular audits, diverse data sources, and algorithm transparency.
Data Privacy Concerns	Sensitive consumer and operational data may be exposed.	Implement strict data protection policies and encryption methods.

Accountability for Decisions	AI decisions might lack transparency, leading to accountability issues.	Establish clear guidelines for human oversight of AI-driven decisions.
Transparency and Fairness	AI systems can be perceived as "black boxes" with unclear decision-making processes.	Ensure AI models are explainable and transparent for all stakeholders.

6 Conclusion

In this study, we have investigated the game-changing opportunities presented by Artificial Intelligence (AI) in the context of Supply Chain Management (SCM), highlighting its capacity for predictive analytics, visibility logistics and sustainable practices. An important revelation from the surveys clearly manifests that AI-infused technologies play a crucial role in enhancing operational efficiency, decision-making, and supply chain resilience. Leveraging vast amounts of data, AI allows organizations to accurately predict demand, optimize inventory, and minimize disruptions, creating more agile, responsive supply chains. Moreover, deployment of AI with the blockchain technology results in higher transparency, reducing fraud and making logistics process more reliable.

Also, artificial intelligence plays a crucial role in meeting the sustainability goals of organizations. AI-powered systems lower carbon footprints enabling green supply chain practices through route optimization, energy management, and waste reduction. A positive alignment with increasing global demand for sustainability, these capabilities offer businesses an opportunity to take advantage of the bottom line benefits that sustainability aligned businesses will expose as a whole.

The study also highlights several major barriers businesses must overcome as they implement AI in their supply chains. The high costs associated with AI adoption can also be a major barrier to entry, particularly for small and medium-sized enterprises (SMEs). Additionally, data privacy issues and cybersecurity concerns, in addition to lack of skilled talent to operate these complex artificial intelligence systems further impede the wide acceptance of these technologies. The element of involvement of algorithms or ethics otherwise, we will end up in a position where any algorithm becomes biased will indeed need a proper governed framework to be developed for AI.

To sum up, AI has better potential in supply chain management transformation but there are number of constraints organisations need to overcome to harness the true potential of AI. "We hope these findings encourage more studies to solidify cost-efficient AI solutions for SMEs, strong AI governance frameworks, and the second one to mitigate ethical concerns towards AI usage." Overcoming AI in Supply Chain and Logistics Challenges

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References

1. Goswami, S. S., Mondal, S., Sarkar, S., & Halder, R. Artificial Intelligence-Enabled Supply Chain Management: Unlocking New Opportunities and Challenges. Artificial Intelligence and Applications (2024).
2. Mohammad, A. A. S., Khanfar, I. A. A., Al Oraini, B., Vasudevan, A., & Mohammad, S. I. Predictive Analytics on Artificial Intelligence in Supply Chain Optimization. Data and Metadata, 3, 395 (2024).
3. Riad, M., Naimi, M., & Okar, C. Enhancing Supply Chain Resilience Through Artificial Intelligence: Developing a Comprehensive Conceptual Framework for AI Implementation and Supply Chain Optimization. Logistics, 8(4), 111 (2024).
4. Qu, C., & Kim, E. Reviewing the Roles of AI-Integrated Technologies in Sustainable Supply Chain Management: Research Propositions and a Framework for Future Directions. Sustainability, 16(14), 6186 (2024).
5. Wamba, S. F., Queiroz, M. M., Guthrie, C., & Braganza, A. Industry Experiences of Artificial Intelligence (AI): Benefits and Challenges in Operations and Supply Chain Management. Production Planning & Control, 33(16), 1493–1497 (2024).
6. Wamba, S. F. Impact of Artificial Intelligence Assimilation on Firm Performance: The Mediating Effects of Organizational Agility and Customer Agility. International Journal of Information Management, 67, 102544 (2024).
7. Wamba, S. F., & Queiroz, M. M. Blockchain Adoption Challenges in Supply Chain: An Empirical Investigation of the Main Drivers in India and the USA. International Journal of Information Management, 46, 70–82 (2024).
8. Wamba, S. F., Kala Kamdjoug, J. R., Epie Bawack, R., & Keogh, J. G. Bitcoin, Blockchain and Fintech: A Systematic Review and Case Studies in the Supply Chain. Production Planning & Control, 31(2–3), 115–142 (2024).
9. Akter, S., Wamba, S. F., Gunasekaran, A., Dubey, R., & Childe, S. JHow to Improve Firm Performance Using Big Data Analytics Capability and Business Strategy Alignment? International Journal of Production Economics, 182, 113–131 (2024).
10. Ren, S. J., Wamba, S. F., Akter, S., Dubey, R., & Childe, S. J. Modelling Quality Dynamics, Business Value and Firm Performance in a Big Data Analytics Environment. International Journal of Production Research, 55(17), 5011–5026 (2024).
11. Gunasekaran, A., Papadopoulos, T., Dubey, R., Wamba, S. F., & Childe, S. J. Big Data and Predictive Analytics for Supply Chain and Organizational Performance. Journal of Business Research, 70, 308–317 (2024).
12. Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S. J., Dubey, R., & Childe, S. J. Big Data Analytics and Firm Performance: Effects of Dynamic Capabilities. Journal of Business Research, 70, 356–365 (2024).
13. Mariani, M. M., & Wamba, S. F. Exploring How Consumer Goods Companies Innovate in the Digital Age: The Role of Big Data Analytics Companies. Journal of Business Research, 121, 338–352 (2024).
14. Wamba, S. F., & Queiroz, M. M. Blockchain in the Operations and Supply Chain Management: Benefits, Challenges and Future Research Opportunities. International Journal of Information Management, 52, 102064 (2024).
15. Rejeb, A., Keogh, J. G., Wamba, S. F., & Treiblmaier, H. The Potentials of Augmented Reality in Supply Chain Management: A State-of-the-Art Review. Management Review Quarterly, 71(2), 267–299 (2024).

16. Bawack, R. E., Wamba, S. F., & Carillo, K. D. A. A Framework for Understanding Artificial Intelligence Research: Insights from Practice. Journal of Enterprise Information Management, 34(1), 247–270 (2024).
17. Wamba-Taguimdje, S. L., Wamba, S. F., Kala Kamdjoug, J. R., & Tchatchouang Wanko, C. E. Influence of Artificial Intelligence (AI) on Firm Performance: The Business Value of AI-Based Transformation Projects. Business Process Management Journal, 27(2), 506–531 (2024).
18. Johnson, M., Albizri, A., Harfouche, A., & Fosso-Wamba, S. Integrating Human Knowledge into Artificial Intelligence for Complex and Ill-Structured Problems: Informed Artificial Intelligence. International Journal of Information Management, 56, 102250 (2024).
19. Al-Qudah, A. A. Artificial Intelligence for Sustainable Finance and Sustainable Technology. Journal of Sustainable Finance & Investment, 12(3), 567–584 (2024).
20. Xu, L., Mak, S., Minaricova, M., & Brintrup, A. On Implementing Autonomous Supply Chains: A Multi-Agent System Approach. arXiv preprint arXiv:2310.09435 (2023).

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