Artificial Intelligence Applications in Supply Chain Management

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Abstract

Supply chain management (SCM) is a complex and dynamic field that involves the coordination of activities across multiple organizations and stakeholders. Artificial intelligence (AI) has emerged as a key enabler of SCM, offering unprecedented opportunities for organizations to optimize their supply chains, improve efficiency, and reduce costs. This research explores the applications of AI in SCM, examining its benefits, challenges, and future directions. The study focuses on the use of machine learning algorithms, natural language processing, and data analytics to improve demand forecasting, inventory management, logistics, and transportation. The results show that AI can significantly enhance SCM capabilities, leading to improved accuracy, reduced costs, and enhanced customer satisfaction. However, the study also highlights the need for careful consideration of organizational context, data quality, and human-AI collaboration to ensure successful AI adoption in SCM. This research contributes to the existing literature on AI in SCM, providing insights for practitioners, researchers, and policymakers seeking to leverage AI for supply chain excellence.