The Role of Blockchain in Enhancing Transparency and Sustainability in Ethical Sourcing within Decentralized Supply Chain Management: A Systematic Literature Review

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Abstract

Blockchain technology has emerged as a transformative solution for decentralized supply chain management, addressing the growing need for transparency, accountability, and ethical practices. This systematic literature review examines studies from 2004 to 2024 to explore blockchain's role in promoting sustainable and ethical sourcing across various industries. The findings underscore blockchain's ability to leverage decentralized and immutable ledger systems to reduce fraud, prevent data manipulation, and address information asymmetry, thereby fostering trust and compliance among supply chain stakeholders. The research highlights blockchain's effectiveness in real-time tracking and product traceability, which supports adherence to sustainability goals and ethical labor standards. However, the study also identifies significant challenges to blockchain adoption, including regulatory hurdles, integration with existing systems, and scalability limitations, especially in processing large transaction volumes. Furthermore, the paper explores blockchain's potential to bridge transparency gaps, enhance data security, and ensure compliance through advanced protocols, particularly in sectors such as fashion, food, and diamonds. The findings emphasize the need for further research, particularly through industry-specific case studies, to better understand the unique risks and opportunities blockchain presents. Such investigations could provide deeper insights into its broader impact on sustainable supply chain practices and its role in fostering ethical sourcing across diverse industries.

Keywords: *Blockchain, Ethical sourcing, Transparency, Sustainability, Supply chain management*