

Food Quality Assurance in Supply Chain Management using Blockchain

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Abstract: *The food industry is increasingly recognizing the need for robust quality assurance measures in supply chain management to ensure the integrity and safety of food products. However, existing centralized systems are susceptible to issues such as fraud, corruption, and lack of transparency. This paper explores the application of blockchain technology in addressing these challenges and enhancing food quality assurance in supply chains. By leveraging the decentralized and immutable nature of blockchain, the proposed solution aims to create a reliable, transparent, and secure system for tracking and verifying the quality of food products throughout the supply chain. Through a thorough analysis of the benefits and challenges of integrating blockchain in supply chain management, this study highlights the potential advantages of increased traceability, transparency, and trust in food supply chains. Real-world case studies and theoretical investigations are used to establish the requirements and feasibility of implementing blockchain-based solutions in the food industry. Overall, this research contributes to the understanding of how blockchain can revolutionize supply chain management in the food industry, offering opportunities for increased efficiency, integrity, and trust in food quality assurance processes.*

Keywords: Food quality assurance, supply chain management, blockchain technology, transparency, traceability, authentication, provenance, real-time monitoring, decentralized system, reliability

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