

Chapter 4

Emerging Trends for Blockchain Technology in Smart Supply Chain Management

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ABSTRACT

Smart supply chain management aims to transact more efficiently, quickly, and flexibly by integrating artificial intelligence, big data analytics, machine learning, and other digital technologies into traditional supply chain management processes. With globalization and digitalization reaching significant dimensions, integrating digital technologies in business models is extremely important. In this way, blockchain technology offers a reliable and tamper-proof structure. With the rapid development of technology, the potential of blockchain in smart supply chain management is increasing. Businesses have to integrate blockchain technology into smart supply chain management. For this reason, it is necessary to know the emerging trends for blockchain technology in smart supply chain management. Therefore, the present study focuses on the blockchain technology on smart supply chain management. Accordingly, the aim is to identify emerging trends for blockchain technology on smart supply chain management by using Vosviewer from systematic literature review perspective.

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1. INTRODUCTION

Smart supply chain management aims to transact more efficiently, quickly and flexibly by integrating artificial intelligence, big data analytics, machine learning and other digital technologies into traditional supply chain management processes (Zhang et al., 2023). With globalization and digitalization reaching significant dimensions, integrating digital technologies into business models is extremely important (Dallasega et al., 2018). Blockchain (BC) technology is an important tool in smart supply chain management (Jum'a, 2023). BC is a decentralized and transparent database technology in which digital data is held in chain-linked blocks (Jain and Chugh, 2021). In this way, BC technology offers a reliable and tamper-proof structure (Choi, 2020). With the rapid development of technology and finding suitable solutions, the potential of BC in smart supply chain management is increasing (Han & Fang, 2023). Businesses are now compelled to undergo a digital transformation and seamlessly integrate BC technology into their smart supply chain management strategies (Jayashri et al., 2023; Ghazanfari et al., 2019). Recognizing and analyzing opportunities in this context is imperative for organizations seeking to stay competitive. Consequently, a comprehensive understanding of the emerging trends for BC technology in smart supply chain management becomes essential. Despite the existing limited studies, acknowledging and actively adapting to these emerging trends is crucial for businesses looking to strengthen their position in the rapidly evolving landscape of smart supply chain management.

To fill the gap of knowledge and to contribute to the literature, this study aims to answer the following questions:

- **Research Question 1:** What are the main issues addressed with BC technology in smart supply chain management?
- **Research Question 2:** What are the emerging trends for BC technology in smart supply chain management?

To find an answer to these research questions, the present study focuses on BC technology in smart supply chain management. Accordingly, the main aim is to identify emerging trends for BC technology on smart supply chain management using Vos Viewer from a systematic literature review perspective. The main contribution of this study is presenting the importance of BC technology in smart supply chain management, thereby expanding theoretical and practical knowledge. Furthermore, the revealed knowledge gap can give future researchers an idea to focus on this field. The results are expected to benefit the business management field and contribute to future research. The following section explains BC technology on smart supply chain management in detail.

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