

Chapter 4

Emerging Trends for Blockchain Technology in Smart Supply Chain Management

Melisa Ozbiltekin-Pala
Yaşar University, Turkey

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.

DOI: 10.4018/979-8-3693-0210-1.ch004

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.

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/emerging-trends-for-blockchain-technology-in-smart-supply-chain-management/334684

Related Content

Virtual Team Leadership, Operation, and Technology Deployment: A New Model for Remote Working

Anatoli Quade (2022). *Handbook of Research on Digital Transformation, Industry Use Cases, and the Impact of Disruptive Technologies* (pp. 165-181).

www.irma-international.org/chapter/virtual-team-leadership-operation-and-technology-deployment/288648

The Transformation Framework: The Role of Artificial Intelligence for Military Strategies (RAI4MS)

Antoine Trad (2022). *Technological Development and Impact on Economic and Environmental Sustainability* (pp. 245-268).

www.irma-international.org/chapter/the-transformation-framework/301894

Towards Securing Information in the Digital Era Using Blockchain Technology

Bhuvaneshwari Amma N. G. (2023). *Supporting Technologies and the Impact of Blockchain on Organizations and Society* (pp. 264-273).

www.irma-international.org/chapter/towards-securing-information-in-the-digital-era-using-blockchain-technology/330044

Digital Transformation in the Utilities Industry: Industry 4.0 and the Smart Network Water

Marcelo Teixeira de Azevedo, Alaide Barbosa Martins and Sergio Takeo Kofuji (2021). *Research Anthology on Digital Transformation, Organizational Change, and the Impact of Remote Work* (pp. 838-865).

www.irma-international.org/chapter/digital-transformation-in-the-utilities-industry/270327

The Digital Resurgence of Prisons

Giovanni Chiola (2022). *Handbook of Research on Applying Emerging Technologies Across Multiple Disciplines* (pp. 286-299).

www.irma-international.org/chapter/the-digital-resurgence-of-prisons/301323