

# Impact of Digital Business Communication on Expanding Sustainability in B2B Supply Chains

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In this digital era, the adoption of digital technologies is transforming business processes and helping organizations to achieve goals both domestically and globally. The role of digital businesses' communication in the B2B supply chain has become increasingly extensive. Digital technologies are helping companies to streamline their transactions more safely, enhance collaboration, and build trust among partners. Digital technology tools help businesses to improve sustainability by enhancing visibility, enabling real-time information, and facilitating product tracking throughout the entire supply chain. Earlier research explored digital tools in supply chains, but there is limited research on how these tools support business communication in supply chain sustainability. The study addresses this gap by conducting a systematic literature review of 102 journal papers from the Scopus and Web of Science databases. Out of the 732 articles initially screened, 102 were chosen, which is a selection rate of 13.9 %. The data show that the number of publications rose by more than 60 % between 2022 and 2024. This shows that audience interest is being increased in using digitalization to make supply chains sustainable. This paper outlines how digital technologies such as blockchain, ERP, cloud, and RFID help industries reach digital sustainability. The study has also presented real-world case studies of Walmart and Unilever that explain the importance of digitalization in the supply chain. This review suggests a noticeable increase in research on implementing digital tools in sustainable supply chain processes.

## 1. Introduction

Digitalization in the supply chain involves using digital technologies to automate processes and facilitate the integration of information between stakeholders. It is expected that the use of digital tools would create value surpassing 100 trillion USD. Companies using digitalization in the form of AI, cloud-based technologies improve their integration of data towards various departments smoothly (Alyasein et al., 2025).

To address both immediate and long-term crises, B2B firms should plan to enhance their assets, resources, and sustainability performance. Because of sustainability, firms can easily deal with unexpected interruptions (Rahman et al., 2023). Blockchain and RFID play an important role in promoting sustainability through traceability, transparency of the supply chain by proper allocation of resources, reducing waste from extra use of material, and help to monitor the overproduction with shared data between suppliers (Paul et al., 2022).

Nowadays, environmental sustainability has become one of the important aspects for small and medium-sized firms (SMEs). To gain a competitive advantage, SMEs should integrate digital technologies into their current SC process. This integration of technologies IoT, Machine learning, blockchain, AI, and Cloud computing, facilitates timely and accurate information sharing, collaboration between partners, inventory monitoring, and demand management (Ramakrishna et al., 2023).

Digital integration, such as inventory information sharing between partners, plays a significant role in sustainability. For example, a company uses an app like FieldLink that helps its technicians access real-time data and service requests while working off-site. This app helps in route optimization, which helps to reduce emissions and helps technicians to check the availability of inventory with the help of suppliers digitally, while on-site (Li and Found, 2017).

The integration of digital technologies within B2B supply chains is a critical development in the pursuit of sustainable business practices. As organizations seek operational efficiency and environmental responsibility,

digital business has become the focus for communication. It supports streamlined collaboration, transparency, traceability, and faster decision-making. The paper aims to explore the use of digital technologies in business communication and their implementation. Additionally, systematic literature review analyses trends of papers published in the context of digital technologies in sustainability, specifically business communication. Industry's real-time case studies help to understand the scope of digital tools integration. Recent literature has instructed that digital technologies are transforming supply chain operations by increasing efficiency, traceability, and transparency. Though most studies address the digital tools and their technical and operational applications, aspects related to B2B digital communication are still unfamiliar. Furthermore, it is seen that no attention has been given to the fact that these digital technologies play a key role in sustainability through data sharing, integration, and digital collaboration among stakeholders.

The state-of-the-art shows that although there has been good progress in supply chain transparency and traceability because of digital technologies, a knowledge gap remains about the role of digital tools in the supply chain to support sustainability and their social and environmental outcomes. The study aims to address the gap by scientifically examining how digital tools play a significant role in B2B supply chain sustainability. The research advances the state of the art by conducting a thorough review of 102 papers for a systematic literature review and found technologies such as blockchain, AI, ERP, and cloud systems, which can be used to support supply chain sustainability. Representing how digital tools help in real-world case studies (e.g., Walmart and Unilever) to achieve sustainable results.

## 2. Methodology

The study uses a systematic literature review approach to study the role of digital business communication in supporting sustainability in the B2B supply chain. Scopus and Web of Science were searched to identify the papers published between 2016 to 2025. The search query combined keywords and PEO framework e.g., ("Industries" OR "Supply chain" OR "supplier-buyer" OR "B2B") AND ("Industry 4.0" OR "digital technologies" OR "Data communication") AND ("Sustainability" OR "tracking and traceability" OR "efficiency") have used to retrieve the data, the inclusion criteria were,

- Document type: Final Journal Articles
- Language: English.

The initial search query yielded 300 journal articles from Scopus and 432 from the WOS database, totaling 732 papers from both databases. After removing 27 duplicate articles, 705 articles remained. 548 articles were rejected due to a mismatch of titles. Screening full-text assessment and abstract of the remaining 184 articles led to the exclusion of 82 articles. Finally, 102 journal articles were selected. The following figure shows the detailed work of the selection process in SLR.

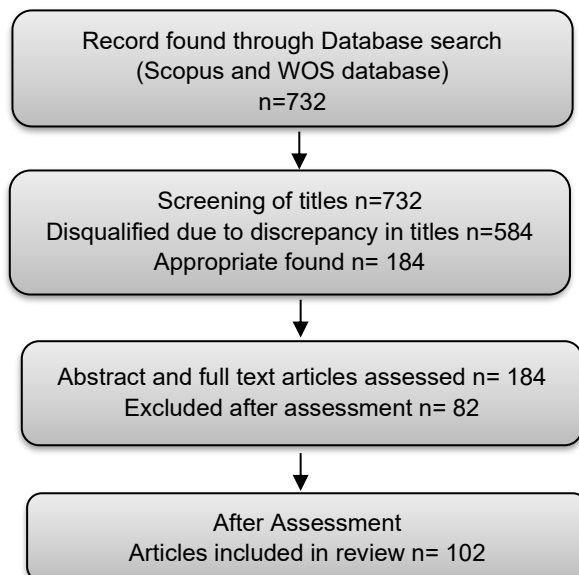


Figure 1: Details of the Methodology Steps

### 3. Conceptual Background

#### 3.1 Digital Tools Used in B2B Communication

Kache and Seuring (2017) stated that collaboration and sharing of information between supply networks enhances supply chain performance, reducing ambiguity between suppliers and buyers. Digital tools have transformed B2B communication by enabling suppliers and buyers to connect quickly and transparently, fostering cooperation. Digital tools have revolutionized B2B communication. B2B communication is also being redefined by emerging technologies like blockchain, which improves supply chain trust and traceability between stakeholders by offering transparent and unchangeable transaction records (Kshetri, 2018). Internet of Things (IoT) technologies, such as RFID, EDI, facilitate constant connectivity by sending real-time information about production equipment, transportation conditions, and inventories, enhancing responsiveness and visibility (Ben-Daya et al., 2019).

#### 3.2 Sustainability in B2B Supply Chains

Companies aim to reduce emissions, ensure ethical sourcing, and manage resources efficiently. Practices such as green procurement, supplier audits, eco-labeling, and reverse logistics are increasingly common (Mollenkopf et al., 2022). Bag et al. (2020) emphasize that integrating sustainability into supply chains not only aligns with regulatory compliance but also strengthens long-term profitability and brand reputation.

#### 3.3 Digital Communication Tools as Enablers of Sustainability

Digital business communication tools play a strategic role in enabling and reinforcing sustainable supply chain practices. Blockchain ensures immutable records of transactions, enhancing the traceability of raw materials (Queiroz et al., 2019). Supplier portals enable the exchange of sustainability metrics and compliance documents. Mobile communication tools facilitate remote training of suppliers in developing regions, thus promoting social sustainability (Papetti et al., 2019). El Baz and Ruel (2021), found that companies with digital communication capabilities responded effectively to the COVID-19 crisis by maintaining coordination with critical suppliers. To gain a better knowledge and understanding, the following selected papers describe the different focus areas, digital tools, and how they can be used in sustainability.

*Table 1: Use of Digital Tools for Sustainability*

Focus Area	Technologies Discussed	Sustainability Aspect in Supply Chain	Sources
Digital Drivers and Barrier to SC sustainability	IoT, Blockchain, RFID, ERP, Machine learning	Digital communication helps in waste reduction	(Oubrahim and Sefiani, 2023)
SC Digital integration in sustainable food hotels	Cloud, Digital integration systems, ERP	Digital information sharing between hotels increases sustainability	(Al-Husain et al., 2024)
Adoption of procurement increases sustainability	E-sourcing, E-tendering, E-ordering, E-invoicing	E-procurement helps in the less use of paper for sustainability	(Singh et al., 2020)
Digital technologies for a sustainable supply chain	Cloud computing, big data analytics, blockchain	Use of real-time data among stakeholders for sustainability	(Liu et al., 2023)
Sustainable innovative procurement	AI, automated logistics, autonomous trucks	Technologies such as AI will help in supplier selection for sustainability	(Beske-Janssen et al., 2023)
Integration of the supply chain in pharmaceutical industry for sustainability	SAP, Cloud, AI, BDA, Blockchain,	To increase sustainability through digital integration	(Shashi, 2023)
Blockchain supports sustainable	Blockchain	Blockchain use in reverse Logistics for sustainability	(Naseem et al., 2023)
Joint implementation of AI, blockchain in supply chain	AI and blockchain	AI and blockchain help sustainability	(Tsolakis et al., 2023)
Relationship between business and digital transformation	Machine learning, cloud computing, AI, IoT, Big data analysis, logistical management software	Digital transformation helps companies support sustainability through automation, energy, and waste-related contamination products.	(Moghrabi et al., 2023)

#### 4. Descriptive Results

This section provides a detailed analysis of trends in the growing interest among academic publishers in integrating digital tools into the supply chain. Figure 2 shows the year-by-year increasing interest by publishers. Whereas Table 2 presents the number of papers published in the context of supply chain, digital tools, and sustainability.

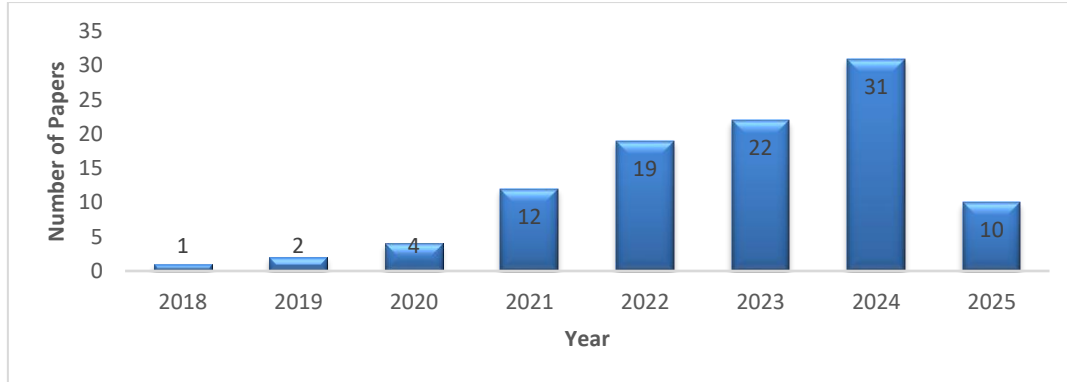


Figure 2: The number of publications per year

The development of literature from 2018 to 2025 demonstrates a rising interest within the academic community, particularly during the period from 2022 to 2024. This trend is evident in the articles selected for this paper, as their recent publication dates ensure that the data is relevant and reliable, and used to draw conclusions about industries adopting digital technologies in the supply chain for sustainability. Table 2 highlights the top 10 most productive sources where these publications have been featured.

Table 2: Top ten most productive journals

Sources	Count
Sustainability, MDPI	39
Business Strategy and The Environment	11
Cleaner Logistics and Supply Chain	3
International Journal of Information Management Data Insights	3
Journal of Cleaner Production	3
Logforum	3
Technological Forecasting and Social Change	3
Discover Sustainability	2
IEEE Transactions on Engineering Management	2
Logistics-Basel	2

Sustainability MDPI and business strategy and the environment have published most articles about sustainability and digitalization supply chain. Very little to no publication activity from cleaner logistics and supply chain, and the International Journal of Information Management Data Insights.

#### 5. Case Studies

##### 5.1 Case Study of Unilever and SAP

In Indonesia, Unilever coordinated with SAP to improve traceability in the supply chain process of palm oil. SAP implemented Green Token, which works as a digital tracker. They have used blockchain technology, to track 188,000 t palm oil. This helped Unilever to check the sourcing of palm they are receiving from suppliers, whether it is from environmental and ethical sourcing or not. This step has helped Unilever to maintain a digital track record of each transaction and also intends suppliers to use to record each process of transaction through blockchain and to also confirm that the palm oil they receive is in a sustainable process. With this initiative, Unilever also ensured the whole supply chain process oil from farm to product (Macmillan, 2022).

## 5.2 Case Study of Walmart and IBM Hyperledger

Yiannas, CEO of Walmart, bought a packet of mango slices from a Walmart store in the USA, brought it to the head office, and asked the team to trace which supplier these mangoes had received from. Then the team started to connect, call, and email suppliers to identify the supplier they received from, and after 7 d, they got the information. So, in 2016, Walmart collaborated with IBM on its Hyperledger Fabric project (Hyperledger, 2025), using blockchain technology to trace the sales and traceability of products like mangos in U.S. Walmart stores and pork in China stores. Walmart not only collaborated with IBM but also with GS1 for labels and barcodes, so that each supplier in different destinations around the world can scan the barcode into the blockchain through a web interface; by implementing this technology, suppliers can now easily connect to the Walmart supply chain process, which helps to improve communication and visibility. It is also helping Walmart to identify pork, whether it is genuine and safe, as suppliers upload the authenticity and safety certificates. For mangoes, Walmart can now trace the mangoes in 2.2 s instead of 7 d. This whole process has not only improved Walmart's traceability but also its sustainability for the safety of food, massive paperwork, contamination risk, and timely sourcing for products like pork and mangoes.

According to systematic research and case studies, digital communication tools, including cloud computing, blockchain, artificial intelligence, and ERP, are essential for improving sustainability in B2B supply chains. These technologies ease data-driven cooperation between suppliers and consumers, enhance traceability, cut waste, and allow real-time monitoring. Walmart and Unilever case studies show how digital platforms promote compliance and operational efficiency. Additionally, research activity has increased in recent years, particularly between 2022 and 2024.

## 6. Conclusion

The study demonstrates that digital tools are crucial for facilitating sustainability in business-to-business supply chains. A systematic assessment of 102 papers from the original 732 records showed a 60 % increase in publications from 2022 to 2024. Case studies support these conclusions. Unilever used blockchain technology to track 188,000 t of palm oil, guaranteeing ethical and deforestation-free sourcing, while Walmart lowered the traceability of mangos from seven days to 2.2 s, reducing waste and enhancing food safety. This review demonstrates that a more comprehensive integration of blockchain, AI, IoT, and ERP now yields quantifiable improvements in traceability, efficiency, and environmental responsibility, in contrast to previous findings by Kache and Seuring (2017) and Bag et al. (2020), which emphasized information-sharing challenges and the role of big data. These findings demonstrate that digital communication tools not only enhance operational performance but also reinforce social and environmental sustainability, establishing new standards for robust and accountable supply chains despite enduring obstacles like prices, integration, and training.

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