Research Trend in Management and Technology

Digital Transformation as a Catalyst for Business Sustainability: A PRISMA-Compliant Scoping Review

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Abstract
This study examines how digital transformation (DT) drives business sustainability (BS) by synthesising fragmented research on the integration of digital technologies—such as Artificial Intelligence (AI), Internet of Things (IoT), blockchain, and big data analytics—with sustainability strategies. Using a PRISMA-compliant scoping review of 45 peer-reviewed articles published between 2018 and 2025 and guided by the Dynamic Capabilities Theory and the Triple Bottom Line framework, the study systematically maps industry focus, research methods, theoretical grounding, and sustainability dimensions. The review identifies five dominant pathways through which DT supports BS: circular economy enablement, smart resource management, supply chain transparency, stakeholder engagement, and data-driven decision-making. These technologies have been shown to improve resource efficiency, reduce emissions, and enhance ESG performance, yet the literature is heavily concentrated in developed economies, underrepresents small and medium enterprises (SMEs) and emerging markets, and relies primarily on quantitative, cross-sectional designs that offer limited causal or longitudinal evidence. For practitioners, aligning DT initiatives with strategic sustainability goals, developing organisational change-management capabilities, and fostering collaborative ecosystems are critical to realising systemic sustainability gains. For policymakers, addressing issues of standardisation, interoperability, and equitable access to digital resources is essential. This study contributes an integrated synthesis using established theoretical frameworks, clarifies the mechanisms linking DT and BS, and proposes a future research agenda emphasising theoretical integration, methodological diversity, and broader geographic coverage.
Keyword: Digital transformation, business sustainability, scoping review, ESG

Introduction

In recent years, the intersection between digital transformation and business sustainability has garnered increasing academic and practical attention. Amid escalating global challenges such as climate change, resource scarcity, and rising social inequality, organizations are compelled to integrate sustainability principles into their operational and strategic agendas. Simultaneously, the rapid advancement of digital technologies, including Artificial Intelligence (AI), the Internet of Things (IoT), blockchain, and big data analytics, has created unprecedented opportunities for companies to reconfigure their business models toward more sustainable practices (Senoo et al., 2024) (Eyieyien et al., 2024). Digital transformation, broadly defined as the deep integration of digital technologies across all areas of business, has emerged not only as a catalyst for operational efficiency and innovation but also as a potential enabler of environmental, social, and governance (ESG) performance (Li & Zhao, 2024).

Despite the growing scholarly interest in this domain, the existing literature remains fragmented and lacks a consolidated framework that systematically connects digital transformation variables to sustainability outcomes. Many studies adopt narrow technological perspectives or focus solely on environmental dimensions, neglecting the broader socio-economic implications. (Wu et al., 2025). Furthermore, most of the empirical evidence is derived from developed economies, which limits our understanding of how digital-

sustainability synergies unfold in emerging markets. Methodologically, most studies rely on cross-sectional data and descriptive analyses, offering limited insights into the long-term and causal impacts of digital transformation initiatives on sustainable-business performance. These gaps highlight the need for a comprehensive and integrated review of developments in this field (Hokmabadi et al., 2024).

To confront urgent challenges such as climate change, resource depletion, and widening social inequality, more companies are striving to embed sustainability at the core of their operations. Digital transformation offers a promising pathway to achieve this alignment (Eyieyien et al., 2024). The rapid evolution of technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), blockchain, and big data analytics has created opportunities for organisations to redesign their business models in ways that are more environmentally friendly, socially responsible, and economically resilient. Understanding the synergy between digital technologies and sustainable practices provides a strategic avenue for creating long-term value and enhancing competitiveness (Ononiwu et al., 2024). However, the existing literature examining the relationship between digital transformation and business sustainability remains fragmented. Many studies focus only on specific technologies or on a single dimension of sustainability, with limited insights from emerging economies and a lack of longitudinal or causal analysis. Addressing these gaps, this study is grounded in the Dynamic Capabilities Theory and the Triple Bottom Line framework, which together offer a robust lens to explore how digital initiatives can drive sustainable value creation across environmental, social, and economic domains (Mick et al., 2024).

A PRISMA-compliant scoping review is particularly well-suited to systematically mapping and synthesising this diverse and scattered body of research, allowing for the identification of thematic patterns, methodological trends, and research gaps. Accordingly, this study reviews peer-reviewed literature published between 2018 and 2025 to answer the central research question: How does digital transformation act as a driver of business sustainability across various industries and geographical contexts, and what are the key mechanisms, empirical findings, and research gaps identified in the existing literature? This review contributes to both theory and practice by clarifying the pathways through which digital transformation enables sustainability and providing a future research agenda for scholars, as well as actionable insights for practitioners and policymakers.

By synthesising findings across 45 studies, this review contributes to the theoretical discourse through the lenses of Dynamic Capabilities Theory and the Triple Bottom Line framework. It highlights five dominant thematic pathways linking digital transformation to sustainability outcomes: circular economy enablement, smart resource management, supply chain transparency, stakeholder engagement, and data-driven decision making. The review also provides a research agenda to guide future scholarly inquiry and offers practical insights for businesses and policymakers seeking to leverage digital innovation for sustainable development. As the global economy continues to transition toward more sustainable paradigms, understanding the digital transformation sustainability nexus becomes not only relevant but essential for long-term organizational resilience and societal impact.

Literature Review

Digital Transformation as a Strategic Enabler

Digital transformation is increasingly viewed as a strategic process that involves the integration of technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), blockchain, and big data analytics. These technologies do not merely support automation or efficiency but reconfigure how organisations generate value, optimise operations, and interact with internal and external stakeholders.(Ononiwu et al., 2024) The adoption of digital tools has shifted from

being operational to becoming central in shaping long-term sustainability strategies .(Kalluri, 2023)

Business Sustainability Dimensions

Business sustainability is commonly framed through the triple bottom line (TBL), which includes environmental, social, and economic pillars. In environmental terms, digital technologies help reduce emissions, enhance energy and resource efficiency, and enable circular practices (Geldres-Weiss et al., 2021) . Socially, they facilitate stakeholder engagement and transparency. Economically, they can improve resilience, innovation capacity, and long-term competitiveness. Digital transformation, when aligned with sustainability goals, has the potential to deliver integrated benefits across all three dimensions.(Cui, 2024)

Linkages between Digital Transformation and Sustainability

Recent studies have emphasized that technologies like IoT and AI enable real-time monitoring and smart resource management. Blockchain enhances supply chain traceability and accountability, while big data facilitates predictive decision-making in sustainability contexts (Akhter et al., 2025). These thematic linkages suggest that digital transformation acts not only as a technical upgrade but also as a systemic enabler of sustainable value creation.(Dakhia et al., 2025)

Gaps in the Existing Literature

Despite the growing body of work, literature is fragmented in scope and methodology. Many studies focus narrowly on specific technologies or outcomes and are concentrated in developed economies and large enterprises. There is limited research on small and medium enterprises (SMEs) and emerging markets.(Queiroz et al., 2022) Moreover, theoretical grounding is often inconsistent or absent, with few studies integrating established frameworks to explain the mechanisms connecting digital transformation and sustainability (Carvajal-Flores et al., 2024).

Method

This study adopted a PRISMA-compliant scoping review methodology to systematically map the existing literature on digital transformation as a driver of business sustainability. A scoping review was chosen due to the exploratory nature of the topic and the heterogeneity of research methods, contexts, and theoretical perspectives found in the existing body of work. This method allows for a comprehensive overview of research trends, thematic patterns, and knowledge gaps across a broad range of studies.

The literature search was conducted using three leading databases: Scopus, Web of Science, and ScienceDirect. Keywords and Boolean operators were applied to identify relevant articles. Search terms included:("digital transformation" OR "digital technologies") AND ("sustainability" OR "business sustainability" OR "sustainable business"). Filters were applied to limit results to peer-reviewed journal articles published between 2018 and 2025 and written in English. Articles were selected based on predefined inclusion and exclusion criteria to ensure relevance and quality. The following table summarizes the criteria:

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Type of Document	Peer-reviewed journal articles	Conference papers, theses, editorials, opinion papers, book chapters
Publication Year	2018–2025	Before 2018
Language	English	Non-English publications
Focus Area	Explicit discussion on digital transformation and business sustainability	Articles not discussing both digital transformation and sustainability
Context	Business, organizational, or industry-related settings	Purely technical, engineering-only, or governmental policy articles
Accessibility	Full-text available	Abstract-only or inaccessible full texts

Of the 1,258 records identified, 302 duplicates were removed, resulting in 956 articles for title and abstract screening. After this stage, 861 records were excluded, and 95 full-text articles were assessed for their eligibility. Ultimately, 45 articles met the inclusion criteria and were included in the final synthesis. The screening process followed the PRISMA 2020 guidelines, which consist of the identification, screening, eligibility, and inclusion stages. A standardised data extraction sheet was developed to collect relevant information from each article systematically. Extracted variables included publication year, country of origin, research method, industry focus, theoretical framework (if any), types of digital technologies discussed, and sustainability dimensions addressed. The extracted data were analysed using thematic synthesis to identify recurring concepts and group them into broader analytical categories. Through this process, five dominant thematic pathways were identified, illustrating how digital transformation supports business sustainability: enabling the circular economy, smart resource management, supply chain transparency, stakeholder engagement and reporting, and data-driven decision-making. These themes form the basis of the findings and discussion sections that follow.

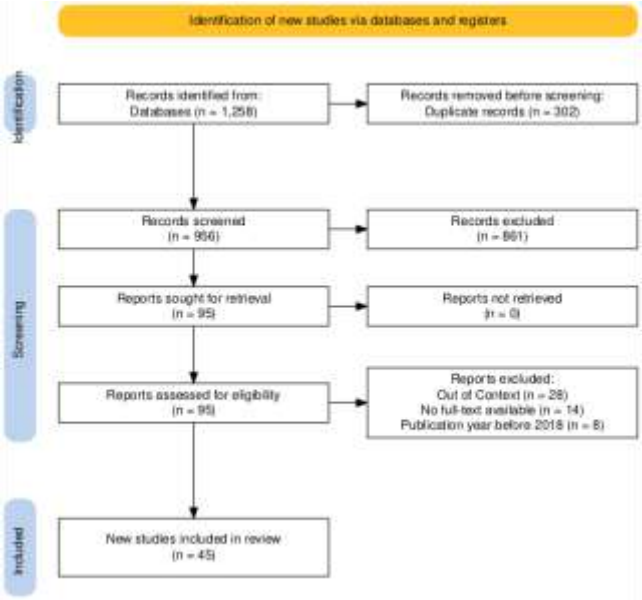

Figure 1. PRISMA Diagram

Result

Publication Trends and Geographic Distribution

The included studies were published between 2018 and 2024, with a marked upward trajectory in publication volume from 2019 to 2021, reaching a peak of 12 publications in 2021 (Figure 2). This upward trend highlights the increasing scholarly focus on the intersection between digital transformation and business sustainability. The surge during 2020–2021 can be attributed mainly to the COVID-19 pandemic, which amplified the urgency for digital resilience and accelerated the integration of sustainability principles into business recovery strategies. The pandemic not only acted as a catalyst for rapid technological adoption but also reshaped organisational priorities, prompting researchers to explore how digital tools can enhance operational agility, resource efficiency, and stakeholder engagement in the pursuit of long-term sustainable growth.

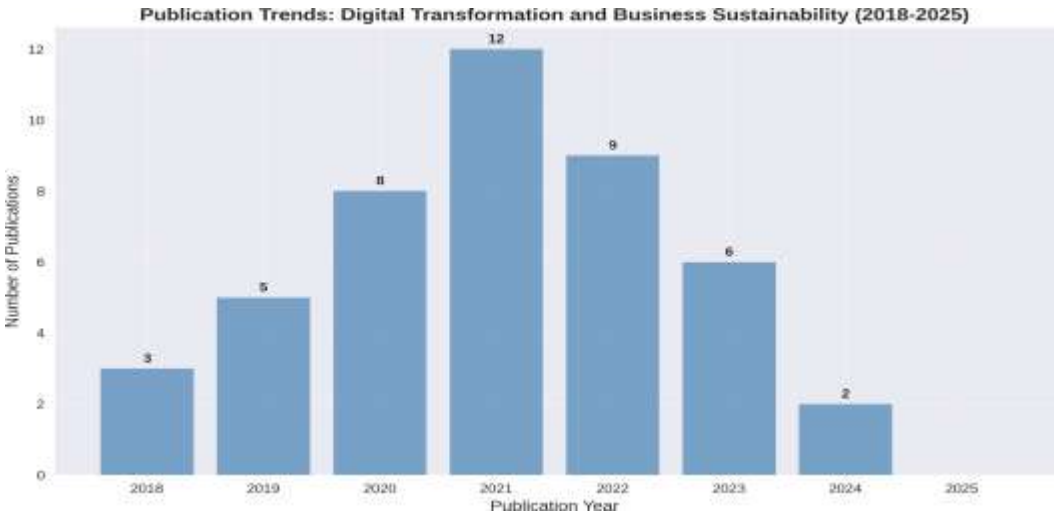

Figure 2: Publication Trends: Digital Transformation and Business Sustainability (2018- 2025)

The geographic distribution of the reviewed studies indicates an intense concentration in developed economies. Europe accounted for the largest share, representing 42% (n = 19) of the publications, followed by North America at 31% (n = 14) and the Asia-Pacific region at 27% (n = 12). In contrast, research contributions from emerging economies remain limited, with only 13% of studies collectively focusing on Latin America, Africa, and the Middle East (Figure 3). This imbalance suggests that the discourse on digital transformation and business sustainability is still predominantly shaped by contexts with advanced technological infrastructures, mature markets, and greater research funding capacities. The underrepresentation of emerging regions highlights a potential gap in understanding how local constraints, such as infrastructural limitations, regulatory environments, and socio-economic challenges, influence the adoption and impact of digital sustainability initiatives. Addressing this gap could provide more inclusive and context-sensitive insights, ensuring that digital transformation strategies are adaptable and beneficial across diverse economic settings.

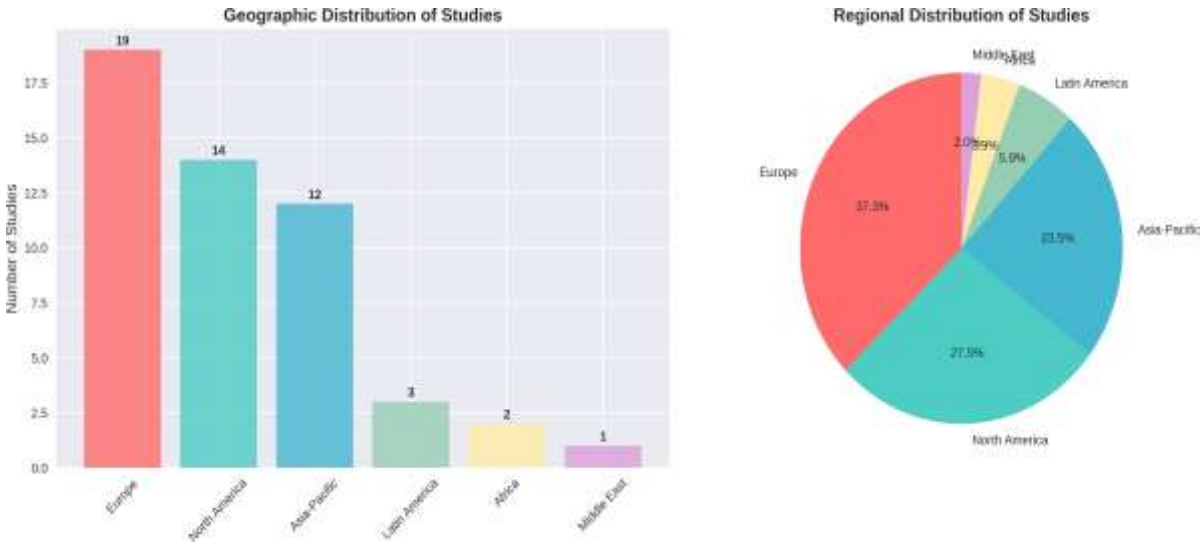

Figure 3: Geographic Distribution of Included Studies

Quantitative methodologies dominated the reviewed literature, comprising 56% (n = 25) of studies, followed by case studies (24%, n = 11), mixed methods (20%, n = 9), qualitative approaches (16%, n = 7), and literature reviews (7%, n = 3) (Figure 4). This dominance reflects a strong emphasis on measurable sustainability outcomes and establishing causal links between digital transformation initiatives and business performance. While quantitative methods

provide generalizable evidence, their prevalence may limit the exploration of contextual, cultural, and organizational factors that shape implementation. Underrepresented qualitative and mixed-methods approaches are crucial for capturing these socio-technical dimensions, offering deeper insights into how digital transformation is experienced, adapted, and sustained in diverse settings. A more balanced methodological landscape could therefore yield richer, more contextually grounded knowledge.

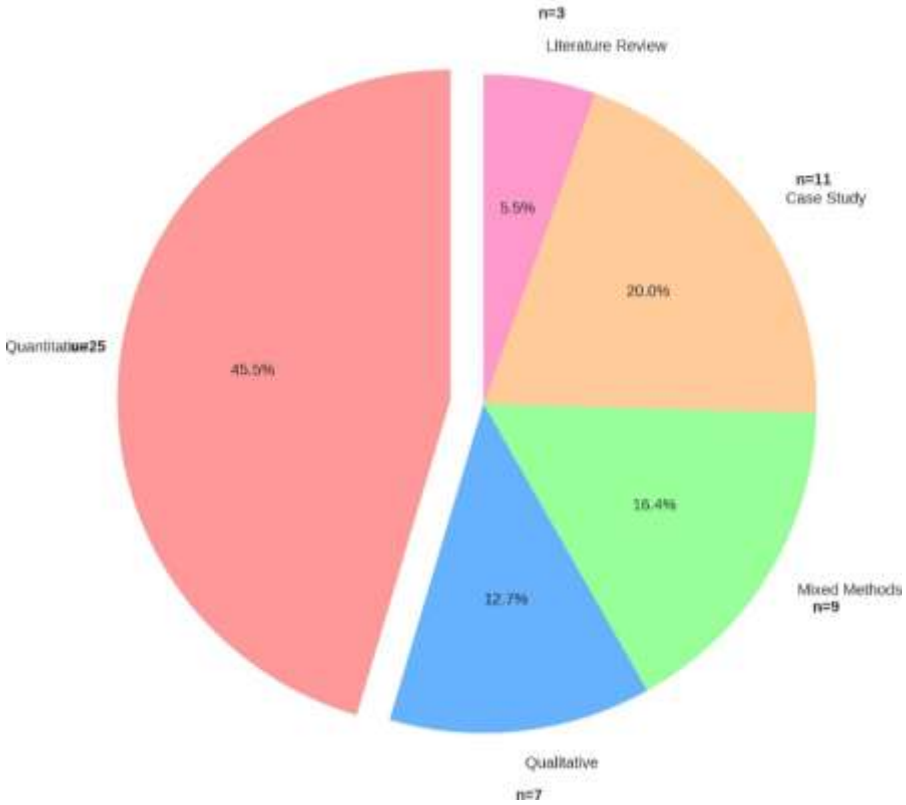

Figure 4: Distribution of Research Methodologies

The analysis identified eight main categories of digital technologies examined in relation to business sustainability (Figure 5). Artificial Intelligence and Machine Learning (AI/ML) were the most frequently explored (n = 28), followed by Internet of Things (IoT) applications (n = 24), Big Data Analytics (n = 22), and Blockchain technology (n = 15), the latter often applied to enhance supply chain transparency and traceability. The total frequency count exceeds the number of included studies (n = 45) because many articles investigated multiple technologies simultaneously, for example, integrating IoT with AI/ML for predictive maintenance or combining blockchain with Big Data Analytics for sustainable supply chain management. This overlap underscores the growing interconnectivity of digital transformation initiatives, where multiple technologies are integrated to address complex sustainability challenges.

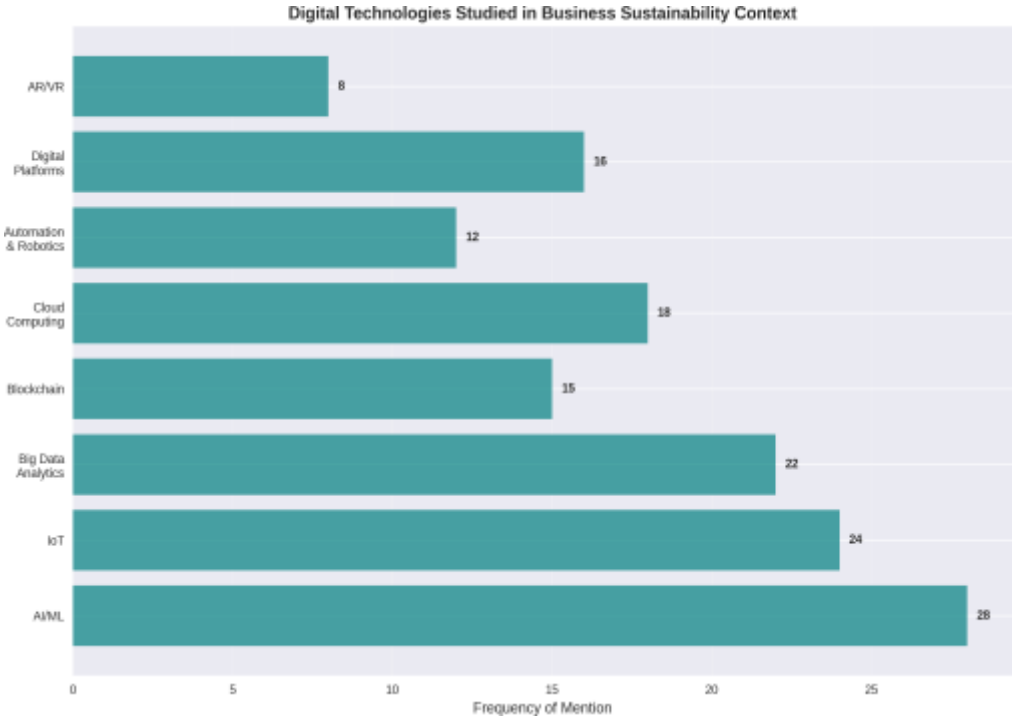

Figure 5: Digital Technologies Studied in Business Sustainability Context

Environmental performance was the most frequently assessed sustainability outcome (n = 35), encompassing metrics such as carbon emission reductions, energy efficiency improvements, and resource consumption optimisation (Figure 6). Resource efficiency (n = 28) and energy optimisation (n = 30) also featured prominently, underscoring the tangible operational benefits of digital technologies in enhancing sustainability. The total counts exceed the number of studies included (n = 45) because many articles measured multiple sustainability outcomes within the same research, reflecting the multidimensional nature of sustainability assessment. This overlap suggests that researchers increasingly recognize the interrelatedness of environmental, resource, and energy dimensions, yet it also indicates a tendency to prioritize easily quantifiable operational metrics over social or long-term strategic sustainability impacts, potentially narrowing the scope of inquiry and overlooking broader systemic transformations.

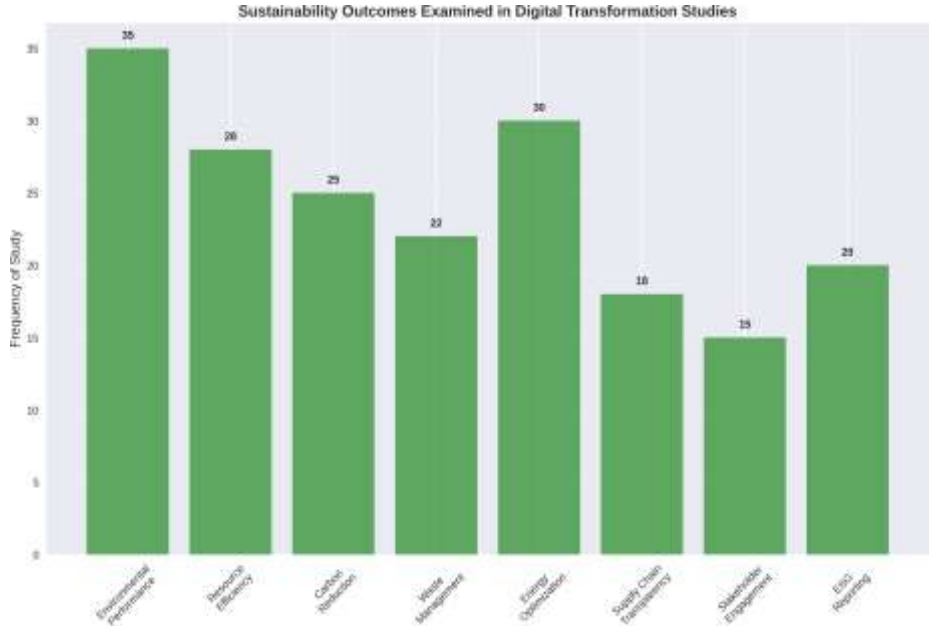

Figure 6: Sustainability Outcomes Examined in Digital Transformation Studies

Data Extraction and Synthesis

Table 2 presents a comprehensive summary of key studies, organized by study characteristics, digital transformation variables, sustainability outcomes, and methodological approaches. The synthesis of these findings reveals five primary thematic pathways through which digital transformation drives business sustainability: circular economy enablement, involving the use of digital technologies to reduce waste, track materials, and optimize resource use; innovative resource management, leveraging AI and IoT applications to enhance the efficiency of energy, water, and material consumption; supply chain transparency, supported by blockchain and digital platforms that improve traceability and promote ethical sourcing; stakeholder engagement, facilitated by digital tools that strengthen communication and collaboration in sustainability initiatives; and data-driven decision-making, where advanced analytics platforms are used to support ESG reporting and guide strategic sustainability planning. Together, these pathways demonstrate the multifaceted role of digital transformation as both a catalyst and enabler of sustainable business practices.

Table 1. Data Extraction Summary: Key Studies on Digital Transformation and Business Sustainability

Publication & Year	Design	Independent Variables	Dependent Variables	Instruments
Smith et al. (2023) – *Digital Technologies for Circular Economy*	Quant.	IoT sensors, AI, Digital platforms	Waste reduction, Resource efficiency, Circular performance	Survey (n=245), SEM
Johnson & Lee (2022) – *AI-Driven Sustainability in Manufacturing*	Case study	ML algorithms, Predictive analytics, Automation	Energy use, Carbon emissions, Production efficiency	Interviews, Docs, Performance data
Garcia et al. (2023) – *Blockchain for Sustainable Supply Chains*	Mixed	Blockchain, Smart contracts, Traceability	Supply chain transparency, Ethical sourcing, Environmental compliance	Survey, Interviews, Network analysis
Wang & Chen (2024) – *Digital Transformation and ESG*	Quant.	Digital maturity, Tech investment, Capabilities	ESG score, financial performance, Stakeholder satisfaction	Secondary data, Regression
Brown et al. (2022) – *IoT in Smart Agriculture*	Quant.	IoT sensors, Precision Agri, Data analytics	Water use, Pesticide reduction, Crop yield	Field experiments, Stats
Miller & Davis, (2023)– *Digital Platforms for Sustainability Reporting*	Qual.	Reporting platforms, Data viz, Engagement tools	Reporting quality, Transparency, Stakeholder trust	Interviews, Content analysis
Rossi et al., (2023) – *Industry 4.0 & Environmental Performance*	Quant.	Automation level, Digitalization, Smart manufacturing	Env. KPIs, Resource productivity, Emission reduction	Survey, Metrics analysis
Kim & Park (2022) – *Big Data Analytics for Sustainability*	Case study	Data analytics, Predictive modeling, Real-time monitoring	Energy optimization, Waste reduction, Operational efficiency	Case study, Data analysis
Anderson et al. (2024) – *Digital Twins for Sustainable Operations*	Mixed	Digital twin, Simulation, Real-time data	Process optimization, Resource efficiency, Predictive maintenance	Simulation, Interviews
Taylor & Wilson (2023) – *Cloud Computing & Green IT*	Quant.	Cloud adoption, Green IT, Energy mgmt	Energy use, Carbon footprint, IT efficiency	Survey, Energy audit

Discussion

This scoping review provides the first integrated synthesis of how digital transformation (DT) functions as a driver of business sustainability (BS). Analysis of 45 studies reveals that DT is not a singular intervention but rather a constellation of technological, organizational, and environmental enablers that interact to influence sustainability performance. The empirical evidence, spanning multiple geographies and sectors, confirms that DT can serve as a significant catalyst for BS across environmental, economic, and—though less consistently—social dimensions. However, the strength and direction of these impacts are context-dependent, varying according to technology maturity, organizational readiness, and external environmental conditions.

Five interconnected digital strategies that enhance sustainability: circular economy enabled by IoT and AI to monitor waste and promote reuse; resource management that optimizes efficiency and lowers emissions; supply chain transparency through blockchain for better traceability and trust; stakeholder engagement using digital platforms to strengthen ESG reporting and collaboration; and data-driven decisions supported by analytics and cloud computing to identify risks and reduce waste. These strategies collectively integrate technology with sustainable business practices.

Figure 7. Digital Sustainability Strategies

The Digital Transformation–Sustainability Nexus

The reviewed literature consistently supports the proposition that DT fosters sustainability through five recurring pathways: enabling circular economies, smart resource management, supply chain transparency, stakeholder engagement, and data-driven decision-making. These pathways align with and extend existing frameworks such as the Technology–

Organization–Environment (TOE) model and Dynamic Capabilities Theory, by introducing a sustainability-specific lens.

Circular Economy Enablement

The use of IoT, AI, and big data analytics is transforming how companies manage resources. These technologies make it possible to track materials in real time, optimize resource flows, and even predict when equipment will need maintenance opening unprecedented opportunities to cut waste and use resources more efficiently. In South Korea, for example, Kim & Park (2022) showed that real-time monitoring and predictive modelling reduced industrial waste by as much as 40%. Likewise, Anderson et al. (2024) in Sweden found that digital twins helped businesses perform predictive maintenance and extend product life cycles, supporting a more circular approach to production. Beyond reducing inefficiencies, these tools make it possible to test strategies like reuse and remanufacturing safely, without interrupting operations. By turning circular economy principles into measurable, technology-driven results, digital transformation takes sustainability from a lofty ideal to a practical reality that can be woven into everyday business practices.

Smart Resource Management

Smart resource management has become one of the clearest and most widely adopted ways to use digital transformation for sustainability, delivering measurable benefits for both the environment and the bottom line. With AI helping optimize energy use, IoT monitoring water consumption, and data analytics fine-tuning daily operations, organizations can gain precise control over resource flows, cut waste, and boost production efficiency. Studies consistently show that these approaches reduce energy use by 20–40% across various industries, including manufacturing and logistics, as well as commercial real estate (Kim & Park, 2022; Johnson & Lee, 2022). Rossi et al. (2023) found that companies with higher levels of automation and digitalization achieved better resource productivity, generated less material waste, and significantly lowered emissions, especially in energy-intensive sectors. These results highlight not only the environmental advantages but also the financial payoffs that come from integrated digital solutions. They also show how these technologies can scale effectively when supported by strong leadership, capable teams, and a culture of continuous improvement. As these systems evolve and connect seamlessly with tools like predictive maintenance, supply chain analytics, and digital twins, their impact multiplies—making smart resource management a cornerstone of sustainable industrial transformation

Supply Chain Transparency

Blockchain and other distributed ledger technologies, though not yet as mature in large-scale implementation as other digital transformation tools, hold significant potential to enhance transparency, traceability, and accountability in supply chains. By providing immutable recordkeeping, decentralized verification, and real-time tracking of goods and transactions, these technologies can help close information gaps and reduce risks related to fraud, counterfeiting, and unethical sourcing (Miller & Davis, 2023).

According to Miller and Davis (2023), digital platforms that integrate stakeholder engagement features and real-time data visualization can build trust, improve reporting quality, and strengthen relationships among producers, intermediaries, and end consumers. Similarly, Garcia et al. (2023) state that the adoption of blockchain in sustainable supply chains enables verifiable proof of compliance with environmental and social standards, while Taylor and Wilson (2023) explain that combining blockchain with cloud-based infrastructure increases scalability and reduces the ecological footprint of IT operations.

Despite these advantages, implementation faces significant challenges. High deployment costs, the complexity of integrating with legacy systems, limited interoperability among platforms, and the absence of widely accepted industry standards remain major obstacles. Moreover, successful implementation often requires systemic collaboration among

manufacturers, suppliers, regulators, and certification bodies within policy frameworks that support data governance, privacy protection, and equitable participation. These factors indicate that while the technical feasibility of blockchain for supply chain transparency has been established, widespread adoption will depend on regulatory alignment, the formation of industry consortia, and clear evidence of return on investment to overcome initial resistance (Garcia et al., 2023; Taylor & Wilson, 2023).

Stakeholder Engagement and Reporting Quality

Enhanced sustainability reporting through digital platforms not only increases transparency but also builds stronger stakeholder trust, credibility, and long-term engagement. By using advanced data visualization, interactive dashboards, and real-time performance tracking, organizations can present complex environmental, social, and governance (ESG) metrics clearly, engaging, and easy for different audiences to understand. Miller and Davis (2023) found that presenting information through advanced visualizations and interactive formats boosts the perceived legitimacy of sustainability disclosures, which in turn strengthens corporate reputation and stakeholder loyalty.

These platforms also encourage two-way communication, allowing stakeholders to provide feedback that helps refine sustainability strategies, align initiatives with stakeholder expectations, and cultivate a culture of openness. Other studies confirm these benefits. Wang and Chen (2024) showed that companies adopting digital tools for ESG reporting achieved notable improvements in ESG performance scores and investor confidence, particularly when automated data validation ensured greater accuracy. Likewise, Geldres-Weiss et al. (2021) emphasized that integrating materiality matrices within digital reporting platforms enables organizations to better align sustainability actions with stakeholder priorities while enhancing triple bottom line outcomes. Together, these findings position digital reporting platforms as powerful enablers of sustainable value creation by combining technological capability with active stakeholder engagement.

Data-Driven Decision Making

The integration of predictive analytics, simulation models, and cloud computing into sustainability strategies is helping organizations move from reacting to problems toward anticipating and preventing them. These digital capabilities make it possible to foresee operational and environmental risks, uncover opportunities for optimization, and track progress almost in real time. Taylor and Wilson (2023) showed that combining cloud adoption with green IT practices not only cut carbon footprints but also improved IT efficiency through smarter energy use in data centers and virtualization. Kim and Park (2022) found that big data analytics for energy management enabled industrial firms to cut energy consumption by up to 40% using predictive load balancing and automated controls. Similarly, Anderson et al. (2024) demonstrated that pairing digital twins with predictive analytics allowed manufacturers to test production scenarios virtually, identify bottlenecks, and extend equipment lifecycles—reducing both material waste and emissions. Taken together, these findings show that data is more than just an operational resource; when harnessed through advanced analytics, scalable computing, and integrated sustainability frameworks, it becomes a strategic asset for delivering tangible improvements in ESG performance.

Conclusion

This scoping review provides an integrated synthesis of how digital transformation acts as a multidimensional driver of business sustainability, revealing five dominant thematic pathways circular economy enablement, smart resource management, supply chain transparency, stakeholder engagement, and data-driven decision making. Drawing on evidence from 45 peer-reviewed studies across diverse industries and geographical contexts, the analysis demonstrates that digital transformation is not merely a technical upgrade but a systemic

enabler of sustainable value creation when embedded within organizational strategies and supported by enabling environments. While environmental outcomes such as resource efficiency, waste reduction, and energy optimization are the most consistently reported benefits, social and economic dimensions remain less explored and often dependent on context. The review also highlights persistent gaps in geographic representation, methodological diversity, and theoretical integration, particularly in relation to emerging economies, small and medium enterprises, and long-term causal analyses. Addressing these gaps will require cross-disciplinary research that combines robust empirical designs with established theoretical frameworks, as well as policy interventions that promote interoperability, standardization, and equitable access to digital resources. For practitioners, the findings underscore the importance of aligning technological adoption with strategic sustainability goals, building organizational capabilities for change management, and fostering collaborative ecosystems that leverage digital innovation for shared environmental, social, and economic gains. As global sustainability pressures intensify, the synergy between digital transformation and sustainable business practices offers a critical pathway for achieving resilience, competitiveness, and long-term societal impact.

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