

Importance of Digitalization and Information System in Business: A Literature Review

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ABSTRACT

The rapid advancement of digital technologies has fundamentally transformed modern business operations, making digitalization and information systems essential components of organizational success. This study aims to examine the importance of digitalization and information systems in business through a comprehensive literature review. Using a qualitative research approach, relevant academic articles, books, and conference proceedings were analyzed to identify key themes related to business performance, decision-making, competitive advantage, and implementation challenges. The findings reveal that digitalization significantly enhances operational efficiency, productivity, and customer responsiveness, while information systems such as management information systems, decision support systems, and enterprise resource planning systems play a crucial role in supporting data-driven decision-making and organizational integration. Additionally, the review highlights that digitalization contributes to innovation and sustained competitive advantage when aligned with organizational capabilities and strategic objectives. However, challenges including high implementation costs, skills gaps, cybersecurity risks, and resistance to change remain significant barriers, particularly for small and medium-sized enterprises. This study contributes to the existing body of knowledge by synthesizing fragmented literature and providing a holistic understanding of the strategic importance of digitalization and information systems in business. The findings offer valuable insights for researchers, practitioners, and policymakers seeking to navigate digital transformation effectively.

Keywords:

Digitalization;
Information Systems;
Digital
Transformation;
Business
Performance;
Literature Review

DOI. <https://doi.org/10.56442/ijble.v7i1.1352>

INTRODUCTION

The rapid advancement of digital technologies has significantly transformed the way businesses operate in the modern economy. Digitalization, defined as the integration of digital technologies into business processes, products, and services, has become a central driver of organizational efficiency, innovation, and competitiveness (Haje et al., 2019; Legner et al., 2017). Alongside digitalization, information systems play a crucial role in collecting, processing, storing, and disseminating information to support decision-making and strategic planning. In today's dynamic and highly competitive business environment, organizations increasingly rely on digital tools and information systems to enhance productivity, reduce operational costs, and respond quickly to changing market demands (Urbach et al., 2019). As a result, digitalization and information systems are no longer optional but essential components of sustainable business operations.

The globalization of markets and the rise of the digital economy have further accelerated the adoption of digitalization in business. Companies now operate across borders and time zones, requiring efficient information systems to manage complex

supply chains, customer relationships, and financial transactions (Riedl et al., 2017). Digital platforms, enterprise resource planning (ERP) systems, and cloud-based solutions enable organizations to integrate internal functions and collaborate with external stakeholders more effectively. According to Rumyantseva et al. (2019), digital technologies have reshaped value creation by enabling new business models and transforming traditional industries. Consequently, businesses that fail to embrace digitalization risk losing competitiveness and market relevance (Parviainen et al., 2017).

Information systems serve as the backbone of digitalized business operations by providing accurate and timely information for managerial decision-making. Management information systems (MIS), decision support systems (DSS), and business intelligence (BI) tools help organizations analyze large volumes of data and generate insights that support strategic and operational decisions (Chyzhevska et al., 2021; Wang et al., 2023). In the era of big data, information systems enable firms to convert raw data into valuable knowledge, improving forecasting, performance measurement, and risk management (Dornberger et al., 2018). The effective use of information systems thus enhances organizational agility and supports evidence-based decision-making in increasingly uncertain business environments.

Moreover, digitalization has significantly influenced organizational structures, work processes, and employee roles. Automation, artificial intelligence, and digital communication tools have transformed traditional workflows, enabling remote work, real-time collaboration, and process optimization (Schmidt et al., 2017). Mihale-Wilson et al. (2022) argue that digital technologies have reshaped the nature of work by increasing productivity while also requiring new skills and competencies. Businesses must therefore align their information systems and digital strategies with human resource development to fully realize the benefits of digital transformation. This alignment highlights the strategic importance of integrating technology, people, and processes within organizations (Calderon-Monge & Ribeiro-Soriano, 2024; Denner et al., 2018).

Despite the widespread recognition of the benefits of digitalization and information systems, their successful implementation remains a complex and challenging endeavor. Organizations face issues such as high implementation costs, cybersecurity risks, resistance to change, and lack of digital skills. Small and medium-sized enterprises (SMEs) often struggle to adopt advanced information systems due to limited resources and expertise (OECD, 2019). Understanding the importance, benefits, and challenges of digitalization and information systems through a comprehensive review of existing literature is therefore essential for guiding both academic research and managerial practice.

Although digitalization and information systems are widely acknowledged as critical factors for business success, there is a lack of comprehensive understanding regarding their overall importance and impact across different business contexts. Existing studies often focus on specific technologies, industries, or organizational functions, resulting in fragmented knowledge. Furthermore, many organizations adopt digital solutions without fully understanding the strategic role of information systems or the conditions required for successful implementation. This gap highlights the need for a systematic literature review that synthesizes prior research to provide a holistic perspective on the importance of digitalization and information systems in business.

The study aims to (1) analyze the role of digitalization in enhancing business performance and competitiveness, (2) explore the contribution of information systems to decision-making and organizational efficiency, and (3) identify key challenges and critical success factors associated with the adoption and implementation of digital technologies in business organizations.

METHOD

This study adopts a qualitative research design using a systematic literature review approach to examine the importance of digitalization and information systems in business. A literature review method is appropriate for synthesizing existing knowledge, identifying key themes, and highlighting research gaps within a particular field. By reviewing and analyzing prior academic studies, this research aims to develop a comprehensive understanding of how digitalization and information systems contribute to business performance, decision-making, and competitiveness across different organizational contexts. The data for this study were collected from Google Scholar and Scopus. Peer-reviewed journal articles, books, and conference proceedings published primarily in English were considered to ensure the credibility and relevance of the sources. Keywords such as digitalization, information systems, digital transformation, business performance, and management information systems were used to identify relevant literature. Inclusion criteria focused on studies that examined the role, impact, or challenges of digitalization and information systems in business, while irrelevant or non-academic sources were excluded. The selected literature was analyzed using thematic analysis. This involved organizing and categorizing findings from the reviewed studies into key themes, such as business efficiency, decision-making support, competitive advantage, and implementation challenges. By comparing and synthesizing these themes, the study identifies common patterns, relationships, and inconsistencies in existing research.

RESULTS AND DISCUSSION

1. Impact of Digitalization on Business Performance

The literature consistently indicates that digitalization has a positive impact on overall business performance. Most studies emphasize improvements in operational efficiency, cost reduction, productivity, and service quality resulting from the adoption of digital technologies (Neamțu et al., 2019; Schütte et al., 2022). Digital tools such as automation systems, cloud computing, and digital platforms enable organizations to streamline processes, reduce manual errors, and optimize resource utilization. Several authors highlight that digitalization enhances organizational responsiveness by enabling faster communication and real-time data access, which are critical in competitive markets (Trusova et al., 2021). Empirical studies also demonstrate a strong relationship between digitalization and financial performance. Firms that invest in digital technologies often experience increased revenue growth and profitability due to improved customer engagement and innovative business models. Moreover, digitalization supports scalability, allowing businesses to expand operations without proportional increases in cost. These findings suggest that digitalization acts as a strategic enabler rather than merely a technological upgrade. Table 1 summarizes key findings related to the impact of digitalization on business performance.

Table 1. Summary of Literature on Digitalization and Business Performance

Author(s)	Year	Focus Area	Key Findings
(Kashchena & Nesterenko, 2022)	2022	Digital technologies and productivity	Digitalization significantly improves productivity and operational efficiency
(Butryn, 2020)	2020	Digitalization and value creation	Digital technologies transform business models and competitive dynamics
(Dahlberg & Lagstedt, 2019)	2019	Digitalization in SMEs	Digital adoption enhances growth but is constrained by resource limitations
(Streltsova et al., 2019)	2019	Digital transformation	Digitalization improves firm performance and customer experience

Source: *Literature Review, 2025*

2. Role of Information Systems in Decision-Making and Organizational Efficiency

The reviewed literature highlights the critical role of information systems in supporting managerial decision-making and enhancing organizational efficiency. Management Information Systems (MIS), Decision Support Systems (DSS), and Business Intelligence (BI) systems provide accurate, timely, and relevant information that enables managers to make informed decisions (Nickerson, 1998; Ribeiro-Navarrete et al., 2021). Studies emphasize that information systems reduce uncertainty by transforming raw data into actionable insights, a process particularly valuable in complex, dynamic business environments. Information systems also facilitate integration across functional areas such as finance, marketing, human resources, and operations. Enterprise Resource Planning (ERP) systems, for instance, improve coordination and information flow within organizations, leading to better planning and control (Hendriarto, 2021). The literature indicates that organizations with well-integrated information systems demonstrate higher efficiency, improved process transparency, and enhanced accountability (Veit & Thatcher, 2023). These findings underscore the importance of aligning information systems with organizational strategy. Table 2 presents a synthesis of studies examining the role of information systems in decision-making and efficiency.

Table 2 Role of Information Systems in Business Organization

Information System Type	Purpose	Reported Benefits
Management Information Systems (MIS)	Routine reporting and control	Improved monitoring and operational efficiency
Decision Support Systems (DSS)	Analytical and semi-structured decisions	Enhanced decision quality and speed
Business Intelligence (BI)	Data analysis and performance measurement	Better strategic planning and forecasting
Enterprise Resource Planning (ERP)	Integration of business functions	Increased coordination and data consistency

Source: *Literature Review, 2025*

3. Digitalization and Competitive Advantage

Another major theme identified in the literature is the role of digitalization and information systems in creating and sustaining competitive advantage. Many studies argue that digital capabilities enable firms to differentiate their products and services, enhance customer experience, and respond quickly to market changes (Kuzovkova et al., 2021). Digital platforms, customer relationship management (CRM) systems, and data analytics tools allow organizations to better understand customer needs and personalize offerings (Rachinger et al., 2019). The literature also suggests that

digitalization supports innovation by enabling new products, services, and business models. Firms that effectively leverage information systems are more likely to engage in continuous innovation and maintain long-term competitiveness (Dornberger, 2018). However, researchers note that technology alone does not guarantee competitive advantage; it must be combined with organizational capabilities, leadership commitment, and strategic alignment. Table 3 summarizes key competitive advantages associated with digitalization and information systems.

Table 3. Competitive Advantages Enabled by Digitalization

Dimension	Description	Supporting Evidence from Literature
Customer responsiveness	Faster and personalized service delivery	Enhanced customer satisfaction and loyalty
Innovation capability	Development of new products and services	Increased market differentiation
Strategic agility	Rapid adaptation to market changes	Improved long-term competitiveness
Data-driven strategy	Use of analytics for strategic decisions	Sustained competitive advantage

Source: Literature Review, 2025

4. Challenges in Implementing Digitalization and Information Systems

Despite the numerous benefits, the literature identifies several challenges associated with the implementation of digitalization and information systems (Zorić et al., 2023). Common challenges include high implementation and maintenance costs, lack of technical expertise, cybersecurity risks, and resistance to organizational change (Kovalenko et al., 2021). Many studies report that employees may resist new systems due to fear of job displacement or lack of digital skills. Small and medium-sized enterprises (SMEs) face additional challenges, such as limited financial resources and inadequate infrastructure (Babenko et al., 2023). Furthermore, the literature emphasizes that unsuccessful implementations often result from poor planning, lack of top management support, and insufficient training. These findings highlight the importance of addressing both technical and organizational factors when implementing digitalization initiatives. Table 4 provides an overview of the main challenges reported in the literature.

Table 4. Challenges of Digitalization and Information Systems Adoption

Challenge	Description	Impact on Organizations
High implementation costs	Investment in software, hardware, and training	Financial burden, especially for SMEs
Skills gap	Lack of digital and analytical competencies	Ineffective system utilization
Resistance to change	Employee reluctance to adopt new systems	Delayed or failed implementation
Cybersecurity risks	Data breaches and system vulnerabilities	Loss of trust and financial losses

Source: Literature Review, 2025

Discussion

1. Practical Implications

The findings of this study have several important practical implications for business managers, practitioners, and policymakers. First, the consistent evidence linking digitalization to improved operational efficiency and performance suggests that organizations should view digital technologies as strategic investments rather than mere operational tools. Managers are encouraged to integrate digitalization initiatives into their long-term business strategies to enhance productivity, customer

responsiveness, and scalability. The adoption of information systems such as ERP, BI, and DSS can help organizations streamline processes, improve cross-departmental coordination, and support data-driven decision-making. Second, the results underscore the importance of organizational readiness and change management in successful digital transformation. While digital technologies offer significant benefits, the literature reveals that challenges such as employee resistance, skills gaps, and cybersecurity risks can hinder implementation.

Therefore, organizations should invest in employee training and digital skill development to ensure effective system utilization. Top management support and clear communication are also essential to foster a culture that embraces innovation and technological change. For small and medium-sized enterprises (SMEs), collaborating with external partners, leveraging government support, and adopting cloud-based solutions may help overcome resource constraints and reduce implementation costs. Policymakers can benefit from the findings by developing supportive frameworks that encourage digital adoption, particularly among SMEs. Policies that promote digital infrastructure development, provide financial incentives, and support training programs can enhance national competitiveness in the digital economy.

2. Theoretical Contributions

This study contributes to the existing body of knowledge by providing a holistic synthesis of the literature on digitalization and information systems in business. Unlike prior studies that often focus on specific technologies, industries, or organizational functions, this literature review integrates diverse perspectives to present a comprehensive understanding of the strategic importance of digitalization. By consolidating findings across multiple research streams, the study clarifies the multifaceted role of information systems in improving business performance, decision-making quality, and competitive advantage. Furthermore, the study reinforces and extends existing theoretical frameworks such as the resource-based view (RBV) and dynamic capabilities theory. The findings suggest that digital technologies and information systems can be considered valuable organizational resources that contribute to sustained competitive advantage when effectively integrated with human skills and organizational processes.

The emphasis on strategic alignment and organizational readiness also supports the view that digitalization is not solely a technological phenomenon but a socio-technical process involving people, processes, and technology. This study identifies key themes and challenges associated with digitalization, offering a structured foundation for future empirical research. By highlighting gaps in the literature, such as the limited focus on SMEs and contextual differences across industries and regions, the study provides direction for further theoretical development. As such, this research enhances conceptual clarity and advances theory in the fields of information systems and digital business.

3. Limitations of the Study

Despite its contributions, this study has several limitations that should be acknowledged. First, as a literature review, the study relies exclusively on secondary data from previously published sources. While this approach allows for comprehensive synthesis, it does not provide original empirical evidence. Consequently, the findings are dependent on the scope, quality, and methodological rigor of the reviewed studies.

Second, the literature selection was limited primarily to English-language publications and selected academic databases. This may have led to the exclusion of relevant studies published in other languages or in non-indexed sources, potentially limiting the global representation of perspectives on digitalization and information systems. Additionally, the rapid pace of technological change means that some findings may become outdated as new digital innovations emerge. This study did not employ a fully systematic review protocol such as PRISMA, which may affect the replicability and transparency of the literature selection process. Future research could address these limitations by conducting empirical studies, adopting systematic review methodologies, or exploring specific sectors, regions, and organizational sizes in greater depth.

CONCLUSION

This study provides a comprehensive overview of the importance of digitalization and information systems in business, drawing on an in-depth review of the existing literature. The findings demonstrate that digitalization and information systems are critical enablers of organizational efficiency, informed decision-making, and sustainable competitive advantage in an increasingly digital economy. By synthesizing prior research, the study highlights how digital technologies enhance business performance, support innovation, and improve strategic agility, while also revealing the challenges associated with their implementation, such as resource constraints, skills gaps, and resistance to change. The study emphasizes that the successful adoption of digitalization and information systems requires strategic alignment, organizational readiness, and continuous capability development. These insights contribute to both academic understanding and managerial practice, reinforcing the view that digitalization is a strategic necessity for businesses seeking long-term success in a dynamic and competitive environment.

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