

**DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESS MANAGEMENT:  
OPPORTUNITIES AND CHALLENGES****Ngo Thi Huong**

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**ABSTRACT**

Digital transformation has become a strategic imperative for enterprises seeking to enhance competitiveness, operational efficiency, and sustainable development in the context of the Fourth Industrial Revolution. In Vietnam, the rapid adoption of digital technologies such as artificial intelligence (AI), big data, cloud computing, the Internet of Things (IoT), and blockchain is reshaping business management practices across various industries. This paper examines the opportunities and challenges associated with digital transformation in Vietnamese business management through a comprehensive review of relevant literature, government policies, and recent reports on enterprise digitalization. The findings indicate that digital transformation offers significant opportunities to improve decision-making quality, optimize business processes, enhance customer experience, reduce operating costs, and strengthen organizational resilience. However, Vietnamese enterprises continue to face numerous challenges, including limited financial resources, inadequate digital infrastructure, shortages of skilled human resources, cybersecurity risks, resistance to organizational change, and an incomplete legal and institutional framework. Based on these findings, the paper proposes several recommendations to accelerate digital transformation, including developing digital leadership capabilities, investing in technological infrastructure, improving workforce digital competencies, strengthening data governance and cybersecurity, and enhancing collaboration among government, businesses, and educational institutions. The study contributes to a better understanding of digital transformation in the Vietnamese business context and provides practical implications for managers and policymakers in promoting sustainable digital development.

**Keywords:**

digital transformation; business management; Vietnamese enterprises; digital technologies; artificial intelligence; business innovation; sustainable development.

**1. INTRODUCTION**

Digital transformation has emerged as one of the most significant drivers of economic growth and organizational innovation in the twenty first century. The rapid advancement of digital technologies, including artificial intelligence, big data analytics, cloud computing, the Internet of Things, blockchain, and automation, has fundamentally changed the way enterprises operate, compete, and create value. Rather than merely digitizing existing processes, digital transformation requires organizations to redesign business models, optimize management practices, improve operational efficiency, and develop new capabilities that enable long term competitiveness in an increasingly dynamic business environment.

Across the world, governments and businesses have recognized digital transformation as a strategic priority for enhancing productivity, innovation, and sustainable development. According to the Organisation for Economic Co operation and Development (OECD, 2024), digital technologies are reshaping global value chains, improving resource allocation, and enabling enterprises to respond more effectively to market changes. Similarly, the World Bank (2023) emphasizes that digital transformation plays a crucial role in increasing enterprise productivity, promoting financial inclusion, and supporting economic resilience, particularly in developing economies. The widespread adoption of digital technologies has also accelerated since the COVID 19 pandemic, which highlighted the importance of digital capabilities for maintaining business continuity and organizational flexibility.

In Vietnam, digital transformation has become a national strategic objective that supports economic modernization and international integration. The Vietnamese Government has introduced several important

policies to promote digital transformation, including the National Digital Transformation Program toward 2025 with a vision to 2030, which identifies digital government, digital economy, and digital society as key pillars of national development. These initiatives encourage enterprises to adopt advanced digital technologies, strengthen innovation capacity, improve governance quality, and enhance competitiveness in both domestic and international markets. As a result, an increasing number of Vietnamese enterprises have invested in enterprise resource planning systems, cloud-based platforms, artificial intelligence applications, electronic commerce, and digital customer relationship management systems.

Despite these encouraging developments, the implementation of digital transformation in Vietnamese enterprises remains uneven. Large corporations generally possess stronger financial resources, advanced technological infrastructure, and greater access to skilled human resources than small and medium sized enterprises. Many businesses continue to encounter significant obstacles, including limited investment capital, shortages of digital talent, cybersecurity concerns, fragmented data management, organizational resistance to change, and insufficient digital leadership. Furthermore, the legal framework, digital infrastructure, and institutional support mechanisms continue to evolve, creating additional challenges for enterprises seeking comprehensive digital transformation.

Business management has therefore become increasingly dependent on the effective integration of digital technologies into strategic planning, operational management, financial decision making, human resource management, marketing, customer relationship management, and supply chain coordination. Digital transformation enables managers to make more informed decisions based on real time data, improve organizational agility, optimize resource allocation, and enhance customer satisfaction. At the same time, it introduces new managerial challenges related to technology adoption, organizational culture, digital governance, data privacy, and cyber risk management. Understanding both the opportunities and the challenges associated with digital transformation is therefore essential for improving enterprise performance and achieving sustainable development.

Although previous studies have extensively examined digital transformation from technological and operational perspectives, relatively fewer studies provide a comprehensive discussion of its implications for business management within the Vietnamese context. Existing research often focuses on specific technologies or individual industries rather than presenting an integrated analysis of managerial opportunities, implementation barriers, and policy implications. This research seeks to address this gap by reviewing recent literature, government policies, and practical evidence to evaluate the current state of digital transformation in Vietnamese business management. The objectives of this study are threefold. First, it examines the current trends of digital transformation in Vietnamese enterprises. Second, it analyzes the major opportunities and challenges associated with digital transformation in business management. Third, it proposes practical recommendations for enterprises and policymakers to promote successful digital transformation and strengthen sustainable business development in Vietnam. The findings of this study are expected to contribute to both academic research and managerial practice by providing a comprehensive understanding of digital transformation and its implications for enterprise competitiveness in the digital economy.

## 2. THEORETICAL BACKGROUND

### 2.1. Concept of Digital Transformation

Digital transformation has become a central topic in business management and organizational research over the past decade. Although the concept has been interpreted differently across disciplines, most scholars agree that digital transformation represents a comprehensive organizational change driven by the integration of digital technologies into all aspects of business activities.

According to Vial (2019), digital transformation is a process that aims to improve an organization by triggering significant changes in its properties through combinations of information, computing, communication, and connectivity technologies. This definition emphasizes that digital transformation is not limited to technological

adoption but involves strategic, organizational, and cultural transformation that creates new value for stakeholders.

Similarly, Verhoef et al. (2021) define digital transformation as the organizational process through which firms utilize digital technologies to develop new business models, redesign operational processes, and enhance customer value creation. Their framework highlights that successful digital transformation requires technological capabilities, organizational flexibility, digital leadership, and continuous innovation.

The Organisation for Economic Co operation and Development (OECD, 2024) considers digital transformation as the integration of digital technologies into economic and social activities that fundamentally changes production, consumption, governance, and communication. For enterprises, digital transformation enables real time decision making, operational efficiency, business innovation, and stronger competitiveness in the digital economy.

In practice, digital transformation differs substantially from digitization and digitalization. Digitization refers to converting analog information into digital formats. Digitalization involves using digital technologies to improve existing business processes. Digital transformation represents a broader strategic change that reshapes organizational structures, management practices, business models, and corporate culture. Therefore, digital transformation requires not only technological investment but also organizational learning, leadership commitment, and continuous innovation.

## **2.2. Business Management in the Digital Era**

Business management refers to the planning, organizing, leading, and controlling of organizational resources to achieve strategic objectives effectively and efficiently. Traditional business management primarily relied on hierarchical decision making, manual information processing, and experience-based management. However, rapid technological development has significantly changed managerial practices.

Digital technologies enable enterprises to collect large volumes of real time data from customers, suppliers, production systems, and financial operations. Managers can therefore make more informed decisions based on data analytics rather than relying solely on intuition or historical experience. Artificial intelligence supports demand forecasting, risk prediction, customer segmentation, and intelligent decision support, while cloud computing facilitates information sharing and collaboration across departments and geographic locations.

Furthermore, digital transformation has expanded the scope of business management beyond operational efficiency. Modern enterprises increasingly focus on innovation management, customer experience management, digital governance, sustainability, cybersecurity, and ecosystem collaboration. Consequently, business managers are expected to possess digital competencies that combine technological understanding with strategic thinking and change management capabilities.

## **2.3. Digital Technologies Supporting Business Management**

Several digital technologies have become the primary drivers of business transformation.

Artificial intelligence enables enterprises to automate repetitive tasks, improve forecasting accuracy, optimize production scheduling, detect operational risks, and personalize customer services. Machine learning algorithms continuously improve prediction accuracy by learning from organizational data.

Big data analytics allows organizations to process structured and unstructured data collected from multiple internal and external sources. The analysis of large datasets provides valuable insights into customer behavior, market trends, operational performance, and strategic opportunities.

Cloud computing offers scalable computing resources and facilitates collaboration among employees, suppliers, and customers through shared digital platforms. The technology significantly reduces information technology investment costs while improving system flexibility.

The Internet of Things connects physical devices, production equipment, and logistics systems through sensors and communication networks. Real time monitoring enhances operational efficiency, predictive maintenance, inventory management, and supply chain visibility.

Blockchain technology improves transparency, traceability, and security in business transactions. It has been increasingly adopted in supply chain management, financial services, contract management, and digital identity verification.

These technologies are often integrated rather than implemented independently. Their combined application creates intelligent business ecosystems that support more efficient management, continuous innovation, and sustainable competitive advantage.

#### **2.4. Opportunities and Challenges of Digital Transformation in Business Management**

Existing literature consistently reports that digital transformation creates substantial opportunities for enterprises. These include higher operational efficiency through process automation, improved managerial decision making based on real time information, enhanced customer experience through personalized services, reduced operating costs, accelerated innovation, and greater organizational agility in responding to market changes.

Digital transformation also strengthens enterprise resilience by enabling remote work, flexible production systems, digital supply chain management, and online customer engagement. During periods of economic uncertainty, organizations with stronger digital capabilities generally demonstrate greater adaptability and business continuity.

Despite these benefits, digital transformation also presents numerous challenges. Financial investment requirements remain a major barrier, particularly for small and medium sized enterprises. Many organizations experience shortages of employees with advanced digital skills, while resistance to organizational change often slows implementation. Cybersecurity threats, data privacy concerns, and regulatory uncertainties further increase managerial complexity.

For developing economies such as Vietnam, additional challenges include uneven digital infrastructure, limited research and development capacity, inadequate collaboration among businesses, universities, and government agencies, and disparities in digital readiness across industries and regions. Consequently, successful digital transformation requires coordinated efforts involving technological investment, organizational change, human resource development, and supportive public policies.

### **3. CURRENT STATUS OF DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESS MANAGEMENT**

Digital transformation has become a strategic priority for Vietnam's economic development and business modernization. The Vietnamese Government has actively promoted digital transformation through various national strategies and policy initiatives. A key milestone was Decision No. 749/QĐ TTg, issued on June 3, 2020, approving the National Digital Transformation Program to 2025, with orientations toward 2030. The program identifies three strategic pillars comprising the digital government, the digital economy, and the digital society, while encouraging enterprises to accelerate the adoption of digital technologies, improve management efficiency, strengthen innovation, and enhance national competitiveness.

Within this policy framework, Vietnamese enterprises have increasingly recognized digital transformation as a strategic necessity rather than merely a technological upgrade. Digital technologies are gradually being integrated into various business functions, including accounting, finance, human resource management, production planning, supply chain management, customer relationship management, and marketing. The adoption of digital solutions has contributed to improving operational efficiency, facilitating information sharing, and supporting more timely and data driven managerial decision making.

Artificial intelligence, cloud computing, big data analytics, the Internet of Things, and blockchain are among the technologies that are increasingly being explored by Vietnamese enterprises. These technologies enable organizations to automate routine processes, optimize resource allocation, improve customer services, and support strategic decision making. At the same time, digital platforms have created new opportunities for enterprises to redesign business models, expand digital sales channels, and strengthen customer engagement.

Despite these encouraging developments, the level of digital transformation remains uneven among Vietnamese enterprises. Larger organizations generally demonstrate higher levels of digital maturity because of their stronger financial capacity, technological infrastructure, and human resources, whereas many small and medium sized enterprises continue to experience difficulties in adopting advanced digital technologies. Differences in digital readiness also exist across industries, reflecting variations in technological capability, managerial competence, and investment capacity.

Overall, digital transformation has become an irreversible trend in Vietnamese business management. Although considerable progress has been achieved under the support of national digital transformation policies, further efforts are required to strengthen digital capabilities, foster innovation, and ensure that enterprises of all sizes can fully benefit from the opportunities offered by the digital economy.

#### **4. OPPORTUNITIES OF DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESS MANAGEMENT**

Digital transformation has created significant opportunities for Vietnamese enterprises to improve business management and enhance their competitiveness in an increasingly dynamic business environment. By integrating digital technologies into organizational activities, enterprises are able to optimize management processes, improve operational performance, and respond more effectively to market changes. These opportunities have become increasingly important as organizations seek sustainable growth in the digital economy.

First, digital transformation enhances managerial decision making by enabling enterprises to collect, integrate, and analyze large volumes of business data from multiple sources. The availability of timely and reliable information allows managers to monitor organizational performance more effectively, identify emerging trends, evaluate potential risks, and formulate appropriate business strategies. Data driven decision making also improves forecasting accuracy and supports more efficient resource allocation across different business functions.

Second, digital transformation improves operational efficiency through the automation and standardization of business processes. Digital management systems facilitate coordination among departments, reduce repetitive manual tasks, minimize operational errors, and accelerate information processing. As a result, enterprises are able to optimize workflow management, reduce operating costs, improve productivity, and deliver products and services more efficiently.

Third, digital technologies strengthen customer relationship management by enabling enterprises to understand customer needs more comprehensively and provide personalized products and services. Digital communication platforms create continuous interaction between businesses and customers, allowing organizations to respond more quickly to customer feedback and changing market demands. This contributes to higher customer satisfaction, stronger customer loyalty, and improved brand reputation.

Furthermore, digital transformation encourages innovation in both products and business models. Enterprises can utilize digital technologies to develop new products, expand digital distribution channels, explore new market opportunities, and create innovative business solutions. The ability to continuously innovate allows organizations to adapt more rapidly to technological changes and maintain competitive advantages in domestic and international markets.

Another important opportunity lies in improving human resource management. Digital technologies support recruitment, employee training, performance evaluation, workforce planning, and internal communication through integrated management systems. Digital learning platforms also facilitate continuous skill development, enabling employees to acquire new competencies that meet the evolving requirements of the digital economy. Consequently, enterprises are better positioned to build a more productive, flexible, and innovative workforce.

Digital transformation also enhances organizational resilience and risk management. The application of digital technologies enables enterprises to monitor business activities in real time, identify operational risks at an early stage, and implement timely corrective actions. Digital platforms further support business continuity by

facilitating remote working, online collaboration, and flexible organizational management during periods of disruption or economic uncertainty.

Finally, digital transformation expands business opportunities beyond traditional geographical boundaries. The development of digital platforms and online business ecosystems enables Vietnamese enterprises to access wider markets, strengthen cooperation with international partners, and participate more actively in global value chains. Improved digital capabilities also enhance organizational adaptability and contribute to long term sustainable competitiveness.

Overall, digital transformation provides Vietnamese enterprises with substantial opportunities to modernize business management, improve operational efficiency, stimulate innovation, strengthen customer relationships, and enhance long term competitiveness. Fully realizing these opportunities, however, requires continuous investment in technology, human capital, organizational learning, and effective digital leadership.

## **5. CHALLENGES OF DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESS MANAGEMENT**

Despite the considerable opportunities created by digital transformation, Vietnamese enterprises continue to face numerous challenges that hinder the effective implementation of digital business management. These challenges are not limited to technological issues but also involve financial, organizational, human resource, and institutional factors. Addressing these barriers is essential for ensuring that digital transformation contributes to sustainable business development.

First, financial constraints remain one of the most significant barriers, particularly for small and medium sized enterprises. Digital transformation often requires substantial investment in information technology infrastructure, software platforms, cybersecurity systems, and employee training. Many enterprises have limited financial resources and are therefore unable to implement comprehensive digital transformation projects. As a result, digital adoption is frequently carried out in separate functional areas rather than through an integrated organizational strategy.

Second, the shortage of digitally skilled human resources presents another major challenge. Successful digital transformation depends not only on advanced technologies but also on employees who possess the knowledge and competencies required to operate digital systems and adapt to new working methods. Many enterprises continue to experience difficulties in recruiting and retaining qualified professionals in areas such as data analytics, artificial intelligence, cybersecurity, and digital project management. In addition, many existing employees require continuous training to develop the digital competencies needed in a rapidly evolving business environment.

Third, organizational resistance to change remains a common obstacle. Digital transformation often requires enterprises to redesign business processes, modify organizational structures, and change traditional management practices. Employees and managers may be reluctant to adopt new technologies because of uncertainty, concerns about job security, or unfamiliarity with digital working environments. Without effective leadership and change management strategies, resistance may slow the implementation process and reduce the effectiveness of digital initiatives.

Furthermore, cybersecurity and data protection have become increasingly important concerns. As enterprises rely more heavily on digital platforms and cloud based systems, the risks associated with cyberattacks, data breaches, and unauthorized access continue to increase. Business managers must therefore invest in appropriate cybersecurity measures, establish effective data governance mechanisms, and strengthen employees' awareness of information security to protect organizational assets and maintain customer trust.

Another challenge involves the integration of digital technologies with existing business systems. Many enterprises continue to operate legacy information systems that are incompatible with modern digital platforms. Integrating new technologies into existing organizational processes can be technically complex, time consuming, and costly. In some cases, fragmented digital systems may reduce operational efficiency rather than improve it if integration is not carefully planned and managed.

In addition, differences in digital readiness among enterprises and industries create unequal opportunities for digital transformation. Large enterprises generally possess stronger financial capacity, technological infrastructure, and managerial capabilities than small and medium sized enterprises. Likewise, industries with higher levels of technological development often adopt digital innovations more rapidly than traditional sectors. These disparities may widen productivity gaps and limit the overall effectiveness of digital transformation across the business community.

Finally, although Vietnam has made significant progress in promoting digital transformation, the institutional environment continues to evolve. Enterprises require a transparent legal framework, effective digital standards, supportive public policies, and reliable digital infrastructure to implement long term digital strategies with confidence. Continued collaboration among government agencies, educational institutions, technology providers, and the business sector will therefore play an essential role in creating a favorable ecosystem for digital transformation.

Overall, the challenges associated with digital transformation are multidimensional and require comprehensive solutions that combine technological investment, organizational innovation, human resource development, effective leadership, and supportive institutional policies. Successfully addressing these challenges will enable Vietnamese enterprises to fully realize the benefits of digital transformation and strengthen their competitiveness in the digital economy.

## **6. RECOMMENDATIONS FOR PROMOTING DIGITAL TRANSFORMATION IN VIETNAMESE BUSINESS MANAGEMENT**

To maximize the benefits of digital transformation while addressing existing challenges, Vietnamese enterprises and relevant stakeholders should adopt a comprehensive and coordinated approach. Successful digital transformation requires not only investment in technology but also improvements in leadership, organizational capabilities, human resources, and institutional support.

First, enterprises should develop clear digital transformation strategies that are aligned with their long-term business objectives. Digital transformation should be regarded as an integral component of corporate strategy rather than an isolated information technology project. Business leaders need to establish clear implementation roadmaps, define measurable objectives, allocate sufficient financial resources, and regularly evaluate the progress of digital initiatives. Strategic planning enables organizations to prioritize investments and ensure that digital technologies generate sustainable business value.

Second, strengthening digital leadership is essential for successful organizational transformation. Managers should actively promote innovation, encourage organizational learning, and create a corporate culture that embraces technological change. Effective leadership can reduce resistance to change by improving communication, engaging employees in the transformation process, and fostering collaboration across departments. Leaders should also continuously improve their own digital competencies to better understand emerging technologies and make informed strategic decisions.

Third, enterprises should invest in developing digital skills for their workforce. Continuous education and professional training programs are necessary to equip employees with the competencies required for operating digital technologies, analyzing business data, and adapting to new management practices. Collaboration between enterprises, universities, and vocational training institutions can further enhance workforce readiness and reduce the gap between labor market demand and digital skills supply.

Furthermore, enterprises should strengthen investment in digital infrastructure and modern management systems. The adoption of cloud computing, enterprise resource planning systems, customer relationship management platforms, artificial intelligence applications, and data analytics tools should be implemented according to the specific needs and development stages of each enterprise. Well integrated digital systems improve operational efficiency, facilitate information sharing, and support timely managerial decision making.

Another important recommendation is to enhance cybersecurity and data governance. As organizations increasingly depend on digital platforms, protecting digital assets and maintaining customer trust become

critical priorities. Enterprises should establish comprehensive information security policies, implement effective cybersecurity measures, develop data governance frameworks, and conduct regular risk assessments to minimize potential cyber threats.

In addition, greater collaboration among government agencies, businesses, educational institutions, and technology providers is necessary to create a supportive digital ecosystem. Public policies should continue to encourage digital innovation, facilitate technology adoption, improve digital infrastructure, and provide support mechanisms for small and medium sized enterprises. Academic institutions can contribute by expanding digital education and research, while technology providers can offer practical solutions that meet the diverse needs of enterprises.

Finally, enterprises should adopt a continuous improvement approach to digital transformation. Since digital technologies evolve rapidly, organizations should regularly evaluate their digital maturity, monitor technological developments, and adjust their strategies accordingly. Continuous innovation, organizational learning, and knowledge sharing will enable enterprises to maintain competitiveness and respond effectively to future business challenges.

Overall, promoting digital transformation in Vietnamese business management requires coordinated efforts from enterprises, policymakers, educational institutions, and technology partners. Through strategic planning, capable leadership, skilled human resources, modern technological infrastructure, effective governance, and supportive public policies, Vietnamese enterprises will be better positioned to accelerate digital transformation and achieve sustainable growth in the digital economy.

### CONCLUSION

Digital transformation has become an inevitable trend that is reshaping business management practices in Vietnam. The integration of digital technologies into organizational activities has created new opportunities for enterprises to improve managerial decision making, enhance operational efficiency, strengthen customer relationships, promote innovation, and increase competitiveness in both domestic and international markets. At the same time, digital transformation has expanded the role of business management by encouraging data driven decision making, organizational flexibility, and continuous innovation in response to rapidly changing market conditions. Despite these opportunities, Vietnamese enterprises continue to encounter various challenges throughout the digital transformation process. Financial constraints, shortages of digitally skilled human resources, organizational resistance to change, cybersecurity risks, limitations in digital infrastructure, and differences in digital readiness remain important barriers to successful implementation. These challenges demonstrate that digital transformation is not solely a technological issue but also a comprehensive organizational transformation requiring strategic leadership, effective governance, and continuous capability development. This study highlights that successful digital transformation requires coordinated efforts from enterprises, government agencies, educational institutions, and technology providers. Enterprises should develop long term digital strategies, strengthen digital leadership, invest in workforce development, modernize technological infrastructure, and establish effective data governance and cybersecurity practices. At the policy level, a supportive institutional environment and continued investment in digital infrastructure are essential to facilitate enterprise digitalization and promote sustainable economic growth. The findings of this study contribute to the growing literature on digital transformation by providing a comprehensive overview of the opportunities and challenges facing Vietnamese business management. The study also offers practical implications for business managers and policymakers seeking to accelerate digital transformation and improve enterprise competitiveness in the digital economy. Future research may extend this work by conducting empirical investigations into the determinants of digital transformation, evaluating its impact on organizational performance across different industries, and examining the role of emerging technologies such as artificial intelligence, blockchain, and generative artificial intelligence in shaping the future of business management in Vietnam.

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