



Digital Economy Development in the Era of Global Digitalization: International Experiences and Policy Recommendations for Vietnam

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Abstract

The digital economy has become a new driver of growth for nations in the context of globalization and a decisive factor in shaping national competitiveness amid deep digital transformation. This paper analyzes the theoretical foundations of the digital economy, assesses the current state of digital economy development worldwide and in Vietnam, and proposes policy implications to promote rapid, sustainable, and globally integrated digital economic growth in Vietnam. The findings indicate that Vietnam possesses significant potential to emerge as a dynamic digital economy; however, it also faces challenges such as fragmented data infrastructure, limited digital capabilities among enterprises, and regulatory frameworks that have not kept pace with development requirements. Policy recommendations focus on improving institutional frameworks, developing digital infrastructure, fostering innovation, enhancing the quality of digital human resources, and creating an enabling environment for enterprise-level digital transformation.

Keywords: Digital Economy, Digital Transformation, International Experiences, Lessons for Vietnam.

1. Introduction

Globalization and the Fourth Industrial Revolution are driving a fundamental shift in national development models, in which the digital economy plays a central role. The rapid advancement of digital technologies—such as artificial intelligence (AI), the Internet of Things (IoT), big data, cloud computing, and blockchain—is transforming production systems, consumption patterns, and governance structures. The digital economy not only enhances productivity but also fosters new business ecosystems, expands growth frontiers, and improves social welfare.

For Vietnam, developing the digital economy is a critical requirement to achieve rapid and sustainable growth, improve governance quality, and strengthen national competitiveness. Resolution No. 52-NQ/TW (2019) and the National Strategy for Digital Economy and Digital Society Development toward 2025, with a vision to 2030, emphasize digital transformation as a strategic pillar. However, in practice, Vietnam's level of digital readiness still lags behind many countries in the region.

This paper aims to systematize the theoretical foundations of the digital economy, analyze international experiences, and examine Vietnam's current digital economy development. Based on these insights, the study proposes feasible policy implications to accelerate digital economy growth in the context of global integration.

2. Theoretical Framework

2.1. Concept of the Digital Economy

The digital economy is a central concept in the context of global digital transformation and the Fourth Industrial Revolution. Although no universally accepted definition exists, most international organizations and scholars agree that the digital economy encompasses all economic activities that rely on digital technologies, data, and the Internet to create products, services, and added value. According to the OECD (2020), the digital economy can be structured into three layers: (1) the core ICT sector, including the production of telecommunications equipment, software, and Internet infrastructure; (2) data- and platform-dependent industries, such as e-commerce, digital services, fintech, and online advertising; and (3) the digitally enabled economy, which refers to traditional industries adopting digital technologies in their production and business processes.

UNCTAD (2021) adopts a broader perspective, emphasizing that the modern economy is increasingly data-driven, where data have become a “new resource” with strategic value comparable to oil in the twentieth century. Digital platforms function as new transactional infrastructure, creating interconnected networks linking businesses, consumers, and governments. The ability to collect, process, share, and analyze data in real time has emerged as a critical capability that determines enterprise competitiveness in the digital economy.

The essence of the digital economy lies not only in the adoption of digital technologies but also in the restructuring of business models. Digital technologies transform production systems (automation, robotics, IoT, data analytics in supply chains), distribution channels (e-commerce platforms, digital logistics), and customer engagement mechanisms (AI-driven interactions, personalized experiences). Data-driven platform enterprises such as Google, Amazon, Alibaba, and Meta demonstrate the enormous value generated by digital and knowledge-based business models. The market capitalization of these corporations is largely derived from intangible assets—data, algorithms, and user networks—rather than physical capital. The rapid development of the digital economy is also reflected in growth indicators. The OECD reports that the ICT sector in many developed countries has grown two to three times faster than traditional industries, significantly contributing to productivity gains. According to UNCTAD, global e-commerce transactions exceed USD 26 trillion, accounting for an increasingly large proportion of total economic activity. Digital service industries such as fintech, govtech, edtech, and healthtech are generating millions of new jobs while driving innovation at an unprecedented scale. The digital economy is reshaping industry structures and giving rise to new economic models, including the platform economy, sharing economy, and digital content creator economy, thereby transcending traditional territorial boundaries and expanding globalization in new forms.

In Vietnam, the government has identified the digital economy as one of the three pillars of the country’s new growth model, with the goal of increasing its share to approximately 20% of GDP by 2025. The rapid expansion of e-commerce, digital payments, and smart logistics, together with the development of national databases on population, land, and enterprises, indicates that Vietnam is undergoing a strong transition from a traditional economy to a data-driven digital economy. This aligns with global trends in which data, connectivity, and innovation have become key determinants of national competitiveness.

In summary, the digital economy is not merely an extension of the information technology sector but represents a new economic model in which data, digital platforms, and technologies serve as core inputs that transform production, distribution, and consumption processes. The rise of the digital economy presents significant opportunities for growth while also posing challenges related to digital divides, data governance, cybersecurity, and competitiveness. A clear understanding of the concept and nature of the digital economy is therefore essential for designing appropriate policies and strategic directions for Vietnam in the coming period.

2.2. The Role of the Digital Economy in Growth and Development

The digital economy is increasingly recognized as a critical driver of economic growth and a catalyst for transforming national development models in the era of the Fourth Industrial Revolution.

First, the digital economy enhances labor productivity and resource efficiency through automated production processes, optimized supply chains, and strengthened data-driven decision-making. Technologies such as AI, IoT, and cloud computing enable firms to reduce operational costs, accelerate information processing, and improve the quality of products and services.

Second, the digital economy expands market opportunities, especially for small and medium-sized enterprises (SMEs), by lowering geographical barriers, reducing transaction costs, and facilitating global customer access through e-commerce and digital platforms.

Third, the rapid expansion of digital platforms has led to the emergence of new business models, including the platform economy, sharing economy, gig economy, and digital content creator economy. These models broaden employment opportunities and stimulate innovation across the economy.

Fourth, the digital economy plays a pivotal role in improving public governance through the implementation of digital government, online public services, open data initiatives, and digitized administrative systems. These advancements help enhance transparency, reduce corruption, and improve public service delivery.

Fifth, the digital economy promotes financial and social inclusion via the growth of digital payments, fintech, and online services, enabling people in remote and underserved areas to access financial, educational, and healthcare services more easily. International empirical evidence underscores the substantial contribution of the digital economy to growth; OECD (2024) ^[6] reports that the ICT sector in OECD countries grew by an average of 7.6% in 2023—three times the growth rate of the overall economy—affirming the leading role of digital technologies in economic recovery and development in the post-pandemic era.

In summary, the digital economy not only generates new economic value but also reshapes socio-economic structures, fosters inclusive and sustainable development, and strengthens national competitiveness.

2.3. Key Indicators for Measuring Digital Economy Development

Measuring the development of the digital economy is inherently complex, as the boundary between “digital” and “non-digital” activities has become increasingly blurred due to the deepening digitalization across all socio-economic sectors. Nonetheless, international organizations such as the OECD, UNCTAD, and ITU have proposed several core groups of indicators that collectively provide a relatively comprehensive picture of a country’s level of digital economy development.

First, the share of the digital economy in GDP is a fundamental indicator, typically measured through the value added generated by the ICT sector, e-commerce, digital services, and highly digitalized industries. This metric is crucial for assessing the contribution of digital technologies

to overall economic growth.

Second, the degree of digital infrastructure penetration is measured through indicators such as the proportion of households with broadband Internet, the percentage of the population using smartphones, the coverage of 4G/5G networks, and international bandwidth capacity. These indicators reflect accessibility and connectivity—prerequisites for an effectively functioning digital economy.

Third, indicators related to digital readiness and digital transformation, including the ICT Development Index (IDI), the E-Government Development Index (EGDI), and the E-Commerce Index, help evaluate the technological, institutional, and operational readiness of countries to engage in and benefit from digital environments.

Fourth, indicators on digital skills and human capital—such as the proportion of workers possessing basic and advanced digital skills and the number of ICT specialists per 10,000 inhabitants—measure the extent to which the labor force can meet the demands of the digital economy.

Finally, innovation-, R&D-, and digital entrepreneurship-related indicators—including the number of tech startups, the scale of venture capital investment, and the number of patents related to digital technologies—reflect the innovation capacity, dynamism of the technology ecosystem, and the long-term development potential of the digital economy.

The comprehensive use of these indicator groups enables countries to more accurately assess their digital economy maturity, thereby informing the formulation of appropriate strategies and policies to foster sustainable growth in the digital era.

3. Current Status of Digital Economy Development

3.1. International Experiences

The experiences of Asian economies with advanced digital development demonstrate that the transition toward a data-driven and technology-enabled economic model requires a balanced combination of infrastructure investment, innovation, institutional reform, and the development of a highly skilled workforce.

Experience from South Korea

South Korea is a representative example of a digital-economy strategy built on long-term investment in infrastructure and innovation. Under the “Digital New Deal” launched in 2020, the country has accelerated the development of open data platforms, artificial intelligence (AI), and digital applications in government, education, healthcare, and industry. The government plays a leading role by investing heavily in national digital infrastructure, encouraging firms to adopt advanced technologies, and ensuring broad access to high-quality digital services.

The Digital New Deal allocates more than 58.2 trillion won (approximately USD 45 billion) for the period 2020–2025, focusing on open data, AI development, and nationwide 5G expansion. As a result, 97% of South Koreans use the Internet, and 5G infrastructure covers more than 90% of urban areas (Korean ICT Ministry, 2023). South Korea also possesses a dynamic innovation ecosystem, with R&D expenditure reaching 4.9% of GDP—the highest in the

OECD.

South Korea’s experience underscores the importance of a unified national strategy and public investment in digital infrastructure as foundations for digital transformation.

Experience from Japan

Japan has positioned digital transformation and information technology as strategic priorities to raise productivity and restructure the economy amid challenges such as population aging, deflation, and stagnant growth. Under the “i-Japan Strategy” and “Japan Digital Agenda 2030,” the government identifies ICT and digital data as long-term growth pillars to restore productivity, enhance global competitiveness, and stimulate corporate innovation.

Three strategic directions have been implemented:

1. Industrial and labor restructuring to adapt to the digital economy—through enterprise digitization, process transformation, and the promotion of digital transformation (DX), particularly among SMEs (OECD, 2021).
2. Strengthening cybersecurity and national data infrastructure, including high-speed Internet, cloud computing, secure IoT, and enhanced data-protection systems.
3. Promoting digital applications across all economic sectors, from manufacturing and logistics to healthcare, education, and transportation—supported by initiatives such as Society 5.0, the Mobility DX Strategy, and policies for building a “super smart society.”

Japan’s comprehensive strategy demonstrates that digital technology is not merely supportive but constitutes a new factor of production and a transformative force for the national economy.

Experience from China

China has emerged as a global leader in digital economy development through a combination of selective market protection, long-term industrial planning, and massive investment in science and technology. The government views digital technology as a core driver of productivity and innovation, emphasizing the need to master critical technologies for global competitiveness.

In the early stages, China adopted selective protectionist policies that enabled domestic technology firms—such as Alibaba, Tencent, Baidu, and Huawei—to grow rapidly in a less competitive environment before expanding globally (McKinsey Global Institute, 2021) ^[4]. The government supported these firms through favorable regulations, tax incentives, venture capital funding, and R&D subsidies.

China is currently among the world’s top three countries in venture-capital investment in advanced digital technologies such as AI, robotics, autonomous vehicles, virtual reality, 3D printing, and drones (OECD, 2022). Policy implementation follows a “staircase approach,” beginning with moderately advanced fields such as e-commerce, digital payments, and smart logistics, then progressing to high-tech sectors such as AI, big data, robotics, and semiconductors (World Bank, 2021).

The government plays a dual role as both investor and major consumer of digital technologies. China has promoted e-government and cashless payments since 2010, requiring administrative agencies to provide online public services (World Bank, 2018). Digital platforms—especially mobile payment systems like WeChat Pay and Alipay—dominate more than 90% of the non-cash payment market. Real-name registration and bank linkage policies have increased security, transparency, and public trust in the digital financial system.

Overall, China's experience highlights a coordinated strategy involving government–industry–technology alignment, selective domestic protection, large-scale digital infrastructure investment, prioritization of core technologies, and widespread digital adoption. This model has enabled China to build the world's largest digital economy, contributing over 40% of GDP in 2023.

Experience from Malaysia

Malaysia is one of Southeast Asia's pioneers in establishing a comprehensive legal and policy framework for digital economy development. The Personal Data Protection Act (PDPA) of 2010 marked a milestone in creating a secure regulatory environment for digitalization and e-commerce.

The government has invested heavily in digital infrastructure through major programs such as the High-Speed Broadband (HSBB), Sub-Urban Broadband (SUBB), and Rural Broadband (RBB) initiatives, expanding high-speed Internet coverage to rural and suburban areas.

A hallmark of Malaysia's strategy is the Multimedia Super Corridor (MSC Malaysia), launched in 1996 as the country's digital hub to attract investment, support digital startups, and promote innovation through tax incentives of 70–100% for 5–10 years. The Malaysia Tech Entrepreneur Programme (MTEP) provides flexible 1–5-year visas for foreign tech entrepreneurs, helping integrate Malaysia into global innovation networks.

To ensure inclusive digital transformation, Malaysia implements initiatives such as eUsahawan and eRezeki, equipping rural populations with digital business and online-work skills. The eUsahawan program alone trained more than 150,000 participants during 2020–2022. The Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) plays a key role in advancing e-government, open data, cloud adoption, and cybersecurity.

Malaysia's approach illustrates the importance of transparent legal frameworks, modern digital infrastructure, foreign-investment attraction, and widespread digital-skills development as pillars of sustainable digital-economy growth.

Experience from Singapore

Singapore represents a global benchmark in digital governance and technology-driven national management. The "Smart Nation" initiative focuses on digital government

transformation, cross-sector data integration, AI-based policy analytics, and high-quality public-service delivery.

The government also strongly supports enterprise digitalization, especially SMEs, through financial assistance, training programs, and strategic advisory services. By 2023, 99% of public services were fully digitalized and 96% of the population used the Internet (IMDA, 2023). The "SMEs Go Digital" program supported more than 78,000 SMEs from 2017 to 2023. Additionally, a SGD 1-billion Innovation Fund promotes AI, fintech, and digital-platform development.

Singapore's success demonstrates that data-driven and technologically integrated public governance can create powerful momentum for digital-economy development.

Synthesis of International Lessons

Across these leading countries, digital-economy development is not merely a technological trend but a comprehensive transformation involving institutional reform, infrastructure modernization, human-resource development, and innovation capacity. A common feature among successful models is the synergy between strong government leadership and an innovative, dynamic private sector—supported by transparent, adaptive regulatory frameworks and robust digital infrastructure.

These lessons provide valuable insights for Vietnam as it seeks to accelerate digital-economy development in an era of global digitalization.

3.2. The Current State of Digital Economy Development in Vietnam

In recent years, Vietnam has emerged as one of the fastest-growing digital economies in Southeast Asia. According to the Ministry of Information and Communications (2024), the scale of Vietnam's digital economy reached approximately 30.3% of the expanded GDP and 16.5% of the conventional GDP measure, nearly doubling compared with 2020. The *e-Conomy SEA 2024* report by Google–Temasek–Bain identifies Vietnam as one of the three fastest-growing digital economies in the region, with an average annual growth rate of 20–25%. These indicators reflect strong national efforts in building digital infrastructure, expanding digital services, and accelerating technology adoption among enterprises and within the public sector.

Data from the General Statistics Office show that during the period 2020–2024, the contribution of the digital economy to national value added accounted for 12.66%, 12.87%, 12.83%, 12.87%, and 13.17% of GDP, respectively. On average, digital value added represented about 12.88% of GDP over this period, of which the core digital economy contributed 7.99% (equivalent to 62%), while digitalization across other industries contributed 4.89% (38%). Notably, the share of the digitalized economy increased steadily from 4.75% of GDP in 2020 to 5.01% in 2024, demonstrating the broader diffusion of digital technologies across traditional sectors.

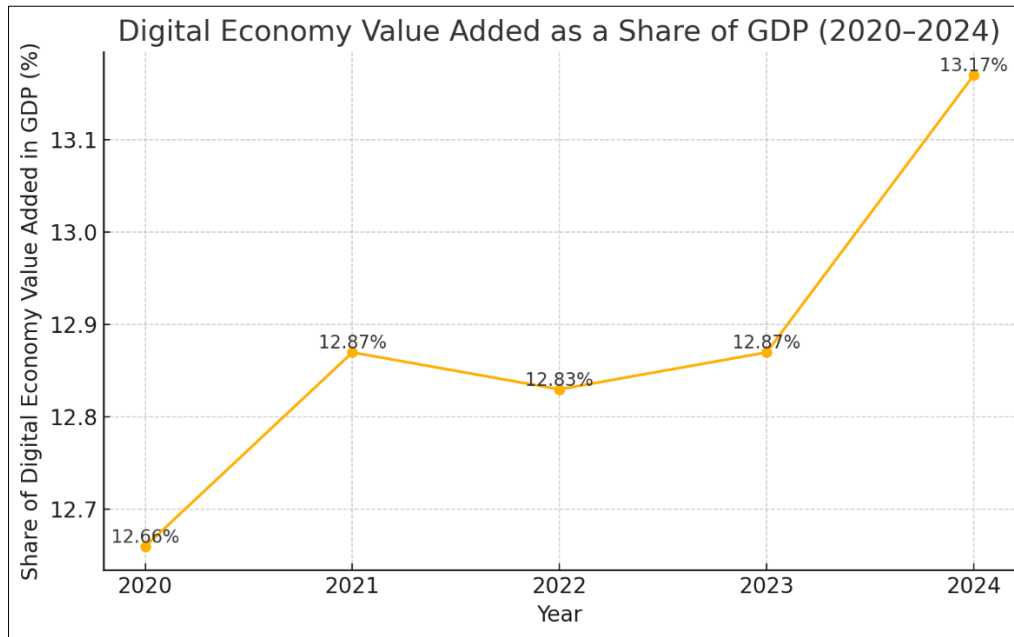


Fig 1: Share of Digital Economy Value Added in Vietnam's GDP, 2020–2024

In 2024, the share of digital value added in Vietnam's GDP showed signs of positive recovery, driven by an increase in orders in the electronic equipment, computer, and optical products manufacturing industries. The value added from digital economic activities was estimated at over VND 1.5 quadrillion (equivalent to approximately USD 62.7 billion based on the 2024 average exchange rate), accounting for 13.17% of GDP. At current prices, the scale of the digital economy expanded by 14.1% compared with 2023, with core digital industries accounting for more than 62% of total digital value added. In particular, the manufacture of electronic products, computers, and optical devices accounted for more than 32% (an increase of over 16% at current prices), while other core digital industries—such as wholesale of computers and software, electronic components, telecommunications services, software publishing, and information portals—accounted for approximately 30%, rising nearly 13% year-on-year.

From the perspective of gross output, the share of digital economic activities in the national economy's total output reached an estimated 18.7% in 2024; relative to GDP, this figure amounted to as much as 49.2%. On average during 2020–2024, digital economic output represented 19.6% of total national output and over 52.3% relative to GDP.

Beyond core digital industries, several other sectors also recorded significant digital value added, including e-commerce; electricity, gas, steam, and air conditioning supply; fabricated metal products manufacturing; broadcasting and television services; and financial services.

Vietnam's digital economy has consistently grown at a rate exceeding 20% per year—three times the pace of GDP growth—and is currently the fastest-growing digital economy in Southeast Asia. With retail e-commerce revenue reaching USD 25 billion, Vietnam ranks among the world's top ten fastest-growing e-commerce markets. Non-cash payment transactions have also expanded rapidly, increasing by more than 50% annually, the highest rate in the region.

4. Policy Implications for Digital Economy Development in Vietnam

To foster sustainable digital economy development and keep pace with global trends, Vietnam needs to implement a coherent set of policy measures.

First, the government should continue improving the institutional and legal framework, particularly in areas such as personal data protection, digital transactions, cross-border platform business models, and emerging sectors including fintech, AI, and the sharing economy. Developing a Digital Economy Law and expanding regulatory sandboxes for new technologies would create an enabling yet safe environment for innovation.

Second, Vietnam must accelerate investment in digital infrastructure, including broadband telecommunications networks, 5G deployment, data centers, and cloud computing platforms. A unified and interoperable national data system connecting ministries, sectors, and localities is essential for the development of digital government, the digital economy, and the digital society.

Third, enhancing digital capabilities in enterprises—especially SMEs—is a decisive factor. The government should design financial support schemes, digital transformation consultancy programs, technical training initiatives, and tax incentives to encourage firms to adopt technologies such as AI, IoT, ERP systems, and big-data analytics.

Fourth, Vietnam needs to develop a high-quality digital workforce by reforming higher education and vocational training systems toward key fields such as data science, artificial intelligence, cybersecurity, and software engineering. Strengthening collaboration among businesses, universities, and research institutions will help bridge the gap between training and labor-market needs.

Finally, it is essential to promote an innovation-driven ecosystem, support technology start-ups, expand venture capital funding, and intensify international cooperation in

digital technology development. Creating a competitive, trustworthy digital environment and supporting enterprises' integration into global digital value chains will be critical for enabling Vietnam to become a dynamic digital economy in the region.

5. Conclusion

Digital economy development is becoming a key driver of Vietnam's economic growth amid deep global integration and rapid digital transformation. The analysis of international experiences and domestic developments indicates that Vietnam has achieved significant progress but continues to face challenges related to data infrastructure, legal frameworks, human resources, and enterprise-level digital capacity. The digital economy can only become a sustainable pillar of national development when supported by a modern institutional system, an innovation-friendly investment environment, and strong technological capabilities.

Therefore, implementing the policy implications proposed in this study is essential for enhancing national competitiveness and fostering a knowledge- and technology-based growth model. This will not only enable Vietnam to seize opportunities from the Fourth Industrial Revolution but also build a solid foundation for deeper integration into global digital value chains in the years ahead.

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