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The Economic Impact of Digital Technology: Current Situation and Legal Recommendations for Vietnam

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Abstract
In today's era of globalization, digital technology and digital data have permeated all sectors and industries, influencing every aspect of socio-economic life and contributing to significant achievements. Recognizing this trend, Vietnam has identified digital technology as a crucial driver for sustainable economic growth and enhancing national competitiveness in the digital transformation era. This paper approaches digital technology from an economic perspective, analyzing the current situation and challenges posed by digital technology on the economy and society, including its impact on national governance, employment, income, resources, and the environment. Based on this analysis, the paper proposes recommendations for sustainable development, including improving the legal framework, investing in digital skills training, adopting renewable energy, and learning from international experiences. These recommendations aim to optimize the economic benefits of digital technology while supporting Vietnam's advancement in the new era.

Keywords: Digital Technology, Digital Economy, Digital Transformation, National Governance, Sustainable Development, Vietnam

1. Introduction

In today's era, digital technology is present in all areas—from e-commerce and digital finance to urban management—and plays a critical role in the development of both the global and national economy. In line with this trend, Vietnam has recognized digital technology as a key driver of economic growth and social improvement. By 2024, Vietnam's digital economy is estimated to contribute 18.3% of GDP, with an annual growth rate exceeding 20%—three times the GDP growth rate—reaching USD 36 billion, the fastest in Southeast Asia.[1]

To conduct this research, the paper adopts a qualitative approach based on reports, data, and policies regarding digital technology in Vietnam. It also incorporates comparative analysis to draw lessons from international experiences and uses synthesis to develop relevant recommendations. These proposals aim not only to promote sustainable digital economic growth but also to enhance Vietnam's national competitiveness in the digital age.

In addition to this introduction, the paper is structured as follows: Section 2 analyzes the current economic impact of digital technology in Vietnam, including its influence on economic growth, national governance, institutional structures, employment, resources, and the environment, as well as the challenges posed to the digital economy. Section 3 presents recommendations for legal reform by drawing lessons from international experiences. Section 4 concludes with a summary of key findings and emphasizes the strategic role of digital technology for the future.

[1] Nam Anh (2025). Digital economy contributed 18.3% to GDP, https://vneconomy.vn/digital-economy-contributed-18-3-to-gdp.htm#:~:text=VIetnam%20digital%20economy's%20contribution%20to,Minh%20Chinh%20on%20February%206, accessed on March 30, 2025.

2. Materials and Methods

This study employs a qualitative research methodology to assess the economic impact of digital technology in Vietnam and to formulate legal recommendations that support sustainable digital transformation. The research design consists of the following components:

The study relies primarily on secondary data sources collected from:

1. Official government publications and legal documents, including the Law on Electronic Transactions (2023), Law on Cybersecurity (2018), and National Digital Transformation Program (Decision No. 749/QĐ-TTg);
2. Reports and statistics from Vietnamese ministries and agencies such as the Ministry of Information and Communications, General Statistics Office, and Vietnam's National Cyber Security Association;
3. International and multilateral sources, including the United Nations E-Government Survey (2024), OECD reports, and research from Google and the International Telecommunication Union;
4. Academic literature and peer-reviewed journals, especially those focusing on legal frameworks, public governance, and the digital economy in Vietnam;
5. News articles and policy commentaries from reputable national media outlets such as VTV, VnEconomy, VnExpress, and Communist Review.

These materials were collected between January and March 2025 to ensure relevance and currency.

The study applies several analytical approaches to comprehensively assess the economic and legal impacts of digital technology in Vietnam. First, descriptive analysis is used to outline the current state of digital economic development in the country. This includes examining various dimensions such as socio-economic progress, institutional reforms, labor market shifts, and environmental implications resulting from digital transformation. Second, legal analysis is conducted to evaluate the scope and adequacy of Vietnam's existing regulatory framework governing digital technology. Particular attention is given to critical areas such as cross-border data flows, cybersecurity, and the regulation of digital business operations, all of which are essential for a secure and thriving digital economy. Third, the study employs comparative analysis to position Vietnam's legal and policy environment against international best practices. Reference is made to leading examples such as the European Union's General Data Protection Regulation (GDPR) and relevant regulatory approaches adopted by ASEAN member states. This comparative perspective helps highlight Vietnam's strengths and areas requiring improvement. Finally, a synthetic method is used to integrate findings across the economic, legal, and technological dimensions of digital transformation. This holistic approach enables the identification of regulatory and policy gaps and supports the development of cohesive and forward-looking recommendations aimed at enhancing Vietnam's digital economy sustainably.

3. Results and discussions

3.1 The Economic Impacts of Digital Technology in Vietnam

3.1.1 Socio-economic impacts of digital technology development in Vietnam

In recent years, Vietnam has witnessed the strong development of digital transformation. Accordingly, the rapid development of digital technology is creating clear changes in both the economy and society in Vietnam, specifically as follows:

Economically, digital technology is the main driving force behind the creation of new industries such as e-commerce, financial technology (Fintech), sharing economy, digital content, cloud computing services, big data and artificial intelligence (AI), while also pushing traditional industries such as retail, banking, transportation and manufacturing to restructure to adapt to the digital age. Specifically, Vietnam's e-commerce revenue in 2024 will reach 25 billion USD, with the strong participation of platforms such as Shopee, Lazada and Tiki[2]. New business models such as Platforms[3], Subscriptions[4] and data-based models are also increasingly popular, contributing to improving competitiveness. In addition, digital technology also promotes economic growth through direct contributions to GDP - the digital economy contributes about 18.3% of the country's GDP by 2024 and aims to reach 20% by 2025 according to the National Digital Transformation Strategy[5]. Furthermore, according to Google's research, it is forecasted that by 2030, the annual economic impact value of digital technology in Vietnam could reach 1,733 trillion VND (equivalent to 74 billion USD)[6]. Although still in the development stage and only taking the first steps, in terms of some criteria related to the digital economy, Vietnam is leading in some areas: For example, Vietnam is one of the first countries in the world to test the 5G network; and is one of the countries with the lowest Internet service prices in the Asia-Pacific region (converted according to purchasing power parity)[7].

On the social side, digital technology opens up many opportunities to access essential services, helping to access human knowledge civilization. For example, Vietnamese high school students always achieve high results in science and mathematics, equal to or surpassing high-income countries in international rankings[8], while the "Doctor for Everyone" system connects 1.3 million users to telemedicine

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[2] Vien Thong. (2025). Vietnam's e-commerce explodes in 2024, https://e.vnexpress.net/news/business/data-speaks/vietnam-s-e-commerce-explodes-in-2024-4844409.html, accessed on March 30,2025.

[3] Platform model: Directly connects suppliers and users (e.g. e-commerce platforms, ride-hailing apps).

[4] Subscription model: Paying a recurring fee to use a service (e.g. Netflix, Spotify, SaaS software).

[5] Bạch Dương (2024). *Vietnam's digital economy targets 20.5 % GDP contribution in 2025*. VnEconomy. Truy cập từ: Vietnam's digital economy targets 20.5% GDP contribution in 2025 - Nhịp sống kinh tế Việt Nam & Thế giới accessed on March 30, 2025.

[6] Le Thi Diem Quynh (2021). Announcement of the Report "Vietnam's Digital Economic Potential". National portal on business registration,: Công bố Báo cáo "Tiềm năng kinh tế số Việt Nam" accessed on March 30, 2025.

[7] International Telecommunication Union. (2018). *Measuring the information society report: Volume 1 2018*. ITU: Geneva, Switzerland.

[8] Organization for Economic Co-operation and Development. (2016). *PISA 2015: PISA results in focus*. OECD: Paris, France.

in 10 provinces[9]. However, digital technology also poses some major challenges, including the automation factor that can threaten jobs in industries and increasing income inequality due to the differentiation between high- and low-skilled workers. In short, digital technology offers great potential for economic development and improving social life in Vietnam. To maximize the benefits and minimize negative impacts, it is necessary to invest heavily in developing digital skills, improving technology infrastructure and building appropriate support policies to ensure equitable access to opportunities that digital technology brings.

3.1.2 Enhancing National Governance and Digital Institutional Frameworks

Modern and effective national governance in Vietnam is understood as the process in which the State plays a central role, under the leadership of the Communist Party of Vietnam, based on universal principles and standards of good governance, uses appropriate tools, means and methods to mobilize all resources in society and the participation of different subjects to issue and organize the implementation of political, economic, cultural and social policies and goals to develop the country in a modern and effective direction.[10] In the context of a rapidly developing digital economy, improving governance capacity and building solid institutions is extremely necessary. However, there are still many challenges, such as ensuring network security. In the face of technological changes, issues of ideological security, national sovereignty, and political security such as "cyberspace", "cyberwar", "cyberspace sovereignty", "high-tech crime", "ideological propaganda"...This is the downside of digital technology development for state management[11], according to the National Cyber Security Association, the total number of cyber attacks in 2024 is estimated to reach more than 659,000 cyber attacks[12]. Cross-border data management is difficult due to the lack of clear regulations, causing many businesses that depend on foreign platforms such as Shopee, Grab or Lazada to face the risk of losing control of their data. This dependence can weaken the competitiveness of domestic businesses, making it difficult for Vietnam to be self-sufficient in the digital economy.

In addition to challenges, Vietnam's national governance capacity has also achieved many remarkable achievements thanks to digital technology. According to a 2024 United Nations survey, Vietnam's E-Government Performance Index (EGDI) ranked 71/193, up 15 places compared to 2022[13]. In addition, it is possible to mention the launch and development of the VNEID application, considered a "national digital transformation super application", integrating 14 utilities such as driver's license and insurance, serving more than 30 million users by 2025[14]. These achievements are clear evidence of progress in digital governance, demonstrating a strong shift from traditional to modern governance, while effectively supporting Vietnam's economic and social development goals.

In addition, the completion of digital technology development institutions, especially the legal framework, is also a key factor in the governance and operation of the digital economy. Accordingly, with the issuance of documents on digital technology economy such as: Decision No. 749/QD-TTg of the Prime Minister approving the "National Digital Transformation Program to 2025, with a vision to 2030", the digital economy has set a target of accounting for 30% of GDP by 2030. At the same time, this strategy also guides infrastructure development and promotes innovation. The Law on Electronic Transactions 2023, the Law on Cyber Security 2018, the Law on Network Information Security 2015, Decree 53/2022/ND-CP detailing a number of articles of the Law on Cyber Security and Decree 13/2023/ND-CP. The above documents have created a legal foundation for the development of the digital economy in Vietnam. However, it can be seen that the current regulations are only general guidelines and do not provide detailed guidance on many important issues, such as cross-border data management or artificial intelligence applications. Particularly when compared to the EU's GDPR (General Data Protection Regulation), Vietnam's legal framework lacks specific regulations to support innovation. This creates a major barrier to building an efficient and transparent digital economy, especially when it comes to integrating new technologies such as Artificial Intelligence or blockchain into national governance.

3.1.3 The impact of digital technology on jobs, income, resources and the environment

The rapid development of digital technology in the present era has contributed to changing the labor structure, while greatly affecting resources and the environment in Vietnam. Regarding labor, automation is gradually replacing traditional jobs, especially in the manufacturing and service industries. This requires workers to improve their skills and adapt to the digital working environment. The income gap between skilled and unskilled workers. In fact, according to the General Statistics Office in 2021, only 26.1% of workers

[9] United Nations Development Program. (2024). Telehealth to improve access to healthcare services for disadvantaged groups in 10 provinces of Vietnam. UNDP Viet Nam, Telehealth to improve access to healthcare services for disadvantaged groups in 10 provinces of Viet Nam | United Nations Development Programme, accessed on March 30, 2025.

[10] Nguyen Ba Chien (2025). Implementing modern and effective national governance for the country to step into a new era. Communist Magazine, Thực hiện quản trị quốc gia hiện đại, hiệu quả để đất nước vươn mình bước vào kỷ nguyên mới - Tạp chí Cộng sản, accessed on March 30, 2025.

[11] Pham Thi Giang.(2024). The challenge of digital transformation for modern state governance. Journal of State Management, từ https://www.quanlynhanuoc.vn/2024/07/30/thach-thuc-cua-chuyen-doi-so-voi-quan-tri-nha-nuoc-hien-dai/, accessed on March 30, 2025.

[12] Le Tinh (2024). More than 659,000 cyber attacks occurred in 2024. Nguoi Lao Dong, https://nld.com.vn/hon-659000-vu-tan-cong-mang-xay-ra-trong-nam-2024-196241223134713302.htm accessed on March 30, 2025.

[13] United Nations Department of Economic and Social Affairs. (2024). *E-Government Survey 2024: Accelerating Digital Transformation for Sustainable Development pg.11. accessed on March 30, 2025.*

[14] Ngo Huyen. (2024). Vietnamese e-commerce is at risk of being dominated by foreign countries. VnEconomy. Thương mại điện tử Việt có nguy cơ bị nước ngoài chiếm lĩnh - Nhịp sống kinh tế Việt Nam & Thế giới accessed on March 30, 2025.

have degrees or certificates, while 74% have not been trained[15]. This figure is estimated to reach only 28.1% of workers with degrees or certificates by 2024. This has led to a widening skills gap and the risk of unemployment or reduced income for workers lacking digital skills. In addition, the digital economy has also promoted the development of startups and online business models, opening up new income opportunities for individuals and businesses. However, this shift has also increased the income gap between those with high digital skills and those without, as profits tend to be concentrated in large companies and highly qualified individuals.

In terms of resources and environment, along with the development of digital infrastructure, there is increasing pressure on resources and the environment. The exploitation of raw materials such as cobalt, lithium, copper for the production of microchips depletes fossil and non-biological resources, increases greenhouse gas emissions, and pollutes freshwater and soil. In addition, mining discharges heavy metals, acid leaching, affects biodiversity and changes land use. Underwater data cables also disrupt marine life [16]. According to research results from the Institute of Science, Technology and Environment, Vietnam is facing a big problem with electronic waste. Currently, the country generates about 100,000 tons of electronic waste each year, and this number is expected to increase to 250,000 tons by 2025, counting only waste from televisions and electronic components. This is the fastest growing type of waste today, putting great pressure on environmental management and treatment [17]. Thus, digital transformation does not automatically bring environmental benefits. To be sustainable, we need to look at the whole process from production to end-of-life disposal, measuring not only emissions but also other impacts. Economic growth from digital technology must go hand in hand with energy and resource efficiency to offset the environmental costs.

4. Recommendations

Based on the analysis of the socio-economic impacts of digital technology in Vietnam, the article proposes a number of recommendations to optimize economic benefits and limit the negative impacts of digital technology, while contributing to promoting sustainable growth and enhancing national competitiveness in the new era.

First, it is necessary to improve the institutions, legal framework and policies for digital economic development. Currently, regulations on e-commerce, digital finance and digital banking are still overlapping and have not kept up with the development of technology. Therefore, it is necessary to amend and supplement legal regulations on data and network security, personal information protection and cross-border data management to ensure the rights of businesses and users and enhance the competitiveness of domestic enterprises. It is necessary to promptly promulgate the Law on Digital Technology Industry[18], and at the same time build a flexible legal corridor such as a testing mechanism for artificial intelligence blockchain and new technologies In addition, completing regulations on electronic transactions to fully recognize the legality of electronic documents and records creates a solid foundation for the development of digital business models.

Second, invest in digital infrastructure. Inconsistent systems and limited open data provision by state agencies hinder progress. Infrastructure upgrades must ensure seamless connectivity among systems.

Third, develop a high-quality digital workforce. Curriculum reforms should integrate digital skills from school to university. Government-business cooperation should enhance workforce training. Financial and tax incentives are needed to attract and retain tech talent, including international experts.

Fourth, integrate digital technology into public administration and sustainable development. A digital government should be built through open data platforms, digitized services, and system integration. Incentives for green technologies, energy-saving solutions, and environmentally friendly products should be expanded. AI and big data should monitor digital technology's environmental impacts, such as energy use, emissions, and e-waste.

Fifth, enhance public participation in governance through digital platforms. Open government and data should empower citizens to engage in decision-making. While the Internet and social media offer participation channels, regulatory boundaries are also necessary to ensure public safety and order[19].

The digital economy is not only a growth engine but also a foundation for Vietnam to elevate its global standing and contribute to national prosperity. Digital transformation is both inevitable and essential for Vietnam to integrate into global value chains. In this "new era of national resurgence," [20] digital technology represents not only a

[15] Bui Thi Hong Ha. (2023). Digital skills of the workforce: Some theoretical and practical issues in Vietnam. Vietnam Journal of Social Sciences, 11(191), 23-32. https://doi.org/10.56794/KHXHVN.11(191).23-32

[16] Tran Viet Cuong. (2023). Impact of digital transformation on resources and environment. Vietnam Electronic Journal of Science and Technology. Tác động của chuyển đổi số đến tài nguyên và môi trường accessed on March 30, 2025.

[17] Anh Tuan, Phung Dinh, Ngoc Thi, Nguyen Phuong (2024). Every year, Vietnam generates about 100,000 tons of electronic waste. VTV. Mỗi năm Việt Nam phát sinh khoảng 100.000 tấn rác thải điện tử | VTV.VN accessed on March 30, 2025.

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[20] To Lam (2024). Digital transformation - an important driving force for developing productive forces, perfecting production relations, bringing the country into a new era, Electronic Communist Magazine; https://www.tapchicongsan.org.vn/media-story/-/asset_publisher/V8hhp4dK31Gf/content/chuyen-doi-so-dong-luc-quan-trong-phat-trien-luc-luong-san-xuat-hoan-

development tool but also a strategic driver to secure Vietnam's position in the global digital economy. With determination from the government, businesses, and society, Vietnam can seize opportunities to accelerate and build a resilient digital economy for the future.

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