Chapter 10

Building and Inclusive Digital Economy in Viet Nam

Duc Anh Dang

This chapter should be cited as:

Dang., D.A. (2025), 'Building and Inclusive Digital Economy in Viet Nam', in Ing, L.Y. (ed.), *ASEAN Digital Community 2045: Country Perspectives*. ERIA Research Project Report FY2025 No. 13, Jakarta: ERIA, pp.139-157.

Chapter 10
Building an Inclusive Digital Economy in Viet Nam

Duc Anh Dang

1. Introduction

Viet Nam's digital economy is growing rapidly, creating new opportunities for businesses and individuals. The country has recognised that developing its digital economy is a key strategy for improving livelihoods and achieving its broader economic goals: surpassing low-middle-income status by 2025, reaching the average income level by 2030, and attaining high-income status by 2045.[1] With the right policies and investments, Viet Nam's digital economy has the potential to become one of the most dynamic and innovative in Southeast Asia (Trong Dat, 2022).

Despite the significant progress Viet Nam has made in advancing its digital economy, it is crucial to prioritise inclusivity and ensure that the benefits of this growth are accessible to all.[2] An inclusive digital economy can create opportunities for people from all backgrounds, including those who are traditionally underserved or excluded, and ensure that everyone has access to digital technologies and the benefits they offer. To achieve this vision, Viet Nam must address key challenges and gaps that hinder its digital transformation. This includes ensuring access to digital infrastructure, such as high-speed internet, bridging the digital divide, promoting digital literacy, and supporting small and medium-sized enterprises (SMEs).

This chapter provides an overview of the digital economy in Viet Nam and explores the challenges the country faces in building an inclusive digital economy that benefits all. It suggests recommendations to address the main barriers to inclusivity and to seize the opportunities presented by the digital economy.

---

[1] Decision No.411/QD-TTg, by the Prime Minister on 31 March 2022, approves the national strategy for development of digital economy and digital society by 2025, with a vision extending to 2030.

[2] This is an objective outlined in Directive 01/CT-TTg 2020, 14 January 2020, on promoting the development of digital technology enterprises, issued by the Prime Minister. The directive states that 'Vietnamese digital technology businesses will contribute to the mission of turning Vietnam into a developed industrial country, with the Vietnamese economy making a breakthrough, developing rapidly, sustainably, and inclusively with the goal of making Vietnam become a high-income country by 2045'.

2. Digital Economy

Viet Nam's digital economy is comprised of four main sectors: e-commerce, online tourism, digital communications, and logistics technology (Google, Temasek, and Bain & Company, 2022). Alongside Indonesia, Viet Nam leads digital economy growth in Southeast Asia, with both countries achieving growth rates of over 40% annually (Vietnamplus, 2021). In 2022, Viet Nam's digital economy accounted for about 8.2% of its gross domestic product (GDP) (Nguyen, 2021). A resolution passed by the Politburo on guidelines for participating in the Fourth Industrial Revolution has set a goal to increase the digital economy's contribution to GDP to 20% by 2025.[3] The resolution aims to establish a system of national, regional, and local data centres that are synchronised and unified, creating reliable and stable data systems for the state and businesses. It seeks to build a national digital payment infrastructure that is cohesive, unified, and shared, leveraging telecommunication network infrastructure to provide low-cost payment services and to develop mechanisms and policies that strongly promote non-cash payments.

Figure 10.1. Overall Digital Economy (US$ billion)

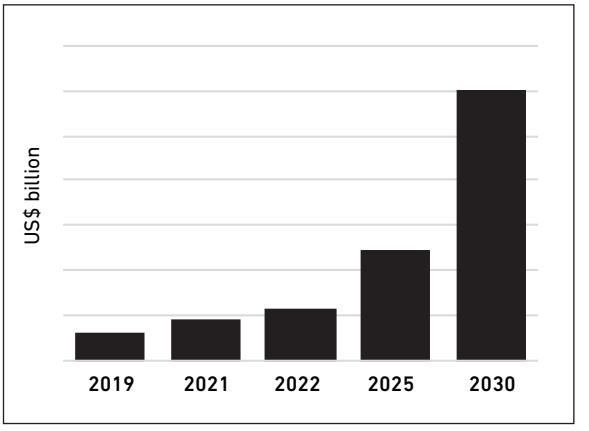
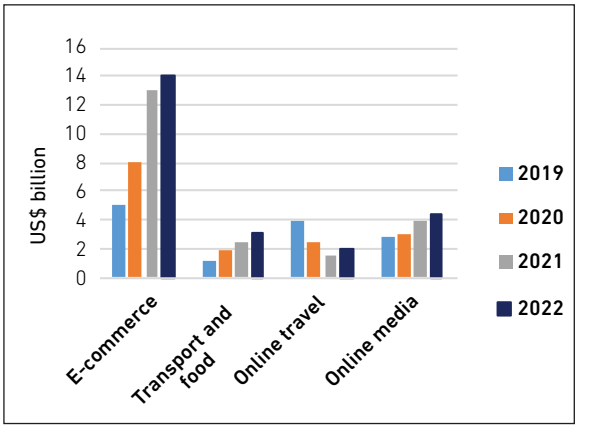


Figure 10.2. Contribution to the Digital Economy (US$ billion)



Source: Google, Temasek, and Bain & Company (2022).

[3] Resolution No.52-NQ/TW, 27 September 2019, provides guidelines and proactive policies for participating in the Fourth Industrial Revolution.

According to Google, Temasek, and Bain & Company (2022), Viet Nam's digital economy is expected to grow from US$23 billion in 2022 to nearly US$50 billion by 2025, the highest growth in the region, driven primarily by the booming e-commerce sector (Figure 10.1). E-commerce alone contributes about 68% to the digital economy (Figure 10.2). Viet Nam's e-commerce market grew at an average annual rate of 30% from 2015 to 2019, making it one of the fastest-growing sectors of the digital economy. According to the Ministry of Industry and Trade, the value of e-commerce transactions in Viet Nam reached US$11.8 billion in 2019. The coronavirus disease (COVID-19) pandemic further accelerated the growth of e-commerce as consumers turned to online shopping in response to social distancing measures. The most popular products purchased online include clothing and footwear, consumer electronics, household appliances, and personal care products (Huynh and Nguyen, 2020). E-commerce revenue is projected to have a compound annual growth rate of 12.8% from 2023 to 2027, leading to a projected market volume of US$21,591 million by 2027 (EcommerceDB, n.d.).

Decree 52/2013/ND-CP on e-commerce, 16 May 2013, is a cornerstone of the e-commerce legal framework. It has contributed to establishing a legal foundation for e-commerce activities, ensuring benefit sharing amongst participants, promoting e-commerce development, and enhancing business competitiveness. As technology has rapidly advanced in recent years, e-commerce has developed in a variety of forms. In response, the government issued Decree 85/2021/ND-CP, 25 September 2021, which amends and supplements several articles of Decree 52. The updated decree adds regulations to ensure transparency of information on websites, outlines content requirements for managing e-commerce activities, strengthens the responsibilities of e-commerce platform owners, and introduces specific regulations for e-commerce activities on social networks, along with the corresponding responsibilities of e-commerce platform owners.

3. Challenges to an Inclusive Digital Economy

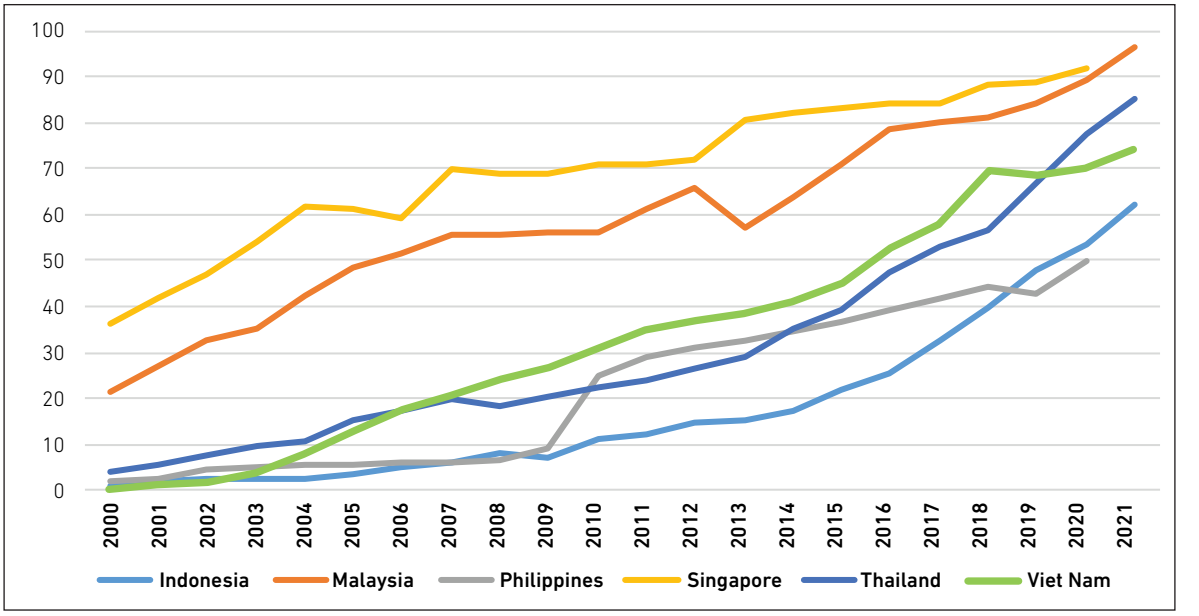
The government has recognised the importance of the digital economy and has implemented various policies and initiatives to support its development. In 2016, the government launched the National Program on Information and Technological Development, which aims to develop e-government, promote digital literacy, and enhance the competitiveness of the information and communication technologies (ICT) industry. Despite efforts to bridge the digital divide, significant barriers still prevent many from accessing digital technologies and participating in the digital economy.

3.1. Digital infrastructure

Viet Nam has made considerable strides in developing its digital infrastructure, focusing on expanding internet connectivity and increasing access to technology. According to the World Bank (2021), Viet Nam has seen significant progress in improving its digital infrastructure, particularly in terms of mobile broadband coverage and affordability. By the end of 2020, Viet Nam had roughly 69 million internet users (Huynh, 2021).

Figure 10.3 shows that more than 74.2% of the population had access to the internet in 2021. This figure is higher than in Indonesia and the Philippines but lower than in countries such as Singapore, Thailand, and Malaysia. Viet Nam's mobile communications sector has experienced rapid growth, with 3G/4G networks reaching almost all households. Major providers such as Viettel, VNPT, and Mobifone offer these services. Viet Nam launched 5G services for commercial and military purposes in 2022, which could enable more digital transformation opportunities (Onishi, 2021).

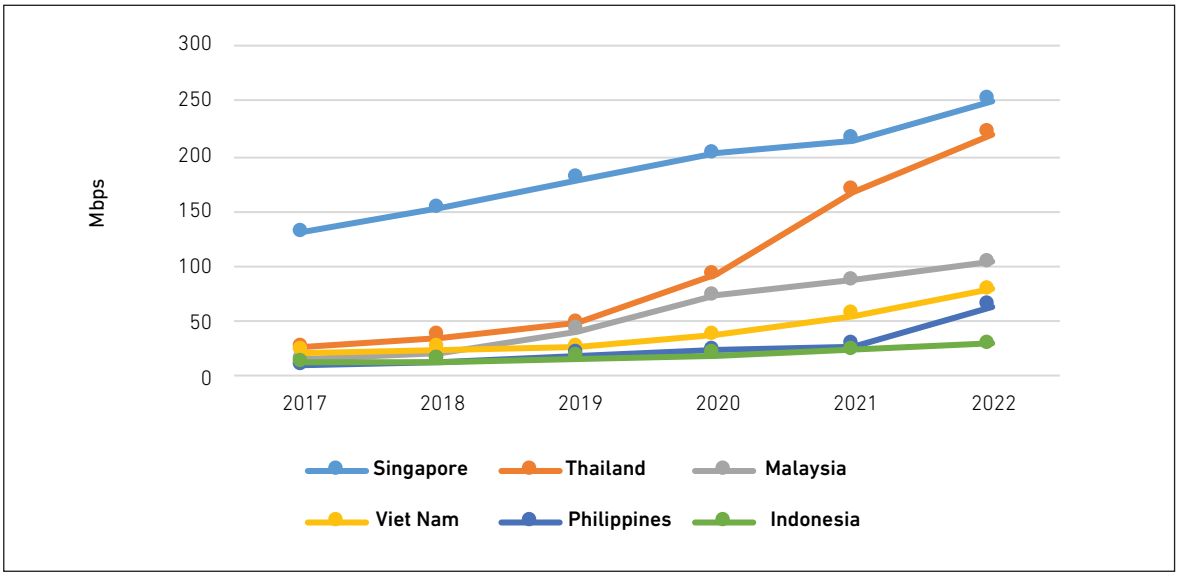
Figure 10.3. Share of the Population Using the Internet (%)



Source: World Development Indicators.

The Inclusive Internet Index 2019 ranked Viet Nam 44th out of 95 countries globally and 5th amongst 8 Southeast Asian countries (Dang, 2020). The average fixed broadband download speed in 2022 was over 77.2 megabits per second (Mbps), higher than Indonesia's 27.5 Mbps and the Philippines' 61.6 Mbps but lower than Thailand's 220 Mbps, Malaysia's 101.8 Mbps, and Singapore's 250.4 Mbps (Figure 10.4). However, fixed broadband penetration remains low and high-speed internet is still limited in rural areas (World Bank, 2021).

Figure 10.4. Average Fixed Broadband Download Speed



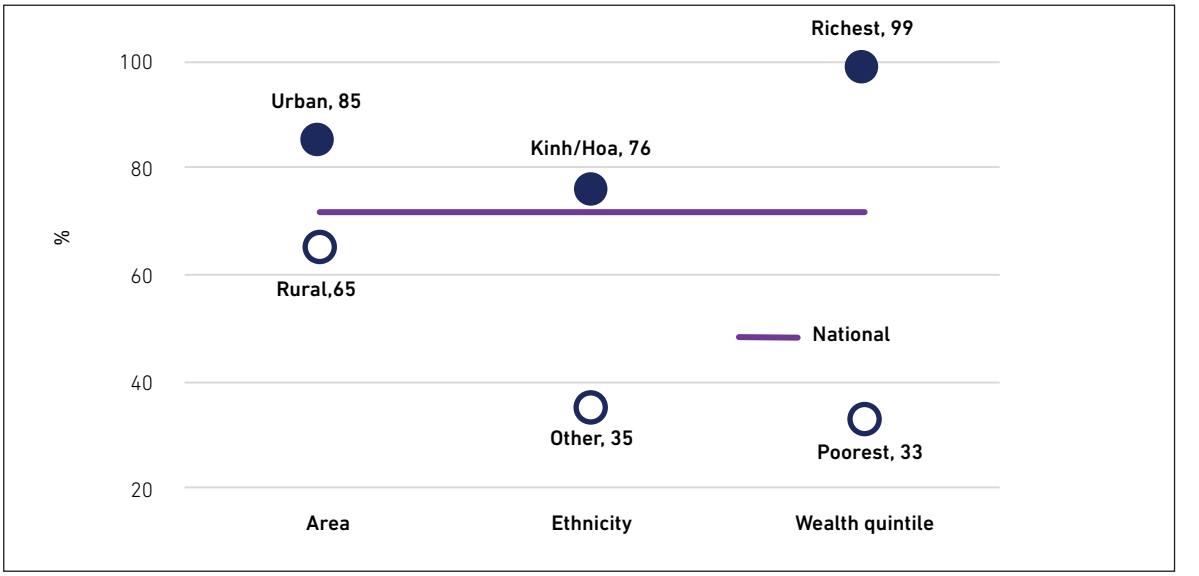
Mbps = megabits per second.

Note: Year refers to the date of data collection.

Source: Economist Impact estimate.

Figure 10.5 shows that internet penetration rates in urban areas are high (over 85%), but rural areas lag, with only 65% of residents having access to the internet. This digital divide is partly due to a lack of digital infrastructure in rural areas, as well as lower levels of education and income amongst rural residents. Only 33% of households in the poorest income group have internet access, compared with nearly all households in the richest income group. There are also significant disparities in internet use between those with low education levels (17%) and those with university degrees (98%). Financial constraints further exacerbate this divide, with 30% of households unable to afford devices that can access the internet (General Statistics Office and UNICEF, 2021).

Figure 10.5. Share of Households with Internet Access at Home (%)

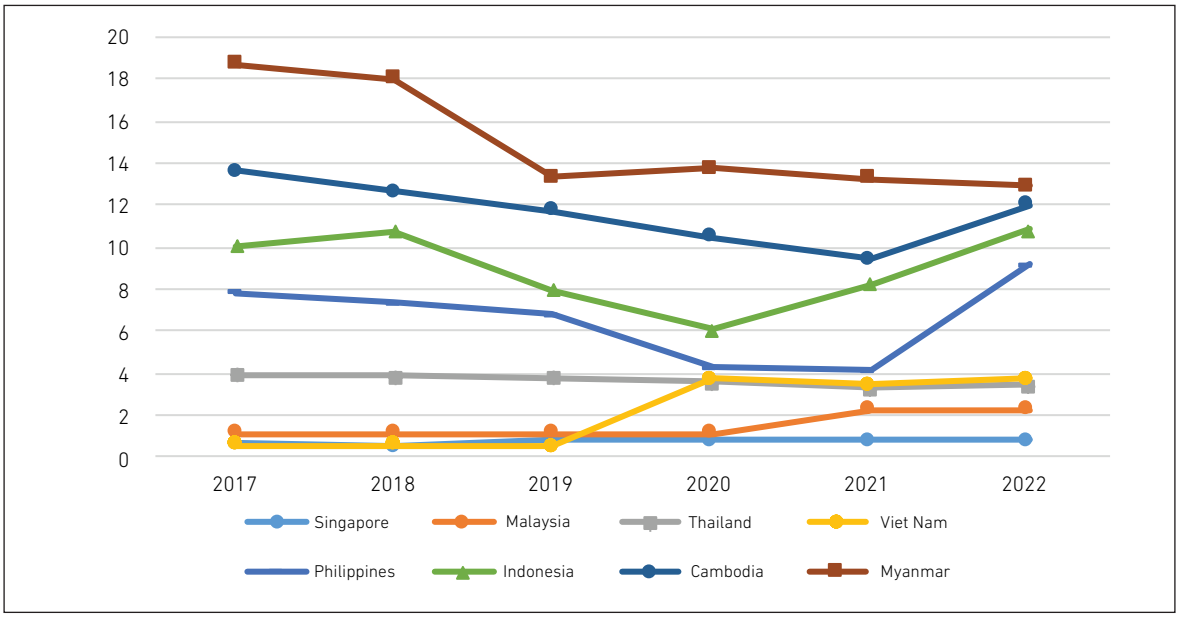


Source: Vietnam Sustainable Development Goal Indicators on Children and Women Survey 2020–2021.

Whilst about half of the households in the lowest two income groups use the internet, their experience is often inferior to that in more affluent areas. Poor families in mountainous regions face weak 3G/4G signals, limiting their ability to use digital services and mobile money (World Bank, 2021). These vulnerable groups frequently find the quality of the network insufficient for their needs. For example, 29.2% of the poorest households reported dissatisfaction with their internet connection quality, compared with only 19.6% of the wealthiest households. Similarly, the dissatisfaction rate was 21% amongst ethnic minority groups, slightly lower than the 30% reported by Kinh and Hoa households. This disparity may be due to the groups' financial limitations, which restrict them to low-quality internet service packages (Viet Nam Academy of Social Sciences and Oxfam, 2022).

Fixed-line monthly broadband costs in Viet Nam are competitive with other ASEAN countries, being almost the same as those in Thailand but higher than in Malaysia and Singapore (Figure 10.6). Viet Nam ranks as one of the countries with the cheapest internet globally, placing 12th out of 211 countries for low fixed broadband internet rates in 2020 (Trong Dat, 2021).

Figure 10.6. Fixed-line Monthly Broadband Cost (% of monthly gross national income per capita)

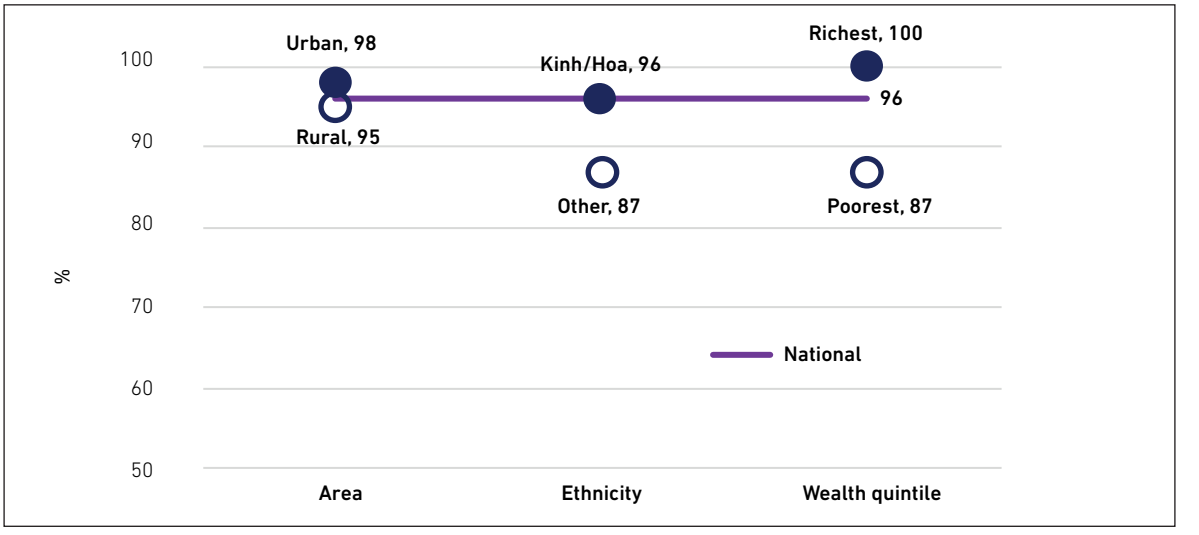


Note: Year refers to the date of data collection.

Source: International Telecommunication Union, Economist Impact estimate.

Mobile phones are common amongst Vietnamese families across all income levels, but not all households, particularly the poorest, can afford or access more advanced technologies (Figure 10.7).

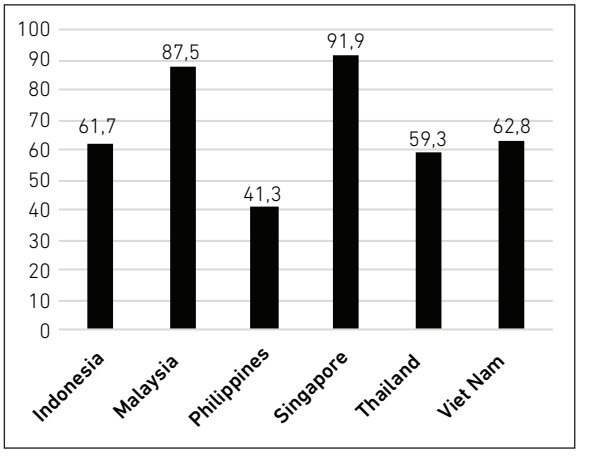
Figure 10.7. Share of Households with Mobile Phones (%)



Source: Vietnam Sustainable Development Goal Indicators on Children and Women Survey 2020–2021.

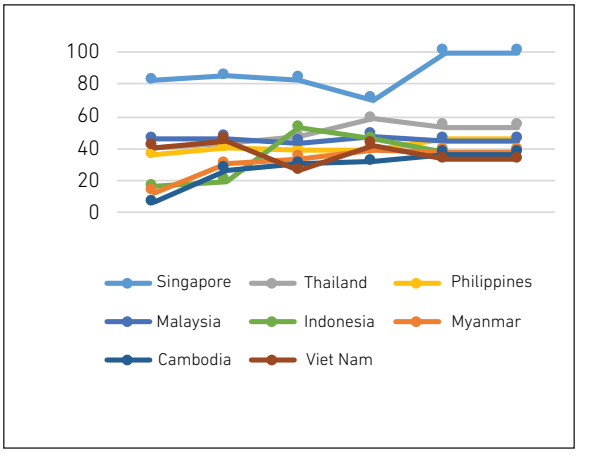
The number of smartphone users and the penetration rate of smartphones are the foundations for the development of the digital economy. In Southeast Asia, Indonesia and Viet Nam are the two markets with the highest number of users. In 2020, Indonesia had up to 160.2 million smartphone users, ranking fourth globally. Viet Nam had 61.3 million users, placing it amongst the top 10 countries with the largest number of smartphone users worldwide (Duy Vu, 2021). Figure 10.8 shows that in 2021, the smartphone penetration rate in Viet Nam was 62.8%, higher than in Thailand (59.3%) and the Philippines (41.3%). However, Viet Nam ranks lowest amongst ASEAN countries in smartphone affordability (Figure 10.9).

Figure 10.8. Smartphone Penetration Rates in 2021 (% population)



Source: Statista.

Figure 10.9. Affordability of Smartphones



Note: Score ranges from 0 to 100, with 100 being the most affordable. Year refers to the date of data collection.

Source: Economist Impact estimate.

Although Viet Nam's e-government index is higher than the global average (Statista, 2023), data from the National Digital Transformation Committee shows that only a small percentage of individuals have utilised e-government services. The Provincial Governance and Public Administration Performance Index survey indicates that only 3.05% of respondents had created user profiles on the national e-service portals (ESP), and slightly over 1% of respondents used an ESP to submit administrative procedures. Five main issues have been identified regarding the applicability of provincial ESPs: insufficient features for implementing end-to-end ESPs; inefficient administrative procedure processes on electronic platforms; difficulties in connecting data, user accounts, and interfaces between local and central ESP systems; difficulties in granting access to ESPs for visually impaired individuals and ethnic minorities; and a lack of commitment to information security and data protection (UNDP, 2023).

4. Lack of Digital Literacy

Viet Nam boasts an exceptional primary completion rate of 98%, nearing universal primary education. However, there is a slight decline in completion rates at the lower secondary level, followed by a more pronounced drop at the upper secondary level. Despite this, the percentage of those completing lower secondary education remains relatively high at 87% (O'Connell et al., 2022). However, enrolment in tertiary education and the digital skills of the active population are low in Viet Nam (Morriset, 2021). According to a survey by the Ministry of Information and Communications, only 41% of the population possess basic digital skills, such as using email and search engines (Vietnamplus, 2022). Fewer than 3 in every 10 men and women aged 15–49 have basic ICT skills (General Statistics Office and UNICEF, 2021).

ICT skills are evenly distributed between males and females, but urban youth possess about twice as many ICT skills as their rural counterparts. This disparity highlights a significant digital divide, likely linked to socio-economic status. Youth from the wealthiest quintile are nearly seven times more likely to possess ICT skills compared with those from the poorest quintile. There is also a marked variation in ICT skills based on educational attainment: 54% of youth with higher education possess ICT skills, compared with only 5% of those with lower secondary education. Ethnic disparities are evident, with just 1% of the Mong ethnic group possessing ICT skills, compared with 44% amongst the majority of Kinh and Hoa ethnic groups (O'Connell et al., 2022). This lack of digital literacy limits people's ability to use digital technologies for education, work, and entrepreneurship.

The information technology workforce has grown rapidly, with nearly 1.1 million people employed in the information technology (IT) industry in 2020, reflecting an average annual growth rate of 13.4% in 2011–2020. In 2020, the IT workforce represented nearly 2% of the total labour force aged 15 and over (Le, 2022). Through Decision No. 749/QD-TTg, 3 June 2002, the Prime Minister approved the National Digital Transformation Program until 2025 with an orientation towards 2030. This directive emphasised the promotion of social, digital transformation by focusing on skills development, providing massive open online courses, and cooperating with large global organisations and businesses to enhance knowledge and skills in digital technology and transformation, ultimately fostering a digital culture. The human resources needed for digital transformation are being developed to ensure the creation of a digital society where no one is left behind. The Prime Minister issued Decision 146/QĐ-TTg, on 28 January 2022, approving Raising Awareness, Training and Developing Human Resources for Digital Transformation Until 2025, with a Vision to 2030. The goal of the decision is to train 1,000 digital transformation experts. At the same time, more than 5,000 engineers, bachelors, and high-quality practitioners specialising in digital technology are being trained at universities and colleges with strengths in digital transformation.

Despite these efforts, there remains a significant gap between the demand for IT professionals and the number of workers with the necessary skills. According to a market report by TopDev, a leading IT recruitment platform, in 2022, the country is expected to face a shortfall of up to 150,000 IT workers as market demand increases to 530,000 (Nhat Ha, 2022). The most acute shortages are in fields such as data science, artificial intelligence, cybersecurity, and software development (Hung Anh, 2018). In terms of quality, only about 30% of newly graduated engineers and bachelors meet the actual requirements of their jobs (Phuc Minh, 2023). This talent shortage has been further exacerbated by the brain drain, with many skilled workers migrating to overseas markets.

4.1. Enabling SMEs' Digital Transformation

As in other ASEAN countries, SMEs are the backbone of the Vietnamese economy, accounting for 98% of all business establishments and nearly half of total employment (Urata, 2021). However, compared with larger firms and those in urban areas, SMEs still face difficulties with digitalisation, which prevent them from fully embracing digital technologies.

To support SMEs in their digital transformation, the government issued Decree No. 80/2021/ND-CP 26 August 2021, detailing and guiding the implementation of several articles of the Law on Support for SMEs. The decree includes provisions to support businesses in digital transformation: (i) providing up to 50% of the contract value for consulting digital transformation solutions related to management, production processes, technology, and business model transformation; and (ii) offering up to 50% support for the costs associated with renting and purchasing digital transformation solutions.

However, according to a survey conducted by the Agency of Enterprise Development under the Ministry of Planning and Investment, the main obstacle to adopting digital technology is the high cost of investment, which affects 60.1% of respondents. Small enterprises and microenterprises are especially challenged, as they have limited financial resources and often struggle to perceive the benefits of digital transformation. The second most common obstacle is the difficulty in changing habits and business practices, which affects 52.3% of respondents. Some businesses have implemented software solutions, but their employees and workers do not use them effectively or consistently, resulting in suboptimal outcomes. The third obstacle is the lack of internal human resources with the necessary experience, knowledge, and skills to execute digital transformation projects, which affects 52.3% of respondents. The fourth obstacle is the lack of digital technology infrastructure, which affects 45.4% of respondents. The fifth and sixth obstacles are the lack of information on digital technology and the difficulty in integrating digital technology solutions, which affect 40.4% and 38.5% of respondents, respectively (Ministry of Planning and Investment and USAID, 2022).

These barriers are similar to those faced by SMEs in other ASEAN countries, where the adoption of digital technologies is hindered by the reluctance to change business processes on the part of micro, small, and medium-sized enterprise (MSME) owners and a shortage of human resources familiar with digital technologies (Economic Research Institute for ASEAN and East Asia, 2019).

4.2. Low Financial Inclusion

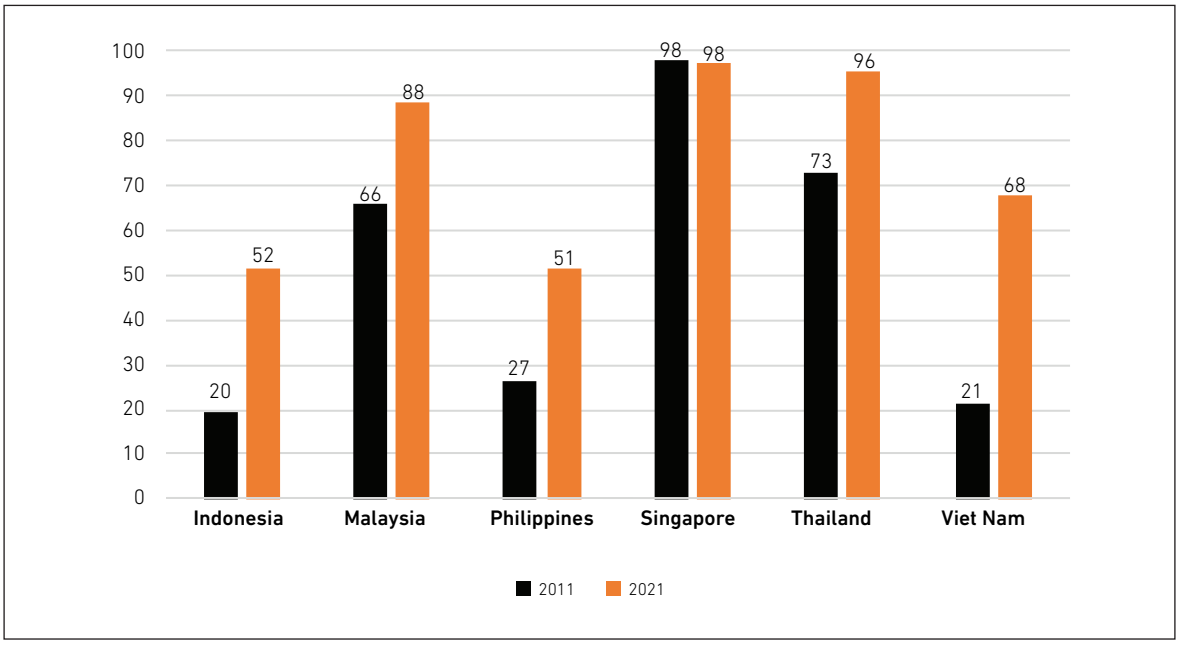
Financial inclusion plays a crucial role in building an inclusive digital economy. As more people gain access to financial services, they become better equipped to participate in the digital economy by making online purchases, using digital payment platforms, and obtaining credit through online lending services. By providing underserved populations with access to financial services such as mobile banking and e-wallets, financial inclusion can help bridge the digital divide, ensuring that everyone can benefit from the digital economy.[4] Financial inclusion supports the growth of SMEs, which is vital for driving economic growth and job creation. By providing SMEs access to financing and other financial services, financial inclusion enables them to participate more fully in the digital economy, including setting up online stores and utilising digital marketing tools.

In recent years, the financial service industry launched several initiatives that have spurred growth in digital payments, created delivery channels for financial services, expanded credit reporting data and lending models, provided government-to-person (G2P) payment solutions, and encouraged e-commerce. The government has taken steps to promote fintech development and allow non-bank payment service providers to operate. These initiatives have increased access to financial services for many people, particularly those without a bank account.

Currently, 32 private service providers offer intermediary digital payment services through bank accounts, including electronic payment services, cash collection, e-money, and e-wallet (Fintech News Vietnam, 2020). However, the number of fintech firms in Viet Nam remains lower than in other ASEAN countries, accounting for just 6% of the sector (Vo and Do, 2019). Many people still lack access to formal financial services. According to the Global Findex Database 2021, the number of people aged over 15 with an account increased more than threefold, from 21.4% in 2011 to 68% in 2021 (Demirguc-Kunt et al., 2022). Whilst this figure is higher than those of Malaysia and the Philippines, it lags behind countries like Thailand or Singapore (Figure 10.10).

[4] Announcement No. 261/TB-VPCP, 23 August 2022, from the Office of the Government: Conclusion of the National Steering Committee on Comprehensive Finance at its First Meeting.

Figure 10.10. Share of People Aged Over 15 with a Bank Account (%)

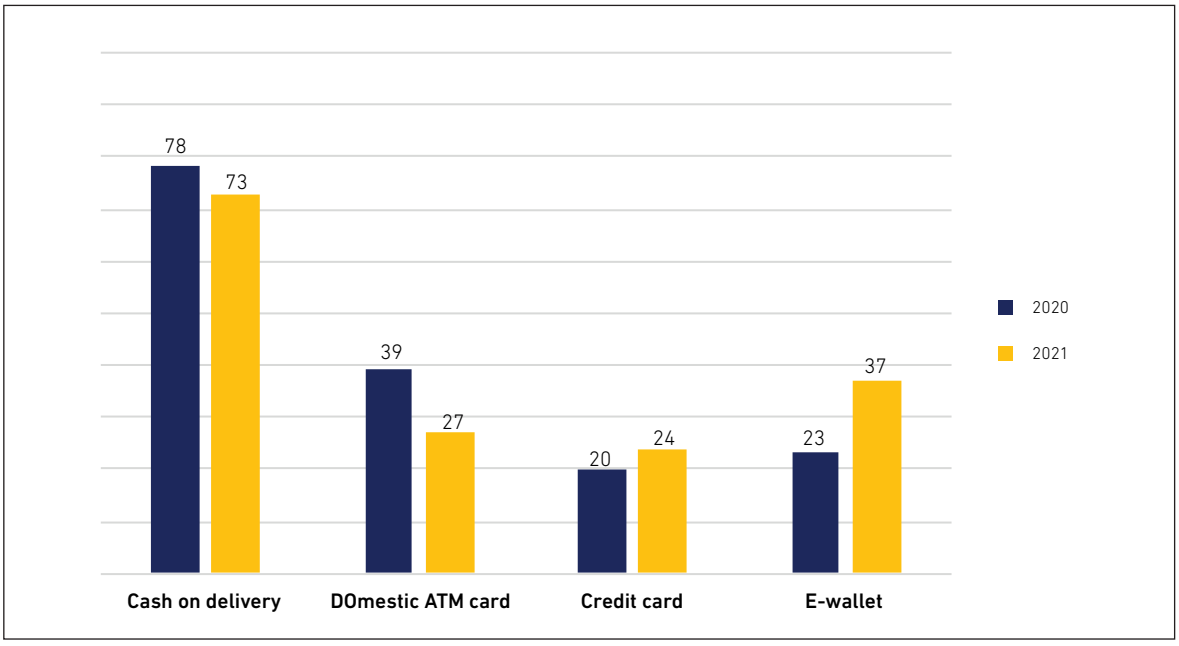


Source: World Bank.

The legal foundation for non-cash payment activities was established with Decree No. 101/2012/ND-CP, 22 November 2012, which has helped promote non-commercial payment activities in recent years. The implementation of Decision No. 2545/QD-TTg, 30 December 2016, approved by the Prime Minister, contributed positively to the development of non-cash payments in 2016–2020. Infrastructure and technology supporting non-commercial payment centres have been modernised with the adoption of new technologies such as fingerprint authentication, facial recognition, and QR codes (Le Thanh, 2020).

Although more people are embracing cashless payment methods, most transactions are still cash-based. Access to cashless payment methods is particularly limited amongst those living outside urban areas. According to the World Bank's 2018 financial inclusion survey, only 22% of Vietnamese had made or received digital payments in the previous year (World Bank, 2019). The E-commerce 2022 Report by the Ministry of Industry and Trade showed that when purchasing goods through e-commerce, most customers still prefer cash-on-delivery (73% in 2021), followed by e-wallets (37%) (Figure 10.11).

Figure 10.11. Payment Methods (%)



ATM = automated teller machine.

Source: Ministry of Industry and Trade.

Financial inclusion and access to digital services are particularly limited in rural areas (Pazarbasioglu, 2017). This lack of financial inclusion limits people's ability to participate in the digital economy, as many digital services require a bank account or credit card. The absence of formal financial services makes it difficult for people to access credit and start businesses.

5. Policy Recommendations

Despite the challenges, there are many opportunities to build an inclusive digital economy in Viet Nam, especially in bridging the gap between those who have access to digital technologies and those who do not. To capitalise on the potential of the digital economy, Viet Nam may consider carrying out the following strategies to address the main barriers to an inclusive digital economy.

5.1. Building Digital Infrastructure

Expand access to high-speed internet. The government should invest in building and upgrading broadband networks to ensure that high-speed internet is widely available throughout the country, especially in rural areas. This will help bridge the digital divide between urban and rural areas and ensure equal access to digital services. Improving the delivery of important public e-services and enhancing user experience through more intuitive and user-friendly interfaces is essential (United Nations Development Programme, 2023).

Encourage private sector investment. The private sector can play a critical role in building digital infrastructure by investing in its construction. The government can incentivise private sector investment through tax breaks, subsidies, and other inducements.[5]

Promote public–private partnerships. Public–private partnerships can help leverage the strengths of both sectors to build digital infrastructure. The government can collaborate with private companies to fund and implement digital infrastructure projects that benefit both the public and private sectors (Nguyen, 2022).

Focus on rural areas. Addressing regional disparities in access to digital technologies requires a focus on developing digital infrastructure in rural areas. This includes establishing community internet centres, providing mobile banking services, and investing in e-learning platforms for remote education.

5.2. Promoting Affordable Access to Digital Technologies

To address income disparities in access to digital technologies, the government can promote affordable access to devices and services. This can be done through subsidies for low-income households, tax incentives for device manufacturers, and public–private partnerships to provide low-cost internet services:

Provide subsidies for low-income households. The government can provide subsidies for low-income households to purchase digital devices such as smartphones and access high-speed internet services.

[5] Currently, 70 companies provide fixed broadband services in Viet Nam, including 17 state-owned enterprises, 1 foreign-invested enterprise, and 52 private enterprises. However, most broadband infrastructure investment is government led, with private enterprises contributing only 7.52% of the total investment in fixed broadband infrastructure (Nguyen, 2022).

Encourage private sector engagement. Private companies can contribute by developing low-cost devices and offering affordable internet services, making digital technologies more accessible.

Establish public internet centres. Public internet centres can provide access to digital technologies, such as computers and high-speed internet, for those who cannot afford their own devices or internet connections.

5.3. Providing Digital Education and Training

Viet Nam urgently needs to **enhance IT education and training at all levels,** especially within the vocational training system. This requires fundamental changes, including new business models (e.g. performance-based funding, public–private partnerships), updated curricula (e.g. data science and analytics), and stronger links between secondary and higher education (World Bank, 2021).

Authorities should identify basic and advanced digital knowledge and skills for workers and **integrate related subjects, including digital finance, into training programmes** to equip learners with basic and advanced digital skills. Fostering a culture of innovation and entrepreneurship that encourages creativity, experimentation, and collaboration is crucial.

Provide digital education and training programmes for low-income individuals and underrepresented groups. The programmes can include basic digital literacy courses, coding boot camps, and entrepreneurship training. Viet Nam needs to enhance workers' soft skills, increasing their flexibility in a rapidly evolving job market. The government can partner with non-governmental organisations and private companies to develop and implement the programmes. Initiatives should be launched to attract talent from Viet Nam's diaspora working in digital sectors worldwide.

5.4. Assisting SMEs in Digitalisation

The government and the private sector should collaborate to create programmes that combine skills development with financing and mentorship for digital entrepreneurs. These initiatives could train SME employees and employers in technology adoption and upgrade their skills.

The government can **assist small businesses in establishing digital platforms** to facilitate their transformation. By adopting such platforms, small businesses can modernise their operations internally and externally. The government may endorse digital tools that aid small businesses in their transformation efforts, such as e-commerce, official websites, social media, and mobile applications.

The government can **provide digital training for SME owners and managers** to improve their digital capabilities, which is essential for successful digital transformation. Increased digital capability amongst small business owners and managers is essential for driving digital innovation and developing new digital products that meet customer needs. By supporting small businesses in

developing their own digital learning and training systems, the government can help reduce the cost associated with hiring and training new employees.

The government should work towards **creating collaborative ecosystems** that enable small businesses to build networks and cooperate with other stakeholders. Such collaboration can help small businesses overcome challenges, including limited resources, a shortage of human resources, and insufficient knowledge. By forming partnerships, small businesses can enhance their business performance and achieve growth despite resource constraints.

5.5. Promote National Strategy for Financial Inclusion

To promote financial inclusion, the government should **encourage the application of digital technology solutions to diversify products and services and intensify the development of non-cash payments.** This includes encouraging commercial banks to expand automated teller machines, points of sale, and transaction networks in rural and remote areas and promoting microfinance institutions to diversify offerings for the poor and low-income earners and small businesses. Developing operating models that link with commercial banks and fintech cooperation is essential.

6. Conclusion

By 2045, the digital economy in Viet Nam is likely to be characterised by the increased use of artificial intelligence, the growth of the Internet of Things, the expansion of e-commerce, the shift to digital payments, and the adoption of cloud computing. These trends present significant opportunities for businesses, consumers, and households. An inclusive digital economy can bring about many benefits, such as improved access to information, education, healthcare, financial services, and social protection; increased productivity, income, and jobs; enhanced participation, empowerment, and social inclusion; reduced poverty, inequality, and environmental impact; and greater resilience to shocks and crises. Therefore, building an inclusive digital economy is essential for the sustainable development of the economy.

Whilst there are still many challenges to overcome – such as access to digital technologies, digital literacy, and financial inclusion – there are also many opportunities for growth in sectors such as e-commerce, fintech, and digital education. Addressing these challenges will require collaboration between the government and the private sector to ensure that the benefits of the digital economy are shared by all. This includes investing in digital infrastructure, promoting digital literacy, and expanding access to financial services. By addressing these challenges and building on its strengths, Viet Nam can work towards creating a more equitable and inclusive digital society. Addressing the digital divide is not only important for social justice but also for driving economic growth, innovation, and democratic participation.

References

Dang, H.L. (2020), *'Vietnam's Booming E-commerce Market*'. https://www.iseas.edu.sg/wp-content/uploads/pdfs/ISEAS_Perspective_2020_4.pdf(accessed 21 November 2023).

Demirguc-Kunt, A., L. Klapper, D. Singer, and S. Ansar (2022), *The Global Findex Database 2021: Financial Inclusion, Digital Payments and Resilience in the Age of COVID-19*. https://www.worldbank.org/en/publication/globalfindex (accessed 21 November 2023).

Duy Vu (2021), *Vietnam Smartphone Use in Top 10 Globally*. https://vietnamnet.vn/en/vietnam-smartphone-use-in-top-10-globally-742257.html(accessed 21 November 2023).

EcommerceDB (n.d.), *eCommerce Market in Viet Nam*. https://ecommercedb.com/markets/vn/all (accessed 21 November 2023).

Economist Impact (n.d.), *The Inclusive Internet Index*. https://impact.economist.com/projects/inclusive-internet-index/about (accessed 21 November 2023).

Economic Research Institute for ASEAN and East Asia (2019), *Study on MSMEs Participation in the Digital Economy in ASEAN: Nurturing ASEAN MSMEs to Embrace Digital Adoption*. https://www.eria.org/uploads/media/Books/2019-October-ERIA-ASEAN-Study-On-MSMEs-Participation.pdf (accessed 21 November 2023).

Fintech News Vietnam (2020), *32 Non-Bank Organizations Licensed Providing Payment Services in Vietnam: The Complete Updated List.* https://fintechnews.sg/17689/vietnam/mobile-payment-service-providers-in-vietnam-the-complete-list/ (accessed 21 November 2023).

General Statistics Office of Viet Nam and UNICEF (2021), *Survey Findings Report from the Viet Nam Sustainable Development Goal Indicators on Children and Women (SDGCW) Survey 2020–2021*. https://www.unicef.org/vietnam/reports/viet-nam-sdg-indicators-children-and-women-survey-2020-2021 (accessed 21 November 2023).

Google, Temasek, and Bain & Company (2022), *E-conomy Sea 2022: Through the Waves, Towards a Sea of Opportunity*. https://www.bain.com/insights/e-conomy-sea-2022/ (accessed 21 November 2023).

Hung Anh (2018), *Vietnam's Workforce Must Tackle Digital Skill Gap: PwC's CEO*. https://e.theleader.vn/vietnams-workforce-must-tackle-digital-skill-gap-pwcs-ceo-1536915148073.htm (accessed 21 November 2023).

Huynh, T. (2021), *Vietnam Digital Economy and Regulatory Challenges*. https://www.trade.gov/market-intelligence/vietnam-digital-economy-and-regulatory-challenges (accessed 21 November 2023).

Huynh, T. and N. Nguyen (2020), *Vietnam Ecommerce*. https://www.trade.gov/market-intelligence/vietnam-ecommerce (accessed 21 November 2023).

Le, T. (2022), *Giải pháp phát triển nguồn nhân lực trong chuyển đổi số tại Việt Nam* [Solutions for developing human resources in digital transformation in Vietnam]. https://aita.gov.vn/giai-phap-phat-trien-nguon-nhan-luc-trong-chuyen-doi-so-tai-viet-nam(accessed 21 November 2023).

Le, T. (2020), *Hoàn thiện khuôn khổ pháp lý về thanh toán không dùng tiền mặt* [Complete the legal framework for non-cash payments]. https://tapchitaichinh.vn/hoan-thien-khuon-kho-phap-ly-ve-thanh-toan-khong-dung-tien-mat.html (accessed 21 November 2023).

Ministry of Planning and Investment and United States Agency for International Development (2022), *Enterprise Digital Transformation 2021: Barriers and Digital Transformation Demand, Annual Report*. https://digital.business.gov.vn/document/bao-cao-thuong-nien-chuyen-doi-so-doanh-nghiep-2021-rao-can-va-nhu-cau-chuyen-doi-so/(accessed 21 November 2023).

Ministry of Industry and Trade (2022), *Vietnam E-commerce Index 2022 Report*. https://idea.gov.vn/?page=document (accessed 21 November 2023).

Morriset, J. (2021), *Digital transformation in Vietnam: Skills must transform too*. https://blogs.worldbank.org/eastasiapacific/digital-transformation-vietnam-skills-must-transform-too (accessed 21 November 2023).

Nguyen, P.N (2022), *Thực trạng phát triển hạ tầng số tại Việt Nam và các khuyến nghị cho giai đoạn mới* [The current situation of digital infrastructure development in Vietnam and recommendations for the new phase]. https://aita.gov.vn/thuc-trang-phat-trien-ha-tang-so-tai-viet-nam-va-cac-khuyen-nghi-cho-giai-doan-moi (accessed 21 November 2023).

Nguyen, T.D. (2021), *Vietnam's Growth Potential Lies in the Digital Economy*. https://vietnamnet.vn/en/vietnams-growth-potential-lies-in-the-digital-economy-751843.html (accessed 30 April 2023).

Nhat Ha (2022), *Vietnam is Lacking 150 Thousands of Information Technology Workers*. https://theleader.vn/viet-nam-dang-thieu-150-nghin-nhan-luc-cong-nghe-thong-tin-1652865622064.htm (accessed 21 November 2023).

O'Connell, T., Q.T. Nguyen, A.L. Le, H.A. Nguyen, A. Fushimi, S. Mizunoya, S. Mishra, and P. Kelly (2022), *The 2022 MICS-EAGLE Viet Nam Education Fact Sheets*. (accessed 21 November 2023).

Onishi, T. (2021), *'Vietnam to issue 5G licenses in 2022 after pandemic delays'*, Nikkei Asia, 29 December. https://asia.nikkei.com/Spotlight/5G-networks/Vietnam-to-issue-5G-licenses-in-2022-after-pandemic-delays (accessed 21 November 2023).

Pazarbasioglu, C. (2017), *Vietnam's Financial Inclusion Priorities: Expanding Financial Services and Moving to a 'Non-Cash' Economy.* https://blogs.worldbank.org/voices/vietnam-s-financial-inclusion-priorities-expanding-financial-services-and-moving-non-cash-economy (accessed 21 November 2023).

Phuc Minh (2023), *Shortage of High-Quality Digital Workers*. https://vneconomy.vn/thieu-hut-lao-dong-so-chat-luong-cao.htm (accessed 21 November 2023).

Statista (2023), *E-Government Development Index (EGDI) of Vietnam from 2010– 2020*. https://www.statista.com/statistics/1189416/vietnam-egdi-e-government-development-index/ (accessed 21 November 2023),

Trong Dat (2021), *Internet Price in Vietnam: One of the Cheapest in the World*. https://vietnamnet.vn/en/internet-price-in-vietnam-one-of-cheapest-in-the-world-802079.html (accessed 21 November 2023).

Vietnam Academy of Social Sciences and Oxfam (2022), 'Digital Transformation Towards the Economy for People in Vietnam: The Participation and Benefits of Citizens in Comprehensive Digital Transformation' (Manuscript).

Vietnamplus (2021), *Vietnam's Digital Economy to Hit 52 Billions USD by 2025.* https://en.vietnamplus.vn/vietnams-digital-economy-to-hit-52-billion-usd-by-2025/200755.vnp#:~:text=Vietnam%E2%80%99s%20digital%20economy%20is%20made%20up%20of%20four,growth%20in%20excess%20of%2040%20percent%20a%20year (accessed 30 April 2023).

Vietnamplus (2022), *Vietnamese Open to Learning Digital Skills: Survey*. https://en.vietnamplus.vn/vietnamese-open-to-learning-digital-skills-survey/235107.vnp (accessed 30 April 2023).

Vo, T.T. and L.N B. Do (2019), *Digital Economy for an Inclusive ASEAN Community.* https://vietnamnews.vn/economy/534979/digital-economy-for-an-inclusive-asean-community.html (accessed 30 April 2023).

Urata, S. (2021), *Enhancing SME Participation in Global Value Chains: Determinants, Challenges, and Policy Recommendations*. https://www.adb.org/publications/enhancing-sme-participation-global-value-chains (accessed 21 November 2023)

United Nations Development Programme (2023), *Enhancing User-Friendliness and Policies to Promote E-Government Services*. https://www.undp.org/vietnam/press-releases/enhancing-user-friendliness-and-policies-promote-e-government-services(accessed 21 November 2023).

World Bank (2021), *Digital Vietnam: The Path to Tomorrow*. https://documents1.worldbank.org/curated/en/259751629470978457/pdf/Taking-Stock-Digital-Vietnam-The-Path-to-Tomorrow.pdf (accessed 21 November 2023).

World Bank (2019), T*he Digital Economy in Southeast Asia: Strengthening the Foundations for Future Growth*. https://documents1.worldbank.org/curated/en/328941558708267736/pdf/The-Digital-Economy-in-Southeast-Asia-Strengthening-the-Foundations-for-Future-Growth.pdf(accessed 21 November 2023).