

THE IMPACT OF EDUCATION AND AWARENESS ON THE DEVELOPMENT OF DIGITAL BANKING SERVICES IN VIETNAM

Do Thi Bich Mai ¹

Received 12.11.2024.

Revised 19.02.2025.

Accepted 19.03.2025.

Keywords:

Financial education, digital banking, technological awareness, financial inclusion, digital transformation.

Original research



ABSTRACT

Education and awareness play a crucial role in the development of digital banking services in Vietnam. Despite a relatively high literacy rate, financial literacy remains limited, with only 24% of adults possessing basic financial knowledge, a figure below the ASEAN average. Educational attainment directly influences access to digital banking, as individuals with higher education levels, particularly university graduates, tend to exhibit better budgeting and financial control. However, financial education has yet to be widely integrated into Vietnam's educational system. Currently, financial literacy is only partially incorporated into the national curriculum, with only 18% of high school students having been exposed to formal financial knowledge. Additionally, digital literacy is another key factor. Although Vietnam has a high internet and smartphone penetration rate (79.1% of the population), many individuals still struggle to use digital financial services. Enhancing financial and technological education, along with appropriate supportive policies, will be the key to driving the growth of digital banking in Vietnam.

© 2026 SPECTRUM Journal of Social Sciences

1. INTRODUCTION

The development of digital technology and financial platforms is driving profound changes in the global banking industry (Nichkasova & Shmarlouskaya, 2020). In Vietnam, digital banking has become a central focus in the digital transformation strategies of financial institutions. According to the State Bank of Vietnam (SBV), between 2019 and 2023, the share of financial transactions conducted through digital channels increased by more than 50%, with significant growth in services such as mobile banking, e-wallets, and digital payment platforms. However, despite its rapid

expansion, the widespread adoption and accessibility of digital banking in Vietnam continue to face multiple challenges, among which education and public awareness play a pivotal role (Lin et al. 2015). Education and awareness directly influence individuals' ability to access and utilize digital banking services (Elhajjar & Ouaida, 2020). The level of financial and technological literacy determines the ability to adopt and effectively use digital financial services. In rural areas, which account for more than 60% of the population, the adoption rate of digital Education and awareness directly influence individuals' ability to access and utilize digital banking services. Banking remains low due to limited

¹ Corresponding author: Do Thi Bich Mai
Email: maidtb68@gmail.com

financial knowledge and technological skills (Sindakis & Showkat, 2024). This underscores the urgent need to enhance financial and technological education within the educational system, as well as to implement community awareness programs on digital banking.

This study focuses on analyzing the impact of education and awareness on the development of digital banking services in Vietnam. It examines key factors such as the general educational level of the population, the prevalence of financial and technological education in the educational system, and the extent of digital literacy and awareness. Based on these insights, the study proposes solutions to enhance digital financial literacy among the public, contributing to the sustainable development of Vietnam's digital financial ecosystem.

2. FACTORS OF EDUCATION AND AWARENESS AFFECTING THE DEVELOPMENT OF DIGITAL BANKING SERVICES IN VIETNAM

2.1. General Educational Level of the Population

Vietnam has a high literacy rate, with approximately 98% in urban areas and nearly 95% in rural areas (Thuan, 2023). However, financial literacy remains limited, particularly in rural regions. One of the major barriers to accessing digital banking services in Vietnam is the lack of fundamental financial and digital knowledge among the population, leading to hesitation in using digital services such as e-wallets and mobile banking. According to the Global Financial Literacy Excellence Center (GFLEC, 2020), only 24% of Vietnamese adults possess financial literacy, significantly lower than Malaysia (36%), Thailand (35%), and Indonesia (38%). This figure is also below the ASEAN average of 38%, as reported in an OECD 2021 survey.

Table 1. Financial Literacy Levels in Selected Asian Countries

Country	Knowledge	Behavior	Attitude	Total
Hong Kong	5,8	6,0	2,7	14,5
South Korea	5,4	5,7	3,2	14,3
Thailand	3,9	5,8	3,1	12,8
Malaysia	3,6	5,7	3,0	12,3
Cambodia	3,5	5,2	2,8	11,5
Vietnam	3,6	5,0	3,0	11,6

**Note: The survey results are based on the OECD (2021) questionnaire. The study sample consists of adult respondents, including: Hong Kong (1,000); South Korea (2,424); Thailand (10,000); Malaysia (2,889); Cambodia (1,035, primarily in Phnom Penh); and Vietnam (1,000, primarily in Hanoi and Ho Chi Minh City)*

Source: Morgan and Trinh (2019)

Several studies conducted both globally and in Vietnam indicate that Vietnam's financial literacy level remains

lower than that of many countries in the region and worldwide. According to the MasterCard Financial survey conducted between 2013 and 2015, Vietnam ranked 12th out of 16, 11th out of 16, and 16th out of 17 in financial literacy (Tran & Dao, 2020). Additionally, an OECD survey revealed that Vietnam's financial literacy score was 11.6, ranking higher only than Cambodia but lower than several other Southeast Asian countries (Table 1).

According to the Standard & Poor's Ratings Services (S&P Global FinLit Survey) on global financial literacy, Vietnam's financial literacy rate remains low, with only 24% of adults demonstrating financial knowledge, ranking 118th out of 144 surveyed countries (Klapper et al., 2006). A survey by the SBV (2022) showed that 47% of the population does not use digital banking services due to a lack of understanding of these services, with this rate reaching 65% in rural areas. Educational attainment also influences financial literacy levels. Individuals with a university degree or higher have a 55% likelihood of budgeting and controlling expenses, whereas this percentage drops to 25% among those with a high school education or lower (Ho et al., 2021). Furthermore, findings from an OECD survey reveal that only 33% of individuals actively engage in budgeting and expense management, while 30% of small and medium-sized enterprises (SMEs) access formal loan sources. A survey conducted among university students in Ho Chi Minh City found that 47% of respondents rated themselves as lacking financial knowledge. Among working adults with approximately five years of experience, the average financial literacy score was only 2.4 out of 5. Moreover, for the majority of the population not engaged in the economic or financial sectors, basic financial concepts remain unfamiliar (Tran & Dao, 2020). Additionally, findings from the Visa Financial Literacy Survey from 2022 reveal that 76% of Vietnamese parents wish for their children to receive personal finance education in schools. However, only 18% of high school students have had formal exposure to financial literacy.

According to Morgan (2021) in Vietnam, only about 30% of adults possess financial literacy, which is lower than the ASEAN average of 38%. Young people, particularly Generation Z (aged 12-27), despite being exposed to the internet and technology daily, are among the most vulnerable groups to online fraud. This demographic is also beginning to engage more actively with financial activities such as earning, saving, and investing. Vietnamese adults over the age of 30, who are employed and earn above-average incomes, tend to have better financial skills than other groups. This can be attributed to their greater exposure to various financial products and services, investment opportunities, retirement planning, and financial education, either through formal education or university studies. In rural areas, individuals aged 41 and above demonstrate higher financial literacy compared to those aged 18-25. Meanwhile, the 26-40 age group has the lowest financial literacy score due to their rural upbringing and early engagement in agricultural

labor, which has limited their access to financial education (Ho et al., 2022).

2.2. The Impact of Financial and Technological Education in the Educational System on the Development of Digital Banking Services

(1) *The Integration of Financial Education into Curricula.* Financial education is becoming increasingly prevalent worldwide. According to an OECD survey, 59 countries have developed national strategies for financial education, with Singapore and Malaysia leading structured implementations in Southeast Asia. In Singapore, the MoneySense program has been in place since 2003, focusing on equipping students with financial knowledge from the primary school level. The program also emphasizes practical learning through close collaboration with banks and businesses. Similarly, Malaysia integrated financial education into the national school curriculum in 2014, with a focus on personal financial planning, saving, and investment. Vietnam has significant potential for strong economic growth, particularly in its aspiration to become a startup nation. Therefore, it is essential to equip students with financial knowledge to understand both domestic and global financial systems while enabling them to effectively apply acquired knowledge and skills to solve academic and real-life challenges. In developed countries, financial education is integrated into school curricula from the primary level. However, in Vietnam, financial literacy remains a relatively new concept within both families and the education system. According to the Visa Financial Literacy Survey 2022, only 18% of Vietnamese high school students have been exposed to financial education, which is significantly lower than in other ASEAN countries such as Thailand (45%) and Singapore (60%). Financial education in Vietnamese schools is in its early stages of implementation, aiming to enhance students' financial awareness. However, the integration level and consistency across subjects remain limited. Under the 2018 General Education Program, financial education was introduced for the first time into six subjects and educational activities, including Mathematics, Literature, Civic Education, Natural and Social Sciences, Technology, and Experiential Activities. This content is mandatory, designed to foster students' comprehensive competencies and personal development. At the primary level, financial education is incorporated into second-grade textbooks, primarily in Mathematics, with additional coverage in Technology and Experiential Activities. In general, financial literacy is integrated at a basic level through subjects such as Civic Education and Mathematics, with a primary focus on personal financial management and fundamental financial concepts. However, the curriculum does not yet cover fintech advancements or the application of digital banking services in depth.

Although recent years have seen increased attention to enhancing financial awareness among students, the integration of financial education into the curriculum remains limited. Financial education has not yet been

systematically and comprehensively incorporated, particularly at the high school level. According to the National Council for Education and Human Resource Development (2023), only 12% of teachers in Vietnam have received formal training in financial education, compared to 75% in Singapore. This lack of teacher training results in limited foundational knowledge among students regarding digital financial tools such as digital banking services, e-wallets, and online financial services. Consequently, many individuals do not fully understand how these services operate, creating barriers to the adoption and expansion of digital banking in Vietnam.

(2) *The Prevalence of Digital Finance Courses.* In recent years, the advancement of technology and the growing demand for personal financial management have driven the emergence of numerous online courses on digital finance. Learning platforms such as Coursera, Udemy, EdX, and FUNiX (a Vietnamese platform) offer a wide range of courses, from basic to advanced levels, covering topics such as personal finance management, digital banking, and financial technology (Fintech). However, participation rates remain low compared to the potential demand, primarily due to language barriers and limited awareness. Many high-quality courses are offered in English, posing challenges for a significant portion of Vietnamese users, particularly those in rural areas.

According to the Mastercard New Payments Index (2022), 89% of Vietnamese users manage their personal finances on digital platforms. Most Vietnamese consumers have transitioned to digital financial management, including bill payments, bank transfers, account openings, and financial planning. Vietnamese users are adopting a diverse range of payment methods, with 94% of consumers having used at least one form of electronic payment—such as e-wallets, QR codes, buy now, pay later (BNPL), biometrics, and other digital payment methods—within the past year. This rate is higher than the Asia-Pacific regional average of 88%. Furthermore, 78% of users have increased their frequency of using multiple digital payment methods simultaneously, indicating that the adoption of digital payment solutions is on a strong upward trajectory.

2.3. The Impact of Digital Awareness and Literacy on the Development of Digital Banking Services

(1) *Digital Literacy and Awareness.* The level of digital literacy, including knowledge of the internet, smartphones, and digital financial applications, has significantly improved in Vietnam in recent years, providing a critical foundation for the expansion of digital banking services. As of early 2023, Vietnam had over 77.9 million internet users, representing 79.1% of the population, ranking 13th globally (Data Reportal, 2024). A report by Insider Intelligence on the Southeast Asian smartphone market (2021-2026) indicated that in 2023, the number of smartphone users in Vietnam was projected to reach 63.8 million, a 1.6% increase from 2022, accounting for 96.1% of all internet users nationwide. Among Southeast Asian countries, Vietnam ranked second only to Indonesia in terms of smartphone

users by the end of 2023. By 2026, the number of smartphone users in Vietnam is expected to reach 67.3 million, marking a 1.7% annual increase, and accounting for 96.9% of internet users (Figure 1). This continued growth is expected to drive greater adoption of digital financial applications, further accelerating the development of digital banking services.

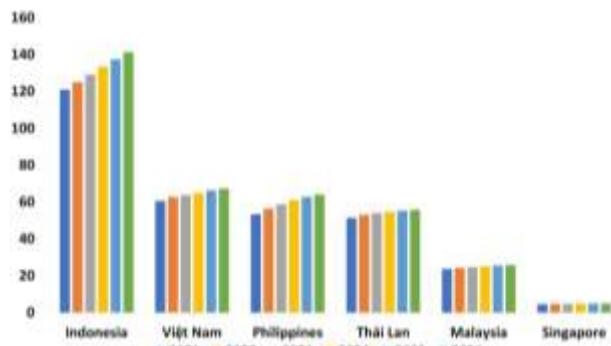


Figure 1. Projected Smartphone User Growth in Southeast Asia (2021-2026)

Source: Insider Intelligence, 2022.

The high rate of technology adoption provides a strong foundation for banks to rapidly expand digital banking services, particularly in areas such as cashless payments and online banking. According to the Mastercard Global Payments Index (2023), the volume of cashless transactions in Vietnam increased by 46% in 2023 compared to 2022. Notably, mobile banking and e-wallet transactions accounted for over 60% of all digital transactions. The widespread use of smartphones and internet connectivity enables banks to reach customers more effectively through digital platforms. However, some users, especially those in rural areas, lack the necessary skills to utilize more complex financial services. This underscores the need for banks to strengthen digital financial education and enhance user experience to accelerate the growth of digital banking services.

(2) *Awareness of the Benefits and Risks of Digital Banking Services.* Public awareness of both the benefits and risks of using digital banking services has made significant progress. However, challenges related to cybersecurity and data protection remain prevalent. Many customers are still concerned about security risks, fearing potential data breaches and identity theft when using digital banking services. Vietnamese commercial banks have been actively promoting digital transformation while prioritizing information security and customer protection to mitigate risks associated with digital banking. Over 70% of users believe that digital banking helps them save time and reduce transaction costs. This is attributed to the convenience of conducting financial transactions such as bill payments, money transfers, and investments without needing to visit a physical bank branch. Additionally, digital banking services often come with lower fees or are entirely free compared to traditional banking services, contributing to significant cost reductions for users. Modern digital

banking platforms, such as Digimi, integrate advanced features such as QR code payments, free virtual card issuance, and competitive interest rate savings accounts. These innovations not only meet the growing demand for fast and efficient transactions but also align with the cashless lifestyle trend among younger generations. However, the majority of users remain concerned about the risk of personal data theft when conducting transactions via digital banking services. This concern arises from the increasing number of cyberattacks and fraud schemes aimed at stealing user data. These include malware attacks, fake banking applications, and phishing scams via SMS and email. Traditional authentication methods, such as passwords and OTP SMS codes, can also be vulnerable to exploitation by hackers if not adequately secured. As a result, enhancing cybersecurity measures and raising public awareness about safe digital banking practices is crucial to ensuring user trust and widespread adoption of digital banking. Currently, users also express concerns about data exposure when using biometric authentication. When asked about data security in online transactions involving biometrics, over 36% of users expressed concerns, while 42% remained neutral, and more than 20% had no concerns. Notably, 50% of users aged 35-44 worry about the security of their personal data when using biometric authentication, whereas this concern ranges from 24% to 39% among other age groups. Users in Southern Vietnam exhibit higher levels of concern (43.6%) compared to Northern Vietnam (31.6%) and Central Vietnam (33.3%). Despite approximately one-third of users expressing security concerns, the majority agree that biometric authentication enhances the security of online transactions (Patrick et al., 2022).

2.4. Accessibility and Utilization of Information Sources

Vietnam is experiencing a significant increase in internet usage. As of January 2024, there were 78.44 million internet users, with an internet penetration rate of 79.1%. This data highlights how the internet has become an integral part of daily life, primarily driven by the widespread adoption of smart devices and improvements in network infrastructure. The prevalence of smart devices plays a crucial role in enhancing access to and utilization of digital banking services. On average, Vietnamese users spend 6 hours and 18 minutes online daily, with approximately 2 hours dedicated to financial activities, e-commerce, and online payments. This extended screen time provides sufficient opportunity for users to explore and engage with financial services, including digital banking. Despite the growth in internet adoption, 20.75 million people (approximately 20.9% of the population) remained offline at the beginning of 2024. This presents a challenge for the expansion and universal adoption of digital technologies, particularly in efforts to ensure inclusive access to digital banking (Data Reportal, 2024).

2.5. Experience and Habits in Using Financial Services

(1) *The habits and experience of Vietnamese consumers with traditional financial services play a crucial role in their transition to digital banking services.* According to the 2023 report by the Department of E-commerce and Digital Economy (Ministry of Industry and Trade), cash transactions remain dominant, with 50.6% of users regularly using cash for payments. However, the Covid-19 pandemic has triggered a significant shift in consumer behavior, encouraging many individuals to experiment with alternative payment methods. Services such as Internet Banking and e-wallets have been gradually gaining popularity, marking an important step toward digital financial transformation (Van Dinh, 2024). Meanwhile, traditional banking services, such as in-branch transactions and ATM withdrawals, remain the preferred choice for more complex financial needs. This underscores the necessity of integrating both traditional and modern banking services to support customers in adapting to new financial technologies. According to the SBV (2020), 95% of banks in Vietnam had either developed or were in the process of implementing digital transformation strategies. However, the widespread adoption of digital banking solutions, such as cashless payments and electronic Know Your Customer (e-KYC) verification, still requires time to build customer trust and improve infrastructure. These ongoing efforts aim to provide a seamless, secure, and convenient customer experience, while simultaneously leveraging the existing financial infrastructure for greater efficiency and accessibility.

(2) *The frequency and extent of digital banking usage in Vietnam have been steadily increasing, reflecting growing familiarity and acceptance among the population.* According to a survey by the SBV (2023), over 95% of commercial banks had implemented digital banking services, with 80% of transactions conducted through electronic channels. Notably, Mobile Banking experienced remarkable growth, with 70% of customers regularly using banking services via smartphones, compared to only 40% in 2020. Users are increasingly confident in digital payment solutions, including QR code transactions, e-wallets, and fund transfers through digital banking platforms. A survey by HSBC found that 68% of respondents felt confident using mobile banking applications. However, regional disparities exist, as urban areas demonstrate greater familiarity with digital banking compared to rural regions.

2.6. Adaptability to Technological Changes

As of January 2024, Vietnam had 78.44 million internet users, representing 79.1% of the population, indicating a high level of digital technology adoption. Vietnam has a young population, with individuals aged 18-35 demonstrating particular agility in adopting new technologies, including digital banking services. According to Statista (2023), 92% of Vietnamese in this age group own a smartphone, and 70% have conducted online financial transactions. Their frequent use of

mobile devices and existing digital literacy skills enable them to adapt more easily to digital banking compared to older demographics. A cloud-based SaaS banking platform, revealed that 85% of banking users in Vietnam had increased their digital banking usage compared to 18 months prior. Overall, Vietnam's young population and high internet penetration rate create significant potential for digital banking adoption. However, challenges remain in terms of technical infrastructure and digital literacy, particularly in less-developed areas, which need to be addressed to ensure inclusive digital banking growth.

2.7. Support from Community Education Programs

In Vietnam, digital financial education programs have been launched to enhance public awareness and encourage the adoption of digital banking services. The SBV has collaborated with Vietnam Television (VTV) to produce educational programs such as "Tien Kheo Tien Khon" (Smart Money), "Dong Tien Thong Thai" (Wise Money), and "Tay Hom Chia Khoa" (Financial Keeper). These programs use visual graphics to illustrate financial concepts, making banking services more accessible to the public. By improving financial literacy, these initiatives aim to promote cashless payments and support the implementation of Vietnam's National Financial Inclusion Strategy (Van et al., 2021). Additionally, the SBV has expanded its outreach through social media platforms, creating the "Financial Education" fan page featuring popular artists. Through short skits, video clips, and infographics, financial knowledge is communicated in a simple and engaging manner, helping the public increase awareness and gradually change their habits in using banking products and services.

Regarding government and non-governmental organization (NGO) support, various programs have been implemented to provide financial and technological education to communities, particularly vulnerable groups. For instance, the "Confident Start" project, funded by Standard Chartered and jointly implemented by HNIVC, REACH, and PIV from 2022 to 2023, aimed to address the lack of skills and employment opportunities among youth affected by the Covid-19 pandemic (Shetty et al., 2023). Additionally, NGOs such as Blue Dragon Children's Foundation, FHI 360, and SNV Netherlands Development Organisation have been actively operating in Vietnam. Their initiatives focus on education, economic development, and technology-driven solutions, supporting disadvantaged groups in society. These efforts have significantly contributed to enhancing financial literacy and skills, particularly among vulnerable populations, enabling them to access and effectively utilize digital financial services. As a result, these programs have played a crucial role in promoting financial inclusion and fostering sustainable socio-economic development.

2.8. Awareness of Security and Information Protection

Public awareness of personal data security when using digital banking services is gradually improving, yet significant challenges remain. Although internet users in Vietnam are increasingly concerned about personal data security, the level of prioritization remains relatively low. Many users fail to implement essential security measures, exposing themselves to data breaches and online transaction risks. The general knowledge of cybersecurity measures for online transactions is still limited. A large proportion of users do not adopt basic security practices, such as using strong passwords, enabling two-factor authentication (2FA), and encrypting sensitive information. This creates opportunities for cybercriminals to exploit vulnerabilities, leading to fraud and financial losses. Vietnamese commercial banks have invested in security systems, but the average investment in cybersecurity accounts for only 5% of total IT project budgets, significantly lower than the global benchmark of 15-25% (Huy et al., 2024). Enhancing public awareness and financial institutions' investment in security is essential to mitigating risks and strengthening trust in digital banking services).

2.9. Differences in Education and Awareness Among Population Groups

In Vietnam, disparities in education levels and access to information across different population groups, particularly between urban and rural areas, remain a significant challenge. According to the 2019 Population and Housing Census, the net enrollment rate for primary education showed no significant difference between urban and rural areas (100.9% vs. 101.0%). However, at higher education levels, the gap becomes more pronounced. Specifically, the enrollment rates for lower secondary and upper secondary education are lower in rural areas than in urban areas, highlighting inequalities in educational opportunities between these regions (Hafeez, 2021). This educational disparity directly impacts financial literacy and awareness, including the understanding and adoption of digital banking services. As a result, rural populations tend to have lower financial knowledge and digital banking accessibility, posing a challenge to achieving financial inclusion in Vietnam. Disparities in educational opportunities and access to information have led to a significant gap in technology adoption, including digital banking services. Individuals with lower education levels, particularly in rural areas, often face greater difficulties in accessing and using digital banking services. Additionally, technological infrastructure deficiencies, such as limited internet access, lack of smartphones, and insufficient on-site training programs, further exacerbate this issue. Rural populations, especially women and agricultural workers, not only lack access to digital devices but also possess limited knowledge on how to use digital financial

services safely and effectively. Bridging this gap requires targeted educational initiatives and improved infrastructure, ensuring that all population groups, regardless of location or socioeconomic status, can benefit from digital banking advancements.

3. CONCLUSION

It is evident that education and awareness play a crucial role in the development of digital banking services in Vietnam. The level of financial and technological literacy directly impacts people's ability to access and use digital banking services, especially in an increasingly digitalized economy. Although Vietnam has a high literacy rate and a young population that quickly adapts to technology, financial literacy remains low, creating barriers to the widespread adoption of digital banking services. Furthermore, financial education in Vietnam has not yet been systematically and comprehensively implemented compared to developed countries. While Singapore and Malaysia have implemented structured financial education strategies from the primary school level, in Vietnam, most people gain financial knowledge through personal experience or fragmented training programs. This results in a lack of personal financial management skills and hesitation in adopting digital financial products. Additionally, digital awareness significantly impacts digital banking accessibility. Despite high internet and smartphone penetration rates in Vietnam, digital financial literacy remains limited. This issue is particularly pronounced in rural areas, where digital banking adoption rates are the lowest. Many rural residents struggle to access and use digital banking services due to limited financial knowledge and digital skills, further hindering financial inclusion and digital transformation efforts.

To accelerate the development of digital banking services, Vietnam needs to implement comprehensive strategies to enhance financial awareness and digital financial education. First, financial education should be integrated into the national education system from the primary level, while also expanding financial and digital literacy training programs for adults. Additionally, banks and financial institutions should strengthen public communication and community education initiatives, particularly in rural areas, to promote the benefits and usage of digital banking services. Enhancing financial education and awareness will not only improve access to digital banking but also contribute to Vietnam's digital economy growth. Investing in financial and technological education will serve as a crucial foundation for expanding digital banking accessibility, strengthening financial inclusion, and building a sustainable digital financial ecosystem.

References:

Data Reportal (2024). *Digital 2024 – Vietnam*. URL: <https://datareportal.com/reports/digital-2024-vietnam>

Elhajjar, S., & Ouaida, F. (2020). An analysis of factors affecting mobile banking adoption. *International Journal of Bank Marketing*, 38(2), 352-367.

GFLEC. (2020). Global Financial Literacy Excellence Center, URL: <https://gflec.org/>

Hafeez, M. (2021). Impact of Teacher's Training on Interest and Academic Achievements of Students by Multiple Teaching Methods. *Pedagogical Research*, 6(3), em0102

Ho, M. T., Le, N. T. B., Ho, M. T., & Vuong, Q. H. (2022). A bibliometric review on development economics research in Vietnam from 2008 to 2020. *Quality & Quantity*, 1-31.

Ho, M. T., Le, N. T. B., Tran, H. L. D., Nguyen, Q. H., Pham, M. H., Ly, M. H., ... & Vuong, Q. H. (2021). A Systematic and Critical Review on the Research Landscape of Finance in Vietnam from 2008 to 2020. *Journal of Risk and Financial Management*, 14(5), 219.

Huy, T. P., Nhu, Y. N. N., Kieu, T. V. T., Khanh, D. D. N., Hong, T. P., & Huu, K. N. (2024). Digital transformation and bank performance: case of commercial banks in Vietnam. *International Journal of Revenue Management*, 14(4), 361-396.

Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of financial economics*, 82(3), 591-629.

Lin, F. T., Wu, H. Y., & Tran, T. N. N. (2015). Internet banking adoption in a developing country: an empirical study in Vietnam. *Information Systems and e-Business Management*, 13, 267-287.

Morgan, P. J. (2021). Fintech, financial literacy, and financial education. *The Routledge Handbook of Financial Literacy*, 239-258.

Morgan, P. J., & Trinh, L. Q. (2019). Determinants and impacts of financial literacy in Cambodia and Viet Nam. *Journal of Risk and Financial Management*, 12(1), 19.

Nichkasova, Y., & Shmarlouskaya, H. (2020). Financial technologies as a driving force for business model transformation in the banking sector. *International Journal of Business and Globalisation*, 25(4), 419-447.

OECD. (2021). SIGI 2021 Regional Report for Southeast Asia. URL: https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/03/sigi-2021-regional-report-for-southeast-asia_a7453358/236f41d0-en.pdf

Patrick, A., Burris, A., Das, S., & Noah, N. (2022, November). Understanding user perspective in a university setting to improve biometric authentication adoption. In *Proceedings of the 9th Mexican International Conference on Human-Computer Interaction* (pp. 1-10).

SBV. (2022). Improveing Vietnam's Finansial Inclusion and FinTech's role in collaboration with Credit Institutions.. <https://www.centralbanking.com/organisations/state-bank-of-vietnam-sbv>

Shetty, P. A., Ayari, L., Madry, J., Betts, C., Robinson, D. M., & Kirmani, B. F. (2023). The relationship between COVID-19 and the development of depression: implications on mental health. *Neuroscience Insights*, 18, 26331055231191513.

Sindakis, S., & Showkat, G. (2024). The digital revolution in India: bridging the gap in rural technology adoption. *Journal of Innovation and Entrepreneurship*, 13(1), 29.

Thuan, B. B. (2023). Digital literacy of Vietnamese human resources. *The VMOST Journal of Social Sciences and Humanities*, 65(2), 71-84.

Tran T, T, & Dao H, N, (2020). National Financial Education Program in the Context of Financial Sector Digitalization: Experiences and Recommendations for Vietnam, *Journal of Banking Science and Training*, 21, October 2020, 71-84.

Van Dinh, D. (2024). Digital economy and the electronic payment behavior: An empirical analysis. *Transnational Corporations Review*, 16(4), 200078.

Van, L. T. H., Vo, A. T., Nguyen, N. T., & Vo, D. H. (2021). Financial inclusion and economic growth: An international evidence. *Emerging Markets Finance and Trade*, 57(1), 239-263.

Do Thi Bich Mai

VNU University of Economics &
Business
Hanoi city, Vietnam
maidtb68@gmail.com
ORCID: 0009-0003-1393-606X
