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Digital Banking in Online Paying in Vietnam

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Abstract

Digital banking is a banking service on smart mobile phones, allowing individual customers to perform financial, non-financial transactions and advanced utilities provided by the bank. Specifically, this digital platform not only satisfies all customers' financial needs (opening accounts, making payments, opening credit cards, quick money transfers, etc.) but also connects widely with ecosystems. large (such as consumption, entertainment, investment, etc.). Digital banking is a further development step of electronic banking. Digital banking is considered an important service in increasing customer loyalty to the bank. In the current period, applying technology to replace traditional manual payment methods is inevitable. Deploying and providing these services from the banking system not only affirms the bank's position in modernizing the technology infrastructure

to provide convenient products and services to customers, but also contributes to Limiting the use of cash in payments, helps save social costs as well as make business activities of entities in the economy more transparent. This article studies the current situation of digital banking in electronic payment activities, presents the results achieved and limitations in electronic payment activities in digital banks in recent times and offers some solutions, Make recommendations to the State Bank on improving the legal framework, promoting communication, organizing seminars on banking science and technology and commercial banks on allocating new technological human resources and developing banking digitally in parallel with the banking ecosystem, promoting cross-border payments.

Keywords: Digital Banking, E-Wallet, Fintech, Mobile Banking, Online Paying

1. Research Review

1.1 Digital Bank

Digital Banking, the English term is: Digital Banking. This is a form of banking that digitizes all traditional banking activities and services. Banking services and operations are based on digital platforms or digital technology. All customer transactions were previously carried out directly at the bank's transaction counters, such as branches, transaction offices, and headquarters of the bank, but now customers transact over the Internet through Laptop, PC, Mobile Phone, iPad, or other mobile devices with network connection and telecommunications waves. Customer transactions are digitized and integrated into a single digital banking application.

Transacting with digital banks, customers can: Withdraw money, transfer money.; Term and non-term savings with interest; Manage checking and savings accounts; Pay bills for goods and services; Carry out procedures for borrowing capital and repaying debt to banks; Use other utility services.

By operating based on network connection of digital technology platforms, customers can proactively transact anytime, anywhere. From there, customers do not need to depend on the time and location of banking systems. In addition, identification and information security are also increased when users fully manage their personal information and assets. Paperwork procedures are also reduced when users choose to transact online through the digital banking system.

1.2 Distinguish between Digital Banking and Electronic Banking

Digital banking and e-banking have similarities, that is, managing online bank accounts and performing core features and key customer transactions through banking services, such as money transfer, pay bills, top up your phone, deposit money. However, Digital Banking covers more general and more detailed features and activities of banking. Electronic banking is just a convenient service of digital banking.

Table 1: Comparison of differences between digital banking and electronic banking

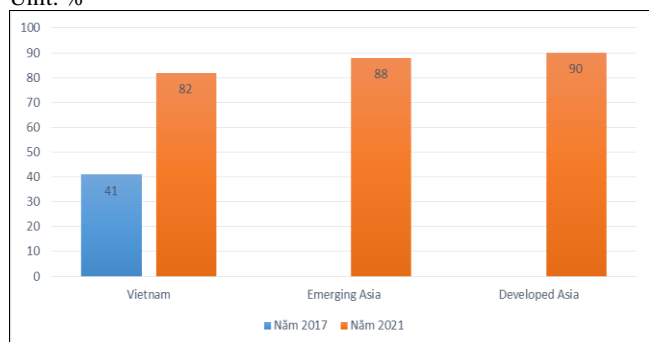
Comparative standards	Digital Banking	Internet banking
Define	A form of digital banking all activities and services traditional bank.	An online banking service, Electronic banking of banks row.
Means of operation	Live banking, Website, devices dynamic.	Mobile phone applications, laptop with internet connection.
The main transactions of customers are through banks	Withdraw money, transfer money. Term and non-term savings deposits term with interest. Manage bar accounts accounts and savings accounts. Loans, consumer loans; pay loan capital to banks. Pay bills. Other utility services.	Transfer money within and outside the system system. Query account balance. Electronic bill payment. Save money.

Source: Compilation of author's research

2. Current Status of Digital Banking in Online Paying

On October 28, 2021, the Prime Minister signed Decision No. 1813/QĐ-TTg approving "Project for developing non-cash payments in Vietnam for the period 2021-2025". In this Decision, solutions for developing non-cash payments are set out very specifically, all based on digital technology platforms and the target groups that need to be prioritized are mainly organizations. There are many people making payments [2]. The above data was published by McKinsey in a report on digital banking service usage behavior published on September 2021. The report is based on behavioral analysis of individual customers in urban areas in 15 markets Asia-Pacific [3].

Unit: %

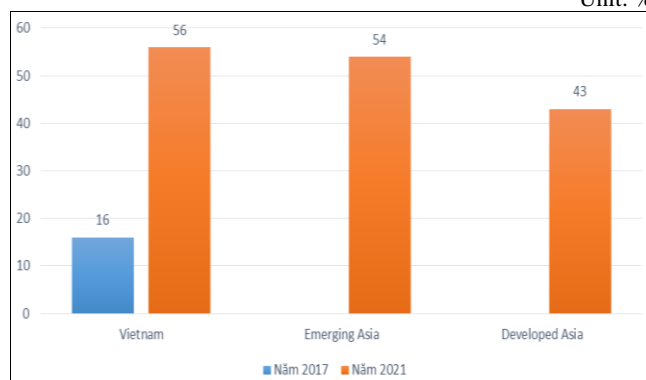


Source: McKinsey company survey, 2021

Fig 1: People actively using digital banking

Fig 1 shows that 82% of users have at least one internet banking or mobile banking access within a month in Vietnam in 2021. This number is double the rate of 41% in 2017. The average of emerging countries in the entire Asia-Pacific region is 88% and in developed countries it is 90%.

Unit: %



Source: McKinsey company survey, 2021

Fig 2: Fintech and e-wallet penetration

Data shows that digital banking services are popular in Vietnam with the number of people using fintech (financial technology) and e-wallet services reaching 56% in 2021, a sharp increase compared to 2017. level of 16%. This penetration level is higher than the average of 54% for emerging Asia-Pacific markets and 43% for developed Asia-Pacific markets [3].

Besides, 73% of Vietnamese individual customers use banking services through many different channels. Meaning they use a combination of digital banking and physical branches. In particular, customers under 40 years old prioritize digital channels while older users use multi-channel.

However, McKinsey said that although customers have changed their behavior, banks are not doing well enough to capture sales through digital channels. This is reflected in the lack of digital products and services and the lack of meaningful engagement with users.

McKinsey recommends that banks should transform their business models to be digital-first, or follow a multi-channel engagement model based on the application of artificial intelligence and machine learning. Accordingly, personalize services based on understanding customer behavior and bring digital banking capabilities into partner ecosystems.

Strengthening the efficiency of multi-channel deployment of branches is also emphasized, in order to measure financial goals and customer satisfaction levels. Banks must also create different products in digital banking services, becoming the main account of customers.

3. Current Status of Implementing Digital Banking through Online Paying

First of all, the State Bank of Vietnam, the agency assigned to state management of banking activities and payment services, advises the Government on this field. In recent years, the State Bank has focused on building and perfecting mechanisms, policies, and legal corridors, creating favorable conditions for the birth and development of digital banking services, digital payments, and currency exchange. new utilities, applying new advanced technologies to improve operational efficiency and service quality. The State Bank has submitted to the Government to promulgate a Decree on

non-cash payments and a Decision to pilot the Mobile Money service; amending and supplementing circulars, guiding the Decree, developing and implementing a digital transformation plan for the banking industry. The State Bank has also issued regulations on opening online payment accounts based on customer identification using the electronic method eKYC, promulgating uniform application of standards in the field of payment, QR Code, and chip cards, regulations and measures to ensure security and safety of payment systems and electronic payment transactions of businesses, people^[1].

By the end of 2022, at 16 Vietnamese commercial banks implementing eKYC, there were more than 900,000 active accounts, reaching 3.2 million transactions, with a turnover of more than 92.1 trillion VND. This is the initial implementation result showing that opening an eKYC payment account has brought practical results, especially in the context of the COVID-19 epidemic. eKYC application is also a new step forward in technology in the development of banking services in Vietnam, contributing to promoting electronic payment activities and promoting sustainable development of the financial market (VBNA, 2021-2022)^[5]. In addition, payment service providers and payment intermediaries have actively researched and invested heavily in financial resources to develop technology infrastructure and select optimal technical solutions, integrating and connecting other services, such as telecommunications, healthcare, hospitals, schools, electricity, clean water, taxes, customs, insurance, cable television, and other public services in the economy international. Commercial banks and payment intermediaries have also established digital ecosystems and provided safe and convenient payment products and services, improving customer experience and satisfaction. Many new, modern, cost-effective payment solutions have been created with many conveniences, safety and security, bringing great benefits and practical value to customers and commercial centers, services, organizations participating in the stock market.

The results of implementing the above measures have been reflected in the relatively high annual growth figures of electronic payment services based on digital technology platforms in Vietnam in recent years.

Payment on mobile devices in Vietnam, such as mobile phones, iPads, and laptops, has achieved strong growth every year, on average up to 90% in number of transactions and 150% in payment value. Many commercial banks achieved growth rates of over 90% in transaction value.

In particular, in the past 2 years 2021-2022, commercial banks throughout the country have had policies to reduce payment service fees, provide timely support for businesses and people, and reduce difficulties due to the impact of the pandemic. Epidemic. Specifically, commercial banks have reduced interbank electronic payment system fees by 50%, reduced electronic clearing switching fees by 70% to 100%, and exempted public service payment service fees. In 2021 alone, the total amount of commercial bank fees has been reduced for people by about 1,557 billion VND (SBV, 2021-2022)^[5].

Up to now, throughout the country, nearly 95% of credit institutions in Vietnam have had, are building or plan to build a digital transformation strategy. Currently, there are also about 80 commercial banks deploying Internet banking services, 44 banks providing Mobile Banking services, 45 organizations providing payment intermediary services,

more than 90,000 QR payment points, nearly 298,000 POS. In the first 10 months of 2022 alone, payment transactions via POS increased by 14.25% and 12.6% in transaction quantity and value, respectively; via Internet channel increased by 49.39% and 29.14% respectively; via mobile phone channels increased by 72.67% and 85.09% respectively; Payment via QR code channel increased by 54.24% and 120.64% respectively with more than 90,000 points accepting payment via QR code. This is a very high growth rate and is among the top in the world (SBV, 2021-2022)^[5].

By the end of 2022, there will be 12/46 card-issuing organizations nationwide issuing domestic credit cards, an increase of 50% in number compared to 2021. Number of domestic credit cards in circulation by the end of 2022, there will be over 475,000 cards, an increase of 61.7% compared to the end of 2021. During the 5-year period of 2018 - 2022, the number of domestic credit cards will reach an average growth rate of 23.2%/year, high 17.18%/year higher than international credit cards^[4].

4. Assess the Current Situation of Digital Banking in Online Paying

4.1 Achieved Results

In fact, consumers can now shop for goods, use services and then pay entirely on digital channels. Thanks to that, payment activities save time and costs for relevant parties. Enterprises in the fields of electricity, clean water, cable television, telephone subscriptions, internet services, highway traffic toll collection, aviation, tourism, hotels, restaurants, supermarkets and Commercial centers, taxes, customs, traffic violation penalties... clearly see the economic benefits, human and financial savings for electronic payments based on digital technology. Similarly, universities use it to collect tuition fees from students, hospitals collect medical examination and treatment services, taxes and customs, public services, and sanction administrative violations, especially traffic violations. Road, also clearly see the savings in costs of apparatus, personnel, headquarters and working facilities, other financial costs, when applying electronic payments. Payment of salaries and other income at agencies, organizations and enterprises; Paying pensions and social benefits through the account system, using electronic payments, clearly shows the benefits of the economy, society and beneficiaries^[6].

In conditions where the economy is greatly affected by the pandemic, the banking industry has promptly implemented solutions to waive and reduce payment service fees to support people and businesses in overcoming difficulties caused by the epidemic. It is estimated that the number of free transactions is about 80%. The total amount of payment service fees through the interbank electronic payment system and through the clearing system (Napas system) has been reduced for customers from 2020 to the end of 2021 by about VND 2,557 billion and decreased over 250 billion VND in credit information service exploitation in 2021.

4.2 Limitations and Causes

▪ Legal Basis:

Legal regulations and adjustments of many management agencies do not keep up with new technology, thus limiting/slowing down the development of high-tech applications and Digital Banking (Orakwue, 2017). From there, it can lead to legal risks for Banks/Big Tech/Fintech

when deploying high-tech applications. Regulations on management of account transaction information, tax regulations, anti-money laundering, customer information security regulations need to be supplemented/edited in accordance with new technology. In Vietnam, it is necessary to research and supplement uniform regulations on eKYC, protecting customer rights, types of payment accounts.

▪ **Challenges with risk management:**

Because digital banking has unique characteristics in implementing technology, distribution channels and processes, the main risks for a commercial bank that wants to transform will include the general risks of digital banking, banking activities as well as internal risks of digital banking activities. The International Finance Organization (MasterCard Foundation and IFC, 2018) points out the main types of risks when implementing digital financial/banking services as follows: (1) Strategic risks; (2) Operational risks; (3) Legal risks; (4) Technology risks; (5) Financial risks; (6) Fraud risk. In there:

Strategic Risk: is the first type of risk for digital banking development. This comes from choosing the wrong strategy, building plans, measures, and implementing products that are not consistent with the capacity and trends of the market, leading to ineffectiveness and causing losses to the bank.

Operational risk: Operational risk is always present in almost all transactions and activities of commercial banks. According to the Basel Committee on Banking Supervision, "Operational risk is the risk of causing loss due to causes such as people, inadequacy or poor operation of processes and systems; external objective events. Operational risk includes legal risks but excludes strategic risks and reputational risks. For a digital bank, operational risks can be controlled better with standard management processes compared to conventional banking operations and fewer personnel involved in operations. However, if a risk occurs, it will bring heavy losses because many cases stem from intentional mistakes of competent people.

Legal risks: Banking or digital services are greatly related to compliance regulations, rules such as anti-money laundering, customer identification, data security, accounts and transaction limits ... Because these are general regulations, applicable to the traditional financial industry, some forward-thinking services may find it difficult to meet. The issue of customer identification KYC is an example. Current requirements in Vietnam are that when opening an account at a financial institution, customers must have their customer information directly verified according to the Law on Prevention and Combat of Money Laundering. This is a significant obstacle for the development of digital banking services.

Technology risk: is a risk that is often mentioned when applying digital banking because the more modern the technology, the more difficult human mastery becomes, leading to risks and losses. Suppose a situation leads to technology disruption (error, technology problem or cyber attack), with the inability to conduct transactions, both customers and banks can suffer losses, leading to problems. Consequences such as loss of trust and financial loss. Any problem in the chain of operations or a technological flaw also leads to opportunities for fraudsters to take advantage of it to conduct illegal transactions and steal money.

Financial risks: Just like traditional banks, a digital bank still faces risks related to banking activities leading to

financial losses and loss of capital. These risks can come from liquidity, market, credit risks...

Fraud risk: Fraud is a huge concern when using digital banking due to fraud risks from reasons such as loss of security leading to disclosure of customer and bank information, Because customers are not aware and use the service properly, this leads to fraudsters taking advantage of them and taking money from their accounts. Users do not have the habit of paying attention to the security of their devices and often do not change their accounts. change the default password, it is not safe to use authentication technology.

▪ **Large investment costs:**

Investment costs for combining new technology with existing payment infrastructure are quite large, commercial banks must change their payment service delivery model to suit new technology. The capital to invest in AI research and development is quite high, so AI research and application has only been deployed at large banks/financial institutions in the world. The cost of converting Core Banking or the cost of investing in a new technology system is very expensive, with a long payback period and risks during the implementation process. Meanwhile, banks need a lot of time to standardize and digitize human resources and build an ecosystem to convert from traditional models to digital models.

5. Conclusion and Policy Recommendations

From international experience, Vietnamese commercial banks can see opportunities and challenges to deploy Digital Banking to promote electronic payments in Vietnam and new forms of international payment. To improve the effectiveness of implementing Digital Banking in Vietnam to promote electronic payments, the research team proposes the following key solutions:

▪ **For the State Bank**

Soon complete the legal framework on: (i) Digital banking; eKYC (limited); (ii) The bank's entrusted agent system for non-cash payment services and digital banking services (deposit and withdraw cash from Digital Accounts; user development. Support for implementation of banking services digital goods have a fee...); (iii) Policy on safety and information security in electronic transactions to protect legitimate interests of customers; (iv) Professional process of electronic transactions through banks, monitoring digital banking activities and preventing money laundering.

Have policies to support and promote communication: promote non-cash payment services for businesses and people, develop e-commerce and a digital ecosystem to support electronic payments, research and Developing non-bank electronic payment platforms, based on mobile phone numbers or citizen identification cards.

Organize seminars and seminars on banking science and technology: to advise and support banks to accelerate the core banking transformation process, standardize, digitize, and build digital banks to meet the requirements of the revolution 4.0 of the country and international integration.

▪ **For commercial banks**

Research and develop a digital banking transformation roadmap, allocate appropriate resources for new technology investment

Banks when implementing digital transformation need to clearly define goals and conversion methods in accordance with reality and existing technological infrastructure,

personnel, and network. For Vietnamese banks, it is proposed to choose a mixed transformation model: take advantage of traditional banking facilities, apply technology and branch networks, reduce costs and personnel, and at the same time build a transformation department responsible for solving customer needs with digital solutions. Banks need to prioritize investment items to perfect core technology in order before fully focusing on developing new products and services.

Complete centralized database, apply AI, big data analysis in credit scoring and CXM customer management

Data and data utilization are the core differences that determine the success of the digital transformation process. Vietnamese commercial banks need to pay special attention to building a centralized bank database to create conditions for operational departments to access and collect data more easily and completely, and decentralize access. for confidential information. Commercial banks can consider establishing a Business Data Management and Exploitation Center to specialize in data warehouse analysis functions, manage data projects and coordinate the provision of quick information. for the Bank's Board of Directors, business departments, research and development, information technology, risk management.

Developing digital banking in parallel with building the banking ecosystem

For digital banking products, it is necessary to increase the number of payment acceptance points, overcome technological limitations and improve security and fraud prevention solutions so that users can use them with peace of mind. The comprehensive ecosystem connecting banks with partners needs to meet the requirements of: Online payment facilities, digital banking services, asset management tools, consumer finance, insurance, and banking. credit scores, accumulated reward points for sharing, online business support... Thereby, the bank can collect and exploit a very large user database to serve the bank's service business. such as: unsecured loans based on customer database, credit scoring, financial service consulting for customers automatically and optimally.

Promote the implementation of cross-border payments through payment applications and non-physical cards

Vietnamese commercial banks need to focus on developing connections with foreign partners, promoting cooperation in deploying international payment methods through mobile applications that allow Vietnamese users to pay with codes. QRCode, NFC... at foreign partners and vice versa. Regarding the cooperation model, Vietnamese commercial banks can negotiate with foreign partners the fee rate collected as a percentage of the total transaction value of customers, which is checked daily between commercial banks. Vietnamese trade and partner banks abroad. In the context of increasing demand for cross-border payments, this will be one of the service products that bring in large fees, helping to improve profit margins and strengthen business results for banks. Vietnamese commercial goods in the near future. At the same time with the cooperation agreement, Vietnamese commercial banks will also accumulate experience and learn new technologies from foreign partners to support the digital transformation process at the organization.

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