

Transforming to digital banking and restructuring the business model of vietnamese commercial banks in the context of the digital economy

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ABSTRACT

This study examines the transformation toward digital banking in connection with the restructuring of business models of Vietnamese commercial banks in the context of the digital economy. Based on theories of digital transformation, digital banking, and banking business models, the study adopts a qualitative approach combined with secondary data analysis from official reports of the State Bank of Vietnam, NAPAS, and commercial banks. The findings indicate that digital transformation has significantly changed service delivery methods, expanded customer bases, diversified revenue sources, and improved operational efficiency. However, the process also poses challenges related to cybersecurity, digital human resources, and high technology investment costs. The study concludes that digital banking transformation should be regarded as a comprehensive business model restructuring process to ensure efficiency and sustainable development of the Vietnamese banking system

Keywords: banking business model; commercial banks; digital banking; digital economy; digital transformation.

1. INTRODUCTION:

In the context of the Fourth Industrial Revolution and the rapid development of the digital economy, digital transformation has become and continues to be an important driving force promoting changes in the growth model of many countries, especially in the finance–banking sector. The banking industry, with its characteristic as a financial intermediary based on information processing and cash flows, is considered one of the sectors most strongly and directly affected by the process of digitization and digital transformation (Cuesta et al., 2015).

Digital transformation in banking is not merely the application of information technology to existing operational processes, but also a comprehensive process of change in strategy, organizational structure, business model, and the way value is created for customers (Vial, 2021). Under the impact of digital technologies such as artificial intelligence, big data, cloud computing, and digital platforms, traditional banks are gradually shifting from business models based on physical branch networks to digital, omnichannel, and customer-centric banking models (Tran et al., 2023).

In Vietnam, digital transformation of the banking sector has been identified as one of the important pillars of the long-term development strategy of the finance–banking sector. The State Bank of Vietnam (2022) issued the

Strategy for the Development of the Vietnamese Banking Sector to 2025, with orientations toward 2030, which emphasizes the requirement to promote the application of digital technologies, develop digital banking, and innovate operating models in order to enhance efficiency, competitiveness, and accessibility to financial services for individuals and enterprises. In practice, Vietnamese commercial banks have made significant progress in deploying digital banking, developing electronic transaction platforms, and automating operational processes (Ha & Nguyen, 2022; Nguyen et al., 2024).

Many recent studies indicate that digital transformation has a positive impact on operational efficiency, competitiveness, and service quality of Vietnamese commercial banks (Huy et al., 2024; Tran et al., 2023). However, this process also poses an urgent requirement to restructure banking business models in order to adapt to the digital business environment, changes in customer behavior, and increasingly intense competitive pressure from Fintech and BigTech companies. Maintaining traditional business models that rely mainly on credit activities and physical branch networks is revealing many limitations in the context of the digital economy and the orientation toward sustainable development (Yip & Bocken, 2018; Chi et al., 2025).

Although there have been several studies addressing digital transformation in the banking sector in Vietnam, studies that focus on analyzing the relationship between

digital transformation and the restructuring of banking business models, based on secondary data and adopting a status–solution approach, remain relatively limited. This research gap raises the need for systematic and up-to-date analyses to clarify the current state of the transformation toward digital banking and the restructuring of business models of Vietnamese commercial banks in the context of the digital economy.

Based on the above issues, this article is conducted with the objectives of: (i) clarifying the context and requirements for the transformation toward digital banking associated with restructuring the business models of Vietnamese commercial banks; (ii) analyzing the current state of the digital transformation process and business model adjustments based on published secondary data sources; and (iii) proposing several solutions to promote digital banking transformation and improve the business models of Vietnamese commercial banks in an efficient and sustainable manner in the coming period.

2. THEORETICAL FRAMEWORK

2.1. Concept and scope of digital transformation in the banking sector

Digital transformation is a multidimensional concept, reflecting the process of integrating digital technologies into all aspects of an organization's operations, thereby leading to fundamental changes in the way it operates, creates value, and interacts with relevant stakeholders. According to Vial (2021), digital transformation is not merely the adoption of new technologies but also a change in strategy and business models aimed at enhancing operational efficiency and organizational adaptability in the digital environment.

In the banking sector, digital transformation is understood as the process of applying modern digital technologies to comprehensively redesign business processes, products and services, operating models, and governance methods, toward the formation of digital banks capable of providing fast, convenient, and personalized financial services to customers (Cuesta et al., 2015; Ha & Nguyen, 2022). Banking digital transformation is typically implemented at three levels: (i) digitization of data and business processes (digitization); (ii) digitalization of operations and service delivery channels (digitalization); and (iii) comprehensive digital transformation associated with innovation in business models and development strategies (Vial, 2021).

2.2. Digital banking and digital banking models

Digital banking is the direct outcome of the digital transformation process in the banking sector, in which financial products and services are mainly provided through digital platforms, with a high degree of automation and technological integration. According to Cuesta et al. (2015), digital banking enables banks to expand customer access, reduce operating costs, and enhance user experience through electronic transaction channels.

Recent studies show that digital banking can be implemented under various models, including: (i) digitalized traditional banks; (ii) hybrid digital banks; and

(iii) pure digital banks. In Vietnam, commercial banks are mainly developing under the hybrid digital banking model, combining traditional branch networks with digital platforms in order to leverage existing advantages in customer base and brand recognition (Nguyen et al., 2024).

2.3. Banking business models and restructuring requirements in the context of the digital economy

The banking business model reflects how banks create, deliver, and capture value through the combination of elements such as value propositions, customer segments, distribution channels, core resources, and cost–revenue structures. In the context of the digital economy, traditional banking business models are under significant pressure due to rapid changes in technology, customer behavior, and the structure of financial markets (Yip & Bocken, 2018).

Digital transformation poses the requirement to restructure banking business models toward a customer-centric, data-driven, and digital platform–based orientation. Accordingly, banks need to shift from business models mainly based on credit activities to models that diversify revenue sources, increasing the proportion of income from digital services, payments, and retail banking (Cuesta et al., 2015; Tran et al., 2023). At the same time, restructuring business models is also associated with optimizing branch networks, automating processes, and developing digital financial ecosystems.

2.4. Digital transformation and its impact on the performance of commercial banks

Many empirical studies have indicated a positive relationship between digital transformation and the performance of commercial banks. Digital transformation helps banks reduce transaction costs, enhance labor productivity, improve risk management capabilities, and strengthen customer experience (Huy et al., 2024; Ha & Nguyen, 2022). Especially in the context of increasingly intense competition, digital transformation is considered an important tool for banks to enhance competitiveness and maintain sustainable growth.

In Vietnam, recent studies show that the level of digital transformation has a significant impact on the financial and operational performance of commercial banks, as reflected in indicators such as ROA, ROE, and the cost-to-income ratio (Huy et al., 2024). However, this impact largely depends on the degree of synchronization and the digital transformation implementation strategy of each bank.

2.5. Banking digital transformation associated with sustainable development

In addition to the goal of improving efficiency and competitiveness, banking digital transformation also plays an important role in promoting sustainable development. According to Yip and Bocken (2018), innovating banking business models toward digitalization can contribute to enhancing access to financial services, promoting financial inclusion, and reducing negative environmental impacts through decreased use of physical resources.

Recent studies in Vietnam also emphasize the role of digital technologies in supporting commercial banks toward sustainable development goals, through improving governance efficiency, information transparency, and reducing operating costs (Chi et al., 2025). Therefore, digital transformation and restructuring of banking business models are not only short-term requirements but also long-term strategies to ensure the stable and sustainable development of the banking system.

3. RESEARCH METHODOLOGY

3.1. Research approach

The article is conducted using a qualitative research approach, combined with secondary data analysis, in order to clarify the current state of transformation toward digital banking and the restructuring of business models of Vietnamese commercial banks in the context of the digital economy. This approach allows the study to examine the research phenomenon comprehensively, based on synthesizing information, data, and published research findings, while being consistent with the article's objectives of analyzing the current situation and proposing solutions.

3.2. Research data sources

The data used in the article are mainly secondary data, collected from the following main sources:

First, legal documents, strategies, and official reports of the State Bank of Vietnam related to banking sector development, digital transformation, and digital banking, especially summary reports, strategies, and development orientations of the banking sector in recent periods.

Second, annual reports, financial statements, and sustainability reports of Vietnamese commercial banks, focusing on information related to technology investment, digital banking development, revenue structure, operating costs, and business performance.

Third, research reports and thematic publications of international organizations, consulting firms, and financial institutions related to digital transformation in the banking sector.

Fourth, scientific research works and academic articles published domestically and internationally in specialized journals, serving as the theoretical basis and references for analysis and discussion of research results.

3.3. Data collection and processing methods

Secondary data are collected through a systematic review of documents related to digital transformation and banking business models. The data collection process is carried out through the following steps: (i) identifying research keywords related to banking digital transformation, digital banking, and banking business models; (ii) selecting documents, reports, and studies with high reliability and relevance to the research objectives; and (iii) classifying and synthesizing data according to research content groups.

4. RESEARCH RESULTS AND DISCUSSION

4.1. Current state of transformation toward digital banking

at Vietnamese commercial banks

The synthesis and analysis of secondary data show that the transformation toward digital banking in Vietnam has been taking place strongly, especially in the period after the COVID-19 pandemic, when the demand for remote transactions and cashless payments increased rapidly. According to official reports of the State Bank of Vietnam, the scale and frequency of transactions on digital channels have grown at a high and stable rate over the years. In the first 11 months of 2024, the total number of cashless payment transactions increased by 56.86% in volume and 33.73% in value compared to the same period of the previous year, reflecting a clear shift in banking service usage behavior of individuals and enterprises (State Bank of Vietnam, 2024).

This increase is most clearly reflected in digital banking channels such as Internet Banking, Mobile Banking, and QR payments. Transactions via mobile phone channels increased by more than 54% in volume, demonstrating the increasingly important role of mobile platforms in the digital banking strategies of commercial banks. Notably, transactions using QR codes increased by more than 100% in volume and nearly 85% in value, reflecting the rapid diffusion of low-cost, easy-to-deploy digital payment solutions that are suitable for a digital economy oriented toward retail and personal consumption (State Bank of Vietnam, 2024).

Alongside the growth of digital transactions, access to banking services among the population has also improved markedly. The proportion of adults owning at least one payment account reached approximately 87% during the 2023–2024 period, indicating that the goal of financial inclusion associated with digital transformation of the banking sector is gradually being realized. The national payment infrastructure plays a foundational role in this process, as the NAPAS system processed approximately 9.56 billion transactions in 2024, an increase of about 30% compared to the previous year, thereby affirming the central role of digital infrastructure in modern banking operations (NAPAS, 2025).

However, deeper analysis shows that the level of digital transformation among Vietnamese commercial banks remains significantly differentiated. State-owned commercial banks and large joint-stock banks often have advantages in financial resources, technology, and customer data, thereby achieving higher levels of digitalization and more synchronized deployment of digital banking. Meanwhile, many small- and medium-sized banks remain only at the stage of digitizing basic transaction channels and have not yet truly undertaken a comprehensive transformation of their operating models.

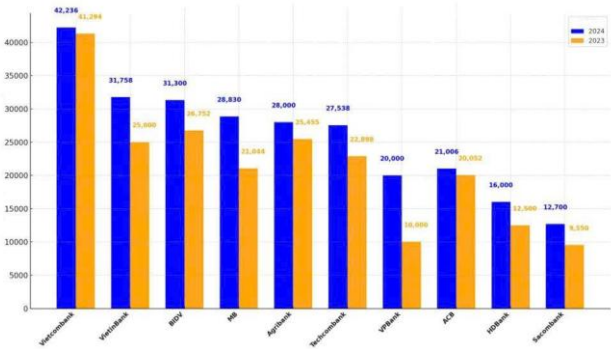


Figure 1. Top 10 Vietnamese Banks by Profit before Tax in 2024

Source: DNSE (2025)

According to the latest report of the State Bank of Vietnam, non-cash payment activities and digital banking transactions have continued to grow strongly in recent years. Specifically, in the first 11 months of 2024, the total number of non-cash payment transactions increased by 56.8%, while the transaction value rose by 33.7% compared to the same period of the previous year, indicating a clear shift from cash-based payments to electronic payment methods (State Bank of Vietnam, 2025). Among digital transaction channels, Internet-based transactions increased by 50.7% in volume and 33.0% in value, whereas mobile-based transactions grew by 54.5% in volume and 34.3% in value, highlighting the growing dominance of mobile platforms in digital banking activities (State Bank of Vietnam, 2025).

QR code payments recorded the highest growth rates, with transaction volume increasing by 106.7% and transaction value rising by 84.8% compared to the same period in 2023. This reflects the rapid diffusion and widespread adoption of QR-based payment methods within Vietnam’s digital payment ecosystem (State Bank of Vietnam, 2025).

According to reports covering the first nine months of 2025, non-cash payment transactions across the banking system increased by 43.32% in volume and 24.23% in value compared to the same period in 2024. In particular, QR code transactions rose by 61.63% in volume and 150.67% in value, underscoring the rapid expansion of QR-based payments in the context of the broader adoption of digital banking services (State Bank of Vietnam, 2025).

These figures indicate that digital transformation in Vietnam’s banking sector is not merely a strategic orientation but has translated into substantial and tangible growth in the scale of digital transactions, reinforcing the role of digital banking as a key driver of structural change within the financial system.

Table 1. Profit before Tax of Vietnamese Commercial Banks in 2023–2024

Unit: billion VND

No.	Bank	2023	2024	Growth Rate (%)
1	Vietcombank	41,294	42,236	2.28

2	VietinBank	25,000	31,758	27.03
3	BIDV	26,752	31,300	17
4	MB Bank	21,044	28,830	37
5	Agribank	25,455	28,000	10
6	Techcombank	22,898	27,538	20.3
7	VPBank	10,000	20,000	100
8	ACB	20,052	21,006	4.75
9	HDBank	12,500	16,000	28
10	Sacombank	9,550	12,700	33
11	LPBank	7,036	12,168	72.94
12	TPBank	5,590	7,600	35.96
13	SeABank	4,000	5,200	30
14	Eximbank	3,333	5,000	50
15	Nam A Bank	3,303	4,545	37.52
16	OCB	4,129	4,006	−2.98
17	VIB	10,714	9,000	−15.97
18	SHB	9,234	11,543	24.99
19	Kienlongbank	667	1,000	49.92
20	Saigonbank	330	99	−70.00

Source: DNSE (2025)

4.2. Digital transformation and the process of restructuring the business models of Vietnamese commercial banks

The digital transformation process in the Vietnamese commercial banking system does not stop at the digitization of transaction channels, but has been and continues to create fundamental changes in the structure of business models. Based on secondary data from state management agencies, the national payment infrastructure, and annual reports of several representative commercial banks, it is possible to clearly identify the mechanisms through which digital transformation impacts the restructuring of banking business models, particularly in terms of expanding the customer base, changing revenue structures, and adjusting cost structures.

Table 2. Selected indicators reflecting digital transformation and restructuring of banking business models in Vietnam

Indicator	Value	Year	Source
Growth in the number of cashless transactions	56.86%	2024	State Bank of Vietnam

Total number of transactions through the NAPAS system	9.56 billion transactions	2024	NAPAS
Proportion of new customers acquired via digital channels (Techcombank)	55.10%	2024	Techcombank
Total number of customers of Techcombank	~15.4 million	2024	Techcombank
Number of digital transaction customers of BIDV	~11 million	2024	BIDV
Net fee income of Techcombank	VND 10.6 trillion	2024	Techcombank
Non-interest income of BIDV	VND 23,053 billion	2024	BIDV
Number of Vietcombank customers updating biometric data	>3 million	2024	Vietcombank

Source: Compiled from officially published reports (SBV, NAPAS, banks' annual reports)

Based on the indicators summarized in Table 2, it can be observed that the transformation toward digital banking in Vietnamese commercial banks is not merely a technological trend, but has generated structural changes in banking business models. Quantitative evidence on transaction scale, customer base expansion, revenue structure, and payment infrastructure clearly demonstrates the close linkage between digital transformation and business model restructuring in the Vietnamese banking system within the context of the digital economy.

First, from the perspective of scale and intensity of digital banking usage, the data reveal remarkably high growth rates in non-cash and digital transactions in recent years. According to the State Bank of Vietnam, during the first eleven months of 2024, the total number of non-cash payment transactions increased by 56.86% compared to the same period of the previous year, while the total transaction value rose by 33.73%. Transactions conducted via Internet-based channels grew by 50.7% in volume and 33.0% in value, whereas mobile-based transactions increased by 54.5% and 34.3%, respectively. Notably, QR code payments recorded exceptional growth, with transaction volume rising by 106.7% and transaction value increasing by 84.8%. These figures reflect a fundamental shift in customer behavior, as digital banking platforms increasingly replace traditional cash-based and over-the-counter transactions.

The rapid expansion of digital transactions has laid an essential foundation for restructuring banks' service delivery models. In traditional banking business models, physical branch networks played a central role in customer acquisition and service provision, resulting in high operating costs and limited scalability. However, the rise of digital banking platforms has significantly altered this model. Internet Banking, Mobile Banking, and electronic payment platforms have become primary distribution channels, enabling banks to expand their market reach nationwide with substantially lower marginal costs. According to NAPAS, approximately 9.56 billion transactions were processed through the national payment system in 2024, representing an increase of nearly 30% compared to 2023. This massive transaction volume underscores the pivotal role of digital payment infrastructure as the backbone of modern banking operations and a key driver of business model restructuring.

From the perspective of customer base expansion, the data presented in Table 2 highlight the effectiveness of digital channels in acquiring and serving customers. Techcombank reported that approximately 55.1% of new customers in 2024 were acquired through digital channels, raising its total customer base to around 15.4 million. Similarly, BIDV recorded about 11 million active digital banking customers in the same year. These figures illustrate the superior efficiency of platform-based customer acquisition models compared to branch-centered approaches. Expanding the customer base through digital channels not only enables rapid scaling but also facilitates systematic data collection and analysis, thereby enhancing banks' capabilities in product development and service personalization.

The transformation of customer acquisition and service delivery channels has led to significant adjustments in revenue structures. Indicators of non-interest income in Table 2 reveal a clear shift away from heavy reliance on traditional credit-based income. In 2024, BIDV reported non-interest income of approximately VND 23,053 billion, while Techcombank recorded net fee income of about VND 10.6 trillion. Compared to earlier periods, the share of non-interest income in total operating income has increased substantially, indicating the growing importance of digital services, electronic payments, bancassurance, and other value-added offerings in the new banking business model.

Importantly, much of the growth in non-interest income is directly associated with digital banking transformation. Digital payment services, fast money transfers, online account management, and data-driven financial products have become key revenue sources for commercial banks. This suggests that digital transformation not only increases transaction volumes but also creates more stable and diversified income streams that are less sensitive to credit cycles. Consequently, banking business models are gradually shifting from a "credit-branch-centric" orientation toward a "service-platform-data-driven" model, which is more compatible with sustainable development in the digital economy.

From a cost and operational efficiency perspective, digital transformation exerts a dual impact on banking business models. On the one hand, process digitalization and transaction automation reduce per-transaction processing costs, enhance labor productivity, and improve risk management capabilities. As customers increasingly conduct transactions via digital platforms, banks can reduce the operational burden on physical branches and frontline staff. On the other hand, banks face significant upfront investment costs related to information technology infrastructure, cybersecurity systems, and digital talent development. Although this study does not provide detailed quantitative data on technology investment costs, observable differences among banks indicate that large-scale banks with stronger financial resources are better positioned to absorb initial investment costs and realize economies of scale earlier than smaller banks.

Another important dimension of business model restructuring under digital transformation is the implementation of electronic identification and data security solutions. According to Vietcombank, more than 3 million customers successfully updated biometric information in 2024 in compliance with new regulatory requirements. This development provides a critical foundation for expanding secure digital services while meeting regulatory and risk management standards in an increasingly digitalized environment. Investment in biometric identification and cybersecurity is not merely a compliance issue but a core component of digital banking business models, as customer trust plays a decisive role in the adoption and sustainability of digital financial services.

At the systemic level, quantitative indicators in Table 2 suggest that digital banking transformation contributes to financial inclusion and more efficient resource allocation within the economy. The proportion of adults owning at least one payment account in Vietnam reached approximately 87% during the 2023–2024 period, reflecting improved access to financial services facilitated by digital banking platforms. This expanded access not only enlarges the potential market for commercial banks but also supports the development of new business models linked to e-commerce, digital public services, and the broader digital economy.

The data also reveal considerable heterogeneity in the extent and effectiveness of digital transformation across Vietnamese commercial banks. State-owned commercial banks and large joint-stock banks generally achieve higher levels of digitalization, as evidenced by larger digital customer bases, higher service-based income, and stronger data exploitation capabilities. In contrast, many small- and medium-sized banks remain at an early stage of digital transformation, focusing mainly on basic channel digitization rather than comprehensive business model innovation. This divergence highlights the critical roles of financial capacity, managerial competence, and strategic orientation in determining the outcomes of digital banking transformation.

The quantitative evidence demonstrates that digital banking transformation has generated profound structural

changes in the business models of Vietnamese commercial banks. These changes are manifested in the rapid growth of digital transaction volumes, expansion of digital customer bases, diversification of revenue structures, and improvements in operational efficiency. However, the sustainability of business model restructuring depends on the extent to which digital transformation is implemented in an integrated and strategic manner. Digital banking must be regarded not merely as a technological upgrade but as a core foundation of a new business model that aligns technology strategy, business objectives, and governance capacity. Only by adopting such a comprehensive approach can Vietnamese commercial banks enhance their competitiveness and adapt effectively to the increasingly complex and dynamic digital economy.

4.2.1. Expansion of the customer base and shift in distribution channels in the banking business model

The rapid increase in cashless transactions and transactions on digital platforms reflects a structural shift in the way banks approach and serve customers. According to the State Bank of Vietnam, the growth rate of nearly 57% in the number of cashless transactions in 2024 indicates that digital channels have become the dominant transaction method in the economy. At the same time, the NAPAS system recorded more than 9.5 billion transactions in the same year, demonstrating the central role of digital payment infrastructure in the banking value chain.

In this context, large commercial banks have restructured their distribution channels toward reducing dependence on physical branches and increasing the role of digital banking platforms. The case of Techcombank shows that more than half of new customers in 2024 were acquired through digital channels, reflecting the superior effectiveness of a technology platform-based customer acquisition model. Expanding the customer base through digital channels enables banks to achieve scale advantages, while reducing marginal costs per new customer, thereby fundamentally changing the value creation logic of traditional business models.

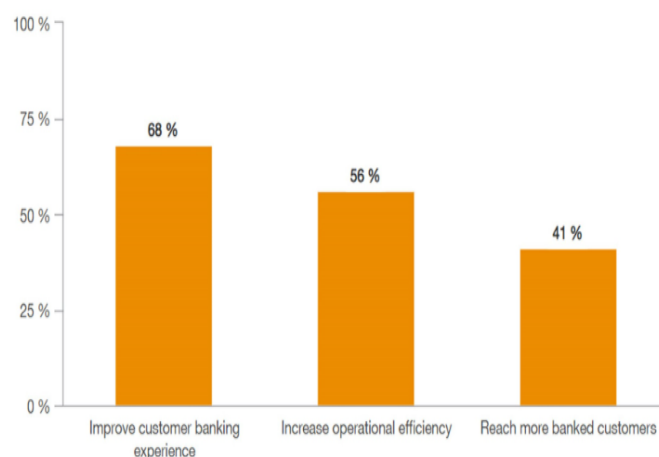


Figure 2. Main Drivers of Digitalisation in Banks

Source: Financial and Monetary Market (2024)

4.2.2. Shift in revenue structure and the role of non-interest income in the digital banking model

One of the most evident manifestations of the restructuring of business models under the impact of digital transformation is the change in revenue structure toward gradually reducing dependence on net interest income and increasing the role of service-based income. Reported data show that BIDV's non-interest income exceeded VND 23 trillion in 2024, while Techcombank recorded net fee income of VND 10.6 trillion.

These figures indicate that digital transformation creates conditions for banks to develop payment services, digital banking, insurance, investment, and other value-added services based on customer data platforms. However, the data also reveal significant differences among banks in their ability to convert digital activities into stable revenue sources. This implies that digital transformation only truly promotes the restructuring of business models when it is closely integrated with product development strategies, service pricing, and effective exploitation of customer data.

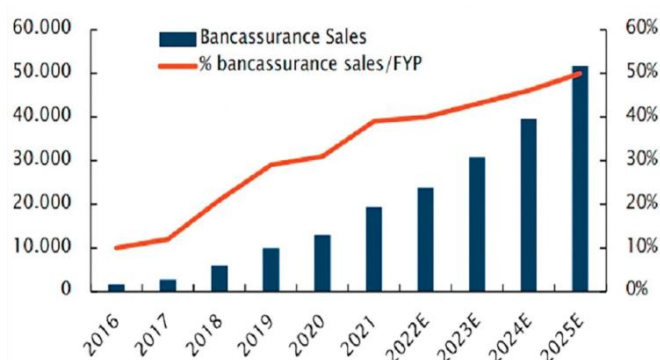


Figure 3. Growth of Bancassurance Sales and the Share of Bancassurance in First-Year Premiums (2016–2025E)

Source: Business Forum (2024)

4.2.3. Impact of digital transformation on cost structure and operational efficiency

From a cost perspective, digital transformation creates a two-way impact on banking business models. On the one hand, process digitization and transaction automation help reduce operating costs per transaction, particularly costs related to branch networks and frontline transaction staff. On the other hand, banks face increasing pressure from investment costs for technology infrastructure, cybersecurity, data security, and the development of digital human resources.

The balance between investment costs and the benefits derived from digital transformation becomes a decisive factor for the effectiveness of business model restructuring. Large-scale banks with strong financial foundations often have greater capacity to absorb initial investment costs and to extract long-term benefits from data and digital platforms, while small and medium-sized banks face more limitations in implementing deep digital transformation.

4.2.4. Discussion implications for restructuring banking business models in the context of the digital economy

The synthesis of empirical evidence shows that digital transformation is driving the restructuring of Vietnamese commercial banking business models toward platform-based models that are customer-centric and data-driven. However, the level of success of this process depends not only on the level of technological investment, but also on strategic management capacity, risk management, and the ability to integrate technology across the entire banking value chain.

Therefore, digital transformation needs to be viewed as a comprehensive process of restructuring business models, rather than merely an activity of technological modernization. This perspective has important implications for orienting sustainable development strategies for Vietnamese commercial banks in the context of increasingly intense competition in the digital economy.

4.3. Issues arising in the process of digital transformation and restructuring of banking business models

Although digital transformation has brought many positive results, this process also poses numerous challenges for Vietnamese commercial banks. First and foremost is the issue of cybersecurity and data security. The rapid increase in electronic transactions entails a rising risk of fraud, cyberattacks, and customer data breaches, forcing banks to make substantial investments in information security infrastructure and technology risk management systems (State Bank of Vietnam, 2024).

Second, challenges related to digital human resources are becoming increasingly evident. Studies show that many Vietnamese commercial banks still lack personnel with in-depth skills in data analytics, artificial intelligence, and digital technology management, while the costs of training and attracting high-quality human resources continue to rise (Nguyen et al., 2024; Chi et al., 2025). This limits the ability to carry out deep digital transformation and affects the effectiveness of restructuring banking business models.

Third, the legal framework and institutional environment are still in the process of being improved. The rapid development of digital banking models, together with the increasingly deep participation of Fintech and BigTech companies, poses new challenges for state management in ensuring system safety, protecting consumers, and maintaining healthy competition in the financial–banking market (Chi et al., 2025).

From the above analyses, it can be concluded that digital transformation is a necessary but not sufficient condition for successfully restructuring banking business models. The effectiveness of this process largely depends on the level of synchronization among digital transformation strategies, technological capabilities, human resources, and governance mechanisms. Therefore, approaching digital transformation as a systemic change process, closely linked with restructuring business models, is a key requirement for Vietnamese commercial banks in the current digital economy context.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

This study focuses on analyzing the process of transformation toward digital banking and the impact of this process on the restructuring of business models of Vietnamese commercial banks in the context of the digital economy, based on the synthesis and analysis of secondary data from official reports, academic studies, and disclosures of commercial banks. The research results show that digital transformation has become a dominant and irreversible trend in the Vietnamese banking system, while also serving as an important driver promoting fundamental changes in value creation, service delivery, and revenue structures of commercial banks.

First, empirical evidence shows that the scale and level of use of digital banking services in Vietnam have grown strongly in recent years. The rapid increase in cashless transactions and transactions via the Internet and mobile devices reflects clear changes in customer behavior and the level of technology acceptance in the economy. This creates a favorable foundation for commercial banks to expand their customer base through digital channels, gradually reduce dependence on physical branch networks, and enhance market access efficiency.

Second, digital transformation has been and continues to drive the restructuring of banking business models toward diversifying revenue sources and increasing the role of non-interest income. Data show that many commercial banks, especially those with large scale and strong technological capabilities, have gradually shifted from traditional business models mainly based on credit activities to models centered on services, digital platforms, and customer data. However, the degree of this shift still differs significantly among banks, reflecting disparities in resources, governance capabilities, and digital transformation strategies.

Third, the research results indicate that digital transformation not only creates opportunities to enhance operational efficiency, but also poses significant challenges to banking business models. Pressure from large investments in technology infrastructure, cybersecurity, and digital human resources, together with risks related to information security and regulatory compliance, may increase costs in the short term and affect business performance if not well managed. Therefore, digital transformation needs to be viewed as a comprehensive restructuring process, requiring synchronized changes in strategy, organization, and governance, rather than merely an activity of technological modernization.

5.2. Recommendations

Based on the conclusions drawn from the study, the article proposes several recommendations to support the process of digital transformation associated with restructuring

business models of Vietnamese commercial banks in the coming period.

For commercial banks, it is necessary to develop long-term digital transformation strategies closely linked with the objective of restructuring business models. Digital transformation should not only focus on digitizing transaction channels, but should aim at comprehensively innovating the value chain, including developing data-driven products and services, personalizing customer experiences, and expanding high value-added service revenue sources. At the same time, banks need to emphasize the development of data analytics capabilities and digital platform governance in order to effectively exploit the large volumes of data generated from digital transactions.

In addition, banks need to strengthen investment in cybersecurity, data security, and technology risk management, considering these as inseparable components of the digital banking business model. Building customer trust in digital services is of crucial importance in ensuring the sustainability of the digital transformation process and maintaining long-term competitive advantages. For small- and medium-sized banks, it is necessary to consider cooperation models with financial technology (Fintech) companies or the use of technology outsourcing services to reduce initial investment cost pressures and shorten implementation time.

For state management agencies, especially the State Bank of Vietnam, it is necessary to continue improving the legal framework for digital banking activities and new business models emerging in the context of the digital economy. Developing flexible yet stringent regulations on data sharing, consumer protection, cybersecurity, and risk management will help create a favorable environment for innovation, while ensuring the safety and stability of the financial-banking system. In addition, regulatory authorities need to promote the development of national digital and payment infrastructure, as well as strengthen coordination among ministries and sectors to support synchronized digital transformation across the entire economy.

Finally, this study also suggests several directions for future research. Future studies may combine primary data and quantitative methods to more deeply measure the impact of digital transformation on operational efficiency, stability, and risk resilience of Vietnamese commercial banks. At the same time, comparing experiences of digital transformation and restructuring of banking business models between Vietnam and other developing countries would contribute to enriching the scientific basis for policymaking and strategy formulation for the development of the banking sector in the context of the digital economy..

REFERENCES

1. BIDV. (2024). Annual report 2024. Joint Stock Commercial Bank for Investment and Development of Vietnam.
2. <https://byvn.net/LH8m>
3. Business Forum. (2024). Banks betting on non-interest income. <https://diendandoanhnghiep.vn/nganh-hang-dat-cuoc-thu-nhap-ngoai-lai-10151238.html>
4. Chi, N. T. K., Hien, H. T., Bach, V. T., Cuong,

- B. H., & Duong, N. D. (2025). Research on the development of digital technology in banking activities in Vietnam towards sustainability. *International Journal of Environmental Sciences*, 11(1s), 788–806.
5. Cuesta, C., Ruesta, M., Tuesta, D., & Urbiola, P. (2015). The digital transformation of the banking industry. *BBVA research*, 1(4), 1-10.
6. DNSE. (2025). Digital transformation: A decisive factor in the future competition of Vietnamese banks. <https://www.dnse.com.vn/senses/tin-tuc/chuyen-oi-so-yeu-to-quyet-inh-dinh-cuoc-ua-ngan-hang-viet-trong-tuong-lai-34124746>
7. Financial and Monetary Market. (2024). Key drivers accelerating digital transformation in the banking sector. <https://thitruongtaichinhhtiente.vn/dong-luc-chinh-thuc-day-chuyen-doi-so-ngan-hang-52471.html>
8. Ha, M. S., & Nguyen, T. L. (2022). Digital transformation in banking: a case from Vietnam. In *Smart cities in Asia: regulations, problems, and development* (pp. 103-114). Singapore: Springer Nature Singapore.
9. 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.
10. NAPAS. (2025). NAPAS organized 2025 mission implementation conference. National Payment Corporation of Vietnam.
11. <https://en.napas.com.vn/napas-organized-2025-mission-implementation-conference-184250116113727821.htm>
12. Nguyen, C. T., Nguyen, T. M. H., & Le, M. A. (2024). Digital banking model for promoting retail banking services at Vietnamese commercial banks. *The VMOST Journal of Social Sciences and Humanities*, 66(3), 21-33.
13. State Bank of Vietnam . (2024). State Bank of Vietnam holds press conference on results of monetary policy management and banking activities in 2024 and directions for 2025.
14. <https://www.div.gov.vn/state-bank-of-vietnam-holds-press-conference-on-results-of-monetary-policy-management-and-banking-activities-in-2024-and-directions-for-2025a>
15. State Bank of Vietnam. (2022). Strategy for the Development of the Vietnamese Banking Sector to 2025, with Orientation toward 2030. State Bank of Vietnam Publishing House.
16. Techcombank. (2025). FY2024 results and annual report 2024. Vietnam Technological and Commercial Joint Stock Bank.
17. <https://techcombank.com/content/dam/techcombank/public-site/documents/techcombank-results-press-release-fy24.pdf>
18. Tran, P. T. T., Le, T. T. H., & Hang, N. P. T. (2023). Digital transformation of the banking industry in developing countries. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(5), 8.
19. Vial, G. (2021). Understanding digital transformation: A review and a research agenda. *Managing digital transformation*, 13-66.
20. Vietcombank. (2024). Vietcombank has more than 3 million customers successfully updated biometric information.
21. https://www.vietcombank.com.vn/en/Trang-thong-tin-dien-tu/Articles/2024/07/15/20240715_VCB_TCBC_VCB-da-co-hon-3-trieu-KH-cap-nhat-TT-STH-thanh-cong
22. Yip, A. W., & Bocken, N. M. (2018). Sustainable business model archetypes for the banking industry. *Journal of cleaner production*, 174, 150-169.