

# The effects of the fintech company growth on bank performance through balanced scorecard – a Delphi study

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## Abstract

**Purpose** – This study is based on the four perspectives (customer, financial, internal process and learning and growth) of the balanced scorecard (BSC) and the Delphi technique to examine the impacts of fintech company growth on bank performance in the digital age. It aims to provide a comprehensive understanding of the interaction between fintech and banking in this context.

**Design/methodology/approach** – By combining the four perspectives of the BSC with a review of relevant literature, an orientation questionnaire is constructed. Subsequently, the Delphi technique is employed to explore the impact of fintech company growth on four perspectives of bank performance.

**Findings** – The findings reveal that fintech company growth has both positive and negative effects on bank performance across various sub-perspectives. Nonetheless, the overall results indicate that fintech company growth generally enhances bank performance. In particular, the expansion of fintech companies contributes to improved customer satisfaction, financial outcomes, internal processes, and the learning and growth of bank staff.

**Originality/value** – This study is considered original, as it utilizes the four perspectives of the BSC and the Delphi technique to provide novel insights into the literature through a comprehensive evaluation of the impact of fintech company growth on bank performance. Furthermore, it offers significant evidence that can serve as a foundational framework for future research.

**Keywords** Fintech company, Bank performance, Balanced scorecard, Vietnam

**Paper type** Research paper

## 1. Introduction

In the modern age, substantial investment in disruptive technologies plays a crucial role in developing various sectors. For instance, disruptive technologies in renewable energy have contributed to the economic growth of OECD countries (Nguyen, 2025), enhanced service sector performance (Fauzel *et al.*, 2024) and transformed the banking industry (Vives, 2019). Among these, the banking industry is often considered a pioneering sector significantly impacted by the rapid advancement of disruptive technologies (Ruhland and Wiese, 2023). As a result of the application of disruptive technologies in the banking industry, a new entrant has emerged in the financial sector: the fintech company. Commonly defined, fintech companies are non-bank entities that leverage disruptive technologies to provide banking products and services (Pham and Nguyen, 2023; Temelkov, 2018).

The swift expansion of fintech companies and the continuous digital transformation within the banking industry have redefined the global financial services landscape. Fintech



**JEL Classification** — G20, O30

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companies have introduced technologies that increase operational efficiency, expand access to services and improve customer experiences. These changes are driving banks to rethink how they operate, interact with clients and manage internal functions. In particular, fintech's potential to streamline operations, enhance customer engagement and offer alternative services has made it a key driver of change in the digital era. While this transformation is global, it is especially relevant in emerging markets like Vietnam, where fintech adoption is accelerating. The Vietnamese financial ecosystem has experienced significant expansion in mobile payments, peer-to-peer loans and e-wallets (Statista, 2021a), but research has not advanced correspondingly with these changes.

Our first gap is the predominance of one-dimensional analyses in existing studies on the impact of fintech on bank performance. The prior studies have examined specific outcomes, most notably financial metrics and customer satisfaction. Also, these studies tend to assess such dimensions in isolation. Besides, several scholars such as Cheng and Qu (2020) and Pham *et al.* (2021) focused on profitability and return on investment, whereas Bhattacharya and Sinha (2022) investigated customer satisfaction in the context of fintech adoption. These studies provide valuable but limited insights, as they do not capture how fintech simultaneously influences a range of interconnected performance areas, such as internal processes or employee development. This narrow focus is insufficient for understanding the broader organizational effects of digital transformation, particularly in banking, where changes in one domain often trigger cascading effects across others.

The second gap lies in the limited use of structured, multi-dimensional frameworks to assess the impact of fintech on banks. Despite the proven utility of the balanced scorecard (BSC) framework in evaluating performance across financial and nonfinancial dimensions, its application in fintech-related banking research remains minimal. Most studies continue to rely on traditional financial indicators or customer-focused outcomes, offering only a partial view of performance impacts. For instance, Li *et al.* (2020) evaluate fintech integration through profitability metrics but fail to consider its implications for areas such as risk management, operational efficiency and employee learning. The absence of a comprehensive evaluative model restricts the scope of existing findings and limits their relevance for strategic decision-making. A more integrated framework, such as the BSC, is necessary to provide a comprehensive insight into how fintech affects bank performance across multiple dimensions.

Last, there is a deficiency of empirical research on fintech's impact within emerging markets, particularly in Vietnam. Much of the current literature is concentrated in developed economies, whose regulatory environments, market conditions, and technological infrastructure differ significantly from those in developing contexts. This limits the generalizability of their findings. Despite Vietnam's swift advancement in fintech adoption – particularly in mobile payments, peer-to-peer lending and e-wallets – the impact of these innovations on banking performance remains largely unexamined. Existing studies have primarily examined adoption trends or regulatory challenges rather than performance outcomes. As a result, there is little empirical evidence on how fintech company growth is shaping the operational, financial and organizational dynamics of Vietnamese banks. Addressing this gap requires context-specific research that applies a multi-dimensional framework to evaluate the impact of fintech in emerging market conditions.

This study addresses those gaps by applying the four perspectives of the BSC framework to examine the effects of fintech company growth on bank performance. Introduced by Kaplan and Norton (2005), the BSC serves as a holistic model that captures business performance across four perspectives: customer, financial, internal processes and learning and growth. While the BSC is widely used in performance evaluation, it remains underutilized in fintech-related banking research. Most prior studies rely heavily on financial metrics like profitability (Li *et al.*, 2020; Pham *et al.*, 2021) or focus on customer outcomes such as satisfaction and retention. This narrow focus limits understanding of how fintech influences internal operations or human capital development.

To overcome this limitation, the study combines the BSC framework with the Delphi technique – a qualitative research technique that gathers expert consensus over multiple rounds. This approach is particularly valuable in emerging areas where empirical data are sparse, and expert judgment is necessary. The Delphi technique is mainly employed in this study to collect insights from scholars and professionals in banking and fintech across Vietnam. Their views provide real-world perspectives on how fintech affects bank operations and performance. This dual-method approach facilitates a more profound and nuanced comprehension of the fintech-banking interaction, particularly in an environment characterized by swift digital change.

This study is expectedly to make numerous substantial additions to the literature on fintech and banking performance. First, it addresses the methodological limitations of prior research by adopting the BSC framework to assess fintech's impact across four interrelated dimensions: customer, financial, internal processes and learning and growth. This approach enables a comprehensive evaluation of fintech company growth on bank performance, moving beyond the traditional focus on isolated financial or customer outcomes. Secondly, the study applies the Delphi method to gather expert insights from banking and fintech professionals in Vietnam, thereby enriching the empirical foundation and capturing practitioner perspectives that are often absent in quantitative studies. Thirdly, by focusing on Vietnam – an emerging market experiencing rapid fintech expansion – the study offers context-specific evidence that contributes to a more globally inclusive understanding of the effect of fintech on banks. Collectively, these contributions advance theoretical development in performance measurement under digital transformation and offer practical resources for reference of banks, policymakers and fintech stakeholders operating in similar emerging countries or developing markets.

## 2. Research background

### 2.1 Literature review

The integration of fintech into the banking sector has become a focal point of academic discourse, with scholars examining its multifaceted implications. On one hand, fintech startups are viewed as strategic collaborators that enhance digital banking efficiency through technological innovation (Bhattacharya and Sinha, 2022; Stefanelli and Manta, 2023). On the other hand, empirical evidence regarding fintech's impact on banks' financial performance remains inconclusive. Some studies highlight negative effects on financial indicators (Phan *et al.*, 2020), while others demonstrate fintech's role in reinforcing financial stability (Safiullah and Paramati, 2022) or increasing market risk, such as through left-tail stock return distributions (Li *et al.*, 2020).

From the customer perspective, fintech adoption is largely associated with enhanced satisfaction, loyalty and engagement, all of which contribute to revenue growth (Addai *et al.*, 2015; Alkhazaleh and Haddad, 2021; Pooya *et al.*, 2020). Additionally, fintech innovations have transformed internal bank operations, particularly in areas such as risk assessment, product delivery and customer profiling (Alt *et al.*, 2018; Puschmann, 2017; Vučinić, 2020). These advances have also supported improvements in risk management and consumer protection (Jagtiani and Lemieux, 2018).

Despite operational benefits, fintech integration presents challenges, particularly in terms of workforce adaptation. While digital transformation can lead to higher productivity, it also places pressure on employees, necessitating ongoing upskilling and attention to job satisfaction (Chen *et al.*, 2021a, b; Santoso *et al.*, 2021).

Fintech's role in promoting financial inclusion is another key area of research, particularly in expanding access to underserved populations (Neelam and Bhattacharya, 2022). Institutional theory, as proposed by Meyer and Rowan (1977), provides a valuable framework for understanding this phenomenon, suggesting that organizations adopt technological innovations like fintech not only to improve efficiency but also to align with broader institutional norms and expectations (Teigland *et al.*, 2018).

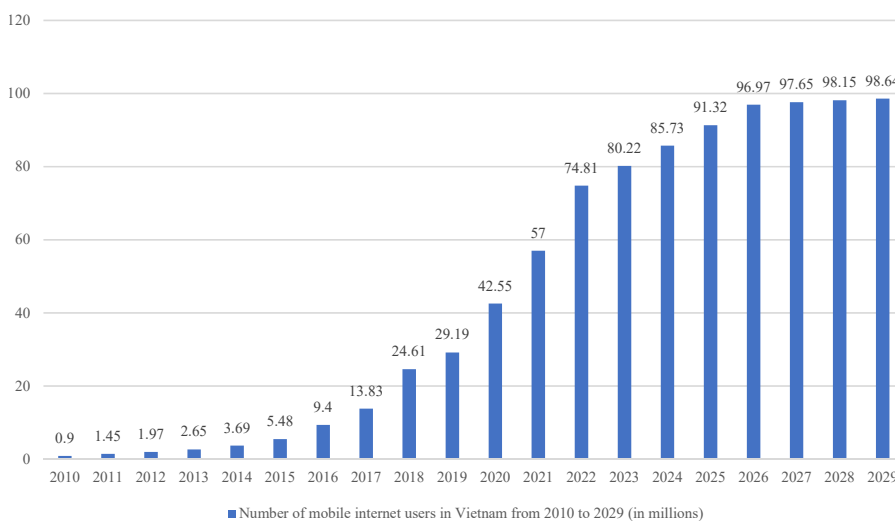
Despite the growing body of literature, the direct influence of fintech on bank performance remains uncertain, pointing to a significant research gap. Addressing this gap, the present study applies institutional theory to examine whether fintech innovations contribute to improved efficiency and productivity in the banking sector. A comprehensive, multidimensional approach – extending beyond conventional financial indicators – is essential to fully capture fintech’s impact on banking institutions.

## 2.2 The growth of fintech companies in Vietnam

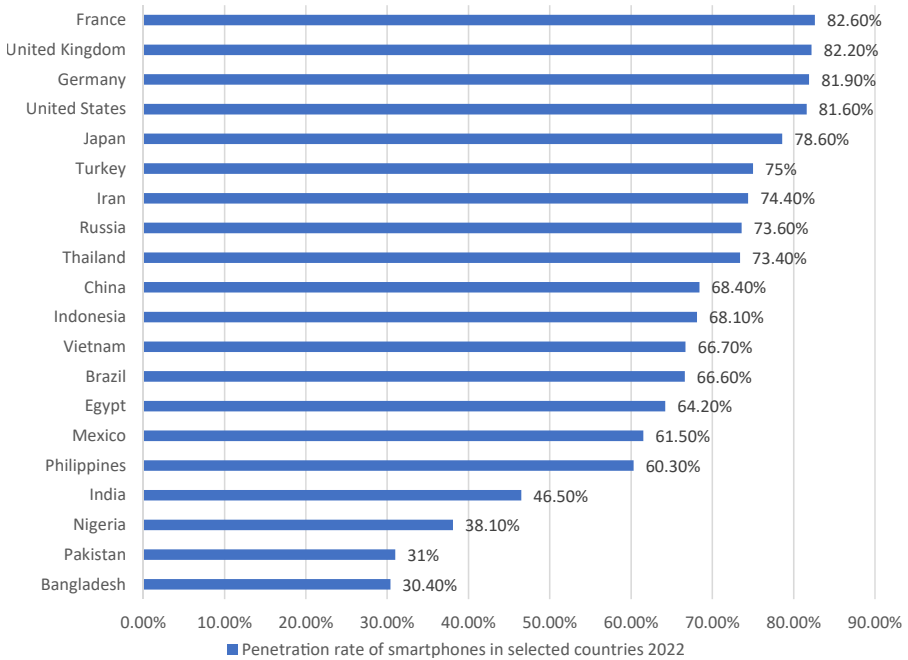
Vietnam is one of the emerging fintech markets characterized by a progressively interconnected population, a crucial element in the advancement of the fintech sector. Figure 1 demonstrates that Vietnam has a greater number of internet users and smartphones compared to other nations in the ASEAN area. As anticipated, the statistics for Vietnam are expected to steadily and substantially rise in the following years, predicted to attain more than 98 million mobile internet users in 2029 (Statista, 2022). Besides, Figure 2 shows that the penetration rate of smartphones in Vietnam is 66.70%, ranked 12th worldwide. Consequently, Vietnam has garnered significant interest from investors in both the domestic and global markets, resulting in a surge of fintech companies being founded in the country. Additionally, Statista (2021b) indicates that the number of active fintech enterprises in Vietnam rose from 78 in 2016 to 141 in 2020.

The majority of fintech companies in Vietnam are newly established businesses, with the payment sector being the most prominent segment within the Vietnamese fintech industry (Le and Le, 2018; Lien *et al.*, 2020; MBBank, 2021; Solidiance, 2018). Figure 3 presents a list of fintech companies currently active in Vietnam. These companies and their goods, which offer a range of features and applications, have become quite successful in the Vietnamese market. Several prominent fintech companies, including Momo, VnPay, Zalo Pay and VinID, are engaged in mobile payments, while Tima, DoctorDong, Vtien and others are well-established in the P2P (peer-to-peer) lending sector.

The fintech business in Vietnam is witnessing tremendous growth and has garnered significant interest from investors, particularly in e-payment. In a report by Statista (2021a), the overall value of e-payments in 2020 amounted to 8.60 billion dollars, with a monthly



**Figure 1.** Number of mobile internet users in Vietnam from 2010 and forecast to 2029. Source: Statista (2021a)



**Figure 2.** Penetration rate of smartphones in 2022 (% population). Source: [Statista \(2021b\)](#)

average of 26.2% of internet users engaging in e-payments. The digital payment category had a significant increase in total funding value, from a mere 28.8 million dollars in 2016 to an impressive 403 million dollars in 2019. Momo has achieved significant success in terms of fundraising, accumulating a total of 433.8 million dollars from 2013 to 2021.

Furthermore, the fintech sector is anticipated to have a favorable future, especially owing to the progression of e-commerce (Ngo and Gim, 2014; Nguyen *et al.*, 2015). Deloitte (2020) also asserts that the coronavirus disease 2019 (COVID-19) pandemic has created advantageous conditions for fintech enterprises. In Vietnam, this occurrence can be attributed to two factors. Initially, in the first and second waves of the pandemic, the primary measures employed in the “Zero-Covid” policy were social separation and isolation. As a result, there was a growing need for digital payment methods in e-commerce. The enforcement of social distancing policies significantly diminished the profitability of enterprises and households, leading to an increased demand for financial assistance. Consequently, it may be deduced that COVID-19 perhaps exerted a positive influence on the growth of the fintech business.

Despite the State Bank of Vietnam’s emphasis on the fintech industry, considerable impediments to its expansion persist, such as clients’ insufficient financial literacy and the legal structure that oversees it. The government has implemented various official regulations to foster fintech advancement, including Decree No. 87/2019/ND-CP, which modifies and enhances particular fintech products; Decree 116/2013/ND-CP, which delineates strategies for the prevention and control of money laundering in compliance with legal standards; and Circular No. 16/2020/TT-NHNN, which offers guidance on the establishment and utilization of checking accounts at payment service providers. Nevertheless, current regulations appear inadequate, and the fintech sector anticipates a greater scope for growth, encompassing areas like cryptocurrencies, nonfungible tokens and so on. Furthermore, given the swift rise of the fintech sector, it is imperative to regulate the fintech sandbox in order to foster favorable conditions for its market growth.

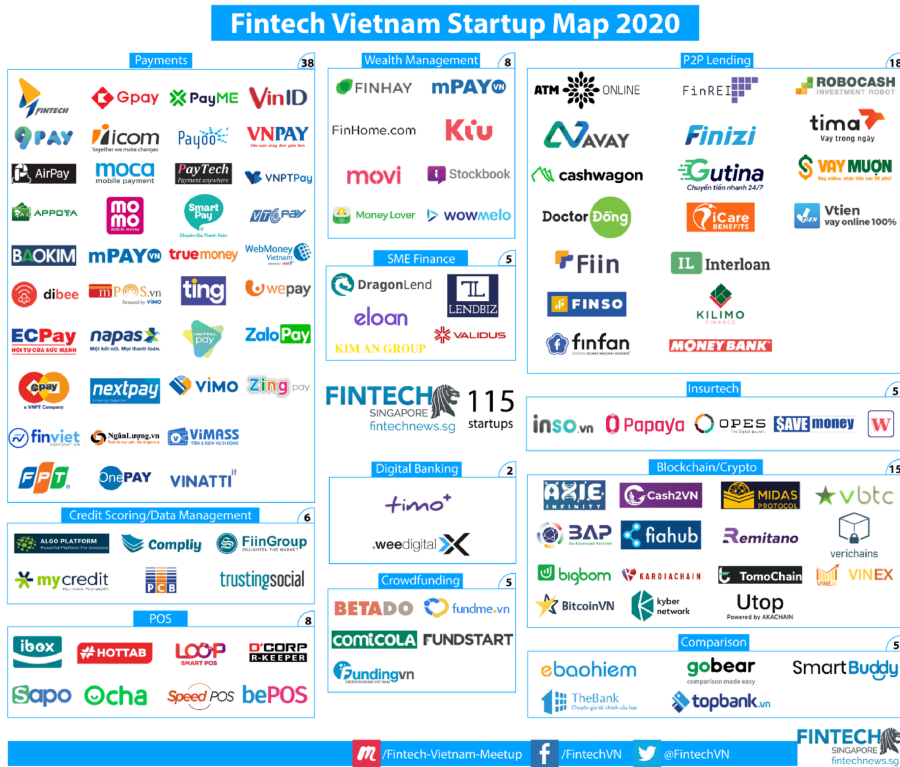


Figure 3. Fintech start-up companies in Vietnam. Source: Fintech Singapore (2019)

In 2021, UOB Group presented data on fintech companies in six ASEAN countries (Table 1), highlighting Vietnam as a notable case of fintech development. Vietnam’s growth in this sector surpasses that of other countries in the ASEAN-6 region. Between 2017 and 2021, the total operating fintech companies in Vietnam experienced a growth rate of 67.86%. This growth rate exceeds that of Malaysia (58.67%), the Philippines (51.41%) and Thailand (48.07%), although it is inferior to Indonesia (78.41%) and Singapore (75.33%), the two preeminent nations in the ASEAN-6 fintech sector. Moreover, Statista (2021a) indicates that

Table 1. Fintech companies in ASEAN-6

Country	2017		2018		2019		2020		2021	
	New	Tot. Oper.	New	Tot. Oper.	New	Tot. Oper.	New	Tot. Oper.	New	Tot. Oper.
Indonesia	100	440.00	142	583	108	691	67	758	27	785
Malaysia	68	346.00	72	418	57	475	48	523	26	549
Philippines	34	177.00	31	208	35	243	18	261	7	268
Singapore	208	770.00	266	1,036	159	1,195	120	1,315	35	1,350
Thailand	39	181.00	42	223	27	250	13	263	5	268
Vietnam	20	112.00	32	144	25	169	12	181	7	188

Note(s): Tot.Oper.: Total number existing operators

Source(s): The UOB Group (2021)

the number of newly founded fintech enterprises in Vietnam surged by 170% from 2017 to 2020. In this timeframe, the aggregate number of digital payments attained 8.6 billion US dollars, with 26.2% of internet users executing monthly mobile transactions. Furthermore, Momo, a prominent e-wallet and mobile payment service provider in Vietnam, secured a fundraising amount of 433.8 million US dollars in the same year, establishing itself as the fintech company with the greatest funding value in Vietnam. Hence, we find it intriguing to examine the expansion of fintech enterprises in Vietnam, considering the mentioned rationale.

2.3 Fintech companies and banks in Vietnam

Reports from SBV (2019, 2020) and Statista (2021a, b) indicate that the fintech sector in Vietnam has undergone substantial expansion in recent years. The fintech sector has witnessed substantial expansion in the quantity of start-ups, users, transactions and internet infrastructure. This may be ascribed to the ability of fintech solutions to satisfy consumers' needs, especially younger ones who often participate in online activities. Consequently, a notable trend of collaboration has emerged between banks and fintech companies, leading to the majority of commercial banks forming partnerships with at least one fintech entity. The collaborative partnership model between banks and fintech in Vietnam has been acknowledged in the studies by Bömer (2020) and Hoang *et al.* (2021), as seen in Figure 4. VIB has collaborated with Fintech Weezi to create the MyVIB keyboard, a mobile application that facilitates money transfers via social networks. Techcombank has established a cooperation with Fintech Fastacash, whilst VietinBank has allied with Opportunity Network, among other collaborations. These alliances confer advantages to banks by enhancing their competitiveness and augmenting their revenue.

In terms of income (Table 2), the collective pre-tax earnings of 27 commercial banks for four years (2020–2023) in Vietnam amounted to VND150,475.80 billion in 2020, and consecutively increase in the following years (VND197,283.70 billion in 2021, VND258,678.48 in 2022), then reach to VND267,913.05 billion in 2023. This means that in just 4 years, earning before taxation (EBT) of Vietnamese banks has increased to VND 117,437.25 billion, equivalent to 78%. This result was significantly contributed to by Vietcombank, Techcombank, Vietinbank and Military Bank, which proactively take constant efforts to become dominant in technological innovation by integrating Fintech. These observations also imply that the collaboration between banks and fintech businesses is a crucial and advantageous element in improving the business performance of bankers.

Through analysis of fintech news posted, it can be recognized that the progress of fintech may raise apprehension among banks and investors, perhaps resulting in adverse impacts on bank financial metrics, specifically with regard to market indicators. Nonetheless, the

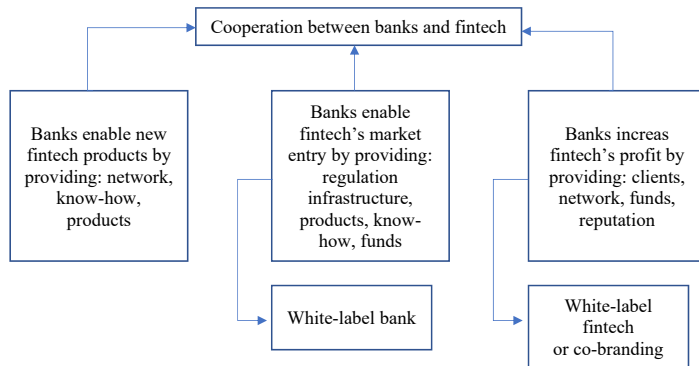


Figure 4. The collaboration between banks and fintech companies. Source: Bömer (2020)

**Table 2.** Earning before taxation of banks in Vietnam

No.	Bank	EBT (billion VND)			
		2023	2022	2021	2020
1	Vietcombank	41243.69	37368.09	27238.70	23049.60
2	Techcombank	22888.23	25567.77	23238.40	15800.30
3	VietinBank	24989.53	21131.87	17589.00	17119.80
4	MB	26306.09	22729.32	16257.30	10688.30
5	VPBank	10803.90	21220.13	14580.40	13019.40
6	Agribank	25859.18	22538.63	14000.00	13202.00
7	BIDV	27588.90	22922.65	13601.60	9026.20
8	ACB	16044.73	13688.19	11998.10	9595.90
9	HDBank	13016.73	10268.06	8069.60	5818.20
10	VIB	10703.95	10581.12	8011.10	5803.00
11	SHB	9239.02	9689.37	6224.20	3268.00
12	TPBank	5588.96	7828.29	6038.30	4388.50
13	OCB	4139.48	4389.31	5518.60	4417.40
14	MSB	5829.91	5787.20	5088.50	2523.30
15	Sacombank	9595.00	6339.07	4400.00	3339.30
16	LienVietPostBank	7039.39	5689.68	3639.00	2426.50
17	SeABank	4616.56	5068.99	3268.50	1407.90
18	ABBank	584.04	1702.41	1958.80	1403.20
19	Nam A Bank	3303.95	2267.99	1799.10	1005.50
20	Eximbank	2719.67	3709.07	1205.10	1339.50
21	KienlongBank	718.65	681.86	1010.00	153.40
22	Bac A Bank	1060.83	1038.96	908.40	734.80
23	VietABank	916.91	1107.84	844.10	407.50
24	PG Bank	420.84	351.23	329.30	212.20
25	BanVietBank	71.61	456.06	311.20	201.30
26	SaigonBank	332.25	237.00	154.10	121.10
27	NCB	-669.56	8.00	2.30	3.70
<i>Total of all banks</i>		<i>267913.05</i>	<i>258678.48</i>	<i>197283.70</i>	<i>150475.80</i>

**Source(s):** Collected from Financial reports of commercial banks in Vietnam

inception of fintech may be attributed to its objective of addressing the shortcomings of financial institutions and improving their operational efficiency. Consequently, in the long term, fintech is expected to have a positive influence on banks, leading to an enhancement of their financial performance. During the survey, it is expected that experts would acknowledge the beneficial influence of fintech businesses on bankers, encompassing both internal and market measures.

Fintech products are primarily disseminated through mobile devices, particularly smartphones, to address client requirements and possess the potential to replace conventional banking products. Nevertheless, older and rural clients may have greater obstacles when utilizing these sophisticated items in comparison to younger customers. To remain informed about developments in financial technology, commercial banks have modified their product delivery methods by launching mobile banking apps such as F@st Mobile, VCB Digital Bank and VietinBank iPay. These initiatives offer complimentary services for almost all transactions and have been well-received by clients. Consequently, we posit that due to the influence of fintech advancement, clients of banks are experiencing increased satisfaction with existing banking products, particularly those accessed via mobile banking applications.

In addition, the advancement of fintech also poses new obstacles for banks to optimize their internal operations and protocols in order to promote consumer contentment and address emerging requirements. Fintech companies provide a competitive threat to banks by offering financial products that utilize disruptive technologies. Conversely, banks have been drawn to

engage in the race for digitalization by providing instruments for risk management, operational systems, credit appraisal and productivity enhancement. Consequently, it is widely thought that current competition to enhance and modify fundamental banking systems will yield greater advantages for banks compared to earlier iterations. Moreover, a crucial determinant of success in implementing disruptive technology in banks is the caliber of the human resources. In the new digital era, banking employees must acquire innovative knowledge and abilities to effectively adapt to the swift changes in the finance business. The bank's internal training center routinely delivers training courses that specifically concentrate on disruptive technologies and their associated ramifications for bank staff.

An analysis of reports from diverse sources within the banking and finance sectors including [SBV \(2019, 2020\)](#), [Statista \(2021a, b\)](#) and [UOB \(2020, 2022\)](#), and relevant research indicate a substantial rise in the number of fintech businesses in Vietnam in recent years, considerably impacting the operations of conventional banks. Nevertheless, the impact of its rise on bank performance has not been extensively examined by any rigorous study. This research will be the first to evaluate the impact of fintech company growth on four dimensions of bank performance using the BSC framework with the Delphi method, in contrast to the study by [Sufian and Noor Mohamad Noor \(2012\)](#), which focuses on internal and external factors affecting bank performance from an operational perspective. Thus, it may be relied upon as a trustworthy source for future study on the merger of fintech and basic banking services.

### 3. Research design

#### 3.1 Four perspectives of the balanced scorecard

The BSC framework of Kaplan and Norton, first developed in 1992, serves as a management instrument to assess the critical elements of business performance. Its purpose was to enable managers to enhance the positive outlook of the corporation. A series of relevant derived and updated versions emerged to further the BSC approach were issued in by Kaplan and Norton in the years 1996, 2000, 2001 and 2005, which provides a comprehensive evaluation of organizational performance from four perspectives: customer, internal process, finance, and learning and growth ([Kaplan and Norton, 2005](#)).

The primary emphasis in most of Kaplan and Norton's publications is on the customer perspective, including cycle time, quality and productivity, all of which significantly influence staff operations. The temporal aspect is associated with the speed at which orders are processed and clients obtain items or services, whereas timely delivery and product quality are related to the superiority of the components. The cost component, which includes the monetary worth of a product or service, is essential in creating consumer value. Moreover, the internal process viewpoint is formulated in alignment with the consumer perspective to meet client needs. The value and longevity of the company depend on the learning and growth viewpoint. Due to a fiercely competitive worldwide market, a company's ability to gain knowledge and foster development enhances its performance by improving the expertise, skills and satisfaction of its staff. These factors are essential for improving product quality, launching new products, augmenting value and penetrating new markets. The financial viewpoint finally integrates the results of the other views and includes conventional financial measures, i.e. profitability, growth and shareholder value. While offering insights into past performance, these indicators may not reliably forecast present or future value-generating activities. Nonetheless, they retain importance for operational control.

#### 3.2 Delphi method

The Delphi approach is commonly utilized to predict future events, trends, or situations by gathering input from a group of knowledgeable individuals. Furthermore, it is appropriate in situations when there is limited knowledge or study on a particular topic or phenomenon,

particularly when seeking to enhance comprehension of concerns, opportunities, solutions or predictions (Skulmoski *et al.*, 2007). Sampling in this study is purposive, meaning that participants are selected based on specific criteria. Participants are requested to anonymously convey their thoughts and impressions via a set of questions designed to target the topic of study. The iterative process of gathering and analyzing participant replies and comments occurs in several rounds. Each successive questionnaire is formulated based on the results of the preceding one, with the intention of attaining consensus on the study aims pertinent to the subject (Skulmoski *et al.*, 2007).

Regarding to recommendation of de Loë *et al.* (2016), the number of experts participating in a Delphi interview might range from fewer than 10 to over 1,000. However, Belton *et al.* (2021) argue that the sample size in Delphi can fluctuate, ranging from 5 to 10, 15 to 30, or even up to 60. A minimum agreement percentage, referred to as the median threshold, of 75% or above is necessary to achieve consensus in each round (Barrios *et al.*, 2021; Diamond *et al.*, 2014).

The research is designed using the Delphi approach, as recommended by Skulmoski *et al.* (2007), and the BSC framework. The specific design is presented in Table 3, of which further details can be found in Tables 4 and 5.

#### 4. Results and discussion

A qualitative study is being employed to examine the influence of fintech company growth on bank performance in Vietnam, according to the research design. The outcomes of the three rounds of interviews are displayed in Table 6.

**Table 3.** Delphi approach process

Step	Descriptions
1	<p><i>Sampling: Purposive and Convenient</i></p> <ul style="list-style-type: none"> <li>Criteria of participants: more than 10 years of working experience in finance and banking, whose names are coded as “E” (<i>i.e. Expert who is Head of department or Director/Vice-director of provincial branches of target banks</i>) and “S” (<i>i.e. Scholar who is Lecturer and/or Researcher in finance and banking programs in universities</i>)</li> <li>Number of participants: 9 participants, including 4 experts and 5 scholars (Belton <i>et al.</i>, 2021; de Loë <i>et al.</i>, 2016)</li> <li>Interviewees’ background can be found in Table 4</li> </ul>
2	<p><i>Questionnaire design</i></p> <ul style="list-style-type: none"> <li>Design open-end questionnaire based on ingredients of four banking BSC perspectives (detailed in Table 5) to elicit participants’ opinions</li> <li>Thresholds to define consensus in each round is 75% (Barrios <i>et al.</i>, 2021; Diamond <i>et al.</i>, 2014)</li> </ul>
3	<p><i>Interviewing round 1</i></p> <ul style="list-style-type: none"> <li>Conduct survey round 1 with open-end questionnaire for 10 experts and 10 scholars</li> <li>Review and assess the interview results with threshold of 75%: the results of round 1 are the foundation to design questionnaire, presented by a 5-Liker scale, for the second round or any further rounds that come after round 3 (if any)</li> </ul>
4	<p><i>Interviewing round 2</i></p> <ul style="list-style-type: none"> <li>Conduct survey round 2 to achieve the consensus or stability among the participants</li> <li>The questionnaires after removing the indicators that did not satisfy the threshold of 75% will be distributed to participants to consult for consensus and assess the stability of the responses of the experts and scholars</li> </ul>
5	<p><i>Interview round 3</i></p> <ul style="list-style-type: none"> <li>Conduct survey round 3 to achieve the consensus or stability among the participants with assessment by the threshold of 75%</li> <li>The Delphi process is completed when agreement or stability is achieved (otherwise further surveys will be conducted)</li> </ul>
6	<p><i>Summarize and generalize the results</i></p>

**Source(s):** Authors’ works

**Table 4.** Background information of participants

Res.	Occupation	Age	Gender	Experience	Major
E01	Expert	34	Male	12 years	Finance and Law
E02	Expert	35	Male	10 years	Finance
E03	Expert	37	Male	11 years	Finance and Banking
E04	Expert	46	Female	22 years	Finance
S01	Scholar	50	Male	25 years	Finance and Banking
S02	Scholar	45	Female	18 years	Finance
S03	Scholar	38	Male	12 years	Banking
S04	Scholar	48	Female	20 years	Financial Economics
S05	Scholar	45	Female	16 years	Finance and Banking

**Source(s):** Authors' works (2023)

#### 4.1 Opinions about fintech company growth

The findings of the Delphi survey reveal a unanimous consensus among participants concerning the substantial expansion of the fintech sector. This is evidence that the increasing prevalence of fintech enterprises, transactions and users, together with the significant rise in fintech brand recognition, corroborates the findings of [Stefanelli and Manta \(2023\)](#). Momo and VNPAY are the preeminent brands in the Vietnamese fintech industry, utilized by bank experts for personal budgeting and transactions. They are commonly utilized to cover recurrent expenditures such as utility bills (electricity and water), mobile phone recharges and internet subscriptions. Moreover, these financial platforms are extensively utilized for transactions in both brick-and-mortar establishments and online purchases, aligning with the conclusions of [Lee and Shin \(2018\)](#).

Agreeing with [Ngo and Gim \(2014\)](#) and [Nguyen et al. \(2015\)](#), most respondents state that the fintech company's growth is attributed to the appreciation of its information communication technology infrastructure. However, participants have raised worries over cybersecurity and the macroeconomic situation. Respondents assert that Vietnam's increasing smartphone penetration, fast internet speed and the introduction of 5G technology provide favorable conditions for the advancement of fintech, distinguishing it from other Southeast Asian nations. Nevertheless, the issue of information security in Vietnam is of great importance. Respondents believe that operators and governors are failing to meet important data protection objectives. Moreover, Vietnam is currently grappling with the middle-income trap, which poses a significant obstacle to its transformation into a high-income economy. This difficulty is mostly attributed to the increasing costs and diminishing competitiveness, further hindering the progress of fintech growth.

Although the government has released numerous official documents to support the growth of fintech, respondents hold a pessimistic perspective on the current fintech regulations (all respondents comply with the regulations issued by the authorities). A lack of adaptability to the emergence of fintech is a substantial obstacle to its progress. Drawing from the experiences of the fintech industry of China, the Vietnamese government appears to be exercising prudence in considering the ramifications of fintech legislation.

The respondents have shown limited interest in business concepts outside mobile payment and P2P lending, such as insurance, crowdfunding and cryptocurrencies. Although acknowledging the vital significance of disruptive technologies in the banking sector, they lack the requisite technological expertise for further discussion.

#### 4.2 Effects of fintech company growth on four perspectives of bank performance

Following the completion of the three-round Delphi survey, a disparity in perspectives about the impact of fintech firm development on bank performance has been observed between bank

**Table 5.** Delphi research for knowledge acquisition based on BSC of banks' performance

No.	Focus area	Questions and probes
1	Effect of fintech company growth on the customer perspective	1.1. What do you know about the customer perspective? 1.2. What are the ingredients of the customer perspective? 1.3. What is your opinion of the effect of fintech company growth on the ingredients of the customer perspective? 1.4. On a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree), what do you rate the significance of the positive effect of fintech company growth on the customer perspective via its ingredients (i.e. <i>increase customer loyalty, customer retention, new customer acquisition, low fees for using products, trust, reliability, and satisfaction</i> ) in banks?
2	Effect of fintech company growth on the Internal process perspective	2.1. What do you know about the Internal process perspective? 2.2. What are the ingredients of the customer perspective? 2.3. What is your opinion of the effect of fintech company growth on the ingredients of the internal process perspective? 2.4. On a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree), what do you rate the significance of the positive effect of fintech company growth on the Internal process perspective via its ingredients (i.e. <i>effective and efficient in producing and delivering products, internal value chain, e.g. innovation, operation, and after-sale service, and risk management</i> ) in banks?
3	Effect of fintech company growth on the learning and growth perspective	3.1. What do you know about the learning and growth perspective? 3.2. What are the ingredients of the learning and growth perspective? 3.3. What is your opinion of the effect of fintech company growth on the ingredients of the learning and growth perspective? 3.4. On a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree), what do you rate the significance of the positive effect of fintech company growth on the learning and growth perspective via its ingredients (i.e. <i>improve employee efficiency and effectiveness, training and skills courses, and IT knowledge</i> ) in banks?
4	Effect of fintech company growth on the financial perspective	4.1. What do you know about the financial perspective? 4.2. What are the ingredients of the financial perspective? 4.3. What is your opinion of the effect of fintech company growth on the ingredients of the financial perspective? 4.4. On a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree), what do you rate the significance of the positive effect of fintech company growth on the financial perspective via its ingredients (i.e. <i>enhance revenues, improve cost structure and asset utilization, return on investment, economic value added, valuation, and service income</i> ) in banks?

**Source(s):** Authors' works (2023)

managers and educators. The bank managers recognized the emergence of fintech companies and their influence, but emphasized that the scale of fintech businesses is comparatively less than that of commercial banks, leading to an insignificant impact. Conversely, the lecturers expressed a neutral perspective, asserting that although the current influence of fintech

**Table 6.** Three-round results of Delphi research

Perspectives	Determined ingredients	Round	Ratings given by each participant										% of consensus	Mode	Mean
			E01	E02	E03	E04	S01	S02	S03	S04	S05				
Customer perspectives	Customer loyalty	1	5	4	3	5	5	4	5	3	5	77.78	5.00	4.33	
		2	5	4	4	4	4	4	3	5	5	88.89	4.00	4.22	
		3	4	4	3	5	5	3	4	4	5	77.78	4.00	4.11	
	Customer satisfaction (retail products)	1	4	4	3	5	4	4	4	2	4	77.78	4.00	3.78	
		2	2	4	4	5	4	5	4	4	3	77.78	4.00	3.89	
		3	3	4	4	4	5	3	4	4	4	77.78	4.00	3.89	
	Acquisition of new customers	1	3	3	3	3	5	5	5	4	4	66.67	3.00	4.00	
		1	4	4	5	5	5	4	3	4	4	88.89	4.00	4.22	
	Customer retention	4	3	3	4	4	4	4	4	3	5	77.78	4.00	3.80	
		3	4	4	4	4	3	4	4	4	4	88.89	4.00	3.80	
		1	5	5	4	4	5	5	4	4	4	100.00	4.00	4.44	
	Customer trust and reliable	2	4	5	5	4	3	4	4	4	4	88.89	4.00	4.11	
		3	4	5	4	5	4	4	4	3	3	77.78	4.00	4.00	
		1	4	4	3	5	3	4	5	4	4	77.78	4.00	4.00	
	Internal process perspective	Operation efficiency	2	4	4	4	5	5	5	5	3	3	88.89	4.00	4.33
3			4	4	4	4	3	5	5	5	3	77.78	4.00	4.11	
1			4	5	4	4	3	4	3	5	5	77.78	4.00	4.11	
Producing and delivering product		2	4	4	4	4	2	4	4	5	5	88.89	4.00	4.00	
		3	4	4	4	5	3	4	3	4	4	77.78	4.00	3.89	
		1	4	4	4	5	3	4	4	4	4	88.89	4.00	4.00	
Risk management		2	5	4	5	5	3	4	5	5	5	88.89	5.00	4.56	
		3	4	4	5	5	4	4	4	3	4	88.89	4.00	4.11	
		1	5	4	3	5	3	4	3	5	5	66.67	5.00	4.11	
After sales services		1	5	4	3	5	3	4	3	5	5	66.67	5.00	4.11	

*(continued)*

**Table 6.** Continued

Perspectives	Determined ingredients	Round	Ratings given by each participant									% of consensus	Mode	Mean	
			E01	E02	E03	E04	S01	S02	S03	S04	S05				
Learning and growth perspective	Training and development programs	1	3	5	4	5	5	4	3	4	5	77.78	5.00	4.22	
		2	4	5	5	4	4	3	2	5	5	77.78	5.00	4.11	
		3	4	5	4	4	5	4	4	5	5	100.00	4.00	4.44	
	Employees capability	1	4	3	4	4	5	4	5	4	4	88.89	4.00	4.11	
		2	4	2	4	4	4	3	4	5	4	77.78	4.00	3.78	
		3	4	4	5	3	4	4	4	3	4	77.78	4.00	3.89	
	Employee satisfaction and retention	1	3	5	5	4	4	4	3	5	4	77.78	4.00	4.11	
		2	4	5	4	4	5	3	4	5	5	88.89	4.00	4.33	
		3	4	4	4	3	4	5	4	5	5	88.89	4.00	4.22	
	Knowledge efficiency	1	5	4	4	3	5	5	5	5	3	77.78	5.00	4.33	
		2	5	3	5	4	4	5	5	5	4	88.89	5.00	4.44	
		3	5	3	3	5	3	4	4	4	4	66.67	4.00	3.89	
	Financial perspective	Service income (revenue)	1	5	3	4	5	4	4	3	5	5	77.78	5.00	4.22
			2	5	4	5	5	4	3	4	4	4	88.89	4.00	4.22
			3	5	3	5	5	4	4	4	4	4	88.89	4.00	4.22
Cost structure		1	4	5	4	3	4	5	4	3	5	77.78	4.00	4.11	
		2	4	4	3	3	4	4	5	5	5	77.78	4.00	4.11	
		3	4	3	4	3	4	3	4	4	4	66.67	4.00	3.60	
Return on investment		1	5	5	5	5	4	4	5	5	5	100.00	5.00	4.78	
		2	4	4	5	5	5	5	5	4	4	100.00	5.00	4.56	
		3	4	4	4	4	5	4	4	3	5	88.89	4.00	4.11	
Asset utilization		1	2	4	4	5	5	3	4	5	5	77.78	5.00	4.11	
		2	1	4	5	3	3	2	4	4	2	44.44	4.00	3.11	
		3	5	5	5	4	4	5	4	4	4	100.00	4.00	4.44	
Valuation		1	4	4	5	5	3	4	3	4	4	77.78	4.00	4.00	
		2	5	5	5	4	4	5	4	4	4	100.00	4.00	4.44	
		3	5	5	4	4	3	4	4	5	5	88.89	5.00	4.33	
Economic value added	1	4	4	3	4	5	5	2	1	5	66.67	4.00	3.67		
	2	3	3	4	4	5	4	3	3	4	55.56	3.00	3.67		

Source(s): Authors' works

business expansion on bank performance is limited, it is a crucial determinant that would alter the framework of the banking sector. Undoubtedly, fintech startups are seeing exponential growth, causing apprehension among banks. Fintech companies are gaining a larger portion of the banking market, which is posing a threat to the established players. As society continues to change, the importance of fintech will increase, and established companies must build a strategy to include it. Establishing partnerships between fintech startups and commercial banks is seen as a sagacious strategy that offers mutual benefits, as evidenced by the research of [Jagtiani and Lemieux \(2018\)](#).

Almost all respondents asserted that the proliferation of fintech enterprises presently exerts a positive influence on the performance of commercial banks. More precisely, fintech companies are exerting pressure on banks to digitize and improve their performance. Agreeing with scholars (e.g. [Alt et al., 2018](#); [Puschmann, 2017](#)), the expansion of fintech companies presents promising prospects that could serve as future marketplaces for banks. For example, the non-banked population's financial literacy will enhance, perhaps leading them to open a bank account, thus creating an opportunity for banks. In addition, partnering with fintech startups enables banks to reduce their expenditures on IT investments and operational expenses. Upon evaluating several perspectives on the beneficial influence of fintech businesses on banking performance, we can conclude that the expansion of fintech companies in Vietnam positively affects bank performance.

*4.2.1 Fintech company growth affects bank performance in customer perspective.* The emergence of fintech firms probably has a significant influence on the four crucial aspects of the client viewpoint from the bank's point of view. Primarily, several customers opt for fintech products, accessed through fintech apps, rather than traditional bank products obtained through face-to-face transactions at different banks. The mobile payment application is the predominant selection, with online financing applications following closely behind. As per the panelists, customers of fintech companies are often youthful and have a keen interest in exploring novel technology. Bank consumers derive satisfaction from the ease and efficiency provided by the amalgamation of fintech with conventional banking services, as emphasized by [Siddiqui and Siddiqui \(2020\)](#) and [Siek and Sutanto \(2019\)](#). This, in turn, fosters trust and loyalty towards their banks. Nevertheless, experts assert that the incorporation of fintech into banks fails to entice new consumers.

Nonetheless, several controversies involving fintech companies, particularly concerning excessive interest rates and transaction security, have resulted in a negative perception among consumers about the recent proliferation of fintech firms. The respondents concur that banks, as a result, acquire greater client confidence and dependability because of the inadequacy of fintech company services. The proliferation of fintech positively influences the dependability and trust of banking clients, notwithstanding any adverse impacts it may have on consumer perception.

Simply put, the expansion of fintech companies enhances trust, creditworthiness, customer loyalty, satisfaction and retention for banks, as noted by [Bhattacharya and Sinha \(2022\)](#). This influence is particularly significant among young clients, who play a crucial role in the digital age. Nevertheless, participants contend that as fintech companies develop solutions to address issues related to exorbitant interest rates and transaction security, they will attract more new customers and gain their trust.

*4.2.2 Fintech company growth affects bank performance in internal process perspective.* The research findings indicate that the internal process viewpoint is influenced in a good manner by the emergence of fintech, as noted by [Stefanelli and Manta \(2023\)](#). This perspective consists of three important components: operational efficiency, product creation and risk management. All respondents unanimously agree that the expansion of fintech firms is crucial for promoting the digital transformation of commercial banks. For banks aiming to keep up with fintech companies and other commercial banks in the race towards digitization, it is imperative to allocate more resources towards information technology investment to improve efficiency, as highlighted by [Bhattacharya and Sinha \(2022\)](#). Consequently, most participants

agree that the emergence and evolution of fintech companies have necessitated banks to improve their operations, especially their business procedures, to satisfy client needs.

Investing in technological innovation is widely acknowledged as the primary driver of efficiency improvement in product creation and delivery, particularly in scenario where fintech companies grow dramatically (Kwon *et al.*, 2024). The participants report that a multitude of novel banking goods have been introduced in recent years, and the efficiency of product delivery has improved in comparison to the prior situation. In order to improve their internal processing capabilities, banks adopt and modify their methods of creating and distributing products by integrating fintech into their core systems. This approach is deemed effective and offers numerous advantages to banks' clients. Consequently, the proliferation of fintech businesses acts as a catalyst for the development and dissemination of financial products.

Furthermore, risk management becomes a critical concern in the survey (Chen *et al.*, 2021a). The respondents assert that the risk management system is consistently modified to align with alterations in monetary policy and the economic landscape. Risk management systems are often upgraded to align with the current technology; nonetheless, their effectiveness appears limited. The quality of the staff is reported to be inadequate for the demands of digital transformation and updated risk management systems. Additionally, the expenses associated with transitioning, such as the cost of acquiring the new version and the expenses related to training, provide a substantial challenge when updating to the latest versions, as mentioned by Kayed *et al.* (2025). Experts contend that the risk control mechanism in transactions, despite its intricacy and inconvenience, receives approval from virtually all banking users (Alkhazaleh and Haddad, 2021; Pooya *et al.*, 2020).

In general, the proliferation of fintech startups positively influences the operational efficiency and product development of banks. This research suggests that the proliferation of fintech startups positively influences internal bank operations.

*4.2.3 Fintech company growth affects bank performance in learning and growth perspective.* All respondents agree that employee-related issues, particularly learning and development, are critical elements significantly affected by the digitization process. Given the rapid expansion of fintech companies, training and development programs are carefully crafted to instruct and enable staff to fulfill the goals of the adaptation strategy. These programs strengthen staff's abilities to identify and engage with client demands, enhance efficiency in office technology and promote cross-selling in the digital world. Increased training hours positively impact the development of communication skills. The role of technological knowledge in the training curriculum has been growing. Surprisingly, all participants assert that the expansion of fintech enterprises enhances the availability of training courses and development programs aimed at improving employee knowledge and skills, particularly in technological literacy, as demonstrated by the research of Neelam and Bhattacharya (2022).

Additionally, the experts and scholars emphasize that training courses and development programs improve employees' proficiency, namely in terms of communication skills and technology literacy. Following the completion of the training program, the bankers' financial accomplishment is enhanced. With such expansion of fintech businesses, an increasing array of training programs, encompassing self-directed and e-learning options, is being provided to augment the skills and competencies of personnel, as noted by AISuwaidi and Mertzanis (2024).

Nonetheless, the respondents illuminated the unfavorable effects of fintech company expansion on banking employees. This includes the departure of elderly staff members due to their inability to adapt to rapidly changing technology in the banking sector, leading to their resignation. Moreover, the consensus among most experts is that younger bank employees possess a remarkable ability to swiftly acclimate to emerging technologies, yet they often have difficulties when faced with high levels of stress. As a result, individuals might appear unsatisfied with their present employment.

To sum up, the increase in training and development designed to augment staff capabilities helps alleviate employee unhappiness. Consequently, the expansion of fintech companies positively influences the bank's learning and growth viewpoint.

4.2.4 *Fintech company growth affects bank performance in financial perspective.* Lastly, the financial perspective, which is impacted by the expansion of fintech companies, includes banks' service income, return on investment and valuation. Advocates contend that at the preliminary stage, the influx of fintech apps and companies may diminish bank service revenue owing to a reduction in minor transactions handled by banks, as demonstrated by the research of [Cheng and Qu \(2020\)](#). Over time, the competition to provide banking services through mobile devices will boost bank revenue by promoting the sale of other goods.

The proliferation of fintech enterprises significantly influences the return-on-investment ratio, especially with information technology investments. The interviewees noted that despite a preceding rise in information technology spending by most commercial banks to improve performance, the results appear to be unsatisfactory. The integration of fintech systems with the core services of banks can address the deficiencies in the banks' information technology infrastructure and human resources. Additionally, it can help bank staff acquire professional skills and practical experience.

Bank valuation is the third essential component. The participants concurred that the expansion of fintech businesses significantly enhances bank value; however, the specifics of this benefit vary. Fintech firms contribute to the growth of intangible bank assets, hence enhancing the value of banks and elevating their significance in the financial industry, as highlighted by [Li et al. \(2020\)](#). Moreover, these companies thrive when disruptive technologies are effectively utilized. Conversely, as a result of favorable media attention towards fintech, there is a widespread belief that fintech companies surpass banks in terms of quality, and they have the potential to supplant commercial banks, thus diminishing their worth.

In summary, the study has illustrated that the expansion of fintech firms positively affects banks' financial outlook. Initially, the expansion of a fintech company has negative implications for a bank's financial outlook. However, over time, the bank's financial performance will be enhanced thanks to this influence.

## 5. Conclusion

The research utilizes a three-round Delphi method with nine researchers and specialists in banking and finance. Interestingly, the research finds that the performance of banks, assessed from four perspectives of BSC (customer, financial, internal process and learning and growth), is positively impacted by the emergence and expansion of fintech businesses.

Significantly, the survey findings demonstrate that the expansion of fintech companies is exerting pressure on banks to undergo transformation and enhance their performance. Furthermore, it presents banks with new opportunities to enter expanding markets and diversify their service offerings to satisfy client expectations. The advancement of fintech items may attract a greater number of younger clients who favor employing advanced offerings and seek novel experiences. However, this does not surpass the value of traditional banking products. On the other hand, banks that integrate their advanced systems with fintech greatly improve client loyalty, happiness and dependability. Besides, as fintech businesses proliferate, banks emphasize the integration of advanced technology, which is essential for enhancing internal processes and bolstering the efficacy of financial goods. Consequently, the bank's internal procedure has become more efficient than it was previously. Although the emergence of fintech companies may result in dissatisfaction among bank workers, the implementation of additional training courses and development programs might assist them in resolving this problem. Overall, the expansion of fintech companies yields numerous advantages for both bank staff and banks. The financial success of banks is ultimately determined by the four previously outlined views. The research indicates that bankers integrating conventional core services with advanced fintech solutions can improve their performance regarding profitability, growth, and shareholder value.

However, the study contains several limitations. Notwithstanding the application of a 3-round Delphi approach, participants did not have the opportunity to collaboratively discuss and deliberate on the orientation questionnaire. Furthermore, the discrepancy in participants' replies suggests that psychological variables might influence the final results. Although the interview results were compiled and presented according to the predominant opinions of the respondents, there was a notable absence of consensus among experts and scholars concerning the expansion of fintech businesses and the essential aspects of the four dimensions of bank performance. The study is accessible for further research to statistically examine the direct and indirect effects of fintech expansion on bank achievements, encompassing both good and negative outcomes.

Future research could expand on this study by incorporating a larger and more diverse group of participants, enabling more comprehensive discussions and enhancing the reliability of results. Furthermore, while this study focused on qualitative insights, there is a significant opportunity for future studies to quantitatively assess the direct and indirect effects of fintech growth on bank performance. A quantitative analysis could provide a clearer understanding of the specific mechanisms through which fintech influences various aspects of bank performance, both positive and negative. Lastly, additional research could explore the role of psychological and organizational factors in shaping expert opinions and bank performance outcomes in the context of fintech expansion, offering a more comprehensive insight into the dynamic between fintech and traditional banking.

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