Analysis of The Impact of Fintech on The Development of Small and Medium-Sized Banks

Haoyu Wang*

School of International Education, Guangdong University of Finance, Guangzhou, Guangdong, China

*22281i120@m.gduf.edu.cn

Abstract. In the digital era, fintech development has driven profound changes in the traditional financial industry, a trend that has attracted widespread attention. Most of the existing studies illustrate the impact of fintech based on the perspective of large banks, but the role of medium-sized and minuscule banks in the banking system cannot be ignored. Therefore, this paper examines the impact of fintech from the perspective of small and medium-sized banks, and studies the practical application of fintech in medium-sized and tiny banks under three dimensions. FinTech has a major impact on the development and transformation of medium-sized and minuscule banks, and capitalizing on development prospects in the digital world is essential for enhancing their competitiveness. The contribution of this paper lies in focusing on medium-sized and tiny banks, systematically sorting out and integrating dispersed research results, deepening the discussion on the impact of FinTech, and providing richer theoretical support for subsequent research. At the same time, by providing specific application cases of FinTech in medium-sized and minuscule banks, this paper delivers practical references for banks facing transformation challenges in order to promote their digital upgrading and growth that is sustainable.

Keywords: fintech; small and medium-sized banks; digital transformation.

1 Introduction

In recent years, the rapid development of financial technology has profoundly reconfigured the ecology of the global banking industry. The extensive application of mobile payment, blockchain, artificial intelligence and big data technologies has given rise to new financial formats. In order to obtain limited market resources, head banks and financial institutions have accelerated the squeeze on the survival space of small and medium-sized banks. At the same time, small and medium-sized banks, as the core force to serve the regional economy and small and medium-sized enterprises, have significant differences in technology investment, data processing, and talent reserves with large banks, and this contradiction highlights the necessity of FinTech for the transformation of banks that are tiny and middle size [1].

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B. Siuta-Tokarska et al. (eds.), *Proceedings of the 2025 3rd International Academic Conference on Management Innovation and Economic Development (MIED 2025)*, Advances in Economics, Business and Management Research 348,
https://doi.org/10.2991/978-94-6463-835-6_18

In the current discussion around the development of fintech on banks, part of the research focuses on the changes generated by digital finance on the traditional banking industry, and the future risks [2]. Another part of the research focuses on how to improve the profitability index of the banks themselves in the digital era, by calculating the relationship between fintech and commercial bank efficiency through a large model [3]. However, most of the existing literature is based on the perspective of large banks and fails to adequately consider the distinctive features of petite and medium-sized banks, and in order to demonstrate the influence of fintech on the growth of small and medium-sized banks, this study attempts to synthesize the disparate research findings.

This study examines how financial technology has affected medium-sized and tiny banks' growth, investigates how fintech may be used practically to support medium-sized and tiny banks' growth in the three areas of business development, the system appropriate strategic layout, and their own technological innovation, and briefly describes the future development trend of medium-sized and tiny banks, indicating the core role of financial technology in the development of medium-sized and tiny banks. The contribution of this paper is to integrate the relevant literature based on banks that are tiny and middle size, to discuss the application of FinTech and banks that are tiny and middle size from different dimensions, and to further improve the discussion on the change of the banking industry in the existing literature.

2 Fintech Empowers Small and Medium-Sized Banks in Credit and Risk Management

Banking plays an inseparable role in a bank's own development, and quality business capabilities are not only conducive to profitability in a competitive marketplace, but are also the basis for the steady functioning of its financial system. At the same time, banking plays an essential role in maintaining the socio-economic order. Through the daily flow of funds, the bank not only promotes the virtuous circle of the social economy and ensures the continuous operation of transactions, but also optimizes the allocation of funds and improves the stability and risk resistance of the economic system.

Mergaerts et al. suggested that banks not only achieve optimal allocation of funds but also promote liquidity in the economy by taking deposits, granting loans, and providing payment and settlement services [4]. For the banks themselves, business is the basis for their survival and development. By diversifying their business models, banks can make profits, manage risks and enhance their competitiveness in the market. Therefore, the health of the bank's business is directly related to its profitability and long-term sustainability. Hanafizadeh et al. through a study of banking operations, proposed that seven operations should be the main components of a general business model for banks: risk management, transaction and reconciliation management, loan management, fund management, banking operations management, off-balance sheet activities management, and application development [5]. Small and medium-sized banks are an important component of the financial system and play an irreplaceable function in supporting regional economic development. Hakenes et al. suggest that from urban commercial banks to rural credit unions, these institutions, with their deep understanding of

the local market, serve local businesses and residents, develop the regional economy, and carve out a unique space for development in areas that are under-covered by large banks [6]. It is evident that banks of small and medium sizes fall short of giant banks in terms of technical proficiency, brand influence, etc. However, small and medium-sized banks are able to satisfy the financing needs of small and medium-sized enterprises and individuals more flexibly, and have special benefits for supporting small and medium-sized businesses and the local economy. Therefore, the development of a lending business is particularly important for banks that are tiny and middle size. In order to adjust to the development requirements of the digital era, one of the main priorities is for medium-sized and tiny banks to depend on financial technology to enhance their risk tolerance and optimize the structure of the loan supply.

Fintech optimizes the credit supply structure of medium-sized and tiny banks. In order to verify whether the increase in the level of financial technology affects the credit support and risk control of small and medium-sized banks to small and micro enterprises, Su Qin and Yang Jinglu collected business samples from 117 small and medium-sized banks, and by constructing a large model with the supply of small and medium-sized credit of the bank as a variable, they came up with conclusions such as the electronic channel plays an intermediary role in promoting the supply of credit to small and medium-sized enterprises [7]. Relying on fintech, medium-sized and tiny banks have enhanced their structure for loan supply., focusing on micro and small enterprises and the regional economy, and have optimized their business processes to promote symbiotic development with micro and small enterprises. In addition, Hryckiewicz et al. found that the business activities of commercial banks generate many systemic risks that affect the profitability level of banks [8]. However, banks that are tiny and middle size, due to the smaller amount of data, are more likely to form a detection-governance-prevention, a chain of risk control methods through the use of financial technology, which effectively helps medium-sized and tiny banks to control the risks arising from their business, improves their own risk-bearing level, and satisfies tiny and medium-sized banks' requirements for sustained growth.

3 Fintech Helps Optimize the Strategic Layout of Small and Medium-Sized Banks

With the advent of the digital age, the impact on the traditional banking industry, “big banks to serve large enterprises, small banks to serve small businesses” division of labor pattern [1].In the fierce market competition, large banks and head financial institutions are gradually squeezing the survival area of banks that are tiny and medium-sized. For banks that are tiny and medium-sized, fintech is not only a technology tool but also a key player in clarifying strategic objectives. Through the in-depth application of financial technology, banks that are tiny and medium-sized can precisely understand what their clients require, clearly define their market positioning, formulate differentiated development strategies, and win a place in the fierce market competition.

The emergence of fintech is bringing about a shift in the traditional financial industry. According to Walker et al. the mature application of technologies such as Big Data,

Artificial Intelligence, and Blockchain has made the financial industry no longer limited by time and space [9]. The booming development of FinTech is both a technology-driven necessity and inseparable from the dual role of policy guidance and market demand [10]. On the one hand, the diversification of international regulatory models has improved fintech in different dimensions and made it applicable to different national conditions. Gao suggests that the main advantage of fintech in the US lies in the innovation of the underlying technology, while the advantage of fintech in China lies in the potential for large-scale application and growth in market demand, and that fintechs converge with each other to drive further development [11].On the other hand, the "Law of Two or Eight" of traditional finance is failing - the headline customers are monopolized by big banks, while the needs of the tail market have not been met for a long time. Therefore, it is crucial to understand the needs of the market and formulate an appropriate strategic layout.

Fintech provides small and medium-sized banks with powerful customer insights. Barbu et al. categorized customer satisfaction into multiple dimensions using Partial Least Squares Equation Modeling (PLS-SEM) and found that innovative behaviors such as perceived value, bank support to customers, reassurance, and speed of transaction are positively associated with customer experience in FinTech [12]. Through big data analysis, banks can accurately understand customers' financial needs and behavioral characteristics. Banks may record shifts in client demands in real time by utilizing artificial intelligence technologies and providing personalized product recommendations and service solutions.

Fintech is reshaping the strategic landscape of banks of modest to moderate size. On the one hand, financial technology gives banks of modest to moderate size a unique competitive advantage in the market, and the application of high and emerging technology makes medium-sized and tiny banks change their strategic layout according to the actual market demand, so as to establish professional advantages in different fields. Large banks are slow to transform due to their own large data volumes and cannot fully adapt to changing market demands [13]. On the other hand, fintech has altered banks' organizational structures, and by building an open banking platform, banks that are tiny and medium-sized and financial companies cooperate with each other to achieve resource integration and value co-creation. Transformation to digital enables banks that are tiny and medium-sized to break through geographical restrictions, expand online service channels and improve service efficiency [14].

The use of fintech is opening up a new space for banks of middle and small sizes to grow. In the future, it is necessary for middle- and small-sized banks to keep investing more in financial technology, deepen the integration of technology and business, find their position in digital transformation, and build differentiated competitive advantages. Only by deeply integrating fintech into the strategic layout can small and medium-sized banks grasp the opportunities in the wave of change in the banking industry and realize high-quality development.

4 Fintech Prompts Technological Innovation in Small and Medium-Sized Banks

For banks that are tiny and medium-sized, fintech is both a challenge and an opportunity. Digital transformation is no longer a matter of choice, but a necessary choice for survival. Through the introduction of fintech, banks of modest and medium size can break through the limitations of physical outlets, improve service efficiency and reduce operating costs [15]. More importantly, technological empowerment can assist small and medium-sized banks in converting their regional advantages into unique competitive advantages. For example, the use of big data technology to deeply explore regional economic characteristics, accurately identify customer needs, and then develop financial products with local characteristics; optimize credit decision-making through an intelligent risk control system to effectively reduce business risks. Fintech not only plays an important role in enhancing the operational efficiency and service capabilities of small and medium-sized banks, but has also become a critical enabler for their digital transformation and sustainable development.

Against the backdrop of the wave of digitization sweeping the global financial industry, banks of modest and medium size and fintech companies are forming a development pattern of deep synergy. In contrast to major financial institutions, banks of modest and medium size, with relatively limited data size, flexible organizational structure and other characteristics, in the process of digital transformation, show a unique "lightweight" advantage, through the integration of technology and model innovation to achieve a leapfrog upgrade of the technical architecture [16].

The innovation of digital technology, on the one hand, has enabled medium-sized and tiny banks to integrate with each other online and offline, to adopt a decentralized banking structure, to build information systems and to improve their organizational structure through technologies such as big data. Wei et al. study indicated that the organic integration of online and offline channels is not only to move the original offline business online, but also through the business product scenario, channel digitization, abandonment of traditional business processes, and intelligent analysis system, four aspects [17]. The integration of online and offline is the development needs of medium-sized and tiny banks according to their own characteristics, and the formation of a staggered competition with large banks to form their own competitive advantages. On the other hand, IT technologies such as blockchain are widely used in digital currency transactions, which is a simple and efficient technology that improves the efficiency of transactions and reduces transaction costs by eliminating the need for intermediary entities by transacting between secure networks [18]. What's more, technologies such as blockchain give digital currencies encryption algorithms that protect sensitive user information while verifying the legitimacy of transactions. This Fintech-driven IT revolution has not only helped small and medium-sized banks break through the limitations of physical outlets but also reconstructed their service ecology. As 5G, artificial intelligence and other technologies are deeply applied, small and medium-sized banks are expected to open up differentiated development paths in areas such as open banking and scenario-based finance through continuous iterative technological updates, injecting stronger financial kinetic energy into the actual economy's progress.

5 Conclusion

An overview of the effects of FinTech from the viewpoint of tiny and medium-sized banks is given in this study. Research shows that the evolution of financial technology is applied to medium-sized and tiny banks in multiple dimensions: first, the combination of financial technology and credit business optimizes the structure of credit supply and increases the amount of risk that small and medium-sized banks may take on; second, financial technology helps small and medium-sized banks to clarify the strategic layout, opens up a new space for medium-sized and tiny banks to develop, and builds up a differentiated competitive advantage; third, financial technology prompts small and medium-sized banks to innovate their IT technology, expanding the access to raw data, improve transaction speed and protect customer transaction security. Therefore, FinTech plays an important role in the growth of tiny and medium-sized financial institutions and is a key factor for them to wrestle success in the digital era.

By summarizing the dispersed articles, this paper completes the research on the impact of FinTech on small and medium-sized banks, breaks through the limitation of the existing research focusing on the impact of a single aspect, and shows future researchers the impact of FinTech from the perspective of small and medium-sized banks, which is not only confined to the head banks, and at the same time provides suggestions for the small and medium-sized banks in the transition crisis. The current study fails to fully sort out the differences in the actual application of FinTech and whether it has a positive impact on small and medium-sized banks, and future research should allow for an in-depth discussion of the topic based on current developments in FinTech.

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