Financial Economics Research; Vol.2, No.3; 2025
E-ISSN: 3006-3663 P-ISSN: 3006-3655
DOI: https://doi.org/10.70267/fer.250203.7883
Published by: Zeus Press

Analysis of the Impact of Financial Technology on Enterprise Digital Transformation

Zhihan Liu*

School of International Trade and Economics, Central University of Finance and Economics, Beijing, China

**Corresponding author: Zhihan Liu, E-mail: 2023311212@email.cufe.edu.cn.*

Abstract

In the context of COVID-19, the offline operations of entity enterprises have been restricted, which has stimulated the inevitable requirements for digital transformation. This essay comprehensively reviews several papers that focus on the impact of financial technology on the digital transformation and development of enterprises. Research has shown that on the financing side, financial technology uses a big data credit information system to alleviate financing constraints and promote the growth of commercial credit and insurance technology innovation. In resource management, it improves the total factor productivity of enterprises by reducing information costs and optimizing factor allocation. At the risk prevention and control level, companies rely on big data and cloud computing technology to control insurance accurately. In terms of value promotion, it can overcome technical limitations, optimize processes, and provide support for enterprise transformation. However, technicians still need to deepen their efforts in the field to find a balance between the adaptability of financial technology and corporate business, the supply of professional talent and risk control, and the promotion of the steady implementation of transformation.

Keywords

digital transformation; financial technology; risk prevention and control

1. Introduction

In 2020, during the COVID-19 pandemic, many companies faced high bankruptcy risk because of their inability to fulfill short-term or long-term debt. During such crises, companies that can effectively identify, manage, and mitigate risks have a relatively high probability of survival (Slamet et al., 2023). Many offline enterprises urgently need to find a new way out, and digital transformation is particularly important for enterprises in this period. With the rapid growth of China's economy and the proposal of the 13th Five-Year Plan, science and technology are widely used in all fields. Financial technology can not only provide enterprises with more convenient and efficient financing channels but also identify potential risks and make plans to stimulate the innovation and vitality of enterprises. To keep pace with the pace of the times and avoid repeating the same mistakes, exploring the impact of financial technology on the digital transformation of enterprises is highly important.

Previous research has made remarkable achievements and discoveries in the field of financial technology. Financial technology innovation can not only effectively improve the total factor productivity of entity enterprises but also promote the transformation and upgrading of China's entity economy (Luo et al., 2022). Moreover, fintech companies have intensified competition in the financial market and can provide services that are less efficient or completely uninvolved in traditional financial institutions (Vives, 2017). However,

existing research in the academic community is generally limited to the help of financial technology in human resource management and reducing systemic risk in enterprises. This research cannot address the problem of offline risk caused by the epidemic. In the field of enterprise digital transformation, past research has clearly stated that in the digital world, technology itself is only one of the complex problems that organizations must solve to maintain competitiveness. Strategic and organizational change, including changes in organizational structure, processes, and culture, is necessary to generate new paths for value creation. Although the academic community has conducted much research in a single field, such as technology application, strategy formulation, and organizational change in the digital transformation of enterprises, there are still obvious gaps in the field of combining financial technology and enterprise digital transformation. With the advantages of big data risk control and intelligent financing, financial technology could have played a key role in financial support and risk control for enterprise transformation. However, the relevant research currently discusses the two in isolation and lacks a systematic analysis of the transformation and coordination mechanism of financial technology empowerment. This gap also makes corporate practice lack theoretical guidance and urgently needs to be filled.

This paper aims to explore the development and impact of financial technology on the digital transformation of enterprises from four aspects: financing methods, resource management, risk prevention and control, and corporate value. Through comprehensive research, this article provides a decision-making reference for relevant policymakers and promotes the benign interaction and coordinated development of financial technology and enterprises' digital transformation.

2. Enterprise Transformation During an Epidemic

Since 2020, the global spread of the epidemic has brought unprecedented survival challenges to all walks of life. The difficulties caused by the epidemic, such as lockdown control, supply chain disruption, and shrinking consumer demand, have caused many companies to face the dilemma of fund flow breaks. As a result, many offline physical stores were forced to close due to a lack of customers, and the manufacturing industry was unable to operate normally due to a shortage of raw materials. Against this background, many companies are unable to repay short-term debt and are unable to bear the repayment pressure of long-term investment projects, and the risk of corporate bankruptcy has risen sharply. According to statistics, China's economic development slowed significantly during this period, with GDP growing by 6.1% annually in 2019. Affected by the epidemic, GDP decreased by 6.8% annually in the first quarter of 2020(Liu, 2020). For most enterprises that have long relied on offline models, the impact of the epidemic has made them deeply aware that traditional business models already have difficulty coping with crises, and digital transformation has become the only way to break the deadlock.

The accelerated advancement of digital transformation is inseparable from the dual driving force of policy support and technological development. As China's economy enters a stage of high-quality development, the 13th Five-Year Plan clearly lists “scientific and technological innovation” as its core development strategy and promotes the penetration of new generation information technologies such as big data, artificial intelligence, and cloud computing to all industries. Against this background, the digital transformation of enterprises is no longer limited to simple “offline to online”. As a type of technology-driven financial innovation, financial technology not only provides enterprises with financing support that is difficult for traditional financial institutions to match but can also monitor enterprise operating data in real time through intelligent risk control systems and identify potential capital chain risks, market risks, etc. Fintech can also generate risk warnings and response plans in advance to help enterprises avoid business traps. In addition, the digitalization of supply chain finance and cross-border payment facilitation services created by financial technology can also encourage enterprises to optimize capital turnover efficiency.

From alleviating short-term survival pressure to supporting long-term development, the deep integration of financial technology and enterprise digital transformation has become an important engine for corporate recovery since the pandemic. Therefore, an in-depth discussion of how financial technology affects the digital transformation process of enterprises can provide not only an important reference for enterprises in response to crises but also theoretical support for promoting the integrated development of the digital economy and the real economy and has important practical significance and academic value.

3. Fintech Promotes the Digitalization of Enterprises

As the core force driving the digital transformation of enterprises, financial technology injects strong momentum into corporate change from multiple key dimensions. This study focuses on financial technology and analyzes the synergy between the four influencing factors. The digital transformation process of enterprises has accelerated, laying a solid foundation for the development of enterprises in the digital era.

3.1 Changing the Traditional Financing Method

First, fintech has changed the traditional method of corporate financing. Lyu et al. (2023) used data from China's A-share nonfinancial listed companies from 2011--2018 and reported that financial technology can alleviate the financing constraints of enterprises. Financial technology injects impetus into the digital transformation of enterprises through the reconstruction of traditional financing models. It relies on big data credit reporting to break information barriers, allowing enterprises, especially SMEs, to eliminate their dependence on traditional collateral and quickly obtain financing through online and intelligent processes to solve the transformation fund gap. Lee and Shin (2018) reported that fintech companies that focus on payments can quickly acquire customers at lower costs and are among the fastest growing companies in innovation and adoption of new payment capabilities. Moreover, financial technology is also promoting the development of commercial credit. The impact of financial technology on corporate financing types has been investigated. Enterprises facing financing constraints obtain more commercial credit and bank loans under conditions of high internal control quality, but this effect is not obvious for enterprises with low internal control quality. When companies face credit rationing or difficulty in obtaining bank loans, commercial credit has become an alternative financing method for bank loans, promoting the transfer of credit resources from traditional mortgage guarantees to corporate commercial credit (Lee & Shin, 2018). With the continuous development of financial technology, the contradiction between the financing model that traditional commercial banks rely on and the financing needs of emerging enterprises is constantly increasing. To overcome the isolation of many of today's fintech models, interoperability between the fintech system and the traditional core banking system must be addressed. New business models emerge at these interfaces, which further drive fintech movement at the network level (Alt et al., 2018). In addition, financial technology affects the development of insurance technology. An increasing number of insurance companies, such as Tesla, are using AI big model algorithms to formulate personalized insurance services. New financing provides stable and sustainable financial support as an important channel for enterprises to obtain funds, which not only enhances a company's capital strength but also significantly improves its ability to deal with sudden risks.

3.2 Optimizing Resource Management

On the one hand, financial technology uses big data, artificial intelligence, and other technologies to reduce the information costs associated with information asymmetry, allowing enterprises to obtain and process information more efficiently in financing, supply chain collaboration, and other links and clearing obstacles for financial support and business collaboration in digital transformation. On the other hand, by optimizing resource allocation efficiency, financial technology guides capital, data, and other factors to flow into areas where digital transformation needs are concentrated. Moreover, its own technological empowerment can also improve the total factor productivity of real enterprises, promote the digital transformation process of enterprises from the dual dimensions of resource utilization and efficiency improvement, and help the transformation and upgrading of the real economy. The research results show that financial technology affects the transformation of the real economy through two main paths: information cost and resource allocation. Financial technology innovation can effectively improve the total factor productivity of real enterprises and promote the transformation and upgrading of China’s enterprise economy (Luo et al., 2022).

3.3 Improving Risk Prevention and Control Capabilities

Financial technology can not only use big data to integrate internal and external information but also AI algorithms to predict risks and break information asymmetry but also rely on cloud computing and the Internet of Things to realize real-time data monitoring and dynamic early warning, capture sudden risks in transformation in a timely manner, reduce trial and error costs, and increase enterprises' confidence in promoting digital transformation. Previous research has shown that the random forest algorithm based on decision trees has developed a new AI algorithm that can accurately predict the financial risk of financial

enterprises for a new risk management framework for financial technology enterprises, improving the prediction accuracy and detection speed. This means that fintech companies can predict and manage financial risk more accurately and respond more quickly to achieve recall and performance balance (Liu, 2024). In addition, better risk response requires not only technological innovation but also the ability to master risk response procedures, master large models, and use AI functions. For example, when market risk arises, business operators need to provide real-time business data as soon as possible, and information technology personnel need to use big data analysis technology to explore potential risk factors. Risk management experts formulate risk control strategies on the basis of the analysis results to achieve rapid information circulation and efficient decision-making (Huang, 2025). The ability of an enterprise to deal with emergencies is the core of its risk prevention, which can enable the enterprise to use system mechanisms to minimize losses in the event of a crisis and ensure survival and smooth transition.

3.4 Increasing Overall Corporate Value

Finally, the introduction of fintech helps overcome the limitations of the initial technical level and significantly enhances the value of partners, especially SMEs. This strategic application enables companies to simplify processes, increase productivity, optimize resource allocation, control costs through existing fintech solutions and free funds for innovation (Liu, 2024). This value enhancement not only provides financial guarantees and technical tools for enterprises to transform digitally but also enhances their motivation and ability to promote transformation and accelerate the transformation process. In addition, the integration of fintech reduces the need for manual operations, allowing employees to focus on high-value-added activities (Ma & Wang, 2024). Dimbean-Creta believes that existing financial institutions have long-term investments in IT, so they may promote the upgrading of their own technology and services by learning financial technology (Takeda & Ito, 2021).

4. Challenges

4.1 Talent Shortages

The source of company competitiveness has shifted from tangible material resources to intangible resources derived from the knowledge they possess, relationships with customers and business partners, brands, organizational culture, or management methods (Wójcik, 2018). Talent has gradually become an important part of a company's core competitiveness. Fin-tech talent refers to innovative talent engaged in the research and development of scientific and technological achievements, the transformation of results, expanding financial breadth, and improving financial efficiency. Therefore, in the field of financial technology, compound talent is needed. It is necessary to integrate digital skills, business acumen, and management skills (Mei et al., 2018). At present, this type of talent is in short supply in the market, which greatly hinders the path of the digital transformation of enterprises. In addition, if an enterprise wants to cultivate compound talent on its own, it needs to formulate a comprehensive training plan covering knowledge in multiple fields, such as finance, technology, and business. This approach not only takes a long time but also has high training costs. Moreover, trained talent may be lost due to fierce industry competition, further increasing the cost and risk of enterprise talent training.

4.2 Technical Problems

Technology in the field of financial technology is changing with each passing day, and enterprises need to continue to invest many funds and people in technology R&D, updates, and maintenance to keep up with the pace of industry development. Moreover, some advanced financial technologies may face problems of performance bottlenecks and high technical complexity in actual applications. When enterprises integrate these technologies into their own business processes, they need to invest many resources in technical research and system debugging, which increases the cost and risk of transformation. Although the innovation and development of financial technology have brought profound changes to the financial industry, the increase in its technological complexity is not the core standard for measuring its value. Excessive pursuit of technological complexity may deviate from the essential goal of financial services. For example, in production enterprises, to be effectively implemented in crucial production workshops, technology must maintain strict logic and statistical simplicity (Shainin, 1993).

5. Conclusion

This study systematically explores the impact of financial technology on enterprise digital transformation around the actual needs of enterprises against the background of the epidemic. Research has shown that as the core force of technology empowerment, financial technology promotes the transformation process through four dimensions: financing methods, resource management, risk prevention and control, and corporate value. However, financial technology drives the digital transformation of enterprises, which still face dual challenges, increasing the cost and uncertainty of enterprise transformation. Notably, when exploring the impact of financial technology on enterprise digital transformation, this article focuses on only four core dimensions to analyze it and has not yet thoroughly explored other key elements in this complex impact process. From the perspective of the continuity and expansion of academic research, future related research can further expand the exploration boundaries from multiple dimensions, such as paying attention to the differentiated impacts in different situations, such as comparing the differences in the effects of financial technology on digital transformation in different industries, enterprises of different sizes, and regions.

In summary, financial technology provides key support for the digital transformation of enterprises, but it is necessary to seek a balance between technology adaptability, talent supply, and risk control. Policy makers should focus on the core pain points of financial technology, empowering enterprises' digital transformation. On the one hand, they encourage colleges and universities to cultivate compound talent and support universities in scientific research and innovation development; on the other hand, they optimize technical support policies, encourage the research and development and application of "lightweight" technologies with strong adaptability, lower the access threshold for SMEs, strengthen dynamic supervision and effect evaluation to balance innovation and risk and promote the deep integration of the digital economy and the real economy.

References

Alt, R., Beck, R., & Smits, M. T. (2018). FinTech and the transformation of the financial industry. *Electronic Markets, 28*(3), 235-243. https://doi.org/10.1007/S12525-018-0310-9

Huang, J. (2025). Research on the innovation of bank risk management in the context of FinTech development. *China Electronics Business, 31*(14), 55-57.

Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons, 61*(1), 35-46. https://doi.org/10.1016/J.BUSHOR.2017.09.003

Liu, C. (2020). The Impact of the COVID-19 Pandemic on the Macroeconomy. *Statistics and Application, 9*, 862.

Liu, Y. (2024). Discussion on the enterprise financial risk management framework based on AI FinTech. *Decision Making: Applications in Management and Engineering, 7*(1), 254-269. https://doi.org/10.31181/DMAME712024942

Luo, S., Sun, Y., Yang, F., & Zhou, G. (2022). Does FinTech innovation promote enterprise transformation? Evidence from China. *Technology in Society, 68*, Article 101821. https://doi.org/10.1016/J.TECHSOC.2021.101821

Lyu, Y., Ji, Z., Zhang, X., & Zhan, Z. (2023). Can FinTech alleviate the financing constraints of enterprises?—Evidence from the Chinese securities market. *Sustainability, 15*(5), Article 3876. https://doi.org/10.3390/SU15053876

Ma, X., & Wang, M. (2024). The impact of the use of FinTech on enterprise value. *Highlights in Business, Economics and Management, 24*, 1514-1520. https://doi.org/10.54097/TZ91RC08

Mei, S., Peiguang, L., & Xiushan, N. (2018). *Research on FinTech industry development and talent training status* [Paper presentation]. 13th International Conference on Computer Science and Education, ICCSE 2018, Colombo, Sri Lanka.

Shainin, R. D. (1993). Strategies for technical problem solving. *Quality Engineering, 5*(3), 433-448. https://doi.org/10.1080/08982119308918984

Slamet, A. C., Christiana, A., & Kurniawati, H. (2023). Enterprise risk management and firm value: Evidence of Indonesia before and during Covid-19. *E3S Web of Conferences, 426*, Article 42602051. https://doi.org/10.1051/E3SCONF/202342602051

Takeda, A., & Ito, Y. (2021). A review of FinTech research. *International Journal of Technology Management, 86*(1), 67-88. https://doi.org/10.1504/IJTM.2021.115761

Vives, X. (2017). The impact of FinTech on banking. *European Economy, 2*, 97-105.

Wójcik, P. (2018). Shortage of talents – A challenge for modern organizations. *International Journal of Synergy and Research, 6*, 123-123. https://doi.org/10.17951/IJSR.2017.0.6.123

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

Acknowledgment

This paper is an output of the science project.

Copyrights