

Research on the Impact of Financial Technology on Innovation in the Financial Industry

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Abstract: Financial technology, as an important development trend in the current financial field, is profoundly changing the ecology and landscape of the financial industry. This paper comprehensively explores how financial technology reshapes financial business processes, enhances service efficiency, improves customer experience, and analyzes its key role in promoting the transformation and upgrading of the financial industry and preventing financial risks through an in-depth study of the nature of financial technology, its technical foundation, and its multidimensional impact on innovation in the financial industry.

Keywords: financial technology; financial industry; innovation; business processes; risk prevention and control

Introduction

With the rapid development of information technology, financial technology has become a significant force driving innovation in the financial industry. By utilizing cutting-edge technologies such as big data, cloud computing, blockchain, and artificial intelligence, it has brought unprecedented changes to the financial industry. This paper will start with the connotation and extension of financial technology, and analyze in detail its profound impact on innovation in the financial industry, aiming to provide useful references for the sustainable development of the financial industry.

1. The Essence and Characteristics of Financial Technology

Financial technology, commonly known as Fintech,

refers to the use of technological means to drive innovation in the financial industry. It integrates advanced technologies such as big data, cloud computing, blockchain, and artificial intelligence, providing the financial industry with more efficient, convenient, and secure services. The characteristics of financial technology mainly manifest in the following aspects: (1). Technology-Driven: Financial technology is driven by technology, with science and technology at its core to promote the upgrading of financial services. (2). Strong Innovation: It constantly explores and tries new financial service models, showing a high degree of innovativeness. (3). Customer Experience Priority: Financial technology prioritizes customer experience, taking into consideration and addressing customer needs as the starting and ending points.



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2. Financial Technology's Multidimensional Impact on Innovation in the Financial Industry

2.1 Reshaping Business Processes

One of the most intuitive and significant impacts of financial technology on innovation in the financial industry is the reshaping of business processes. Traditional financial business processes, especially in areas such as loan approval, fund transfers, and securities trading, often involve large volumes of paper documents, manual verification, and complex operational procedures. These processes are not only cumbersome but also inefficient and error-prone, severely constraining the speed and quality of financial services. The application of financial technology, particularly the introduction of automation and intelligence, fundamentally changes this situation.

Firstly, by adopting advanced imaging technology and recognition algorithms, a large number of paper documents are digitized, enabling rapid input, storage, and retrieval of information. This not only saves a considerable amount of physical storage space but also greatly improves the efficiency of information processing. Secondly, the use of smart contracts and blockchain technology enables the automation of the execution and verification processes of financial transactions. Smart contracts are computer programs that automatically execute contract terms when predefined conditions are met, eliminating the need for human intervention. Blockchain technology provides a decentralized, secure, and trustworthy platform for these transactions, ensuring the immutability and traceability of transaction data. Additionally, financial technology also promotes the standardization and modularization of business processes^[1]. By decomposing complex business processes into a series of standardized operational modules, financial institutions can more flexibly combine and adjust these modules to adapt to constantly changing market demands. This modular design not only enhances business flexibility and scalability but also reduces operational costs and improves service quality.

2.2 Innovation in Service Models

Financial technology demonstrates its powerful driving force in the innovation of service models, prompting the financial industry to transition from traditional

offline service models to online service models. This transition is not merely a matter of changing service channels but entails a profound change in the concept, methods, and means of financial services. Firstly, through technologies such as the internet and mobile applications, financial institutions can break through the limitations of time and space, providing customers with round-the-clock, comprehensive financial services. Customers no longer need to visit physical branches or wait for specific business hours; they can access financial services anytime, anywhere through computers, mobile phones, or other smart devices to conduct operations such as fund inquiries, transfers, and investments. This convenience greatly enhances the customer experience and reduces the operating costs of financial institutions. Secondly, financial technology promotes the emergence of new service models such as robo-advisors and chatbots. Robo-advisors utilize big data and artificial intelligence technologies to provide personalized investment advice and asset allocation plans to customers. It can formulate suitable investment strategies based on customer risk preferences, investment goals, and market conditions, as well as monitor market dynamics in real-time to adjust investment portfolios promptly, thereby reducing investment risks and increasing returns. Chatbots, on the other hand, utilize technologies such as natural language processing and machine learning to achieve intelligent interaction with customers, quickly responding to and addressing customer issues and needs. Additionally, financial technology also drives the design of scenario-based financial services. By collaborating with e-commerce, social platforms, and other platforms, financial institutions embed financial services into customers' daily life scenarios, meeting customers' financial needs in different scenarios. For example, in the shopping scenario, customers can directly use payment services provided by financial institutions for shopping settlements; in the travel scenario, customers can book hotel rooms, flights, and other services through financial institution apps. This scenario-based financial service model not only enhances the customer experience but also expands the business scope and market share of financial institutions.

2.3 Innovation in Product Design

Financial technology has brought unprecedented

opportunities for innovation in financial product design. Traditional financial product design is often based on limited market research and empirical judgment, making it difficult to fully and accurately grasp customer needs. However, with the rapid development of big data and artificial intelligence technologies, financial institutions are able to delve deeper into and analyze customer data, providing a more scientific basis for financial product design.

Specifically, financial institutions can utilize big data analytics technology to delve into massive data such as customer consumption behavior, investment preferences, and credit records to reveal customers' real needs and potential risks. For example, in credit card product design, financial institutions can customize credit limits, repayment terms, and other terms for customers based on data analysis of their shopping habits and repayment records, thereby providing more personalized services. At the same time, artificial intelligence technology also plays an important role in financial product design. By constructing intelligent algorithm models, financial institutions can simulate customer decision-making processes and predict customer reactions to different product features^[2]. This helps financial institutions to fully consider customer needs at the product design stage and avoid risks that may arise after blindly launching products into the market. Additionally, financial technology also drives the scenario-based design of financial products. With the popularization of technologies such as mobile payments and smart homes, the application scenarios of financial products are becoming increasingly diverse. Financial institutions need to design corresponding financial products for different scenarios to meet customers' actual needs. For example, in the travel scenario, financial institutions can introduce specialty products such as travel insurance and foreign exchange services to provide customers with comprehensive financial services.

2.4 Transformation and Upgrading of the Financial Industry

Financial technology is profoundly driving the transformation and upgrading of the financial industry, bringing new growth points and profit models to the industry, and promoting cross-industry cooperation

and deep integration among financial institutions, thereby breaking down the barriers and limitations of traditional finance.

Firstly, financial technology injects new vitality into the financial industry, giving rise to many emerging formats. Internet finance is a prominent example, utilizing internet platforms and technology to achieve widespread coverage and efficient operation of financial services. Internet finance not only lowers the threshold for financial services but also improves the precision and convenience of financial services through technologies such as big data and cloud computing. Another highlight is mobile payment, which facilitates payments anytime, anywhere through smartphones and other terminal devices, greatly facilitating people's lives. The emergence of these emerging formats brings new growth points to the financial industry and drives its sustainable development. Secondly, financial technology promotes cross-industry cooperation and integration among financial institutions. Traditional financial industries often have strict business boundaries and competitive relationships, while financial technology breaks down these barriers and promotes cooperation and win-win situations among financial institutions. For example, banks, insurance companies, securities firms, and other financial institutions can cooperate through financial technology platforms to jointly develop comprehensive financial products and services to meet the diverse financial needs of customers. This cross-industry cooperation not only enhances the comprehensiveness and convenience of financial services but also strengthens the market competitiveness of financial institutions.

Furthermore, financial technology also drives the digital transformation of the financial industry. By utilizing technologies such as big data and artificial intelligence, financial institutions can achieve automation and intelligence in business processes, improving operational efficiency and risk control capabilities. Digital transformation not only reduces the operating costs of financial institutions but also enhances customer experience and service quality.

2.5 Prevention and Mitigation of Financial Risks

Financial technology demonstrates its unique advantages and value in the prevention and mitigation of financial risks. Traditional risk assessment and

management methods are often based on historical data and human judgment, which can be subjective and lagging. However, with the introduction of financial technology, especially big data and artificial intelligence technologies, financial institutions can collect, process, and analyze massive data in real-time, thus more accurately assessing risks and predicting market trends. Specifically, the application of big data technology allows financial institutions to have a comprehensive understanding of customers, including their credit records, asset conditions, and transaction behaviors. By building accurate risk assessment models, financial institutions can promptly identify potential risk points, such as credit risks and market risks, and then take effective risk management measures. Additionally, artificial intelligence technology can assist financial institutions in fine-tuning risk management^[3]. Through machine learning and deep learning algorithms, financial institutions can deeply mine historical data to identify patterns and trends in risk occurrences, thus formulating more precise risk management strategies. Moreover, blockchain technology also plays a significant role in preventing and mitigating financial risks. Blockchain technology features decentralization, high transparency, and strong traceability, making the information in financial transactions more open and transparent. Through blockchain technology, financial institutions can ensure the authenticity and legitimacy of transactions, reducing fraud risks and operational risks. Additionally, blockchain technology can be used to construct smart contracts that automatically execute contract terms, reducing human intervention and errors, further enhancing the efficiency and accuracy of risk management.

3. Financial Technology Reshaping the Ecology of the Financial Industry

3.1 Lowering the Threshold and Cost of Financial Services

Financial technology significantly lowers the threshold and cost of financial services through technological innovation, providing more convenient and efficient services to a vast number of small and medium-sized enterprises and individuals. Traditional financial services are often constrained by physical branches, human resources, and operating costs, making it difficult for many services to reach a broader user base.

However, the rise of financial technology breaks these limitations. Financial technology utilizes advanced internet technology and automated processing systems to achieve remote handling and self-service operations of financial services, eliminating the need for users to visit physical branches. This not only saves users' time and transportation costs but also enhances the convenience of services. At the same time, the automation and intelligence characteristics of financial technology also significantly reduce the operating costs of financial institutions, enabling them to provide a wider range of financial services at lower prices, meeting the needs of more small and medium-sized enterprises and individuals.

3.2 Financial Technology Intensifies Competition and Transformation in the Financial Industry

The development of financial technology has profound effects on the ecosystem of the financial industry, significantly intensifying competition in the financial industry and driving differential development and innovation competition among financial institutions. With the application of financial technology, traditional financial institutions face challenges from emerging financial technology companies. These companies, leveraging advanced technology and flexible operating models, can provide more convenient and efficient financial services. To cope with this competitive pressure, traditional financial institutions have to accelerate innovation and explore differential development paths. Some financial institutions start cooperating with financial technology companies, introducing new technologies to improve service quality and efficiency^[4]. At the same time, they also increase investment in financial technology research and development, aiming to enhance their competitiveness through technological innovation. Additionally, financial technology also drives innovation competition among financial institutions. In order to seize market opportunities, financial institutions are launching distinctive financial products and services to meet the increasingly diverse financial needs of customers. This innovation competition not only promotes the prosperity of the financial industry but also provides customers with more financial choices and better service experiences.

Conclusion

The impact of financial technology on innovation in the financial industry is comprehensive and deep-seated. It not only changes the operational methods and business models of traditional finance but also injects new vitality and momentum into the future development of the financial industry. Looking ahead, with the continuous progress of technology and the deepening development of financial technology, we have reason to believe that financial technology will continue to lead the innovation and development trend of the financial industry, making greater contributions to the prosperity and development of the global financial market. At the same time, we should also recognize the challenges and risks brought about by the development of financial technology. Financial institutions need to continuously strengthen their technological capabilities and risk management abilities to adapt to the development trends of financial technology; governments and regulatory agencies also need to establish sound regulatory systems and policy measures to ensure the healthy development of financial technology and social

stability. Only through joint efforts from all parties can financial technology truly become an important force driving continuous innovation and development in the financial industry.

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