

# The FinTech Revolution: A Systematic Literature Review of Its Impact on the Global Financial Landscape

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**Abstract:** Financial Technology (FinTech) refers to financial innovations which are technology-enabled including artificial intelligence (AI), big data analytics, blockchain and so on. As a disruptive revolution, the advancement of FinTech has changed the traditional methods of lending, payment and investment, and has emerged as a significant factor in the development of business and financing over the past decade. Furthermore, the adoption of FinTech such as digital bank not only promotes the prosperity of business at the macro level, but also changes daily behaviors of each tiny individual at the micro level. This paper aims to explore the innovations of financial technology in traditional financing channels from both macro and micro perspectives, to provide reasonable references for financial decision-makers. In conclusion, with the development of modern technology such as blockchain, big data, and APIs, FinTech is transforming the world on both a macro and micro level.

**Keywords:** FinTech; Systematic literature review; Global financial landscape; Financial innovation; Open banking; Artificial intelligence; Big data analytics; Machine learning

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## 1. Introduction

### 1.1. Research background

Financial Technology (FinTech) refers to financial innovations which are technology-enabled including artificial intelligence (AI), big data analytics, blockchain and so on. As a disruptive revolution, the advancement of FinTech has changed the traditional methods of lending, payment, and investment, and has emerged as a significant factor in the development of business and financing over the past decade. “Global FinTech 2023: Reimagining the Future of Finance” report shows the FinTech sector now occupies a 2% share of global financial services revenue and is estimated to reach \$1.5 trillion in annual revenue by 2030<sup>[1]</sup>. Furthermore, the adoption of FinTech such as digital

bank not only promotes the prosperity of business at the macro level, but also changes daily behaviors of each tiny individual at the micro level. Under this background, research on FinTech has seen a remarkable increase in recent years. Therefore, this paper aims to explore the innovations of financial technology in traditional financing channels from both macro and micro perspectives, to provide reasonable references for financial decision-makers.

## 2. Methodology

To research FinTech theories, adoption models and modern financial methods, this study undertakes a systematic literature review. Multiple data sources are reviewed from official reports like “Global FinTech Industry Report” and core papers on authoritative databases such as Springer Nature to ensure an insightful analysis. Besides, the review process incorporates a few key points as follows:

- (1) It involves a development analysis of current FinTech industry;
- (2) The topic of how FinTech changes the financial world is reviewed by introducing four main financial scenarios including Lending, Payment, Investment and Saving and Personal Finance;
- (3) FinTech firms and traditional banks would be compared, a corresponding final conclusion would be drawn.

## 3. Findings

### 3.1. Current development status of the FinTech industry

The relationship between finance and technology can be summarized as: Finance supports technology, and technology in turn benefits finance. FinTech is currently playing a significant role in promoting financial services such as credit, investment, risk transfer and so on. “FinTech Report 2025” indicates the features of current FinTech industry through innovation, accessibility, and efficiency <sup>[2]</sup>. From the perspective of innovation analysis, it can be divided into two points: technological innovation and scenario innovation. A dependable AI-driven-FinTech adoption framework that integrates behavioural insights with cyber-physical security mechanisms has been applied in risk management and user engagement and blockchain-based systems addressing key pain points of traditional financial services.

FinTech is creating new usage scenarios, which breaks the traditional financial model. Zhuang *et al.* used a DID analysis and regression model and demonstrated that open banking has disruptively improved bank performance and examines the impact mechanisms underlying this effect in China <sup>[3]</sup>. Gero Friedrich Bone-Winkel *et al.* used a comprehensive dataset from the Estonian P2P lending platform Bondora, consisting of over 350,000 loans and 112 features with a loan volume of 915 million euros, which demonstrates that modern technologies such as machine learning have brought about transformative changes to traditional lending <sup>[4]</sup>. Regarding accessibility, the market share of the FinTech industry is increasing steadily. For instance, the report shows that the annual growth rate of the FinTech industry is about 5.38%, with over 103,000 companies <sup>[2]</sup>. By 2030, the market will reach a value of USD 686.85 billion. In terms of efficiency, financial technology has significantly enhanced industry efficiency. For instance, Mehmet Çağlar *et al.* measured the efficiency of FinTech operating in eight different sub-sectors for the period of 9 years <sup>[5]</sup>. The results show that FinTechs’ profitability efficiency performances are higher than their marketability efficiency performances.

The development of financial technology also faces some challenges at present, such as regulatory compliance challenge, cybersecurity challenge and Tech experts’ challenge. For example, an open banking institution, Evolve

Bank was hit by a ransomware attack in 2024 due to technical flaws <sup>[6]</sup>. While such challenges came one after another, these challenges cannot be sufficient to stop the development of FinTech in general. FinTech is promoting the development of traditional financial methods such as lending, payment and investment.

### **3.2. FinTech changes the financial world**

#### **3.2.1. Lending**

Lending is the action of allowing a person or organization the use of a sum of money under an agreement to pay it back later with interest. As one of the most historical financing methods, lending businesses have great significance in boosting economic growth and empowering individuals and companies to achieve their goals. However, lending through traditional channels faces a few challenges such as risk assessment and management and regulatory compliance.

The main reasons for these challenges are as follows. Traditional loans rely on intermediaries. Due to the lack of transparency in information, relevant regulators cannot play their role in time and the risk of this transaction form increases. Besides, complex procedures increase the transaction overhead costs. In this context, decentralized finance (DeFi) such as peer-to-peer (P2P) lending seeks to address these issues by leveraging current FinTech such as blockchain, machine learning to create an open, transparent, and inclusive financial ecosystem. Due to AI-driven underwriting processes, and the ability to access diversified portfolios at scale, institutional investors are increasingly participating in modern financial services such as P2P lending. Taking the United States as an example, the size of its P2P lending market reaches 41.6 billion US dollars in 2025 and is expected to be about 319.3 billion US dollars by 2034, growing at a CAGR of 25.44% from 2025 to 2034 <sup>[7]</sup>. Regarding the potential credit risks that may arise from loans, the credit scoring system based on big data analysis has performed well. This system determines the creditworthiness of a person or a small, owner-operated business by generating a three-digit score that ranks a borrower's riskiness, which has significantly reduced the risks associated with loan financing transactions. Amin Karami *et al.* reviewed 50 papers published between 2019 and 2025 demonstrating big data reduces biases, refines risk profiles, and provides actionable insights <sup>[8]</sup>.

#### **3.2.2. Payment**

The development of FinTech has changed the reliance of traditional payment methods on physical money exchange. Over the past decade, depending on blockchain and digital currency technology, payment systems such as PoS, P2P online payment, digital wallets have been seen as simple and faster ways through many online financial services, becoming an important factor in growth of the cashless economy and electronic payment methods.

Among these innovation solutions of payment, Alipay is considered as a global leader. In terms of technological innovation, this platform takes the lead in applying QR code payment, face recognition payment, blockchain and digital RMB technologies. For global services, Alipay supports payments in 220+ countries and regions with 50+ currency partnerships globally. In 2025, Alipay processed \$20.1 trillion in transactions, 1.4 billion monthly active users accessed Alipay in global mobile payments <sup>[9]</sup>. Apart from point-to-point payment platforms like Alipay, mobile payment platforms such as Apple Pay are also experiencing rapid development. This platform is a contactless payment system and digital wallet created by Apple company, which enables users to securely store credit cards, debit cards, and various other payment instruments on their Apple devices. The core of the technology of it is Near Field Communication (NFC). When users hold devices like iPhone near the terminal,

the NFC chip can allow to approve the transaction without a physical card, which has greatly changed people's payment methods.

### **3.2.3. Personal finance**

Personal finance is the management of personal or family financial activities including earning income, making a budget, saving, making wise investments, dealing with debts, purchasing insurance and preparing for future financial needs. The development of fintech not only promotes the growth of the financial industry, but also objectively provides convenience for the improvement of personal finance. For example, traditional insurance has the characteristics of complexity and uncertainty, the insurance policies are often complex and difficult for customers to understand. Besides, the claims process can be lengthy and bureaucratic, leading to customer frustration.

FinTech helps simplify processes of insurance services by using AI, big data, blockchain and the Internet of Things (IoT), which improves the ecosystem of the insurance industry. Due to the rapid development of insurance fintech, some scholars have defined a new term called Insurance technology (Insurtech). Insurtech offers individualized, tailored and personalized solutions to life's risks using data analytics, sensors, wearables and cell phone data <sup>[10]</sup>. Among insurance technology companies, the most famous one is Lemonade. This company is known for its AI-powered platform that can simplify insurance purchasing and claims processing. As a digital insurer, it uses machine learning to assess potential risks. Its rapid growth and innovative model have made it a unicorn with a valuation exceeding \$2 billion <sup>[11]</sup>. Moreover, FinTech platforms provide flexible options like digital wallets or digital banks. These innovative technologies have made people's lives more convenient and enhanced the efficiency of personal financing and savings.

## **4. Conclusion**

In conclusion, with the development of modern technology such as blockchain, big data, and APIs, FinTech is transforming the world on both a macro and micro level. From a macroscopic perspective, the related FinTech industry shows clear characteristics of innovation, accessibility and efficiency, a variety of innovative financial service models such as P2P platforms and crowdfunding, have significantly reduced the indirect costs of transactions, promoted the development of the global economy. From a microscopic perspective, FinTech has promoted the decentralization and de-intermediation of finance, reduced the fund risk, significantly improved users' experience. Overall, fintech has become a key driver of the growth of finance industry. In the future, technology will drive the development of the financial system, making it more open, efficient and inclusive. The findings of this study are used to provide a general reference for financial decision-makers.

## **Disclosure statement**

The authors declare no conflict of interest.

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