

# ***The Impact of FinTech on Financial Consumer Behavior— Taking Digital Payment Platforms as an Example***

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**Abstract.** Financial technology (FinTech) has profoundly reshaped financial consumer behavior, particularly through the widespread adoption of digital payment platforms. This study examines the dual impact of FinTech on financial consumers, emphasizing behavioral shifts such as reduced decision-making autonomy and increased cognitive dependency. By analyzing the interplay between technological innovation, platform functionality, and consumer psychology, the paper reveals how digital payment tools—while enhancing convenience and efficiency—also introduce new risks, including algorithmic dominance and financial vulnerability. Case studies of virtual currency scams and regulatory penalties further illustrate the emergent challenges in consumer protection and systemic stability. The findings suggest that future FinTech development must balance efficiency with inclusivity, security, and regulatory adaptation to ensure sustainable financial ecosystems.

**Keywords:** Financial Technology, Digital Payment Platforms, Consumer Behavior, Regulatory Challenges

## **1. Introduction**

With the emergence and development of fintech, the landscape and models of the financial industry have undergone subtle yet profound transformations. As a representative product of this evolution, digital payment platforms primarily leverage digital technology, the internet, and mobile communication tools to provide users with convenient and efficient transaction and wealth management services. In recent years, these platforms have become indispensable tools in financial activities due to their advantages in convenience, innovation, and efficiency. However, while enjoying these conveniences, financial consumers' behavior has also exhibited new characteristics: increased cognitive dependence on artificial intelligence and reduced decision-making autonomy. These changes not only reflect the impact of new trends in financial markets but also influence the direction of technological innovation at the macro level. Against this backdrop, this paper focuses on digital payment platforms to examine shifts in financial consumer behavior amid the fintech wave. It analyzes the interplay between fintech and digital payment platforms, as well as the relationship between digital payment platforms and financial consumers. Furthermore, it reveals how changes in financial consumer behavior influence the direction of fintech development, aiming to provide insights for the industry's future trajectory.

## 2. The impact of fintech on digital payment platforms

### 2.1. The development process of fintech

Against the backdrop of the Fourth Industrial Revolution's rapid advancement, emerging technologies such as big data, cloud computing, blockchain, and artificial intelligence are accelerating the deep integration of finance and technology across financial markets. However, due to disputes over the boundaries between finance and technology and disagreements regarding regulatory jurisdiction, the international definition of fintech remains unclear. In 2019, to promote standardized development and regulatory alignment, the People's Bank of China (PBC) issued the "FinTech Development Plan (2019-2021)," which defined fintech as "the use of technology to drive financial innovation, forming business models, technological applications, processes, and products that significantly impact financial markets, institutions, and services" [1]. This definition is derived from the Financial Stability Board's framework.

The development of China's fintech industry can be broadly divided into three stages: The first stage represents the era of financial computerizing, characterized by core trading systems and accounting systems. This phase leveraged software and hardware to digitize office operations, thereby enhancing business processing efficiency; The second is the internet finance stage, represented by online banking and internet wealth management. This phase leverages the internet to connect the asset side, transaction side, payment side, and funding side of finance, achieving channel networking; The third is the fintech phase, represented by big data credit reporting and robo-advisors. This phase leverages cutting-edge technologies to transform business processes and drive innovation, emphasizing automation and precision operations at scale [2].

Through the development of these three stages, China's fintech industry has progressed from basic digitization to networking and then to intelligence. Each stage has been underpinned by specific core technologies of its era, continuously enhancing the quality and efficiency of fintech services. Technological innovation has not only delivered more convenient and efficient payment and wealth management experiences for financial consumers but also provided robust support for the internationalization and globalization of China's financial markets.

### 2.2. FinTech and digital payment platforms

Fintech continuously upgrades payment systems through coordinated innovation in software and hardware, providing digital payment platforms with broader payment scenarios and more comprehensive user experience features. At the software level, blockchain technology has restructured payment clearing and settlement systems, driving cross-border payments toward greater standardization and flexibility. Taking Hundsun Inc.'s cross-border payment chain as an example, it has introduced a compliance solution for the "Cross-Border Wealth Management Connect 2.0" program. This solution enables secure cross-border investments through whitelist management and fund controls. Concurrently, the company is deeply involved in the digital currency bridge project of PBC, providing cross-border clearing systems for institutions such as Ant Group [3]. Meanwhile, AI-driven next-generation routers leverage payment hubs to optimize transaction paths, significantly reducing cross-channel transaction delays [4]; In terms of hardware, technologies such as biometric sensors and NFC chips have been implemented in payment terminals. The HarmonyOS payment terminal showcased at the 2025 China International Finance Expo integrates multiple biometric authentication methods and cryptographic encryption. While ensuring security, it delivers

personalized financial service recommendations, demonstrating robust compatibility, security, and openness.

## **2.3. The development of digital payment platforms**

### **2.3.1. The decade-long leap forward of China's digital payment platforms**

Technological evolution has been the core driver behind the explosive growth of China's digital payment users. Over the past decade, payment platforms have undergone structural upgrades, significantly expanding their user market coverage.

The China Internet Finance Development Report (2016) indicates that in 2015, China's internet payment user base reached 416 million. The transaction volume of China's third-party mobile payment market exceeded 16 trillion yuan, while that of the third-party internet payment market surpassed 14 trillion yuan, both maintaining accelerated growth momentum [5].

Over the past decade, online payments have become increasingly widespread. According to The 53rd Statistical Report on China's Internet Development by China Internet Network Information Center (CNNIC), China's internet user base reached 1.092 billion by December 2023. Among these, 954 million users engaged in online payments, accounting for 87.3% of all internet users. WeChat Pay's market share has surged, and together with Alipay, they now dominate the payment market [6].

This growth stems from continuous innovation in payment technology across multiple dimensions, including biometrics, underlying infrastructure, and payment terminals. It has not only enhanced platform capabilities but also established a broad foundation of user trust, ultimately driving sustained expansion of the market scale.

### **2.3.2. The differentiated pathways of the global digital payments market**

Amid the global wave of digital payments, countries have forged distinct development paths due to differences in technological foundations, regulatory frameworks, and user preferences.

Taking China as an example, the country boasts high penetration of mobile digital payment functions, government-led financial technology innovation trials, users' pursuit of "one-stop" services, and strong reliance on quick payment methods. Currently, the e-CNY (Digital Currency Electronic Payment, DC/EP) is being embedded into daily payment scenarios through proactive policy promotion. In the future, this may give rise to more innovative applications, empowering cross-border payments, supply chain finance, and inclusive services [7].

The U.S. credit card system is well-established, with strict regulatory frameworks that strictly define clearing entities. Institutions like PayPal have long operated within these institutional constraints, making it difficult to achieve a systemic restructuring of the existing payment infrastructure [8]; Bank account penetration is high in India, and users are highly price-sensitive. Under the central bank's mandatory zero-fee policy, lower-tier markets have been covered, and the focus may continue to shift toward financial inclusion in the future [9]; Similar to the United States, the EU's compliance policies constrain innovation by establishing robust privacy frameworks through directives like The General Data Protection Regulation (GDPR) and The Revised Payment Service Directive 2 (PSD2). This approach sacrifices some convenience for data sovereignty, with future efforts increasingly focused on strengthening cross-border interactions.

The fundamental differences between the four models stem from the fact that China and India's policies favor actively building digital and convenient payment ecosystems, while the US and

Europe strictly guard against payment risks. These divergent regulatory frameworks define the boundaries for innovation.

### **2.3.3. The current state and core drivers of China's digital payments**

By examining the vertical evolution of China's digital payment platforms alongside horizontal comparisons with global digital payments, it becomes evident that China's digital payments have achieved a transformative leap from “follower” to “leader”. While significantly leading in user penetration rates, China has pioneered inclusive payment models better suited for developing nations. Furthermore, through innovations in cross-border settlements, China continues to enhance its influence in shaping international rules.

China's digital payment platforms have achieved broad coverage across diverse consumer groups by leveraging their low entry barriers and high liquidity. Quick Response (QR) codes offer low production costs and extensive application scenarios. The e-CNY's Near Field Communication (NFC) functionality and voice payment features provide strong convenience, enabling users in lower-tier markets and elderly users to access mobile payment services [10]. Credit products based on payment transaction records, such as Huabei, feature streamlined borrowing processes and rapid credit approval, providing convenient services to financial consumers through efficient capital turnover; The government distributes subsidies through e-CNY, such as the “Dream Chasers Program”, with funds automatically disbursed upon meeting eligibility criteria, ensuring inclusive benefits reach people's livelihoods directly; Everbright Bank's “Logistics Pass” integrates payment, settlement, and financing to address the accounts receivable pain points of small and medium-sized carriers.

From this perspective, the core drivers of China's digital payments stem from three key areas: First, strong policy support has embedded tools like the e-CNY into everyday payment scenarios. Second, high technological autonomy has overcome critical bottlenecks, establishing self-reliant systems in both software and hardware domains. Third, a precise understanding of user needs has fostered rigid dependency through dedicated apps, building strong consumer trust in digital payments.

## **3. The impact of digital payment platforms on financial consumer behavior**

### **3.1. The shift from cash dependency to contactless payment**

The payment behavior of Chinese financial consumers has undergone a fundamental shift from instrumental rationality to behavioral inertia, with the core driving force behind this transformation being technology's restructuring of payment processes.

At the technology adoption level, biometric and offline payment technologies have lowered user barriers to entry, with fingerprint and facial recognition payments achieving high coverage in offline scenarios. By 2025, the reach of digital payment platforms has further expanded into rural areas lacking internet connectivity.

At the behavioral level, the emergence and adoption of digital payment behaviors are also closely tied to usage scenarios. For example, WeChat Pay, as a social media platform, leverages the convenience of high-frequency user engagement to achieve high penetration in offline small-amount payment scenarios. Repeated use can lead to muscle memory, causing consumers to habitually and automatically select WeChat Pay across different payment scenarios.

Regarding the factors influencing consumers' use of mobile payments, research indicates that within the mobile payment consumption model, technological convenience, perceived security, and usage environment exert a certain degree of influence on perceived ease of use and perceived usefulness; Perceived usefulness, perceived ease of use, and scope of application directly influence consumers' attitudes and behaviors toward using mobile payments; Moreover, perceived usefulness directly influences consumers' adoption of mobile payments [11].

Admittedly, while contactless payments enhance efficiency, they also fuel a new wave of social stratification: On one hand, advances in inclusive services enable the unbanked and elderly users to enjoy the convenience of dual-offline payments; on the other hand, the digital divide persists, with users over 60 showing high cash dependency—primarily driven by psychological anxiety over “invisible funds” rather than technological barriers. Consumers with low financial literacy exhibit relatively higher levels of distrust toward fintech and greater psychological barriers, indicating that technological adoption must be accompanied by cognitive education.

### **3.2. The reconstruction of consumer decision-making in the digital economy**

Digital payment tools (such as Huabei and IOU) employ a “buy now, pay later” mechanism to break down large purchases into smaller installments, significantly reducing the pain of payment. Under the influence of algorithmic conditioning, financial consumers' mental budgeting frameworks have become increasingly flexible. For instance, Huabei users perceive credit limits as “disposable income,” causing virtual spending accounts to become detached from actual earnings. This fosters a mindset where “installment payments don't count as spending,” leading to advance consumption. Essentially, this represents impulsive spending decisions driven by the capital efficiency of consumer credit tools [12].

The deep integration of digital technology and consumerism will also lead to consumers relinquishing their right to choose based on their needs. When users share consumption data on platforms, they are essentially providing training samples for big data algorithms, thereby becoming trapped in information cocoons through personalized, precision recommendations powered by big data. This technological manipulation is not confined to e-commerce platforms; it has permeated the interactive mechanisms of social media, where users' own behaviors become tools for platforms to dismantle individual cognition and critical thinking. When consumers become overly reliant on algorithmically predicted shopping choices, they gradually lose the ability to discern their genuine consumption needs. In exchange for convenience, they willingly expose behavioral data, enabling platforms to extract surplus value through demand pre-programming in a super-linear manner [13].

Moreover, the evolving algorithms of digital platforms have led most users to develop memory outsourcing in their consumption behaviors. For instance, consumers rely on historical search records for repeat purchases rather than re-evaluating prices. This deep-seated dependency shifts consumerism beyond mere material acquisition, dissolving rational decision-making into fragmented, impulsive behavior. The core contradiction lies in how technology's promised “personalized services” may lead to algorithms stripping away cognitive sovereignty.

### **3.3. The evolution of data-driven decision-making in financial management**

Digital payment platforms have lowered the barrier to entry for wealth management by simplifying operational scenarios. Technology empowers fragmented wealth management, enabling financial consumers in lower-tier markets to participate in “micro-investment” without burden. For example, innovative products like Yu'eobao and Balance Transfer integrate payment accounts with wealth



management modules. Users' spending surpluses can be automatically converted into money market fund investments, eliminating transfer fees and enabling one-click account inquiries.

The capital efficiency of digital payment platforms has spawned new wealth management models, significantly influencing Gen Z's financial behaviors. This manifests as controlling food expenditures while shifting investments toward socially-driven assets like virtual idol collaboration funds. By utilizing installment payments to free up cash flow for fund investments, they create a “consumption-credit-investment” hedging chain.

It is worth noting that while platform algorithms optimize investment efficiency, they also foster a decision-making dependency centered on wealth management. Financial consumers need only issue voice commands for Artificial Intelligence Generated Content (AIGC) financial advisors to assist in making rational and efficient investment decisions. However, personalized recommendations may also lead to convergence in user portfolios, carrying the underlying risk that algorithms replace investors in explaining investment logic.

### 3.4. Financial literacy and new risk blind spots

While digital payment platforms offer convenience to financial consumers, they also give rise to the contradiction of excessive reliance on technology. Some financial consumers lack comprehensive understanding of financial knowledge and have yet to develop mature financial literacy or systematic financial awareness. In today's highly digitalized society, they are prone to blindly trusting wealth management plans and financial products analyzed and matched by big data. In an e-CNY fraud case intercepted by the Agricultural Bank of China in Shanghai, an elderly individual was lured by “retirement investment” tactics into opening an “e-CNY personal wallet” and purchasing “high-priced health supplements,” reflecting insufficient awareness of the risks associated with new payment tools.

Meanwhile, the digital economy has created new blind spots for risk. As digital payments become widespread, new scams like QR code payment fraud have proliferated. Most users believe “face recognition payments” are absolutely secure, yet overlook the risk of hackers compromising the system; some elderly users, unfamiliar with the logic behind switching between “payment codes” and “receiving codes,” are more vulnerable to scammers exploiting their confusion.

The erosion of rational judgment among financial consumers in technologically convenient scenarios is the primary cause of risk perception blind spots in the digital payment era. To address this gap, future efforts must continue to strengthen financial education and enhance public financial literacy. Only when users remain vigilant about fund risks while enjoying payment conveniences can digital inclusive services truly achieve secure empowerment.

## 4. Case analysis

### 4.1. Virtual currency investment scam

On July 16, 2025, Hong Kong police arrested four local residents on charges of “conspiracy to commit fraud.” They are suspected of organizing promotional dinners for a mainland virtual currency scam to recruit victims and collect fraudulent funds. The case resulted in HK\$3.2 million in unrecovered losses. Upon investigation, the fraud ring operated under the guise of “Dubai oil derivatives investment,” promising high returns of 0.2% daily (equivalent to an annualized rate of 72%) to lure victims into downloading a fraudulent app (Dubai Gold and Commodities Exchange) for investment purposes. This scheme was, in fact, a Ponzi scheme. This scam has been operating

under the false pretense of the Dubai Gold and Commodities Exchange since 2023. Despite the institution's statement that it has no cooperative relationship with China, as of July 2025, over 2 million victims in mainland China have already suffered cumulative losses amounting to 13 billion yuan.

Behind such cases lies the issue of fintech's convenience being coupled with financial consumers' insufficient risk awareness and lagging risk controls. The excessive convenience of fintech has made it easy to transfer funds but difficult to recover them. Victims can instantly transfer large sums of money with a single click, while some third-party payment institutions conduct superficial merchant reviews and fail to intercept abnormally high-frequency transactions. While fintech has enhanced payment efficiency, it has failed to establish real-time anti-fraud interception systems in parallel, creating a regulatory time gap where “funds can be transferred in one minute but take 500 days to recover.” At this juncture, financial institutions like banks and online financial platforms must strengthen financial oversight. Additionally, public financial education urgently needs improvement, as some consumers still disregard risk warnings issued by digital payment platforms before transfers.

## **4.2. Gaps in financial institution supervision**

Since 2025, 21 financial institutions have been fined by the central bank for violating regulations on fintech business management. Most of these institutions are rural commercial banks, rural credit cooperatives, and village banks. Their violations primarily involve improper collection of user information, inadequate data security, insufficient disaster recovery systems, and insufficient oversight of outsourcing partnerships. In terms of penalty amounts, a branch of a state-owned bank in Hebei Province received a relatively high fine of 2.21 million yuan. The reasons for the penalty included not only violations of financial technology management regulations but also: breaches of account management rules, failure to properly perform customer identification procedures, conducting transactions with unidentified customers or opening anonymous or pseudonymous accounts for clients [14].

The root cause of non-compliance lies in resource constraints. First, insufficient investment in technology means financial institutions do not prioritize fintech, resulting in tight technology budgets. Second, a talent gap exists, with a scarcity of professionals who possess both financial compliance expertise and technical skills, making it difficult to embed risk control rules into systems.

The essence of regulatory penalties lies in the shift from “soft guidance” to “rigid constraints” in fintech oversight. This forces financial institutions to prioritize technology business management, treat compliance as a fundamental requirement for development, and reallocate resources toward fintech governance. They are compelled to share compliance costs through third-party partnerships or regional technology alliances.

## **5. The impact of financial consumer behavior on fintech development**

### **5.1. User behavior shapes the direction of fintech development**

Financial consumers' activities on digital payment platforms largely reflect user behavioral preferences, which in turn drive the transformation and innovation of fintech.

In terms of healthy competition and technological advancement, the rising adoption rate of digital payment platforms among users has opened up a promising arena attracting increased industry

rivalry. Platforms that fail to win user favor risk being phased out by the market. Digital payment platforms can leverage user behavior and preferences to drive targeted self-innovation. Simultaneously, in the race for market share, these platforms continually redefine their product logic to align with customer values.

At the levels of inclusive services and capital accumulation, the demand for financial inclusion in rural and other underserved areas drives technological frameworks toward “low barriers to entry” and “user-friendly” adaptations, thereby expanding customer coverage. The large base of financial consumers and their high usage frequency create a win-win situation for both users and platforms: users gain access to convenient and efficient financial services, while platforms achieve profits and value appreciation during operations, thereby gaining greater motivation to support the further development of fintech.

On the other hand, the development of fintech has given rise to new risks. While advancing technological capabilities in financial markets, it also presents regulatory challenges in balancing short-term conveniences with long-term risks. Excessive user trust in fintech has fueled a surge in fraud crimes, making privacy and security critical priorities for both immediate and sustained progress in the sector.

## 5.2. Future development trends of fintech

The 2025 Financial Intelligence Agent Deep Application Report jointly released by Ant Digital Technologies and 01Caijing indicates that the widespread adoption of AI technology will drive breakthrough development in financial intelligence agents across three dimensions: automating complex processes to reduce labor costs; continuously learning and optimizing to deliver personalized financial services; and lowering service barriers to enhance operational efficiency and advance inclusive finance [15]. Progress in these three areas collectively constitutes the core value of financial intelligence agents for future fintech scenarios.

In market applications, financial institutions will enhance user experience while driving innovation through resource sharing such as Open Application Programming Interfaces (Open APIs). Additionally, green finance is rapidly expanding, with AI-driven carbon footprint tracking and green ratings, and ESG data increasingly influencing credit decisions.

Privacy and cross-border collaboration have also become key focal points, with a more comprehensive industry-internal and consumer regulatory framework set to emerge in the future. Privacy-preserving computing ensures secure data flow, with applications evolving from retail to corporate banking. Open-source collaboration is accelerating implementation, paving the way for large-scale adoption in financial scenarios. Blockchain technology enhances the efficiency and security of cross-border payments, poised to transform payment models, support anti-money laundering efforts, and drive the scaled deployment of privacy computing. Examples include multilateral central bank digital currency bridges enabling real-time cross-border settlements—effectively restructuring cross-border payment protocols [16].

## 6. Conclusion and outlook

The continuous self-innovation of China's fintech sector is profoundly reshaping digital payment methods and user behavior: streamlined payment processes have reduced transaction costs but diminished consumers' decision-making autonomy; big data algorithms have optimized service efficiency while increasing users' cognitive dependency. As financial consumers' operational habits



and risk preferences evolve, the development focus of fintech has shifted from efficiency-first to balancing inclusivity and controllability.

Based on the above discussion, the advancement of fintech requires breakthroughs across three dimensions: enhancing algorithms, elevating application standards, and driving deeper integration between finance and technology; deepening inclusive finance practices, expanding fintech coverage, and strengthening financial literacy education; establishing an appropriate regulatory framework to effectively safeguard risk boundaries. On this foundation, technological evolution must consistently serve the financial well-being of consumers, ultimately achieving a multidimensional unity of financial efficiency, equitable stability, and consumer rights protection.

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