International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

# The Influence of Financial Technology on Conventional Stock Markets

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**ABSTRACT**

In recent years, financial technology—commonly known as fintech—has reshaped how people engage with stock markets. With the rise of robo-advisors, high-speed algorithmic trading, easy-to-use mobile apps, and blockchain technology, trading is no longer just for financial professionals. Anyone with a smartphone and an internet connection can participate.

This study looks at how these changes are affecting traditional stock markets. Based on surveys and data analysis, we found that fintech tools are not only improving market efficiency but also drawing in more everyday investors. At the same time, issues like online security, system glitches, and fairness are becoming more visible. To make fintech work for everyone, this paper suggests better regulation, increased investor education, and inclusive, secure technology design.

**Keywords:** Fintech, Stock Market, Blockchain, Algorithmic Trading, Retail Participation, Market Efficiency, Robo-Advisors, AI Trading

## 1. Introduction

Technology has made a huge impact on our daily lives—from how we shop to how we travel. Unsurprisingly, it's also transforming how we invest. **Fintech** is the term used for digital tools and technologies that make financial services more efficient, affordable, and accessible. In the world of stock markets, fintech has broken down long-standing barriers.

Just a decade ago, trading stocks was mostly done through brokers or by institutions using complex systems. Now, anyone can buy and sell shares directly through mobile apps, receive financial advice from robo-advisors, or even invest using blockchain-based platforms.

This study dives into how these tools are making markets more inclusive and efficient, while also looking at some of the challenges that come with rapid digital transformation

## 2. Problem Statement

While fintech is opening up the stock market to more people, it's also raising some serious concerns. As new technologies flood the market, we're starting to see issues like:

- **Cybersecurity threats**: Digital platforms are attractive targets for hackers.
- **System breakdowns**: Technical failures can bring trading to a halt.
- **Uneven access**: Big institutions often have an advantage over individual investors, especially with expensive tech tools.
- **Outdated rules**: Regulation often struggles to keep up with fast-moving innovations like blockchain.

Understanding both the opportunities and the risks is essential for keeping stock markets fair, secure, and beneficial for everyone involved.

## 3. Aim of the Paper

This paper aims to shine a light on how fintech is reshaping the way traditional stock markets work. Specifically, we're looking at:

- How these technologies are making markets run more smoothly.
- Whether fintech is helping more people, especially individuals and small investors, get involved in trading.
- What risks people are concerned about, especially around data security and fairness.

- How perceptions about technologies like blockchain differ across groups.

We hope these insights can help investors, regulators, and financial institutions make smarter, more inclusive decisions as they navigate the fintech era.

## 4. Literature Review

### *4.1 The Growth of Fintech in Finance*

Fintech has introduced new ways to manage money using technologies like artificial intelligence, machine learning, and blockchain. According to Arner et al. (2016), fintech is reshaping how financial services are delivered, making them faster and more accessible. Hendershott et al. (2011) noted that even individual investors now have direct access to tools that were once reserved for big institutions.

### *4.2 Speeding Up Trades with Algorithms*

Algorithmic trading allows computers to execute trades in microseconds. Research by Hasbrouck (2017) shows this speeds up markets and boosts liquidity. But Kirilenko et al. (2017) caution that relying on algorithms too much can also create market instability, such as flash crashes.

### *4.3 Giving Power to the People*

Apps like Robinhood and Zerodha have allowed more people to enter the stock market without needing a financial advisor or paying heavy fees. Foley et al. (2019) and Morris et al. (2021) explain how these tools have democratized investing—but also brought new risks, like the spread of hype-driven trading through social media.

### *4.4 Blockchain's Real-World Promise*

While blockchain is often linked with cryptocurrency, it also offers secure and transparent ways to record trades. Catalini & Gans (2016) and Wright & De Filippi (2015) argue that blockchain could eliminate middlemen and reduce settlement delays.

### *4.5 Is Faster Always Better?*

Fintech tools definitely make markets more efficient—but sometimes too fast. Chaboud et al. (2014) found that automated systems can exaggerate market movements by reacting too quickly to news, while retail investors might lack the experience to respond wisely.

## 5. Methodology

### *5.1 How the Study Was Conducted*

To get a complete picture, we used both numbers and narratives. We surveyed 100 people—including investors, fintech users, and finance professionals—to understand their experiences and perceptions. We also looked at existing studies and financial data to provide context.

### *5.2 Tools for Analysis*

- **One-sample t-test**: This helped us understand whether people's views were significantly different from neutral.
- **Chi-square test**: We used this to see if opinions about blockchain differed by gender.

### *5.3 Ethical Approach*

Everyone who participated did so voluntarily. Their answers were kept anonymous, and the study followed ethical research practices to ensure data was handled respectfully and securely.

## 6. Findings

### *6.1 Fintech Makes Markets More Efficient*

Survey participants agreed that fintech tools—especially algorithmic trading—make markets faster and more cost-effective. With an average score of **3.87 out of 5**, the data clearly shows strong support for this view.

### *6.2 More Everyday Investors Are Joining In*

Mobile apps and robo-advisors are attracting people who might never have invested before. The average score for this was even higher—**3.97 out of 5**—indicating fintech is helping level the playing field.

### *6.3 Trust in Blockchain is Growing*

Blockchain scored **3.74**, showing that most people see it as a secure and transparent way to handle trades. Participants believe it can reduce fraud and streamline settlement processes.

### *6.4 Gender Gaps in Perception*

A chi-square test revealed that **men were more likely than women to trust blockchain** as a secure solution. This points to the need for more accessible education around fintech tools to ensure everyone feels confident using them.

### *6.5 Common Concerns*

- **Cybersecurity**: About 47% said they were worried about online hacks.
- **System outages**: 57% felt fintech platforms were at higher risk of technical failures.
- **Unfair advantages**: Over half felt that big players still have the upper hand.
- **Too much automation**: 41% were uneasy about machines making too many trading decisions without human checks.

## 7. Conclusion

There's no doubt that fintech is revolutionizing the stock market. Tools like algorithmic trading, mobile apps, robo-advisors, and blockchain are making it easier and faster for anyone to invest. They're reducing costs, widening access, and improving how markets operate.

But every major change comes with its share of growing pains. As fintech continues to evolve, we must pay attention to cybersecurity, fair access, and over-reliance on technology. Regulators, developers, and investors must work together to create a system that's not just efficient—but also safe, inclusive, and fair for all.

By doing so, we can ensure that fintech doesn't just change how we trade—but improves the market for everyone involved.

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