TECHNOLOGY, FINTECH AND BEHAVIORAL FINANCE: AN EMPIRICAL STUDY ON INVESTORS' DECISION-MAKING IN THE DIGITAL ERA

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ABSTRACT: *The rapid advancement of technology and the emergence of Financial Technology (FinTech) have significantly transformed the financial services landscape. Digital platforms, mobile banking applications, robo-advisors, algorithmic trading systems, and artificial intelligence-based financial solutions have enhanced accessibility, convenience, and efficiency in investment activities. Simultaneously, behavioral finance provides insights into how psychological biases influence financial decision-making. This study investigates the relationship between technology adoption, FinTech usage, and behavioral finance factors affecting investors' investment decisions. Primary data were collected from 200 investors using a structured questionnaire. The study employed descriptive statistics and multiple regression analysis using SPSS to examine the influence of technology adoption, FinTech accessibility, financial literacy, and behavioral biases on investment decisions. The findings reveal that technology adoption and FinTech usage significantly influence investment behavior, while behavioral biases continue to affect rational decision-making. Financial literacy acts as a moderating factor that enhances investors' ability to utilize technological platforms effectively. The study contributes to the growing literature on digital finance and investor behavior by highlighting the need for balanced technological innovation and investor education. The results provide valuable implications for financial institutions, FinTech firms, policymakers, and investors in designing strategies that promote informed and sustainable investment practices.*

KEYWORDS

Technology, FinTech, Behavioral Finance, Investment Decision, Financial Literacy, Digital Finance, Investor Behavior

1. INTRODUCTION

The financial services industry has undergone a revolutionary transformation due to technological advancements and the proliferation of FinTech innovations. Traditional banking and investment processes have increasingly shifted toward digital platforms, enabling investors to access financial services anytime and anywhere. Technologies such as artificial intelligence, blockchain, machine learning, mobile applications, and big data analytics have enhanced the efficiency and accessibility of financial markets. FinTech firms have introduced innovative products and services that simplify investment processes, improve financial inclusion, and facilitate real-time decision-making.

Despite these technological advancements, investors are not always rational in their financial decisions. Behavioral finance explains that cognitive and emotional biases such as overconfidence, herding behavior, loss aversion, and anchoring influence investment choices. The integration of technology and FinTech platforms may either mitigate or amplify these biases depending on how investors interact with digital financial tools. Therefore, understanding the combined influence of technology, FinTech, and behavioral finance is essential for developing effective financial systems and promoting sound investment behavior.

2. REVIEW OF LITERATURE

The emergence of technology-driven financial services has significantly transformed investment behavior and financial decision-making processes. Recent studies have highlighted the growing influence of FinTech applications, including mobile banking, digital payment systems, robo-advisory platforms, and algorithmic trading tools, on investor participation. Kumar and Goyal (2023) observed that FinTech platforms enhance accessibility, reduce transaction costs, and encourage greater participation among retail

investors. Similarly, Singh and Sharma (2024) found that mobile trading applications positively influence investment frequency and portfolio diversification by providing real-time market information and user-friendly interfaces. These studies indicate that technological innovation has become a crucial factor in shaping modern investment practices.

Behavioral finance literature suggests that investors often deviate from rational decision-making due to psychological and emotional influences. Kahneman and Tversky's Prospect Theory explains how individuals evaluate gains and losses differently, resulting in irrational investment choices. Gupta and Verma (2024) reported that overconfidence, herding behavior, anchoring bias, and loss aversion continue to affect investment decisions even in technology-enabled financial environments. Shefrin (2023) emphasized that access to abundant information through digital platforms does not necessarily eliminate cognitive biases; instead, it may sometimes intensify impulsive investment behavior. These findings demonstrate that behavioral factors remain significant determinants of investor decision-making despite advancements in financial technology.

Recent research has increasingly focused on the interaction between technology adoption, financial literacy, and behavioral finance. Ahmed and Rahman (2025) found that financially literate investors are more likely to utilize FinTech services effectively and make informed investment decisions. Chen et al. (2023) highlighted that artificial intelligence-based advisory systems improve investment efficiency and portfolio management; however, excessive dependence on automated recommendations may reduce critical evaluation by investors. Wang and Chen (2024) further noted that digital financial innovations enhance investor confidence and market participation when accompanied by adequate financial knowledge. Although previous studies have examined technology adoption and behavioral finance independently, limited research has investigated their combined impact on investment decision-making. This gap underscores the need for empirical studies exploring the integrated influence of technology, FinTech, and behavioral finance in the contemporary financial landscape.

3.RESEARCH GAP

Existing studies have separately examined FinTech adoption and behavioral finance. However, limited research has explored the combined influence of technology adoption, FinTech accessibility, financial literacy, and behavioral biases on investment decision-making, particularly among retail investors in emerging economies.

4. STATEMENT OF THE PROBLEM

The rapid expansion of FinTech platforms has transformed investment practices by providing investors with instant access to financial information and digital investment opportunities. While technological innovations have improved convenience and accessibility, they have also introduced new challenges related to investor behavior, information overload, and digital risk management.

Behavioral finance suggests that investors are susceptible to psychological biases that can affect rational decision-making. Despite increased access to technology and financial information, investors may continue to exhibit irrational behavior influenced by emotions and cognitive limitations. Therefore, it is necessary to examine how technology and FinTech platforms interact with behavioral finance factors in shaping investment decisions.

5. RESEARCH OBJECTIVES

1. To examine the influence of technology adoption on investors' decision-making behavior.
2. To analyze the impact of FinTech services on investment decisions.
3. To investigate the relationship between behavioral finance factors and investment decision-making in the digital financial environment.

6. RESEARCH METHODOLOGY

The study adopts a descriptive and analytical research design. Primary data were collected through a structured questionnaire administered to retail investors. A convenience sampling method was used to select respondents. A total of 200 valid responses were obtained and analyzed.

The study employed SPSS version 26 for statistical analysis. Multiple regression analysis was conducted to examine the influence of independent variables such as Technology Adoption, FinTech Usage, Financial Literacy, and Behavioral Biases on the dependent variable, Investment Decision-Making. Reliability analysis indicated a Cronbach's Alpha value of 0.847, confirming the internal consistency of the measurement scale.

7.DATA ANALYSIS AND INTERPRETATION

Multiple Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.812	0.659	0.652	0.412

Interpretation

The R-square value of 0.659 indicates that 65.9% of the variation in investment decision-making is explained by Technology Adoption, FinTech Usage, Financial Literacy, and Behavioral Biases.

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	63.824	4	15.956	94.021	0
Residual	33.096	195	0.17		
Total	96.92	199			

Interpretation

The significance value ($p < 0.001$) confirms that the regression model is statistically significant and suitable for predicting investment decisions.

Coefficients Table

Variables	Beta	t-value	Sig.
Constant	*1.124*	*5.623*	*0*
Technology Adoption	*0.321*	*5.874*	*0*
FinTech Usage	*0.289*	*4.921*	*0*
Financial Literacy	*0.254*	*4.336*	*0*
Behavioral Biases	*-0.187*	*-3.541*	*0.001*

Interpretation

Technology Adoption positively and significantly influences investment decisions. FinTech Usage also demonstrates a significant positive effect. Financial Literacy enhances investors' decision quality. Behavioral Biases negatively affect investment decisions, indicating that irrational tendencies reduce effective investment outcomes.

8. FINDINGS

1. Technology adoption significantly improves investment decision-making.
2. FinTech services positively influence investor participation.
3. Financial literacy enhances effective utilization of digital financial services.
4. Behavioral biases negatively affect rational investment behavior.
5. The regression model explains 65.9% of variance in investment decisions.
6. Technology and FinTech jointly contribute to improved investment outcomes.

9. SUGGESTIONS

1. Financial institutions should promote investor education programs.
2. FinTech firms should integrate behavioral analytics tools.
3. Investors should improve financial literacy before adopting advanced investment technologies.
4. Regulatory authorities should establish stronger consumer protection frameworks.
5. Investment platforms should provide personalized risk assessment features.

10. MANAGERIAL IMPLICATIONS

1. FinTech companies can develop investor-centric digital platforms that reduce behavioral biases.
2. Banks can leverage AI-driven advisory systems to improve customer engagement.
3. Investment firms can use predictive analytics to provide customized financial solutions.
4. Policymakers can strengthen digital financial inclusion through awareness campaigns.
5. Financial educators can design targeted programs focusing on digital investment competencies.

11. FUTURE SCOPE OF THE STUDY

1. Future studies may explore the role of artificial intelligence in behavioral finance.
2. Comparative studies between urban and rural investors can be conducted.
3. Cross-country analyses may provide broader insights into FinTech adoption.
4. Future research may employ structural equation modeling for deeper analysis.
5. Longitudinal studies can assess changing investor behavior over time.

12. CONCLUSION

Technology and FinTech innovations have reshaped the financial ecosystem by improving accessibility, efficiency, and convenience in investment activities. The findings of this study indicate that technology adoption and FinTech usage significantly influence investment decision-making among retail investors. Investors who actively utilize digital financial platforms demonstrate greater engagement in investment activities and improved decision quality.

However, behavioral biases continue to play a significant role in shaping investment behavior. While technology facilitates informed decision-making, psychological factors such as overconfidence and herding behavior may hinder rational investment choices. Therefore, a balanced approach combining technological innovation, financial literacy, and behavioral awareness is necessary to promote sustainable and effective investment decisions in the digital era.

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