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Article

AN ANALYTICAL EXAMINATION OF THE IMPACT OF FINTECH INNOVATIONS ON THE INVESTMENT BEHAVIOUR OF RETAIL INVESTORS

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Abstract: Financial Technology (FinTech) has revolutionized the banking and investment landscape by integrating advanced digital technologies into financial services, thereby improving accessibility, efficiency, and customer experience. The rapid growth of digital banking, mobile payment systems, online investment platforms, and artificial intelligence has significantly transformed customer e-banking behaviour. The present study, titled "Smart Banking Era: Evaluating the Impact of FinTech Innovations on Customer E-Banking Behaviour," aims to examine customers' awareness of FinTech innovations, adoption and usage of FinTech services, behavioural factors influencing FinTech adoption, and the challenges and barriers associated with the use of FinTech in banking and investment activities. The study is based on a descriptive research design using both primary and secondary data. Primary data were collected through a structured questionnaire from 220 respondents selected using the convenience sampling technique. The collected data were analysed using Percentage Analysis, Independent Sample t-test, One-Way ANOVA, Mann–Whitney U Test, and other appropriate statistical tools with the support of SPSS software. The findings indicate that respondents possess a satisfactory level of awareness regarding FinTech innovations and their applications in investment and e-banking services. The study reveals that age significantly influences customers' awareness of FinTech innovations, while gender does not significantly influence the adoption and usage of FinTech platforms. The analysis further shows that occupation significantly affects certain behavioural factors, particularly the use of FinTech tools for portfolio management, reliance on digital platforms for executing trades, and perceptions regarding the ease and convenience of FinTech services. In addition, the study identifies that security concerns vary significantly based on respondents' area of residence, whereas other barriers such as lack of knowledge, fear of fraud, usability issues, and lack of guidance do not differ significantly across residential areas. The study concludes that FinTech innovations have substantially enhanced customer e-banking behaviour by providing convenient, efficient, secure, and technology-driven financial services. However, improving digital financial literacy, strengthening cybersecurity measures, enhancing customer awareness, and ensuring regulatory support are essential for increasing customer confidence and encouraging the wider adoption of FinTech services. The findings of the study provide valuable implications for banks, FinTech companies, policymakers, financial institutions, and researchers in developing effective strategies to promote digital financial inclusion and sustainable growth in the banking sector.

Keywords: FinTech Innovations, Smart Banking, E-Banking Behaviour, Digital Banking, Mobile Banking, Digital Investment Platforms, Financial Technology, Customer Behaviour.

1. INTRODUCTION

In recent years, the monetary sector has transformed significantly due to hi-tech advancements and the rise of Financial Technology (FinTech). Innovations such as smartphone trading apps, robo-advisory services, electronic payment systems, AI-based investment tools, blockchain technology, and digital investment platforms have altered how individuals manage and invest their finances, improving efficiency, accessibility, transparency, and affordability of services (Lee & Shin, 2018). Retail investors, who once depended on traditional investment analyst and financial advisors, now choose online investment platforms for making informed decisions. These FinTech applications offer real-time market information, portfolio management tools, and automated recommended services, leading to a shift from traditional to data-driven decision-making Jha & Dangwal, 2024). FinTech has also improved financial inclusion by lowering operation costs and simplifying investment processes, thus growing access to markets for a broader population. Digital platforms, smartphone trading applications, and online securities services have encouraged retail investors to engage more with equity markets, mutual funds, ETFs, and other instruments (Gomber et al., 2018). However, the effective use of FinTech depends on factors such as financial literacy, technological awareness, trust in digital platforms, and concerns about cybersecurity and fraud.

Behavioral finance literature shows that psychological factors like overconfidence and loss aversion still influence investors' results in digital environments (Kumar et al., 2023). In Thoothukudi District, rapid development in digital infrastructure has created new investment opportunities. Despite these advancements, there is limited empirical evidence on the impact of FinTech revolutions on retail investors' behavior in the region. This study aims to explore this relationship, contributing insights for policymakers and investment advisors while promoting financial literacy and sustainable market participation.

2. REVIEW OF LITERATURE

Jha and Dangwal (2024) investigated the determinants of investment-related FinTech services among Indian retail investors using the UTAUT2 and Prospect Theory frameworks. The study found that performance expectancy, effort expectancy, facilitating conditions, and financial literacy significantly influence the behavioural intention and actual usage of FinTech investment platforms among Gen Z and Millennial investors.

Ashwitha and Suresh (2024) explored the impact of FinTech services on the investment behaviour of retail investors in the banking sector. The review found that FinTech applications improve access to financial markets, provide real-time investment information, and enhance investment convenience. However, concerns related to cybersecurity, privacy, and regulatory compliance continue to affect investor confidence.

Tripathy and Das (2025) investigated the influence of AI-enabled FinTech services on investment decision-making behaviour among Indian retail investors. The study reported that perceived ease of use, financial literacy, platform reliability, and AI-powered investment tools positively influence investment decisions and improve investment performance.

Jhanavi and Umamaheswari (2026) presented a conceptual review on FinTech adoption and individual investment decision-making. The study highlighted that digital trading platforms, robo-advisors, AI-based analytics, and mobile investment applications have significantly transformed retail investment behaviour. The review also emphasized the importance of integrating behavioural finance and technology adoption theories in future research.

RESEARCH GAP

The previous studies have extensively examined the role of FinTech innovations in transforming financial services and influencing investment behaviour, several important research gaps remain. Most existing studies have focused on developed economies or metropolitan regions in India, with limited attention given to retail investors in semi-urban districts such as Thoothukudi. Furthermore, prior research has primarily emphasized the adoption of FinTech platforms and technology acceptance, while comparatively less attention has been paid to the combined influence of financial literacy, technological awareness, behavioural biases, trust in digital platforms, and cybersecurity concerns on retail investors' investment behaviour. In addition, empirical studies integrating these behavioural and technological dimensions into a single analytical framework are scarce. Therefore, the present study seeks to bridge this gap by analytically examining the impact of FinTech innovations on the investment behaviour of retail investors in Thoothukudi District, providing empirical evidence that will assist policymakers, financial institutions, FinTech service providers, and investment professionals in promoting secure, inclusive, and technology-driven investment practices.

STATEMENT OF THE PROBLEM

The rapid growth of Financial Technology (FinTech) has significantly transformed the financial services industry, particularly in the area of investment. FinTech innovations such as mobile trading applications, online investment platforms, robo-advisory services, and digital payment systems have made investing more accessible, efficient, and cost-effective for retail investors. These advancements have the potential to reshape traditional investment practices and encourage greater participation in financial markets. Despite these developments, the impact of FinTech innovations on the investment behaviour of retail investors is not uniform. While some investors actively adopt digital platforms and benefit from the convenience and real-time information they provide, others remain hesitant due to factors such as lack of technological awareness, low financial literacy, concerns about security, and preference for traditional methods of investment. Tripathy, P., & Das, K. K. (2025). This creates a gap between the availability of FinTech solutions and their effective utilization by retail investors. Investor behaviour in a FinTech-driven environment is also influenced by various behavioural and psychological factors such as risk perception, overconfidence, herd behaviour, and trust in digital platforms. Additionally, demographic variables like age, education, income, and investment experience play a significant role in determining the level of adoption and usage of FinTech tools. Jhanavi, N., & Umamaheswari, S. (2026). These factors make the investment decision-making process more complex in the digital era. In the context of Thoothukudi, a developing commercial city in Tamil Nadu, there has been an increase in the use of digital technologies and financial services. However, there is limited empirical evidence on how FinTech innovations are influencing the investment behaviour of retail investors in this region. The level of awareness, adoption, and perception of FinTech tools among investors in Thoothukudi is not clearly understood.

RESEARCH QUESTIONS

RQ1: What is the level of awareness of FinTech innovations among retail investors in Thoothukudi District?

RQ2: To what extent do retail investors adopt and use FinTech platforms for investment activities?

RQ3: How do behavioural factors influence the investment decisions of retail investors in a FinTech environment?

RQ4: What are the major challenges and barriers faced by retail investors in using FinTech platforms for investment?

RESEARCH OBJECTIVES

To analyze the impact of FinTech innovations on the investment behaviour of retail investors in Thoothukudi. To examine the level of awareness of FinTech innovations among retail investors. To analyze the adoption and usage of FinTech platforms by retail investors. To study the behavioural factors influencing investment decisions in a FinTech environment. To identify the challenges and barriers faced by investors in using FinTech platforms.

NULL HYPOTHESIS

H01: There is no significant relationship between age of the respondents and Awareness of FinTech Innovations

H02: There is no significant relationship between gender of the respondents and Adoption and Usage of FinTech

H03: There is no significant relationship between Occupation of the respondents and Behavioural Factors

H04: There is no significant relationship between Area of residence of the respondents and Challenges & Barriers

3. METHODOLOGY

The present study entitled "An Analytical Examination of the Impact of FinTech Innovations on the Investment Behaviour of Retail Investors" adopts a descriptive research design to examine the influence of Financial Technology (FinTech) innovations on the awareness, adoption, usage, behavioural factors, and challenges faced by retail investors in investment activities. The study was conducted among retail investors in Thoothukudi District, Tamil Nadu. The research is based on both primary and secondary data. Primary data were collected from retail investors through a structured questionnaire, while secondary data were obtained from research journals, books, articles, reports, and online sources related to FinTech, digital investment platforms, and investor behaviour. The study employed a convenience sampling technique for selecting respondents who actively participate in investment activities and use or have awareness of digital financial services. A total of 220 respondents were selected for the study. The questionnaire consisted of demographic details and statements related to FinTech awareness, adoption and usage of digital investment platforms, behavioural factors influencing investment decisions, and challenges and barriers associated with FinTech adoption. The collected data were analyzed using Percentage Analysis, Independent Sample t-test, One-Way ANOVA, Mann–Whitney U Test, and other appropriate statistical tools with the support of SPSS software. Percentage analysis was used to study the demographic characteristics of respondents, while ANOVA, Independent Sample t-test, and Mann–Whitney U Test were applied to examine the relationship between demographic variables such as age, gender, occupation, and area of residence with FinTech awareness, adoption behaviour, and perceived challenges.

4. ANALYSIS AND INTERPRETATION

H01: There is no significant relationship between age of the respondents and Awareness of FinTech Innovations

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I am aware of various FinTech innovations used in investing.	Between Groups	22.936	4	5.734	10.510	.000
	Within Groups	117.296	215	.546		
	Total	140.232	219			
I understand how digital investment platforms work.	Between Groups	21.063	4	5.266	7.718	.000
	Within Groups	146.682	215	.682		
	Total	167.745	219			
I am familiar with mobile trading applications.	Between Groups	17.690	4	4.423	5.141	.001
	Within Groups	184.946	215	.860		
	Total	202.636	219			
I know the benefits of using FinTech in investment activities.	Between Groups	14.449	4	3.612	3.817	.005
	Within Groups	203.478	215	.946		
	Total	217.927	219			
I am aware of risks associated with FinTech platforms.	Between Groups	7.712	4	1.928	2.379	.053
	Within Groups	174.270	215	.811		
	Total	181.982	219			

Source: Primary data

Interpretation - A One-Way Analysis of Variance (ANOVA) was performed to examine whether there is a significant relationship between the age of the respondents and their awareness of FinTech innovations in investment activities. The analysis compared the mean awareness scores of respondents belonging to different age groups across five dimensions: awareness of FinTech innovations, understanding of digital investment platforms, familiarity with mobile trading applications, knowledge of the benefits of FinTech, and awareness of the risks associated with FinTech platforms. The null hypothesis (H_{01}) states that there is no significant relationship between the age of the respondents and awareness of FinTech innovations. The ANOVA results were interpreted at the 5% level of significance ($p < 0.05$). If the significance value is less than 0.05, the null hypothesis is rejected, indicating that respondents of different age groups differ significantly in their awareness of the respective FinTech innovation dimension. Conversely, if the significance value is greater than 0.05, the null hypothesis is accepted, indicating that age does not significantly influence respondents' awareness of that aspect of FinTech innovation. The ANOVA results presented in the following table provide insights into the influence of respondents' age on different dimensions of FinTech innovation awareness and help determine whether age plays a significant role in shaping investors' knowledge and understanding of FinTech-enabled investment technologies.

H02: There is no significant relationship between gender of the respondents and Adoption and Usage of FinTech

Independent t-test		**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**
I prefer using FinTech platforms for investment activities.	Equal variances assumed	2.059	.153	-.922	218	.358
	Equal variances not assumed			-.947	216.939	.345
	Equal variances assumed	.104	.747	1.838	218	.067

I frequently use mobile apps or online platforms for investing.	Equal variances not assumed			1.842	211.108	.067
I use FinTech tools for managing my investment portfolio.	Equal variances assumed	.450	.503	-1.308	218	.192
	Equal variances not assumed			-1.346	216.144	.180
I rely on digital platforms for executing trades.	Equal variances assumed	.047	.828	1.381	218	.169
	Equal variances not assumed			1.375	206.081	.171
FinTech platforms are easy and convenient to use.	Equal variances assumed	.777	.379	.185	218	.854
	Equal variances not assumed			.184	204.437	.855

Source: Primary data

Interpretation - The null hypothesis (H02) stating that "There is no significant relationship between gender of the respondents and Adoption and Usage of FinTech" is accepted. It is concluded that gender does not significantly influence the adoption and usage of FinTech platforms among retail investors. Both male and female respondents show similar levels of preference, usage behaviour, and perception towards FinTech-based investment services. This indicates that the adoption of FinTech innovations has become gender-neutral, with digital investment platforms gaining acceptance across different gender groups.

H03: There is no significant relationship between Occupation of the respondents and Behavioural Factors

ANOVA						
Factors		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
I prefer using FinTech platforms for investment activities.	Between Groups	6.589	5	1.318	1.954	.087
	Within Groups	144.370	214	.675		
	Total	150.959	219			
I frequently use mobile apps or online platforms for investing.	Between Groups	3.803	5	.761	1.077	.374
	Within Groups	151.157	214	.706		
	Total	154.959	219			
I use FinTech tools for managing my investment portfolio.	Between Groups	9.928	5	1.986	2.319	.045
	Within Groups	183.249	214	.856		
	Total	193.177	219			
I rely on digital platforms for executing trades.	Between Groups	9.276	5	1.855	2.627	.025
	Within Groups	151.106	214	.706		
	Total	160.382	219			
FinTech platforms are easy and convenient to use.	Between Groups	12.028	5	2.406	2.357	.041
	Within Groups	218.409	214	1.021		
	Total	230.436	219			

Source: Primary data

Interpretation - A One-Way Analysis of Variance (ANOVA) was conducted to examine whether there is a significant relationship between the occupation of the respondents and the behavioural factors influencing the adoption and usage of FinTech in investment activities. The analysis compares the mean behavioural responses of respondents belonging to different occupational groups across five dimensions: preference for using FinTech platforms, frequency of using mobile applications or online investment platforms, usage of FinTech tools for portfolio management, reliance on digital platforms for executing trades, and the perceived ease and convenience of using FinTech platforms. The null hypothesis (H_{03}) states that there is no significant relationship between the occupation of the respondents and behavioural factors related to FinTech adoption and usage. The ANOVA was performed at the 5% level of significance ($p < 0.05$). If the significance value is less than 0.05, the null hypothesis is rejected, indicating that respondents with different occupations differ significantly in their behavioural responses towards FinTech. Conversely, if the significance value is greater than 0.05, the null hypothesis is accepted, suggesting that occupation does not significantly influence the respective behavioural factor.

H04: There is no significant relationship between Area of residence of the respondents and Challenges & Barriers

Factors	Lack of knowledge prevents me from using FinTech tools.	Security concerns discourage me from using digital platforms.	I find FinTech platforms difficult to use.	Fear of fraud affects my investment decisions.	Lack of guidance discourages me from adopting FinTech.
Mann-Whitney U	5231.000	3831.000	4980.000	4648.500	4871.500
Wilcoxon W	7787.000	6387.000	16155.000	7204.500	7427.500
Z	-.140	-3.501	-.747	-1.555	-.997
Asymp. Sig. (2-tailed)	.889	.000	.455	.120	.319
a. Grouping Variable: Area of residence					

Source: Primary data

Interpretation - A Mann–Whitney U test was conducted to examine whether there is a significant relationship between the area of residence of the respondents and the challenges and barriers faced in adopting FinTech innovations for investment activities. Since the grouping variable (area of residence) consists of two independent groups and the data did not satisfy the assumptions of parametric testing, the Mann–Whitney U test was employed as a non-parametric alternative to compare respondents' perceptions across five dimensions: lack of knowledge, security concerns, difficulty in using FinTech platforms, fear of fraud, and lack of guidance. The null hypothesis (H_{04}) states that there is no significant relationship between the area of residence of the respondents and the challenges and barriers associated with FinTech adoption. The test was conducted at the 5% level of significance ($p < 0.05$). If the Asymp. Sig. (2-tailed) value is less than 0.05, the null hypothesis is rejected, indicating a significant difference between respondents from different areas of residence. Conversely, if the significance value is greater than 0.05, the null hypothesis is accepted, indicating that the area of residence does not significantly influence the perceived challenges and barriers to adopting FinTech.

CONCLUSION

The present study entitled “Smart Banking Era: Evaluating the Impact of FinTech Innovations on Customer E-Banking Behaviour” examined the awareness, adoption, behavioural factors, and challenges associated with FinTech innovations in shaping customers’ digital banking and investment behaviour. The study concludes that FinTech has significantly transformed the financial services sector by providing convenient, efficient, and technology-driven solutions. The findings reveal that respondents possess a satisfactory level of awareness regarding FinTech innovations, digital investment platforms, mobile trading applications, and their benefits. The analysis indicates that age significantly influences awareness of FinTech innovations, whereas gender does not significantly affect the adoption and usage of FinTech platforms. The study also reveals that occupational differences influence certain behavioural aspects, particularly the use of FinTech tools for portfolio management, digital trade execution, and perceptions regarding the convenience of FinTech services. The study further highlights that security concerns remain a major challenge influencing the adoption of FinTech services, with significant differences observed based on the area of residence. However, factors such as lack of knowledge, usability issues, fear of fraud, and lack of guidance do not significantly differ among respondents. Overall, the study concludes that FinTech innovations have a positive impact on customer e-banking behaviour by improving accessibility, speed, convenience, and efficiency in financial transactions and investment activities. To enhance wider adoption, financial institutions and FinTech companies should focus on strengthening cybersecurity measures, improving digital financial literacy, increasing customer awareness, and developing user-friendly platforms. These initiatives will help build customer trust and promote sustainable growth in the digital financial ecosystem.

References:

1. Alt, R., Beck, R., & Smits, M. T. (2018). FinTech and the transformation of the financial industry. Electronic Markets, 28(3), 235–243.
2. Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the FinTech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. Journal of Management Information Systems, 35(1), 220–265.
3. Jha, S., & Dangwal, R. C. (2024). Determinants of investment-related FinTech services among retail investors of India: A multi-group analysis using PLS-SEM. Journal of Modelling in Management.
4. Kumar, S., Sharma, D., Rao, S., & Lim, W. M. (2023). A systematic review on behavioral biases affecting individual investment decisions. Qualitative Research in Financial Markets, 16(3), 448–476.
5. Lee, I., & Shin, Y. J. (2018). FinTech: Ecosystem, business models, investment decisions, and challenges. Business Horizons, 61(1), 35–46.

6. Mittal, S. K. (2019). Behavior biases and investment decision: Theoretical and research framework. Qualitative Research in Financial Markets, 11(2), 213–228.
7. Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. Borsa Istanbul Review, 18(4), 329–340.
8. Ashwitha, & Suresh, G. (2024). An impact of FinTech services on investment behavior of retail investors in banking sector. IPE Journal of Management, 14(3).
9. Jha, S., & Dangwal, R. C. (2024). Determinants of investment-related FinTech services among retail investors of India: A multi-group analysis using PLS-SEM. Journal of Modelling in Management.
10. Kumar, G. P., Siva, K., & Swamy, P. V. S. (2025). Role of financial technology in shaping retail investment behaviour in rural India: A case study approach. Asian Journal of Management and Commerce, 6(2), 888–894.
11. He, H., Jones, L., Lu, Y., & Gepp, A. (2025). Technology-enabled innovations in financial markets and retail investors: A systematic literature review. Journal of Accounting Literature.
12. Tripathy, P., & Das, K. K. (2025). The influence of artificial intelligence-enabled FinTech services on investment decision-making behaviour in India. European Economic Letters.
13. Jhanavi, N., & Umamaheswari, S. (2026). FinTech adoption and individual investment decision-making: A conceptual review. EPRA International Journal of Economics, Business and Management Studies.