

Adoption of AI-Based Investment Applications Among Women Investors: Evidence from Karnataka

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Abstract- Artificial Intelligence (AI) is increasingly being integrated into financial services, particularly through investment applications that provide market information, personalized suggestions, portfolio support and decision-making assistance. This study examines the factors influencing the adoption of AI-based investment applications among women investors in Karnataka. A descriptive research design was adopted and primary data were collected through a structured questionnaire from 200 women investors aged 18 years and above. Convenience sampling was used, and the data were analyzed using percentage analysis, descriptive statistics, correlation, regression and chi-square tests in SPSS. The findings show that 61% of respondents had experience using AI-based investment apps. Ease of use was the leading adoption factor (30.5%), followed by better investment advice (26%) and recommendations from others (24.5%). AI applications were perceived to support informed decisions, personalized investment suggestions, market-trend understanding and reduced investment complexity. Financial literacy, digital awareness, trust, privacy and security were identified as important adoption-related factors. Regression analysis reported $R^2 = 0.289$ with $F = 40.017$, $p < 0.001$. The study concludes that user-friendly design, stronger data protection, financial education and digital awareness can encourage wider adoption of AI-enabled investment services among women investors.

Keywords: artificial intelligence, ai-based investment applications, women investors, fintech, financial literacy, digital awareness, trust, privacy, security

I. INTRODUCTION

The digitalization of financial services has changed how individuals access information, plan investments and manage portfolios. AI-powered investment applications use data analysis and machine-learning capabilities to provide market information, investment recommendations, portfolio support and other financial guidance. These services can make investing more convenient, particularly for users with limited investment experience. At the same time, women's

participation in savings, investment and financial management is increasing. However, concerns about financial literacy, confidence, investment risk, technology familiarity, privacy and online security may influence their willingness to adopt AI-based financial services. The study therefore focuses specifically on women investors and examines the factors associated with their adoption of AI-based investment applications. The dissertation identifies a research gap in the limited attention given to women investors, the role of financial and digital literacy, decision-making support, and privacy and security concerns in AI-enabled investment adoption.

1.1 Research Objectives

- To understand the factors that influence women to use AI-based investment apps.
- To understand how AI investment apps help women users in making investment and financial decisions.
- To identify the benefits and challenges faced by women users while using AI-based investment apps.
- To analyze how financial literacy and digital awareness influence women's use of AI investment apps.
- To examine the role of trust, privacy and security in using AI-powered investment platforms.

1.2 Research Gap

The dissertation identifies five major gaps: limited research focused on women investors; insufficient evidence on AI-supported investment decision-making; limited attention to the balance between benefits and challenges; inadequate understanding of financial literacy and digital awareness; and limited research on privacy and security in relation to women investors.

II. LITERATURE REVIEW

The literature reviewed in the dissertation indicates that technology adoption is influenced by perceived usefulness, ease of use, performance expectations, financial literacy, digital awareness, trust and security. Priyadarshi et al. (2024) reported that FinTech investment apps can simplify access to market information and increase investor confidence. Chatterjee et al. (2024) linked financial literacy and technological knowledge with continued FinTech usage. Treasa and Santhi (2024) found performance expectations and ease of use to be important for mobile-app adoption among women entrepreneurs. Khanna and Jha (2024) highlighted usability, trust and performance benefits in AI roboadvisory adoption. Freibauer, Rieger and Grawert (2025) emphasized the role of financial knowledge in using app-based trading platforms, while Li et al. (2025) highlighted privacy and security issues in AI-enabled mobile applications. The dissertation identifies a gap in research focused specifically on women investors and on the combined role of decision-making support, financial literacy, digital awareness, trust, privacy and security. □ filecite□ turn6file2□ L193-L206□ 2.1 Conceptual Focus

- Usefulness and decision-making support: AI applications assist with investment decisions, financial management and investment insights.
- Ease of use and performance expectancy: Convenience and perceived performance benefits encourage technology adoption.
- Financial literacy and digital awareness: Knowledge of financial concepts and familiarity with digital financial services support effective usage.
- Trust, privacy and security: Reliability, transparency, data protection and transaction security shape confidence.
- Social influence and perceived risk: Recommendations from others can encourage adoption, while perceived risk can discourage it.

2.2 Hypotheses

- H01/H11: There is no/significant relationship between the benefits and challenges of AI-based investment apps and adoption among women investors.

- H02/H12: There is no/significant effect of financial literacy and digital awareness on adoption.
- H03/H13: There is no/significant association between trust, privacy and security factors and adoption.

III. RESEARCH METHODOLOGY

A descriptive research design was used to study the characteristics, opinions, attitudes and behaviours of women investors regarding AI-based investment applications. The target population comprised women investors in Karnataka aged 18 years and above who were aware of or had used AI-based investment applications. Primary data were collected through a structured questionnaire distributed through Google Forms and online networks. Non-probability convenience sampling was adopted, with a sample of 200 respondents. IBM SPSS Statistics was used for percentage analysis, descriptive statistics, correlation analysis, regression analysis and chi-square analysis. The study examined adoption-related factors including ease of use, perceived usefulness, convenience, recommendations, investment choices, financial literacy, digital awareness, trust, privacy and security. The dissertation reports Cronbach's alpha of 0.868 for 25 questions, indicating high internal consistency.

3.1 Sampling and Statistical Design

Element: Description

Population: Women investors in Karnataka aged 18+ who know about or use AI investment applications.

Sampling method: Non-probability sampling

Sampling technique: Convenience sampling

Sample size: 200 respondents

Geographic scope: Karnataka

Instrument: Structured questionnaire

Analysis: Percentage, descriptive statistics, correlation, regression and chi-square

3.2 Reliability and Variables

The questionnaire contained 25 questions and the reported Cronbach's alpha was 0.868, indicating high internal consistency. The study examined ease of use, investment choices, financial literacy, digital awareness, trust, privacy and security as important explanatory factors.

IV. RESULTS AND FINDINGS

Among the 200 respondents, 50% were aged 21–30 years and 39% were salaried employees. Undergraduate respondents represented 41.5% and postgraduate respondents 41%. Investment experience was relatively limited: 38% had less than one year of experience. Savings accounts were the most preferred investment option (46%), followed by mutual funds (19%) and stocks (16%). Digital financial applications were used monthly by 32% and daily by 29.5%. Overall, 61% reported experience using AI-based investment applications. Among the listed applications, Groww was the most frequently reported platform, followed by Zerodha, Upstox and INDmoney. The largest group of AI-app users (40.5%) had used such applications for less than six months. □ filecite□ turn2file0□ L55-L77□ □ filecite□ turn2file0□ L78-L122□ □ filecite□ turn2file0□ L217-L263□

Ease of use was the leading reported motivation for adopting AI-based investment applications (30.5%), followed by better investment advice (26%) and recommendations from others (24.5%). Investment planning was the primary purpose of use (29%), followed by portfolio management (24.5%) and financial advice (21%). Mutual funds were the most common investment type made through AI-based apps (35%), followed by stocks (28.5%). Regarding perceived usefulness, 40.5% agreed that the apps were easy to use and 40% agreed that they saved time. A further 43% agreed that AI recommendations influenced their investment decisions, 47% agreed that the apps helped them make informed investment decisions, and 40.5% agreed that AI-generated recommendations improved investment planning. Also, 43.5% agreed that AI tools helped them understand market trends, 42% agreed that the apps provided personalized investment suggestions, and 43.5% agreed that the apps reduced investment complexity. Technical issues were reported as affecting use by 38% of respondents. □ filecite□ turn3file0□ L14L55□ □ filecite□ turn3file0□ L56-L102□ □ filecite□ turn3file0□ L106-L171□ □ filecite□ turn3file0□ L172-L217□ □ filecite□ turn3file0□ L218-L313□

4.1 Selected Descriptive Results

AI-app experience: 61% had used AI-based investment apps

Top adoption factor: Ease of use – 30.5%

Primary purpose: Investment planning – 29%

Top investment through AI apps: Mutual funds – 35%

Informed decisions: 47% agreed AI apps support informed decisions

Personalized suggestions: 42% agreed AI apps provide personalized suggestions

Reduced complexity: 43.5% agreed AI apps reduce investment complexity

4.2 Inferential Statistical Results

The descriptive analysis indicates that respondents had low-to-moderate investment experience and relatively regular use of digital financial applications. Correlation analysis found a significant positive relationship between motivation and primary purpose ($r = 0.206$, $p = 0.003$), and a stronger positive relationship between frequency of AI-app use and primary purpose ($r = 0.452$, $p < 0.001$). The first null hypothesis was rejected in the dissertation. Regression analysis reported $R = 0.537$, $R^2 = 0.289$ and adjusted $R^2 = 0.282$. The ANOVA result was significant ($F = 40.017$, $p < 0.001$), and both investment type ($B = 0.214$, $p < 0.001$) and ease of use ($B = 0.434$, $p < 0.001$) were significant predictors in the reported model. The second null hypothesis was rejected. Chi-square tests also reported significant associations (Pearson $\chi^2 = 99.347$, $df = 16$, $p < 0.001$; and Pearson $\chi^2 = 94.209$, $df = 16$, $p < 0.001$) in the reported analyses. The dissertation consequently rejected the third null hypothesis as well. □ filecite□ turn4file0□ L49-L110□ □ filecite□ turn4file0□ L111-L187□ □ filecite□ turn4file0□ L191-L257□

4.3 Hypothesis Decisions

H01 — Significant positive relationships between usage factors and adoption — H01 rejected; H11 accepted

H02 — Regression significant: $F = 40.017$, $p < 0.001$; $R^2 = 0.289$ — H02 rejected; H12 accepted

H03 — Reported chi-square associations significant at $p < 0.001$ — H03 rejected; H13 accepted

V. DISCUSSION

The findings indicate that adoption is shaped by both practical value and user capability. Ease of use emerged as the strongest stated motivation, while respondents also valued investment guidance, recommendations and convenience. The positive perception of personalized recommendations and market information suggests that AI is being used as a decision-support mechanism rather than only as a transaction channel. The findings are broadly consistent with the dissertation's literature discussion: earlier studies cited in the dissertation similarly emphasize usability, trust, financial literacy and technological familiarity. Financial and digital literacy appear especially relevant because respondents with stronger knowledge and confidence are described as more capable of using AI-based platforms effectively. Trust, privacy and security are also central: more than half of respondents selected agreement or strong agreement that privacy and security features influence their adoption decision. These findings reinforce the need for transparent, secure and understandable AI-based financial services. □ filecite□ turn6file4□ L403-L448□

5.1 Managerial and Theoretical Implications

For AI investment-app providers, the study suggests prioritizing simple navigation, personalized recommendations, reliable performance and clear explanations of AI-generated suggestions. Financial institutions can combine□ AI-enabled investment services with customer education and support. Policymakers and regulators should encourage transparent and secure handling of personal and financial data. Financial educators can strengthen women's financial literacy and digital awareness through workshops, awareness programmes and practical training. The study's theoretical contribution is its focus on women investors, a group identified in the dissertation as relatively under-researched in AI-based investment adoption. □ filecite□ turn6file7□ L609-L639□

5.2 Practical Recommendations

- Strengthen financial literacy through workshops and practical training.

- Improve privacy, cybersecurity and transparent communication about data protection.
- Design user-friendly interfaces with clear instructions and explanations of AI-generated recommendations.
- Provide awareness campaigns and digital-finance education for women investors.
- Offer reliable customer support so users can understand AI recommendations.

VI. CONCLUSION

The study concludes that AI-based investment applications are gaining acceptance among women investors in Karnataka and are perceived as useful for investment planning, informed decision-making, market understanding and personalized guidance. Ease of use, financial literacy, digital awareness, trust, privacy□ and security are important factors associated □ □ with adoption. The statistical results reported in the dissertation support significant relationships among the examined variables. At the same time, concerns about technical issues, privacy and security indicate that adoption cannot be increased through functionality alone. AI platforms should combine usability with trustworthy data practices, user education and meaningful customer support. Future research should use larger and more diverse samples, compare different investor groups, examine additional variables such as risk tolerance and technological readiness, and consider longitudinal studies as AI and FinTech evolve. □ filecite□ turn5file0□ L13-L37□ □ filecite□ turn5file0□ L65-L96□

6.1 Key Conclusions

- AI-based investment applications show growing acceptance among women investors in the study sample.
- Ease of use is the leading stated motivation, followed by investment advice and recommendations from others.
- AI applications are perceived as useful for investment planning, informed decisions, market understanding and personalized suggestions.
- Financial literacy and digital awareness support confident and effective use.
- Trust, privacy and security are important conditions for sustained adoption.

- Technical problems remain a practical barrier.

6.2 Limitations

- The study is based on 200 women investors, so findings may not represent all women investors.
- The geographic scope is limited.
- Responses were self-reported and may contain response bias.
- Only selected explanatory factors were examined.
- The study is time-bound and perceptions may change as AI evolves.

6.3 Future Research

should use larger and more diverse samples, compare different investor groups, examine additional variables such as risk tolerance and technological readiness, and consider longitudinal studies as AI and FinTech evolve.

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8. Publication-Style Research Summary

Research contribution

This paper condenses the original dissertation into a six-page research-paper format while retaining its research problem, objectives, methodology, major empirical findings, statistical results, implications, limitations and recommendations.

Core empirical evidence

Sample: 200 women investors in Karnataka

Reliability: Cronbach's alpha = 0.868

AI-app experience: 61%

Ease of use as motivation: 30.5%

Better investment advice: 26%

Recommendations from others: 24.5%

AI supports informed decisions: 47% agree

AI recommendations influence decisions: 43% agree

AI helps understand market trends: 43.5% agree

AI provides personalized suggestions: 42% agree

AI reduces investment complexity: 43.5% agree

Regression model: $R = 0.537$; $R^2 = 0.289$; $F = 40.017$; $p < 0.001$

Correlation: Frequency of use vs primary purpose: $r = 0.452$; $p < 0.001$

Chi-square: Reported Pearson $\chi^2 = 99.347$ and 94.209 ; $p < 0.001$

Submission note

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