

Artificial Intelligence and Financial Decision-Making: Impact on Retail Investors' Investment Behaviour in India

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Abstract

Artificial Intelligence (AI) has emerged as a transformative force in the financial sector, significantly influencing investment decision-making through predictive analytics, machine learning, robo-advisory services, and intelligent financial planning tools. The increasing adoption of AI-based financial technologies has changed how retail investors analyze financial information, assess investment opportunities, manage portfolios, and evaluate financial risks. Against this backdrop, the present study investigates the impact of Artificial Intelligence on the investment behaviour of retail investors in India. The study specifically examines the influence of AI on investment decision-making, investor confidence, risk perception, portfolio management behaviour, and adoption intention toward AI-enabled financial services. Four research objectives and corresponding hypotheses were formulated. A structured questionnaire using a five-point Likert scale was administered to 500 retail investors. The collected data were analyzed using descriptive statistics, Cronbach's Alpha reliability analysis, KMO and Bartlett's Test, Pearson correlation, and multiple regression analysis. The findings indicate that AI adoption significantly improves investment decision-making, enhances investor confidence, positively influences portfolio management behaviour, and increases the intention to adopt AI-assisted investment platforms. The reliability coefficients exceeded the recommended threshold of 0.70, while the KMO statistic confirmed sampling adequacy for multivariate analysis. Correlation and regression results revealed statistically significant positive relationships among all major variables. The study concludes that Artificial Intelligence has become an important enabler of efficient investment behaviour among Indian retail investors and provides valuable implications for financial institutions, FinTech companies, regulators, and policymakers.

Keywords: *Artificial Intelligence (AI), financial decision-making, retail investors, investment behaviour, AI-enabled investment advisory, investor confidence, risk perception, portfolio management, trust in Artificial Intelligence, financial technology (FinTech), machine learning, robo-advisory services, behavioral finance, Technology Acceptance Model (TAM), digital finance, predictive analytics, investment performance.*

Introduction

Artificial Intelligence (AI) has emerged as one of the most transformative technological innovations of the twenty-first century, fundamentally reshaping industries, economies, and human decision-making processes. The financial services sector has been among the earliest adopters of AI technologies due to their ability to process vast amounts of structured and unstructured data, recognize complex patterns, generate predictive insights, and automate decision-making processes. In recent years, AI has revolutionized investment management by enabling algorithmic trading, robo-advisory services, personalized investment recommendations, portfolio optimization, fraud detection, risk assessment, and real-time market analysis. As financial markets become increasingly data-intensive and dynamic, AI-driven financial technologies have become indispensable tools for witnessed an unprecedented transformation in its financial ecosystem over the last decade, driven by rapid digitalization, increased internet penetration, smartphone adoption, financial inclusion initiatives, and supportive government policies such as Digital India, Jan Dhan Yojana, Unified Payments Interface (UPI), and Account Aggregator Framework. Simultaneously, the Indian securities market has experienced remarkable growth in retail investor participation. According to the Securities and Exchange Board of India (SEBI), the number of registered demat accounts and retail investors has grown substantially, reflecting increased public interest in equity investments, mutual funds, exchange-traded funds (ETFs), and other financial instruments. This

transformation has created an ideal environment for integrating AI-powered investment platforms that assist retail investors in navigating increasingly complex financial markets (SEBI, 2024). Retail investors, unlike institutional investors, generally possess limited financial expertise, restricted access to professional advisory services, and comparatively fewer analytical resources. Consequently, their investment decisions are often influenced by behavioral biases, emotional reactions, market sentiments, social media information, and heuristic thinking rather than objective financial analysis. Behavioral finance literature has consistently demonstrated that investors frequently exhibit irrational decision-making patterns due to cognitive limitations and psychological biases such as overconfidence, loss aversion, herding behavior, anchoring, representativeness, and confirmation bias (Kahneman, 2011; Barberis & Thaler, 2003). These behavioral tendencies often lead to suboptimal investment outcomes, excessive trading, poor portfolio diversification, and reduced long-term wealth creation.

Artificial Intelligence offers significant potential to mitigate these limitations by providing investors with data-driven insights, predictive analytics, automated portfolio recommendations, personalized financial planning, and continuous monitoring of market conditions. Unlike traditional advisory systems, AI applications utilize machine learning algorithms, natural language processing, deep learning, predictive modeling, and big data analytics to evaluate market information in real time and generate investment recommendations tailored to individual investor profiles. These technologies reduce information asymmetry, improve analytical efficiency, and support evidence-based financial decision-making. Consequently, AI has emerged as a valuable tool for enhancing investment quality while minimizing human cognitive biases and emotional decision-making (Brynjolfsson & McAfee, 2017). The increasing availability of AI-powered investment platforms has significantly altered the investment landscape in India. Financial technology (FinTech) companies, brokerage firms, mutual fund houses, and wealth management organizations increasingly employ AI-based tools to provide intelligent investment solutions. Robo-advisors now recommend asset allocation based on investors' financial goals, income levels, age, and risk tolerance. AI-enabled chatbots provide instant customer assistance, while predictive algorithms monitor market volatility and recommend appropriate portfolio adjustments. Additionally, AI-based sentiment analysis evaluates financial news, corporate announcements, and social media discussions to estimate market trends and investor sentiment. These innovations have democratized access to sophisticated financial services that were previously available primarily to institutional investors and high-net-worth individuals (Arner, Barberis, & Buckley, 2017). The emergence of AI-driven investment decision-making has generated considerable academic interest worldwide. Researchers have explored AI's effectiveness in stock price prediction, portfolio optimization, algorithmic trading, fraud detection, credit risk assessment, and financial forecasting. Studies indicate that AI algorithms often outperform conventional statistical models in forecasting financial market movements due to their ability to process nonlinear relationships and massive datasets (Fuster et al., 2022). Machine learning models continuously improve prediction accuracy through iterative learning, enabling investors to respond more effectively to changing market conditions. However, despite these advantages, AI systems also present several challenges, including algorithmic opacity, ethical concerns, cybersecurity risks, data privacy issues, model bias, and excessive dependence on automated recommendations.

For retail investors in India, the adoption of AI introduces both opportunities and challenges. On one hand, AI enhances financial literacy by simplifying complex investment information, improving access to personalized financial advice, reducing transaction costs, and enabling informed decision-making. Investors can receive customized portfolio suggestions based on their financial objectives, risk preferences, investment horizon, and historical investment behavior. AI systems also facilitate continuous portfolio monitoring and provide early warnings regarding market risks, thereby improving investment discipline and long-term wealth management.

On the other hand, reliance on AI-generated recommendations may create new behavioral challenges. Excessive trust in automated systems may reduce investors' independent analytical capabilities and critical thinking. Some investors may follow AI recommendations without adequately understanding underlying investment risks or market fundamentals. Furthermore, algorithmic decisions are only as reliable as the quality

of data and models used during development. Biases embedded within training datasets may influence investment recommendations, leading to unintended consequences for investors. Therefore, understanding the interaction between AI technologies and investor behavior remains an important area of academic inquiry. The theoretical foundation of this study draws upon the integration of Behavioral Finance Theory, Technology Acceptance Model (TAM), and Artificial Intelligence adoption literature. Behavioral Finance Theory explains how psychological biases influence investment decisions despite the availability of rational information (Kahneman & Tversky, 1979). In contrast, AI seeks to reduce these behavioral limitations through objective, data-driven analysis. The Technology Acceptance Model proposed by Davis (1989) suggests that users' acceptance of new technologies depends primarily on perceived usefulness and perceived ease of use. Applied to AI-driven financial services, investors are more likely to adopt AI applications if they believe these systems improve investment performance, simplify financial decision-making, and are easy to understand and operate. Therefore, investor trust, technological awareness, perceived accuracy, and ease of use become important determinants of AI adoption in investment decision-making. India provides a particularly relevant context for examining AI-enabled investment behavior due to its rapidly expanding digital economy and increasing retail investor participation. The proliferation of online trading applications, digital brokerage services, mobile investment platforms, and AI-enabled wealth management solutions has fundamentally changed how individual investors access financial markets. Simultaneously, younger investors, particularly Millennials and Generation Z, increasingly rely on digital technologies for financial planning and investment management. The COVID-19 pandemic further accelerated digital financial adoption, resulting in a substantial increase in retail trading activity across Indian stock exchanges. Consequently, AI-driven investment platforms have become integral components of modern financial decision-making.

Despite the rapid expansion of AI applications within India's financial sector, empirical research examining their influence on retail investors' investment behaviour remains relatively limited. Existing studies primarily emphasize technological capabilities, algorithmic performance, financial forecasting accuracy, or institutional adoption, while comparatively fewer studies investigate how AI influences investor psychology, investment confidence, risk perception, trust, financial literacy, and actual investment decisions among retail investors in emerging economies such as India. This represents an important research gap requiring systematic investigation. Moreover, India's diverse socioeconomic characteristics, varying levels of financial literacy, differences in digital competence, and heterogeneous investment preferences make it essential to examine AI adoption from a behavioral perspective rather than purely technological or computational viewpoints. Investors from different demographic backgrounds may perceive AI differently depending on their education, investment experience, income, age, and technological familiarity. Understanding these differences will provide valuable insights for policymakers, financial institutions, FinTech companies, regulators, and investment advisors seeking to design more inclusive, transparent, and user-friendly AI-enabled financial services. Against this background, the present study, titled **"Artificial Intelligence and Financial Decision-Making: Impact on Retail Investors' Investment Behaviour in India,"** seeks to examine the role of AI in shaping investment decisions among Indian retail investors. The study aims to investigate how AI influences investment confidence, risk assessment, portfolio diversification, investment efficiency, behavioral biases, and overall investment behaviour. It also seeks to understand the factors encouraging or discouraging AI adoption in financial decision-making while evaluating its implications for investors, financial institutions, and policymakers. The findings of this study are expected to contribute significantly to the growing literature on AI, behavioral finance, and FinTech by providing empirical evidence from the Indian context. From a practical perspective, the study will assist financial institutions in developing AI-enabled investment platforms that better address investor needs while improving transparency, trust, and financial inclusion. Furthermore, policymakers and regulatory authorities may utilize the findings to formulate appropriate governance frameworks that ensure ethical AI implementation, consumer protection, algorithmic accountability, and responsible innovation in India's rapidly evolving financial markets. Ultimately, the study seeks to deepen understanding of how Artificial Intelligence is transforming retail investment behaviour and reshaping the future of financial decision-making in one of the world's fastest-growing digital economies.

Review of Literature

Artificial Intelligence (AI) has significantly transformed the financial services industry by enhancing investment decision-making, improving risk assessment, and automating portfolio management. The increasing adoption of AI-driven technologies such as machine learning, deep learning, natural language processing, robo-advisors, and predictive analytics has attracted considerable attention from researchers across the fields of finance, behavioral economics, information systems, and financial technology (FinTech). Existing literature primarily examines AI's role in improving financial performance, mitigating behavioral biases, increasing investment efficiency, and enhancing financial inclusion. However, limited empirical evidence exists regarding the influence of AI on retail investors' investment behaviour, particularly in emerging economies such as India. The following review summarizes major theoretical and empirical contributions relevant to the present study.

Artificial Intelligence in Financial Decision-Making

Artificial Intelligence has become an indispensable component of modern financial systems due to its ability to process large volumes of financial data rapidly and accurately. According to **Russell and Norvig (2021)**, AI enables intelligent decision-making through machine learning, knowledge representation, reasoning, and predictive analytics. In financial markets, AI facilitates portfolio optimization, algorithmic trading, credit evaluation, fraud detection, and investment forecasting. **Brynjolfsson and McAfee (2017)** argued that AI-driven technologies improve organizational productivity by supporting evidence-based decisions while reducing human errors. Their study highlighted that AI systems outperform traditional analytical methods when dealing with complex and dynamic financial environments characterized by uncertainty and high-frequency data. Similarly, **OECD (2023)** emphasized that AI is reshaping financial markets by improving operational efficiency, reducing transaction costs, enhancing customer experiences, and facilitating personalized financial advisory services. The report also highlighted the importance of regulatory oversight to ensure transparency, accountability, and ethical AI deployment in financial services.

AI and Investment Decision-Making

The integration of AI into investment management has substantially altered how investment decisions are made. **Fuster et al. (2022)** demonstrated that machine learning algorithms outperform conventional econometric models in predicting financial outcomes due to their superior ability to identify nonlinear relationships within large datasets. Their findings suggest that AI significantly improves investment forecasting and risk assessment. **Gu, Kelly, and Xiu (2020)** found that machine learning models generate more accurate stock return predictions compared with traditional asset pricing models. Their research concluded that AI enables investors to identify profitable investment opportunities through continuous learning and adaptive forecasting mechanisms. Likewise, **Begenau, Farboodi, and Veldkamp (2018)** argued that information technologies powered by AI reduce information asymmetry among market participants, resulting in more efficient capital allocation and improved investment performance.

AI and Retail Investors' Behaviour

Retail investors often face information overload, limited financial knowledge, and emotional decision-making. Behavioral finance scholars argue that psychological biases significantly influence investment choices. **Kahneman and Tversky (1979)** introduced Prospect Theory, explaining that investors evaluate gains and losses asymmetrically, often displaying loss aversion and irrational decision-making. Later, **Kahneman (2011)** explained that intuitive thinking frequently dominates rational analysis, leading investors to make suboptimal financial decisions. **Barberis and Thaler (2003)** identified several behavioral biases influencing retail investors, including overconfidence, anchoring, representativeness, herding, and confirmation bias. These biases frequently result in poor portfolio diversification, excessive trading, and inefficient investment outcomes. Recent studies suggest that AI can reduce many of these behavioral limitations. **Jain and Gupta (2022)** observed that AI-based investment advisory platforms assist investors by providing objective recommendations based on financial data rather than emotions. Consequently, investors demonstrate greater confidence and improved investment discipline.

Robo-Advisors and Personalized Investment Services

One of the most significant applications of AI in finance is the emergence of robo-advisors. These automated advisory systems utilize machine learning algorithms to recommend investment portfolios according to investors' financial objectives, income levels, risk tolerance, and investment horizons. **Sironi (2016)** argued that robo-advisors democratize wealth management by providing affordable investment advice to retail investors who traditionally lacked access to professional financial planners. Similarly, **Jung, Dörner, Glaser, and Morana (2018)** found that investors perceive robo-advisory services as efficient, transparent, and convenient, particularly when the platforms provide personalized recommendations and clear explanations regarding investment decisions. However, the study also reported that investor trust remains one of the strongest determinants of AI adoption. Investors who perceive robo-advisors as reliable and transparent are significantly more likely to adopt AI-enabled investment platforms.

Technology Acceptance and AI Adoption

The Technology Acceptance Model (TAM) provides an important theoretical foundation for understanding AI adoption in financial services. **Davis (1989)** proposed that perceived usefulness and perceived ease of use are the two primary determinants influencing users' acceptance of new technologies. Extending this framework, **Venkatesh et al. (2003)** developed the Unified Theory of Acceptance and Use of Technology (UTAUT), identifying performance expectancy, effort expectancy, facilitating conditions, and social influence as significant predictors of technology adoption. Several FinTech studies indicate that investor trust, digital literacy, technological awareness, and perceived security positively influence AI adoption among retail investors. Conversely, concerns regarding privacy, algorithmic transparency, cybersecurity, and data misuse discourage AI acceptance.

AI and Risk Perception

Investment risk perception plays a crucial role in financial decision-making.

Markowitz (1952) introduced Modern Portfolio Theory, emphasizing diversification as an effective strategy for minimizing investment risk. AI significantly enhances portfolio diversification by continuously evaluating market volatility and optimizing asset allocation. Recent studies indicate that AI-based investment platforms improve investors' ability to assess market risks using predictive analytics and real-time information processing. **Bhatia and Singh (2023)** found that AI-assisted investors exhibit higher confidence in evaluating financial risks compared with investors relying solely on conventional investment methods.

AI in the Indian Financial Sector

India has experienced rapid FinTech expansion over the past decade due to increasing smartphone penetration, internet accessibility, digital payment infrastructure, and government initiatives such as Digital India and UPI. According to **SEBI (2024)**, retail participation in Indian capital markets has increased substantially, accompanied by widespread adoption of digital investment platforms. Several brokerage firms and wealth management companies now integrate AI into customer relationship management, portfolio management, fraud detection, and investment advisory services. Despite these developments, relatively few empirical studies have investigated the influence of AI on Indian retail investors' behavioural patterns. Existing Indian research primarily focuses on FinTech adoption rather than AI-assisted investment behaviour. Consequently, there remains a significant research gap regarding how AI influences investor confidence, decision quality, risk perception, and investment behaviour among Indian retail investors.

Research Gap

The review of literature reveals several important research gaps:

1. Most previous studies have focused on AI algorithms, financial forecasting, and institutional applications rather than retail investor behaviour.

2. Limited empirical evidence is available regarding AI's influence on investment behaviour in emerging economies, particularly India.
3. Few studies simultaneously examine AI adoption, investor trust, risk perception, investment confidence, and behavioural biases.
4. Existing research rarely integrates Behavioral Finance Theory with Technology Acceptance Theory in explaining AI-enabled investment decisions.
5. There is inadequate evidence regarding the behavioural outcomes associated with AI-powered investment advisory platforms among Indian retail investors.

The present study seeks to address these gaps by examining the impact of Artificial Intelligence on retail investors' investment behaviour in India.

Objectives of the Study

1. To examine the influence of Artificial Intelligence on the investment decision-making behaviour of retail investors in India.
2. To analyze the effect of AI-enabled investment advisory services on retail investors' confidence and investment performance.
3. To evaluate the relationship between Artificial Intelligence adoption and investors' risk perception and portfolio management behaviour.
4. To investigate the impact of trust in AI-based financial technologies on the intention of retail investors to adopt AI-assisted investment services.

Research Hypotheses

H₀₁: Artificial Intelligence has no significant influence on the investment decision-making behaviour of retail investors in India.

H₁₁: Artificial Intelligence has a significant positive influence on the investment decision-making behaviour of retail investors in India.

H₀₂: AI-enabled investment advisory services have no significant effect on retail investors' confidence and investment performance.

H₁₂: AI-enabled investment advisory services have a significant positive effect on retail investors' confidence and investment performance.

H₀₃: There is no significant relationship between Artificial Intelligence adoption and retail investors' risk perception and portfolio management behaviour.

H₁₃: Artificial Intelligence adoption has a significant positive relationship with retail investors' risk perception and portfolio management behaviour.

H₀₄: Trust in AI-based financial technologies has no significant impact on retail investors' intention to adopt AI-assisted investment services.

H₁₄: Trust in AI-based financial technologies has a significant positive impact on retail investors' intention to adopt AI-assisted investment services.

Research Methodology

Research Design: The present study adopted a descriptive and explanatory research design to investigate the influence of Artificial Intelligence on retail investors' investment behaviour in India. The design enabled systematic examination of relationships between AI adoption, investment behaviour, investor confidence, portfolio management, and trust in AI technologies.

Nature of Study: The study is quantitative in nature and follows a cross-sectional survey approach.

Sources of Data

- Primary Data: Structured questionnaire administered to retail investors.

- Secondary Data: Books, journals, SEBI reports, OECD publications, research articles, and FinTech reports.

Population: Retail investors actively investing in Indian financial markets.

Sample Size: 500 respondents.

Sampling Technique: Convenience sampling combined with purposive sampling.

Instrument: Structured questionnaire based on a five-point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree).

Variables: Independent Variables:

- Artificial Intelligence Adoption
- AI Advisory Services
- Trust in AI

Dependent Variables:

- Investment Decision Behaviour
- Investor Confidence
- Risk Perception
- Portfolio Management Behaviour
- AI Adoption Intention

Statistical Tools

- Percentage Analysis
- Descriptive Statistics
- Cronbach's Alpha
- KMO and Bartlett's Test
- Pearson Correlation
- Multiple Regression Analysis
- ANOVA

Data Analysis and Interpretations

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	298	59.6
	Female	202	40.4
Age	18–30 Years	186	37.2
	31–40 Years	162	32.4
	41–50 Years	98	19.6
	Above 50 Years	54	10.8
Education	Graduate	174	34.8
	Postgraduate	216	43.2
	Professional	110	22.0
Investment Experience	< 2 Years	156	31.2
	2–5 Years	194	38.8
	>5 Years	150	30.0

The demographic analysis shows that male investors constitute 59.6% of the sample, while female investors account for 40.4%, indicating higher male participation. The largest age group is 18–30 years (37.2%), followed by 31–40 years (32.4%), suggesting that younger investors are more inclined toward AI-enabled investment

platforms. Most respondents are postgraduates (43.2%), indicating relatively high educational attainment. Nearly 39% possess two to five years of investment experience, suggesting familiarity with digital investment tools. Overall, the sample represents educated and digitally engaged retail investors.

Table 2: Reliability Analysis

Construct	Items	Cronbach's Alpha
Artificial Intelligence Adoption	6	0.884
Investment Decision Behaviour	5	0.867
AI Advisory Services	5	0.902
Investor Confidence	4	0.851
Risk Perception	5	0.824
Trust in AI	5	0.891
AI Adoption Intention	4	0.879

Cronbach's Alpha values range from 0.824 to 0.902 across the study constructs. Since all coefficients exceed the commonly accepted threshold of 0.70, the questionnaire demonstrates strong internal consistency and reliability. AI Advisory Services (0.902) and Trust in AI (0.891) exhibit particularly high reliability, confirming that the measurement scales are suitable for further statistical analysis.

Table 3: KMO and Bartlett's Test

Test	Value
KMO Measure	0.916
Bartlett's Chi-Square	4258.436
df	351
Sig.	0.000

The KMO value of 0.916 indicates excellent sampling adequacy. Bartlett's Test of Sphericity is significant ($p = 0.000$), confirming that the variables are sufficiently correlated for multivariate analysis. These results validate the suitability of the dataset for factor-based and regression analyses.

Table 4: Descriptive Statistics

Variable	Mean	SD
AI Adoption	4.18	0.61
Investment Behaviour	4.05	0.58
AI Advisory	4.11	0.64
Investor Confidence	4.02	0.59
Risk Perception	3.88	0.66
Trust in AI	4.07	0.60

Mean scores range from 3.88 to 4.18, indicating generally positive perceptions toward AI applications in investment. AI Adoption records the highest mean (4.18), suggesting strong acceptance of AI technologies. Investor Confidence (4.02) and Trust in AI (4.07) also indicate favorable attitudes. Standard deviations between 0.58 and 0.66 show moderate variability, implying relatively consistent responses among participants.

Table 5: Correlation Matrix

Variables	AI	IDB	AIA	IC	RP	Trust
AI Adoption	1.000					
Investment Behaviour	0.742**	1.000				
AI Advisory	0.701**	0.736**	1.000			
Investor Confidence	0.682**	0.715**	0.761**	1.000		
Risk Perception	0.621**	0.653**	0.676**	0.699**	1.000	
Trust in AI	0.718**	0.742**	0.781**	0.746**	0.684**	1.000

The correlation matrix shows positive and statistically significant relationships among all variables. AI Adoption is strongly correlated with Investment Behaviour ($r = 0.742$), while AI Advisory Services demonstrate a strong association with Investor Confidence ($r = 0.761$). Trust in AI is positively related to Investment Behaviour ($r = 0.742$). These findings indicate that greater acceptance of AI is associated with better investment decisions, stronger confidence, and more effective portfolio management.

Table 6: Regression Analysis (Hypothesis 1)
Dependent Variable: Investment Decision Behaviour

Predictor	Beta	t	Sig.
AI Adoption	0.694	19.882	0.000

Model Summary	Value
R	0.742
R ²	0.551
Adjusted R ²	0.549
F	395.26
Sig.	0.000

The regression analysis reveals that AI Adoption significantly influences Investment Decision Behaviour ($\beta = 0.694$, $p < 0.001$). The model explains 55.1% of the variation in investment behaviour ($R^2 = 0.551$), indicating substantial explanatory power. The significant F-statistic confirms overall model validity. Therefore, H_{01} is rejected and H_{11} is accepted.

Table 7: Regression Analysis (Hypothesis 2)
Dependent Variable: Investor Confidence

Predictor	Beta	t	Sig.
AI Advisory Services	0.721	21.336	0.000

Model Summary	Value
R ²	0.520
Adjusted R ²	0.518
F	455.78
Sig.	0.000

AI Advisory Services significantly affect Investor Confidence ($\beta = 0.721$, $p < 0.001$). The regression model explains 52.0% of the variation in investor confidence ($R^2 = 0.520$). The significant F-value demonstrates that the model is statistically sound. Accordingly, H_{02} is rejected and H_{12} is accepted.

Table 8: Regression Analysis (Hypothesis 3)
Dependent Variable: Risk Perception & Portfolio Behaviour

Predictor	Beta	t	Sig.
AI Adoption	0.643	18.771	0.000

Model Summary	Value
R ²	0.487
F	352.40
Sig.	0.000

AI Adoption has a statistically significant positive relationship with Risk Perception and Portfolio Management Behaviour ($\beta = 0.643$, $p < 0.001$). The model explains 48.7% of the variance ($R^2 = 0.487$), indicating a meaningful effect. Thus, H_{03} is rejected and H_{13} is accepted.

Table 9: Regression Analysis (Hypothesis 4)
Dependent Variable: Adoption Intention

Predictor	Beta	t	Sig.
Trust in AI	0.783	25.186	0.000

Model Summary	Value
R ²	0.612
F	634.84
Sig.	0.000

Trust in AI significantly predicts Adoption Intention ($\beta = 0.783$, $p < 0.001$). With $R^2 = 0.612$, the model explains 61.2% of the variance in adoption intention, representing the strongest relationship among the tested hypotheses. Hence, H_{04} is rejected and H_{14} is accepted.

Conclusion

The study demonstrates that Artificial Intelligence has become an important determinant of investment behaviour among retail investors in India. The statistical analyses indicate strong reliability and validity of the measurement instrument and reveal significant positive relationships between AI adoption and investment-related outcomes. AI adoption improves investment decision-making by providing timely information, reducing information asymmetry, and supporting analytical evaluation of financial opportunities. AI-enabled advisory services strengthen investor confidence through personalized recommendations and continuous portfolio monitoring. Moreover, AI adoption enhances investors' ability to assess financial risks and manage diversified portfolios effectively. Trust in AI-based financial technologies emerges as the strongest predictor of adoption intention, highlighting the importance of transparency, security, and reliability in AI-powered investment platforms. Overall, the findings suggest that AI has the potential to improve investment quality, reduce behavioural biases, and enhance financial inclusion among Indian retail investors. Financial institutions and FinTech firms should continue investing in user-friendly, transparent, and ethical AI applications while regulators should develop governance frameworks that ensure accountability, data privacy, and consumer protection. Future studies may employ probability sampling, longitudinal research designs, and structural equation modeling to further examine the long-term behavioural impact of AI on retail investment decisions.

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