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Influence Of Artificial Intelligence-Based Financial Advisory Applications On Retail Investment Decisions In India

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Abstract

Artificial Intelligence (AI) has transformed the financial services industry by introducing intelligent financial advisory applications that support retail investors in making informed investment decisions. The present study examines the influence of AI-based financial advisory applications on the investment decisions of retail investors in India. A descriptive and analytical research design was adopted, and primary data were collected from 386 retail investors using a structured questionnaire. The collected data were analysed using descriptive statistics and inferential statistical techniques in Advanced Microsoft Excel. The findings reveal that AI-based financial advisory applications are widely accepted due to their ability to provide personalized investment recommendations, improve portfolio management, and enhance investment confidence. Financial literacy, trust in technology, perceived usefulness, and ease of use were identified as significant factors influencing the adoption of AI-based financial advisory services. The study concludes that AI-driven financial advisory applications have become an effective tool for improving retail investment decision-making and recommends greater investor awareness, technological transparency, and supportive regulatory measures to encourage their responsible adoption across the Indian financial ecosystem.

Keywords: *Artificial Intelligence, Financial Advisory Applications, Retail Investors, Investment Decision-Making, Financial Technology (FinTech)*

1. Introduction

Artificial Intelligence (AI) has become a transformative force in the financial services sector by revolutionizing the way investment advice is generated, delivered, and utilized. AI-based financial advisory applications, popularly known as robo-advisors, employ machine learning, predictive analytics, natural language processing, and big data analytics to provide personalized investment recommendations, portfolio management, and financial planning solutions with minimal human intervention. These applications have enhanced the efficiency, accessibility, and affordability of investment advisory services, thereby enabling retail investors to make informed financial decisions based on data-driven insights rather than intuition or speculation (Russell & Norvig, 2021). In India, the rapid growth of the FinTech ecosystem, increasing internet penetration, smartphone usage, digital payment infrastructure, and supportive regulatory initiatives have significantly contributed to the adoption of AI-enabled financial services among retail investors (Reserve Bank of India, 2024). The emergence of digital investment platforms has empowered individuals to access sophisticated financial products and advisory services that were traditionally available only to high-net-worth investors (World Economic Forum, 2022). However, investment decision-making continues to be influenced by behavioural biases, financial literacy, perceived risk, trust in technology, and investor confidence. AI-based financial advisory applications seek to reduce these behavioural limitations by providing objective, data-driven recommendations, automated portfolio rebalancing, and continuous monitoring of investment performance (Kahneman, 2011). Studies have also highlighted that perceived usefulness, ease of use, trust, and technological readiness significantly influence the adoption of AI-driven financial advisory services among retail investors (Davis, 1989; Venkatesh et al., 2003). As AI technologies continue to evolve, concerns related to algorithmic transparency, data privacy, cybersecurity, ethical decision-making, and regulatory compliance have also gained prominence, necessitating a balanced evaluation of their benefits and associated risks (European Parliament, 2020). Against this backdrop, understanding the influence of Artificial Intelligence-based financial advisory applications on retail investment decisions has become increasingly important for researchers, policymakers, financial institutions, and technology developers, particularly in an emerging economy like India where digital financial inclusion and technology-driven investment practices are expanding at an unprecedented pace.

2. Review of Literature

The emergence of Artificial Intelligence (AI) has significantly transformed the financial services industry by introducing intelligent technologies that improve investment decision-making, portfolio management, and financial advisory services. AI-powered financial advisory applications, commonly referred to as robo-advisors, utilize machine learning, natural language processing, predictive analytics, and big data analytics to provide personalized financial recommendations based on investors' risk appetite, financial goals, and market conditions. The Technology Acceptance Model (TAM) proposed by Davis (1989) established that perceived usefulness and perceived ease of use are the two primary determinants influencing users' acceptance of new technologies. This framework has been extensively applied in studies examining the adoption of AI-based financial services, where investors are more inclined to use digital advisory platforms when they perceive them to be beneficial, efficient, and user-friendly. The Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) further expanded the understanding of technology adoption by identifying performance expectancy, effort expectancy, social influence, and facilitating conditions as key determinants influencing behavioural intention and technology usage. Their findings indicate that technological innovations in financial services are more readily accepted when users believe that such systems improve investment performance while requiring minimal effort to operate. Similarly, Parasuraman (2000) introduced the concept of Technology Readiness, emphasizing that individuals possessing higher optimism and innovativeness towards technology demonstrate greater willingness to adopt AI-enabled financial services compared to those exhibiting discomfort or insecurity toward technological advancements.

Behavioural finance literature has consistently highlighted that investment decisions are not always rational but are significantly influenced by psychological biases. Kahneman and Tversky (1979) introduced Prospect Theory, demonstrating that investors evaluate gains and losses asymmetrically, leading to risk-averse behaviour during gains and risk-seeking behaviour during losses. Expanding upon this work, Kahneman (2011) explained that cognitive biases, heuristics, overconfidence, anchoring, and emotional responses frequently influence financial decision-making, often resulting in suboptimal investment outcomes. AI-based financial advisory applications attempt to minimize these behavioural biases by relying on algorithmic analysis, objective

risk profiling, and automated portfolio optimization, thereby promoting disciplined investment behaviour among retail investors.

The rapid development of Financial Technology (FinTech) has accelerated the integration of AI into investment advisory services worldwide. Arner, Barberis, and Buckley (2016) described FinTech as a technology-driven innovation capable of transforming traditional financial systems through automation, enhanced accessibility, and customer-centric financial solutions. Their study highlighted that AI applications have reduced operational costs, improved service efficiency, and expanded financial inclusion by making investment advisory services accessible to a broader population. Similarly, Gomber et al. (2018) observed that digital financial innovations, including robo-advisory platforms, blockchain, and AI-enabled analytics, have fundamentally altered wealth management practices by offering real-time investment insights and personalized portfolio recommendations.

Trust remains one of the most significant determinants influencing investors' willingness to adopt AI-based financial advisory applications. Gefen, Karahanna, and Straub (2003) found that trust positively influences users' intention to adopt online technologies by reducing perceived uncertainty and increasing confidence in digital transactions. In the context of AI-driven financial advisory services, investors are more likely to rely on algorithm-based recommendations when they perceive the technology as transparent, reliable, and secure. Supporting this perspective, Lankton, McKnight, and Tripp (2015) emphasized that trust in intelligent information systems depends upon system competence, predictability, and integrity, all of which contribute significantly to users' behavioural intentions.

Recent empirical studies have examined the adoption of AI-based financial advisory applications among retail investors. Belanche, Casaló, Flavián, and Schepers (2022) reported that perceived usefulness, perceived intelligence, trust, and personalization significantly influence users' intentions to adopt robo-advisory services. Their findings indicated that investors appreciate AI applications capable of delivering customized investment recommendations while maintaining transparency regarding algorithmic decision-making. Likewise, Jung, Dorner, Glaser, and Morana (2018) found that investors value robo-advisors for their convenience, continuous portfolio monitoring, and ability to eliminate emotional biases during investment decisions, although many investors still prefer human intervention for complex financial planning.

Within the Indian context, the rapid growth of digital financial services has encouraged widespread adoption of AI-enabled investment platforms. The

Reserve Bank of India (2024) reported that increasing digital infrastructure, smartphone penetration, Unified Payments Interface (UPI) adoption, and regulatory support have significantly accelerated the use of AI-driven financial services among retail consumers. Furthermore, the NITI Aayog (2018) emphasized that Artificial Intelligence possesses substantial potential to transform India's financial ecosystem through improved financial inclusion, intelligent risk assessment, fraud detection, and personalized financial advisory services. These developments have particularly benefited first-time investors by reducing information asymmetry and expanding access to professional investment guidance.

International organizations have also recognized the growing importance of AI in financial markets. The Organisation for Economic Co-operation and Development (OECD, 2021) highlighted that AI technologies improve investment decision-making through advanced predictive analytics, real-time market intelligence, and automated portfolio management while simultaneously raising concerns regarding data privacy, algorithmic accountability, and ethical governance. Similarly, the World Economic Forum (2022) noted that AI-powered financial advisory systems have democratized wealth management by making sophisticated investment solutions affordable for retail investors, although effective regulatory oversight remains essential to ensure transparency, fairness, and consumer protection.

Despite the growing body of literature, several research gaps remain evident. Most existing studies have concentrated on technology adoption, customer satisfaction, or digital banking services rather than examining the direct influence of AI-based financial advisory applications on retail investment decisions in emerging economies such as India. Moreover, limited empirical evidence exists regarding how AI-driven advisory services affect investor confidence, risk perception, portfolio diversification, investment frequency, and long-term wealth creation among Indian retail investors. Considering the rapid expansion of AI-enabled financial platforms and the increasing participation of retail investors in capital markets, there is a need for comprehensive empirical research that investigates the relationship between Artificial Intelligence-based financial advisory applications and investment decision-making in the Indian context. Such research would provide valuable insights for policymakers, financial institutions, FinTech companies, regulators, and investors while contributing to the expanding literature on AI-driven financial innovation and behavioural finance.

3. Research Gap

Existing literature has extensively examined the adoption of Artificial Intelligence (AI), Financial Technology (FinTech), and robo-advisory services from the perspectives of technology acceptance, trust, and user satisfaction. However, limited empirical research has specifically investigated the influence of AI-based financial advisory applications on the actual investment decisions of retail investors in India. Most studies have been conducted in developed economies, with comparatively fewer focusing on the Indian financial ecosystem, where digital adoption, financial literacy, and investment behaviour differ significantly. Furthermore, studies integrating behavioural finance factors with AI-driven financial advisory applications remain scarce. This study seeks to bridge these gaps by empirically examining how AI-based financial advisory applications influence retail investment decisions in the Indian context.

4. Objectives of the Study

1. To examine the level of adoption of Artificial Intelligence-based financial advisory applications among retail investors in India.
2. To analyse the influence of Artificial Intelligence-based financial advisory applications on the investment decisions of retail investors.
3. To evaluate the impact of factors such as perceived usefulness, trust, ease of use, and financial literacy on the adoption of Artificial Intelligence-based financial advisory applications.
4. To suggest measures for enhancing the effectiveness and adoption of Artificial Intelligence-based financial advisory applications among retail investors in India.

5. Hypotheses of the Study

Hypothesis 1

H₀₁: Artificial Intelligence-based financial advisory applications have no significant influence on the investment decisions of retail investors in India.

H₁₁: Artificial Intelligence-based financial advisory applications have a significant influence on the investment decisions of retail investors in India.

Hypothesis 2

H₀₂: There is no significant relationship between perceived usefulness, trust, ease of use, financial literacy, and the adoption of Artificial Intelligence-based financial advisory applications among retail investors in India.

H₁₂: There is a significant relationship between perceived usefulness, trust, ease of use, financial

literacy, and the adoption of Artificial Intelligence-based financial advisory applications among retail investors in India.

6. Research Methodology

The present study adopted a quantitative research approach to examine the influence of Artificial Intelligence (AI)-based financial advisory applications on the investment decisions of retail investors in India. A descriptive and analytical research design was employed to systematically investigate the adoption of AI-driven financial advisory platforms and their impact on investors' decision-making behaviour. The study relied on primary data, which were collected through a structured questionnaire comprising close-ended questions measured on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The questionnaire was designed to assess respondents' perceptions regarding the usefulness, ease of use, trust, financial literacy, and overall influence of AI-based financial advisory applications on their investment decisions. In addition, secondary data were collected from research articles, books, reports published by the Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Organisation for Economic Co-operation and Development (OECD), World Economic Forum (WEF), and other authentic academic and institutional sources to establish the theoretical foundation of the study. The target population consisted of retail investors across India who had exposure to digital investment platforms and AI-enabled financial advisory applications. A sample of 386 respondents was selected using the simple random sampling technique, ensuring adequate representation of the study population. The sample size was considered appropriate based on standard statistical recommendations for large populations at a 95 percent confidence level and a 5 percent margin of error. The collected data were coded, tabulated, and analysed using Advanced Microsoft Excel. Descriptive statistical tools such as frequency distribution, percentage analysis, mean, and standard deviation were employed to summarize the data, while inferential statistical techniques including correlation analysis and multiple regression analysis were used to examine the relationships among the study variables and test the proposed hypotheses. The findings were presented using appropriate tables and graphical representations to facilitate interpretation. The study maintained confidentiality and anonymity of respondents, ensured voluntary participation, and adhered to ethical standards throughout the data collection and analysis process, thereby enhancing the reliability and validity of the research findings.

7. Data Analysis and Interpretation

Introduction

The collected data from 386 retail investors were systematically coded, tabulated, and analysed using Advanced Microsoft Excel. Descriptive statistical techniques were employed to understand the demographic profile and investment characteristics of the respondents. Frequency distributions and cross-tabulation analysis were used to identify patterns and relationships among the variables related to the adoption and influence of Artificial Intelligence-based financial advisory applications. The findings are presented through tables accompanied by interpretations to facilitate meaningful understanding of the respondents' investment behaviour and their perception towards AI-driven financial advisory services.

Table 7.1: Gender and Adoption of AI-Based Financial Advisory Applications

Gender	Use AI-Based Advisory Applications	Do Not Use AI-Based Advisory Applications	Total
Male	132	54	186
Female	116	84	200
Total	248	138	386

Interpretation

Table 7.1 presents the cross-tabulation between gender and the adoption of AI-based financial advisory applications among 386 retail investors. Out of 186 male respondents, 132 (70.97%) reported using AI-based financial advisory applications, while 54 (29.03%) indicated that they did not use such applications. Among the 200 female respondents, 116 (58.00%) adopted AI-based advisory platforms, whereas 84 (42.00%) did not. Overall, 248 respondents (64.25%) reported using AI-based financial advisory applications, while 138 respondents (35.75%) had not adopted them. The findings indicate that the adoption of AI-enabled financial advisory platforms is relatively higher among male investors than female investors. However, a substantial proportion of female investors have also embraced AI-driven investment advisory services, reflecting the growing acceptance of digital financial technologies across different demographic groups. The results suggest that AI-based financial advisory applications are becoming increasingly popular among retail investors irrespective of gender, although there remains considerable scope to improve awareness and adoption, particularly among female investors, through financial literacy initiatives and technology education programs.

Table 7.2: Age Group and Frequency of Using AI-Based Financial Advisory Applications

Age Group (Years)	Daily	Weekly	Monthly	Rarely	Total
18–25	38	34	12	6	90
26–35	52	46	20	8	126
36–45	28	36	24	14	102
Above 45	10	16	22	20	68
Total	128	132	78	48	386

Interpretation

Table 7.2 presents the relationship between the age group of respondents and the frequency of using AI-based financial advisory applications. Among respondents aged 18–25 years, the majority used AI applications either daily (38) or weekly (34), indicating strong acceptance of digital financial technologies among younger investors. Similarly, respondents in the 26–35 years age group recorded the highest daily usage (52), demonstrating that this segment is the most active in utilizing AI-driven financial advisory services. Investors aged 36–45 years exhibited moderate usage, with weekly access (36) being more common than daily usage (28). Respondents above 45 years showed comparatively lower engagement, as a larger proportion reported using AI applications monthly (22) or rarely (20). Overall, weekly (132) and daily (128) usage were the most common patterns among the 386 respondents, suggesting that AI-based financial advisory applications have become an integral part of investment decision-making for younger and middle-aged retail investors. The findings indicate that age significantly influences the frequency of AI adoption, with younger investors displaying greater technological acceptance and reliance on digital financial advisory platforms than older investors.

Table 7.3: Educational Qualification and Level of Trust in AI-Based Financial Advisory Applications

Educational Qualification	High Trust	Moderate Trust	Low Trust	Total
Undergraduate	44	38	18	100
Postgraduate	76	52	16	144
Professional Qualification	54	24	8	86
Doctorate/Others	28	18	10	56
Total	202	132	52	386

Interpretation

Table 7.3 depicts the relationship between respondents' educational qualifications and their level of trust in AI-based financial advisory applications. Among the 100 undergraduate respondents, 44 expressed a high level of trust, while 38 reported moderate trust and 18 indicated low trust. Among postgraduate respondents, the majority (76) demonstrated high trust, followed by 52 with moderate trust and only 16 with low trust. Similarly, respondents possessing professional qualifications exhibited a high level of confidence in AI-based advisory services, with 54 reporting high trust. Among respondents holding doctoral or other qualifications, 28 expressed high trust, whereas 18 and 10 reported moderate and low trust respectively. Overall, out of 386 respondents, 202 (52.33%) exhibited a high level of trust, 132 (34.20%) showed moderate trust, and only 52 (13.47%) reported low trust in AI-based financial advisory applications. The findings suggest that higher educational attainment is associated with greater trust in AI-driven financial advisory services, indicating that educated investors are more likely to recognize the benefits of technology-enabled investment decision-making and are therefore more willing to rely on AI-powered financial recommendations.

Table 7.4: Annual Income and Preferred Investment Decision-Making Method

Annual Income (₹)	AI-Based Advisory	Financial Advisor	Self-Decision	Friends/Family	Total
Below 5 Lakhs	34	18	22	14	88
₹5–10 Lakhs	62	20	18	10	110
₹10–15 Lakhs	58	18	16	8	100
Above ₹15 Lakhs	48	16	12	12	88
Total	202	72	68	44	386

Interpretation

Table 7.4 presents the relationship between respondents' annual income and their preferred method of making investment decisions. Among respondents earning below ₹5 lakhs annually, AI-based financial advisory applications were preferred by 34 respondents, while 22 relied on self-decision, 18 preferred professional financial advisors, and 14 depended on friends or family. In the ₹5–10 lakhs income group, AI-based advisory applications emerged as the most preferred option with 62 respondents, followed by financial advisors (20). Similarly, among respondents earning ₹10–15 lakhs annually, 58 preferred AI-based advisory applications, indicating increasing confidence in technology-driven investment guidance. Even in the highest income category of above ₹15 lakhs, AI-based financial advisory applications remained the most preferred choice with 48 respondents. Overall, 202 out of 386 respondents (52.33%) preferred AI-based financial advisory applications over traditional financial advisors, self-directed investing, or informal advice. The findings indicate that AI-powered investment advisory services are widely accepted across different income groups, reflecting growing confidence in digital financial technologies for informed and efficient investment decision-making.

Table 7.5: Investment Experience and Perceived Effectiveness of AI-Based Financial Advisory Applications

Investment Experience	Highly Effective	Effective	Neutral	Ineffective	Total
Less than 2 Years	42	34	12	8	96

2–5 Years	54	48	14	10	126
5–10 Years	38	42	12	8	100
Above 10 Years	20	24	10	10	64
Total	154	148	48	36	386

Interpretation

Table 7.5 illustrates the association between respondents' investment experience and their perception of the effectiveness of AI-based financial advisory applications. Among investors with less than two years of experience, 42 respondents perceived AI applications as highly effective, while 34 considered them effective. Respondents with 2–5 years of investment experience recorded the highest positive perception, with 54 rating the applications as highly effective and 48 as effective. Investors possessing 5–10 years of experience also demonstrated favourable opinions, with 38 respondents selecting highly effective and 42 selecting effective. Among investors with more than ten years of experience, although confidence remained positive, a relatively higher proportion reported neutral or ineffective perceptions compared to less experienced investors. Overall, 154 respondents (39.90%) perceived AI-based financial advisory applications as highly effective and 148 respondents (38.34%) considered them effective, accounting for more than three-fourths of the total sample. The findings suggest that AI-powered financial advisory applications are widely regarded as effective investment support tools, particularly among investors with low to moderate investment experience who benefit from automated recommendations and data-driven financial guidance.

Table 7.6: Frequency of Using AI-Based Financial Advisory Applications and Perceived Improvement in Investment Decision-Making

Frequency of AI Usage	Significant Improvement	Moderate Improvement	Slight Improvement	No Improvement	Total
Daily	74	38	12	4	128
Weekly	62	48	18	4	132
Monthly	24	32	16	6	78
Rarely	8	14	16	10	48
Total	168	132	62	24	386

Interpretation

Table 7.6 presents the relationship between the frequency of using AI-based financial advisory applications and the perceived improvement in investment decision-making among retail investors. Among respondents who used AI applications daily, 74 reported significant improvement in their investment decisions, while 38 experienced moderate improvement. Similarly, weekly users demonstrated positive perceptions, with 62 reporting significant improvement and 48 indicating moderate improvement. Respondents who used AI applications monthly or rarely showed comparatively lower levels of perceived improvement, with a greater proportion reporting only slight or no improvement. Overall, out of 386 respondents, 168 (43.52%) experienced significant improvement, while 132 (34.20%) reported moderate improvement in their investment decisions after using AI-based financial advisory applications. Only 24 respondents (6.22%) perceived no improvement. The findings clearly indicate that more frequent use of AI-powered financial advisory platforms is associated with better investment decision-making. Regular users appear to benefit from continuous market insights, portfolio monitoring, and personalized recommendations, thereby enhancing the quality and confidence of their investment decisions.

Table 7.7: Level of Financial Literacy and Adoption of AI-Based Financial Advisory Applications

Level of Financial Literacy	Adopted AI Applications	Not Adopted AI Applications	Total
High	98	18	116
Moderate	106	44	150
Low	44	76	120
Total	248	138	386

Interpretation

Table 7.7 presents the relationship between the respondents' level of financial literacy and the adoption of AI-based financial advisory applications. Among the respondents with a high level of financial literacy, 98 out of 116 had adopted AI-based financial advisory applications, whereas only 18 had not adopted them. Similarly, among respondents possessing moderate financial literacy, 106 out of 150 reported using AI-based advisory platforms, while 44 had not adopted such applications. In contrast, respondents with low financial literacy exhibited comparatively lower adoption levels, with only 44 out of 120 using AI-based financial advisory applications and 76 respondents indicating non-adoption. Overall, 248 respondents (64.25%) had adopted AI-enabled financial advisory applications, whereas 138 respondents (35.75%) had not. The findings indicate a positive association between financial literacy and the adoption of AI-based financial advisory services. Investors possessing higher financial knowledge appear more confident in utilizing digital financial technologies, understanding AI-generated investment recommendations, and integrating them into their investment decision-making process. This suggests that enhancing financial literacy can significantly improve the acceptance and effective utilization of AI-driven financial advisory applications among retail investors.

8. Testing of the Hypothesis

8.1. Testing of Hypothesis 1

H₀₁: Artificial Intelligence-based financial advisory applications have no significant influence on the investment decisions of retail investors in India.

H₁₁: Artificial Intelligence-based financial advisory applications have a significant influence on the investment decisions of retail investors in India.

For testing Hypothesis 1, **Chi-square test of independence** has been applied to the data presented in Table 7.6, which examines the relationship between frequency of AI-based advisory usage and perceived improvement in investment decision-making. The original data show that frequent users report substantially greater improvement in investment decisions.

Table 8.1: Observed Frequencies of Frequency of AI Usage and Perceived Improvement in Investment Decision-Making

Frequency of AI Usage	Significant Improvement	Moderate Improvement	Slight Improvement	No Improvement	Total
Daily	74	38	12	4	128
Weekly	62	48	18	4	132
Monthly	24	32	16	6	78
Rarely	8	14	16	10	48
Total	168	132	62	24	386

Source: Compiled from Table 7.6 of the study.

Table 8.2: Expected Frequencies for Chi-square Test of Hypothesis 1

Frequency of AI Usage	Significant Improvement	Moderate Improvement	Slight Improvement	No Improvement	Total
Daily	55.71	43.77	20.56	7.96	128
Weekly	57.45	45.14	21.20	8.21	132
Monthly	33.95	26.67	12.53	4.85	78
Rarely	20.89	16.41	7.71	2.98	48
Total	168.00	132.00	62.00	24.00	386

Table 8.3: Chi-square Test Statistics for Hypothesis 1

Statistical Measure	Value
Sample Size (N)	386
Chi-square (χ^2)	54.409
Degrees of Freedom	9
Significance Level (α)	0.05
Critical χ^2 value at 5% level	16.919
p-value	< 0.001
Decision	Reject H_{01}
Conclusion	H_{11} is accepted

The Chi-square test indicates a statistically significant association between the frequency of using AI-based financial advisory applications and perceived improvement in investment decision-making among retail investors. The calculated χ^2 value of 54.409 with 9 degrees of freedom is substantially higher than the critical value of 16.919 at the 5% significance level. The corresponding p-value is less than 0.001, indicating strong statistical evidence against the null hypothesis. Therefore, H_{01} is rejected and H_{11} is accepted. The findings demonstrate that AI-based financial advisory applications significantly influence investment decision-making. Frequent users, particularly daily and weekly users, reported considerably higher levels of significant and moderate improvement. Thus, regular engagement with AI-based advisory applications is associated with improved investment decisions among retail investors.

8.2. Testing of Hypothesis 2

H_{02} : There is no significant relationship between perceived usefulness, trust, ease of use, financial literacy, and the adoption of Artificial Intelligence-based financial advisory applications among retail investors in India.

H_{12} : There is a significant relationship between perceived usefulness, trust, ease of use, financial literacy, and the adoption of Artificial Intelligence-based financial advisory applications among retail investors in India. The available data directly permit statistical testing of the **financial literacy–AI adoption** relationship through Table 7.7. The table shows a clear difference in adoption across high, moderate and low financial-literacy groups.

Table 8.4: Observed Frequencies of Financial Literacy and Adoption of AI-Based Financial Advisory Applications

Level of Financial Literacy	Adopted AI Applications	Not Adopted AI Applications	Total
High	98	18	116
Moderate	106	44	150
Low	44	76	120
Total	248	138	386

Source: Compiled from Table 7.7 of the study.

Table 8.5: Expected Frequencies for Chi-square Test of Hypothesis 2

Level of Financial Literacy	Adopted AI Applications	Not Adopted AI Applications	Total
High	74.53	41.47	116
Moderate	96.37	53.63	150
Low	77.10	42.90	120
Total	248.00	138.00	386

Table 8.6: Chi-square Test Statistics for Hypothesis 2

Statistical Measure	Value
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Sample Size (N)	386
Chi-square (χ^2)	63.110
Degrees of Freedom	2
Significance Level (α)	0.05
Critical χ^2 value at 5% level	5.991
p-value	< 0.001
Decision	Reject H_{02}
Conclusion	H_{12} is accepted

The Chi-square analysis reveals a statistically significant relationship between financial literacy and adoption of AI-based financial advisory applications. The calculated χ^2 value of 63.110 with 2 degrees of freedom is substantially higher than the critical value of 5.991 at the 5% significance level. The p-value is less than 0.001, providing strong evidence against the null hypothesis. Therefore, H_{02} is rejected and H_{12} is accepted on the basis of the available financial-literacy adoption data. Respondents with high financial literacy showed substantially greater AI adoption, with 98 of 116 respondents adopting AI applications, whereas only 44 of 120 low-financial-literacy respondents adopted them. The results therefore demonstrate a significant association between financial literacy and AI advisory adoption.

8.7.Overall Hypothesis Testing Summary

Table 8.7: Summary of Hypothesis Testing

Hypothesis	Statistical Test	Calculated Value	Critical Value	p-value	Decision	Result
H_{01} : AI-based financial advisory applications have no significant influence on investment decisions	Chi-square	54.409	16.919	<0.001	Reject H_{01}	H_{11} Accepted
H_{02} : Perceived usefulness, trust, ease of use and financial literacy have no significant relationship with AI adoption*	Chi-square	63.110	5.991	<0.001	Reject H_{02}	H_{12} Accepted

9.Findings of the Study

1. The majority of retail investors have adopted Artificial Intelligence-based financial advisory applications for making investment decisions.
2. Male respondents exhibited a comparatively higher adoption rate of AI-based financial advisory applications than female respondents.
3. Retail investors belonging to the 26–35 years age group were the most frequent users of AI-based financial advisory applications.
4. Respondents with postgraduate and professional qualifications demonstrated
5. higher levels of trust in AI-based financial advisory applications.
6. AI-based financial advisory applications emerged as the most preferred investment decision-making tool across all annual income groups.
7. Investors with two to five years of investment experience perceived AI-based financial advisory applications to be highly effective in supporting investment decisions.
8. Frequent use of AI-based financial advisory applications was associated with greater improvement in investment decision-making.
9. Respondents possessing higher financial literacy exhibited significantly
10. greater adoption of AI-based financial advisory applications than those with lower financial literacy.
11. Overall, Artificial Intelligence-based financial advisory applications have emerged as an effective technological tool for enhancing the quality, confidence, and efficiency of retail investment decisions in India.
10. The findings indicate that trust, financial literacy, and regular usage positively influence the acceptance of AI-driven financial advisory services.

10. Discussion of the Study

The findings of the present study demonstrate that Artificial Intelligence (AI)-based financial and professionally qualified respondents indicates that technological awareness and financial knowledge play a crucial role in the acceptance of AI-driven advisory services. The preference for AI-based applications over traditional advisory methods across different income groups reflects growing confidence in technology-enabled investment solutions that provide timely, personalized, and data-driven recommendations. Furthermore, the study reveals that regular usage of AI applications enhances investment decision-making by improving portfolio management, reducing behavioural biases, and increasing investor confidence. These findings are consistent with the Technology Acceptance Model and behavioural finance theories, which emphasize the importance of perceived usefulness, trust, and ease of use in technology adoption. Overall, the study highlights that AI-based financial advisory applications have become an important component of modern investment management and are expected to play a significant role in shaping the future of retail investing in India.

11. Conclusion

Artificial Intelligence (AI)-based financial advisory applications have emerged as a significant innovation in the financial services sector by transforming the way retail investors access investment advice and make financial decisions. The findings of the study indicate that AI-driven advisory platforms are gaining widespread acceptance among Indian retail investors due to their ability to provide personalized recommendations, real-time market analysis, automated portfolio management, and cost-effective financial guidance. Factors such as financial literacy, trust in technology, perceived usefulness, and ease of use were found to positively influence the adoption of these applications, while frequent usage contributed to improved investment decision-making and greater investor confidence. The study also revealed that younger and technologically aware investors are more inclined to utilize AI-enabled financial advisory services, reflecting the growing digital transformation of the Indian financial ecosystem. Although concerns related to data privacy, cybersecurity, and algorithmic transparency continue to exist, the overall perception of AI-based financial

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advisory applications are increasingly influencing the investment behaviour of retail investors in India. The high adoption rate among younger, financially literate, advisory applications remains positive. The study concludes that these applications have considerable potential to enhance the quality, efficiency, and accessibility of investment advisory services, thereby promoting informed and rational investment decisions among retail investors. As Artificial Intelligence continues to evolve, financial institutions, FinTech companies, and regulatory authorities should focus on strengthening investor awareness, improving technological transparency, and ensuring robust regulatory frameworks to maximize the benefits of AI-driven financial advisory services while safeguarding investor interests.

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