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A Study on Investors Awareness towards AI in Finance Service

Dr. C. Poornima[1], Ms. Jeevitha V[2], Ms. Samyukthaa Raja[2]

[1]Assistant Professor, [2]III BCom Accounting & Finance "A",
BCom Accounting & Finance,
Sri Ramakrishna College of Arts & Science, Coimbatore-641006, India

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ABSTRACT

This study examines investors' awareness and attitudes toward artificial intelligence (AI) applications in the financial services industry. AI's transformative potential lies in enhancing decision-making, streamlining processes, and providing personalized financial solutions. However, challenges such as limited understanding of AI, trust issues, and algorithmic transparency hinder widespread adoption. The research focuses on understanding demographic factors, the level of awareness, and investor perceptions using primary data collected through questionnaires and analyzed via statistical tools like ANOVA. Key findings reveal significant relationships between demographic variables and investor opinions on AI's benefits, including fraud prevention, real-time insights, and personalized recommendations. Despite these benefits, trust in AI-based financial tools and preferences for human interaction persist as challenges. The study underscores the need for educational initiatives and trust-building measures to optimize AI adoption in finance.

Keywords: Artificial Intelligence, Financial Services, Investor Awareness, Algorithmic Transparency, Trust, Personalized Financial Solutions, ANOVA Analysis.

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INTRODUCTION

Artificial intelligence (AI) is transforming the financial services industry by improving decision-making, streamlining processes, and delivering personalized experiences. AI's ability to analyze large datasets, identify patterns, and provide instant insights is driving this structural shift. Key applications include robo-advisors for personalized investment plans, AI-driven Chabot's for 24/7 customer support, and algorithms for high-frequency trading that reduce risks and exploit market inefficiencies. AI also enhances credit scoring by analyzing diverse data sources, improving accuracy and accessibility, and strengthens fraud detection and cybersecurity by identifying irregularities to protect financial data. However, widespread adoption faces challenges such as a lack of understanding of AI's functions, concerns over algorithmic transparency, data protection, and trust in AI-driven recommendations. Addressing these issues is crucial to ensuring AI's potential benefits are fully realized and accessible to all stakeholders.

STATEMENT OF THE PROBLEM

The rapid growth of artificial intelligence (AI) has significantly transformed the financial services sector, enhancing efficiency, accuracy, and cost-effectiveness in areas like algorithmic trading, robo-advisors, fraud detection, and personalized financial planning. However, many investors lack sufficient understanding of AI-driven financial services, which can lead to cautious adoption, underutilization, or distrust of such solutions. Misunderstandings about AI's capabilities or overreliance on its predictions may result in poor investment decisions. This awareness gap poses a major challenge to integrating AI in finance, hindering innovation adoption and

investors' ability to make informed decisions aligned with their goals. Additionally, it raises concerns about investors' preparedness to address the ethical, legal, and security implications of AI in the financial domain.

OBJECTIVES

- To know the demographic characteristics of respondents.
- To measure the level of awareness and understanding of AI among investors.
- To investigate investors attitudes and perception towards the use of AI in financial
  Services.

RESEARCH METHODOLOGY

Research Methodology is a standard way to identify the problems of the study with the help of various tools and techniques, giving interpretation for the data of the study and concluding the data. Both Primary and secondary data have been used in this study. Simple random sampling method was used to collect the data, which is a probability type of sampling. The data was collected by means of a questionnaire. A total of 160 questionnaires were sent, out of which 95 responses were received and 7 responses were rejected due to defective data, 88 responses were taken. SPSS software was used for the analysis part of this study. Frequency analysis, and ANOVA tests were used for analysing the data.

SAMPLING SIZE

The sampling size is 114 respondents for the study.

TOOLS USED

- Frequency
- Frequency/Mean/Rank
- ANOVA

SOURCES OF DATA

Primary Data

The study collected the data through the questionnaire.

Secondary Data

The study referred the previous journals, articles the past research through internet.

HYPOTHESIS

H_1 - There is significant relationship between age group and individual's opinion towards AI in finance service.

LIMITATIONS OF THE STUDY

- Due to time constraints the sample is restricted to 142 respondents.
- The study is based on the view of respondents.

LITERATURE REVIEW

In the upcoming lines, the review of literature takes place which includes reviews of past studies.

Sandeep singh, Atul kumar (2024)[1] this study investigates user acceptance and perception of AI-integrated Robo-advisory services in the Indian Fintech market, focusing on key factors influencing adoption and gender-based differences. Utilizing an extended Technology Acceptance Model (TAM), the research examines the roles of trust, perceived usefulness (PU), perceived ease of use (PEOU), perceived risk (PR), and social influence (SI). Data collected through a two-phase online survey from 454 digitally aware users in North India were analyzed using Structural Equation Modeling (SEM). The findings reveal that PU and trust significantly impact user attitudes, while PR negatively affects them. Attitudes and PEOU are significant drivers of adoption intentions, whereas SI showed no substantial effect. Gender analysis indicated that males are more influenced by PR and PEOU, but gender does not moderate the impact of PU and trust. Recommendations include improving trust through enhanced security, transparency, and customer support, simplifying interfaces to boost usability, and developing gender-specific marketing strategies. Leveraging AI for personalized services, such as portfolio management, is also suggested to increase user

satisfaction. Overall, the study underscores the importance of addressing perceived risks and usability to drive adoption, with trust and PU playing central roles in shaping attitudes.

Samira khonsha, Hojjatollah sadeqi (2024)[2] This study examines the role of AI and machine learning (ML) in enhancing Robo- advisory services, focusing on personalized investment strategies, risk tolerance assessment, and portfolio management. Utilizing data from the Federal Reserve's Survey of Consumer Finances (2007–2009), the study analyzed 19,285 observations to classify risky and risk-free assets and calculate risk tolerance. Advanced ML models, including Random Forest Regression and Gradient Boosting, achieved 76% accuracy in predicting risk tolerance. A Python-based dashboard was developed to provide personalized asset allocations and track portfolio performance. Key findings highlight income and net worth as primary factors influencing risk tolerance. Robo-advisors offer significant advantages, such as simplified investment processes, cost efficiency, and real-time, data-driven recommendations tailored to individual risk profiles. However, challenges include nonlinear variable relationships, user trust, and data security concerns. To address these challenges, the study suggests integrating neural networks for improved model accuracy, employing advanced portfolio optimization techniques like Value-at-Risk, and leveraging broader operational data for realistic analyses. Additionally, user-friendly interfaces and financial literacy initiatives are recommended to enhance adoption and trust. The study underscores the transformative potential of AI-powered Robo-advisors while emphasizing the need for advanced modeling and user-focused strategies to optimize financial decision-making and satisfaction.

Sudhanshu Maurya, Rohan Verma, Laxmi Khilnani, Abhijit Singh Bhakuni, Manish Kumar, Nitin Rakesh (2024)[3] This article explores the transformative impact of Artificial Intelligence (AI) on the capital market, emphasizing its role in risk management, decision-making, ethical considerations, and regulatory compliance. AI enhances risk management through predictive analytics and real-time monitoring, enabling dynamic strategy updates for investors. It also intensifies competition by empowering fintech firms with innovative tools, challenging traditional financial institutions. However, AI adoption raises ethical and legal concerns, necessitating transparency, fairness, and regulatory adherence to prevent issues like data privacy breaches and biased decision-making. The study highlights the importance of interdisciplinary collaboration among finance, ethics, law, and technology experts to successfully implement AI systems. Sustainable practices, supported by AI, reinforce corporate social responsibility and environmental considerations. Key suggestions include establishing robust regulatory frameworks, incorporating explainable AI models for transparency, training financial professionals, and conducting regular audits to ensure compliance. The conclusion underscores AI's revolutionary potential in creating a competitive yet sustainable financial ecosystem, provided its challenges are addressed with responsible practices, ethical standards, and legal safeguards. Balancing innovation with responsibility is essential for fostering trust and efficiency in the financial industry.

Xianpei Hong, Liwei Pan, Yeming Gong, Qian Chen (2023)[4] This study examines how uncertainty reduction strategies influence users' investment intentions in financial robo-advisors, addressing a research gap by integrating uncertainty reduction theory with the value-based adoption model. Using data from 307 users and employing structural equation modeling, the research identifies algorithmic interpretability, structural assurance, and interactivity as key strategies to reduce uncertainty and enhance users' perceived value of robo-advisors. Algorithmic transparency fosters trust by clarifying decision-making processes, while structural assurance, through certifications and regulatory compliance, instills confidence in

the system. Interactivity enhances user engagement and satisfaction by aligning the platform with user needs. The findings show that perceived value mediates the relationship between these strategies and investment intentions, emphasizing that high utility, trustworthiness, and ease of use drive user adoption. The study suggests improving algorithm transparency, seeking credible certifications, incorporating interactive features, and adopting user-centric designs to enhance accessibility and inclusivity. These insights contribute to theory and practice by highlighting the importance of reducing user uncertainties to increase investment intentions. Future research could explore cultural factors, risk tolerance, and long-term satisfaction.

Hsiu-I ting,Wen-chin Hsu,Mu- heng lee(2023)[5] This study explores how AI-generated equity research reports impact investor trust and decisions. Employing OpenAI's ChatGPT, we crafted two Tesla reports: one integrating macroeconomic, financial statement, and stock price data, and another augmented with individual financial news. Both reports received high professionalism ratings, with the latter outperforming. Investors expressed a stronger willingness to invest, particularly in response to the comprehensive report. Intriguingly, general investors exhibited higher trust and readiness to invest in AI-generated reports than financial professionals. This research challenges traditional notions of routine tasks and automation in finance, highlighting the potential for widespread AI-generated report adoption in the industry.

ANALYSIS

OBJECTIVE 1: To know the demographic characteristics of respondents.

DEMOGRAPHIC		FREQUENCY	PERCENTAGE
AGE	Below 25 years	65	57.0%
	26 to 35 years	26	22.8%
	36 to 45 years	14	12.3%
	Above 45 years	9	7.9%
	TOTAL	**114**	**100%**
GENDER	Male	50	43.9%
	Female	64	56.1%
	TOTAL	**114**	**100%**
EDUCATIONAL QULIFICATION	No formal education	5	4.4%
	Diploma	16	14.0%
	Under graduate	55	48.2%
	Post graduate	33	28.9%
	Higher qualification	5	4.4%
	TOTAL	**114**	**100%**
OCCUPATION	Student	58	50.9%
	Self employed	13	11.4%
	Employed	15	13.2%
	Business	28	24.6%
	TOTAL	**114**	**100%**
MONTHLY INCOME	Below 50,000	58	50.9%
	50,000 to 75,000	34	29.8%
	Above 75,000	22	19.3%
	TOTAL	**114**	**100%**

Source: primary data

INTERPRETATION

The above table indicates that the demographic factor that out of 114 respondents have been taken for the study, 65(57.0%) of the respondents were below 25 years,26(22.6%) of the respondents were 26 – 35 years, 14(12.3%) of the respondents were 36 – 45 years and 9(7.9%) of the respondents were above 45 years. 50(43.9%) of the respondents were Male and 64(56.1%) of the respondents were Female,5(4.4%) of the respondents had no formal education,16(14.0%) of the respondents were diploma, 55(48.2%) of the respondents were Undergraduates,33(28.9%) of the respondents were Postgraduates and 5(4.4%) of the respondents had done Higher Qualification.58(50.9%) of the respondents were student, 13(11.4%) of the respondents were self-employed, 15(13.2%) of the respondents were employed, and28(24.6%) of the respondents were business. 58(50.9%) of the respondents were below 50,000, 34(29.8) of the respondents were 50,000 to 75,000, 22(19.3%) of the respondents were above 75,000.

OBJECTIVE 2: To measure the level of awareness and understanding of AI among investors.

		FREQUENCY	PERCENTAGE	MEAN
How do you aware about AI in finance service ?	Social media	47	41.2	1.94
	Financial news outlet	27	23.7	
	website	40	35.1	
From where you regularly or constantly learn about AI service	Investment platform	31	27.2	2.25
	Financial advisors	23	20.2	
	Online platform	60	52.6	

INTERPRETATION

The above table indicates that the ordinal values that out of 114 respondents have been taken for the study, 47(41.2) of the respondence were social media, 27(23.7) of the respondence were Financial news outlet, 40(35.1) of the respondence were website. 31(27.2) of the respondence were Investment platform,23(20.2) of the respondence were Financial advisors, 60(52.6)) of the respondence were Online platform.

OBJECTIVE 3: To investigate investors attitudes and perception towards the use of AI in financial Services

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
I think AI improving financial services for decision making idea to invest	Between Groups	12.667	3	4.222	4.081	.009*
	Within Groups	113.798	110	1.035		
	Total	126.465	113			
AI in financial services will rectify human errors	Between Groups	13.530	3	4.510	4.244	.007*
	Within Groups	116.891	110	1.063		
	Total	130.421	113			

AI powered works can provide personalised investments recommendations to individual investor	Between Groups	10.429	3	3.476	2.899	.038**
	Within Groups	131.930	110	1.199		
	Total	142.360	113			
AI investment decision making can help to reduce the risk of investment fraud	Between Groups	14.809	3	4.936	4.862	.003*
	Within Groups	111.691	110	1.015		
	Total	126.500	113			
I belive AI powered financial tools helps me to indentify and manage losses in my investment	Between Groups	17.366	3	5.789	5.945	.001*
	Within Groups	107.099	110	.974		
	Total	124.465	113			
Machine learning algorithmic can predict stock price movements based on historical data	Between Groups	11.221	3	3.740	3.209	.026**
	Within Groups	128.217	110	1.166		
	Total	139.439	113			
AI supports financial tools enable me to execute trades effectively and efficiently	Between Groups	13.130	3	4.377	3.907	.011**
	Within Groups	123.230	110	1.120		
	Total	136.360	113			
AI helps to provide real-time investment advice to investors	Between Groups	12.021	3	4.007	3.787	.013**
	Within Groups	116.400	110	1.058		
	Total	128.421	113			
I prefer human interaction over digital channels for financial services,which gives reliable information	Between Groups	6.913	3	2.304	2.340	.077**
	Within Groups	108.324	110	.985		
	Total	115.237	113			
AI in financial service provide data security	Between Groups	13.181	3	4.394	4.517	.005*
	Within Groups	107.003	110	.973		
	Total	120.184	113			

have you gained profit or better activity towards profit had done by using AI service	Between Groups	4.807	3	1.602	1.721	.167**
	Within Groups	102.430	110	.931		
	Total	107.237	113			
I think AI based financial service are safe	Between Groups	16.732	3	5.577	4.912	.003*
	Within Groups	124.891	110	1.135		
	Total	141.623	113			
In which type of investment platform you will invest with the help of AI	Between Groups	1.741	3	.580	1.528	.211**
	Within Groups	41.776	110	.380		
	Total	43.518	113			

Source: primary data

*1% level of significance

**5% level of significance

INTERPRETATION

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.009) level of confidence for the reason, valuing decision-making idea to invest. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.007) level of confidence for the reason, valuing financial services will rectify human errors. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.038) level of confidence for the reason, valuing that AI powered works can provide personalised investments recommendations to individual investor. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.003) level of confidence for the reason, valuing that AI investment decision making can help to reduce the risk of investment fraud. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.001) level of confidence for the reason, valuing AI powered financial tools helps to indentify and manage losses in investment. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.026) level of confidence for the reason, valuing Machine learning algorithmic can predict stock price movements based on historical data. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.011) level of confidence for the reason, valuing AI supports financial tools enable

to execute trades effectively and efficiently. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.013) level of confidence for the reason, valuing AI helps to provide real-time investment advice to investors. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.077) level of confidence for the reason, valuing that human interaction over digital channels for financial services, which gives reliable information. Hence the hypothesis is rejected.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.005) level of confidence for the reason, valuing AI in financial service provide data security. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.167) level of confidence for the reason, valuing that gained profit or better activity towards profit had done by using AI service. Hence the hypothesis is rejected.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.003) level of confidence for the reason, valuing AI based financial service are safe. Hence the hypothesis is accepted.

The result of significance regarding the relationship between age group and individual investor's opinion towards AI in finance service, there is 1% (0.211) level of confidence for the reason, valuing that investment platform you will invest with the help of AI. Hence the hypothesis is rejected.

SUGGESTIONS

To enhance the adoption of AI in financial services, it is essential to focus on improving investor awareness through educational campaigns, including workshops and accessible resources that simplify AI concepts and highlight its benefits and risks. Transparency can be enhanced by providing clear explanations of AI algorithms and obtaining regulatory certifications to build confidence. Trust can be strengthened by ensuring robust data security and offering hybrid advisory models that combine AI with human expertise. Additionally, user-friendly interfaces and personalized financial solutions should be developed to cater to individual preferences. Finally, addressing ethical and legal concerns through guidelines, regular audits, and bias mitigation will ensure fairness, accountability, and long-term trust in AI systems.

CONCLUSION

Artificial intelligence is revolutionizing the financial services industry by offering efficiency, accuracy, and personalization. This study highlights a significant gap in investor awareness, which limits the optimal adoption of AI solutions. While the technology provides tangible benefits like fraud prevention, risk reduction, and personalized advice, concerns regarding trust, transparency, and human interaction remain substantial barriers. By addressing these challenges through education, transparent practices, and ethical safeguards, the financial sector can unlock AI's full potential. The findings emphasize the need for collaborative efforts among technology developers, financial institutions, and regulatory bodies to create an ecosystem where AI enhances investor confidence and decision-making capabilities.

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