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Artificial Intelligence Financial Literacy and Investment Decision Making among Retail Investors in India

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Abstract

The main objective of the present study was to assess the influence of Artificial Intelligence Financial Literacy (AIFL) on the investing decisions of retail investors. The use of AI technologies, such as ChatGPT, Gemini, AI-based investment applications, and robo-advisors, has grown dramatically in today's digital world. Artificial Intelligence Financial Literacy has therefore emerged as a crucial competency for investors.

The study used a quantitative research approach and included a sample of retail investors. A structured questionnaire was used to gather the data. Regression analysis, Cronbach's Alpha, Pearson correlation, and descriptive statistics were employed for data analysis.

The results indicate that Artificial Intelligence Financial Literacy and Investment Decision Making (IDM) are positively correlated. According to the study, increasing AIFL helps investors make more sensible, knowledgeable, and successful investing choices.

In order to help investors make wise and successful investment decisions, the report also suggests that financial institutions, legislators, and educational institutions support Artificial Intelligence Financial Literacy.

Keywords-Artificial intelligence, Investment decision, Financial literacy

Introduction

From 2015 to 2025, artificial intelligence has advanced dramatically. Its application has spread across every industry, including banking, healthcare, education, and finance, and it is now a fast developing technology. AI is now accessible in practically every industry, whereas in the past it was primarily available to IT businesses. AI-based investment apps, Robo-advisors, ChatGPT, Gemini, and other technologies are now available to investors. Financial data, market trend research, risk and return analysis, and investment suggestions are some of the ways these tools assist investors. In comparison to earlier times, financial services are now simpler and more accessible thanks to these technology.

AI is now so widely used that it can analyze and identify vast amounts of data in a matter of seconds and forecast future trends. The global survey (HSBC) indicates that 86% of retail investors make stock, mutual fund, and share investments. The number of these investors has grown in recent years. Online platforms and mobile applications have made it easier for investors to engage in the financial market.

Although investing has grown simpler in the modern era, choosing an investment is still a difficult procedure. Investors must consider risk, return, and inflation before making an investment decision. As a result, the use of AIFL (Artificial Intelligence Financial Literacy), which employs AI to assess financial data and suggestions in order to make wise and suitable investment choices, is also growing.

Financial services are currently developing ever more digitally. The use of AI has increased dramatically in the modern period. At the same time, the need for AIFL has grown due to the growing knowledge and involvement of retail investors. Retail investors will be better equipped to make investing decisions if they are aware of AI technologies. In the digital financial world, AIFL is seen to be crucial for rational and well-informed investing decisions.

Review Of Literature

The review of literature hold significant importance. It enables researcher to identify current trends and patterns uncover underlying issues, and determine the existing research gaps. For the present review of literature more than twelve studies have been examined, which have been classified into four major categories:

1. Artificial Intelligence
2. Artifical Intelligence In Financial Literacy
3. Investment Decision-Making among Retail Investors
4. Artificial Intelligence In Investment Decision Making

Artifical Intelligence

Mannuruetal.**(2023)**The influence of generative AI technology on emerging nations was discussed in this study. The study covered the advantages and difficulties of artificial intelligence in fields including healthcare, education, and technological access. The influence of generative AI on various industries was examined by the researcher after reviewing the body of current literature. the results showed that the main obstacles to the adoption of AI in developing nations are a lack of digital infrastructure, restricted access to technology and the internet, and a lack of skilled labor. Simultaneously, it was noted that the advantages of AI are not equally accessible to industrialized and underdeveloped nations. Developed nations have sufficient infrastructure, while emerging nations lack access and infrastructure.

Dixit et al.,(2019) Limited financial awareness and literacy can reduce the effective use of modern financial services and investment opportunities. With the growing role of ARTIFICAL Intelligence (AI) in financial services, financial literacy has become essential for understanding AI – based investment tools and making informed decisions.

Shabbir&anwer (2018) In this study, the researcher discusses AI's capabilities, how it varies from human intellect, and why it may have a big influence in the future. A survey of the body of current literature forms the basis of the study. It also clarifies upcoming developments in AI. The results show that the field of artificial intelligence is expanding quickly and is utilized in nearly every industry. AI has aided in the expansion of industries including healthcare, education, banking, transportation, and agriculture.

Sharma & Dixit (2017): effective participation in modern financial markets requires financial literacy and awareness, particularly with increasing use of Artificial Intelligence(AI) in investment services. Thus financial inclusion can be extended toward AI – enabled financial literacy to support informed investment decision making among retail investors in India.

Artifical Intelligence In Financial Literacy

Agarwal et al.(2024) In this work, the researcher proposed the creation of a personal assistant powered by AI to aid people in managing their personal finances. The study also clarified how AI facilitates individual financial management. The researcher used machine learning (ML) and natural language processing (NLP) to create an AI-based personal financial assistant for this goal. The results showed that the majority of the suggestions made by current financial applications are generic and give little individualized guidance. Additionally, it was shown that users of these apps do not receive sufficient financial education.

Riyani(2023) the researcher discussed how AI would change people's lifestyles and financial literacy in the future in this study, particularly in light of Society 5.0. The research methodology used in the study was qualitative. The researcher examined previously published books and research papers on the subject. The results showed that AI is drastically changing people's lives and will enhance financial literacy.

Ghoshbhanu(2024) In this work, the researcher discussed how AI is improving financial education and financial literacy in India. The study also looked at how much financial decision-making uses AI technologies. For the study, a mixed-method approach (qualitative and quantitative) was used. Semi-structured interviews and

Google Forms questionnaires were used to gather data. The results showed that people are more likely to employ AI tools if they are more familiar with the technology. The application of AI enhances financial decision-making, according to the study.

Investment Decision-Making among Retail Investors

Tahir&daarsari (2023) The researcher looked at how application-based platforms affect retail investors' choices in this work. The study examined the impact of behavioral biases on investing decisions, including representativeness, loss aversion, and overconfidence. 233 individuals provided information via an online survey. Data analysis for the study was done using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicated that overconfidence, representativeness, and loss aversion are behavioral biases that have a substantial impact on retail investing decisions.

Mensahet.al(2025) In this study, the researcher looked at how financial literacy affected retail investors' investing choices. Financial knowledge, financial attitude, and financial behavior were the three categories into which the study separated financial literacy. For the study, 406 retail investors made up the sample. The results showed that retail investors who are more financially literate make better investment choices.

Bairagi&chakarboty(2018) In this study, the researcher looked at how risk perception affects retail investors' decision-making. The study sought to investigate the connection between investing choices and risk perception. 437 respondents provided information using a questionnaire, and an exploratory study approach was used. The results showed that when making investment selections, retail investors depend on information about companies, information about investments, and their prior experiences.

Dixit et al., (2019): Equal opportunities and financial development are essential for the sustainable growth of society. Financial inclusion, supported by financial literacy, help vulnerable groups participated effectively in the formal financial system . With the growing use of AI in financial services, financial literac becomes crucial for understanding AI – based investment recommendations and risks.

Yadav et al. (2026), in their study on financial inclusion and blockchain adoption in India, emphasize that tackling rural financial exclusion requires addressing four critical barriers: geographic isolation, high transaction costs, unsuitable banking products, and pervasive financial illiteracy. They argue that blockchain technology offers significant potential to mitigate most of these challenges, but its effectiveness depends on a deeper understanding of technology adoption patterns in India. The research highlights blockchain's role in reducing exclusion and enabling rural communities to integrate into global supply chains. Complementing this, **Yadav et al., (2025)** demonstrate that cryptocurrencies can overcome limitations of traditional financial systems, thereby advancing financial inclusion and fostering economic empowerment in India's expanding economy.

Artificial Intelligence In Investment Decision Making

Abuzabiba et al.(2024) The author of this study discussed how artificial intelligence enhances the effectiveness and caliber of investment initiatives. The analysis made clear that traditional investment project decision-making was extremely challenging and more prone to mistakes. Investment judgments have gotten more accurate with the use of AI thanks to machine learning, data analysis, chart analysis, and pattern identification. The study used a descriptive research design. The study did not gather any primary data. Rather, the research was carried out using examples and prior literature.

Ozyenahazi&antwi(2024) In this study, the author looked at the advantages and disadvantages that artificial intelligence (AI) may bring to financial organizations' investment decision-making processes. The review of earlier research articles and case studies served as the foundation for the study. According to the study, AI is capable of analyzing vast volumes of data, forecasting market trends, and offering tailored investment suggestions based on data analysis. AI increases the accuracy of investment decisions, according to the results. The report did stress, though, that AI shouldn't be the sole factor in investing choices. Because AI doesn't always provide precise or proper recommendations, human judgment is still crucial.

Rehman et al.(2024) In this research, the author investigated whether artificial intelligence (AI) and emotional intelligence (EI) mediate investment decisions. The study looked into whether AI and EI genuinely mediate the link that influences investing choices. A structured questionnaire was utilized to gather data, and structural equation modeling (SEM) was employed as the statistical method for data analysis. The results showed that investment decisions were somewhat influenced by artificial intelligence (AI) and emotional intelligence (EI).

Anurar et al.(2025) The author of this paper described the many uses of AI, its purposes, and how it affects investment. The study is a systematic review paper that conducted the review using the ROSES methodology. The article also clarified how AI is altering the conventional financial sector in addition to investing decision-making. The results showed that AI significantly influences investment choices and, through its many uses and capabilities, is changing the conventional financial sector.

Research Gap

The literature review indicates that earlier research has concentrated on certain topics including investing decisions, financial literacy, and artificial intelligence (AI). Nevertheless, research on Artificial Intelligence Financial Literacy (AIFL) is quite limited. The majority of current research is predicated on conceptual and technological viewpoints. Furthermore, not much study has been done on retail investors. Few studies in India have looked at AI financial literacy and investment decisions combined; the majority of earlier research has been done in nations like Ghana and Indonesia. In light of these research gaps, the current study will use a questionnaire-based survey to investigate how AI financial literacy affects retail investors' investment decisions.

Objectives Of The Study

- To assess the financial literacy of Indian retail investors with regard to artificial intelligence.
- To assess how well Indian individual investors make investment decisions.
- To investigate how Indian retail investors' financial literacy and artificial intelligence relate to their ability to make investment decisions.
- To investigate how AI financial literacy affects Indian retail investors' decision-making while making investments.

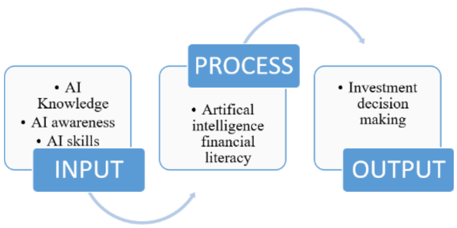
Hypothesis

H0: Investment decision-making among Indian retail investors is not significantly impacted by artificial intelligence financial literacy.

H_1: Artificial Intelligence Financial Literacy significantly improves Indian retail investors' ability to make investment decisions.

H_{01}: Artificial Intelligence Financial Literacy and Investment Decision-Making Among Indian Retail Investors do not significantly correlate.
H_{11}: Artificial intelligence financial literacy and investment decision-making among Indian retail investors are significantly positively correlated.

Conceptual Framework



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Methodology

This study used a quantitative research methodology, and a questionnaire was used to gather data. The research designs used in the study were both explanatory and descriptive. Retail investors made up the sample, and the respondents were chosen by convenience sampling.

Data Analysis

Hypothesis1: Investment decision-making among Indian retail investors is not significantly impacted by artificial intelligence financial literacy.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.445684							
R Square	0.198634							
Adjusted R Square	0.190286							
Standard Error	0.538596							
Observations	98							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	6.902724	6.902724	23.79543	4.25E-06			
Residual	96	27.84826	0.290086					
Total	97	34.75099						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2.85705	0.256118	11.15523	5.03E-19	2.34866	3.365439	2.34866	3.365439
AIFL SCORE	0.304803	0.062485	4.878056	4.25E-06	0.180772	0.428834	0.180772	0.428834

Regression analysis was utilised to evaluate the hypothesis. The findings suggest that investment decision making (IDM) is impacted by Artificial Intelligence Financial Literacy (AIFL). AIFL explains 19.9% of the variation in investment decision-making, according to the model's R2 value of 19.9%. Other characteristics, including income level, risk tolerance, and investment expertise, account for the remaining 80% of the variation. Investment decision-making is positively impacted by AI financial literacy, according to the beta coefficient of

0.305. The result is statistically significant because the p-value of 0.00000425 is less than the significance level of 0.05.

Hypothesis 2:
H_0: Artificial Intelligence Financial Literacy and Investment Decision-Making Among Indian Retail Investors do not significantly correlate.

	AIFL SCORE	*IDM SCORE*
AIFL SCORE	1	
IDM SCORE	0.445684	1

Using the Pearson correlation coefficient, the hypothesis was examined. The findings show that Artificial Intelligence Financial Literacy (AIFL) and Investment Decision Making (IDM) are significantly correlated. With a Pearson correlation value (r) of 0.446, a positive association was found. This finding indicates that financial literacy and investment decision making are positively correlated with artificial intelligence.

Chronbach's Alpha

The measuring scale's internal consistency was evaluated by the researcher using Cronbach's Alpha. The degree to which the questionnaire items are connected to one another may be ascertained using this approach. The Cronbach's Alpha score for Artificial Intelligence Financial Literacy (AIFL) was 0.944, above the suggested cutoff of 0.90. This suggests that the seven AIFL questionnaire questions have a very high degree of internal consistency.
Similarly, the Cronbach's Alpha value for Investment Decision Making (IDM) was 0.869, which is much higher than the acceptable cutoff point of 0.70. This suggests that there is strong internal consistency and a close relationship between the six Investment Decision Making elements.

Reliability Statistics	
Cronbach's Alpha	N of Items
.869	6

Reliability Statistics	
Cronbach's Alpha	N of Items
.944	7

Discussion

The current study shows a good relationship between Investment Decision Making (IDM) and Artificial Intelligence Financial Literacy (AIFL). Artificial Intelligence Financial Literacy has grown in importance for individual investors in today's digital world. According to the study, those with greater AIFL are more likely to use AI technology to make better investing judgments. AI-based investing apps, robo-advisors, ChatGPT, and other AI tools are just a few of the many AI technologies available to investors today.

These tools assist investors in gathering financial data, analyzing market patterns, and making informed investment decisions.

The results of this study are in line with earlier investigations. According to Ghoshbhanu (2024), those who are comfortable using AI technologies are more likely to do so successfully while making financial judgments.

In a similar vein, Abuzabiba et al. (2024) clarified that while AI increases the accuracy of investment judgments, conventional investment decision-making is less accurate and has a larger likelihood of mistakes. In the context of retail investors, the results of this study so corroborate those of previous research. Additionally, the study discovered that investment decision-making and artificial intelligence financial literacy were positively correlated. AIFL is not the only factor used to make investment decisions, though.

Other elements that affect them include market circumstances, income level, investing experience, and risk tolerance.

Furthermore, the study suggests that financial institutions, policymakers, and educational institutions should promote Artificial Intelligence Financial Literacy to help retail investors make more informed and effective investment decisions.

Conclusion

Examining how Artificial Intelligence Financial Literacy (AIFL) affects Investment Decision Making (IDM) was the study's primary goal. The results of the data analysis show that AIFL and IDM are positively correlated. The findings show a favorable correlation between both factors. Additionally, the study shows that retail investors may make better investment selections if they possess a greater level of Artificial Intelligence Financial Literacy.

The favorable correlation between AIFL and investment decision-making has grown in significance in the current digital world, making AIFL a crucial element of successful investment decision-making.

Limitations

Data gathered from 98 retail investors was used in the current study. The sample size might be raised in subsequent studies to enhance the findings' generalizability. Convenience sampling, a non-probability sampling approach, was used in the study. Future research, however, may use random sampling, which gives each person an equal chance of being chosen.

The study was carried out within the framework of India. Future studies can be expanded to other nations in order to compare the results in various economic and geographic contexts.

Additionally, the cross-sectional research approach was the main emphasis of this study. A longitudinal research approach may be used in future studies to look at how AI financial literacy and investment decision-making have changed over time.

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