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"AI in Investment Decision-Making: Myth or Reality for Individual Investors?"

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ABSTRACT :

Artificial Intelligence (AI) has rapidly transformed various industries, offering advanced data processing and predictive capabilities. In the realm of decision-making, AI assists individuals and businesses by analyzing complex information and identifying patterns that might go unnoticed by humans. This research examines how individual investors perceive the impact of AI on their investment decision-making. The study investigates whether investors consider AI as a genuine force that influences their decisions or as a mere imitation of human thought processes. By analyzing the level of trust and reliance investors place on AI tools, this study aims to uncover how these technologies are shaping investment practices. The findings will contribute to a better understanding of how AI is viewed within the context of personal investing and financial decision-making.

Keywords: Artificial Intelligence, Investment Decision-Making, Investor Perception, Trust, Influence

Introduction :

The application of Artificial Intelligence (AI) has revolutionized many industries, with the financial sector experiencing significant shifts in recent years. Among the most notable advancements are AI-powered tools such as robo-advisors, algorithmic trading systems, and predictive analytics platforms. These technologies leverage machine learning, data processing, and sophisticated algorithms to analyze complex market data, offering investors tailored recommendations and real-time insights to inform their decisions.

However, the growing use of AI in investment decision-making raises important questions about its perceived value and effectiveness. While some investors have embraced AI for its speed, precision, and data-driven insights, others remain skeptical about its capacity to genuinely influence their choices. Instead, they may view AI as merely mimicking human decision-making processes. This study aims to explore how individual investors perceive AI's role in their investment decisions, focusing on whether they see it as a legitimate force shaping their strategies or as a tool that only imitates human judgment.

Review of Literature :

Constantinos Challoumis (2024) This paper traces the evolution of AI in finance, starting with basic rule- based systems in the 1980s to the advanced machine learning and neural networks of the 1990s. The 2008 financial crisis accelerated AI adoption for risk management, leading to significant advancements in trading algorithms, fraud detection, and personalized customer services. The rise of AI has been fueled by improved computing power and big data, driving financial institutions to integrate AI for decision-making and regulatory compliance. This transformation highlights the ongoing evolution of AI in finance and its impact on economic systems.

Francesco Stradi (2024) The study looks at whether investors trust AI-based predictions compared to human ones, focusing on factors like AI knowledge, gender, and political views. It involved 3,600 U.S. participants in experiments to see how they adjusted their investment beliefs based on the forecast. The tools used included surveys and data analysis, with statistical tools like regression analysis and ANOVA used to analyze the data. The results showed that investors trusted AI forecasts less, especially those with complex models. Women, Democrats, and people with more AI knowledge were more likely to trust AI predictions. Overall, the source of the forecast didn't influence investors' decisions much.

A Rao (2024) The study explores the convergence of behavioral finance and artificial intelligence (AI) in understanding investment biases, with a focus on how AI identifies and mitigates biases like loss aversion and overconfidence. It also examines AI's role in addressing social and ethical biases, such as ethnoracial equity, and enhancing the reliability of AI models. The research utilized advanced AI tools, such as crowdsourced failure reports and bias auditing frameworks, to improve bias detection and mitigation. Findings show that the combination of AI and behavioral finance offers new ways to enhance financial decision-making by addressing cognitive and ethical biases. Statistical analysis tools like regression and bias auditing methodologies were applied to analyze AI's effectiveness in identifying these biases.

Jieun Koo (2024) The paper examines whether AI advisors are less preferred than human advisors for investing, and whether this aversion to AI diminishes for trading. The study tested four hypotheses using five experiments with data from Prolific. The findings show that consumers are less likely to use AI advisors for investing due to the perceived importance of careful decision-making, but this reluctance decreases when it comes to trading. The

study highlights that the greater emphasis on careful decision-making in investing leads to a stronger aversion to AI advisors. Statistical tools like regression analysis were used to test the relationships between variables and assess consumer preferences.

OB Onyenahaz (2024) This paper examines how AI technologies like machine learning and predictive analytics impact investment decision-making, focusing on asset management, portfolio optimization, and risk assessment. The study finds that AI can enhance decision-making and returns but also introduces risks, such as algorithmic biases and cybersecurity concerns. While AI offers significant benefits, the paper emphasizes the need for human judgment and oversight to balance these risks. Data analysis and case studies were used to assess AI's effectiveness and the challenges of integrating it with human expertise.

Statement of the Problem :

With the increasing use of AI-based tools like robo-advisors and algorithmic trading systems in investment decisions, there is insufficient research on how individual investors perceive these technologies. While some investors trust AI to assist in making informed decisions, others remain uncertain about its effectiveness and reliability. This study aims to explore how individual investor's view AI in their investment process—whether they consider it a true influence on their decisions or just a simulation of human decision-making. Understanding these perceptions is crucial for determining how AI is shaping investment decisions and whether it is truly influencing or merely simulating human judgment.

Objectives :

- To analyse the relationship between an investor's demographic profile (age, income, tech- savviness) and their perception of AI in investment decision-making.
- To examine whether individual investors trust that AI influences their investment decisions; or merely simulates human judgment.

Hypothesis :

The hypothesis for this study is framed as below to statistically test them and frame conclusions.

- H1: There is a significant relationship between an investor's demographic profile (age, income, tech- savviness) and their perception of AI in investment decision-making
- H0: There is no significant relationship between an investor's demographic profile (age, income, tech- savviness) and their perception of AI in investment decision-making
- H1: Individual Investors believes that AI influences their investment decisions or merely simulates human judgment.
- H0: Individual Investors does not believe that AI influences their investment decisions or merely simulates human judgment.

Scope of the Study :

This research examines individual investors' perceptions of AI's role in investment decision-making, specifically exploring whether they see AI as a genuine influence or as a mere imitation of human judgment. The study focuses on factors that shape these perceptions, including trust, understanding, and demographic variables such as age and tech-savviness.

The study targets retail investors engaged in personal investment activities, excluding institutional investors and financial advisors. Data is collected from individual investors across specific regions, particularly those involved in mutual funds, stocks, bonds, ETFs, and other personal investment options. External factors like media portrayal, financial advisors' roles, and privacy concerns are also explored. The study aims to provide insights into the gap between perceived and actual AI influence on investment choices.

Research Methodology :

This study follows a descriptive research design to analyse individual investors' perceptions of AI in investment decision-making. Both primary and secondary data are utilized; primary data is collected through a survey method with a structured questionnaire, which is further divided into sub sections covering aspects such as the demographic profile of the investor, the factors that influence their decisions, their perception along with the usage of AI in decision making and the influence of AI in their investment decision making. The questionnaire in Google Forms format was sent across social media platforms such

as WhatsApp, LinkedIn and e-mails, where response from 100 investors with distinct demographic profiles were considered as the sample for this study. While secondary data comes from research papers, financial reports, and related literature. The study employs a non-probability convenience sampling method, targeting individual investors engaged with investments in mutual funds, stocks, bonds, ETFs, and cryptocurrencies.

For analysis statistical tools such as Anova, and a Multiple Regression Model was used to assess investor perceptions and the impact of demographic factors on AI adoption. A Likert scale is applied to measure investors' attitudes toward AI's role in their decision-making process, whose Cronbach's Alphaa value under reliability statistics showed a 71% (0.71) positive covariance figure making it a good fit for the study.

Table 1.1 Showing Demographic Profile of Respondents'

Particulars	N (out of 100)	Percentage (%)	Particulars2	N (out of 100)	Percentage (%)
Age Group			**Income Level**		
18-25	23	23.33	<3L	28	28.33
26-35	15	15	3L-6L	22	21.67
36-45	18	18.33	6L-10L	25	25
46-55	25	25	10L+	25	25
56+	18	18.33	**Investment Preference**		
Gender			Crypto	27	26.67
Male	45	45	Stocks	22	21.67
Female	28	28.33	Bonds	22	21.67
Other	27	26.67	Mutual Funds	18	18.33
Education Level			ETFs	12	11.67
High School	20	20			
Bachelor's	25	25			
Master's	28	28.33			
PhD	27	26.67			

The above table shows the demographic profile of investors hitherto the age, gender, education level, income level and the preference of Investment.

Analysis

Analysis involves examining data to understand patterns, relationships, and insights, helping in informed decision-making. This study explores how individual investors perceive AI's impact on their investment decisions, analysing the demographic profile, trust, influence, to come to conclusions.
To understand the relationship between an investor's demographic profile (age, income, tech-savviness) and their perception of AI in investment decision-making a Multiple Linear Regression Model was used as there were one dependent variable and multiple dependent variables.

Table 1.2 Showing Anova results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.4659	3	0.4886	0.2139	.886[b]
	Residual	127.9341	56	2.2845		
	Total	129.4000	59			
a. Dependent Variable: AI in investment decisions						
b. Predictors: (Constant), Age, Income Level, Tech-Savviness						

From the above table we analyse that the significance value is 0.886 which is greater than 0.05 significant value, which allows us to accept the null hypothesis where it states that there is no significant relationship between an investor's demographic profile such as age, income, tech-savviness and their perception of AI in investment decision-making.

Table 1.2.1 Coefficients Table

Coefficients[a]						
Model		Unstandardized Coefficients		Sig.	Collinearity Statistics	
		B	Std. Error		Tolerance	VIF
1	(Constant)	2.5667	.707	.039	-	
	Age	.0465	.137	.735	.988	1.012

	Income Level	.0918	.172	.595	.981	1.019
	Tech-Savviness	.0497	.136	.716	.981	1.019
a. Dependent Variable: AI in investment decision making						

Fitted Model: Perception of AI in investment decision making = 2.5667 + 0.0465 (Age) + 0.0918 (Income Level) + 0.0497 (Tech-Savviness)

Table 1.2.2 Showing the Model Summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.105[a]	.011	-0.042	1.511
a. Predictors: (Constant), Age, Income Level, Tech-Savviness				
b. Dependent Variable: AI in investment decision making				

The above table shows that the R value is 0.105 which represents the correlation between the independent variables (Age, Income Level, Tech-Savviness) and the dependent variable (AI in investment decision- making), suggests a weak relationship or insignificant relationship between them, concluding that investors demographic profile and AI in investment decisions has insignificant occurrence. R Square value is 0.011, which means only 1.1% of the dependent variable is contributed by the independent variable.

Table 1.3 showing Anova Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.520	1	1.520	0.534	.468[b]
	Residual	122.715	51	2.406		
	Total	124.236	52			
a. Dependent Variable: AI influenced investment decisions						
b. Predictors: (Constant), Trust in AI-powered investment recommendations						

The above table test, looked at whether people who trust AI for investment advice actually let it influence their decisions more than those who don't fully trust it. The results states that no real difference between the two groups. The numbers (F = 0.534, p = 0.468) show that even if investors trusts that AI is useful, it doesn't necessarily mean they're making investment moves based on its recommendations. This tells us that trusting AI and acting on AI are two different things. Investors might like AI-powered insights, but when it comes down to putting money on the line, they still rely on their own research, instincts, or other sources like market trends and financial advisors. Therefore, AI is seen as a tool, not a decision-maker.

Conclusions :

According to the report, AI is not currently a major factor in investors investment choices. Although investors see its potential, adoption of AI is not significantly influenced by demographics, and trust in AI does not always convert into action. When we talk about investment or investing, AI is viewed as an additional tool rather than a replacement for human judgment.

Summary of Key Findings :

- **Demographics and AI Perception:** The study found no significant relationship between an investor's demographic profile (age, income, tech-savviness) and their perception of AI in investment decision- making**.**
- **Trust vs. Action:** While some investors trust AI for investment recommendations, this trust does not significantly influence their actual investment decisions, even if investors believe AI is useful, they still rely more on personal research, instincts, and traditional financial advice from financial advisors when making investment decisions.

- **AI as a Tool, not a Decision-Maker**: The findings indicate that investors see AI as an assistive tool rather than a primary decision-maker. AI-driven insights are valued, but investment decisions remain largely human-driven, influenced by external factors like market trends and financial advisors, hence AI in Investment Decision-Making is a myth and not a reality for individual investors.

REFERENCES :

1. Chua, A. Y., Pal, A., & Banerjee, S. (2023). AI-enabled investment advice: Will users buy it?. Computers in Human Behavior, 138, 107481.
2. Jin, F., & Zhang, X. (2025). Artificial intelligence or human: when and why consumers prefer AI recommendations. Information Technology & People, 38(1), 279-303.
3. Klingbeil, A., Grützner, C., & Schreck, P. (2024). Trust and reliance on AI—An experimental study on the extent and costs of overreliance on AI. Computers in Human Behavior, 160, 108352.
4. Wang, X., Lu, Z., & Yin, M. (2022, April). Will you accept the ai recommendation? predicting human behavior in ai-assisted decision making. In Proceedings of the ACM web conference 2022 (pp. 1697-1708).
5. Manrai, R., & Gupta, K. P. (2023). Investor's perceptions on artificial intelligence (AI) technology adoption in investment services in India. Journal of Financial Services Marketing, 28(1), 1-14.
6. Blankespoor, E., Croom, J., & Grant, S. M. (2024). Generative AI and Investor Processing of Financial Information. Available at SSRN 5053905.
7. Downen, T., Kim, S., & Lee, L. (2024). Algorithm aversion, emotions, and investor reaction: Does disclosing the use of AI influence investment decisions?. International Journal of Accounting Information Systems, 52, 100664.
8. Csaszar, F. A., Ketkar, H., & Kim, H. (2024). Artificial intelligence and strategic decision-making: Evidence from entrepreneurs and investors. Strategy Science, 9(4), 322-345.
9. Saivasan, R. (2024). Robo-Advisory and Investor Trust: The Essential Role of Ethical Practices and Fiduciary Responsibility. In The Adoption of Fintech (pp. 84-97). Productivity Press.
10. Szeli, L. (2020). UX in AI: trust in algorithm-based investment decisions. Junior Management Science (JUMS), 5(1), 1-18.
11. Manrai, R., & Gupta, K. P. (2023). Investor's perceptions on artificial intelligence (AI) technology adoption in investment services in India. Journal of Financial Services Marketing, 28(1), 1-14.