Leveraging Artificial Intelligence for Smart Investment Decisions

Prof. Devaraju N
Assistant Professor, Department of MBA,
East West Institute of Technology, Bengaluru -560091.

Mr. Preetham Das K G
Department of MBA,
East West Institute of Technology, Bengaluru -560091.

Mr. Venugopala G
Department of MBA,
East West Institute of Technology, Bengaluru -560091.

Abstract:

Artificial Intelligence (AI) is increasingly becoming a powerful tool in transforming traditional investment strategies. This study explores the integration of AI in financial decision-making and examines its impact on the quality, accuracy, and satisfaction of investors in managing their portfolios. The primary objective is to understand investors' perceptions of AI in the modern financial era by collecting primary data through structured questionnaires based on five key variables influencing investment decisions today. The study provides valuable insights into the role of AI in investment decisions and its effectiveness in projections. Findings indicate that AI tools are highly useful in various aspects of financial investment decisions and in effective portfolio management. The study also suggests that investors should receive proper knowledge and training to make informed decisions, and that AI tools should maintain transparency to ensure logical understanding. Overall, the research concludes that AI has a significant impact on investment decision-making in the modern financial era.

Key words: Artificial intelligence, Smart Investment decisions, portfolio management, modern financial era.

Introduction:

The rapid advancement of technology has revolutionized nearly every sector of the global economy, and the financial sector is no exception. In the modern financial era characterized by digitalization, algorithmic trading, and big data. AI is transforming how investments are researched, evaluated, and executed. The traditional investment landscape, once dominated by manual analysis and human intuition, is steadily being replaced or augmented by intelligent systems capable of processing

vast volumes of data and making data-driven recommendations. This study aims to explore how AI is being harnessed to facilitate smarter, faster, and more reliable investment decisions.

In finance AI technologies include machine learning (ML), natural language processing (NLP), predictive analytics, and robotic process automation (RPA). These tools allow investors to analyse market trends, predict stock movements,

Challenges and risks associated with AI based investment decision:

- **Data quality and availability**: inaccurate, incomplete, and outdated data can lead to wrong investment prediction.
- **Cyber security threats:** AI investments are possible to hacking; data breaches and may manipulation of inputs.
- **Over reliance on automation:**

automate portfolio allocation, and assess risk with high precision. The study aims to identify critical factors such as user trust, ease of use, predictive accuracy, and transparency that influence the adoption of AI in investment. Through a combination of literature review, case studies, and response from targeted audience. This research will contribute to the understanding of AI's current and potential impact on the future of investment decision-making.

over dependence on AI can reduce human oversight and also ignore the emotional intelligence in investments.

- **High implementation costs**: developing, training and maintain an AI system requires significant financial and technical resources.
- When market volatility is high AI may struggle to predict the accurate outcomes.

AI applications used in Investment decision making:

Tool	AI features	Use case
Trendlyne	Predictive analytics and scoring model	Screening high potential stocks based on AI scoring
Zerodha streak	AI powered strategy back testing	Tests risk level before execution
Trendlyne	Machine learning price	Predicts future stock price

	prediction	trends
Smallcase	AI-curated thematic baskets	Automated portfolio creation and rebalancing
Zerodha coin + AI scripts	AI based portfolio performance analysis	Mutual funds and sock portfolio optimization

Literature Reviews:

1. **Bhunia, A. (2025),** This study uses AI techniques (e.g., LSTM and hybrid models) on data from Indian stock markets (BSE and sentiment data) and finds that AI-based models significantly outperform traditional forecasting for stock price prediction.

2. **Singh, T. Sudha, Soumya Shri, Darpan Rathi & Nishita Shah. (2025),** The authors discuss how AI (ML, NLP, big data analytics) is reshaping portfolio construction, risk mitigation, and decision-making for both institutional and retail investors in the Indian context.

3. **Suresh, R., & Vignesh, A. (2024),** This paper analyses how AI/ML is transforming multiple aspects of Indian finance: stock trading, risk management, fraud detection, and customer assistance reporting significant improvements in trading efficiency, risk assessment and fraud reduction.

4. **Komal Kanojia (2024)**, This study focused on the multifaceted impact of AI technologies, including machine learning, natural language processing (NLP), and deep learning, on investment strategies and methodologies. And also, AI-driven tools in enhance data analysis, risk management, and market forecasting, empowering investors with more accurate insights while mitigating behavioral biases. This paper also concentrates on the evolution of AI in finance and its transformative effects on traditional decision-making processes, and emerging trends that signal the future of AI adoption in financial markets.

5. **Priyanka Khanna (2021),** This study examines the impact of AI in investment decision-making in the financial sector. Through analysing

the key applications of AI in various sector of finance, assessing its benefits and limitations, and examining case studies and empirical evidence, through understand the extent to which AI has influenced investment strategies, risk management, and overall financial performance. This paper was also discussed the potential ethical considerations and future prospects for AI-driven investment decision-making in the financial investment

6. **Kartik Rathour (2025),** This paper represents the analysis of survey responses of industry experts to evaluate the level of AI adoption, and its perceived advantages, and the most significant challenges, such as problems with transparency, data quality, and regulatory restrictions. And the out of this study was AI has the potential to make decision making faster, customize investment portfolios, and force the industry to change greatly and complement the importance of human control, which is needed to manage ethical and operational nuances. It is recommended that to get the most out of AI in a responsible way, it would be necessary to create transparent AI models, better data governance, and collaborative regulatory frameworks. As per this study AI seems effectively in decision making process and it have more efficiency in time management.

7. **Dr. Rachana Saxena (2024)**, This study mainly focused on the perspective of the teaching department it also bounded by the geographical locations of Bangalore hear she consider the efficiency and effectiveness of AI in Deep learning Technology and Data based AI and the insights of Ai in decision making in business perception and also it replicates the motivation, merits and demerits of using AI over the traditional methods in investment decision-making with special reference to the teachers of various colleges in Bengaluru.

8. **Madhusudan Narayan (2024),** This Study explores that transformative potential of artificial intelligence (AI) in the realm of decentralized finance (DeFi), focusing on its application in fraud detection and prevention. Through

an in- depth examination of AI- driven methodologies and techniques, particularly machine learning models, natural language processing (NLP), and graph analytics, this study explores how AI is reshaping the landscape of fraud detection within decentralized fin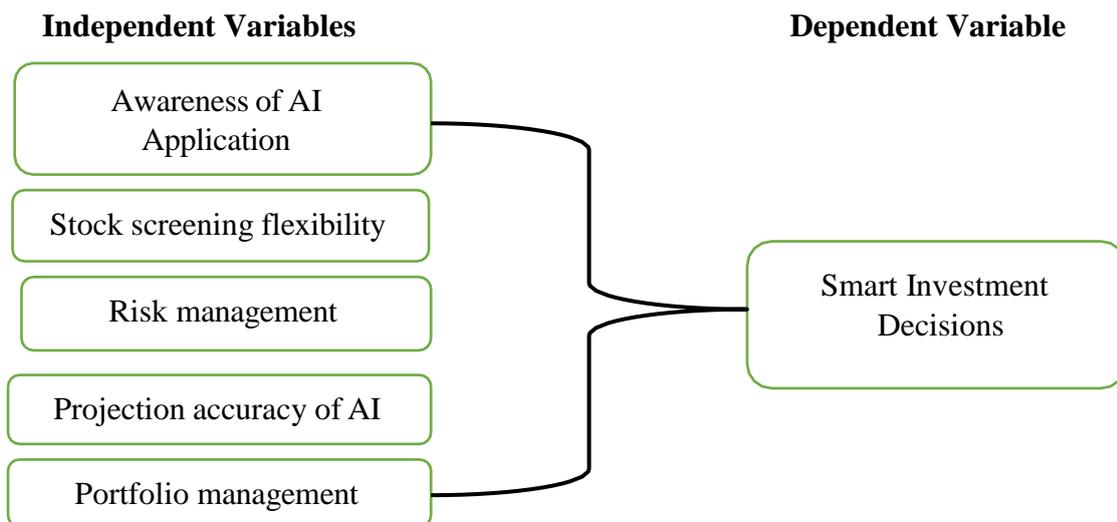ancial ecosystems. Using a conceptual framework, this study investigates the current state- of- the- art techniques employed in AI- driven fraud detection and prevention in DeFi. It examines the methodologies and applications driving the adoption of AI, elucidating its efficacy in identifying fraudulent activities and enhancing the security of DeFi platforms.

Research Gap:

All the previous studies on AI were conducted in various sectors and in various geographical regions on investments activities, like the fraud detection and fraud preventions and also, they focused on the demographics of a population such as teachers and they also concentrate on particular segments like portfolio management and so on. This study majorly focused on analysing the perception of modern investors on the effectiveness and efficiency of AI in modern financial era among the various segments such as risk management, projection accuracy of AI in investment.

Factors identified for the study:

Independent Variables	Dependent Variable

- Awareness of AI Application
- Stock screening flexibility
- Risk management
- Projection accuracy of AI
- Portfolio management

→ Smart Investment Decisions

Statement of the problem:

In today's expanding financial landscape, analysing, and evaluating stocks has become increasingly challenging due to

various constraints. Additionally, the rise of self-proclaimed financial consultants who demand a high percentage of commission from investors, yet often provide misleading or inaccurate advice, has led to poor investment decisions. This has discouraged many investors from actively participating in financial markets. On the other hand, traditional stock analysis methods require significant time

Objectives:

1. To study the concept and applications of AI in financial investment
2. To identify challenges and risks associated with AI based investment decision
3. To analyse the effectiveness of AI tools in portfolio management
4. To examine the perception and trust of investors on AI based decision making

Need for the study:

In today's fast-moving financial world, traditional investment methods are often time- consuming and less efficient. With the rise of Artificial Intelligence, investors now have access to tools that offer faster, data-driven, and more accurate decision-making. However, there is limited understanding of how investors perceive and adopt these AI

and effort, which does not align with the fast-paced lifestyle of today's generation where people may have money, but lack of time. These factors have inspired this research, which aims to explore the role of Artificial Intelligence (AI) in addressing these challenges. The study is an attempt to harness AI for making smart investment decisions in the modern financial era.

tools. This study is needed to assess respondents' perceptions of AI in investment decisions, focusing on awareness, usability, trust, and risk. It aims to explore the effectiveness of AI compared to traditional methods and provide insights based on user experiences. The findings will help improve AI adoption and guide new investors.

Limitations of the Study:

1. The study is based on a limited number of respondents.
2. Data collection is restricted to specific regions or markets.
3. The research was conducted within a limited timeframe.
4. Respondent perceptions may introduce bias in the results.
5. Rapid changes in AI and financial markets may affect relevance.
6. The study focuses on perceptions rather than actual investment

performance.

Scope of the study:

The present study is confined to understanding the role of Artificial Intelligence in facilitating smart investment decisions in modern financial era. The research scope is limited to individual investors operating in the Bengaluru region. The study focuses on examining how AI driven tools and techniques influence investment decision making, portfolio management and risk assessment.

Research Methodology:

- Research Design: Descriptive Research
- Sample size: 100 Participants
- Sampling unit: Investors
- Sampling method: Non probability sampling - convenience sampling
- Type of data
  - Primary data: Questionnaires
  - Secondary data: Research papers, Journals
- Statistical tools: ANOVA

Data Analysis and Interpretation:

Descriptive Statistics Table:

Particulars	Count	Sum	Sample Variance	Mean	Standard Deviation
Cyber security awareness & literacy	5	14	1.2	2.8	1.095
Accessibility to cyber security infrastructure	5	36	6.2	7.2	2.49
Effectiveness of cyber threat detection & protection	5	106	12.2	21.2	3.49
AI-driven security tools	5	254	9.7	50.8	3.11

54

Regulatory compliance in cyber security	5	90	0.5	18	0.71

Interpretation: The descriptive statistics indicate that most respondents tend to agree with the statement, as reflected by the highest mean (50.8) and a relatively concentrated distribution. Few respondents strongly disagreed, with a low mean (2.8) and minimal variability. Neutral responses show the widest spread, suggesting varied opinions in the middle category, while strongly agree responses are consistent and peaked, indicating agreement among a smaller group. The slight skewness in some categories and variations in range

.

and standard deviation reflect differences in how strongly respondents felt about each option, but the overall tendency leans clearly toward agreement.

Hypothesis:

Null Hypothesis (H0):

The key identified factors of such as; Awareness of AI, Stock Screening, Risk Management, Accuracy of AI Projection, and Portfolio Management have no significant effect on investment decisions

Alternative Hypothesis (H1):

The key identified factors of such as; Awareness of AI, Stock Screening, Risk

Management, Accuracy of AI Projection, and Portfolio Management have significant effect on investment decisions.

: Parameters (Five Likert scale)	Factors identified					Total
	Awareness of AI	Stock screening	Risk management	Accuracy of AI projection	Portfolio Management	
Strongly disagree	2	2	4	4	2	14
Disagree	5	8	7	11	5	36
Neutral	23	19	17	21	26	106
Agree	52	53	54	47	48	254
Strongly Agree	18	18	18	17	19	90
Total	100	100	100	1001	100	

Anova: Single Factor

Groups	Count	Sum	Average	Variance
Strongly disagree	5	14	2.8	1.2
Disagree	5	36	7.2	6.2
Neutral	5	106	21.2	12.2
Agree	5	254	50.8	9.7
Strongly Agree	5	90	18	0.5

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	7068.8	4	1767.2	296.5101	1.7E-17	2.866081
Within Groups	119.2	20	5.96			
Total	7188	24				

Interpretation:

Since P value is less than 0.05 and F value is greater than the F critical value, hence the null hypothesis is rejected and it is proved that identified factors of such as; Awareness of AI, Stock Screening, Risk Management, Accuracy of AI Projection, and Portfolio Management have significant effect on investment decisions.

Findings:

1. A majority (70%) agrees or strongly
5. 67% of participants believe AI applications assist in creating an optimum investment portfolio.
6. The findings revealed that AI has significantly played a vital role in an investment decision.

agrees that AI applications for investment are easy to navigate.

2. Around 71% of respondents believe AI tools effectively filter stocks based on investment preferences.
3. About 72% feel AI helps them better assess investment risks.
4. Nearly two-thirds (64%) agree or strongly agree that AI-generated market predictions are generally accurate.

Suggestions:

- Provide some proper information regarding to the risk Associated with AI tool
- Evaluate the inaccurate projections regarding to the investment to

56

avoid misguiding investors

- Offer some virtual trading apps with AI tools to make better understanding to users before their real time investment

- Reduce the cost of AI application and easy the navigation

Conclusion

The study was conducted to Identify and explores the potential of AI in enabling smart investment decision in the modern financial era, though, focus on investors in the Bengaluru region. The study concluded that the majority of the investors are aware of AI tools in investment. And some few are little bit aware of it. The key objectives of the study are to know the various risk and challenges associated with AI based decision making and also perception of investors towards the investment decision using AI technology. The study found that most of the investors agree that AI based tools are easy to use, help full in selection of appropriate stocks, risk management, portfolio management and also, they trust on accuracy of AI investment. Hear we use Anova single factor as a statistical tool to prove our hypothesis. It has proved that AI has significant impact on the investment decision in modern financial era.

References

1. Komal, K. (2024). Impact of artificial intelligence on investment decision making. International Journal of Scientific Research in Engineering and Management, 8(12).

2. Khanna, P. (2021). Evaluating the impact of artificial intelligence on investment decision. International Journal of Research in Finance and Management.

3. Rathour, K. (2025). The impact of artificial intelligence on investment strategy and portfolio management. International Journal of Scientific Research in Engineering and Management, 9(6).

4. Saxena, R. (2024). Impact of artificial intelligence on investment decision amongst the teachers of various colleges in Bengaluru. IPE Journal of Management.

5. Narayan, M. S. (2024). AI-driven fraud detection and prevention in decentralized finance. IGI Global.

6. Bhunia, A. (2025). Impact of artificial intelligence on stock price prediction in India. Journal of Finance and Accounting, 13*(1), 1–6.* https://doi.org/10.12691/jfa-*13-1-1*

7. Suresh, R., & Vignesh, A. (2024). A study on impact of artificial intelligence and machine learning on Indian financial markets. International Journal of Financial Management and Economics, *7*(2), 648–652. https://doi.org/10.33545/26179210.2024.v7.i2.432

8. Singh, T. Sudha, Soumya Shri, Darpan Rathi & Nishita Shah. (2025). AI-Driven Investment and Portfolio Management. Journal of Emerging Technologies and Innovative Research (JETIR), 12(8).

9. Taparia, V. (2025, April 26). AI investments see more than twofold rise in 2025 in India. Fortune India.

10. Bhunia, A. (2025). Impact of artificial intelligence on stock price prediction in India. Journal of Finance and Accounting, 13(1), 1–6. Science and Education Publishing.

11. NDTV Profit Tech Desk. (2025, December 8). AI, ML reducing bad debt in India, building efficient credit journeys: Experian. NDTV Profit.

12. Times of India. (2025, December 5). Machine learning fuels credit boom in India as 93% of lenders claims higher approvals:

Report. The Times of India.

13. The Economic Times. (2025, August 14). Generative AI set to improve banking operations in India by 46%: RBI Report. The Economic Times.

14. Hazarika, B., Suneesh, A., Devadiga, P., Rajpoot, P. K., Suresh, A. S., & Hussain, A. I. (2025). Multilingual conversational AI for financial assistance: Bridging language barriers in Indian FinTech.

15. Sen, J., Waghela, H., & Rakshit, S. (2024). Exploring sectoral profitability in the Indian stock market using deep learning.

16. Patil, V., Bhand, K., Mukdam, K., Sharma, K., Kawtikwar, M., Kavhar, P., & Kaware, H. (2025). Enhancing financial decision-making: Machine learning and AI-powered predictions and analysis.

17. Suresh, R., & Vignesh, A. (2024). A study on impact of artificial intelligence and machine learning on Indian financial markets. International Journal of Financial Management and Economics, *7*(2), 648–652.

18. "Cloud, AI-ML top emerging techs adopted by Indian banks, reveals RBI survey." (2024, December 31).

19. "Generative AI adoption surge: Banking sector set for efficiency leap by nearly 46% — RBI report." (2025, August 14).

20. "84% of Indian stockbrokers to increase tech spending on AI, algo trading: Report." (2024, November 22)..

21. "AI tops investment priority for Indian CEOs amid global uncertainty: KPMG." (2025, October 15).

******