

# Artificial Intelligence and Its Effect on Investment Decision-Making: A Study of Indian Retail Investors

GOMSI BANGA<sup>1</sup>, DR. AMIT SAINI<sup>2</sup>

<sup>1</sup>MBA (2nd Year)

<sup>2</sup>Associate professor, Quantum University Roorkee

*Abstract- Artificial Intelligence (AI) has transformed the global financial sector by improving the efficiency, speed, and accuracy of investment decision-making. In India, the rapid growth of fintech platforms, online trading applications, and digital financial services has accelerated the adoption of AI-based investment tools among retail investors. The present study examines the impact of Artificial Intelligence on investment decision-making in India with special reference to retail investors. The study aims to analyze investor awareness, perception, adoption, benefits, and challenges associated with AI-driven investment platforms. The research is based on both primary and secondary data. Primary data was collected from 100 respondents through a structured questionnaire, while secondary data was obtained from journals, research papers, financial reports, and online databases. Percentage analysis and interpretative methods were used for data analysis. The findings of the study reveal that a majority of respondents are aware of AI applications in investments and believe that AI improves investment accuracy, portfolio management, and risk analysis. Investors also believe that AI reduces emotional bias and enhances decision-making speed. However, concerns related to data privacy, cybersecurity risks, and overdependence on technology remain major challenges. The study concludes that Artificial Intelligence has a significant positive impact on investment decision-making in India. AI-driven investment platforms are expected to grow rapidly in the future due to increasing digital transformation and investor awareness. The study suggests that financial institutions should improve transparency, cybersecurity, and investor education to maximize the benefits of AI in finance.*

**Keywords:** Artificial Intelligence, Investment Decision-Making, FinTech, Robo-Advisors, Retail Investors, India, Financial Technology.

## I. INTRODUCTION

Artificial Intelligence (AI) has emerged as one of the most significant technological advancements of the twenty-first century. AI refers to the capability of

computer systems and machines to perform tasks that normally require human intelligence, such as reasoning, problem-solving, prediction, and decision-making. The increasing integration of AI into the financial sector has transformed traditional investment practices and improved the efficiency of financial decision-making.

The Indian financial market has experienced rapid digital transformation due to increasing internet penetration, smartphone usage, fintech innovations, and online investment platforms. Investors are increasingly using AI-based technologies such as robo-advisors, algorithmic trading systems, predictive analytics, and automated portfolio management tools to make informed investment decisions.

Traditional investment decision-making was heavily dependent on financial advisors, manual analysis, and investor intuition. However, these methods were often time-consuming and influenced by emotional bias. AI-driven technologies have reduced these limitations by enabling data-driven analysis, faster market predictions, and automated financial recommendations.

AI systems can analyze large volumes of financial data within seconds and identify market trends more accurately than traditional methods. Machine learning algorithms and predictive models help investors evaluate risk, optimize portfolios, and improve returns. In India, brokerage firms and fintech companies are increasingly integrating AI into their investment platforms to attract retail investors.

The study focuses on understanding how Artificial Intelligence influences investment decisions among Indian retail investors. The research also examines

investor perception regarding AI-based investment platforms and identifies the major opportunities and challenges associated with AI adoption in finance.

## II. REVIEW OF LITERATURE

Davenport and Ronanki (2018) explained that Artificial Intelligence improves organizational efficiency and enhances decision-making processes through predictive analytics and automation. The study highlighted that AI technologies are increasingly being adopted in financial services for improving customer engagement and operational performance.

Jarek and Mazurek (2019) analyzed the impact of AI on financial services and found that AI improves fraud detection, investment management, and customer experience. The researchers concluded that AI has become a major driver of innovation in modern financial institutions.

Kumar and Ravi (2016) studied machine learning applications in financial risk management and observed that AI models improve forecasting accuracy and risk assessment. The study emphasized the importance of predictive analytics in investment decision-making.

Arner, Barberis, and Buckley (2017) examined the evolution of fintech and highlighted the role of AI in transforming banking and investment services. According to the study, AI-based financial systems improve efficiency and reduce operational costs.

Bhatia and Singh (2020) investigated investor awareness regarding robo-advisory platforms in India. The study revealed that younger investors are more willing to adopt AI-driven financial technologies due to digital awareness and convenience.

Sharma and Gupta (2021) examined the use of Artificial Intelligence in stock market prediction in India. The findings indicated that AI improves technical analysis and supports investors in making better financial decisions.

Most previous studies focused on global financial markets and fintech innovations. However, limited research has been conducted on the perception of Indian retail investors toward AI-based investment systems. Therefore, the present study attempts to fill this research gap.

## III. RESEARCH GAP

Several studies have examined the role of Artificial Intelligence in global financial markets and fintech industries. However, limited research has focused specifically on the impact of AI on investment decision-making among Indian retail investors.

Existing studies primarily emphasize technological advancements, algorithmic trading, and institutional applications of AI. Very few studies analyze investor perception, awareness, satisfaction, and trust regarding AI-based investment platforms in the Indian context.

Therefore, the present study aims to examine the impact of Artificial Intelligence on investment decision-making in India with special reference to retail investors.

## IV. OBJECTIVES OF THE STUDY

The major objectives of the study are:

1. To study the role of Artificial Intelligence in investment decision-making.
2. To analyze investor perception regarding AI-based investment platforms.
3. To identify the benefits and challenges associated with AI-driven investment systems.
4. To examine the impact of AI on investment efficiency and portfolio management.

## V. RESEARCH METHODOLOGY

The study is based on descriptive research design. Both primary and secondary data sources were used for conducting the research.

### 5.1 Primary Data

Primary data was collected through structured questionnaires distributed among 100 respondents

including students, retail investors, salaried employees, and finance professionals.

### 5.2 Secondary Data

Secondary data was collected from:

- Research journals
- Books
- Financial reports
- RBI and SEBI publications
- Online financial articles
- Fintech industry reports

### 5.3 Sampling Technique

Convenience sampling technique was used for selecting respondents.

### 5.4 Tools Used for Analysis

The collected data was analyzed using:

- Percentage analysis
- Tables and charts
- Interpretative analysis

### 5.5 Hypothesis

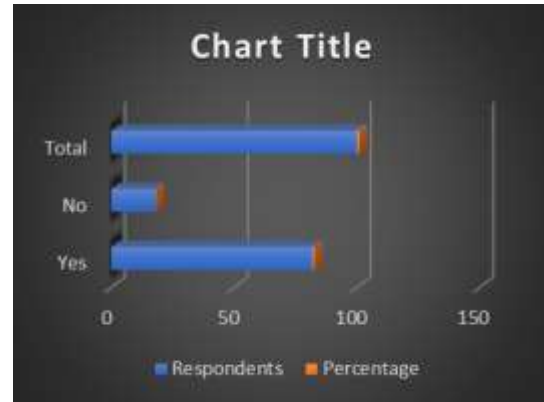
H0: Artificial Intelligence has no significant impact on investment decision-making.

H1: Artificial Intelligence has a significant impact on investment decision-making.

## VI. DATA ANALYSIS AND INTERPRETATION

### 6.1 Awareness regarding AI in Investments

Response	Respondents	Percentage
Yes	82	82%
No	18	18%
Total	100	100%

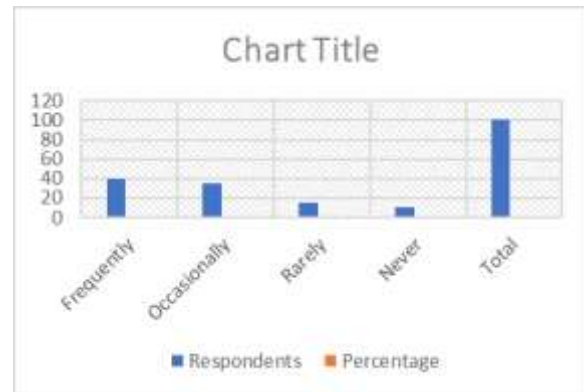


#### Interpretation

The majority of respondents are aware of Artificial Intelligence applications in investments. This indicates growing awareness regarding AI-based financial technologies among Indian investors.

### 6.2 Usage of AI-Based Investment Platforms

Usage Level	Respondents	Percentage
Frequently	40	40%
Occasionally	35	35%
Rarely	15	15%
Never	10	10%
Total	100	100%



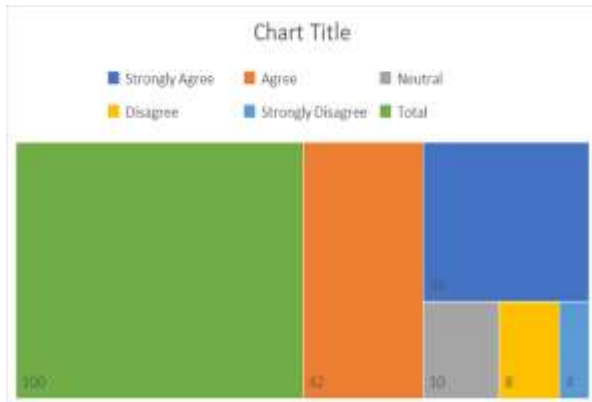
#### Interpretation

The findings reveal that AI-based investment platforms are increasingly being used by investors for investment analysis and portfolio management.

### 6.3 AI Improves Investment Accuracy

Opinion	Respondents	Percentage
Strongly Agree	36	36%
Agree	42	42%
Neutral	10	10%

Opinion	Respondents	Percentage
Disagree	8	8%
Strongly Disagree	4	4%
Total	100	100%

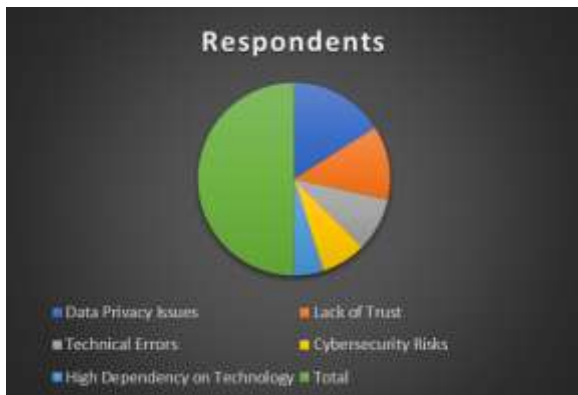


#### Interpretation

Most respondents believe that Artificial Intelligence improves investment accuracy through predictive analysis and real-time data processing.

#### 6.5 Challenges of AI-Based Investments

Challenge	Respondents	Percentage
Data Privacy Issues	32	32%
Lack of Trust	25	25%
Technical Errors	18	18%
Cybersecurity Risks	15	15%
High Dependency on Technology	10	10%
Total	100	100%



#### Interpretation

Data privacy concerns and lack of trust are major challenges associated with AI-based investment systems.

### VII. FINDINGS OF THE STUDY

The major findings of the study are:

1. Most respondents are aware of AI applications in investment decision-making.
2. Young investors are more willing to adopt AI-based investment platforms.
3. AI improves investment accuracy and decision-making efficiency.
4. AI reduces emotional bias and supports rational investment behavior.
5. Investors believe that AI improves portfolio management and risk analysis.
6. Data privacy and cybersecurity concerns remain significant challenges.
7. AI-driven financial services are expected to grow rapidly in India.

### VIII. SUGGESTIONS

Based on the findings of the study, the following suggestions are provided:

1. Financial institutions should improve transparency in AI-based investment systems.
2. Strong cybersecurity measures should be implemented to protect investor data.
3. Investor awareness programs should be conducted regarding AI and fintech technologies.
4. AI systems should be continuously monitored to improve accuracy and reliability.
5. Investors should combine AI insights with human judgment before making investment decisions.

### IX. CONCLUSION

Artificial Intelligence has become a transformative force in the financial sector and investment management industry. The increasing adoption of AI-driven technologies such as robo-advisors, algorithmic trading systems, and predictive analytics has significantly improved investment decision-making processes.

The study concludes that Artificial Intelligence positively influences investment decision-making in India by improving speed, efficiency, portfolio

management, and investment accuracy. Investors believe that AI-based systems reduce emotional bias and provide better market insights.

Despite these advantages, challenges such as data privacy concerns, lack of trust, cybersecurity risks, and excessive dependency on technology remain important issues. Therefore, AI should complement human expertise rather than completely replace human financial judgment.

The future of AI in Indian financial markets appears highly promising due to increasing fintech innovation, digital transformation, and investor awareness. With proper regulations, investor education, and ethical implementation, AI can significantly contribute to the growth and modernization of investment management in India.

#### REFERENCES

- [1] Davenport, T., & Ronanki, R. (2018). Artificial Intelligence for the Real World. Harvard Business Review.
- [2] Jarek, K., & Mazurek, G. (2019). Marketing and Artificial Intelligence. Central European Business Review.
- [3] Kumar, P., & Ravi, V. (2016). Financial Risk Management using Machine Learning Models.
- [4] Arner, D., Barberis, J., & Buckley, R. (2017). FinTech and RegTech in a Nutshell.
- [5] Bhatia, A., & Singh, R. (2020). Investor Perception toward Robo-Advisory Platforms.
- [6] Sharma, R., & Gupta, S. (2021). AI and Stock Market Prediction in India.
- [7] Kothari, C.R. (2004). Research Methodology: Methods and Techniques.
- [8] Reserve Bank of India Reports.
- [9] SEBI Reports on Artificial Intelligence and Financial Technology.
- [10] Indian Journal of Finance and Financial Technology.