

## **AI POWERED STUDY ON STUDENT’S PERCEPTION IN STOCK MARKET TRADING WITH SPECIAL REFERENCE TO COIMBATORE CITY**

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### **Abstract:**

This Paper explores the transformative effect of AI on stock market prediction and trading, considering the possible benefits, limitations, and implications for the financial sector. The introduction of AI in trading platforms are transforming the stock market by providing innovative solutions for data analysis, prediction, and trading strategies. The study examines user’s satisfaction, experience quality, user acceptance and Clients connection. The research aims to provide an comprehensive understanding and insight on the future development of a shared environment in which humans and machine intelligence. The scope of the study delves the transformative impact of Artificial Intelligence. The study also addresses the factors influencing user’s decision, challenges and satisfaction level of the users. Alternatively, the findings evolve on how AI is reshaping the landscape of stock market trading to ensure fair and transparent markets.

**Key Words:** Stock Market Trading, Artificial Intelligence, User’s Prediction, Future of AI in stock market.

### **I INTRODUCTION**

With the rising technological and industrial development taking all over the world, there stands a drive to never stop exploring. With monumental increase in research towards Stock Trading, the most promising has been towards integration of Artificial Intelligence. AI is going to change the world of Stock Trading completely. Using AI, robotic adviser’s analyses tons of data points, aid the execution of trade at the optimal and viable prices, the analysis of forecasts happen with greater accuracy and trading firms are capable of calculating risks more efficiently and provide for higher returns to investors. Artificial

intelligence is increasingly becoming part of our lives, often without us even realizing it. This advantages the business, nation’s economy and business in manners nobody can deny. Stock Trading is evolving. Though there are warnings about its use with trading. Artificial Intelligence is growing in breadth every day with the stock market being one most significant factor influencing the world’s economies. The purpose of this research paper is to understand and evaluate the prospects of integrating AI in Stock Market Prediction and Trading by understanding the challenges faced by it.

## II. LITERATURE REVIEW

Maryam Bader Albusaidi and Dr. Maria Teresa Matriano (2024)<sup>1</sup> “The Impact of AI Application on the Stock Market: A Study Case of Oman’s Muscat Securities Exchange” conducted this study to address the challenges, advanced machine learning model methods being followed in the technology and to understand the market's waves and provide better insights into the complex market. A mixed-methods approach was used for this study, incorporating both qualitative and quantitative techniques. The survey was given to employees, traders, and Policymakers, with total of 120 respondents. The study concluded that in complex times, AI may struggle to understand and analyze the market, providing no value to traders and investors. Developing tools that can understand the complex market waves can help in to overcome the situation.

Prakash Balasubramanian and Chinthan (2024)<sup>2</sup> “A systematic literature survey on recent trends in stock market prediction” conducted this study to help the researchers and investors to make a collective decision and choose the appropriate model for better profit and investment based on local and global market conditions. Survey was conducted to around 100 people near the locality. The study states the findings of empirical evidence in the field of stock market analysis and predictions through existing literature study and statistical data. The study concludes the domain of stock market prediction utilizing recent machine learning approaches, neural networks, text analytics, and other approaches on various stock exchanges available globally are game changers.

Rahul Jain and Rakesh Vanzara (2023)<sup>3</sup> “Emerging Trends in AI-Based Stock Market Prediction” This research paper provides case studies & comprehensive review of the emerging trends in AI-based stock market prediction. It highlights the key concepts, approaches, and techniques employed in AI-based stock market prediction and discusses their strengths and limitations. The research states that AI-based stock market prediction is set to reach USD 7.3 billion by 2024, growing at a CAGR of 32.9%, while AI models like deep learning and ensemble learning enhance accuracy. Overall, the paper provides valuable insights into the latest advancements in AI-based stock market prediction and their potential implications for investors, financial analysts, and policy makers.

## III. OBJECTIVE OF THE STUDY

- To evaluate student’s perception towards ai in stock market prediction and trading.
- To assess the problems faced by students while performing ai technology in stock market.

## IV. RESEARCH METHOD / METHODOLOGY:

The research methodology employed in this study aims to comprehensively investigate the user’s satisfaction in stock market prediction and trading and the impacts caused from the driven ai technology. to achieve this, quantitative method approach is adopted, incorporating various research components and methodology tools.

## V. LIMITATIONS OF THE STUDY

- This study is mainly confined to Coimbatore city limit.
- In large set of population, the survey is conducted among only 160 respondents.
- The reliance of self-reported data may introduce biases, impacting the accuracy of the study finding as the respondents may provide their individual predictive facts.
- The rapidly evolving AI technology may not generalize effectively to unseen data due to the inclusion of internal and external factors.

## VI. HYPOTHETICAL STATEMENT

- HO: There is no significant association between gender group and familiarity with digital lending platforms.
- HO: There is a significant association between employment status and the source of information about digital lending platforms.

## VII. RESEARCH METHODOLOGY

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## VIII. DATA ANALYSIS AND INTERPRETATION

**PERCENTAGE ANALYSIS**

The percentage analysis method is a method to represent data as proportions of total sample, making it easier to identify trends and compare variables. It is commonly used for demographic data and survey responses. This approach simplifies data interpretation and highlights key insights for informed decision making.

**Table 1: Percentage analysis for Demographic questions**

Particulars	No.of Respondent	Percentage%
<b>Age:</b>		
18-20	15	30
21-23	10	20
23 -25	18	36
Above 25	7	34
Total	50	100
<b>Gender:</b>		
Male	29	58
Female	21	42
Total	50	100
<b>Experience:</b>		
Beginner (0-1 years)	19	38
	11	22
Intermediate (1-2 years)	8	36
	12	24
Advanced (2-3 years)	50	100
More than 3 years		
Total		
<b>Level of Education:</b>		
Undergraduate	14	28
Postgraduate	21	42
Research scholars	15	30
Total	50	100

(Source: Primary Data)

**Interpretation:**

The demographic analysis of the study reveals a diverse participant profile. The majority of respondents are from

the age group of 18-20 (36%). Male respondents are higher in count of 29 (58%). The experience level of the stock market users are high in count for Beginner (0-1 years) – 38%, followed by the experienced users for more than 3 years is 12 (24%). In terms of Level of education postgraduate students are high in count with 42% in use of stock market. This demographic diversity ensures a board representation of the users of stock market traders in adoption with the AI driven technology.

**RANK ANALYSIS**

**Table 2: Ranking skills based on performance of AI-driven technology**

Particulars	N	Mean	Rank
Rank the following skills based on performance of AI-driven technology in financial markets [Programming and coding]	50	2.20	5
Rank the following skills based on performance of AI-driven technology in financial markets [Data analysis and visualization]	50	2.48	4
Rank the following skills based on performance of AI-driven technology in financial markets [Financial market knowledge]	50	2.70	3
Rank the following skills based on performance of AI-driven technology in financial markets [AI model development and deployment]	50	2.96	2
Rank the following skills based on performance of AI-driven technology in financial markets [Critical thinking and decision-making]	50	3.28	1
Total	50		

(Source: Primary Data)

**Interpretation:**

The rank analysis provides valuable insights of the factors in the performance of AI-driven technology in financial

markets. The table indicates that 3.28 per cent of the respondents has chosen Critical Thinking and Decision Making, 2.96 percent of the respondents has chosen AI model development and deployment, 2.70 per cent of the respondents has chosen Financial market knowledge, 2.48 percent of the respondents has chosen Data analysis and visualization and 2.20 per cent of the respondents has chosen Programming and coding. Hence, most of the respondents fall in Critical thinking and decision-making.

**T – TEST**

**Table 3: Gender of the respondent**

Gender	Frequency	Percent
Male	19	38
Female	31	62
Total	50	100

(Source: Primary Data)

**Interpretation:**

It is observed from the table that, out of 50 respondents, 62.0 per cent of the respondents are female, 38.0 per cent of them are male. Hence, majority of the respondents are female because it might be due to participation of entrepreneur women in stock market.

**Table 4: Experience of the respondents**

Experience	Frequency	Percent
Beginner (0–1 years)	42	84
Intermediate (1–2 years)	6	12
More than 3 years	2	4
Total	50	100

(Source: Primary Data)

**Interpretation:**

It is clear from the table that, 84 per cent of the respondents are Beginner (0-1 years) to the stock market trading, 12 per cent of the respondents are Intermediate (1–2 years) to stock market trading and 4 per cent of the respondents are having experience in stock market trading for more than 3 years. Hence, most of the respondents are at their beginner stage in stock market prediction and trading.

**ANOVA**

The following ANOVA Table reveals, whether there exists a significant difference between ‘source of information about digital lending platforms’ and ‘employment status of the respondents’ with the following null hypothesis.

**1. Comparison between Level of education and Efficiency of AI in Stock trading.**

**Table 5: Education level of the respondents**

Level of Education	N	MEAN
Under Graduate	114	1.79
Post Graduate	21	1.71
Research scholars	1	2.00

(Source: Primary data)

**Table 6: Comparison between Level of Education & AI efficiency**

Level of Education/ AI efficiency	Sum of squares	df	Mean	F	Sig.
Between Groups	.149	2	.075	.427	.653
Within Groups	23.233	133	.175		
Total	23.383	135			

(Source: Primary data)

**Interpretation:**

Educational qualification is an important factor to identify the literacy level of the respondents and their level of

perception in Stock market prediction and Trading. It is observed from the table that 1.79 per cent of the respondents have completed their under, 1.71 per cent of the respondents have completed their post-graduation and 2 per cent of the respondents are research professionals where comparison of Education with AI efficiency with level of education are been calculated.

**2. Comparison between Age and Experience in Stock Market**

**Table 7: Age of the respondents**

Age	N	MEAN	Std. deviation
18-20	91	2.14	.507
21-23	22	2.14	.560
23-25	9	2.56	1.014
Above 25	14	2.14	.864

(Source: Primary data)

**Table 8: Comparison between Age & Level of Experience**

Age/ Level of Experience	Sum of squares	df	Mean	F	Sig.
Between Groups	1.440	3	.480	1.329	.268
Within Groups	47.670	132	.361		
Total	49.110	135			

(Source: Primary data)

**Interpretation:**

The following ANOVA table reveals, whether there exists any significant difference between in ‘Age ‘and ‘Experience’ with the comparison of hypothesis. When there exist a significant difference in F-value at 5 per cent level in between groups is .268. The mean score is high (Mean 2.56) among the respondents who are from age group of 23-25. However, the F-ratio value has inferred that, the satisfaction level of mean score has not significantly differed among the respondents when they are classified based on their Age and experience.

**RESULT / FINDINGS:**

- Perceived Benefits are estimated from the rank analysis, indicates that most students believe AI can improve the speed and accuracy of market analysis in critical thinking and decision-making followed by the use of AI model development and deployment.
- Concerns and Skepticism in Ethical concerns, such as market manipulation and lack of transparency in AI algorithms, are frequently raised.
- Educational Gaps are determined from the calculation of ANOVA tool the analysis depicts the Insufficiency of Training i.e. Lack of practical & hands-on projects.

**IX. CONCLUSION / SUMMARY:**

In conclusion, this research unveils a diverse demographic profile in the study on students' perceptions of the impact of AI in stock market prediction and trading reveals a complex interplay of enthusiasm, curiosity, and challenges. Students generally recognize the transformative potential of AI in enhancing trading accuracy, efficiency, and decision-making. The findings indicate that while students are optimistic about AI's role in revolutionizing the financial sector, they face significant challenges, including limited technical skills, insufficient practical exposure, and inadequate access to tools and resources. By addressing these challenges, investors can empower the next generation of financial professionals to harness AI's full potential responsively and effectively.

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