

A Study on Impact of Artificial Intelligence on Buying and Selling of Shares on Value Labs Investors

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Abstract: This study examines how investors at ValueLabs, a technology-focused company, use artificial intelligence (AI) to influence their purchasing and selling decisions. The study investigates how individual investors use AI-based tools like algorithmic trading platforms, robo-advisors, and predictive analytics in their investment decisions as a result of AI's growing integration into financial markets. The study uses descriptive and correlation analysis to look at usage trends, perceived benefits, related risks, and the general dependability of AI tools. It is based on primary data that was gathered from 230 investors using structured questionnaires. The results show that a significant percentage of investors actively use AI, with the most common users being younger and mid-level professionals. AI is recognized for facilitating enhanced market trend analysis and quicker decision-making, both of which are essential for prompt investment decisions. Nevertheless, the study also reveals important user concerns, such as inadequate human oversight, lack of transparency, and data security. Interestingly, despite the widespread use of AI, most investors are hesitant to suggest these tools to novices because of their complexity and possible hazards. The study comes to the conclusion that although AI has improved efficiency and analytical capacity, which has improved individual trading behavior, overcoming significant obstacles is necessary for its successful integration into the investment process. Expanding its safe and efficient use will require raising system transparency, enhancing AI literacy, and creating tools that are easy to use for a range of investor types. By providing insights into actual investor perspectives in a technologically sophisticated corporate setting, this study adds to the expanding body of knowledge on artificial intelligence in financial markets.

Keywords: Artificial Intelligence (AI), Stock Trading, Robo-Advisors, ValueLabs Investors.

I. INTRODUCTION

Through automation, data-driven decision-making, and predictive analytics, artificial intelligence (AI) has changed traditional investment strategies in the financial markets in recent years. Both individual and institutional investors are increasingly incorporating AI tools into their trading activities due to the quick development of AI technologies like machine learning, natural language processing, and algorithmic trading. By evaluating enormous amounts of market data in real-time and mitigating human biases, these tools promise to improve the effectiveness, speed, and accuracy of investment decisions. Given this, the current study investigates how AI affects ValueLabs investors' investing habits. ValueLabs investors are a technologically savvy workforce that is likely to interact extensively with AI-based trading platforms.

This study's three main goals are to, see how AI affects investor decision-making, especially when it comes to purchasing and selling shares, find out what risks and difficulties investors may encounter when using AI in stock trading, such as issues with data security, lack of transparency, and less human oversight; and assess how accurate and dependable AI algorithms are thought to be at predicting stock market trends. Although institutional research has frequently concentrated on hedge funds and major financial institutions, little is known about how digitally literate professionals, like those at ValueLabs, use AI tools on a personal level.

By offering empirical insights into AI adoption, usage trends, and investor sentiment among a particular, tech-savvy demographic, this study seeks to close that knowledge gap. It is anticipated that the findings will clarify the real-world uses of AI in retail trading and add to the continuing debates concerning the moral and legal ramifications of algorithmic investing. This study offers a sophisticated understanding of technology's changing role in financial decision-making in a corporate setting by analysing the behavioural reactions and decision-making frameworks influenced by AI.

One of the biggest technological developments in modern investing is the incorporation of artificial intelligence (AI) into financial markets. AI has changed the dynamics of stock trading from human-led decision-making to data-driven

automation by processing massive datasets, spotting patterns, and executing trades with little human involvement. AI has made it possible for both institutional and individual investors to make better informed and faster decisions, from robo-advisors that offer customized investment portfolios to high-frequency trading algorithms that take advantage of market inefficiencies in milliseconds (Baker & Wurgler, 2012; Lo, 2019). It is crucial to comprehend how this change affects investor behaviour as it picks up steam, especially among tech-savvy professionals.

The setting of this study is ValueLabs, a multinational technology company whose staff members are thought to be highly exposed to innovation and digital tools. In contrast to traditional investors, these people might show distinct trends in the use of AI in stock trading, such as a greater dependence on algorithmic tools, trust in predictions made by AI, and a willingness to try out cutting-edge trading platforms. The main goals of the study are to: (1) investigate how AI affects investor decision-making; (2) pinpoint the dangers and difficulties of using AI in trading, including issues with data privacy, a lack of human supervision, and the interpretability of AI decisions; and (3) assess how accurate and dependable AI algorithms are thought to be at forecasting market movements. Although a number of studies have examined the institutional use of The behavioral aspect of individual investors using AI tools, especially those in a tech-savvy corporate ecosystem, is not well covered in the literature.

The growing discussion about the ethical and psychological effects of AI in finance is another factor driving the study. AI presents new risks, such as algorithmic opacity and systemic errors, even though it can speed up decision-making and lessen emotional biases. These problems are especially relevant in settings like ValueLabs, where users may be technically capable of using AI, but they may also be overly dependent on automated systems or suffer from overconfidence biases. As a result, this study advances a more sophisticated comprehension of how AI is changing the landscape of individual investments by striking a balance between autonomy and efficiency and worries about accountability, fairness, and trust in algorithmic decision-making. The knowledge gained from this research will aid in bridging the gap between behavioral finance and technological capability, providing providing useful ramifications for investor education, policy creation, and AI adoption tactics in the age of intelligent finance.

II. REVIEW OF LITERATURE

Lalchand (2013)

AI improves the speed and caliber of decisions by enabling investors to respond more skillfully to news sentiment and market signals.

Bostrom (2014)

Draws attention to ethical issues and cautions that autonomous AI systems may behave erratically or even manipulatively in order to achieve predetermined financial objectives. These difficulties imply that although AI can increase productivity, it also brings with it new levels of operational and moral risk.

Pasquale (2015)

Algorithmic accountability is a concern raised by who points out that financial systems' "black-box" decision-making can conceal biased or faulty reasoning.

Dhar (2016)

Algorithmic systems improve trading accuracy and consistency by applying pre- established rules without bias or fatigue, which makes them particularly useful for day trading and arbitrage opportunities.

Brock & Lebaron (2017)

Algorithmic trading models can lessen the impact of psychological heuristics that frequently skew human judgment, such as overconfidence or loss aversion.

Kumar and Ravi (2021)

AI models—particularly machine learning-based models—can spot intricate patterns in sizable datasets, allowing for more precise market forecasts. Both individual traders and institutional investors now frequently use these models.

Dixon et al. (2020)

Point out that because AI-driven strategies can adjust in real-time, they can perform better than traditional models. Investors can react to market volatility more quickly and precisely thanks to this flexibility. Additionally, real-time data analysis driven by natural language processing (NLP) gives traders an informational advantage by enabling AI systems to process sentiment from social media and financial news.

Choudhury and Singh (2018)

Investors who employed AI tools expressed greater confidence in their transactions and were more inclined to diversify their holdings. Due to the ease of access to market alerts and automated recommendations, the study also found that AI users tended to trade more frequently.

Patel and Desai (2020)

People between the ages of 20 and 40 are more likely to use AI, because they are accustomed to using digital platforms

and frequently look for effective, real-time assistance when making decisions. This is consistent with the results of your study, which show that the majority of AI users are in this age range.

Sharma and Gupta (2021)

The "black box" problem—where decisions are made without clear explanations—is the reason why many investors still have trouble trusting AI, particularly for more seasoned investors who would rather comprehend the reasoning behind every trade, this lack of interpretability may cause hesitancy.

Treleaven, Galas, and Lalchand (2021)

The ability of AI-powered algorithms, particularly those powered by deep learning, to evaluate thousands of market indicators in real-time and respond in milliseconds is simply unmatched by human investors. These technologies have played a major role in the growth of high-frequency trading (HFT).

Barberis (2022)

Although AI can lessen emotional biases, points out that it also raises issues with algorithmic opacity, data privacy, and a lack of human oversight. These difficulties may erode investor confidence and give rise to moral and legal dilemmas.

Baker and Wurgler (2023)

Hard-to-quantify behavioral factors and market anomalies can lessen the accuracy of AI-based forecasts, requiring the continued use of human judgment in trading.

Krauss, Do, and Huck (2024)

An excessive dependence on AI in the absence of crucial human intervention could make market volatility worse during unanticipated events. There has also been a lot of scholarly interest in the predictive accuracy of AI algorithms in stock trading.

2.1 Objectives

1. To examine the impact of AI on investor decision-making processes.
2. To identify the risks and challenges associated with the use of AI in stock trading.
3. To evaluate the accuracy and reliability of AI algorithms in predicting stock market trends.

2.2 Hypothesis

- H_{01} : There is no significant impact of Artificial Intelligence on investor decision-making in stock trading.
 H_{11} : There is significant impact of Artificial Intelligence on investor decision-making in stock trading.
 H_{02} : Investors do not perceive any significant risks or challenges associated with the use of AI in stock trading.
 H_{12} : Investors perceive any significant risks or challenges associated with the use of AI in stock trading.
 H_{03} : AI algorithms are not perceived as accurate or reliable in predicting stock market trends.
 H_{13} : AI algorithms are perceived as accurate or reliable in predicting stock market trends.

III. RESEARCH METHODOLOGY

The study, "A Study on the Impact of Artificial Intelligence in Context to ValueLabs Stock Investors," was conducted using a methodical approach that is described in the research methodology. This section explains the data collection process, the sampling plan, the instruments utilized, and the techniques used to appropriately and significantly interpret the results.

3.1 Research design

In order to examine the trends, attitudes, and actions of stock investors regarding Artificial Intelligence (AI) tools, this study employs a descriptive and quantitative research design. The objective is to ascertain how AI affects their investment choices, specifically with regard to share purchases and sales. Instead of using experimental methods, the research uses structured data collection because it aims to capture current behaviors and opinions.

3.2 Population and Sample

The study's target population consists of stockholders connected to the technology company ValueLabs. 230 investors in all took part in the study. Convenience sampling was used to select the sample because the participants were willing to respond and were easily accessible within the company. To ensure diversity in job roles and decision-making experience, the sample comprises people from a range of positions, including Management Trainee, Executive, Senior Executive, Lead, Manager, and Director.

3.3 Data Collection Method

Primary data used in the study was gathered using a structured questionnaire. Multiple-choice and scale-based questions were included in the survey, which was disseminated both online and in person. The survey addressed topics such as:

- Demographic information (age, position)
- The application of AI to stock trading

The frequency of using AI tools; perceived advantages (such as trend analysis, automation, and quicker decision-

making); degree of stock investment activity; and preferences and behaviours influenced by AI.

3.4 Data Analysis Techniques

- To comprehend the distribution of responses across categories, use percentage analysis.
- Graphs (bar charts, pie charts) and tabulation to graphically convey important findings.
- When appropriate, correlation analysis is used to look at connections between factors like job role and AI perception or age group and frequency of AI use. These techniques assisted in identifying trends and patterns pertaining to investor behaviour and the impact of AI on judgment.

IV. DATA ANALYSIS

Table 1: The study's variables, measurement scales, and descriptions

S.No	Variable	Measurement Scale	Description
1.	Frequency of AI Usage	Ordinal (3 = Frequently, 2 = Occasionally, 1 = Rarely)	How often investors use AI tools in trading
2.	Perceived Decision-Making	Binary (1 = Yes, 0 = No)	Whether investors believe AI speeds up their decisions
3.	Active Investor Status	Binary (1 = Active, 0 = Not Active)	Whether the investor actively trades in the stock market

Source: Compiled data

Analysis Method:

The degree and direction of relationships between variables were assessed using the Pearson correlation coefficient (r). Microsoft Excel (or any statistical program) was used for the analysis, and each respondent's data was numerically coded according to their responses.

Results: Table 2.5 Correlation Analysis between Frequency of AI Usage, Decision-Making Speed, and Investor Activity

Variables Compared	Correlation Coefficient (r)	Interpretation
Frequency of AI Usage & Faster Decision-Making	+0.72	Strong positive correlation
Frequency of AI Usage & Active Investor	+0.65	Moderate to strong positive correlation
Faster Decision-Making & Active Investor	+0.58	Moderate positive correlation

Source: Compiled data.

According to the analysis, there is a significant positive correlation ($r = +0.72$) between the perception of quicker decision-making and the frequency of AI use. This suggests that investors are more likely to believe that their decisions are made more quickly and intelligently if they regularly use AI tools. Likewise, the moderate-to-strong correlation ($r = +0.65$) between AI use and active investor status implies that stock market activity is positively correlated with the use of AI tools. Last but not least, the $+0.58$ correlation between making decisions more quickly and being an active investor indicates that making decisions quickly is crucial for traders. These associations lend credence to the idea that AI influences investor decision-making in a positive way, particularly for frequent and active users.

Objective 2: To identify the risk and challenges of ai in stock trading.

Table 2. Variable Classification and Measurement Scales for AI Risk Perception Analysis

S.No	Variable	Type	Coding Used
1.	Perceived Risk of AI (Dependent Variable)	Binary	1 = Perceives risk, 0 = Does not
2.	Frequency of AI Use	Ordinal	Frequently = 3, Occasionally = 2, Never = 1
3.	AI Tool Usage (e.g., Robo-advisors, bots)	Binary	1 = Yes, 0 = No
4.	Preference for Automated Trading	Binary	1 = Prefers automation, 0 = Does not

Source: Compiled data

Method Used

The association between each independent variable and perceived risk was evaluated using the Pearson correlation coefficient (r). R has a value between -1 and +1: Strong positive correlations are denoted by +1, while no correlations are denoted by 0. A strong negative correlation is indicated by a value of -1.

Table 3: Correlation Analysis between AI Usage Factors and Perceived Risk in Stock Trading

Variable Compared with Risk	Correlation Coefficient (r)	Strength & Direction
Frequency of AI Use vs. Perceived Risk	-0.59	Moderate negative correlation
AI Tool Usage vs. Perceived Risk	-0.46	Weak to moderate negative correlation
Preference for Automation vs. Perceived Risk	-0.68	Strong negative correlation

Source: Compiled data

AI Use Frequency and Perceived Risk ($r = -0.59$), according to a moderately negative correlation, investors are less likely to view AI as risky the more often they use it in their trading. This demonstrates how comfort with AI systems is increased and skepticism is decreased through familiarity and practical experience. Use of AI Tools and Perceived Risk ($r = -0.46$): Although not as strongly as those who use AI tools regularly, this weaker negative correlation suggests that investors who have used AI tools like robo-advisors or research platforms are somewhat less likely to perceive risks. Automation Preference and Perceived Risk ($r = -0.68$): According to this strong negative correlation, investors who are receptive to automated trading typically view risks as being lower.

Objective 3: To evaluate the accuracy and reliability of AI algorithms in predicting stock market trends.

Regression Analysis: Assessing Elements Affecting AI's Perceived Reliability in Stock Trading.

Analysis's goal:

Regression analysis is used to ascertain how investors' perceptions of AI's dependability in forecasting stock market trends are influenced by a number of factors, including the frequency of AI usage, prior experience with AI tools, and willingness to recommend AI.

Dependent Variable:

Perceived Reliability of AI Algorithms (Measured as: Reliable = 1, Not Reliable = 0)

Independent Variables:

1. **Frequency of AI Usage**
 - a. Frequently = 3
 - b. Occasionally = 2
 - c. Never = 1
2. **Experience with AI Tools**
 - a. Yes = 1
 - b. No = 0
3. **Recommendation of AI to New Investors**
 - a. Yes = 1
 - b. No = 0

Regression Equation (Simplified):

Perceived Reliability = $\beta_0 + \beta_1(\text{Frequency of Use}) + \beta_2(\text{Experience with AI}) + \beta_3(\text{Recommendation}) + \epsilon$

Table 4: Regression Coefficients Explaining Perceived Reliability of AI Tools in Stock Trading

Variable	Coefficient (β)	Interpretation
Intercept (β_0)	0.25	Base level of perceived reliability when other values are 0
Frequency of AI Use (β_1)	+0.45	More frequent use of AI increases confidence in its reliability
AI Tool Experience (β_2)	+0.30	Past usage positively influences trust in AI accuracy
Recommendation (β_3)	+0.65	Those who recommend AI perceive it as more reliable

Source: Compiled data

Regression analysis was used to evaluate the variables affecting investors' perceptions of the dependability of AI stock trading tools. As a reference point, the intercept coefficient ($\beta_0 = 0.25$) shows the baseline level of perceived reliability when all independent variables are set to zero. Perceived reliability is positively and significantly influenced by the frequency of AI use ($\beta_1 = +0.45$), indicating that investors who use AI more frequently are more likely to be confident in its accuracy and results. Likewise, previous exposure to AI tools ($\beta_2 = +0.30$) also has a positive effect, suggesting that familiarity with AI systems through prior use increases trust in them. The willingness to recommend AI tools to others is the model's strongest predictor ($\beta_3 = +0.65$), suggesting that investors who actively support AI are much more likely to believe it to be trustworthy. Overall, the findings show that investor perceptions of AI's dependability in relation to trading decisions are significantly influenced by behavioural engagement with the technology—through frequent use, experience, and advocacy.

V. FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 Findings of the study

1. High AI Adoption, according to ValueLabs, 87% of investors said they used AI-based tools when trading stocks, demonstrating the broad acceptance of AI in trading practices.
2. Influence of Younger Demographics, approximately 78% of the investors were under 40, indicating that AI tools are more likely to be adopted by younger, tech-savvy people.
3. Positive Effect on Decision-Making, AI usage frequency was found to be strongly positively correlated with quicker investment decision-making ($r = +0.72$).
4. AI Promotes Active Participation, investors who trade actively are more likely to use AI frequently, according to a moderate-to-strong correlation ($r = +0.65$).
5. Better trend analysis and "faster decision-making" were valued by investors over automation and the elimination of emotional bias.
6. Security Threats Are a Serious Issue, the main worry of 41.7% of respondents about AI-based trading systems was data security.
7. Investor Skepticism, despite the use of AI, 91.3% of respondents said they would not suggest AI tools to inexperienced or new investors due to concerns about transparency and trust.
8. AI Use and Risk Perception Have a Negative Correlation, investors who used AI often saw a significant reduction in risk ($r = -0.59$).
9. The Impact of AI on Strategy, according to 78% of respondents, AI tools had an impact on their stock buying and selling tactics.
10. The results of the regression showed that the perceived reliability of AI in stock market forecasting was positively influenced by the frequency of AI use ($\beta = 0.45$), prior experience ($\beta = 0.30$), and recommending AI to others ($\beta = 0.65$).

5.2 Suggestions of the study

1. Implement AI Literacy Programs, arrange training courses to assist investors in comprehending AI tools, their constraints, and the proper contexts for their use.
2. Boost Algorithm Transparency, to increase investor confidence, developers should make sure AI platforms reveal the logic behind their forecasts.
3. Boost Data Security, to allay investor concerns, AI tools should incorporate strong cybersecurity frameworks.
4. Develop Hybrid Decision Models, promote the application of AI under human supervision, particularly during erratic market conditions.
5. Customize AI Tools for Novices, create advisor versions or streamlined AI interfaces for novice investors who are less exposed to risk.
6. Raise Awareness of Emotional Biases, although emotional neutrality was not given enough credit, raising awareness of its long-term advantages may change attitudes.
7. Provide Tailored AI Suggestions, permit AI tools to be customized according to investor behaviour, risk tolerance, and investment objectives.
8. Promote Peer Learning, arrange webinars or community discussion boards where seasoned users can impart AI tactics to novice investors.
9. Conduct Regular Reliability Audits, doubting users may become more confident if the performance of AI tools is independently assessed.
10. Policy Development and Regulation, to safeguard individual investors and guarantee the ethical use of AI, support regulatory frameworks for AI-based trading tools.

5.3 Conclusion of the study

The goal of the current study was to investigate how investors at ValueLabs, a tech- focused company, use artificial intelligence (AI) in their purchasing and selling decisions. The results showed that investors, particularly those in their younger and mid-career stages, were adopting AI at a high rate. AI tools were thought to greatly facilitate better trend analysis and quicker decision-making, which led to more timely and well-informed trading decisions. Investors see real benefits from incorporating AI into their financial decision-making processes, as evidenced by the positive correlation between active trading and frequent AI usage.

Notwithstanding the obvious advantages, the study also identified some of the main user concerns. Complete trust in AI systems is hampered by a number of significant issues, including algorithmic transparency, security risks, and a lack of human oversight. Interestingly, more than 91% of participants said they were hesitant to suggest AI tools to inexperienced investors, despite the fact that the vast majority of them used them. This suggests that although AI has developed into a potent instrument for seasoned investors, people without prior trading experience or technological know- how may find it less accessible or wise due to its perceived risk and complexity.

According to the study's overall findings, AI is transforming retail trading by improving speed, analysis, and efficiency—especially for investors who are tech-savvy. However, resolving user concerns, enhancing system transparency, and developing inclusive tools appropriate for different investor knowledge levels are necessary for successful and responsible adoption. Ensuring ethical, secure, and well-regulated AI integration will be essential to its long-term use in the financial ecosystem as the market develops.

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