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AI in Stock Market: Loopholes, Limitations & Legal Challenges

Ayush Ratna Maurya
Research Scholar, Sanskriti University, Mathura, Uttar Pradesh.

Dr. Kamal Singh Dhakad
Assistant professor, Department of School of Law & Legal Studies, Faculty of Sanskriti University, Mathura, Uttar Pradesh.

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Abstract

Faster data analysis, deep research, market predictions, large scale market surveillance, quick trade execution and similarly operating many more stock market related activities have been rapidly becoming swift & smooth with the help of advanced AI (Artificial Intelligence) tools & softwares but simultaneously it has been creating many legal & regulatory challenges as well. As of November 2026, India doesn't have any specific law to regulate AI in the stock markets thus the role of Securities and Exchange Board of India (SEBI) has become quite important to use its existing powers to prevent the misuse of technologies and maintain the fairness in securities market by eliminating the emerging AI related challenges. The authors in this paper by following the doctrinal method of research highlight the limitations of AI and explain why unregulated AI use in stock markets are highly unreliable & dangerous for the Indian economy. This paper strongly criticises the existing Indian rules & regulations for AI use and suggests introducing a specific strict law on AI use in stock markets along with strengthening the powers of SEBI.

Keywords: *AI, AI Prediction, Algorithm Manipulation, Stock markets, SEBI regulation.*

1. Introduction

In the recent past the trend of using AI tools & softwares in the Indian stock markets has become quite common and it is quickly solving various problems replacing the hectic manual work. Faster data analysis, deep research, market predictions, large scale market surveillance, quick trade execution and similarly operating many more stock market related activities have been rapidly becoming swift & smooth with the help of advanced AI data analysis softwares, AI research tools, AI broker apps and AI advisory platforms along with quick AI updates, notifications and automated trading systems.[1] These advanced tools & softwares have capabilities to rapidly process large volumes of prices, share values & volumes, recent market trends, business innovations, stock market filings, investable entities, market growth news, market sentiments, earnings calls and many more. Along with all these facilities, this technology is also becoming a mandatory assistant for traders due to its various advanced capabilities like predicting future directions, potential to avert risks and volatilities, guiding the traders about the weaknesses and strengths related to their investments, taking right decisions and saving their times. Due to these features it has become a must for traders & investors to utilise the full potential of AI and leave the time taking manual old fashioned ways of trading.

Apart from various benefits of AI use in stock markets, there are many loopholes, limitations and legal challenges as well. This technology is still evolving, there is a high chance of biasedness and unreliableness.[2] It often provides fake data & information.[3] Still it is quite risky to rely on the AI responses without rechecking from the authentic sources. It is quite risky to use AI tools & softwares for future predictions because these are trained on past data; they mostly provide answers based on it only and lack of updated data often misguides the users. AI technology is also getting popular among ill minded people who misuse it for accomplishing various ill deeds. Cyber offences, cyber frauds, deepfake, fake advertisements, online extortion, etc. have become quite easy to do with the use of AI. Manipulation in algorithms is highly possible which can mislead an investor and cause him huge losses.[4] At the same time, poor legal control over this technology is also a factor which makes it untrustworthy and dangerous to be used. As of November 2026, India doesn't have any specific law to regulate AI in the stock markets thus the role of SEBI has become quite important to use its existing powers[5] to prevent the misuse of technologies and maintain the fairness in the securities market by eliminating the emerging AI related challenges. The authors in this paper aim to explain these anomalies related to unregulated AI use in stock markets and strongly criticise the existing Indian rules & regulations. This analysis helps in explaining why India needs a special law to govern AI use in stock markets along with strengthening the powers of SEBI.

2. Loophole and Limitations

AI use provides various advantages but cannot guarantee trading profits. It is still untrustworthy and blind reliance on it can be quite risky that is why continuous human oversight becomes mandatory. This advanced technology has really shown its potential to shift the manual work to AI tools and save the precious time of traders, still due to imperfection it suffers from issues like biasedness, manipulation, glitches, unavailability of data, heavy reliance on past stored information, delays in trainings based on updated data and many more. These tools also lack intuition and cannot be used for perfect predictions. They are suitable for historical analysis but lack accuracy in reading live & dynamic markets. In highly volatile environments AI often fails to deliver what is expected. Lack of training makes these tools unusable in cases of overnight geopolitical conflicts, sudden structural changes, unexpected RBI's policy changes or flash crashes. Constant training & updating it with new data are some of the essential requirements to make AI tools more accurate to help the investors deal

[1] Lin, Tom C. W., "Artificial Intelligence, Misinformation, and Market Misconduct" *SSRN,* August 29, 2025, *available at* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5409945> (last visited on 23 March 2026).

[2] Laxmi and Dr. Sunil Kumar, "AI and Legal Liability: Who is Responsible for Decisions Made by Algorithms?", *International Journal of Legal Science & Innovation,* May 5, 2025, *available at* <https://ijlsi.com/article/view/ai-and-legal-liability-who-is-responsible-for-decisions-made-by-algorithm> (last visited on April 20, 2026).

[3] Lin, Tom C. W., "Artificial Intelligence, Misinformation, and Market Misconduct", *SSRN,* August 29, 2025, *available at* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5409945> (last visited on 23 March 2026).

[4] *SEBI v. Rakhi Trading Pvt. Ltd.* (2018) 13 SCC 753.

[5] Securities and Exchange Board of India Act, 1992, s. 11.

with these sudden changes in the market but in reality is a very costly & time taking process which creates a huge hindrance in establishing it as a reliable platform for trading. Apart from the above mentioned issues, these platforms based on previous data, poor training, manipulation & biasedness can provide unfair advantages to some investors while it can mislead some other group of investors with bad responses causing them losses & operational disruptions..This technology saves time but automated trading within seconds with the same parties has already been declared manipulative and fraudulent.[6] AI can disrupt markets through automated trading, software glitches or rogue algorithms.[7]

Supporters of this advanced technology claim that AI use in stock markets can help anyone to become a trader but in reality these tools can give inaccurate buy & sell signals hence any person who does not know the basics of trading or doesn't understand the logic behind a trade can end up losing all his investments if he blindly trusts these platforms for taking decisions for investments. Most of these platforms are not free which also results in unfair advantage to people or institutions who are capable enough to afford it. It creates a huge inequality in the market as well because the huge subscription fees and high maintenance cost make it out of reach of many retail traders. This unfairness is already visible in the market where Institutional high-frequency trading (HFT) firms get undue advantage by possessing advanced AI tools & costly AI bots to scan a breakout, calculate the entry & send the order.[8] By using costly fast speed AI tools, Institutional HFT firms are leaving retail traders far behind in taking quick buy & sell decisions. Exchanges should offer affordable models of lightning-fast speed AI tools to prevent the undue advantages enjoyed by Institutional HFT firms. Traders & investors must be made aware about the risks and limitations of AI use. It is true that decision making and trade efficiency can really be improved using AI but their accuracy and reliability is still questionable along with other major limitations like high subscription fees and maintenance cost.

3. Legal Challenges and SEBI'S Role

Cybersecurity risks, breach of privacy and data theft are also huge drawbacks and heavy reliance on AI should be avoided unless there is a strong data-protection law strictly implemented and unless a workable legal mechanism is introduced in India to regulate AI. Currently India does not consider AI as a legal person and hence there is no specific law to regulate it. The existing and evolving legal frameworks focus on imposing liability on the people who developed these platforms & who are responsible to run it.[9] It has always been a challenge to regulated the Indian stock markets.[10] The current legal framework depends on how users use it and how other responsible intermediaries prevent any illegal or unauthorised activity. Any case of AI related fraud, cheating, misleading information, cyber crimes, etc. are dealt with by the existing IT Act and BNS. It is true that AI is not a human being but still, a legal mechanism is much needed to impose strict responsibility on the person who approved a misleading & inaccurate AI tool, the person who controls it, and the people who failed to properly audit it.[11] SEBI in the interest of investors[12] has also taken steps related to ethical use of AI tools, AI use disclaimers, approving or disapproving AI tools through grant of licence and suspension of licence in case of noncompliance. SEBI's retail algo framework mandates broker accountability, unique order IDs, and strict API security. Scripts exceeding 10 orders per second require formal exchange approval, protecting retail investors from unregulated software.

Though special laws are non-existent, SEBI'S Research Analyst (RA) & Investment Advisor licenses have already come into force. It is a great development to approve or disprove the AI tools through grant of

[6] *SEBI v. Rakhi Trading Pvt. Ltd.* (2018) 13 SCC 753.
[7] *SEC v. Knight Capital Americas LLC,* Release No. 70694 (2013).
[8] Filippo Annunziata, "Chapter 5: Artificial intelligence and market manipulation", *Elgaronline,* November 3, 2023, *available at* <https://www.elgaronline.com/monochap/book/9781035310722/book-part-9781035310722-8.xml> (last visited on 28 March 2026).
[9] Kavidharani R, "Legal Analysis Of Algorithmic Trading And AI- Enabled Market Manipulation", *IJLLR,* April 13, 2026, *available at* <https://www.ijllr.com/post/legal-analysis-of-algorithmic-trading-and-ai-enabled-market-manipulation> (last visited on April 15, 2026).
[10] Yesha Yadav, "The Failure of Liability in Modern Markets" 102 *Virginia Law Review* 1050-1061 (2016).
[11] Laxmi and Dr. Sunil Kumar, "AI and Legal Liability: Who is Responsible for Decisions Made by Algorithms?", *International Journal of Legal Science & Innovation,* May 5, 2025, *available at* <https://ijlsi.com/article/view/ai-and-legal-liability-who-is-responsible-for-decisions-made-by-algorithm> (last visited on April 20, 2026).
[12] Securities and Exchange Board of India Act, 1992, s. 11.

SEBI licence and suspension of this licence in case of noncompliance. SEBI has to simplify it and bring Retail-friendly Licensing which will allow retail developers to sell verified, code-transparent AI indicators through legally permitted broker marketplaces. SEBI by collaborating with NSE/BSE type of stock exchanges should expand "live testing sandboxes" to make it mandatory for retail AI developers to test strategies in a real-time simulated market environment. It can help AI tools to give or take logical decisions in sudden changes and solve the issue of data lags & unpredictability. A dedicated body is needed to actively scan sudden changes, trace unexpected impacts, new tech risks, flash-crash patterns, etc. and make aware AI developers and traders about quick updates. Developers of AI tools should also comply with regulatory guidelines and maintain transparency. It is needed to clearly define the responsibility and mention who will pay in for an AI glitch (it is already established that software glitches or rogue algorithms can not be an excuse to escape the liability)[13]. A clear guideline is needed to impose the liability on the person who approved an AI tool, who controls it and who audits it. There must be transparency in the case of AI use. Every activity must be done through an AI Code and a proper "AI Audit Trail" should be maintained. It will help in solving the cases where manipulation or misuse of AI is done. Manipulators, misusers and AI users setting bad parameters should be quickly tracked and penalised to protect the market. Apart from approvals and licences, SEBI should also give ratings to AI tools & software and change it from time to time according to the results and reviews. Old laws, license requirements and other relevant regulatory guidelines must be quickly updated according to changing technologies and SEBI should be always alert to bring the much needed rules and regulations in changing scenarios.[14]

4. Conclusion

Efficiency of stock market traders & investors can really be improved by AI tools but their accuracy and reliableness is still questionable. Faster data analysis, deep research, market predictions, large scale market surveillance, quick trade execution and similarly operating many more stock market related activities have been rapidly becoming swift & smooth with the help of advanced AI (Artificial Intelligence) tools & softwares but simultaneously it has been creating many legal & regulatory challenges as well. India doesn't have any specific law to regulate AI in the stock markets but in this situation strict implementation of the existing laws and the regulatory role of SEBI has become quite important to prevent the misuse of technologies and maintain the fairness in the securities market by eliminating the emerging AI related challenges. It is concluded that the current SEBI licensing guidelines and AI use disclosure rules are not enough and India quickly needs to introduce a specific law on this issue. The current AI use in stock markets is highly unreliable, manipulative & dangerous for the Indian economy hence following are the important suggestions for AI growth, accuracy and legal control in the stock markets:

- SEBI by collaborating with NSE/BSE type of stock exchanges should expand "live testing sandboxes" to make it mandatory for retail AI developers to test strategies in a real-time simulated market environment. It can help AI tools to give or take logical decisions in sudden changes and solve the issue of data lags & unpredictability.
- A dedicated body is needed to actively scan sudden changes, trace unexpected impacts, new tech risks, flash-crash patterns, etc. and aware AI developers and traders about quick updates.
- Developers of AI tools should comply with regulatory guidelines and maintain transparency.
- SEBI has to simplify its Research Analyst (RA) & Investment Advisor licence criteria and bring Retail-friendly Licensing which will allow retail developers to sell verified, code-transparent AI indicators through legally permitted broker marketplaces.
- It is needed to clearly define the responsibility and mention who will pay in for an AI glitch, misinformation or biasedness.
- A clear guideline is needed to impose the liability on the person who approved an AI tool, who controls it.and who audits it.
- There must be transparency in the case of AI use. Every activity must be done through an AI Code and a proper "AI Audit Trail" should be maintained. It will help in solving the cases where manipulation or misuse of AI is done.

[13] *SEC v. Knight Capital Americas LLC*, Release No. 70694 (2013).

[14] Securities and Exchange Board of India Act, 1992, s. 30.

- Manipulators, misusers and AI users setting bad parameters should be quickly tracked and penalised to protect the market.
- Apart from approvals and licences, SEBI should also give ratings to AI tools & softwares and change it from time to time based on results and reviews.
- Old laws, license requirements and other relevant regulatory guidelines must be quickly updated according to changing technologies.
- For retail investors, exchanges should offer affordable models of lightning-fast speed AI tools to prevent the undue advantages enjoyed by Institutional HFT firms.
- Traders & investors must be made aware about the risks and limitations of AI use. It is true that decision making and trade efficiency can really be improved using AI tools but their accuracy and reliableness is still questionable.

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