

INTERNATIONAL JOURNAL FOR LEGAL RESEARCH AND ANALYSIS



Open Access, Refereed Journal Multi-Disciplinary
Peer Reviewed

www.ijlra.com

DISCLAIMER

No part of this publication may be reproduced or copied in any form by any means without prior written permission of Managing Editor of IJLRA. The views expressed in this publication are purely personal opinions of the authors and do not reflect the views of the Editorial Team of IJLRA.

Though every effort has been made to ensure that the information in Volume II Issue 7 is accurate and appropriately cited/referenced, neither the Editorial Board nor IJLRA shall be held liable or responsible in any manner whatsoever for any consequences for any action taken by anyone on the basis of information in the Journal.

Copyright © International Journal for Legal Research & Analysis

EDITORIALTEAM

EDITORS

Dr. Samrat Datta

Dr. Samrat Datta Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Samrat Datta is currently associated with Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Datta has completed his graduation i.e., B.A.LL.B. from Law College Dehradun, Hemvati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand. He is an alumnus of KIIT University, Bhubaneswar where he pursued his post-graduation (LL.M.) in Criminal Law and subsequently completed his Ph.D. in Police Law and Information Technology from the Pacific Academy of Higher Education and Research University, Udaipur in 2020. His area of interest and research is Criminal and Police Law. Dr. Datta has a teaching experience of 7 years in various law schools across North India and has held administrative positions like Academic Coordinator, Centre Superintendent for Examinations, Deputy Controller of Examinations, Member of the Proctorial Board



Dr. Namita Jain

Head & Associate Professor

School of Law, JECRC University, Jaipur Ph.D. (Commercial Law) LL.M., UGC -NET Post Graduation Diploma in Taxation law and Practice, Bachelor of Commerce.

Teaching Experience: 12 years, AWARDS AND RECOGNITION of Dr. Namita Jain are - ICF Global Excellence Award 2020 in the category of educationalist by I Can Foundation, India. India Women Empowerment Award in the category of "Emerging Excellence in Academics by Prime Time & Utkrisht Bharat Foundation, New Delhi. (2020). Conferred in FL Book of Top 21 Record Holders in the category of education by Fashion Lifestyle Magazine, New Delhi. (2020). Certificate of Appreciation for organizing and managing the Professional Development Training Program on IPR in Collaboration with Trade Innovations Services, Jaipur on March 14th, 2019



Mrs.S.Kalpana

Assistant professor of Law

Mrs.S.Kalpana, presently Assistant professor of Law, VelTech Rangarajan Dr.Sagunthala R & D Institute of Science and Technology, Avadi. Formerly Assistant professor of Law, Vels University in the year 2019 to 2020, Worked as Guest Faculty, Chennai Dr.Ambedkar Law College, Pudupakkam. Published one book. Published 8Articles in various reputed Law Journals. Conducted 1Moot court competition and participated in nearly 80 National and International seminars and webinars conducted on various subjects of Law. Did ML in Criminal Law and Criminal Justice Administration. 10 paper presentations in various National and International seminars. Attended more than 10 FDP programs. Ph.D. in Law pursuing.



Avinash Kumar



Avinash Kumar has completed his Ph.D. in International Investment Law from the Dept. of Law & Governance, Central University of South Bihar. His research work is on "International Investment Agreement and State's right to regulate Foreign Investment." He qualified UGC-NET and has been selected for the prestigious ICSSR Doctoral Fellowship. He is an alumnus of the Faculty of Law, University of Delhi. Formerly he has been elected as Students Union President of Law Centre-1, University of Delhi. Moreover, he completed his LL.M. from the University of Delhi (2014-16), dissertation on "Cross-border Merger & Acquisition"; LL.B. from the University of Delhi (2011-14), and B.A. (Hons.) from Maharaja Agrasen College, University of Delhi. He has also obtained P.G. Diploma in IPR from the Indian Society of International Law, New Delhi. He has qualified UGC – NET examination and has been awarded ICSSR – Doctoral Fellowship. He has published six-plus articles and presented 9 plus papers in national and international seminars/conferences. He participated in several workshops on research methodology and teaching and learning.

ABOUT US

INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANALYSIS
ISSN

2582-6433 is an Online Journal is Monthly, Peer Review, Academic Journal, Published online, that seeks to provide an interactive platform for the publication of Short Articles, Long Articles, Book Review, Case Comments, Research Papers, Essay in the field of Law & Multidisciplinary issue. Our aim is to upgrade the level of interaction and discourse about contemporary issues of law. We are eager to become a highly cited academic publication, through quality contributions from students, academics, professionals from the industry, the bar and the bench. INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANALYSIS ISSN 2582-6433 welcomes contributions from all legal branches, as long as the work is original, unpublished and is in consonance with the submission guidelines.

BALANCING INNOVATION AND RISK: ANALYZING SEBI'S AMENDMENTS ON THE USE OF AI TOOLS BY REGULATED ENTITIES UNDER THE SECURITIES AND EXCHANGE BOARD OF INDIA (INTERMEDIARIES) REGULATIONS, 2008

AUTHORED BY - RAMYA DEVI

Abstract

The use of AI and ML in stock trading has grown, but market volatility and risks remain concerns. On November 13, 2024, SEBI proposed regulations for Market Infrastructure Institutions (MIIs) and intermediaries using AI, focusing on privacy, security, and accountability. SEBI enforced The Intermediaries (Amendment) Regulations, 2025 on February 10, 2025, to address transparency and liability issues. However, concerns persist about data security and regulatory sufficiency. This paper analyzes global frameworks, including IOSCO and the SEC, to assess AI's impact on trading and provide recommendations for improving SEBI's approach.

Keywords: *Artificial Intelligence, Machine Learning, Data security, Data Privacy.*

Introduction

Stock market predictions are often hindered by the unpredictable nature and high volatility that characterize the market environment trends¹. Over the past few years, there has been significant development in the use of AL and ML tools by market participants. On November 13, 2024, SEBI has recently issued a consultation paper proposing that regulated market institution ("MIIs") and intermediaries that use AI and ML tools in securities market should adhere to certain obligations. These include ensuring the privacy, integrity and security of investors and stakeholders, being accountable for AI outcomes, and being required to adhere to these proposed regulations while using AI.

On 10th February 2025, SEBI notified "The Securities and Exchange Board of India

¹ Akansha Mer, Kanchan Singhal, *et.al.*, "A Review of the Role of Artificial Intelligence in Banking and Stock Market Trading" *Emerald Studies in Finance, Insurance, and Risk Management* (2024).

(Intermediaries) (Amendment) Regulations, 2025” to amend “The Securities and Exchange Board of India (Intermediaries) Regulations, 2008”. The provisions came into force on 10-2-2025².

However, SEBI has expressed several concerns, including risks related to data, transparency, accountability, privacy, and confidentiality. The amendments stress the importance of complying with existing laws and the liability associated with the use of AI and ML technology and its consequences. So, it is essential to conduct further research on the role of AI in transforming stock market trading³.

Therefore, it is essential to determine if the framework and tools are sufficient in managing these concerns. By analysing other countries framework, such as IOSCO surveyed market intermediaries, conducted outreach to identify how AI and ML are being used, Securities and Exchange Commission, and so on. The paper also examines the effectiveness of these models and methods and discusses how they should be implemented in our country. The aim is to give recommendations on the amendments on AI and ML tools.

Hypothesis

SEBI's amendments on the usage of AI tools by regulated entities are expected to enhance transparency and address ethical concerns in AI-assisted decision-making by establishing clear regulatory frameworks and accountability measures. However, their effectiveness will depend on the implementation, monitoring, and adaptability of these amendments in addressing the dynamic nature of AI technologies. Furthermore, while India's initiatives to prevent algorithmic discrimination and bias represent a significant step forward, their alignment with international ethical AI practices remains a critical factor in ensuring global competitiveness and adherence to universally accepted standards.

1. Literature Review

1. Report by the board of the IOSCO. The report employs IOSCO to identify the use of AI and ML by market intermediaries. The report assesses potential risks in relation to the development, testing and deployment of AI and ML. It also focuses on how firms are using AI and ML techniques. It also analysis various countries market such as Abu Dhabi, United

² Kriti, "SEBI introduces the concept of AI vide its amendment in Intermediaries Regulations", SCC Online, February 11, 2025, available at <https://www.sconline.com/blog/post/2025/02/11/sebi-introduces-concept-of-ai/>.

³ Ibid.

Kingdom, Canada, Germany, China, France, Singapore, United States.

2. Research paper published in International Journal of Computer Applications. The research paper analysis AI strategies for predicting in stock market. It explores two main approaches technical and fundamental. The research highlights the ongoing development and potential of AI and ML algorithms in stock market prediction, but also underscores the complexity and challenges involved in achieving accurate predictions. It concludes that current AI technology shows median performance, suggesting AI cannot yet reliably outperform stock markets. The research paper did not cover external economic factors on AI predictions and potential regulatory challenges in employing AI for stock market predictions. The research article solely concentrates on artificial intelligence (AI) and does not encompass any other systematic algorithms.

3. The research paper named “Artificial intelligence techniques in financial trading: A systematic literature review.” Published in Journal of King Saud University. The research paper reviews the use of AI techniques in financial trading through systematic literature review of 143 articles published between 2015 and 2023. It highlights the prevalence of technical analysis over fundamental analysis. The study provides recommendations and guidance for future research in this promising field. The research paper lacked insights into real-time application of AI model, instead focusing on theoretical results.

Methodology

The research paper adopts a doctrinal and comparative research approach, gathering data from a variety of sources, both primary and secondary. The primary sources include acts, rules, regulations, press notes, and case laws. Secondary sources consist of journal articles, research papers, and books, which were accessed through platforms such as Google Scholar, Economic Times, JSTOR, HeinOnline, and ResearchGate.

Research Questions

1. Whether SEBI's amendments on the usage of AI tools by regulated entities under the SEBI (Intermediaries) Regulations, 2008 will address transparency and ethical concerns in AI-assisted decision-making?
 - (a) Whether Artificial Intelligence (AI) within the context of these regulations is defined?

- (b) Whether appropriate supervision and documentation practices are in place to ensure compliance and accountability?
 - (c) Whether SEBI's amendments to the regulations effectively assign responsibilities to regulated entities for the use of AI/ML tools, ensuring accountability for data privacy, security, and integrity.
2. Whether SEBI's approach to AI regulation aligns with international best practices and frameworks, including those of Canada, United Kingdom, and European Union?

Research Objectives

1. To examine SEBI's amendments to the SEBI (Intermediaries) Regulations, 2008.
2. To analyze the amendments appropriately assign responsibilities to regulated entities for the use of AI/ML tools, ensuring accountability for data privacy, security, and integrity.
3. To determine on SEBI's approach to AI regulation aligns with international best practices and regulatory frameworks, particularly those of Canada, United Kingdom and European Union.

Scope and Limitations

The scope of this research focuses on how intermediaries employ artificial intelligence in the market, examining the protection measures in place for using AI. The study also investigates on definition of AI and explores the need of supervision and documentation practices. It also provides commentary on the amendments made and compares them with regulations in other jurisdictions that have more comprehensive frameworks.

The limitation of this research is that it concentrates solely on artificial intelligence and addresses only one amendment SEBI (Intermediaries) Regulations, 2008, while excluding the other two amendments.

CHAPTER – 2

SEBI'S AMENDMENTS ON AI USAGE

2.1 Introduction to AI in Securities Market

AI is increasingly transforming in Securities Market in India. AI-driven models which uses deep learning or machine learning to predict stock prices with greater accuracy⁴. In trading sector, AI can be classified into four main categories. Quantitative trading is where the price and volume data will be analysed to identify the profitable investment opportunities⁵. In algorithmic trading, they rely on predefined rules derived from historical data and trading decisions⁶. In high-frequency trading, a specialized form of algorithmic trading would focus on buying and selling of stocks, Lastly, automated trading, where the executed trades automatically based on pre-programmed strategies without any human help⁷.

2.2 Why there is a need for amendments?

SEBI has released three circulars on reporting of AI and ML for Mutual funds⁸, MIIs and 'Stock Brokers and Depository Participants Recognized Stock Exchanges and Depositories'⁹. On January 31, 2019, SEBI released another circular for All Recognized Stock Exchanges, Clearing Corporations and Depositories. The circular states that SEBI being conducting survey to map AL/ML adoption in Indian financial markets, ensuring readiness for the future¹⁰. The circular incudes AL/ML based systems used for compliance by MIIs, covering Fin-tech and Reg-tech initiatives¹¹. MIIs must submit quarterly reports via specified emails. The main objective of the circular is to protect investors and regulate markets. MIIs includes stock exchange, clearing corporation and depository.

In reference to the SEBI's official consultation paper titled "Proposed Amendments with respect to assigning responsibility for the use of Artificial Intelligence tools by Market

⁴ Jaydip Sen, Hetvi Waghela, *et.al.*, "Exploring Sectoral Profitability in the Indian Stock Market Using Deep Learning" 36 *Cornell University* (2024).

⁵ Hendershott, Terrence J. and Riordan, Ryan, *Algorithmic Trading and the Market for Liquidity* (April 11, 2012). *Journal of Financial and Quantitative Analysis* (JFQA), Forthcoming, Available at SSRN: <https://ssrn.com/abstract=2001912> or <http://dx.doi.org/10.2139/ssrn.2001912>

⁶ Shobhit Seth, "Basics of Algorithmic Trading: Concepts and Examples" *Investopedia* (2023).

⁷ Fatima Dakalbab, Manar Abu Talib, *et.al.*, "Artificial Intelligence Techniques in Financial Trading: A Systematic Literature Review" 36 *ScienceDirect* (2024).

⁸ Circular No.: SEBI/HO/IMD/DF5/CIR/P/2019/63 May 09, 2019

⁹ Circular No.: SEBI/HO/MIRSD/DOS2/CIR/P/2019/10 January 04, 2019

¹⁰ Circular No.: SEBI/HO/MRD/DOP1/CIR/P/2019/24 January 31, 2019

¹¹ *Ibid.*

Infrastructure Institutions, registered Intermediaries and other persons regulated by SEBI”¹².

AI-driven trading and operations, including compliance mechanisms in securities markets, offer many benefits, which includes improved efficiency, greater accuracy in decision-making, enhance risk management, ability to serve range of investors and timely reporting. In addition to this, when these AI tools are being easily available to investors by intermediaries, they provide more convenience in executing transactions within the securities market. However, while it is also important to ensure that investor is being protected when using such systems. There is also a pressing need to give accountability to Market infrastructure Institutions.

Overall, to address the evolving financial markets, particularly the integration of AI and ML by regulated entities. These amendments aim to protect investors, ensure data security and establish clear accountability for AI/ML application¹³.

2.3 SEBI’s Amendments on AI usage

SEBI has amended the Intermediaries Regulations 2008 by notifying SEBI (Intermediaries) (Amendment) Regulations, 2025. They have introduced Chapter IIIB on the matters of artificial intelligence usage. The amendment provides the regulated entities to utilising AI and machine learning tools, whether being proprietary or third-party, would be solely accountable and liable for data privacy, security and integrity of the investor’s information. Thereby, it establishes that the entities bear complete responsibility for AI-generated outputs. The regulation covers all AI applications utilized for investment, trading, strategy, dissemination, or internal operations. SEBI holds the authority to impose penalties for any violations under Chapter V.

2.4 Definition of Artificial Intelligence under this Regulation.

Under the amendment, SEBI (Intermediaries) (Amendment) Regulations, 2025, given that “AI and ML and techniques” may include “any application or software program or executable system or a combination”. The term “software program” or “executable system” are not explicitly defined under a single statute. However, it encompasses any application, program,

¹² **Securities and Exchange Board of India**, *Proposed Amendments with Respect to Assigning Responsibility for the Use of Artificial Intelligence Tools by Market Infrastructure Institutions, Registered Intermediaries and Other Persons Regulated by SEBI*, SEBI Report (Nov. 2024), available at <https://www.sebi.gov.in/reports-and-statistics/reports/nov-2024/proposed-amendments-with-respect-to-assigning-responsibility-for-the-use-of-artificial-intelligence-tools-by-market-infrastructure-institutions-registered-intermediaries-and-other-persons-regulated-b-88470.html>

¹³ Ibid.

or system used internally by the depository to support trading and settlement, fulfil compliance requirements, and perform its activities. Additionally, if these are presented as part of the public product offering or utilized for compliance, management, or other business purposes, they are included¹⁴. Artificial intelligence (AI) utilizes machine learning (ML) methods, including natural language processing (voice-to-text, text-to-systems, chatbots), neural networks, and feedback systems. These techniques, either individually or in combination, are employed to analyze large datasets.¹⁵

Further, the software systems or tools provided by entities which are regulated by SEBI. The companies shall use them for two purposes, for their clients and for themselves. The AI and ML shall be used for activities for trading, investing or providing investment- related advices or strategies or may also be used for internal purpose, such as ensuring compliance with SEBI regulations and other legal requirements. These systems or tools can be either marketed as part of the services offered to the public.

2.5 Supervision and Documentation

The amendment would enhance supervision and documentation among intermediaries in the securities market. Its emphasis more on accountability for the outputs generated by AI/ML tools in order to protect investor data, ensuring privacy, security and integrity throughout all processes.

SEBI requires MIIs and intermediaries to maintain detailed record of AI/ML systems, including system design and functionality, data sources and processing and risk mitigation strategies. This record must be submitted quarterly via specified email. They shall fill reporting form (Annexure B) with respect of AI as defined in Annexure A¹⁶.

2.6 SEBI's Role in Accountability and Data Security

The amendment outlines that anyone using AI or ML would be solely accountable for three key areas. Privacy, security and integrity of data, which includes ensuring that investors and stakeholders data is protected throughout all processes, especially when the data held in

¹⁴ Sanchita Agarwal & Amiya Mukherjee, *India's Steps Towards Regulating Use of Artificial Intelligence Tools in Securities Markets*, Lexplosion, available at <https://lexplosion.in/indias-steps-towards-regulating-use-of-artificial-intelligence-tools-in-securities-markets/>

¹⁵ Ibid.

¹⁶ Supra Note 9

fiduciary capacity. The person is responsible for the results produced by these tools, including any decisions or actions based on them. They must also ensure that their use of AI/ML tools complies with the current applicable laws and regulations. Additionally, they are accountable for the results generated by these AI tools and techniques.

2.7 ‘Committee on Financial and Regulatory Technologies’ (CFRT)

It was established in 2017, the CFRT, provides ongoing advice to SEBI¹⁷. Its focus is on recent trends in FinTech developments. The CFRT identifies opportunities and challenges from new FinTech solutions and assesses their impact on the Indian securities market.

Moreover, the CFRT evaluates technological solutions to support SEBI's regulatory functions, including information management, risk management, cyber security, intermediary oversight, and consumer protection¹⁸. These solutions encompass distributed ledger technology, big data, data analytics, AI and ML.

SEBI participated in five IOSCO Board meetings during 2023-24. Key issues discussed by the IOSCO Board, one the issues were on developments in fintech, including the work of IOSCO's The Fintech Task Force is developing a policy framework for the implementation of artificial intelligence within the securities market¹⁹.

CHAPTER - 3

COMPARATIVE ANALYSIS WITH GLOBAL REGULATORY PRACTICES

3.1 UNITED KINGDOM

Financial Conduct Authority (FCA) is a financial regulatory body in UK. The authority has powers to regulate the conduct of marketing financial products. UK's government has published white paper²⁰ on regulating the regulation of AI. The policy paper includes the potential benefits and risks of the use of AI in financial market with the objective of consumer protection, competition and market integrity²¹. The paper also includes five cross-cutting

¹⁷ The Securities and Exchange Board of India (SEBI), "Annual Report 2018-19" 25 (2019)

¹⁸ Ibid.

¹⁹ The Securities and Exchange Board of India (SEBI), "Annual Report 2023-24" 209 (2024)

²⁰ 'White papers are policy documents produced by the Government that set out their proposals for future legislation. White Papers are often published as Command Papers and may include a draft version of a Bill that is being planned. This provides a basis for further consultation and discussion with interested or affected groups and allows final changes to be made before a Bill is formally presented to Parliament.'

²¹ Financial Conduct Authority. "AI Update." (2023). <https://www.fca.org.uk/publication/corporate/ai-update.pdf>

principles for AI governance.

1. *Safety, security and robustness*

This principle acknowledges that the risks should be identified, assessed and managed²².

2. *Appropriate transparency and explainability*

AI systems must be transparent, enabling users to clearly explain the processes that led to specific outcomes²³.

3. *Fairness*

The government states that AI system must uphold the legal rights of individuals and organisation in order to avoid unfair discrimination and unjust market outcomes. Additionally, regulators emphasize that it is up to firms to define what fairness means for their operations and to provide appropriate justifications for their approaches.

4. *Accountability and governance.*

This initiative seeks to enhance overall accountability when regulated firms utilize AI or ML systems, mandating that senior management is responsible for risk management.

3.1.1 Definition of AI.

FCA has defined AI in non-legal terms as “the theory and development of computer systems able to perform tasks which previously required human intelligence.”²⁴ And ML would be considered as a sub-branch of AI.

Consequently, the FCA has not established a formal, sector-specific regulatory definition of AI or ML. Their focus remains on ensuring the safe and responsible adoption of these technologies within the existing regulatory framework.

3.1.2 FCA’s Approach to Regulation and Supervision.

FCA does not mandate or prohibit specific technologies. The role of regulatory approach is to identify and mitigate the risks. For example, if a regulated firm use of any given technology, such as blockchain or AI, FCA assess the risk and oversee the outcome. Chapter 4 of the AI Discussion Paper outlined essential legal requirements and guidance pertinent to minimizing

²² Cooley LLP. "UK Regulators Share Views on Artificial Intelligence and Machine Learning Regulation." (2024). <https://www.cooley.com/news/insight/2024/2024-05-21-uk-regulators-share-views-on-artificial-intelligence-and-machine-learning-regulation>

²³ Ibid.

²⁴ Supra Note 20.

risks linked to the use of AI in the UK financial services and markets²⁵.

FCA seems to be a good practice on reviewing how trading algorithms are employed, developing appropriate definitions, identifying risks and having consistent methodology for testing and deployment of AI and ML.

Overall, there is no dedicated AI law in UK's securities market, but the combination of the existing financial regulations, read with AI principles, and CTP²⁶ regime, collectively governs the oversight of AI and ML technologies within securities market.

3.2 CANADA

Canada implemented legislation named "*National Instrument 23-103 Electronic Trading and Direct Electronic Access to Marketplaces*."²⁷ and the Investment Industry Regulatory Organisation of Canada (IIROC). It addresses on automated order system²⁸ and risk management controls which encompass AI systems used in electronic trading. It also mandates that the firms must ensure that algorithmic trading system must be tested prior being used by the participants.

The CSA notice provides guidance for issuers²⁹ on AI-related disclosure obligations under National Instrument 51-102 Continuous Disclosure Obligations (NI 51-102)³⁰. The four key areas are on disclosure of current AI systems business use, AI-related risk factors, promotional statements about AI use and AI & Forward-looking information (FLI).

- Issuers must disclose AI use if it is related to their business, and also including its definition, application, impact on their operations and competitive effects. If relevant data sources of AI systems must be also disclosed.

²⁵ 'Bank of England, Prudential Regulation Authority. (2022). *Artificial Intelligence*.' <https://www.bankofengland.co.uk/prudential-regulation/publication/2022/october/artificial-intelligence>

²⁶ Critical Third Parties regime: 'a regulatory framework designed to oversee and manage the operational resilience of third-party service providers deemed critical to the stability of the UK financial system.'

²⁷ 'CSA National Instrument 23-103 Electronic Trading and Direct Electronic Access to Marketplaces, available at: https://lautorite.qc.ca/fileadmin/lautorite/reglementation/valeurs-mobilieres/23_103/2014-03-01/2014mars01-23-103-vofficielle-en.pdf

²⁸ "Automated order system" 'means a system used to automatically generate or electronically transmit orders on a pre-determined basis';

²⁹ Issuer: An issuer is a legal entity that creates and sells securities to raise capital.'

³⁰ 'Canadian Securities Administrators, *National Instrument 51-102 Continuous Disclosure Obligations*, (2023), online: Ontario Securities Commission' <https://www.osc.ca/en/securities-law/instruments-rules-policies/5/51-102>.

- Issuers should provide entity-specific risks. For example, ethical risks, regulatory risks, competitive risks and cybersecurity risks.
- Issuers must avoid overly promotional AI-related discourse. Sometimes, scrutiny may extend to social media activities.

The CSA emphasizes that AI disclosures should be tailored to the issuer's specific circumstances, avoiding a common approach³¹.

3.2.1 Definition of AI.

The CSA uses the OECD's definition of "AI system", which is a machine-based system that generates outputs like predictions, recommendations or decision based on inputs. It also acknowledges that AI is constantly evolving³². The guidance is based on current AI's status and its use in capital market.

3.2.2 CSA's Approach to Regulation and Supervision.

It also actively monitors AI-related legislative and policy developments at national and international levels. They collaborate with international partners such as IOSCO through its Fintech Taskforce (FTF), which has established AI working group to address the risk faced in the capital market related to AI. The group may also develop tools or recommendations to guide the regulators in managing AI-related issues.

The targeted audience on where the AI regulations shall apply is on the market participants, which includes registrants, Participants include non-investment fund reporting issuers, marketplaces and their participants, trade repositories, and designated rating organizations.

AI tools and services are being subjected to consumer protection and personal information protection. The Autorité des marchés financiers³³ (AMF) is on the view that stakeholders must be held accountable for the operations for obtaining certification or IT audits of their systems. Existing laws and regulations overseen by the CSA are technology-neutral.

³¹ Andjela Sabet, Julia Currie, *et.al.*, "AI and Canadian Capital Markets: CSA Guidance for Non-Investment Fund Reporting Issuers" (2025).

³² Matthew Merkley, Antoine Killin, *et.al.*, "CSA Provides Guidance on AI Disclosures by Public Companies" (2025).

³³ 'It is a self-funding government agency responsible for financial regulation in the Canadian province of Quebec'

3.3 EUROPEAN UNION (EU)

EU has established a comprehensive framework for governing the use of AI in securities market, primarily through AI Act³⁴ and MiFID II. AI Act³⁵ is a framework on AI, which addresses the risks of AI. It establishes risk-based rules for AI developers and users, as part of a broader policy package that includes that AI innovation package. These measures ensure safety, fundamental rights, human-centric AI, and promote AI uptake, investment, and innovation across the EU. While many AI systems pose minimal risk and can solve societal issues, some systems create risks that need to be managed to prevent undesirable outcomes, such as biased decisions in hiring or public benefits.

3.3.1 Definition of AI

Article 3 of the AI Act defines an "AI system" as a machine-based system capable of functioning independently to varying extents and adapting post-deployment. It processes received inputs to generate outputs such as predictions, content, recommendations, or decisions that can influence real or virtual environments³⁶.

The Act also introduce two governance structure comprising European Artificial Intelligence Board (EAIB) and National Competent Authorities. The function of this body is ensuring the consistent application of regulation across the member states and facilities cooperation and provide guidance on AI-related issues³⁷.

Regulation and Supervision.

There is requirement to establish and maintain documentation demonstrating compliance with AI Act, such as documentation of procedures identifying and mitigating potential risks³⁸ associated with AI systems, dataset s used for ensuring the system's performance, accuracy and safety.

The DORA is an EU regulation, which aims at enhance the IT security of financial entities. DORA standardizes the rules for operational resilience across 20 types of financial entities and

³⁴ 'Matt Kosinski and Mark Scapicchio, "What is the Artificial Intelligence Act of the European Union (EU AI Act)?" *IBM*' (2024).

³⁵ The AI Act (Regulation (EU) 2024/1689)

³⁶ Artificial Intelligence Act (Regulation (EU) 2024/1689), s. Article 3

³⁷ Article 9 – Risk Management System

³⁸ Article 11 – Technical documentation of AI Act.

ICT third-party service providers³⁹. This act outlines clear criteria, templates, and instructions for financial organizations to manage ICT and cyber risks. It shows that EU regulators want to be very involved in this area, focusing heavily on frequent reporting, communication, and assessments using standard formats. As a result, a unified supervisory approach will be applied across the relevant sectors⁴⁰.

The Markets in Financial Instruments Directive II (MiFID II) grants authority to establish delegated and implementing acts in detail on how competent authorities and market participants should adhere to the requirements present in the directive.

CHAPTER – 4 SUGGESTION

- **On Defining AI and Scope of Regulation**

SEBI must provide a sector-specific legal definition of AI in securities market, aligning with international definitions such as from OECD'S AI system. OECD has updated definition of AI, which is inclusive and encompasses system from simple to complex⁴¹.

- **Implement AI-specific Risk Management**

SEBI shall mandate pre-deployment testing and continuous monitoring of AI trading and risk management systems. Pre-deployment test is a process of evaluating and validating an AI system before its officially deployed or employed in real-world application⁴².

- **For transparency and explainability**

SEBI can follow the EU AI Act's risk-based framework to mandate AI system documentation, impact assessments, and disclosure requirements for AI-driven decision-making in financial markets.

- **On establishing AI oversight and supervision**

SEBI should establish a dedicated AI oversight body to monitor AI use in securities markets, ensuring compliance through audits, periodic reporting, and stress tests. SEBI can draw inspiration from Canada's FTF for oversight and supervision.

³⁹ European Insurance and Occupational Pensions Authority (EIOPA). "Digital Operational Resilience Act (DORA)."

⁴⁰ Michel Ganado and Andrew Schembri, "Introducing the Digital Operational Resilience Act" *Pwc* (2020).

⁴¹ Explanatory Memorandum on the Updated OECD Definition of an AI system, OECD Artificial Intelligence paper, No. 8, (2024)

⁴² "Pre-Deployment Evaluation of OpenAI's O1 Model" *Nist* (2024).

- **Strengthening Data Protection and Privacy**

SEBI must try to adopt FCA's data governance strategies to ensure compliance with data protection laws. As SEBI should prioritize transparency in AI systems to maintain accountability.

CHAPTER – 5

CONCLUSION

There is an increasing adoption of AI in financial markets present both opportunities and challenges for the regulatory. However, these advancements also introduce significant risks, such as data privacy concerns, market manipulation and systemic failures. To address all these concerns, various regulatory framework across jurisdictions is evolving to ensure responsible AI employment.

A comparative analysis of United Kingdom, Canada, European Union highlights importance of pre-deployment testing, continuous monitoring, transparency and accountability. For India, learning from these international frameworks.

As AI technology continues to advance, regulatory bodies must remain proactive, adaptive, and collaborative in their approach to AI governance⁴³. Striking a balance between innovation and regulation will be essential in ensuring that AI serves as an enabler of financial growth while maintaining market fairness, security, and trust⁴⁴.

BIBLIOGRAPHY

Acts and Statues

India

1. Securities and Exchange Board of India Act, 1992
2. Securities and Exchange Board of India (Intermediaries) Regulations, 2008
3. Securities and Exchange Board of India (Intermediaries) (Amendment) Regulations, 2025

⁴³ 'Kumar, M. and Kalchuri, R.S., 2024. Exploring the Dynamics of the Indian Stock Market. International Journal of Information Dissemination and Technology', 14(1), pp.27-30.

⁴⁴ 'Gupta, C.M. and Kaur, G., 2024. Legal Implications of Fintech. E-banking, Fintech, & Financial Crimes: The Current Economic and Regulatory Landscape', p.143.

Canada

1. National Instrument 23-103 Electronic Trading and Direct Electronic Access to Marketplaces. 2013
2. National Instrument 51-102 Continuous Disclosure Obligations (NI 51-102).

United Kingdom

1. Financial Conduct Authority (FCA)

European Union

1. The AI Act (Regulation (EU) 2024/1689)
2. Digital Operational Resilience Act (DORA)

Reports

1. The Securities and Exchange Board of India (SEBI), Annual Report 2018-19
2. The Securities and Exchange Board of India (SEBI), Annual Report 2023-24
3. Explanatory Memorandum on the Updated OECD Definition of an AI system, OECD Artificial Intelligence paper, No. 8, (2024)
4. The use of artificial intelligence and machine learning by market intermediaries and asset managers, Final Report, OICU-IOSCO, 2021, FR06/2021
5. The use of artificial intelligence and machine learning by market intermediaries and asset managers, Consultation Report, OICU-IOSCO, 2020, CR02/2020

Books

1. Gautam H. Parikh, Handbook of Indian Securities, 1st ed., Bloomsbury India, 2015.

Journal Articles

1. Matthew Merkley, Antoine Killin, *et.al.*, “CSA Provides Guidance on AI Disclosures by Public Companies” (2025).
2. Shobhit Seth, “Basics of Algorithmic Trading: Concepts and Examples” *Investopedia* (2023).
3. Fatima Dakalbab, Manar Abu Talib, *et.al.*, “Artificial Intelligence Techniques in Financial Trading: A Systematic Literature Review” 36 *ScienceDirect* (2024).

4. Akansha Mer, Kanchan Singhal, *et.al.*, “A Review of the Role of Artificial Intelligence in Banking and Stock Market Trading” *Emerald Studies in Finance, Insurance, and Risk Management* (2024).
5. Andjela Sabet, Julia Currie, *et.al.*, “AI and Canadian Capital Markets: CSA Guidance for Non-Investment Fund Reporting Issuers” (2025).
6. Jaydip Sen, Hetvi Waghela, *et.al.*, “Exploring Sectoral Profitability in the Indian Stock Market Using Deep Learning” *36 Cornell University* (2024).
7. Matt Kosinski and Mark Scapicchio, “What is the Artificial Intelligence Act of the European Union (EU AI Act)?” *IBM* (2024).
8. Kherala, H. (2019). Financial inclusion: Revolution through fin-tech. In *Emerging trends in international business and commerce* (p. 201).
9. Kumar, M. and Kalchuri, R.S., 2024. Exploring the Dynamics of the Indian Stock Market. *International Journal of Information Dissemination and Technology*, 14(1), pp.27-30.
10. Gupta, C.M. and Kaur, G., 2024. Legal Implications of Fintech. *E-banking, Fintech, & Financial Crimes: The Current Economic and Regulatory Landscape*, p.143.

Internet Sources

11. Kriti, "SEBI introduces the concept of AI vide its amendment in Intermediaries Regulations", SCC Online, February 11, 2025, available at <https://www.sconline.com/blog/post/2025/02/11/sebi-introduces-concept-of-ai/>
12. Financial Conduct Authority. "AI Update." (2023). <https://www.fca.org.uk/publication/corporate/ai-update.pdf>
13. Cooley LLP. "UK Regulators Share Views on Artificial Intelligence and Machine Learning Regulation." (2024). <https://www.cooley.com/news/insight/2024/2024-05-21-uk-regulators-share-views-on-artificial-intelligence-and-machine-learning-regulation>
14. Sanchita Agarwal & Amiya Mukherjee, *India's Steps Towards Regulating Use of Artificial Intelligence Tools in Securities Markets*, Lexplosion, available at <https://lexplosion.in/indias-steps-towards-regulating-use-of-artificial-intelligence-tools-in-securities-markets/>
15. Hendershott, Terrence J. and Riordan, Ryan, *Algorithmic Trading and the Market for Liquidity* (April 11, 2012). *Journal of Financial and Quantitative Analysis (JFQA)*,

Forthcoming, Available at
SSRN: <https://ssrn.com/abstract=2001912> or <http://dx.doi.org/10.2139/ssrn.2001912>

Articles from news sources.

1. Ashima Obhan, “AI does not absolve data privacy responsibility”, Asia Business Law journal, 2025
2. Kumar Aditya, “SEBI’S new regulation mandates accountability for investment advisers using AI tools in India, Economic Times Legal World, 2024
3. Anne Florentyna, “SEBI says regulated entities will now be responsible for AI use”, INC, 2024

