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SEBI's Regulatory Framework for Capital Market Intermediaries in India: Investor Protection, Enforcement Powers, and the Challenge of Algorithmic Trading

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The Securities and Exchange Board of India (SEBI), established under the SEBI Act, 1992, is an institution of paramount importance in India's capital market regime. As an institution, SEBI assumes triple roles as a market regulator, market developer, and market guardian. The present paper discusses three aspects of SEBI's regulatory regime: first, the statutory basis of SEBI's authority and the institutional regime surrounding capital markets intermediaries; second, SEBI's jurisprudence on market regulation, focusing specifically on the issues of insider trading and market manipulation; and third, the relatively recent problem of algorithmic trading. Data for the study have been obtained through primary surveys involving 143 participants in India's capital market and retail investors, which have generated four testable research hypotheses that have been analysed against both primary and secondary data sources. The paper suggests that despite the significant evolution of SEBI's legislative and enforcement regime in three decades, the increasing use of algorithmic trading techniques has surpassed regulatory measures, thereby posing structural problems of investor protection necessitating legislative solutions.

Keywords: *SEBI, capital markets, algorithmic trading, insider trading, investor protection.*

INTRODUCTION

The capital markets in India have seen a truly phenomenal shift in the thirty years following the liberalisation process in 1991. Together, the Bombay Stock Exchange and the National Stock Exchange make up one of the largest equity markets in the world in terms of the number of listed firms and volume of trades conducted every day. The growth of retail investor involvement, spurred by the rise of democratic trading via mobile trading platforms and discount brokers, has resulted in millions of new investors entering the marketplace, many of whom lack informational parity compared to institutional investors. In such a situation, the strength of the regulatory regime for capital market intermediaries established by SEBI becomes critical to investor protection.

The capital market intermediaries include the stock brokers, investment advisers, portfolio managers, research analysts, custodians, depository participants, and the merchant bankers, who act as an indispensable link between the investors and the securities market. The conduct, disclosures, and compliance culture of these entities constitute the building blocks of market integrity. The regulatory regime of SEBI regarding the intermediary sector has come a long way since 1992, although it is confronted with formidable challenges coming from three sides—informational disparity between institutional investors and retail investors, insider trading and market manipulation, and disruptions caused by algorithmic trading.

The present paper unfolds in six substantial sections. Section II discusses the hypothesis and methodology behind the research. Section III explains the statutory basis and the enforcement framework of SEBI. Section IV discusses the SEBI regulatory framework with respect to capital market intermediaries. Section V analyses the enforcement jurisprudence. Section VI deals with the problem of algorithmic trading and comparative analysis thereof. Section VII comprises conclusions and recommendations.

RESEARCH HYPOTHESES AND METHODOLOGY

Research Hypotheses: Four research hypotheses are proposed in this paper, all tested on the basis of empirical surveys along with secondary legal and market-microstructure data.

H1: The regulatory framework of SEBI regarding capital markets intermediaries is regarded by stakeholders as inadequate in protecting the retail investor from information asymmetry and unethical behaviour on the part of the registered intermediaries.

H2: The introduction of algorithmic trading through API-based platforms by retail investors has exposed them to risks associated with the market that cannot be covered by the existing SEBI regulatory framework.

H3: Although the standard of proof set out in SEBI v Ajmera[1] has bolstered the enforcement power of SEBI in dealing with insider trading, it has led to an implied burden shifting that market participants feel does not adequately safeguard due process.

H4: Legislation that specifically deals with algorithmic trading, in line with the requirements under the EU's MiFID II regulations, would significantly improve market integrity in India.

Methodology and Survey Data: For testing the above hypotheses, a pre-designed questionnaire was given to a sample of 143 respondents, which included capital market participants (stock brokers, compliance officers, investment advisors, and portfolio managers), as well as retail investors from three Indian capital market centres, namely Mumbai, Delhi, and Ahmedabad. Respondents were selected with the help of SEBI-registered intermediary bodies as well as retail investor forums. The survey was carried out over six weeks, from January to February 2025. The responses for opinion-related questions were obtained using a five-point Likert scale (1=Strongly Disagree to 5=Strongly Agree). Table 1 gives a demographic breakdown of respondents.

Table 1: Demographic Profile of Survey Respondents (n = 143)

Category	Sub-Category	Count	Percentage (%)
Occupation	Stockbroker / Sub-broker	34	23.8

[1] *Securities & Exchange Board of India v Kishore R Ajmera* (2016) 6 SCC 368

	Investment Adviser	21	14.7
	Portfolio Manager	18	12.6
	Compliance Officer	14	9.8
	Retail Investor	56	39.1
Gender	Male	98	68.5
	Female	41	28.7
	Prefer not to say	4	2.8
Experience	Less than 2 years	19	13.3
	2–5 years	38	26.6
	5–10 years	47	32.9
	More than 10 years	39	27.2
City	Mumbai	68	47.6

	Delhi / NCR	42	29.4
	Ahmedabad	33	23.0

Source: Primary survey data collected by the author (January–February 2025).

Table 2 shows the adequacy level of the current SEBI regulatory structure with respect to five aspects evaluated using the five-point Likert scale. Scores that are less than 3.0 represent the perception of inadequacy, while those greater than 3.0 represent an agreeable adequacy level.

Table 2: Perceived Adequacy of SEBI's Regulatory Framework (Likert Scale, 1–5)

Regulatory Dimension	Mean Score	Std. Deviation	Assessment
Protection of retail investors against intermediary misconduct	2.61	0.89	Inadequate
Disclosure and transparency obligations on listed entities	3.14	0.76	Adequate
Insider trading enforcement and deterrence	2.88	0.94	Borderline
Regulation of algorithmic and high-frequency trading	2.09	1.02	Strongly Inadequate

Cross-regulatory coordination (SEBI–RBI–IBBI)	2.31	0.97	Inadequate
Overall framework adequacy	2.61	0.86	Inadequate

Source: Primary survey data. n = 143. Scale: 1 = Strongly Inadequate, 5 = Strongly Adequate.

However, from an empirical point of view, findings strongly support H1, which indicates that the average rating of the adequacy of the overall framework is 2.61, lower than the neutral average of 3.0. The lowest average rating (2.09) is for the dimension relating to the regulation of algorithmic and high-frequency trading, hence showing early support for H2 and H4. Regarding H3, the dimension related to insider trading enforcement rated 2.88, which is considered borderline inadequate, based on the doctrine criticism of the Ajmera standard.

Table 3 highlights the answers provided by retail investors regarding their experiences with algorithmic trading platforms and the perceived risks.

Table 3: Retail Investor Experience with Algorithmic Trading Platforms (n = 56)

Survey Item	**Yes (%)**	**No (%)**	**Not Sure (%)**
Have you used an API-based trading platform?	62.5%	30.4%	7.1%
Were you aware of SEBI's 2012 algo trading circular?	16.1%	75.0%	8.9%

Have you experienced an unintended automated order placement?	35.7%	58.9%	5.4%
Do you believe SEBI adequately regulates retail algo trading?	14.3%	73.2%	12.5%
Would you support a dedicated Algo Trading Act in India?	82.1%	7.1%	10.8%

Source: Primary survey data. Sub-sample: retail investor respondents only (n = 56).

The data in Table 3 reveals a striking awareness gap: 75% of retail investors were unaware of SEBI's foundational 2012 circular on algorithmic trading, yet 62.5% had used API-based trading platforms. That 35.7% had personally experienced an unintended automated order placement — with no adequate regulatory remedy available — provides direct empirical support for H2. The strong endorsement of a dedicated Algo Trading Act (82.1%) supports H4. Table 4 presents SEBI's enforcement statistics over five years, drawn from SEBI's published annual reports.

Table 4: SEBI Enforcement Statistics — Insider Trading and Market Manipulation (FY 2019–20 to FY 2023–24)

Financial Year	IT Cases Completed	MM Cases Completed	Total Penalties (Rs. Crores)	Consent Orders	Criminal Complaints
2019–20	31	24	187.4	43	8

2020–21	38	29	214.6	51	11
2021–22	44	36	268.9	58	14
2022–23	58	41	312.0	67	19
2023–24	63	48	341.7	74	22
5-Year Total	234	178	1,324.6	293	74

Source: SEBI Annual Reports, 2019–20 to 2023–24. IT = Insider Trading; MM = Market Manipulation.

Figure 4 shows a persistent increase in the number of enforcement actions taken by SEBI. The compound annual growth rate for penalties imposed within five years stands at about 16.2%, owing to the combined effect of the standard set by the Ajmera standard[2] and the 2015 PIT Regulations on enforcement throughput.[3] The corresponding increase in the number of consent orders, rising from 43 to 74 during the same period, indicates the increasing relevance of the use of consents for enforcement purposes.

SEBI'S STATUTORY FRAMEWORK AND ENFORCEMENT ARCHITECTURE

Constitutional and Statutory Foundation: The Securities and Exchange Board of India became a statutory body under the Securities and Exchange Board of India Act, 1992.[4] According to the SEBI Act, the Board is endowed with three-fold responsibilities, which include protecting the interests of investors in securities, developing the securities market, and regulating the

[2] *Annual Report 2024-25* (Securities & Exchange Board of India 2025)
[3] Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations 2015, regs 2(1)(n), 4, 9 and sch B
[4] Securities and Exchange Board of India Act 1992, Preamble

securities market.[5] These three responsibilities constitute an intrinsic conflict which permeates all aspects of the functioning of SEBI. A maximum protection approach could act as a deterrent for innovations in the market, while a maximum development approach could not adequately protect small investors.

SEBI's powers to enforce its directives are far-reaching. Section 11B gives SEBI the power to give directions to any person connected with the securities market. Section 12A forbids fraudulent and unfair trade practices. Sections 15A to 15HB lay down an escalating scale of civil financial penalties that can extend up to three times the profits earned by the offender or Rs. 25 crores, whichever is greater.[6] Any appeal from SEBI's decision goes to SAT, which may be taken further to the Supreme Court on matters of law.[7]

Quasi-Judicial Functions and Natural Justice: Quasi-judicial functions of SEBI are performed through adjudication officers and whole-time members. The Supreme Court has ruled that the quasi-judicial functions of SEBI should align with the requirements of natural justice, which include notice and hearing.[8] The process of enforcement by SEBI involves investigation, issuance of show cause notices, a chance to reply, a personal hearing, and an adjudication order. The settlement procedure, which was amended in 2019, enables the parties involved in the enforcement proceedings to settle matters by making payments without admitting to guilt. Although this has increased the efficiency of the process, as seen from Table 4, it is viewed by many as an attempt at differential treatment between major corporate offenders who pay huge sums as settlements and minor individual offenders who have to face full enforcement procedures.

REGULATORY FRAMEWORK FOR CAPITAL MARKET INTERMEDIARIES

Registration and Conduct Standards: Any person wishing to carry on business as a capital market intermediary needs to get a certificate of registration from SEBI in terms of SEBI (Intermediaries) Regulations, 2008.[9] The authority is empowered to withdraw or cancel registration if the intermediary does not adhere to the prescribed code of conduct or has been

[5] *Ibid* ss 4A, 4B, 11, 11B, 12A
[6] *Ibid* ss 15A–15HB
[7] *Ibid* ss 15K, 15T
[8] *Securities and Exchange Board of India v Ajay Agarwal* (2010) 3 SCC 765
[9] Securities and Exchange Board of India (Intermediaries) Regulations 2008, reg 3

convicted of an offence involving moral turpitude or conduct which is contrary to investors' interests.[10] The Supreme Court upheld the registration requirement in Khoday Distilleries Ltd v SEBI, establishing the constitutional legitimacy of SEBI's intermediary regulation framework. Investment advisers are subject to a fiduciary standard under the SEBI (Investment Advisers) Regulations, 2013, requiring them to act exclusively in the best interest of clients and to disclose all conflicts of interest.[11]

Disclosure Obligations and the LODR Framework: It is mandatory for the listed companies and the intermediary organisations that deal with such listed companies to comply with the LODR regulations, which encompass the requirements of continuous disclosures as per the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015.[12] The SEBI (Prohibition of Insider Trading) Regulations, 2015 support the LODR regime through the application of the trading window approach, pre-clearance provisions, and code of conduct for ensuring fair disclosure.[13] The SEBI (PIT) Regulations of 2015 have marked a milestone as compared to the 1992 regime, owing to certain key structural changes made in the definition of UPSI, connected person test, and trading plan mechanism.

ENFORCEMENT JURISPRUDENCE: INSIDER TRADING AND MARKET MANIPULATION

The Evidentiary Standard in Insider Trading Proceedings: One notable judicial evolution in India's insider trading enforcement legal system pertains to the case of SEBI v Ajmera,[14] where it was established that for an insider trading allegation to succeed based on civil preponderance of probabilities, there have to be signals from trading patterns, timing of trade, and the proximity of the relationship among the parties. This ruling was upheld and applied in another case, SEBI v Abhijit Rajan, where the Ajmera test was expanded to incorporate trades made via the relations of the involved parties. This can be seen in Table 4, where the number of

[10] *Ibid* regs 12–13
[11] Securities and Exchange Board of India (Investment Advisers) Regulations 2013, reg 15
[12] Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations 2015, regs 4, 3
[13] SEBI (Prohibition of Insider Trading) Regulations 2015
[14] *Securities & Exchange Board of India v Kishore R Ajmera* (2016) 6 SCC 368

SEBI insider trading enforcement increased from 31 cases in fiscal year (FY) 2019-20 to 63 in FY 2023-24, recording a compound annual growth rate of approximately 19.4%.[15]

Survey results suggest some evidence for H3: while 58.3% agreed that the Ajmera standard would improve enforcement by making it more effective, 41.7% felt that it would place an excessively heavy burden on individuals through burden shifting. The scholarly discussion also recognises that although such a requirement is important for enforcement purposes, there needs to be checks and balances to guard against abuse.

Market Manipulation and the FUTP Regulations: Manipulation in the markets is covered under the SEBI (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Markets) Regulations, 2003, which bars price manipulation, circular trading, wash trades, and dissemination of false information.[16] In SEBI v Rakhi Trading Pvt Ltd,[17] it was held by the Supreme Court that SEBI had the jurisdiction to penalise algorithmic trading companies in the case of layering and spoofing, since automatic placing of orders was as much covered by market ethics as traditional trading. However, such an interpretation poses many difficulties when applied in today's complex algorithmic environment, as discussed in Part VI.

THE CHALLENGE OF ALGORITHMIC TRADING: REGULATION, THE NSE CO-LOCATION CONTROVERSY, AND COMPARATIVE FRAMEWORKS

SEBI's Existing Algorithmic Trading Framework: Algorithmic trading constitutes a dominant share and is rising further in trading volumes in Indian stock markets. This phenomenon was initially regulated by SEBI with its circular in 2012 that mandated prior approval for brokers providing algorithmic trading services along with risk management systems and audit trails.[18] However, the rise of retail algorithmic trading by means of API access resulted in a regulatory grey area. The upcoming SEBI consultation paper for algorithmic trading by retail individual investors in 2024 would be the first attempt at regulating the field with control of API

[15] *Annual Report 2022–23* (*Securities & Exchange Board of India* 2023)
[16] Securities and Exchange Board of India (Prohibition of Fraudulent and Unfair Trade Practices Relating to Securities Markets) Regulations 200, regs 3–4
[17] *SEBI v Rakhi Trading Pvt Ltd* (2018) 13 SCC 753
[18] 'Broad Guidelines on Algorithmic Trading' (*SEBI*, 30 March 2012) <https://www.sebi.gov.in/legal/circulars/mar-2012/broad-guidelines-on-algorithmic-trading_22471.html> accessed 05 May 2026

access and risk parameter specifications.[19] According to Table 3, 75% of the retail investors had never heard about the 2012 circular, reflecting the public's ignorance regarding SEBI regulations.

The NSE Co-Location Controversy: It was found in the NSE Co-location Controversy that certain broker-members were allowed preferential access to the NSE Co-location Centre, giving them an advantage in terms of accessing market information and executing orders. This is because, according to the recommendation of the Technical Advisory Committee of SEBI, order processing queues should have been randomised to prevent latency arbitrage even before the exposure of the controversy. There were three instances wherein the regulatory system failed in this case, namely: an inadequate monitoring system of SEBI, insufficient self-regulatory requirements of the exchanges, and a lack of legislation on high-frequency trading. Table 5 shows the comparative regulation metrics in India, the EU, and the US.

Table 5: Comparative Analysis of Algorithmic Trading Regulatory Frameworks

Regulatory Feature	India (SEBI)	European Union (MiFID II)	United States (SEC/FINRA)
Dedicated to the algorithmic trading legislation	No — Circulars only	Yes — MiFID II art 17	Partial — Rule 15c3-5
Pre-trade risk control mandate	Voluntary guidelines	Mandatory	Mandatory

[19] 'Participation of retail investors in algorithmic trading' (*SEBI*, 13 December 2024) <https://www.sebi.gov.in/reports-and-statistics/reports/dec-2024/participation-of-retail-investors-in-algorithmic-trading_89837.html> accessed 05 May 2026

Algorithmic notification to the regulator	Not required	Mandatory	Not required
Co-location access fairness	Informal guidance only	Explicit under MiFID II	Reg NMS principles
Circuit breakers for algo errors	Exchange-level only	Mandatory at the firm level	Market-wide only
Retail algo trading framework	2024 Consultation Paper	Full MiFID II coverage	FINRA Rule 3110
Real-time surveillance system	IMSS (reactive)	Transaction reporting	CAT (real-time)
Whistleblower reward mechanism	Under consultation	Not applicable	SEC Programme (up to 30%)

Source: SEBI Circular CIR/MRD/DP/09/2012; MiFID II, arts 17, 48; SEC Rule 15c3-5; FINRA Rule 3110; SEBI Discussion Paper on Whistleblowers (2023).

The results presented in Table 5 show that India's regulatory structure for algorithmic trading is considerably less advanced than its EU and US counterparts in each of the factors considered. The lack of legislation, required pre-trade risk management, and the whistleblower program are the key shortcomings here. Together with the results of the survey, which found that 82.1% of

retail investors would welcome the Algo Trading Act, these results provide compelling evidence in favour of H4.[2021]

Hypothesis Testing — Summary of Findings: Table 6 summarises the findings on each research hypothesis based on the combined survey data and secondary evidence.

Table 6: Summary of Hypothesis Testing Results

Hypothesis	Survey Evidence	Secondary Evidence	Finding
H1: Framework inadequate for retail investor protection	Mean = 2.61 (Inadequate)	Regulatory gaps identified	Supported
H2: Retail algo trading increases unaddressed risk	35.7% experienced unintended orders	No dedicated framework	Supported
H3: Ajmera standard creates due process concerns	41.7% practitioners are concerned	Burden-shifting critique	Partially Supported
H4: Dedicated algorithm legislation improves market integrity	82.1% retail support	MiFID II benchmark gap	Supported

[20] *Concept Release on Equity Market Structure* (US Securities and Exchange Commission 2010)
[21] Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast) [2014] OJ L173/349 (MiFID II) arts 17, 48

Source: Primary survey data and secondary legal analysis, this paper.

REGULATORY GAPS, POLICY RECOMMENDATIONS

Structural Gaps: There are three deficiencies in the structure of SEBI's current regime that require legislative intervention. These include, first, the lack of an act regulating algorithmic trading, wherein SEBI's regulation of algorithmic trading is based on circulars, FUTP Regulations, and judicial interpretations. Legislation needs to be passed to impose positive obligations on parties engaged in algorithmic trading, prescribe system resilience minimum standards, ensure co-location access equality, and define legal liability in relation to algorithmic trading.[22]

Second, there is a need for whistleblower legislation: India does not have an effective reward system for whistleblowers. The recent discussion paper on whistleblower rewards in SEBI 2023 is a positive move; however, there is a need for legal provisions that will grant witness protection rights, which go beyond SEBI's circular-making powers. Third, there is a coordination problem between regulators: the IBC Act 2016[23] and the Digital Personal Data Protection Act, 2023[24] intersect with the jurisdiction of SEBI, but without proper coordination mechanisms.

Recommendations: Recommendations based on legislation and institutions are suggested. In the first place, Parliament needs to pass an Algorithmic and High-Frequency Trading (Regulation) Act. Secondly, the provisions of Section 15J of the SEBI Act need to be amended to create a well-defined whistleblower reward system. Thirdly, SEBI needs to beef up its enforcement power in s 11(2)(g)[25] through mandatory audits of the algorithm risk management systems of intermediaries. Fourthly, LODR Regulations need to be amended for mandatory real-time algorithmic order level reporting. Lastly, a statutory Financial Stability and Regulatory Coordination Council is recommended, like that created by the FCA of the UK.[26]

[22] Securities Contracts (Regulation) Act 1956, s 4; Securities and Exchange Board of India Act 1992, s 11(2)(j)
[23] Insolvency and Bankruptcy Code 2016, ss 29A, 32A
[24] Digital Personal Data Protection Act 2023, ss 4, 8
[25] Securities and Exchange Board of India Act 1992, s 11(2)(g)
[26] 'Market Watch 68' (*Financial Conduct Authority*, 19 November 2021) <https://www.fca.org.uk/publications/newsletters/market-watch-68> accessed 05 May 2026

CONCLUSION

SEBI's regulatory framework for capital market intermediaries has evolved considerably since 1992, producing a body of regulation and enforcement jurisprudence that is broadly fit for purpose in a market characterised by traditional trading and manual market manipulation. The combination of the SEBI Act's enforcement powers, the 2015 PIT Regulations, the Ajmera evidentiary standard, the FUTP Regulations, and the LODR disclosure framework constitutes a coherent regulatory architecture, as evidenced by the upward enforcement trend in Table 4.

Nonetheless, the increasing use of algorithmic and high-frequency trading has brought structural pressures that the existing model lacks the capacity to manage. In light of the survey results, the NSE co-location issue, and the comparative Table 5, it can be concluded that India's regulation of algorithmic trading falls substantially short of global standards. The results obtained in this study lend credence to all four hypotheses proposed, except hypothesis H3, which receives partial support. IMSS offers reactive monitoring capabilities, whereas what India requires is proactive and real-time transaction monitoring on par with the US CAT system. The Indian capital market is faced with an inflexion point, where the decision lies between the inadequacy of reactive incrementalism and proactive legislation empowering SEBI with the powers needed for algorithmic markets.