Nanotechnology Perceptions
ISSN 1660-6795
www.nano-ntp.com

Exploring the Prospects and Challenges of Equity Derivatives Trading: A Study of Millennial Traders in India

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The present paper explores the potentialities and issues of equity derivatives trading by millennial traders in India, considering that this group is increasingly tapping into financial markets with enhanced access to technology and real-time trading platforms. It, therefore, explores the main factors encouraging millennials to participate in equity derivatives, including high returns, portfolio diversification, and hedging techniques. This study discovers crucial factors influencing trading behaviours, such as financial literacy, risk tolerance, and market awareness of millennial traders while being conducted through the mixed-methods approach by using questionnaires and interviews with operating millennial traders. Significant challenges still exist for millennial traders, namely market volatility, scarcity of diversified knowledge about derivatives, and speculation in trading. Findings have shown that while millennials are attracted to the enormous potential for profit generation through equity derivatives, most do not possess the skills to make rational trading decisions and quickly become prey to financial losses. Other equally pertinent considerations involve regulatory issues and the role of education among investors.
Keywords: Equity Trading, Portfolio Diversification, Speculative Trading, Regulatory Challenges

1. Introduction

Options and Futures have recently gained tremendous growth, particularly in Asia-Pacific, although equity derivatives have experienced phenomenal growth over the last several years (1). Derivatives offer a platform whereby traders can hedge risks or speculate on the asset price of assets without holding the assets (2). The Indian Derivatives market has grown primarily at rocket speed. Equity derivatives account for 99.6 per cent of the total trading volumes (3).

Some factors that contributed to this growth were increased availability of weekly expirations and index options, Nifty and Bank Nifty leading the pack, and other added equity derivatives such as stock options and futures. A trader requires these to hedge an investment or profit from the stock price change. For instance, it will be a stock option allowing one to buy or sell an underlying stock at a specific price within a specified time frame and has potential gains if the stock price change favours the direction the stock changes (4). They allow market users to forecast future stock price moves or hedge against adverse moves. Using equity futures is one form of betting on future security price moves, expanding the scope of risk management and speculative opportunities (5). Thus, global markets utilise considerable quantities in the overall texture of equity derivatives.

India has emerged as one of the most dynamic players in world markets for derivatives. Domestic derivatives trading has galloped rapidly, with over 90 billion contracts traded on its significant exchanges in 2023, which reflects a growth of 2.3% from the previous year (6). Retail traders have also gone all out for these instruments, specifically index options, which cover almost all the trades. With the emergence of advanced trading platforms, retail traders can efficiently execute trade-related activities in derivatives. Active traders increased from less than 500,000 in 2019 to more than 4 million by 2023. The attractiveness of the Futures Industry Association 2023 is behind this shift in entry barrier, availability of leverage, and rapid speculative profitability.

However, equity derivatives are risky and pose an extreme threat to investors. The nature of options trading is that it owns itself to carry heavy leverage that may lead to heavy loss, particularly for retail traders who do not have the proper expertise to deal with the said instruments (7). SEBI Statistics states that 80% of retail traders incur losses with an average loss of ₹56,000 per person. These findings raise much concern about speculative trading and underline the imperatives of financial literacy and risk management strategies. Notwithstanding potential high returns, leverage inherent in equity derivatives also amplifies risks and often generates losses well beyond the magnitude of initial investments (8).

Increased derivatives trading in India also marks an extension of broader trends in global financial markets where speculative activity is becoming increasingly prevalent. This has, in turn, further provided a pretext to speculate on weekly, zero-day expirations and high inbuilt advantages in index options. It has also been discovered that most trades by such speculators are traded at high frequencies while holding an option's position for just a few minutes, even less than half an hour (9). Such a high-speed trading environment coupled with the gigantic derivatives contract volumes may reflect the shift towards an even more speculative and hazardous culture among the trading behaviour of retail investors. Millennials have been an essential demographic in the growth of derivatives trading. They are in their late twenties to early forties, when they have established their careers and seek avenues through which their wealth may be enhanced further (10). Such investors are more prone to take considered risks or instead leap into the financial markets because they have a more significant time horizon and are financially sound, thus investing in high-risk, high-reward opportunities like equity derivatives. Therefore, this generation will be pivotal in determining whether derivatives will find their way to the future in developing economies such as India (11).

The equity derivative market has increased rapidly in recent years, especially in Asia, where

India has become a significant player (12). This market has allowed traders to hedge risk or speculate on the price movements of underlying assets without necessarily holding them (13). Equity derivatives now account for a massive 99.6% of total trading volumes in India, a fantastic amount revealing the spontaneous adoption of these instruments (14). Index options, Nifty and Bank Nifty form the prime market movers, while their growth statistics are power-driven mainly through this type of product (15). It has been realised that the risk management and speculative gain perceptions among people towards equity derivatives have made them be used at an alarming rate, especially among millennials who perceive these instruments as avenues of amassing wealth (16).

Options adoption has been enhanced by weekly expirations and the growing popularity of options (17). Stock options enable a trader to buy or sell an underlying asset at a pre-agreed price, enabling traders to benefit from price movements within a given time horizon. This flexibility appeals to equity derivatives when hedging an investment or speculating on market movements' directions (18). Equity futures enable traders to speculate regarding futures price direction for underlying assets, increasing risk management and offering speculative opportunities (19). These instruments contribute significantly to international finance markets by increasing liquidity and facilitating the diversification of risks (20).In India, the derivatives market has grown exponentially. Total contracts traded on exchanges in India crossed over 90 billion in 2023, with a year-on-year growth of 2.3%. Growth has essentially been driven by dominant index options, which now account for almost all equity derivative trading in the country (21). This is attributed to the ease of entry for retail traders, leverage, and attractive high-frequency speculative opportunities, explaining rapid growth in retail participation. As a result, active retail traders jumped from less than half a million in 2019 to over 4 million in 2023 (22). A surge in equity derivatives users indicates that equity derivatives serve to attract this enormous pool of population, particularly the millennial generation, which is young and techno-savvy.

Whereas equity derivatives have shot up at an astronomical growth rate and are soon becoming popular, their leveraged nature also brings a humongous risk. Retail traders, particularly novice ones, may suffer a monstrous loss. 80% of retail traders incur losses. The average loss per trader is ₹56,000 (23). This shows why proper risk management and financial literacy must be in place to limit the risks of such high-risk trading (24). The risk of the volatility of the equity derivatives market with high-speed trades also increases for its participants, especially those who make high-frequency trades (25). Traders hold their positions for several minutes, making enormous losses in the future.

Equity derivatives remain a coveted source of generating wealth, particularly for millennials. As this generation is financially stable and looking for more return-generating options, it can pursue calculated risks and enter the equity derivatives market (26). The investment horizon for millennials will be much longer and better set to withstand short-term volatility. Thus, they will likely invest in high-risk, high-return financial instruments such as equity derivatives (27). Another reason millennials are attracted to the ease of access to market participation that trading platforms afford has much to do with generating great returns at many levels (28). Financially stable and targeting high growth in wealth, it is the millennials who will mould the future of the market for equity derivatives, particularly in emerging economies like India (29). The prospects of equity derivatives depend much on traders' attitudes and perceptions. A

positive attitude towards risk and an understanding of market dynamics can enhance the effectiveness of financial instruments (30). Optimistic traders tend to perform better because they will likely make well-researched, informed decisions. Conversely, adverse perceptions of negative risk may decline participation and limit the expansive potential of the market (31). Thus, it is crucial to ensure that the attitude amongst the traders does not tend towards abhorrence of the market's growth.

The rapid growth of equity derivatives in India epitomises a more significant shift towards a speculative trading culture bolstered by positive attitudes and perceptions regarding wealth generation. However, the risks include high leverage, lack of proper finance skills, and speculative trading (32). Therefore, such challenges must be addressed through proper financial education of people and effective risk management techniques (33). It would enable equity derivatives to stand firm and aid in risk minimisation, and retail and institutional investors would find it safer and more viable (34).

The future of the equity derivative market - especially in India - would be written if such instruments continue to be attractive to millennials and others. Even though this will expand the market, issues such as leverage, volatility, and financial education need to be overcome to avoid dangerous games of speculative trading on people's part (35). In the long run, the key to continued growth and sustainability will be how speculation balances out with risk management as the market grows (36). Despite rapid growth and high popularity of equity derivative markets, especially in emerging economies like India, primary quantitative studies on drivers of such growth and factors that influence market dynamics are unavailable. Most of the previous studies are very much secondary data based on various exchanges' historical performance metrics. The reliance on secondary data limits the breadth of understanding regarding trader behaviour, market perceptions, and underlying motivation for trading.

Further, though some studies have shown the role of index options and increased retail participants, they have not considered the subtle quantitative impact of these factors on trading volumes, price volatility, and market liquidity. If the research gap on equity derivatives markets is addressed with primary data collection and quantitative analysis, this will help better understand markets for derivatives. Enhanced risk management and policy-making can be achieved through the information obtained and investor education strategy. This study aims to fill such a gap by investigating these variables within a structured empirical framework, coming out with the following objectives:

- To assess the role of positive attitude and perception on the prospects of equity derivatives market
- To analyse the impact of Trading challenges on the Prospects of equity derivatives market

2. METHODOLOGY

A mono-method quantitative design is undertaken, and a structured survey-based data collection method targeting traders in India's equity derivatives market is provided. Through a cross-sectional design, this research captures an insight into the perceptions, awareness, and

challenges traders face at a given time across major metropolitan areas in India. This design is particularly suitable for pattern recognition and for eliciting seasonal influences on trading behaviours based on previous studies on cross-sectional research that highlight its advantages and disadvantages (37). The sample was established at 225 traders with a confidence level of 95% and a margin of error set at 7.5% using Cochran's formula (38). A non-probability convenience sampling technique facilitated pragmatic access to a broad spectrum of traders. It enables institutional and retail traders to trade in equity derivatives through NSE or online services that further diversify and expand the relevance of responses obtained (39). Therefore, the survey instrument was well crafted by considering existing literature to ensure it aligned with existing frameworks and constructs (40). It underwent reliability and validity tests aimed at upholding the strength of the instruments. The Cronbach alpha of reliability analysis was excellent as it surpassed 0.9; a tool that exhibits its internal consistency adequately when working through various constructs is above 0.9 (41). A CFA was administered, which resulted in the Pearson correlation coefficient of 0.675. From this CFA, it can be justified that the same measures are internally consistent. This convergent validity was considered using factor loadings, CR, and AVE. All these were satisfactory as thresholds were crossed; hence, the constructs were reliably measured correctly with the concerned instrument (42). The Fornell-Larcker criterion pushed the discriminant validity further, such that each latent construct explains more variance in its indicators than others—master validity technique to confirm validity and reliability comprehensively.

The data were analysed using SPSS Version 22 and AMOS Version 22, applying statistical techniques, such as factor analysis and structural equation modelling. As mentioned above, the approach would have allowed complex interactions between variables to be explored, as well as direct and indirect impacts within the relationships of variables that influence the prospects and growth potential of the equity derivatives market in India. SEM was exceptionally worth it in drawing latent constructs and analysing causal paths. Therefore, the factors' mechanisms driving the traders' behaviours and preferences within this market would be understood in their complexity.

3. Discussion

TABLE 1: Demographic Variable

Demographic Variable	Category	Frequency	Per cent
Age	28-33 years	67	29.7%
	33-38 years	63	28.1%
	38-43 years	95	42.2%
	Total	225	100.0%
Gender	Male	165	73.3%
	Female	60	26.7%
	Total	225	100.0%
Marital Status	Married	150	66.7%
	Unmarried/Separated/Widow	75	33.3%

	Total	225	100.0%
Education	School Education	15	6.7%
	Graduation	35	15.6%
	Post-Graduation	85	37.8%
	Professional Courses	90	40.0%
	Total	225	100.0%
Occupation	Professional	100	44.4%
	Business	85	37.8%
	Employees	40	17.8%
	Total	225	100.0%
Monthly Income	Less than 50,000	120	53.3%
	Above 50,000	105	46.7%
	Total	225	100.0%

Table 1 gives a vivid profile of the sample demography with 225 persons; the age distribution indicates 42.2% with an age range of 38-43 years, 29.7% between 28-33 years, and 28.1% within the age bracket of 33-38 years. While considering the gender aspect, there is a very distinct domination of males, as indicated by the fact that in the sample, 73.3% are males, whereas 26.7% are females. Most of them are married, thus making up the majority at 66.7%, whereas 33.3% are unmarried, separated, or widowed. Regarding educational qualification, the most significant subgroup is professional status, making up 40%, followed closely by post-graduate qualification at 37.8%, then undergraduate qualifications at 15.6%, and that is all at the school level at 6.7%. Occupationally, the majority are professionals, at 44.4%, followed closely by business individuals at 37.8% and employees at 17.8% (43). Thus, income distribution shows that the respondents who earn less than 50,000 account for about 53.3%. On the other hand, 46.7 per cent of record incomes are above this level of 50,000 dollars. In general, the spread of the dataset reflects different demographic compositions in terms of significant alterations through age, gender, marriage status, education, and occupation, as well as on issues of income, thereby becoming more reliable grounds for further analysis when trying to understand the various trends and patterns in place across the sample population.

TABLE 2: Preference of Equity Derivatives Trading Instruments

Instrument	Mean	Std. Deviation	Rank
ED_invst_3 Index Futures	4	0.85	1
ED_invst_1 Call Option	4	0.77	2
ED_invst_3 Stock Futures	4	0.94	3
ED_invst_2 Put Option	4	0.92	4

Equity derivatives reveal a mean score for the millennial in Table 2, indicating the preferences have a strong attraction toward Index Futures (Mean = 4, Rank = 1), followed by Call Options (Mean = 4, Rank = 2), Stock Futures (Mean = 4, Rank = 3), and finally, Put Options (Mean = 4, Rank = 4). This indicates that these derivatives show that millennial investors want to invest

in Index Futures, the most highly ranked among the futures instruments available, and afford access to broad market indices, thereby facilitating diversified exposure and the possibility of market-wide gain. Call and Put Options, which have means close to that of Index Futures, offer leverage and risk control, thus allowing for the support of hedging and speculative opportunities using relatively limited capital. Stock Futures allow targeted speculation on the price actions of individual stocks, adding flexibility to investment strategies. The derivatives appear attractive to millennials because of the high return potential, diversified trading strategy, and alignment with the generation's preference for strategic and speculative approaches.

TABLE 3: Preference for Online Equity Derivatives Trading Platforms

Investment Platform	Mean	Std. Deviation	Rank
Invst_site_3 Zerodha Kite	4	0.99	1
Invst_site_2 Upstox Pro Trading App	4	0.97	2
Invst_site_1 ICICI Direct	4	1.11	3
Invst_site_5 Zerodha Kite	4	0.98	4
Invst_site_4 Sharekhan	4	0.93	5
Invst_site_7 Paytm Money	4	0.98	6
Invst_site_6 5 Paisa	4	0.99	7

TABLE 3 suggests that the millennials have an extreme preference for some of the online equity derivatives trading platforms, and their top choice is Zerodha Kite, followed by Upstox Pro Trading App, ICICI Direct, Sharekhan, Paytm Money, and 5 Paisa app, as these websites are used mainly for ease of interface and rich analytical resources as younger traders prefer ease and lower costs. These services appeal primarily to the ease of placing trades, quick access to real-time data, and how easily an order is executed. Millennials are generally pretty satisfied with these platforms in terms of how streamlined and time-saving they are compared to the traditional systems. Most people enjoy the advanced tools there are for volatile markets through which portfolios can be strategically enhanced. Therefore, this demographic expects modern technology to enhance their remote management of equity derivative trading.

The SEM is illustrated in Figure 1, which describes the interrelationship of three latent variables: Positive Attitude, Positive Perception and Prospects. Both Positive Attitude and Positive Perception serve as the antecedents of Prospects. The forward directionality of a positive attitude toward prospects is a moderately positive variable with a path coefficient of 0.54; an increase in positive attitude is likely to increase the prospect enormously. By contrast, Positive Perception also positively affects Prospects, though less strongly, with a path coefficient of 0.37, indicating that the impact is more negligible yet positive.

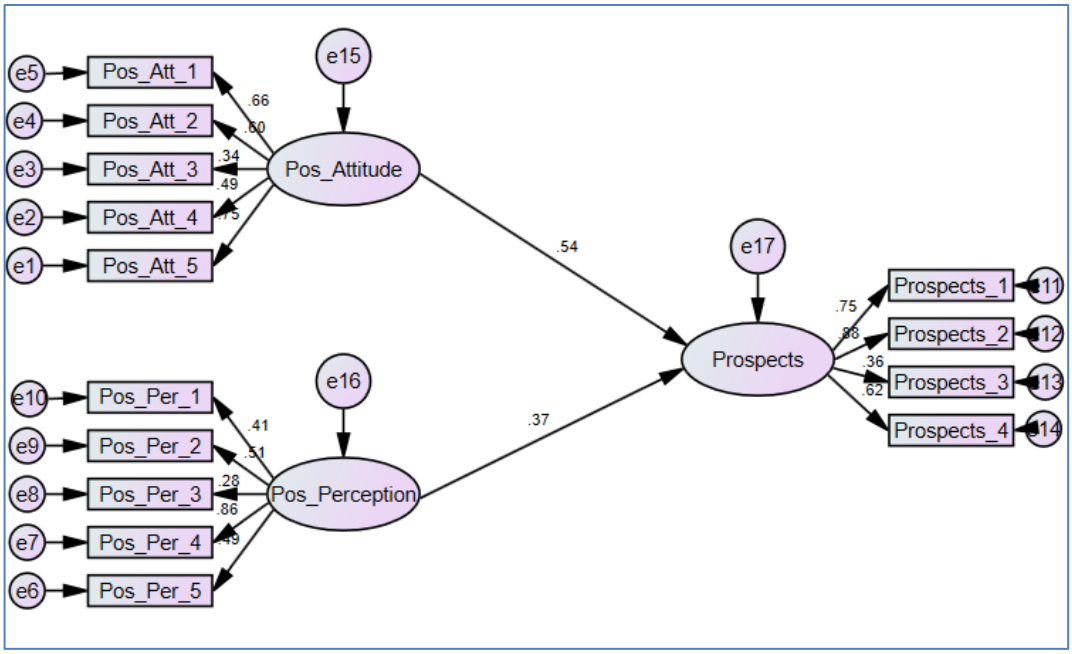

Figure 1 SEM Model

Multiple indicators are associated with each latent variable, representing various aspects of what is being measured in the constructs. For instance, a factor like Positive Attitude contains five observed variables between a range of 0.34 and 0.66, manifesting each indicator's various correlations with the latent construct. In the same way, Positive Perception contains five indicators labelled Pos_Per_1 to Pos_Per_5 that fall in a range from 0.28 to 0.86, meaning that some indicators represent the construct of Positive Perception better than others. The four items of the Prospects measure have high factor loadings: 0.62 to 0.75. They represent a clear expression of the construct: prospects. Overall, this model indicates that a Positive Attitude exerts a more influential impact on Prospects than a Positive Perception. Nonetheless, both contribute meaningfully to the assessment of prospects. These results might indicate that a positive attitude is more effective than an enhancement in perception when endeavouring to build up prospects in this regard.

Table 4: Structural relationship –Estimates for the impact of Positive attitude and Positive perception on the prospects of equity derivatives market

STRUCTURAL RELATIONSHIP			Unstd Estimate	Std Estimate	p-value
Prospects	<---	Pos_Attitude	0.783	0.539	***
Prospects	<---	Pos_Perception	0.762	0.368	***

Table 4 shows a highly positive attitude and perception towards equity derivative trading as impacting the prospects in this market. The mean score increase of positive attitude about one unit relates to a 0.783-unit increase in prospects (B=0.783, b=0.539, p=0.05), meaning optimistic traders have a better-chance outlook with more confidence in the potential returns.

Whereas most investors feel that there is opportunity in equity derivatives, some are conservative, and this depends on the person's risk profile. Similarly, an increase of one unit in positive perception leads to a 0.762-unit rise in prospects (B=0.762, b=0.368, p=0.05), thus implying that perception acts as a catalyst for investor behaviour and decision-making. Such a result suggests that perceptions and attitudes are essential to fostering favourable market involvement since, by definition, perceptions and attitudes dictate how a trader perceives and decides information.

The current risks in equity derivatives call for keeping the optimism levels on high alert while remaining watchful regarding new and complex products. Financial advisors will be necessary to strike a balance between their clients' anxieties while informing them about disciplined participation and contributing toward maintaining an optimistic yet reasonable outlook over the prospective returns. Moreover, risk management guidance and the cementing of confidence in market opportunities lead to creating a well-informed and stable environment for investments in innovative solutions catering to diverse profiles of investors.

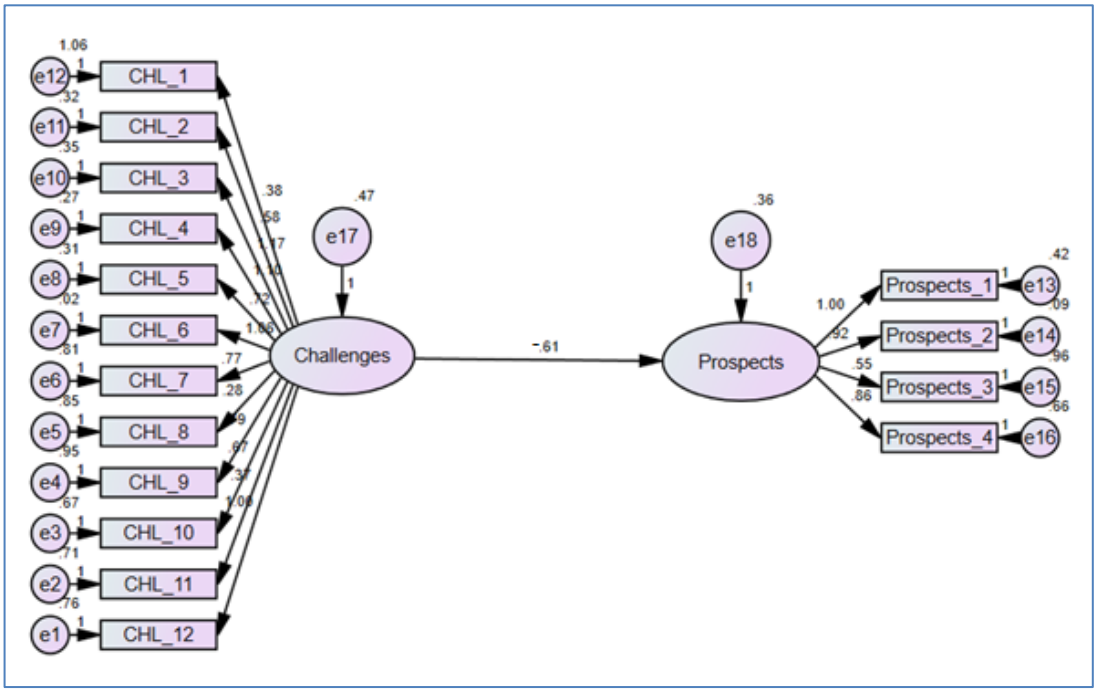

Figure 2. Impact of online trading challenges on the prospects of the equity derivatives market

Figure 2 shows a robust negative relation between "Challenges" and "Prospects" is graphically depicted in the structural equation model; path coefficients are at -0.61, indicating that prospects decline firmly with increased perceived challenges. The challenge construct is measured by twelve observed variables: CHL_1 through CHL_12. Among the two that have higher loadings are CHL_7 and CHL_8 at 0.77 and 0.95, respectively, so such challenges are more influential. Prospects" can be measured through four observed variables, Prospects_1 to Prospects_4, of which Prospects_4 has shown the highest loading at 0.86, indicating that it

defines this construct as necessary. The negative relationship indicates the reverse relationships so that high challenges correspond to a reduced view of prospects, making specific challenges a vital point for addressing and potentially enhancing the perceived opportunities. The error terms refer to the unexplained variance of the model; therefore, the smaller the values, the better the fit and reliability. Hence, this model generally points out that mighty challenges might hinder optimistic views concerning prospects.

4. Conclusion

Derivative trading has exploded in India on synergies stemming from heightened participation, technology advancement, and greater demand for risk management products. Equity derivatives remain the key players in trading volume; 99.6% of the daily stock trading volume at Indian exchanges is derived from equity derivatives and thus represents the critical role played by the product in the financial markets. Impacts are substantial since weekly expiries have significant consequences, and the value of derivative transactions even surpassed the whole market capitalisation of companies listed on some days in recent years, which evidences the power of informed participants in options trading. The prevailing study postulates that desirable perceptions and attitudes towards derivative products are highly related to their prospects; however, problems in online trading might curb future development. This calls for advanced financial literacy within the market's participants to properly negotiate all the complexity and risk factors of derivatives trading. Regulators are therefore advised to continue conducting vigilant policies to prevent the erosion of market integrity and safeguard traders from prospective adverse consequences within the sustainable growth of India's equity derivative market.

Acknowledgement

I would like to take this opportunity to thank all my friends for helping me complete this particular research. I thank Nitte School of Management, Dr G Venugopal (Director) and Prof. Raghavendra R (Principal Dr. NSAM First Grade College) for their guidance and immense support.

Funding

No Funding is applicable for this study

Conflict of Interest

No conflict of Interest between the Authors

Author Contributions

All the authors contributed equally in making this particular research paper based on their expertise

Ethics approval

Not Applicable

Data availability

Data is available based on the request

Abbreviation

No Abbreviations

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