

SPECIMEN FORMAT FOR THESES OF MONTH

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Sub Subject Heading: : -

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Title of the thesis : Determinants of Trading Behaviour of Retail
Investors in Derivative Market – A
Multidimensional Approach

(i) In Roman Script -

(ii) In roman Script -

Nomenclature of Degree: : Ph.D

Month & Year of Enrolment: : January 2021

Month & Year of Registration: : January 2021

Month & Year of Submission: : December 2024

Month & Year of Award : April 2025

Name of Supervisor : Dr. P. Sasirekha

Designation of Supervisor : Assistant Professor (SS)

Centre/department/school in which research was conducted : Department of Commerce, School of Commerce and
Management, Avinashilingam Institute for Home
Science and Higher Education for Women

University's Name & Address : Avinashilingam Institute for Home Science and
Higher Education for Women

Abstract within 300 words:

The derivative market is an essential component of the global financial system and provides opportunities for risk management, speculation, and portfolio diversification to investors. Retail investors play a crucial role in this market by enhancing liquidity and influencing market dynamics. The behaviour of the retail investor is influenced by a variety of factors: individual characteristics, market psychology, and the general economy. All these factors reveal the underlying motivations, tactics, and decisions of these investors in this dynamic financial world. Many studies have examined single-dimensional aspects of investor behaviour; however, these approaches often fail to capture the complexity of the decision-making process. Investor behaviour is inherently multifaceted, shaped by a diverse range of factors. Therefore, adopting a multidimensional approach is essential to gain a more accurate and comprehensive understanding of the influences driving investment decisions. This study aims to explore retail investors' preferences across various sectors and financial products, as well as their awareness of the derivative market and overall satisfaction. It incorporates a multidimensional analysis, examining factors such as attitude, personality traits, behavioural biases, financial literacy, and self-efficacy to understand their influence on the trading behaviour of retail investors in the derivative market. This descriptive study adopted census sampling techniques to collect data from 384 retail derivative investors in Coimbatore city. The analysis involved descriptive statistics, including percentages, means, and standard deviations, and inferential statistics, such as ANOVA, MANOVA, factor analysis, multiple regression analysis, and PLS-SEM, to analyse the collected data. The study reveals that retail investors perceive the derivative market as an attractive investment option due to its potential for hedging strategies and diverse financial products because of its features, such as flexibility and control, which attract a growing number of investors. Additionally, financial dimensions such as financial literacy and self-efficacy act as moderating influences on investors' intentions to engage in derivative market trading. Investors with higher financial literacy and self-confidence are better positioned to understand the complexities of the derivative market, allowing them to make more informed and effective decisions. In the psychological dimension, factors such as personality traits, behavioural biases, and attitudes are associated with investor satisfaction, which, in turn, has a significant impact on trading behaviour (social dimension) in the derivative market. Together, these multidimensional factors play a crucial role in shaping the trading behaviour of retail investors. Understanding the factors that influence trading behaviour among

retail investors in the derivative market is essential for market participants, regulators, and policymakers.

i) Major objectives:

- To know the preferences of retail investors in Derivative Market
- To analyse the awareness of retail investors in derivative trading
- To evaluate the satisfaction gained and challenges faced by retail investors in derivative trading
- To assess the Attitude, Personality Traits, Behavioural Biases, Financial Literacy and Self-Efficacy of the retail investors on the trading behaviour and
- To examine the effect of Attitude, Personality Traits and Behavioural Biases on the derivative trading of retail investors with the moderating role of Financial Literacy and Self-Efficacy

ii) Hypothesis:

- Ha1 - There is a significant impact of Attitude on satisfaction in derivative trading
- Ha2 - Behavioural biases significantly affect the satisfaction in derivative trading
- Ha3 - Personality Traits affect satisfaction in derivative trading through Financial Literacy
- Ha4 - Financial Literacy moderates the relationship between Attitude and Behavioural Biases and satisfaction in derivative trading
- Ha5 - Self – Efficacy moderates the relationship between Attitude and Behavioural Biases and satisfaction in derivative trading
- Ha6 – Satisfaction in derivative trading significantly affects the Intention to invest
- Ha7 - Intention to invest significantly affects the Trading Behaviour of retail investors

iii) Methodology:

Coimbatore city was selected as the locale of the study. Coimbatore boasts a sizable population of retail investors who actively participate in financial markets, including the derivative market. The city's entrepreneurial spirit and investor culture make it an ideal setting for studying retail investors' behaviour towards derivative trading. Coimbatore's economic vibrancy, demographic diversity, academic excellence, geographic versatility, and supportive ecosystem make it a choice for studying the behaviour of retail investors in the derivative market. Its unique blend of factors offers a rich and

conducive environment to explore the intricacies of investor decision-making, market dynamics, and financial outcomes in the derivative trading landscape. The data was collected through primary and secondary source. The primary data was collected using questionnaires. The questionnaire was constructed with the attributes of money attitude (Yang et al., 2021; Nadeem et al., 2020), risk attitude (Ali, 2011), financial literacy (Yang et al., 2021; Akhter and Hoque, 2022) and self-efficacy (Charles et al., 2016), Personality Traits (Cheng Po Lai, 2019) and Behavioural Biases (Ardalan Rajabi, 2020) by using Likert scaling technique.

Using Cochran's formula (1977) the sample size was derived as 384 respondents. The population of the study constitutes the investors who are trading in Derivative Market from Coimbatore city. Since the investors were scattered, they were identified through stock broking companies. Hence, investors with accounts managed by stockbroking companies became a target population for the study. The Coimbatore city was divided into five zone: Central, North, South, East and West. From each zone two stock broking companies were chosen based on criteria's largest number of retail investors trading in derivative market. The investors investing in stock market were excluded from data collection. The sample of 384 was proportionately divided among the ten broking firms.

Conceptual Framework of the Study

Behavioural finance aims to understand the trading behaviour of retail investors in the derivative market. A model was subsequently designed based on this theory using psychology, finance and sociology to identify the trading behaviour of retail investors. Theory of planned behaviour, Big five Personality traits theory was adopted to select the variables for the study.

The independent variables, extracted from the trading behaviour model, include factors such as Attitude, Behavioural Biases and Personality traits. Together, these factors provide a comprehensive view of how psychological dimensions drive investor actions. Financial Literacy, and Self-Efficacy by incorporating these factors, the study acknowledges that not only psychological but also financial aspects significantly shape investor behaviour, bridging the gap between knowledge, confidence, and action in financial decision-making. while Trading Behaviour is the dependent variable. While trading behaviour is influenced by individual psychology, they also intersect significantly with sociological aspects, highlighting the importance of social context in financial decision-making within the derivative market

Framework of Analysis

S. No	Tools	Purpose
1.	Descriptive Statistics	To know the preferences of retail investors in Derivative Market
2.	ANOVA	To analyse the awareness of retail investors in derivative trading
3.	MANOVA Mean Ranking	To evaluate the satisfaction gained and challenges faced by retail investors in derivative trading
4.	Confirmatory Factor Analysis Multiple Regression	To assess the Attitude, Personality Traits, Behavioural Biases, Financial Literacy and Self-Efficacy of the retail investors on the trading behaviour and
5.	SEM Analysis	To examine the effect of Attitude, Personality Traits and Behavioural Biases on the derivative trading of retail investors with the moderating role of Financial Literacy and Self-Efficacy

iv) Findings:

Hedgers are the largest group across all categories. Males and married individuals dominate the investment landscape, with a significant portion having graduate-level education. Income distribution indicates a higher concentration of investors in the middle-income groups, reflecting a diverse but skewed demographic inclination towards hedging as an investment strategy.

Preferences towards Derivative Market

- **Product – wise Preference**

Majority of the investors prefer to invest Index futures from equity derivatives because of potential leverage with relatively low transaction cost. Crude oil from commodity derivatives was preferred more because of its pivotal role in the global economy, which they believe it offers lucrative opportunities. USD INR of currency derivatives was preferred much because US dollar's dominance in global trade and finance, providing higher liquidity and perceived stability.

- **Sector – wise Preference**

Banking sector was preferred much among the retail investors as they feel safe than other stocks. The predictability of the stocks and regular yield, these factors make it a favoured choice for retail investors to prefer this sector. There is less preference towards pharma sector since there is high volatility of the sector, due to lack of knowledge and understanding of the industry makes it less prefer by the retail investors.

Awareness towards the Derivative Market Terminologies

Age plays a significant role in individual's level of awareness and familiarity with derivative Market terminologies. Younger participants tend to exhibit higher level of awareness possibly due to greater exposure of financial education. Older participants may have less familiarity with derivative market concept, reflecting differences in generational experiences. There is mean a significant difference in between Education and Awareness. Higher qualification likely to correlate with greater Awareness and understanding of derivative terminologies. This finding underscores the importance of educational initiatives in fostering broader Awareness. The findings suggest that individual across various income irrespective of their earnings. While income can influence investment decisions but it does not appear to be a determining factor for measuring the awareness of Derivative market concepts.

Satisfaction and Challenges in Derivative Market

- **Satisfaction in Derivative Market and Socio – economic Factors**

Gender plays a crucial role in shaping satisfaction levels within the derivative market. It is indicated that male and female investors often exhibit distinct preferences, risk perceptions, and satisfaction criteria when engaging with financial instruments like derivatives. Age significantly influences various dimensions of satisfaction among investors. Specifically, older and younger investors exhibit distinct perceptions of risk, rate of return, and transparency of information in the derivative market. It suggests that age is a critical factor in shaping investor experiences and satisfaction. Educational qualification influences satisfaction level in the derivative market. Individuals with higher educational backgrounds often possess a better understanding of complex financial instruments and market dynamics, leading to more informed decision-making and risk management. This comprehensive knowledge base typically results in higher confidence and satisfaction as these investors are better equipped to navigate the volatile and intricate nature of derivatives trading. Conversely, those with lower educational qualifications may find the derivative market more challenging and intimidating, potentially leading to lower satisfaction due to a lack of understanding and increased risk exposure. Thus, educational qualifications are a critical factor in determining overall satisfaction and success in the derivative market. Marital status is a critical factor in understanding investor satisfaction, indicating that married and unmarried individuals may have different experiences and perceptions in the derivative market. Annual income and satisfaction in the derivative market are crucial metrics reflecting both financial performance and investor contentment. The relationship between annual income and satisfaction underscores the impact of financial outcomes

on investor sentiment within the derivative market. Higher annual incomes typically correlate with greater satisfaction, indicating successful investment strategies or favourable market conditions. Conversely, lower incomes may lead to dissatisfaction, highlighting potential challenges or losses within derivative investments.

- **Challenges faced by Retail Investors in Derivative Market**

The complexity of financial instruments is perceived as the most significant challenge, indicating that investors find these instruments difficult to understand. Lack of timely information follows closely, suggesting that timely access to relevant data is crucial for effective decision-making. Misleading information from brokers is another major concern, reflecting the need for transparency and reliability in advice and information. Available only in lots, maintaining margin money, and familiarity with the market are also notable challenges, though they rank lower. High speculation and huge volatility, while important, are perceived as less critical compared to other issues. Overall, these rankings provide insight into the factors that investors find most troublesome, which could help in addressing and mitigating these challenges.

Assessment of Attitude, Personality Traits, Behavioural Biases, Financial Literacy And Self-Efficacy

The assessment of the factors attitude, personality traits, financial literacy, behavioural biases and self – efficacy provides an insight into individuals financial behaviour enabling tailored interventions and strategies to improve financial well-being.

- **Impact of Personality Traits on the Trading Behaviour of Retail Investors**

All five personality traits—openness, conscientiousness, extraversion, agreeableness, and neuroticism—have a significant impact on trading behaviour. Each trait shows a positive relationship with trading behaviour, meaning that variations in these personality traits are associated with differences in how individuals engage in trading. Openness, conscientiousness, extraversion, agreeableness, and neuroticism all exhibit strong statistical significance, suggesting that these personality dimensions play a crucial role in shaping trading decisions and actions. The consistent significance across traits underscores the importance of understanding how individual personality characteristics influence trading behaviour.

- **Impact of Attitude towards Trading Behaviour of Retail Investors**

Risk attitude and money attitude significantly influence trading behaviour. The positive relationships between these attitudes and trading behaviour indicate that individuals' perceptions of risk and their attitudes towards money play important roles in shaping their trading actions.

Specifically, a higher risk attitude and a more positive money attitude are associated with more pronounced trading behaviours. The statistical significance of these relationships highlights the importance of considering these attitudes when evaluating and understanding trading practices, suggesting that both risk perception and financial outlook are key factors in trading decisions.

- **Behavioural Biases towards Trading Behaviour**

Herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion—all significantly influence trading behaviour. Each of these factors shows a positive relationship with trading behaviour, suggesting that they play substantial roles in shaping how individuals engage in trading. Herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion each significantly impact trading decisions, with mental accounting and loss aversion demonstrating the strongest relationships. This significance underscores the importance of psychological factors in trading practices, highlighting how individual cognitive biases and behavioural tendencies can affect trading strategies and outcomes.

Multidimensional Trading Behaviour of Retail Investors in Derivative Market

- **Reliability and Validity Measures for Key Constructs of Trading Behaviour**

The results of Cronbach's Alpha, composite reliability, and Average Variance Extracted (AVE) across various constructs provide insights into the reliability and validity of the measurement instruments used in the study. Overall, the constructs demonstrate strong internal consistency, with Cronbach's Alpha values ranging from 0.706 to 0.858, indicating reliable measurement of latent variables. Composite reliability scores, which range from 0.721 to 0.973, further confirm the robustness of the constructs in capturing the intended dimensions. AVE values, which range from 0.703 to 0.966, indicate that each construct explains a substantial proportion of its variance relative to measurement error, suggesting adequate convergent validity. These findings collectively highlight in assessing a wide range of psychological and behavioural constructs related to investor decision-making and attitudes towards financial markets.

- **Direct Effects of Psychological and Financial Dimensions on Social Dimensions**

Path Coefficients and Direct Regression is to measure the strength and direction of relations between variables in a model, showing how changes in one variable directly influences another. The analysis of direct effects reveals significant relationships between various personality traits, cognitive biases, and satisfaction levels with financial literacy and trading behaviour. Openness, conscientiousness, extraversion, agreeability, and neuroticism positively influence financial literacy, indicating that these traits enhance an individual's financial knowledge. Similarly, factors such as risk-

taking, money management, herding behaviour, heuristics, overconfidence, mental accounting, loss aversion, and self-efficacy all positively contribute to overall satisfaction. This satisfaction, in turn, significantly boosts the intention to invest, which directly impacts trading behaviour. It indicates that all direct effects are significant, with a positive relationship between Personality Traits, Behavioural Biases, Attitude and Satisfaction ultimately influencing Trading Behaviour as evidenced by high coefficients and low p-values.

- **Moderating Effects of Financial Dimensions on Social Dimensions**

Path coefficient and Moderation effect measures the strength of variables while moderation effect assesses how the strength and direction of these relationships' changes depending on the level of another variable. The analysis of moderation effects demonstrates that financial literacy and self-efficacy significantly influence the relationship between various factors and overall satisfaction. Financial literacy shows high moderation with risk, herding behaviour, heuristics, mental accounting, and loss aversion, indicating that individuals with higher financial literacy are better at utilizing these aspects to enhance their satisfaction. It also partially moderates the relationship between money, overconfidence, and satisfaction. Similarly, self-efficacy exhibits high moderation with money, herding behaviour, heuristics, overconfidence, and loss aversion, suggesting that individuals with greater self-efficacy can leverage these factors to achieve higher satisfaction. Self-efficacy also partially moderates the impact of risk and mental accounting on satisfaction. The moderating factors Financial Literacy and Self-efficacy significantly moderate the relation between various factors and satisfaction with most interaction showing high and partial moderation.

- **Relationship between Psychological, Financial and Sociological Dimension of Derivative Market**

HTMT Matric for Discriminant Validity was used to assess whether constructs are sufficiently distinct from each other, ensuring that constructs do not overlap excessively. The provided correlation matrix shows the relationships between various constructs in the study. Each cell represents the correlation coefficient between two constructs, with higher values indicating stronger associations. Constructs such as Agreeability, Loss Aversion, Herding Behaviour, Heuristics, Mental Accounting, and Overconfidence exhibit moderate to strong positive correlations among themselves and with other constructs like Conscientiousness, Extraversion, Financial literacy, Intention, Investor behaviour, Money, Neuroticism, Openness, Risk, Satisfaction, and Self-Efficacy. These correlations highlight interdependencies and potential influences between different psychological and behavioural factors studied in the context of financial decision-making and investor behaviour. The results show that the

values are below the common threshold of 0.85 (Henseler *et al.*, 2015) indicating that the constructs are distinct.

- **Interdependency of Factors Influencing the Trading Behaviour**

The Variance Inflation Factor (VIF) values for various indicators related to investment behaviour, particularly in the derivatives market. The collinearity issue in the examined model has initially been examined as a presumptive approach because it adversely affects the data and the extracted findings. Given this, the variance of the inflation factor values (VIF) has been investigated. The findings that all inflation factor results fell within the expert-set upper limit of (5) (Hair et al, 2019). Indicating the accuracy of the data, all inflation factor variance values fell within the range of 1.02 and 2.30. this indicates that the factors are free from multi – collinearity issue.

- **Impact of Factors on Satisfaction Towards Derivative Market**

The provided R-square and Adjusted R-square values indicate how well the independent variables explain the variance in the dependent variables of the model. For Financial Literacy, the R-square is 0.637, meaning that 63.7% of the variability in Financial Literacy can be explained by the model, and the Adjusted R-square is slightly lower at 0.618, reflecting a minor adjustment for the number of predictors. Satisfaction shows an R-square of 0.722, indicating that 72.2% of its variability is explained by the model, with an Adjusted R-square of 0.700, also showing a small adjustment. Intention has an R-square of 0.601 and an almost identical Adjusted R-square of 0.600, indicating a high explanatory power with minimal adjustment. Trading Behaviour shows an R-square and Adjusted R-square both at 0.664, suggesting that 66.4% of the variance is consistently explained without any adjustment needed. This model shows a strong fit, with the adjusted R-square matching the R-square, suggesting that the model is appropriately specified without undue complexity or overfitting. The high explanatory power indicates that the variables included are highly relevant for understanding trading behaviour.

- **Multidimensional Behaviour of Retail Investors in Derivative Market**

Financial Literacy has a high moderating effect on investors' intention to invest in derivative markets with a value of 0.637 per cent. The derivative market is very different in terms of both performance and operations. As a result, trading in the derivatives market is more influenced by financial literacy among regular investors. A positive correlation exists between the variables. Behavioural biases affect the behaviour of investors in the derivative market but the herding bias impact is more when compared to other biases. Personality traits positively affect the financial literacy of the investors in the derivative market especially the influence of extraversion traits towards

financial literacy more than other traits and the Attitude of the retail investors affects the satisfaction in the derivative market. Risk attitude is more effective than the money attitude of the investors. Self-efficacy plays an important role in determining the investment of retail investors but has a less moderating effect when compared to financial literacy.

- **Analysis of Combined Effect of Factors Affecting Trading Behaviour**

The results highlight the impact of various factors on investor behaviour, comparing individual effects with combined effects. When personality traits, attitudes, and behavioural biases are considered together, the combined effect generally shows a stronger influence on trading behaviour. Individuals with high openness, conscientiousness, agreeableness, and extraversion are more likely to engage in trading, while those with low neuroticism are also more likely to be active traders. In terms of attitudes, high risk and money orientation drive more trading activity. Behavioural biases such as herding, heuristics, and mental accounting, when combined, further influence trading decisions, while overconfidence and loss aversion, when present at low levels, can reduce trading involvement. Overall, the combination of these psychological and behavioural factors significantly shapes an investor's trading behaviour.

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