International Journal of Research Publication and Reviews

Exploring the Interplay of Behavioral Biases in Investor Reactions to Earnings Announcements: A Case Study of Nifty 50 Stocks

[1]*Ms. Shruti Satish,* [2]*Dr. Vidhya S*

[1]Kristu Jayanti College, Bengaluru- 560077
[2]Assistance Professor, Kristu Jayanti College, Bengaluru – 560077
[1]shrutisatish2317@gmail.com
[2]vidhya.s@kristujaynti.com

ABSTRACT :

This study looks at how investor responses to Nifty 50 stock earnings announcements in the Indian stock market are influenced by behavioral biases. It examines the impact of biases like anchoring, loss aversion, herd behavior, overconfidence, and recency bias on investment choices. The study examines psychological aspects and how they relate to changes in stock prices using primary data gathered from individual traders and investors via an online questionnaire. The results show that herd behavior is the main predictor of recency bias and has a considerable impact on overconfidence. Short-term investing decisions are significantly impacted by the interaction of these biases, despite their mild levels. The study emphasizes how crucial it is to comprehend investor psychology in order to make better decisions and increase market efficiency. The findings also point to the necessity of educational initiatives to lessen the detrimental effects of these biases, which has ramifications for analysts, investors, and legislators.

Keywords: Behaivoral Bias, Nifty 50, earning announcement, stock market

Introduction :

Behavioral finance has emerged as a crucial field of study as a result of the current surge in interest in the intersection of psychology and finance. By emphasizing the influence of cognitive biases and emotions on investing decisions, behavioral finance contradicts the conventional financial models' frequent assumption that investors make logical decisions. Since these behavioral patterns have a direct impact on asset value, investing strategies, and market efficiency, it is becoming more and more crucial to recognize them.

The issuance of quarterly earnings reports, which are crucial markers of a company's financial success, growth potential, and general stability, has a significant impact on investor behavior. Market movements and investor mood are frequently influenced by these stories. But not all reactions to earnings reports are founded on logical evaluations. Rather, these emotions are frequently shaped by biases including anchoring, loss aversion, herd mentality, overconfidence, and recency bias, which causes differences between expected and actual market outcomes.

By examining how behavioral biases especially affect investor reactions to earnings announcements for Nifty 50 stocks, particularly within the Indian stock market, this study seeks to fill a significant vacuum in the body of existing literature. Although earlier research has looked at how earnings releases affect stock prices, less attention has been paid to the psychological aspects that influence these reactions. Furthermore, little is known about the intricate connections between stock price fluctuations, investor sentiment, and perception; this offers a chance to learn more about these interrelated phenomena.

This study's main objective is to examine how behavioral biases affect investors' reactions to Nifty 50 stock quarterly earnings announcements. In order to do this, the study will look at the relationship between earnings reports and subsequent changes in stock prices, with an emphasis on how investor attitude and perception affect investment choices. Companies from every sector in the Nifty 50 index will be included in the study, but special focus will be placed on those that make major contributions to their respective industries. This thorough approach will improve knowledge of the different sectoral influences on market outcomes and investor behavior.

The study intends to shed light on the connection between investor psychology, stock market performance, and earnings information in the Indian equity landscape by examining these dynamics. This study aims to improve our comprehension of the Indian equity market by examining the financial and psychological aspects of investor behavior. The results will shed important light on Indian investors' behavioral patterns and how these biases affect investment methods. In order to lessen the negative consequences of these biases and enhance market decision-making, the research ultimately aims to offer useful suggestions for analysts, investors, and legislators.

Literature Review :

Wang et al. (2018) Post-Earnings-Announcement Drift (PEAD) is greatly impacted by local investor attention. As local investors progressively incorporate fresh information into their trading decisions, more attention results in bigger stock price reaction

Sahi S.K. (2020) research investor reactions to earnings releases are influenced by biases such as herding, loss aversion, and framing effects. These biases affect decision-making and stock price volatility by causing overreactions or underreactions.

Kim et al. (2020) Examine the phenomenon of herd behavior in the Indian stock market, indicating that investors frequently follow prevailing trends, which leads to increased volatility. The analysis emphasizes the influence of behavioral biases on asset pricing.

Chauhan et al. (2020) Investigate the presence of herd behavior in the Indian stock market, indicating that investors commonly follow trends, thereby amplifying volatility. The study brings to light the impact of behavioral biases on asset prices.

Kanapickienė et al. (2024) Analyze crucial behavioral biases like overconfidence and herding, focusing on how they affect financial decision-making. This research integrates classical and behavioral finance perspectives to improve market efficiency.

Pei (2024) The study explores how investor biases, like optimism and overconfidence, impact financial decisions and market trends. It emphasizes the role of psychological factors in risk perception and investment behavior. Overall, it highlights the significance of behavioral finance in improving decision-making and market stability.

Research Methodology :

3.1 Objective of Study

This study examines the reactions of investors to Nifty 50 stock quarterly earnings announcements, concentrating on behavioral biases such anchoring, loss aversion, herd mentality, overconfidence, and recency bias. It looks at how these biases affect market efficiency, short-term stock price fluctuations, and investment choices. The following are the paper's primary goals:

1. To investigate how investor responses to Nifty 50 stock quarterly earnings announcements are impacted by behavioral biases.
2. To examine how cognitive biases interact to influence immediate investing choices.

3.2 Scope of study

The purpose of this study is to examine how behavioral biases affect investors' choices in reaction to Nifty 50 stock quarterly earnings reports. In order to comprehend how these cognitive inclinations affect investors' perceptions and responses to financial information, it examines several important psychological biases, such as overconfidence, herd behavior, loss aversion, anchoring, and recency bias. Instead of evaluating stock price movements directly, the research aims to capture investor mood and behavioral patterns by concentrating on primary data gathered through a structured questionnaire. In order to better understand how these biases impact financial decisions, the study attempts to offer insightful information on investor psychology. Investors, analysts, and legislators will find the data useful in formulating plans to reduce irrational choices, enhance market effectiveness, and encourage wise investment practices.

3.3 Period of Study

The study will last for 8 months, from June 1, 2024, to January 31, 2025, covering two quarterly earnings of the company for the financial year 2025.

3.4 Sample of Study

Individual investors, traders, and financial professionals who actively participate in Nifty 50 equities are the study's main emphasis. In order to provide a diversity of experience levels, ages, and trading behaviors, respondents are selected based on their involvement in the stock market. In order to provide a comprehensive depiction of behavioral patterns in investing decision-making, a sample of more than 95 investors will be included.

3.5 Data Collection

This study collects primary data through a structured online questionnaire, distributed via Google Forms to reach a wide audience, including retail investors, market analysts, and traders who are essential to stock market decision-making. In addition to examining behavioral biases like overconfidence, herd behavior, loss aversion, anchoring, and recency bias to understand their impact on investment decisions, the questionnaire focuses on demographics like age, gender, and investment experience to create a profile of the respondents. The way that investors react to quarterly earnings reports and the elements that influence their choices in the context of these financial disclosures are given a lot of attention. The study intends to advance knowledge of cognitive biases that influence investment behavior and attitude, especially with relation to earnings reports, by obtaining perspectives from a wide spectrum of market participants.

3.6 Tools for Data Analysis

This study employs descriptive statistics and regression analysis, utilizing SPSS software for data analysis

- **Descriptive Statistics**: To find trends, central tendencies, and variances in investor biases, data is summarized using Descriptive Statistics. The mean, median, mode, standard deviation, variance, and range are important measurements.
- **Regression Analysis:** In order to ascertain how one behavioral bias affects another, Regression Analysis looks at the connections between them. Regression coefficients, dependent and independent variables, the R-squared value, and the p-value—which indicates statistical significance—are all crucial parts of this research.

Data Analysis and Interpretation :

Table 1: Descriptive Statistics

		Overconfidence Score	Herd Behavior Score	Loss Aversion Score	Anchoring Score	Recency Bias Score
N		102	102	102	102	102
Mean		2.618	2.58	2.55	2.98	2.877
Median		2.750	3.00	3.00	3.00	3.000
Mode		3.0	3	3	3	3.0
Std. Deviation		.7616	.927	.951	.890	.7722
Variance		.580	.860	.904	.792	.596
Range		3.0	3	3	3	3.0

The respondents' behavioral biases in their decision-making processes are shown by the descriptive statistics. Participants display moderate levels of the five discovered biases, as shown by the mean scores for Overconfidence (2.62), Herd Behavior (2.58), Loss Aversion (2.55), Anchoring (2.98), and Recency Bias (2.88), which are closer to the midpoint of the response scale.

The majority of participants selected alternatives that showed occasional or moderate degrees of bias, according to the median and mode values, which are both continuously at 3. In this regard, many respondents have a moderate amount of overconfidence in their abilities to outperform others when evaluating earnings reports, and they sometimes base their decisions on current patterns and herd behavior.

The standard deviation of the responses' variability suggests that respondents' views of these biases vary, with Loss Aversion (0.95) and Herd Behavior (0.93) displaying somewhat more dispersion than Anchoring (0.89) and Recency Bias (0.77). All variables have a range of 3, indicating that the entire response scale, which runs from 1 to 4, has been used.

Regression Analysis Interpretation: Herd behavior and overconfidence

Table 2: Regression Model Summary – Herd Behavior & Overconfidence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.463[a]	.215	.207	.6783	1.878

Using a correlation coefficient of R = 0.463, the regression analysis shows a somewhat positive association between the independent variable of herd behavior and the dependent variable of overconfidence. The model explains 21.5% of the variance in Overconfidence ($R^2 = 0.215$), indicating that this relationship is influenced by additional factors as well. The model's explanatory power is further supported by the Adjusted R^2 score of 0.207. Furthermore, a standard error of 0.6783 suggests that the forecasts were reasonably accurate. The Durbin-Watson value of 1.878 reveals no substantial autocorrelation, which verifies the trustworthiness of the model.

Table 3: Anova Table – Herd Behavior & Confidence

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.580	1	12.580	27.344	.000[b]
	Residual	46.008	100	.460		
	Total	58.588	101			

The ANOVA analysis confirms that Herd Behavior has a significant impact on Overconfidence in investment decisions. The model is extremely significant, as indicated by the p-value of 0.000 and the F-statistic of 27.344. Furthermore, the Regression Sum of Squares is 12.580, indicating that Herd Behavior is responsible for a significant amount of Overconfidence. Nonetheless, the Residual Sum of Squares, which is 46.008, indicates that overconfidence may also be caused by other variables.

Table 4: Coefficient Table – Herd Behavior & Confidence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.636	.199		8.211	.000
	Herd Behavior Score	.381	.073	.463	5.229	.000

The regression analysis looks into how investor overconfidence and herd behavior are related. A direct positive relationship is suggested by the unstandardized coefficient (B = 0.381), which shows that the Overconfidence Score rises by 0.381 units for every unit increase in the Herd Behavior Score. The moderate-to-strong influence is further supported by the standardized coefficient (Beta = 0.463), which shows that herd behavior plays a considerable role in overconfidence. At a 99% confidence level, the t-value (t = 5.229, p = 0.000) indicates that this association is statistically significant, indicating that the likelihood that this impact is the result of chance is extremely low. Furthermore, the baseline level of overconfidence in the absence of herd behavior is represented by the constant value (1.636).

Regression Analysis Interpretation: Recency Bias with other biases

Table 5: Regression Model Summary – Recency Bias with other biases

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.670[a]	.448	.426	.5852	2.104

Regression analysis examines the relationship between the independent factors of anchoring, loss aversion, herd behavior, and overconfidence and the dependent variable of recency bias. These behavioral biases and Recency Bias have a moderate to significant association, according to the model's R-value of 0.670. Their substantial influence on investor decision-making is demonstrated by the R^2 value of 0.448, which indicates that these biases account for 44.8% of the variation in Recency Bias. This explanatory power is further refined by the Adjusted R^2 value of 0.426, which takes into consideration the number of predictors utilized. Furthermore, the accuracy of the forecasts is indicated by the Standard Error of the Estimate, which stands at 0.5852. The trustworthiness of the model is guaranteed by the Durbin-Watson statistic of 2.104, which verifies that the residuals do not exhibit any discernible autocorrelation.

Table 6: Anova Table – Recency Bias with other biases

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.999	4	6.750	19.709	.000[b]
	Residual	33.219	97	.342		
	Total	60.218	101			

The ANOVA table assesses the overall significance of the regression model linking Recency Bias to the cognitive components of Overconfidence, Herd Behavior, Loss Aversion, and Anchoring. The model is highly significant, indicating that at least one predictor significantly affects Recency Bias, according to the F-statistic (19.709, p = 0.000). The residual sum of squares (33.219) shows the variance that cannot be explained by the model, whereas the regression sum of squares (26.999) shows the variation that the model can explain. The model explains a significant amount of the variance, with degrees of freedom (df) of 4 for regression and 97 for residuals. The estimates' low mean square error (0.342) indicates their reliability, highlighting the major role these cognitive biases play in investors' propensity to overvalue recent earnings reports in their decision-making.

Table 7: Coefficients Table – Recency Bias with other biases

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.913	.268		3.402	.001
	Herd Behavior Score	.167	.074	.200	2.248	.027
	Overconfidence Score	.547	.089	.540	6.120	.000
	Loss Aversion Score	.007	.073	.009	.102	.919
	Anchoring Score	.028	.071	.032	.393	.696

The regression study looks at the association between Recency Bias and other cognitive biases such as Overconfidence, Herd Behavior, Loss Aversion, and Anchoring. A baseline level for Recency Bias is established by the model's constant of 0.913 (p = 0.001). With a coefficient of B = 0.547, normalized β = 0.540, and p < 0.001, overconfidence has the most significant impact among the factors. This suggests that overconfident investors prefer to give more weight to recent earnings. With B = 0.167, β = 0.200, and p = 0.027, Herd Behavior also has a significant effect, indicating that trend-following investors are more inclined to pay attention to recent profits. On the other hand, Anchoring (B = 0.028, p = 0.696) and Loss Aversion (B = 0.007, p = 0.919) had no discernible impact on Recency Bias.

5. Findings :

- The results show that although behavioral biases do exist, they are typically not severe. This offers a strong basis for comprehending typical biases in decision-making and emphasizes the need for focused educational initiatives or tactics to lessen their impacts, especially for well-known biases like anchoring and overconfidence that have a big influence on investing behavior.
- The findings show a relatively substantial and statistically significant correlation between overconfidence bias and herd behavior bias. Follow-the-herd investors exhibit high levels of overconfidence, especially when evaluating earnings reports and stock price projections.
- With a high and statistically significant impact, the analysis shows that Overconfidence Bias is the best predictor of Recency Bias. Herd Behavior Bias contributes positively to Recency Bias as well, but the effect is not as strong. This model, on the other hand, highlights the intricate relationships between several biases in decision-making processes by showing that Loss Aversion and Anchoring have no discernible predictive potential with regard to Recency Bias.

Conclusion :

According to this study, which looks at behavioral biases in investment decision-making, investors have moderate amounts of recency bias, loss aversion, overconfidence, herd behavior, and anchoring. Herd behavior and overconfidence are significantly correlated, according to the regression study, suggesting that investors who follow the herd frequently become overconfident in their financial decisions. This research emphasizes how crucial investor education and awareness are in reducing the dangers of overconfidence, which can result in bad financial choices and heightened market volatility.

Additionally, the study finds that overconfidence is the best indicator of recency bias, indicating that overconfident investors are more inclined to base their investing choices on recent occurrences. Recency bias is also influenced by herd behavior, although this effect is not as strong. On the other hand, there is no discernible impact of either Anchoring or Loss Aversion on decision-making. These findings suggest that confidence levels, rather than a fear of losses or a dependence on established reference points, are the main factors driving investors' propensity to pay attention to recent information.

Overall, by showing how these biases interact to influence investment behavior, this research advances our understanding of behavioral finance. The results highlight the necessity of behavioral interventions and focused financial literacy programs to assist investors in identifying and reducing these biases. To provide a more thorough picture of investor psychology and decision-making tendencies, future research could look into other elements like market conditions or demographic impacts.

REFERENCES :

[1] Wang, B., Choi, W., & Siraj, I. (2018). Local investor attention and post-earnings announcement drift. *Review of Quantitative Finance and Accounting*. https://epublications.marquette.edu/fin_fac/161

[2] Gupta, S., & Shrivastava, M. (2022). Herding and loss aversion in stock markets: Mediating role of fear of missing out (Fomo) in retail investors. *International Journal of Emerging Markets*, *17*(7), 1720–1737. https://doi.org/10.1108/IJOEM-08-2020-0933

[3] Kim, H. J., Hong, J. S., Hwang, H. C., Kim, S. M., & Han, D. H. (2020). Comparison of psychological status and investment style between bitcoin investors and share investors. *Frontiers in Psychology*, *11*, 502295. https://doi.org/10.3389/fpsyg.2020.502295

[4] Chauhan, Y., Ahmad, N., Aggarwal, V., & Chandra, A. (2020). Herd behaviour and asset pricing in the Indian stock market. *IIMB Management Review*, *32*(2), 143–152. https://doi.org/10.1016/j.iimb.2019.10.008

[5] Kanapickienė, R., Vasiliauskaitė, D., Keliuotytė-Staniulėnienė, G., Špicas, R., Kaab Omeir, A., & Kanapickas, T. (2024). A comprehensive review of behavioral biases in financial decision-making: From classical finance to behavioral finance perspectives. *Journal of Business Economics and Management*, *25*(5), 1006–1029. https://doi.org/10.3846/jbem.2024.22314

[6] Pei, X. (2024). Behavioral finance: The impact of investor expectation on the financial decision-making. *Advances in Economics, Management and Political Sciences*, *83*(1), 248–254. https://doi.org/10.54254/2754-1169/83/20240755

[7] Arya, Dr. S., & Singh, Dr. S. (2025). The role of behavioral finance in understanding market anomalies. *South Eastern European Journal of Public Health*, 1799–1812. https://doi.org/10.70135/seejph.vi.4018

[8] Jiang, X.-F., Xiong, L., Cen, T., Bai, L., Zhao, N., Zhang, J., Zheng, C.-J., & Jiang, T.-Y. (2022). Analyst sentiment and earning forecast bias in financial markets. *Physica A: Statistical Mechanics and Its Applications*, *589*, 126601. https://doi.org/10.1016/j.physa.2021.126601

[9] Ali, M. H., Bakar, A., Tufail, M. S., & Mazhar, F. (2024). Behavioral biases in investment: Overconfidence, disposition effect, and herding behavior. *iRASD Journal of Economics*, *6*(2), 555–566. https://doi.org/10.52131/joe.2024.0602.0223

[10] Imran Gulzar, T. (2023). The influence of behavioral biases on investment decisions; moderating role of emotional stability. *Journal of Development and Social Sciences*, *4*(II). https://doi.org/10.47205/jdss.2023(4-II)61

[11] Aqham, A. A., Endaryati, E., Subroto, V. K., & Kusumajaya, R. A. (2024). Behavioral biases in investment decisions: A mixed-methods study on retail investors in emerging markets. *Journal of Management and Informatics*, *3*(3), 568–586. https://doi.org/10.51903/jmi.v3i3.63

[12] Hao, Y., Chu, H.-H., Ho, K.-Y., & Ko, K.-C. (2016). The 52-week high and momentum in the Taiwan stock market: Anchoring or recency biases? *International Review of Economics & Finance*, *43*, 121–138. https://doi.org/10.1016/j.iref.2015.10.035

[13] Rana, S. B. (2019). Factors affecting individual investors' stock investment decision in nepal. *Tribhuvan University Journal*, *33*(2), 103–124. https://doi.org/10.3126/tuj.v33i2.33615

[14] Sudha V Ingalagi & Mamata. (2024). Implications of loss aversion and investment decisions. *Journal of Scientific Research and Technology*, 34–40. https://doi.org/10.61808/jsrt90

[15] Rawat, B. R. (2024). Influence of overconfidence and loss aversion biases on investment decision: The mediating effect of risk tolerance. *Far Western Review*, *2*(1), 57–73. https://doi.org/10.3126/fwr.v2i1.70499