

A Review of Behavioral Biases and Their Impact on Portfolio Performance: An Insight from A Retail Investor in India's Nifty 50 Segment

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Abstract

A new area of finance referred to as "behavioral finance" has emerged due to the irregularities and intricacy of the stock market. Financial market inconsistencies arise when there is no fundamental theory or paradigm capable of explaining the patterns in the returns on investments on securities, either cross-sectional or time series. The field referred to as "behavioral finance" investigates how individuals' feelings and thoughts influence their investment decisions.

This systematic review of literature seeks to investigate the influence of behavioral biases and their effects on portfolio performance, specifically in the case of retail investors within India's Nifty 50 space. Based on academic literature from databases like Scopus, Web of Science, Google Scholar, JSTOR, and SSRN, this review aggregates evidence from research articles published between 2015-2023. Some of the key behavioral biases that have been identified are overconfidence, loss aversion, herding, anchoring, and mental accounting. The examination shows that these biases have a significant influence on investment decision-making, which generally leads to non-optimal diversification of the portfolio, high trading frequency, and lower returns. Interestingly, overconfidence and herding were the most dominant among Indian retail investors. The results highlight the importance of enhancing investor education and behavioral consciousness to counteract the adverse consequences of such biases. This review supports the increasing body of literature on behavioral finance in emerging markets and offers a basis for future empirical research focusing on the Indian equity market.

Keywords: Behavioral Finance; Retail Investors; Behavioral Biases; Portfolio Performance; Nifty 50.

1. Introduction

Investment behavior is a common phenomenon in the financial sector. The financial market covers a varied set of investors involved through all channels of investment. Investment success are generally dependent on personal judgment and cognitive evaluation. Investment behavior is a very dynamic and diverse process that requires substantial time and effort. This includes parts of psychology, social science, economics, and cognitive theory that try to explain why investment decisions don't always follow fully rational models (Phung and Khuong, 2016).

International financial markets have changed a lot, becoming more complicated and less certain. Political instability and changes in the economy are two things that make the market unclear (Albulescu, 2021). Because things are getting more complicated, it's important to know the basic things that affect how people trade. Behavioral finance, an emerging discipline, examines the impact of psychological biases on investor decision-making, especially in situations characterized by increased risk and uncertainty.

This study aims to understand the influence of behavioral biases on retail investors' stock market investing decisions, concentrating on retail players in the Nifty 50 division of the domestic exchange. This analysis seeks to pinpoint prevalent cognitive biases, such as overconfidence, loss aversion, herding behavior, and anchoring, within the individuals. The study provides substantial insights into the impact of cognitive errors on investing decisions and financial outcomes for one of India's leading market indexes by examining the behavioral tendencies of Indian retail investors.

2. A Review of Behavioral Bias

2.1. Overconfidence bias

Research conducted by Prosad J. M. et al. (2015) indicates that men exhibit a higher propensity for overconfidence in their understanding of the Indian stock market compared to women. Seetharaman A. et al. (2017) highlighted the impact of behavioral bias on investor behavior, particularly on overconfidence and inappropriate optimism. Investor returns are significantly and positively influenced by overconfidence (Khan et al., 2017). A strong positive relationship between overconfidence and investment choice-making was established by Ngacha, S. W. (2019). Researchers Kurniawati D. et al. (2019) established that investors' choices are positively affected by both overconfidence and self-control biases, especially in the case of investing in initial public offerings (IPOs). Conversely, Baker H. et al. (2019) established no considerable relationship between overconfidence bias and financial literacy.

2.2. Herding bias

Filip A. et al. (2015) found evidence of steering behavior in Central and Eastern European markets during both bullish and bearish phases, underscoring the vulnerability of emerging markets to collective decision-making. Similarly, Ripoldi (2016) identified herding among Chinese investors in the Shanghai and Shenzhen markets, which, like India, are heavily retail-driven. Choi (2016) highlighted that offline investors exhibited stronger herding tendencies than online investors, particularly older individuals who rely on friends and family for information due to limited access to real-time data; however, this finding may differ in India, where younger investors increasingly follow digital platforms and social media influencers. Contradictory evidence was reported by Satish B. et al. (2018), who found no significant herding behavior before, during, or after the financial crisis, suggesting that institutional dominance may sometimes suppress retail-driven effects. Dewan (2019) linked herding to speculative bubbles, such as the dotcom boom and cryptocurrency surges, illustrating its role in asset mispricing, while Chauhan Y. et al. (2019) observed that herding was largely absent in small-cap equities but evident in large-cap firms, a relevant insight for India's Nifty 50 stocks that attract higher visibility and trading volumes. Dewan P. et al. (2019) further argued that collective decisions driven by herding can cause prices to deviate from intrinsic values, amplifying market inefficiencies. Indārs E. R. (2019) added that herding is more pronounced in down markets, often triggered by fear and non-fundamental factors, though it does not always persist across periods.

2.3. Anchoring bias

The explanation of anchoring bias rightly highlights its psychological basis, where individuals rely too heavily on the first piece of information when making decisions (Shin & Park, 2018). Applying this to financial contexts, investors often anchor on recent highs or 52-week benchmarks, which can distort valuation judgments and lead to suboptimal trading behavior (Singh, 2016). Evidence indicates that retail investors rely on historical stock prices, which affects their purchase or sell choices regardless of the underlying fundamentals (Maqsood Ahmad & Shah, 2018).

Despite the extensive examination of anchoring, the critique focuses on its context-dependent consequences. For example, momentum strategies that use historical price levels as a benchmark on purpose may do better in trending markets than they would without anchoring. This indicates that anchoring is not invariably illogical; it may function as a heuristic shortcut that conserves cognitive resources in unclear contexts (Jahanmiri, 2018). The issue occurs when investors stubbornly hold onto anchors despite conflicting evidence, resulting in an inadequate reaction to fresh data and the continuation of mispricing.

So, anchoring bias can help explain some strange trading actions, but it doesn't necessarily have a harmful effect. A balanced approach is crucial, recognizing that in certain cases, anchoring may serve as a sensible heuristic consistent with market strategies, while in other situations, it results in persistent miscalculations that hinder portfolio performance.

2.4. Loss aversion

Arora et al. (2015) assert that investors between the ages of 41 and 55 exhibit a greater propensity to dread monetary loss compared to their younger counterparts. This is possibly because they have more to do, see hazards in a different way, and don't want to spend money for as long. They also found that women feel regret and loss aversion more often than men, which suggests that differences in risk tolerance across genders may have a big effect on portfolio selections. Lee et al. (2016) confirmed this by demonstrating that investors with a high aversion to loss allocate a smaller portion of their portfolio to equities, and their ongoing performance monitoring frequently results in myopic loss aversion, where short-term volatility obstructs prudent long-term investment strategies. Mahina et al. (2017) studied Rwanda's stock exchange and found that loss aversion causes investors to keep losing stocks for a long time and sell winning stocks too soon. This behavior is similar to the disposition effect, which makes portfolios less efficient. Kumar et al. (2018) further underscored the influence of gender in mitigating loss aversion, illustrating its substantial effect on investment decision-making.

2.5. Representativeness bias

Pompian, M. M. (2017) defined representativeness bias as a cognitive fallacy arising from an emotional misreading of novel information. To aid in decision-making, investors might amalgamate fresh information with established concepts or anticipations. Shah et al. (2018) also found that representativeness bias negatively affects investment choices for frequent traders on the Pakistan Stock Exchange (PSX) and makes them think the market is less efficient at the same time.

3. Methodology

We undertook a systematic literature review utilizing the Scopus, Web of Science, Google Scholar, JSTOR, SSRN, and EBSCOhost databases. We employed the following keywords: "behavioral biases," "retail investors," "portfolio performance," "investment decision-making," "Nifty 50," "Indian stock market," "investor psychology," "overconfidence bias," "loss aversion," "herding behavior," "anchoring bias," and "mental accounting" to identify articles published between 2015- 2023.

3.1. Study selection

All recognized papers' titles and abstracts were screened to determine their eligibility. Studies were deemed eligible for consideration if they met the following inclusion criteria: they focused on behavioral biases among retail investors, portfolio performance, or investment behavior, with specific relevance to the Indian stock market, particularly the Nifty 50 segment.

The study selection process adhered to the "PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)" guidelines to maintain methodological rigor and transparency. Systematic database searching and reference screening identified 50 records initially. Following the use of relevance-based filters like the topic alignment with the research, type of publication, and language, 40 articles were filtered for further screening. At the screening stage, 10 records were excluded based on factors like duplication, lack of relevance, or incomplete information. This left 32 full-text articles, which were then assessed in detail for eligibility. Out of these, 2 articles were excluded after full-text review for reasons including and 2 additional articles due to lack of empirical evidence, theoretical inconsistency with the topic, or non-retail investor focus. Finally, 28 studies were deemed eligible and included in the qualitative synthesis. These selected studies comprehensively covered various behavioral biases—such as herding, loss aversion, overconfidence, and anchoring—and their impact on portfolio performance, particularly in the context of retail investors in India's Nifty 50 segment.

Studies were considered for inclusion if they presented sufficient information pertaining to behavioral finance, cognitive biases, investor behavior, decision-making, or portfolio performance in the Indian market or comparable emerging markets. Research emphasizing areas such as herding behavior, loss aversion, overconfidence, anchoring, risk perception, and financial literacy influencing investment choices was given precedence. Those studies that were not empirically or conceptually pertinent to the retail investor frame of mind or Nifty 50 segment were excluded.

These studies were selected for detailed review and synthesis. The author ensured that each study complied with the set parameters of relevance, research quality, and contextual applicability to the Indian retail investment landscape.

3.2. Data extraction

Utilizing a standardized data extraction form, appropriate information and statistical data were retrieved systematically from the chosen studies. The following essential details were extracted from each study: author(s), year of publication, study aims, sample description, behavioral biases studied, methodology used, and key findings concerning investor behavior and portfolio performance.

To ensure accuracy and consistency, all extracted data were independently verified. A secondary review of the selected articles was conducted to resolve any discrepancies in data interpretation or quality assessment. This cross-verification process enhanced the reliability of the extracted data and ensured alignment with the study's research objectives.

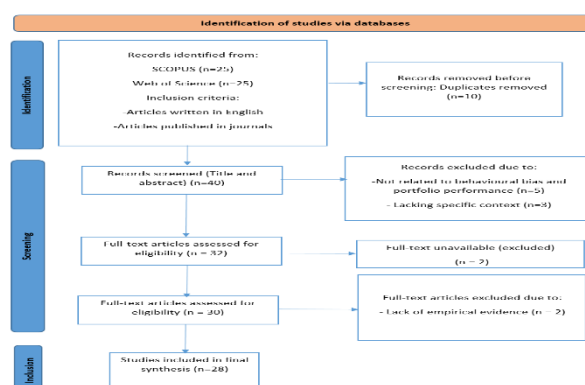


Fig. 1: Literature Search Process of Selection of Articles For Inclusion in the SLR (Based on the PRISMA Flow Diagram).

4. Result and Discussion

4.1. Investment performance and behavioural bias

Investment performance is the rate of return an investment achieves, incorporating both dividends and capital appreciation. A lower rate of return would indicate poor performance, and a higher rate of return usually signifies strong success. Usually, its performance would be evaluated over a set time frame. With a focus on the level of knowledge among investors and their investment intentions, Kavitha (2015) explored the perception of the Indian stock market by people. Primary data was gathered from 125 respondents based on a semi-structured questionnaire, and findings were correlated with correlation analysis. The findings revealed there was high association between the attitude of investors towards investing and the activity in the stock market, and thus an incentive for making the locals bullish on investing will ensure there are better chances for their involvement. In 2015, Khan and Gedamkar tried to establish the optimum investment sectors and funds through comparison of equities shares returns and mutual fund risks.

Moreover, they also stressed the importance of the statistical methods employed by portfolio managers and brokers to measure performance. Data were collected by conducting interviews with brokers and portfolio managers personally by employing a non-probability judgmental sampling technique. The research period covered April 1, 2013, to March 31, 2014. Some of the statistical methods employed included beta, standard deviation, alpha, R-squared, and the Sharpe ratio. The results reveal that investors who want to make more money should update their analytical tools and pay close attention to what's going on in the stock market. Ates et al. (2016) contend that financial literacy mitigates the impact of biases, including framing, overconfidence, and loss aversion. Their study shows that investors who don't know much about finance are more likely to be overconfident than those who do.

Lebdaoui et al. (2021) also discovered that being financially literate is linked to representational bias in a positive way and overconfidence in a negative way. This means that people who know a lot about their own money are less likely to be too sure of themselves and more inclined to think that they can use past data to make predictions about future gains. Mandell and Klein (2009) suggested that persons possessing financial literacy might have increased overconfidence stemming from a propensity to overrate their understanding.. Clark et

al. (2017) showed that investors with a better understanding of finance were better at spotting market opportunities and taking advantage of them.

Behavioral biases that lead investors to skip the boring but necessary step of careful inquiry often lead to wrong risk assessments. Therefore, naturally these biases tend to be fallible and generally produce less-than-optimal conclusions, currently as well as subsequently (Baker et al., 2019). Subpar decision-making like this will curtail investment performance. Thus, based on studies (Agrawal et al., 2016; Kumar & Goyal, 2016), investors with signs of herding, overconfidence, representativeness, or anchoring perform poorly in investing compared to those without such signs.

4.2. Retail investor in India's Nifty 50 segment

The Nifty 50 is a leading benchmark index of the Indian equity market that consists of 50 highly traded stocks across various sectors.

Khan and Joy (2023) examined the correlation between the Nifty 50 index and major macroeconomic variables—i.e., the inflation rate and interest rate—of the Indian economy. Employing monthly data from January 1, 2017, to April 1, 2023, the research established that neither inflation nor interest rates are good predictors of Nifty 50 index movements. Savitakumari and Nagar (2022) investigated the effect of macroeconomic variables on the Indian stock market for a longer period, i.e., 1993–1994 to 2018–2019. According to their results, stock market performance is influenced significantly by foreign exchange reserves and gross domestic product (GDP). A particularly noteworthy finding is that the Nifty index reacts favorably to GDP and foreign exchange reserve growth.

Kalsie and Kalra (2015) empirically examined the efficiency of Indian stock markets in relation to the Efficient Market Hypothesis (EMH) during the period 2001–2011. They tested the weak form of market efficiency using the Nifty index and key NSE sectoral indices, such as FMCG, IT, Banking, Pharma, and Nifty Junior. Utilizing stationarity tests, autocorrelation analysis, and the Run test, their results indicated a rejection of the weak-form efficiency in the Indian stock market. Banumathy and Azhagaiah (2016) found a big difference between male and female investors when it comes to how much they know about investing in the stock market. Their research showed that most investors, regardless of their level of education, had similar levels of awareness. However, a small number of investors had different views on whether or not to participate in the stock market. The poll also showed that investors' level of understanding of investments varies a lot based on their profession.

Vidhya and Magesh (2018) performed a unique study on investor awareness, demonstrating that several investors are not skilled in the analytical tools and methods employed for predicting market movements. It's hard for them to trade well since they don't understand. The study also showed that many investors rely too much on social media and word of mouth, which could cost them money. The authors stressed that before making any trades, investors need to learn more about the stock market, improve their trading skills, and get professional advice. Dubey and Sharma (2019) said that almost all of the retail investors they talked to knew about investing in the stock market. Their research also revealed a notable trend demonstrating a high level of awareness among retail investors concerning stock market involvement. Kamaruniza (2019) also discovered that the majority of investors were aware of investment trends and important Indian indices such as Sensex and Nifty. This insight helped them make a lot of money. The poll also showed that retail investors knew how to undertake both fundamental and technical analysis, which helped them make great decisions about where to put their money. Prabu and Gajendran (2021) emphasized that personal interests, along with factors such as age, income, and specific areas of interest, significantly influence investing decisions. Their research revealed that three factors are crucial for generating profits through investments: awareness, sufficient capital, and a willingness to assume risks. They thought that not knowing about these things could lead to big losses, but knowing about them and thinking about them could help people make better and more profitable judgments in the stock market.

5. Conclusion and Recommendations

5.1. Practical implications

- Awareness and Knowledge Gaps: A lot of retail investors don't know how to use analytical tools and instead rely on social media and word-of-mouth, which raises the danger of losing money.
- Decision Drivers: Investment choices are influenced by personal interest, income, and risk tolerance, requiring investors to align strategies with their financial goals.
- Need for Professional Guidance: Retail investors can improve decision-making by adopting structured forecasting methods and seeking professional advice.

5.2. Economic implication

- Capital Market Development: Enhancing retail investor literacy and analytical capabilities can deepen participation, improve liquidity, and stabilize the Nifty 50 segment.
- Behavioral Influence on Market: The market's efficiency and capital allocation may be limited by volatility and mispricing caused by relying too much on social cues or not being analytical enough.
- Inclusive Growth: Addressing disparities in awareness across gender and occupation groups can boost financial inclusion and strengthen retail investor participation in India's equity markets.

References

- [1] Phung, T., & Khuong, M. (2016). The impact of the Big Five traits and mood on investment performance: A study of individual investors in Vietnam. SSRN. <https://doi.org/10.2139/ssrn.2883425>.
- [2] Albulescu, C. T. (2021). COVID-19 and the United States financial markets' volatility. *Finance Research Letters*, 38, 101699. <https://doi.org/10.1016/j.frl.2020.101699>.
- [3] Prosad, J. M., Kapoor, S., & Sengupta, J. (2015). Behavioral biases of Indian investors: A survey of Delhi-NCR region. *Qualitative Research in Financial Markets*, 7(3), 230–263. <https://doi.org/10.1108/QRFM-04-2014-0012>.
- [4] Seetharaman, A., Niranjan, I., Patwa, N., & Kejriwal, A. (2017). A study of the factors affecting the choice of investment portfolio by individual investors in Singapore. *Accounting and Finance Research*, 6(3), 153–168. <https://doi.org/10.5430/afr.v6n3P153>.
- [5] Khan, Y., Batool, D. S., & Khan, A. W. (2017). Impact of behavior biases on perceived trading return.

- [6] Ngacha, S. W. (2019). Influence of behavioral biases influencing individual investment decisions by university students: A case of United States International University-Africa (Doctoral dissertation, United States International University-Africa).
- [7] Kurniawati, D., & Sutrisno, S. (2019). The benchmark of investor decisions to invest in the initial public offering (IPO). *Riset Akuntansi dan Keuangan Indonesia*, 4(2), 166–176. <https://doi.org/10.23917/reaksi.v4i2.8543>.
- [8] Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, 45(1), 124–146. <https://doi.org/10.1108/MF-01-2018-0003>.
- [9] Filip, A., Pochea, M., & Pece, A. (2015). The herding behaviour of investors in the CEE stock markets. *Procedia Economics and Finance*, 32, 307–315. [https://doi.org/10.1016/S2212-5671\(15\)01397-0](https://doi.org/10.1016/S2212-5671(15)01397-0).
- [10] Choi, S. (2016). Herding among local individual investors: Evidence from online and offline trading. *Economics Letters*, 144, 4–6. <https://doi.org/10.1016/j.econlet.2016.04.027>.
- [11] Ripoldi, F. (2016). The herding effect: Evidence from Chinese stock markets.
- [12] Satish, B., & Padmasree, K. (2018). An empirical analysis of herding behaviour in Indian stock market. *International Journal of Management Studies*, 5(3), 124–132. [https://doi.org/10.18843/ijms/v5i3\(3\)/15](https://doi.org/10.18843/ijms/v5i3(3)/15).
- [13] Dewan, P., & Dharni, K. (2019). Herding behaviour in investment decision making: A review. *Journal of Economics, Management and Trade*, 1–12. <https://doi.org/10.9734/jemt/2019/v24i230160>.
- [14] Chauhan, Y., Ahmad, N., Aggarwal, V., & Chandrad, A. (2019). Herd behavior and asset pricing in the Indian stock market. *IIMB Management Review*. <https://doi.org/10.1016/j.iimb.2019.01.001>.
- [15] Indárs, E. R., Savin, A., & Lublóy, Á. (2019). Herding behaviour in an emerging market: Evidence from the Moscow Exchange. *Emerging Markets Review*, 38, 468–487. <https://doi.org/10.1016/j.ememar.2019.02.003>.
- [16] Shin, H., & Park, S. (2018). Do foreign investors mitigate anchoring bias in stock market? Evidence based on post-earnings announcement drift. *Pacific-Basin Finance Journal*, 48, 224–240. <https://doi.org/10.1016/j.pacfin.2018.02.008>.
- [17] Ahmad, M., Shah, S. Z. A., & Mahmood, F. (2018). Qualitative research in financial markets. *Asian Review of Accounting*, 18(1). <https://doi.org/10.1108/ara.2010.34118aaa.002>.
- [18] Singh, S. (2016). The role of behavioral finance in modern age investment. *Pacific Business Review International*, 1(1), 234–240. <https://doi.org/10.26524/jms.2016.12>.
- [19] Jahanmiri, M. (2018). Anchoring bias: A criterion for explaining profitability of 52-weeks high and momentum strategies. *Pacific Business Review International*, 10(7), 115–124.
- [20] Arora, M., & Kumari, S. (2015). Risk taking in financial decisions as a function of age, gender: Mediating role of loss aversion and regret. *International Journal of Applied Psychology*, 5(4), 83–89.
- [21] Lee, B., & Veld-Merkoulova, Y. (2016). Myopic loss aversion and stock investments: An empirical study of private investors. *Journal of Banking & Finance*, 70, 235–246. <https://doi.org/10.1016/j.jbankfin.2016.04.012>.
- [22] Mahina, J. N., Muturi, W. M., & Memba, F. S. (2017). Influence of loss aversion bias on investments at the Rwanda Stock Exchange.
- [23] Kumar, A. A., & Babu, N. (2018). Effect of loss aversion bias on investment decision: A study.
- [24] Pompian, M. M. (2017). Risk tolerance and behavioral finance. *Investments and Wealth Monitor*, 20(31), 34–45.
- [25] Shah, S. Z. A., Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision making and perceived market efficiency. *Qualitative Research in Financial Markets*, 10(1), 85–105. <https://doi.org/10.1108/QRFM-04-2017-0033>.
- [26] Kavitha, C. (2015). Investors' attitude towards stock market investment. *International Journal of Scientific Research and Management*, 3(7), 3356–3368.
- [27] Khan, E., & Gedamkar, P. (2015). Performance evaluation of equity shares and mutual funds with respect to their risk and return. MIT-SOM PGRC KJIMRP1st International Conference (pp. 149–155). Maharashtra: MIT School of Management.
- [28] Ateş, S., Coşkun, A., Şahin, M. A., & Demircan, M. L. (2016). Impact of financial literacy on the behavioral biases of individual stock investors: Evidence from Borsa Istanbul. *Business and Economics Research Journal*, 7(3). <https://doi.org/10.20409/berj.2016321805>.
- [29] Lebdaoui, H., Chetoui, Y., & Guechi, E. (2021). The impact of behavioral biases on investment performance: Does financial literacy matter? *International Journal of Economics and Financial Issues*, 11(3), 13–21. <https://doi.org/10.32479/ijefi.11318>.
- [30] Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning*, 20(1). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2224231.
- [31] Clark, R., Lusardi, A., & Mitchell, O. S. (2017). Financial knowledge and 401(k) investment performance: A case study. *Journal of Pension Economics and Finance*, 16(3), 324–347. <https://doi.org/10.1017/S1474747215000384>.
- [32] Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, 45(1), 124–146. <https://doi.org/10.1108/MF-01-2018-0003>.
- [33] Agrawal, D., Singhal, T., & Swarup, K. S. (2016). Role of herding behavior in influencing investor decision making in India. *Indian Journal of Research in Capital Markets*, 3(4), 43–48.
- [34] Kumar, S., & Goyal, N. (2016). Evidence on rationality and behavioural biases in investment decision making. *Qualitative Research in Financial Markets*, 8(4), 270–287. <https://doi.org/10.1108/QRFM-05-2016-0016>.
- [35] Kalsie, A., & Kalra, J. K. (2015). An empirical study on efficient market hypothesis of Indian capital markets. *Journal of Management Research and Analysis*, 2(2), 108–114. <https://doi.org/10.17492/mudra.v1i2.2467>.
- [36] Khan, R., & Joy, M. (2023). An empirical study on the dynamics of NIFTY 50 due to the behavior of macroeconomic variables. *Journal of Economics, Finance and Management Studies*, 6(6). <https://doi.org/10.47191/jefms/v6-i6-37>.
- [37] Savitakumari, M., & Nagar, O. (2022). An impact of macroeconomic indicators on the Indian stock market. *Review International Journal of Multidisciplinary*, 7(11), 29–34.
- [38] Banumathy, K., & Azhagaiah, R. (2016). Investors' awareness about investment in stock market. *Pacific Business Review International*, 8(11), 14–22. http://www.pbr.co.in/2016/2016_month/May/3.pdf.
- [39] Vidhya, B., & Magesh, S. (2018). Evaluation of investor awareness on techniques used in stock trading before their investment. *International Journal of Engineering & Technology*, 7(3.12), 98–107. <https://www.sciencepubco.com/index.php/ijet/article/view/15871/6638>. <https://doi.org/10.14419/ijet.v7i3.12.15871>.
- [40] Dubey, S., & Sharma, S. (2019). Retail investors awareness towards stock market investment. *International Education & Research Journal (IERJ)*, 5(1), 12–14. <http://ierj.in/journal/index.php/ierj/article/view/1708/1721>.
- [41] Kamaruniza, A. (2019). Awareness level of retail investors on stock market in Chennai city. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4S5), 14–16. <https://www.ijrte.org/wp-content/uploads/papers/v8i4s5/D10061284S519.pdf>. <https://doi.org/10.35940/ijrte.D1006.1284S519>.
- [42] Prabu, A., & Gajendran, A. (2021). Descriptive study on investors stock market awareness and their perception towards investment pattern (with special reference to Tamil Nadu). *Natural Volatiles & Essential Oils*, 8(4), 14318–14330. <https://www.nveo.org/index.php/journal/article/view/3074/2582>.