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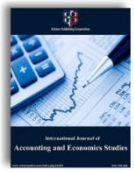

Investor Sentiment and Stock Market Reactions: A Behavioral Economics Perspective

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Abstract

Investor sentiment plays a crucial role in behavioural finance. It's essentially the theory behind how individuals form their beliefs about the market and the future prices of securities. When it comes to trading, individual investors are often swayed by sentiment much more than institutional traders, who typically rely on financial analysis. Many believe that individual investors tend to trade based on noise—information that might not be rooted in fundamental facts but rather in historical data or sensational news. Individual investors often fall prey to biases in their judgment, leading them to make similar mistakes, which can result in persistent market inefficiencies. While the significance of individual investor sentiment is clear, understanding how it's shaped and which factors have a major influence on it is essential for both academics and practitioners looking to evaluate market efficiency. Understanding what drives investor sentiment is crucial because it plays a significant role in how stock prices move. Even though we recognize its importance and the complex nature of investor sentiment, we haven't thoroughly examined the factors that shape it or how they rank in significance. This research aims to gather and analyse data from individual investors to gauge their sentiment. The results could offer valuable insights for policymakers and contribute to the growing body of knowledge in behavioural finance.

Keywords: *Stock Market Reactions; Economics Perspective; Sentiment; Policymakers; Behavioural.*

1. Introduction

The technologies we use to predict stock market trends are impressive. They can monitor, forecast, and even help manage the market, which leads to smarter decision-making (Chandravanshi & Neetish, 2023). Plus, with the rise of the internet and social media, sharing opinions about stocks has become easier than ever, highlighting just how influential social media is in stock market predictions (Lucey & Dowling, 2005). The need for better stock price forecasting has really taken off among analysts and investors alike. However, analysing market trends can be quite tricky due to the inherently unstable nature of the market and its high volatility (Verma & Nair, 2025). While these indicators can help analyse stock returns, forecasting daily and weekly market movements remains a tough nut to crack. Investing in the stock market can lead to greater profits over time, but that's not always guaranteed (Dmytrenko et al., 2024). One of the most crucial aspects of making money is knowing which stocks to buy (Lee et al., 2002; Jasim & Mustafa, 2022). When you buy a stock, you're essentially investing in a company listed on the stock market, hoping to maximize your returns. Without proper research, investors can easily make poor investment choices. Before diving into a specific stock, it's vital to conduct thorough analysis. Randomly picking stocks can lead to significant losses. Many inexperienced investors often find themselves in the dark about a stock's future (Cherono et al., 2019). For them, investing feels more like a gamble—if a stock price goes up, they feel lucky; if not, it's just bad luck! But it shouldn't be that way. The art of predicting future stock prices is one of the most debated and intriguing topics in the realms of statistics, finance, and trading (Haritha & Uchil, 2020). While there are various types of data out there, social network analysis has emerged as a cutting-edge technique that shows real potential for predicting stock trends. Traditionally, stock market forecasting has relied heavily on historical stock prices (Haritha & Uchil, 2020). However, later studies have challenged the effectiveness of using past prices to predict future market movements (Shandiya et al., 2015). The stock market is known for its high price volatility. According to the Efficient Market Hypothesis (EMH), fluctuations in financial markets are largely influenced by news, current events, product launches, and other significant factors that can

affect a company's stock price. With the internet being so widespread, platforms like social media networks, blogs, Facebook, and Twitter have become incredibly popular and impactful (Chari et al., 2017). These spaces allow people to connect, share their thoughts, opinions, interests, and personal experiences, fundamentally changing the way we communicate and collaborate (Jeon & Shin, 2022; Yadav & Yadav, 2014).

2. Methodology

Predicting stock prices has turned into a crucial challenge for both researchers and businesses alike. But let's be honest, creating a model that can do this isn't a walk in the park. In the current stock markets, the feelings and attitudes of investors play a huge role in determining future stock prices. It's no wonder that the stock market has become a hot spot for investors, especially with the sophisticated tools available that can help make accurate predictions (Schmeling, 2009).

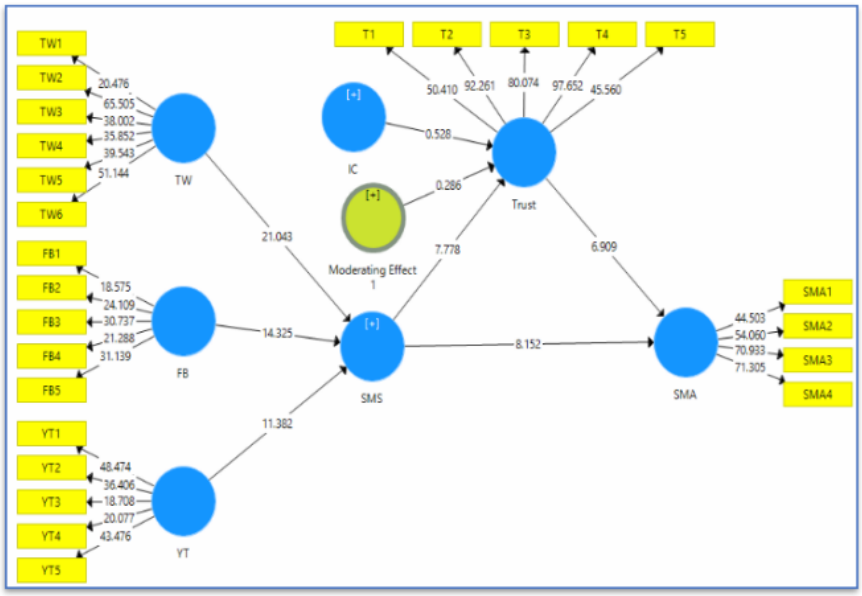


Fig. 1: Equivalent Circuit Model of Radial Distribution System

Predicting stock movements relies heavily on stock data for investing and trading. Sometimes, it's essential to keep stock market investors updated on industry changes. Trading stocks can be quite tricky since investors need to know which stocks to buy or sell to maximize their profits. They understand that timely news plays a vital role in the stock market's performance, and they often have to sift through vast amounts of data. All news articles from magazines, newspapers, and other written sources will be analysed (Tuyon et al., 2016).

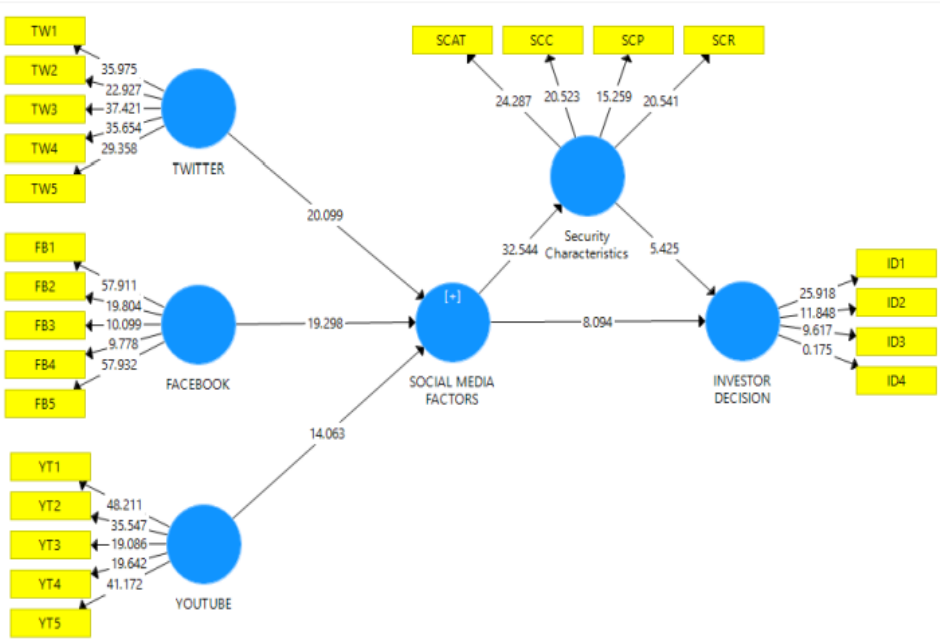


Fig. 2: SEM Model for Stage 3

3. Experimental Results

The findings from this study will be beneficial for various stakeholders, including stockbroking firms, investors, market intermediaries, government bodies, and market regulators. The keywords that show up the most hint at areas of study that could benefit from further exploration in the future (Liutvinavičius et al., 2017; Klenk, 2016; Lamont & Stein, 2006).

Table 1: Efficiency Factor

Sl. No	EFF relating to Website Attribute variables	Factor loading	Eigen value	Variance Explained
EFF1	Cank's apps are very simple to acquire.	0.702	6.183	14.052
EFF2	When processing a payment, the applications (apps) don't wait around.	0.681		
EFF3	No restrictions are placed on the use of plastic cards (debit or credit).	0.666		
EFF4	Using this website is a breeze.	0.617		
EFF5	When promised, the website's services are delivered without fail.	0.563		
EFF6	It's simple to enter and exit an online banking account.	0.555		
EFF7	Once enter the needed service into the site, the pages don't freeze.	0.553		
EFF8	Inconsistent service due to technical difficulties,	0.539		
EFF9	Technological implementations help in increasing customer service efficiency in the banking sector.	0.521		
EFF10	Immediate action is taken in the event of an app's failure.	0.518		
EFF11	The online purchase was processed safely	0.512		
EFF12	The bank's online services are just as fast and helpful.	0.486		
EFF13	Banking via mobile device has never been simpler than with these helpful apps.	0.470		
EFF14	Locating specific information is simple on the bank's website.	0.407		
EFF15	Know the transaction will go through without a hitch.	0.406		

After adding data to the file, we took a close look to catch any entry errors. We pre-tested the questionnaire to ensure it was valid both in terms of face and content. To check its content validity, we shared it with academics who have expertise in financial markets. Thankfully, there were no complaints regarding the readability, clarity of words, or the suitability of the measurements. For face validity, we asked three stock market investors to review the questionnaire and provide feedback on whether the questions were well-constructed. During the second stage, we had to discard 71 questionnaires due to invalid, incomplete, or missing responses, while we collected a total of 279 questionnaires from various broking firms, ensuring they were entered with the right variable names. In the third stage, we focused on 290 valid responses from retail investors. Our study aims to create a new, robust, high-performance deep learning model to predict the Nifty50 index movement by analysing sentiments from multiple social media sources and the Nifty50 market positions. We gathered data from platforms like Twitter, Facebook, Stock Twits, and YouTube using various web scraping tools. After collecting the data, we cleaned and pre-processed it to assess subjectivity and polarity scores, which helped us categorize sentiments as positive, neutral, or negative. In total, we accumulated 20,930 labelled samples for training and testing our prediction model, which is built on long short-term memory (LSTM) networks and densely connected neural networks (DCNNs).

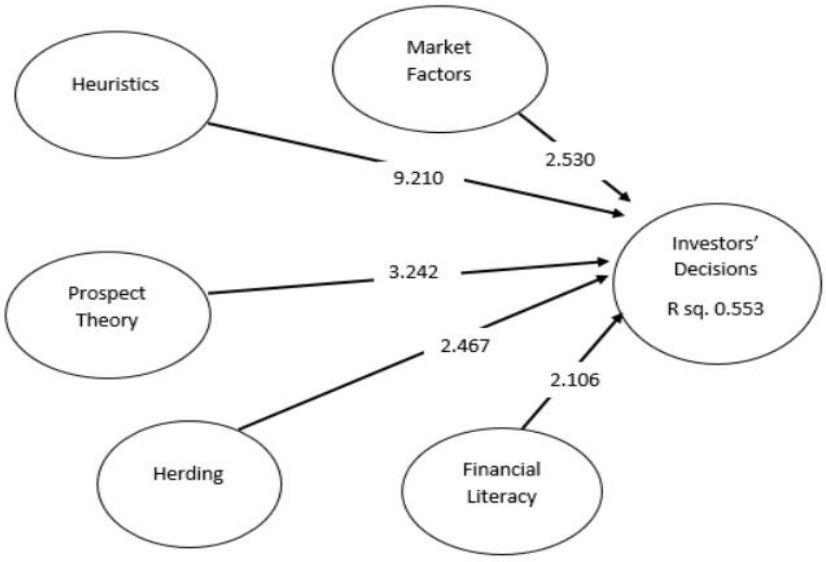
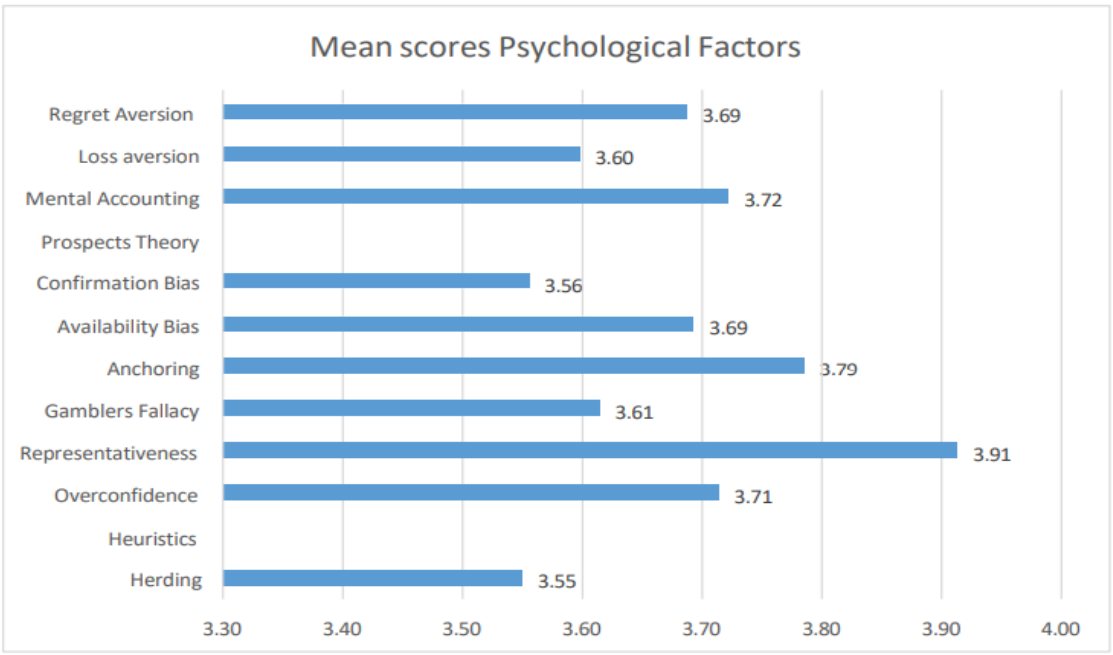


Fig. 3: Impact of Behavioural Biases and Financial Literacy on Investors' Decisions

However, combing through such a large volume of financial news to find useful information can be overwhelming. That's where machine learning techniques come in handy, helping to automatically extract valuable insights from text. This project aims to create a new, robust, high-performance deep learning model to predict the Nifty50 index movement by leveraging multi-sourced social media sentiments and Nifty50 market positions.



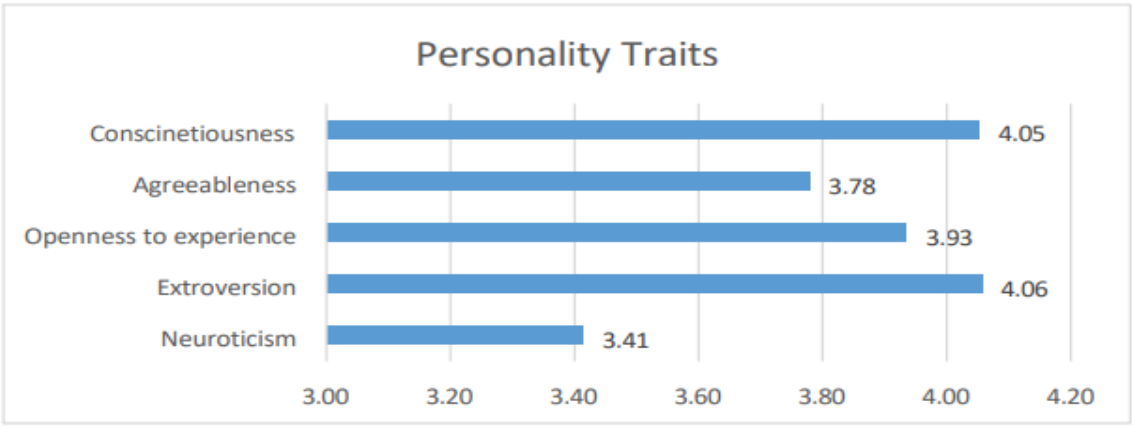


Fig. 4: Mean Scores for Other Factors

By exploring the connection between investment decisions in the Indian stock market and various social media sentiments, this study hopes to contribute significantly to the existing body of research. Ultimately, the goal is to help investors make well-informed decisions by analysing the price fluctuations in the equity market. Before diving into data analysis, the collected questionnaires were carefully assessed for response quality. Each questionnaire was meticulously reviewed to catch any illegible, incomplete, inconsistent, or ambiguous answers. After that, a code, usually a number, was assigned to each response (Shandiya et al., 2015).

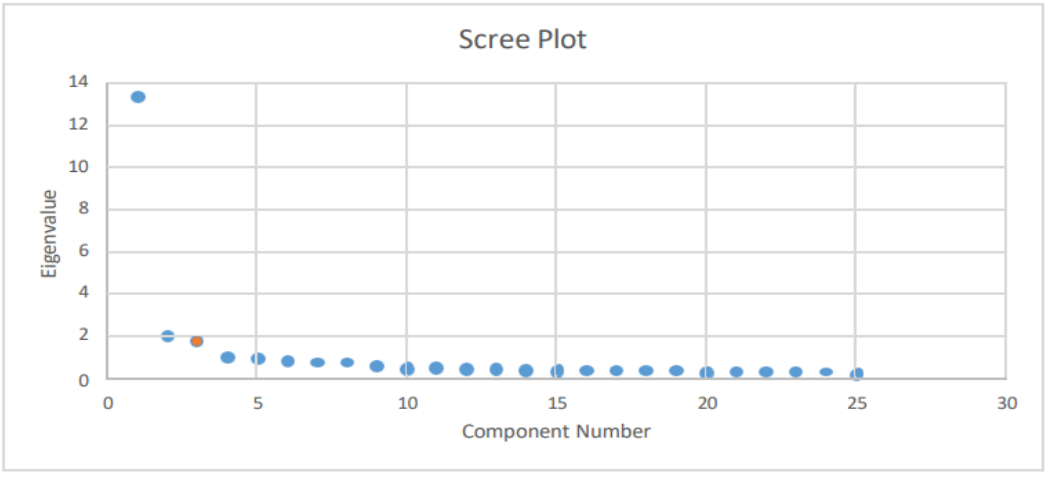


Fig. 5: Scree Plot

By identifying the key factors that influence investor sentiment, especially in terms of stock-picking behaviour the study will provide recommendations to market regulators aimed at strengthening the financial market and keeping small investors engaged in the capital market. This research will also enrich our understanding of behavioural finance.

4. Conclusions

The study focused on individual investors who have experienced both the highs and lows of the market, as well as those who have only participated during the market's upswing. Their investment opinions and attitudes are shaped by their personal experiences. It's fascinating to explore whether the behaviour and sentiment of different types of individual investors are similar or vary significantly. Additionally, it would be intriguing to examine how the factors that significantly influence individual investors' sentiment towards the equity market during bullish phases also play a role during bearish phases. A comparative study across various states in India could shed light on what affects individual investors' sentiment towards the equity market. Just as people's buying habits for clothing, food, and lifestyle differ across cultures, education levels, and financial literacy, it stands to reason that their stock-picking behaviours might also vary, along with the importance they place on different stock features.

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