Media Predictions, Election Outcomes, and Stock Market Reactions in India: Analyzing the Impact of Pre-Election Forecasts

Kishore Kumar Ramkumar

kramkum@iu.edu

April 20, 2025

Abstract

This project investigates how media narratives and social sentiment influenced the Indian stock market during the 2024 General Elections. It explores how overconfident media predictions, especially from YouTube and major news channels, created a hype cycle that temporarily boosted the Nifty 50 index, only for it to fall dramatically once the actual results were released. By collecting and analyzing sentiment data from Reddit, YouTube, and news headlines, this study uncovers the complex dynamics between public expectation and investor behaviour, highlighting the limits of sentiment-based market forecasting.

1. Introduction

In high-stakes political moments like national elections, the media plays a critical role in shaping public opinion. In the lead-up to India's 2024 General Elections, exit poll coverage was overwhelmingly optimistic toward a BJP landslide. News channels and YouTube influencers fueled narratives of a decisive BJP victory. However, the actual results revealed a reduced majority for the BJP, triggering a sharp downturn in the stock market.

This research explores whether the market was influenced more by media-driven sentiment or by the unexpected nature of the results. While the pre-election sentiment was mostly positive, the mismatch between expectations and reality suggests that media forecasts may have introduced false certainty, leading to economic volatility. The research fills a gap by studying this phenomenon in the Indian context, with a specific focus on how online sentiment translates (or fails to translate) into investor behaviour.

2. Related Work

Robert Shiller's seminal work on behavioural finance [1] emphasizes that investor decisions are not always rooted in fundamentals or rational expectations, but are often driven by narratives and public sentiment. This aligns closely with our findings, where media-driven optimism—particularly from YouTube and major news outlets—created a temporary surge in Nifty 50 prior to the 2024 Indian General Election results. The subsequent crash following the actual outcomes supports Shiller's claim that financial markets can be shaped by collective emotion rather than objective reality.

Das and Chen investigated how online "small talk" and user-generated content, such as forum discussions, can be harnessed for sentiment extraction and stock prediction [2]. Their research showed that grassroots platforms often contain signals overlooked by traditional analysts. This is reflected in our use of Reddit data, where sentiment was more cautious and ultimately more aligned with the actual post-election market behaviour—demonstrating the predictive value of decentralized sentiment.

Antweiler and Frank similarly examined the impact of stock message boards on market volatility, concluding that online discussions provide non-trivial information about investor expectations [3]. In our project, Reddit sentiment fluctuations were closely followed by changes in market volatility, reinforcing

the notion that crowd-sourced discourse can serve as an early warning signal of market instability, especially during periods of political uncertainty.

Our methodology relied heavily on the VADER sentiment analysis tool developed by Hutto and Gilbert [4], which is specifically designed to evaluate sentiment in social media text. Their rule-based model enabled us to effectively quantify sentiment across diverse sources including Reddit, YouTube transcripts, and news headlines. The robustness of VADER in handling informal language made it particularly suitable for analyzing real-time public opinion during the elections.

Lastly, the work by Barber and Odean explores how attention-grabbing but potentially shallow news influences both retail and institutional investor decisions [5]. This directly maps to our findings, where high sentiment around exit polls—despite lacking detailed policy or economic discussion—triggered a market rally. The abrupt reversal after the results suggests that the market was reacting to the perceived narrative, rather than data-backed forecasting, validating their theory of behaviour driven by media attention rather than analysis.

3. Data Collection

To investigate the relationship between media sentiment and stock market reactions during the 2024 Indian General Elections, we constructed a custom dataset by collecting data from four distinct but complementary sources. The collection window was defined from May 20 to June 6, 2024, capturing the pre-election sentiment buildup, exit poll announcements (June 1), and the post-result market response (June 4).

3.1 Reddit

We collected Reddit posts using the PRAW (Python Reddit API Wrapper) library as mentioned in Fig.1. Our focus was on communities actively engaged in Indian politics and financial discussions, including r/India, r/IndianStreetBets, r/IndianStockMarket, and r/IndiaInvestments. We used election- and market-related queries such as "BJP stock market", "2024 elections Nifty", and "exit polls". Posts were filtered by date, and for each post, metadata such as title, score, and timestamp were extracted. We then computed sentiment scores using the VADER SentimentIntensityAnalyzer, which is well-suited for short texts and social content.

✅ Scraped 120 posts

	subreddit	query	title	date	score	url
41	India	2024 elections nifty	A Muslim Voter's First-Person Account Of How S...	2024-05-20 11:43:54	71	https://article-14.com/post/a-muslim-voter-s-f...
119	IndiaInvestments	stock prediction india elections	2 finance related apps I found on android that...	2024-05-21 08:16:17	50	https://www.reddit.com/r/IndiaInvestments/comm...
110	IndiaInvestments	modi win stock market	What are the safer option to park money for sh...	2024-05-21 15:23:15	31	https://www.reddit.com/r/IndiaInvestments/comm...
104	IndiaInvestments	bjp stock market	What are the safer option to park money for sh...	2024-05-21 15:23:15	32	https://www.reddit.com/r/IndiaInvestments/comm...
118	IndiaInvestments	stock prediction india elections	Adani suspected of fraud by selling low-grade ...	2024-05-22 04:29:22	550	https://www.ft.com/content/7451f2de-91fa-49f3-...

3.2 YouTube

To capture mainstream media narratives, we queried the YouTube Data API v3 to retrieve videos from major Indian news channels: NDTV, India Today, Zee News, CNBC-TV18, and Times Now. The queries targeted keywords such as "exit polls", "elections 2024", and "stock market". From the resulting videos, we collected:

- Video metadata (title, channel, publication time)

- Transcripts, using the youtube_transcript_api for speech-to-text content

- User comments, scraped using Selenium with BeautifulSoup for a controlled subset of videos

Both transcripts and comments were processed using VADER to quantify sentiment trends.

3.3 News Headlines

We used the SERP API to simulate Google News searches for keywords related to elections and stock performance (e.g., "exit poll 2024 BJP Congress stock market"). From the top results, we extracted news article titles, publication dates, and source names. Given that headlines often reflect editorial tone, we applied VADER sentiment analysis to the titles alone. Articles were filtered to fall within the study window and aggregated by date to create a daily media sentiment signal.
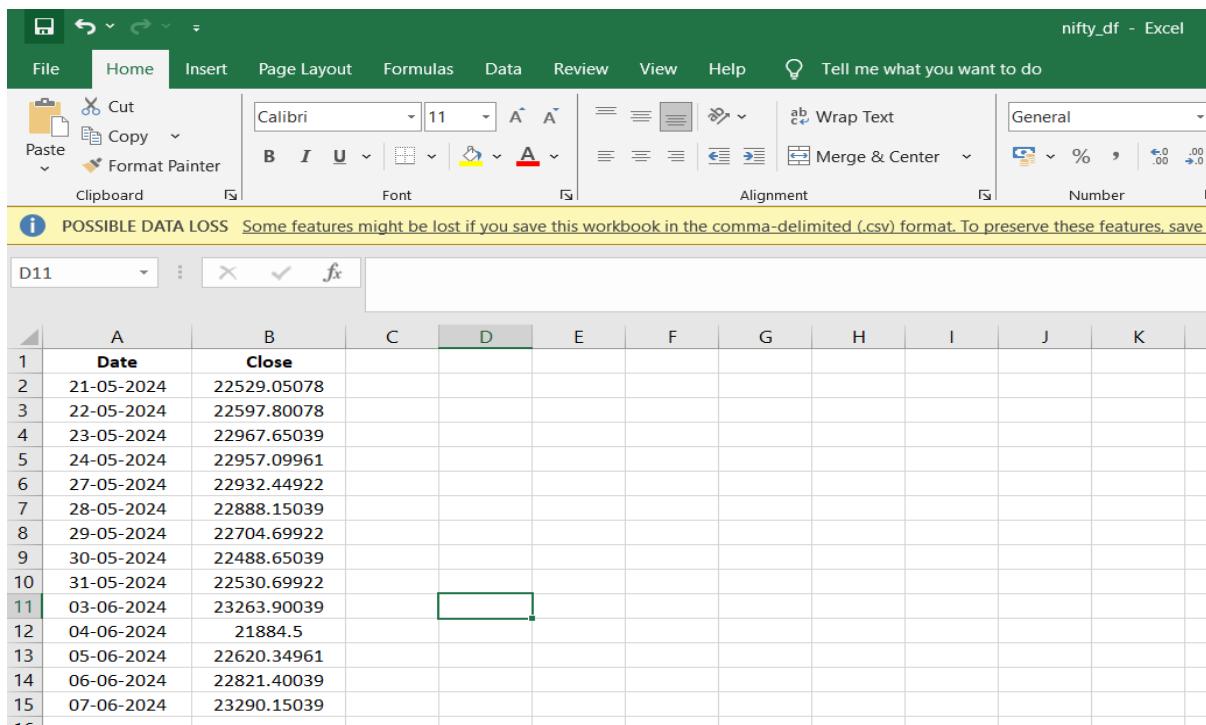
3.4 Stock Market Data (Nifty 50)

To ground sentiment analysis in real economic outcomes, we collected Nifty 50 daily closing prices from the Yahoo Finance API using the yfinance Python package. The Nifty index serves as a broad benchmark of India's stock market performance and investor sentiment.

4. Methods

To explore the dynamic relationship between social/media sentiment and stock market behavior during the 2024 Indian General Elections, we implemented a multi-step analytical pipeline involving sentiment analysis, data preprocessing, and visualization.

4.1 Sentiment Analysis

We employed the VADER sentiment analysis tool, which is particularly effective for short, informal text such as social media posts and headlines. VADER assigns a compound sentiment score ranging from -1 (extremely negative) to +1 (extremely positive). This tool was applied across Reddit post titles, YouTube transcripts, YouTube comments, and news headlines. Daily average sentiment scores were calculated per source. These scores were smoothed for visual clarity using rolling averages, which helped capture short-term sentiment shifts aligned with major electoral events.

## 4.2 Merging and Normalization
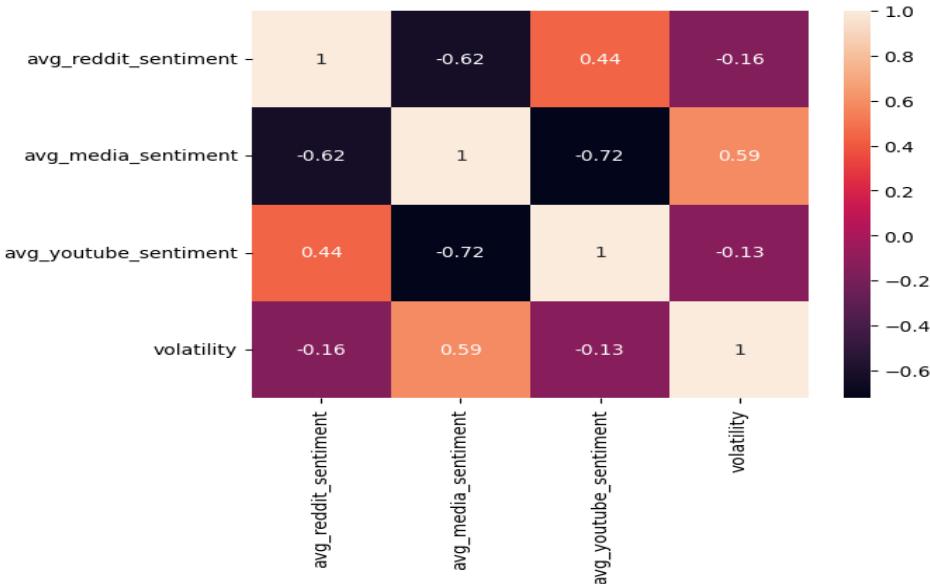
All datasets — Reddit sentiment, YouTube sentiment, media sentiment, and Nifty 50 market data — were merged based on the date field. To maintain temporal alignment and completeness, we used forward-fill imputation to handle missing data. This ensured smooth visualizations and reliable statistical comparisons. The merged dataset enabled the construction of side-by-side sentiment vs market plots, enabling insight into lagging or leading effects of sentiment on stock behavior.

✅ Collected media sentiment before election results

	date	avg_media_sentiment
0	2024-05-30	0.000000
1	2024-06-01	0.193243
2	2024-06-02	-0.214200
3	2024-06-03	0.331720

✅ YouTube transcript + comment sentiment saved to daily_youtube_sentiment.csv

	date	avg_transcript_sentiment	avg_comment_sentiment	avg_youtube_sentiment
0	2024-06-01	0.6747	0.014410	0.344555
1	2024-06-02	0.9878	0.036323	0.512062
2	2024-06-03	0.6587	0.159005	0.408853

4.3 Correlation and Visualization

Visual and statistical methods were used to examine sentiment-market relationships. We plotted line charts of sentiment and Nifty values, box plots to show how Nifty prices differed by sentiment bins, scatter plots to explore volatility patterns, and correlation matrices to quantify relationships between each sentiment source and the market. Additionally, stacked area plots were used to visualize cumulative sentiment across platforms over time, emphasizing divergences between sentiment and market corrections.
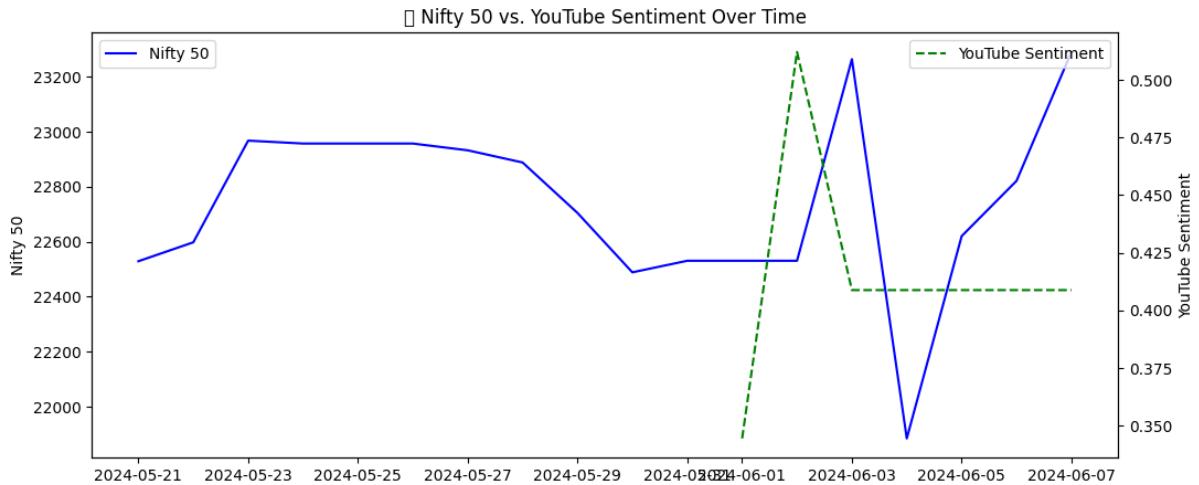
4.4 Event Annotation

To contextualize key shifts in sentiment and market prices, two key dates were annotated in all temporal visualizations: June 1 (exit poll release) and June 4 (election result announcement). These markers helped pinpoint media and market inflection points. Arrows and shaded regions were also used in some charts to highlight sentiment surges and subsequent volatility spikes. These annotations enriched interpretation by linking statistical movement to real-world political events.

5. Findings
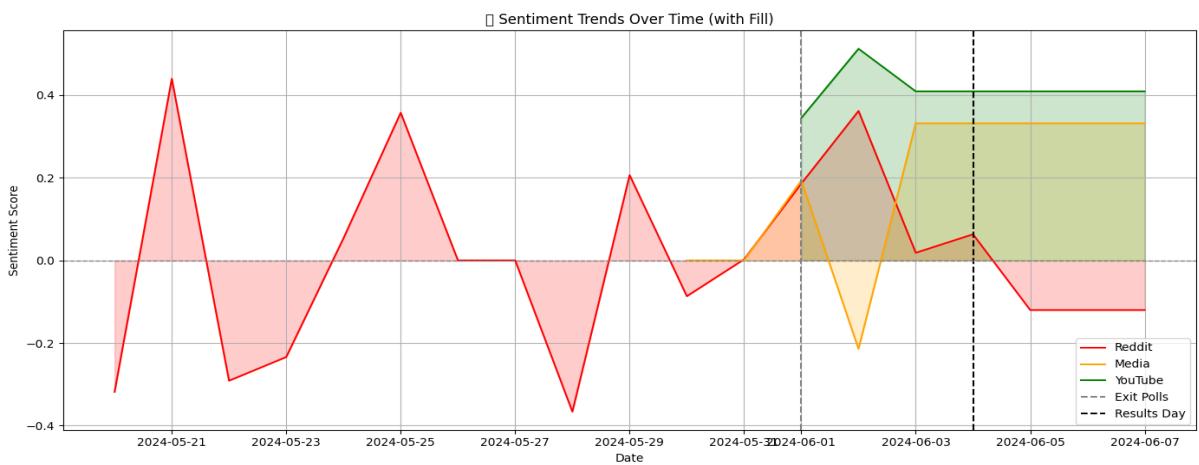
5.1 Nifty Reacted Sharply to Exit Polls and Actual Results

Nifty surged after exit polls on June 1 but crashed on June 4 after the actual results revealed BJP had lost its majority. The swing in market behavior reflects how much of the June 1 rally was based on expectations rather than fundamentals. It also suggests that markets are highly reactive to perceived certainty and political clarity.

Nifty 50 vs. YouTube Sentiment Over Time
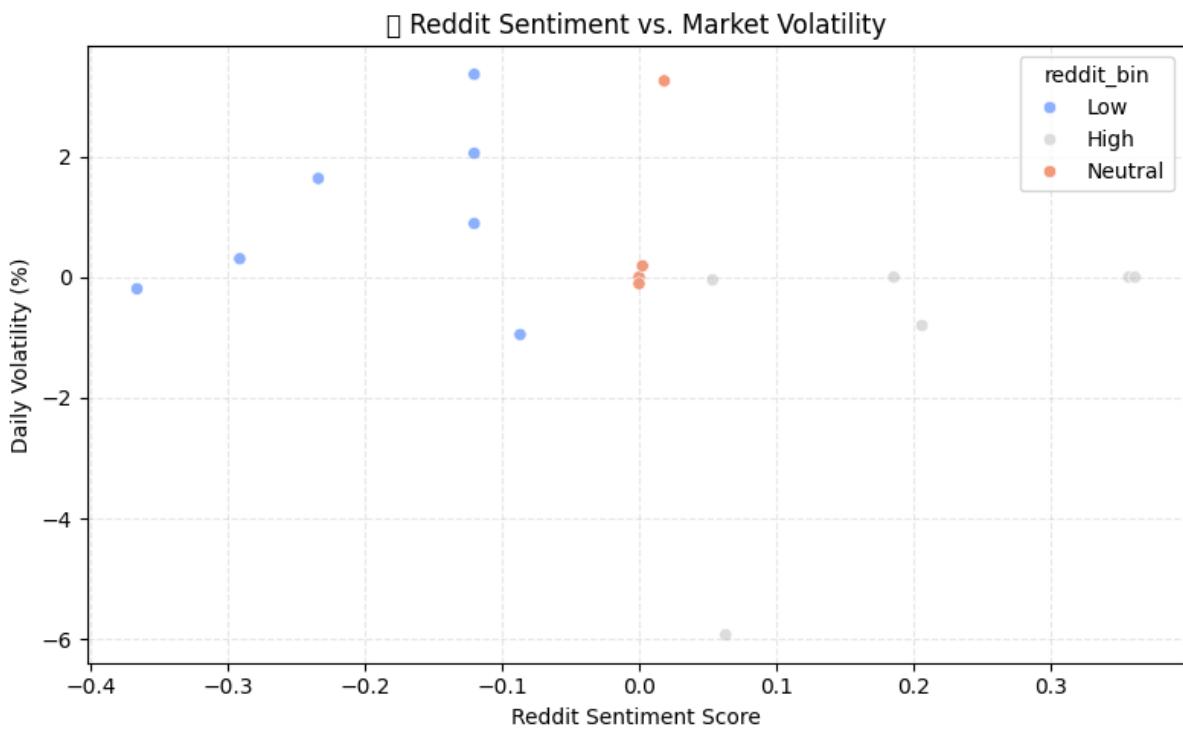
5.2 Media and YouTube Sentiment Peaked Before the Crash

Sentiment from both media headlines and YouTube content rose sharply in the days following exit polls, creating a hype cycle. This sentiment, however, did not anticipate the political uncertainty introduced by the need for a coalition government. The gap between sentiment highs and market lows suggests that both platforms may amplify overly optimistic narratives without due caution.


Sentiment Trends Over Time (with Fill)
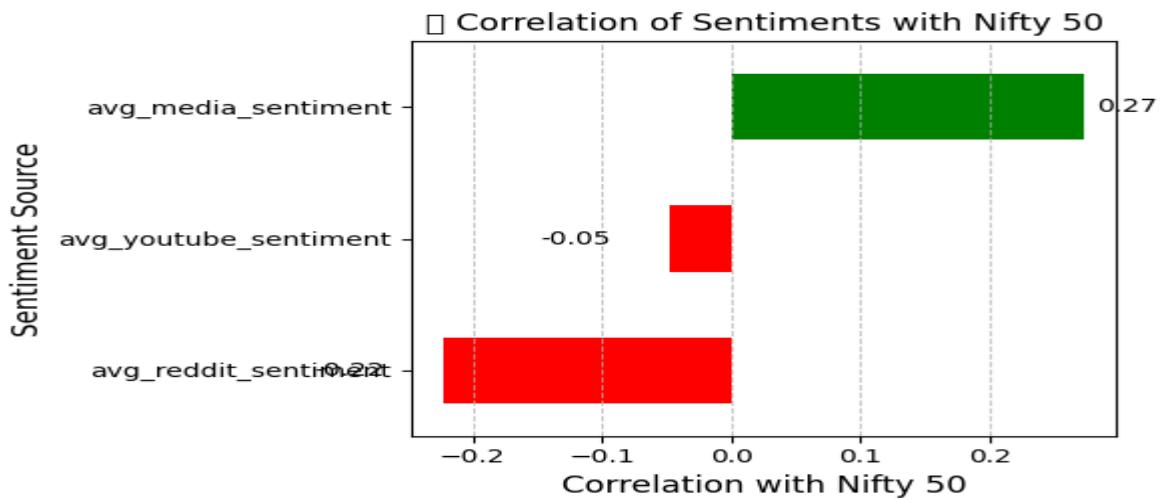
5.3 Reddit Sentiment Was More Neutral or Skeptical

Compared to other platforms, Reddit sentiment was more cautious. Users voiced doubts about the reliability of exit polls and raised concerns about overconfidence, which proved prescient in hindsight. This platform appeared to reflect grassroots-level skepticism and may offer signals that deviate from mainstream sentiment trends.

Reddit Sentiment vs. Market Volatility
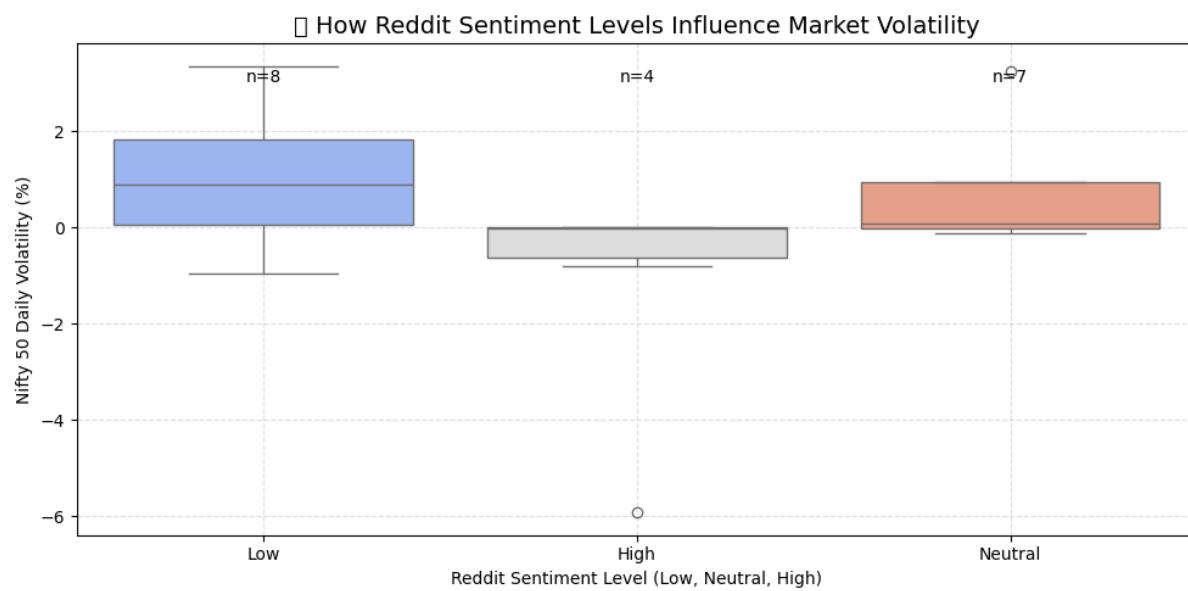
5.4 Correlation Analysis Revealed Divergent Influence

Media sentiment had a moderate positive correlation with Nifty (r = 0.27), YouTube had a near-zero correlation (r = -0.05), and Reddit had a noticeable negative correlation (r = -0.22). These values suggest Reddit users may have been better at anticipating risk. This difference also emphasizes the need to compare sentiment channels separately rather than aggregating them.

Correlation of Sentiments with Nifty 50
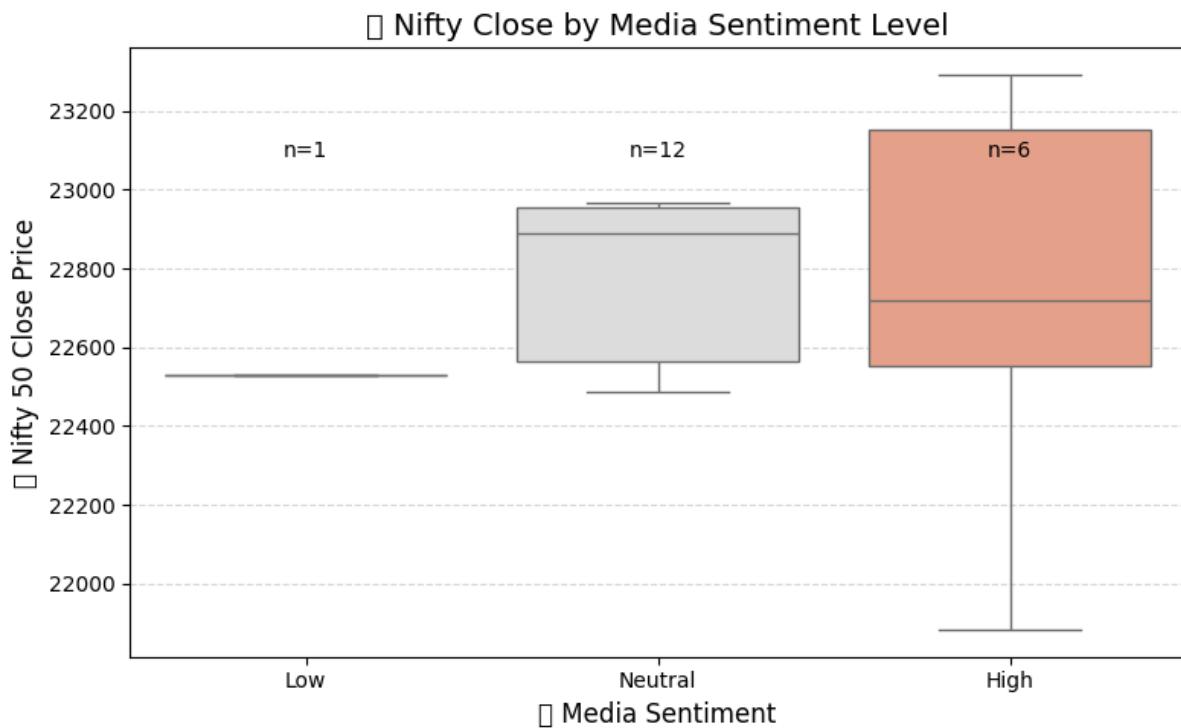
5.5 Market Volatility Linked to Reddit Sentiment Drops

Low Reddit sentiment preceded volatility spikes in the Nifty. These drops may represent early signals of growing investor unease, further supported by increasing fluctuations in price movement. Scatter plot analysis highlighted that market instability often aligned with days of falling grassroots sentiment, making Reddit a potential tool for forecasting uncertainty.

How Reddit Sentiment Levels Influence Market Volatility
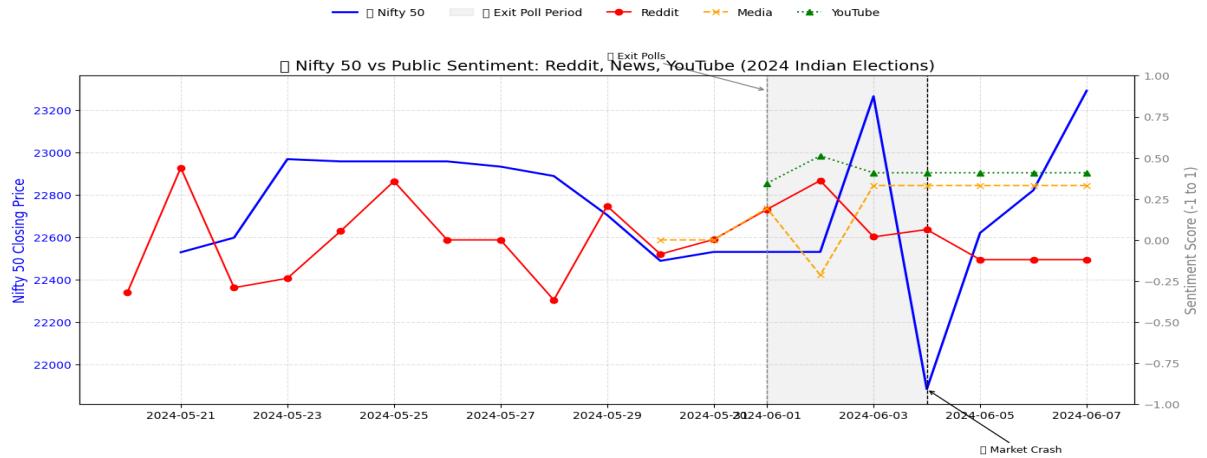
5.6 Boxplots Illustrated Price-Sentiment Clusters

Boxplot analysis of Nifty closing prices grouped by media sentiment bins showed higher prices on high-sentiment days. However, outliers such as June 4 broke this trend, emphasizing that sentiment alone cannot capture full market risk. These results stress that even highly optimistic public perception can be invalidated by surprising outcomes.

Nifty Close by Media Sentiment Level

5.7 Annotated Timeline Showed Sentiment–Outcome Misalignment

The final plot revealed a clear disconnect between bullish sentiment and political reality. Optimism gave way to panic once the coalition outcome was confirmed, triggering a major correction. This shows how markets respond more strongly to surprise than to sentiment levels alone. The sentiment surge before the crash serves as a cautionary tale of relying too heavily on media tone as a trading signal.

6. Conclusion

This study reveals that media-fuelled optimism preceding the 2024 Indian General Elections temporarily boosted market confidence, but this was quickly followed by a sharp correction once actual results defied expectations. Despite overwhelmingly positive sentiment across YouTube videos and mainstream media headlines, the Nifty 50 index dropped significantly on June 4, highlighting the disconnect between public sentiment and investor response to uncertainty.

Key Insights:

- **Surprise, Not Sentiment, Moves Markets**: The surge on June 1 was driven by euphoric exit poll projections. However, once results showed that BJP lost its outright majority — contrary to predictions — markets reacted with a sharp sell-off.

- **Media and YouTube Captured Optimism, Not Risk**: Sentiment scores reflected widespread confidence in a sweeping BJP victory. However, they lacked foresight regarding market concerns over coalition dynamics and governance uncertainty.

- **Reddit Sentiment Was More Balanced**: Compared to mainstream platforms, Reddit exhibited more nuanced or skeptical discussions. This grassroots hesitation may offer early signals of underlying market caution.

- **Sentiment Alone Is Not Predictive**: Although social and news sentiment tracked short-term trends, it failed to anticipate the sharp downturn, suggesting that investor behaviour is more sensitive to outcome clarity than optimism alone.

- **Volatility Correlates with Negative Sentiment**: Volatility increased when sentiment dipped, particularly in Reddit discussions. This reinforces the importance of monitoring crowd-sourced signals alongside mainstream narratives.

References

[1] Shiller, R. J. (2003). From efficient markets theory to behavioural finance. Journal of Economic Perspectives,17(1),83–104.https://doi.org/10.1257/089533003321164967.

[2] Das, S. R., & Chen, M. Y. (2007). Yahoo! for Amazon: Sentiment extraction from small talk on the Web. Management Science, 53(9), 1375–1388. https://doi.org/10.1287/mnsc.1070.0704.

[3] Antweiler, W., & Frank, M. Z. (2004). Is all that talk just noise? The information content of Internet stock message boards. The Journal of Finance, 59(3), 1259–1294. https://doi.org/10.1111/j.1540-6261.2004.00662.x.

[4] Hutto, C. J., & Gilbert, E. (2014). VADER: A Parsimonious Rule-based Model for Sentiment Analysis of social media Text. In Proceedings of the International AAAI Conference on Web and Social Media, 8(1), 216–225. https://ojs.aaai.org/index.php/ICWSM/article/view/14550.

[5] Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behaviour of individual and institutional investors. The Review of Financial Studies, 21(2), 785–818. https://doi.org/10.1093/rfs/hhm079.

Appendix

Tools Used:

- Python (Pandas, Seaborn, Matplotlib, yfinance, requests, PRAW, youtube_transcript_api, Selenium).

- APIs: YouTube Data API, SERP API.

- Notebook Environment: VSCode.

Github Link:

https://github.iu.edu/kramkum/KISHORE-25SP-ILS-Z639