

From Tweets to Trades: Understanding the Impact of Social Media on Stock Market Movements and Market Insights Through AI-Based News Analysis

Ishan Gajanan Anarase

Computer-Science Engineering, MIT-ADT University, Pune, Maharashtra, India
iganarase@gmail.com

Dr. Deepali S. Jadhav

Assistant Professor, Vishwakarma Institute of Technology, Pune, Maharashtra, India
Deepali.jadhav@vit.edu

Abstract

Stock market movements are substantially influenced by social media analysis because individual buy and sell choices stem from their emotions and knowledge and market trends. Social media intelligence has become a decisive tool which numerous investors use for their investment decisions. The proposed system for this paper presents methods to control and understand tweets alongside media content for sentiment analysis which improves stock market projection accuracy. Public sentiment analysis helps our approach to generate improved market trend forecasts. This initiative receives additional support from AI-based news analysis systems because weather reports and other news events can trigger changes in stock performance. The combined methods deliver an extensive market perspective so investors can develop better investment decisions.

Subject: Social Media Analysis and Stock Market Prediction

Keywords: Social media analysis combines with stock market movements together with sentiment analysis of AI-based news analysis and studies of investor behavior and market trends for making decisions.

Introduction

Stock market prediction has become a core requirement for financial investors who work in the global economic system. Big data technology gives analysts tools to collect very large datasets from official documents along with social network data currently available in social media networks. Corporations now base their trading choices on

Twitter social media analytics as well as Instagram and YouTube and Reddit data to form their investment strategies.

Market investors base their decision-making activities on the emotional communication posted across these sites. A study published by [1] shows that retail investors rely heavily on social media as their main information source for investment decisions since 70% of them use it this way. Customer social media messages offer clear evidence about the way brands experience direct changes in perception. Studies show that following unfavorable experiences customers broadcast their reactions to a total of 62% of their contacts. Social media adoption keeps increasing thus demonstrating that it functions as an essential platform for brand evaluation by consumers who generate information about business credibility and reputation standing. The WallStreetBets communities operating on Reddit bring together investors who produce noteworthy price fluctuations in stock markets through their coordinated activities.

Through their posts on Instagram and YouTube influencers successfully modify public perception to create buying and selling behaviors from consumers. The research field of Sentiment Analysis (SA) maintains its importance by evaluating emotional expressions together with opinion contents from internet-based communications. Through social media analysis one can obtain beneficial information about market trends along with broad public opinions toward specific companies and their products. Irregular big data processing reaches new heights because AI technologies deliver quick dependable handling of massive information aggregations.

- [16] Gupta, R., & Nalavade, J. E. (2023). Metaheuristic assisted hybrid classifier for bitcoin price prediction. *Cybernetics and Systems*, 54(7), 1037–1061.
- [17] Nalavade, J., Gaikwad, G. M., & Parvat, T. J. (2009). Stream data mining. *Journal of Advances in Engineering Science*, 1–8.
- [18] Gaikwad, G. M., & Nalavade, J. (2009).

Approaches to solve cloud computing security concerns. *Journal of Advances in Engineering* Through their posts on Instagram and YouTube influencers successfully modify public perception to create buying and selling behaviors from consumers.

The research field of Sentiment Analysis (SA) maintains its importance by evaluating emotional expressions together with opinion contents from internet-based communications. Through social media analysis one can obtain beneficial information about market trends along with broad public opinions toward specific companies and their products. Irregular big data processing reaches new heights because AI technologies deliver quick dependable handling of massive information aggregations.

Research scientists currently observe in detail the substantial volume of user-generated content (UGC) that exists on social media platforms. The development of value-based joint initiatives depends on social media data which business startups utilize according to Kim and Choi (2019) [2]. Research evidence proves UGC directly influences market-level business performance levels.

Industry professionals show strong interest in the impact of UGC on stock market performance. Ideological data from social networking sites measurably influence stock market performance according to Liu (2020) [3] through his examination of 84 million tweets and 407 S&P 500 firms' stock data which showed these effects most strongly in B2C (business-to-consumer) business situations. Market movements are mostly influenced by online emotional expressions that produce quantifiable behavioral changes regardless of whether feelings are positive or negative.

Transaction-related decision-making now relies heavily on sentiment analysis because financial market sentiment recognition has developed into an autonomous business segment (Xing, Cambria & Welsch, 2018a) [4].

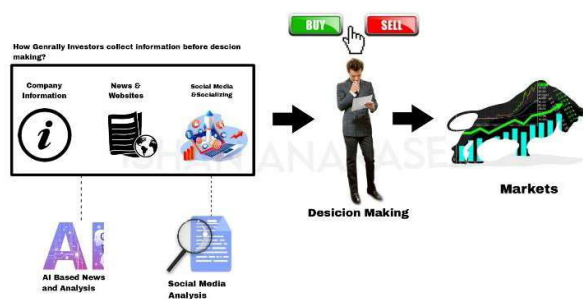
Marketplace changes in global financial markets occur to a substantial degree via social media sentiments because these platforms operate at the international level. Users worldwide together with traditional local market assessment influence stock market

performance for investors. The correlation between social media disclosure and stock market value modifications becomes evident through recent research studies.

Fig. 1 shows how fundamental analysis leads to institutional reports and financial statement evaluation and social media data analytics during investment decision making processes. A complete basic market research system needs to operate while maintaining a unified structure for all its elements. The research develops a revolutionary analytical method which combines artificial intelligence media analysis technology with automatic public social media opinion monitoring. Industries implementing modern technology now make enhanced predictions that lead to improved market movements knowledge and superior investment possibilities.

This paper presents an approach which combines social media sentiment analysis and AI news assessment for enhancing stock trading predictions. This paper introduces contemporary instruments to forecast understanding of market trends which enhances investor decision quality.

This paper introduces contemporary instruments to forecast understanding of market trends which enhances investor decision quality.



[Figure 1] Investors Mind

II. Litreature Riview

The distribution of financial information uses social media platforms as its essential instrument. In previous times stock market information maintained its control within restricted hands between financial organizations and analysts. The development of social media platforms including Twitter and Facebook and Reddit has given regular retail investors the opportunity to quickly obtain broad market insights. McKinsey & Company (2021) identified social media platforms as crucial responders to COVID-19 which triggered extensive capital market sentiment changes and market volatility losses. Retail investors now participate in market activities due to quick information distribution which happens during financial crises.

The quick pace at which social media shares information now determines investor perceptions of market events which enables retail investors to become leading influences over market fluctuations.

1.Sentiment Analysis and its Influence on Market Movements.

Sentiment analysis proves to be a fundamental instrument which enables stock price forecasting through the evaluation and classification of online opinions. Experience the tone of news media combined with tweets or forum discussions to recognize market sentiments thus guiding investors to modify their investment tactics. As per Kirange and Deshmukh (2016) the stock market demonstrates price upticks when public sentiment is positive but negative sentiments result in downward movements. Sentiment analysis models powered by AI are now readily used for processing big social media data thus providing continuous assessment of market sentiment to users. According to Fan et al. (2020b) stock market volatility becomes affected by political uncertainty when it combines with social media-driven sentiment.

Real-time sentiment analysis stands as an essential instrument which enables trading professionals to make faster decisions supported by better information

2. Real time data and role of social media in predicting market trends.

Real-time information collected through social media has become vital for developing stock price predictions. Twitter and Reddit together with other online platforms provide quick feedback about events that trigger market participant responses. Social media user engagement levels through follows and posts reveal public attention that predicts forthcoming stock price growth together with raising market demand. Mauder and Herold (2018) established that business stock market values experience direct impacts from following rates combined with posted content sentiments across social media platforms.

Key Insight: Social media engagement measurement provides investors with instant market trend identification to attain strategic business advantages in the market.

3. Social media metrics surge as vital elements when businesses perform their valuation process

The social media data points of follower count and mention occurrence and engagement metrics are now established components of market-based business valuation procedures. Financial statement-based stock valuation models receive enhanced understanding about brand perception and business market status through social media data analysis. According to Sheng et al. (2020) big data analytics serves as a

fundamental tool for grasping current consumer feelings because these evaluations directly affect stock market projections. Company stock value typically improves through positive social media comments and active online engagement however negative sentiment tends to indicate future market decline. Key Insight: The evaluation of market value undergoes expansion through social media information which helps companies build an inclusive market value assessment framework.

4. Algorithmic Trading and Sentiment-Driven Market Movements

Algorithmic trading through AI-driven models combined with sentiment analysis technologies now controls all responses of financial trades to market perspective changes. The trading systems analyze enormous social media data to detect real-time sentiment trends which allows them to respond nearly instantly. An AI algorithm demonstrates buying stock behavior when users express positive sentiment towards new products in social media platforms and performs selling trades when users display negative sentiment. These market systems enable better liquidity flows and let investors make decisions at faster speeds according to Sheng et al. (2020).

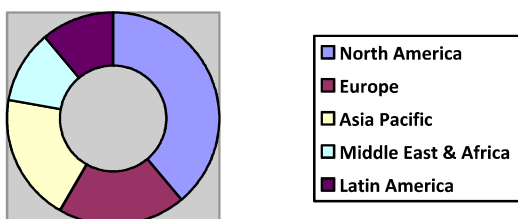
Key Insight: An integration between sentiment analysis systems and algorithmic trading makes markets operate more effectively through heightened price adjustments together with improved market liquidity.

5. Social Media Analytics Market and Its Importance

The modern social media analytics market shows remarkable growth due to the rising need for systems which monitor trends together with sentimental orientation and population behaviors. Businesses use social media analytics more frequently to measure market sentiments and spot new trends based on data collected in 2022 (SNS Insider). The area of North America demonstrates substantial market expansion because people heavily use social media platforms combined with escalating preferences for prompt analytics solutions. Businesses enable better customer behavior forecasting through these tools which also help them analyze market direction and evaluate competitor strategies. The role of social media becomes essential for financial market prediction because it directly controls both investor emotions and market-level choices. The market for social media analytics serves as an important evaluation tool for both market trends and the behavior of investors. Businesses currently use sentiment analysis technology and trend tracking systems to make

decisions by analyzing the real-time data that emerges from social media platforms Twitter, Facebook and Instagram. The analytics prove essential in predicting market stock behavior and improving predictive models of market trends (SNS Insider, 2022)

Social Media Analytics Market



See Fig. 2 for market segmentation.

Key Insight: The growing importance of social media analytics in real-time market forecasting is essential for predicting stock movements and enhancing investment strategies.

III. Methodology

In today’s interconnected digital landscape, financial markets are shaped not only by traditional economic indicators but also by insights from public sentiment across various online platforms, as well as by historical data and statistical trends. The platforms serve as essential markets for discussing market developments which display investor emotions through sentiment

that provides insights into price movement predictions. Past market trend data alongside news outlets supply time-sensitive context-oriented information that contributes to an integrated analysis of market trends.

The research design incorporates a predictive model that uses social media emotional analysis together with Artificial Intelligence news assessment methods and past price behaviors to forecast market price changes as a unified framework. This evaluation process uses multiple interconnected approaches that merge social sentiment evaluations with news analysis alongside past performance data and statistical measurements for studying market effects on stocks and IPOs and bonds. The research investigates financial indicator responses through state-of-the-art analysis of digital sentiment and historical data and news stories. The research objective targets an enhanced comprehension of market behavioral response when digital sources assemble with historical data thus delivering beneficial market intelligence to investors and stakeholders throughout industries.

A. Stock Dataset: 10 Well-Known Stocks (5 International, 5 Indian)

To facilitate our analysis, we will utilize a structured stock price dataset that includes data for ten prominent companies—five from international markets and five from India. This dataset will provide the necessary foundation for correlating social media sentiment and news analysis with stock price movements. As shown in Table.1

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Stock Symbol	Company Name	Opening Price	Closing Price	High Price	Low Price	Volume	Market Cap	Dividend	Stock Split
2	11/1/2023	AAPL	Apple Inc.	150.25	153	154.5	149.6	2,500,000	2.5 Trillion	0.22	1:04
3	11/1/2023	TSLA	Tesla Inc.	290.1	287.5	292.3	285.4	15,000,000	1.3 Trillion	0	1:02
4	11/1/2023	AMZN	Amazon Inc.	3250.3	3245	3300	3235	3,000,000	1.6 Trillion	0	1:01
5	11/1/2023	MSFT	Microsoft Corp.	305.5	310.2	312.5	300.8	10,500,000	2.3 Trillion	0.56	1:03
6	11/1/2023	GOOGL	Alphabet Inc.	2700.4	2715	2750	2685	5,000,000	1.8 Trillion	0	1:01
7	11/1/2023	RELIANCE	Reliance Industries	2600	2650	2675	2590	8,500,000	2.0 Trillion	6.6	1:05
8	11/1/2023	INFY	Infosys Ltd.	1450	1465	1480	1440	3,000,000	120 Billion	5	1:02
9	11/1/2023	TCS	Tata Consultancy	3500	3580	3600	3450	4,000,000	200 Billion	30	1:04
10	11/1/2023	HDFC BANK	HDFC Bank Ltd.	1450	1470	1500	1420	3,500,000	100 Billion	8.5	1:02
11	11/1/2023	ICICI BANK	ICICI Bank Ltd.	900	915	930	890	4,000,000	60 Billion	2	1:02

See Table.1 for stock datasets

B.Data Collection

The initial stage of the methodology involves collecting data from various sources:

- **Stock Data:** Historical stock prices (e.g., open, close, high, low, volume) from platforms like Yahoo Finance or Alpha Vantage.
- **Social Media Data:** Real-time sentiment analysis of social media posts, tweets, and forum discussions (e.g., Twitter, Reddit, LinkedIn).
- **News Data:** AI-powered news scraping and sentiment analysis of articles related to the company and market.
- **Market Data:** Key financial metrics (revenue, earnings, market capitalization) from quarterly reports, financial statements, and other available resources.

1. Sentiment Analysis of Social Media Data

The sentiment analysis of social media data is a critical step to understanding the public's perception of specific companies or stock trends. By analyzing the sentiment in posts from platforms like Twitter and Reddit, we aim to gauge the prevailing emotions—whether positive, neutral, or negative—associated with stocks and companies. This analysis can provide real-time insights into market behavior, as social media discussions often influence stock movements, especially for heavily traded or volatile stocks.

1a. Sentiment Detection Techniques

The section displays the methods used to handle social media data analysis for sentiment recognition. The analysis utilizes both preprocessing technologies and sophisticated sentiment algorithms for obtaining correct sentimental results.

1b. Preprocessing

Every sentiment analysis project requires preprocessing because it helps clean up raw text data from social media posts. The preprocessing step executes data cleansing to narrow down the information so it becomes relevant for further analysis. The main process of preprocessing consists of the following numbered steps:

1. **Text Cleaning:** Remove special characters (e.g., punctuation, emojis), URLs, mentions (e.g., @username), and hashtags that don't contribute to the sentiment.
2. **Stop Word Removal:** Common words (e.g., "is," "the," "and") are removed as they add little

meaning to sentiment analysis.

3. **Tokenization:** Each post is split into individual words or tokens, making it easier to analyze the language structure.
4. **Lemmatization:** This step reduces words to their root forms (e.g., "running" to "run"), allowing for consistent sentiment scoring.

2. Sentiment Analysis:

A sentiment calculation for each item of content helps evaluate social media postings together with news and forum posts. The analysis is possible through natural language processing techniques. Sentiment score requires the evaluation of the following equation:

$$S(t) = \frac{1}{N} \sum_{i=1}^N W_i \cdot F_i$$

- S(t) = Sentiment score at time t
- The total number of sentiment-bearing posts and articles under analysis equals N.
- W_i = Weight of sentiment in post iii (e.g., positive, neutral, or negative)
- F_i = Frequency of sentiment in post iii

The sentiment score can be scaled to a range, e.g., [-1, 1], where:

- 1 = Strong positive sentiment
- -1 = Strong negative sentiment
- 0 = Neutral sentiment

You can use sentiment lexicons like VADER or TextBlob for assigning the sentiment weights W_i

Platform	Post ID	Post Content	Sentiment	Stock Symbol	Sentiment Score	User Engagement (Likes/Retweets/Comments)	Post Author	Location
Twitter	12345	"Tesla's new model is amazing!"	Positive	TSLA	0.85	1500 (Likes) / 300 (Retweets)	@JohnDoe	USA
Reddit	67890	"AAPL earnings miss expectations, stock dropping!"	Negative	AAPL	-0.72	1200 (Upvotes) / 50 (Comments)	u/TechInvestor	India
Stock/News	112233	"Go long on MSFT, great future potential!"	Positive	MSFT	0.92	3000 (Likes) / 500 (Retweets)	@StockTraderX	UK
Twitter	78901	"TCS looks strong in the IT sector!"	Positive	TCS	0.8	500 (Likes) / 100 (Retweets)	@InvestGuru	India
Reddit	45678	"ICI Bank's quarterly results aren't great!"	Negative	ICI BANK	-0.65	700 (Upvotes) / 30 (Comments)	u/MakerWatch	India
Twitter	123456	"Infosys on the rise with strong growth!"	Positive	INFY	0.77	1000 (Likes) / 150 (Retweets)	@InvestWithMe	India
Reddit	33456	"Reliance looking promising with its new strategy!"	Positive	RELIANCE	0.9	1500 (Upvotes) / 200 (Comments)	u/InvestBillion	India
Stock/News	789012	"Amazon stock will rise after this quarter's earnings!"	Positive	AMZN	0.85	2000 (Likes) / 300 (Retweets)	@AmazonFanatic	USA
Twitter	89011	"Microsoft has huge growth potential in AI!"	Positive	MSFT	0.9	3200 (Likes) / 500 (Retweets)	@TechInvest	UK
Reddit	11223344	"I think Apple's fall will continue until they announce something new!"	Negative	AAPL	-0.6	1800 (Upvotes) / 250 (Comments)	u/StockTradePro	USA

See Table.2 for Social media comments & scores

The following subset in Table 2 illustrates an example of how social media comments are collected and scored.

3. Measuring Sentiment Strength

- **Sentiment Score Aggregation:** The sentiment scores will be aggregated to compute a social media sentiment index for each company. Posts with higher engagement will be weighted more heavily, recognizing that popular opinions (tweets with large numbers of retweets, for instance) might have a more significant impact on stock prices.
- **Social Media Engagement Metrics:** The number of likes, shares, comments, retweets, and mentions will be tracked to assess how much attention a company is receiving online, as higher engagement is often linked with a stronger impact on market sentiment.

Post Number	Sentiment Score	Engagement (Likes)	Engagement-Weighted Sentiment Score	Platform	Date
1	+0.80 (Positive)	2000	2000 * 0.80 = 1600	Twitter	1-Nov-23
2	-0.40 (Negative)	1500	1500 * -0.40 = -600	Reddit	1-Nov-23
3	+0.75 (Positive)	2500	2500 * 0.75 = 1875	StockTwits	1-Nov-23
4	-0.60 (Negative)	1000	1000 * -0.60 = -600	Twitter	2-Nov-23

See Table.3 for Engagement metrics

$$\text{Weighted Sentiment} = \frac{\text{Sum of Weighted Sentiments}}{\text{Sum of Weights}}$$

Given the data:

- Positive Sentiment: 1600, 1875, 1600, 1875, 1600, 1875
- Negative Sentiment: -600, -600, -600, -600, -600, -600
- Weights: 2000, 1500, 2500, 1000, 2000, 1500, 2500, 1000, 2000, 1500, 2500, 1000

$$\text{Weighted Sentiment} = \frac{(1600 + (-600) + 1875 + (-600))}{2000 + 1500 + 2500 + 1000}$$

$$\text{Weighted Sentiment} = \frac{3275}{7000} = 0.47$$

- The overall sentiment for Tesla (TSLA) on November 1–2, 2023, is slightly positive, with a weighted sentiment score of 0.47, indicating a generally favorable perception during this period.

C. AI-Driven News Analysis

1. Event Detection

- **Major events :** The system will monitor sentiment scores generated from major events that include earnings reports together with management changes along with market crises to evaluate their

impact on company stock price.

- **Predictive Modeling:** The model classifies positive merger news together with positive product innovations data as bullish sentiment indicators yet negative news about layoffs and regulatory issues as bearish sentiment cues.
- Social media sentiment data receives additional support through an AI-based model dedicated to scanning news sources for market-shifting events such as government legislations and product releases and natural disasters that influence particular business sectors.

2. Quantifying News Impact on Stock Performance

The impact score of each news article depends on sentiment evaluation through this equation:

Where:

$$\text{News Impact Score} = \sum_{j=1}^m w_j \times s_j$$

- The jth keyword or phrase has its relevance value defined by: W_j as determined by its significance.
- The sentiment score for keyword j evaluates its tone between positive and negative and neutral.
- The article examines
- m: different keywords or phrases among its total content.

Table 4 demonstrates examples of AI-driven insights for specific events and their anticipated effects on stock performance.

Event	Stock	Reaction	Sentiment Score	Impact on Stock
Vertical Disruption	Delta Air Lines	"Delta Air Lines faces operational challenges due to Delta Air Lines"	-0.75	Decline in stock price
Merger Announcement	Microsoft	"Microsoft's merger with LinkedIn is expected to increase market share"	0.8	Rise in stock price
Product Recall	General Motors	"General Motors recalls vehicles due to safety concerns"	-0.6	Significant decline in stock price
Positive Earnings Report	Apple	"Apple reports record profits, beating analyst expectations"	0.9	Increase in stock price

See Table 4 for news impact score

3. Sentiment Analysis Based on News Articles

AI news analysis processes articles to determine the sentiment (positive, neutral, or negative) related to a stock

News Event	Affected Sector	AI Prediction	Recommended Stocks
Increased rainfall forecast	Agriculture	Positive impact on crop yield	John Deere (DE), Bayer
Rise in oil prices	Energy	Negative impact on energy costs	ExxonMobil (XOM), Chevron (CVX)
Tech innovation grant	Technology	Boosts R&D investment	Microsoft (MSFT), Google (GOOGL)

See Table.5 for sentiment analysis

D. Evaluating Company value thorough social media metrics

One of the key innovations of this research is using social media metrics to gauge a company’s perceived market value. The process evaluates both sentiment and wider factors regarding brand engagement as well as presence.

1. Metrics for Company Valuation

- The number of followers across Twitter and Instagram and LinkedIn will form part of the data collection for measuring brand popularity and market value potential.
- Engagement rates that lead to greater consumer interest usually drive positive future revenue growth along with market capitalization increases.
- The study analyzes brand awareness by monitoring when platforms mention names of companies alongside their brands. An increase in mentions often correlates with heightened consumer awareness, which can influence stock prices.
- Website Traffic & Clicks: Website analytics will provide insights into how much interest users are showing in a company. Site clicks and bounce rates can provide early signals of consumer interest, which in turn influences a company’s valuation.
- Marketing Campaign Impact: The success of social media marketing campaigns (such as promotions, influencer partnerships, or viral content) will be tracked and analyzed for its impact on stock price changes.

2. Reputation and Strategic Impact

- Companies with a positive online reputation, reflected by consistent positive sentiment, high levels of engagement, and strategic marketing initiatives, are more likely to see increases in consumer trust, which can be reflected in their stock price.
- Conversely, companies with poor social media sentiment, bad publicity, or failed marketing campaigns could face stock declines as investor confidence wanes.

E. Model for Aggregating Sentiment (Positive, Neutral, Negative) Across Multiple Posts

To get a consolidated sentiment for a stock from multiple sources (e.g., Twitter, news, blogs), we can use a weighted average model for aggregation:

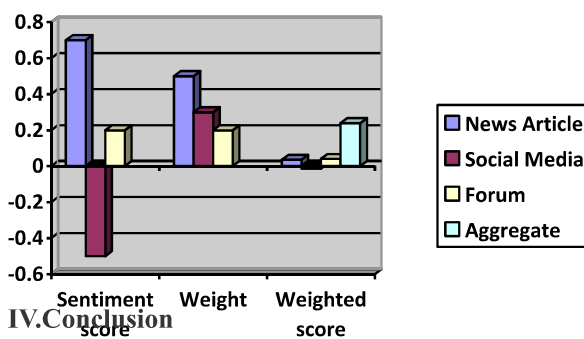
Formula:

- $$\text{Consolidated Sentiment} = \frac{\sum_{i=1}^n \text{Weight}_i \times \text{Sentiment Score}_i}{\sum_{i=1}^n \text{Weight}_i}$$
- Sentiment Score: Sentiment score for each individual post or news item, ranging from negative to positive values (e.g., -1 for negative, 0 for neutral, 1 for positive).
 - Weight i: defines the level of significance that sources hold in relation to each other. The authenticity level from verified news outlets accrues superior value than regular social media statements.
 - n: The research evaluated an overall total of posts and news stories.

Example:

Source	Sentiment Score	Weight	Weighted Score
News Article	0.7	0.5	0.35
Twitter Post	-0.5	0.3	-0.15
Forum Discussion	0.2	0.2	0.04
Aggregate Sentiment			0.24

See Table.5 for Weighted Score



IV. Conclusion

The research emphasizes the increasing importance of social media analysis and artificial intelligence driven news sentiment in shaping stock market trends, by incorporating sentiment analysis of tweets, news articles, and other digital media, this research provides a vast framework for forecasting market trends and enhancing investor decision-making. By utilizing sentiment analysis of tweets, news articles, and other digital media. The suggested approach extends beyond conventional sentiment analysis by having a multi-layered filtering

system, similar to water filtration, which enhances the data for more precise predictions. This additional layer not only improves the precision of sentiment analysis but also enables various data sources, including AI-analyzed news events. By aligning these with market behaviors, the model provides a comprehensive and dynamic tool for comprehending market movements. The utilization of these techniques could be crucial in making financial choices and investment plans, opening doors for more progress in predictive analytics and on-the-spot market evaluation. Future research could delve into the integration of advanced artificial intelligence models and expand datasets to encompass a broader range of global and real time metrics, enabling adaptability to changing market dynamics. This research highlights the potential of artificial intelligence and social media analytics to revolutionize the way investors make predictions about the market.

V. References

- [1] First Author and Second Author. 2002. International Journal of Scientific Research in Science, Engineering and Technology.(Nov 2002), ISSN NO:XXXX-XXXXDOI:10.251XXXXX
- [2] Kim, J., & Choi, H. (2019). "Value co-creation through social media: A case study of a start-up company." *Journal of Business Economics and Management*, 20(1), 1–19. <https://doi.org/10.3846/jbem.2019.6262>
- [3] Liu, X. (2020). "Analyzing the impact of user-generated content on B2B Firms' stock performance: Big data analysis with machine learning methods." *Industrial Marketing Management*. Elsevier.
- [4] Xing, W., Cambria, E., & Welsch, R. (2018). [<https://sentic.net/intelligent-asset-management.pdf>]
- [5] McKinsey & Company. (2021). "The impact of COVID-19 on capital markets, one year in." Link to McKinsey Report.
- [6] Sheng, J., Amankwah-Amoah, J., Khan, Z., & Wang, X. (2020). "COVID-19 Pandemic in the New Era of Big Data Analytics: Methodological Innovations and Future Research Directions." *Journal of Business Research*. <https://doi.org/10.1111/1467-8551.12441>
- [7] Kirange, D. K., & Deshmukh, R. R. (2016). "Sentiment analysis of news headlines for stock price prediction." *COMPUSOFT: An International Journal of Advanced Computer Technology*, 5(3), 2080–2084. <https://doi.org/10.32604/cmc.2021.014253>
- [8] Mauder, P., & Herold, D. M. (2018). "The impact of social media followers on corporate value: An investigation of Australian firms." *International Technology Management Review*, 7(1), 1-12. DOI:10.2991/itm.7.1.1
- [9] Fan, R., Talavera, O., & Tran, V. (2020). "Social media, political uncertainty, and stock markets." *Review of Quantitative Finance and Accounting*, 55(3), 1137–1153. <https://doi.org/10.1007/s11156-020-00870-4>
- [10] SNS Insider. (2022). "Social Media Analytics Market Size, Share & Segmentation By Component, By Analytic Type, By Function, By Application, By Vertical, By Region And Global Forecast 2024-2032." Link to Report.
- [11] The Power of Social Media in Shaping Stock Market Trends <https://medium.com/@iganarase/the-power-of-social-media-in-shaping-stock-market-trends-41307366e270>

