SOCIAL MEDIA DISCOURSE AND SENTIMENT TOWARD U.S. PRESIDENTIAL CANDIDATES: A TEXT ANALYSIS OF TWITTER POSTS MENTIONING JOE BIDEN AND DONALD TRUMP

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Abstract
Social media has emerged as a significant platform of political communication where the citizenry airs their views and argues with each other regarding political leaders. This study has analyzed social media discussions and the attitude topresidential candidates of the United States of America using text analysis of Twitter accounts involving the mentioningof Joe Biden and Donald Trump. The data was composed of 5328 tweets and was taken publicly and comprised of 2540tweets mentioning the name Biden and 2788 tweets mentioning the name Trump. The research used quantitative textanalysis on the language and mood that was conveyed and expressed in these tweets. Sentiment analysis was theclassification of Twitter users who posted positive, negative, and neutral messages, and keyword frequency analysis wasa technique to determine the prevailing discourse patterns. The findings revealed that the percentage of negative sentimentof tweets was the biggest proportion of tweets concerning the two candidates, and the proportions of neutral and positivesentiment were lower. Referred words like president, people, and America were used repeatedly, which indicated thatpeople often expressed their remarks in greater political and national grounds. The slight differences in the distributionof sentiments between the tweets that mentioned the two candidates were also identified when comparing them. The resultsshow that Twitter is an active political discourse where people express their views and emotions about political leaders.The work can be of use to research in the field of media and communicationby demonstrating that social media data can be analyzed through text analysis to identify the trends of the politicaldiscourse and sentiment in modern digital spaces.

Keywords: *Social Media Discourse, Twitter, Political Communication, Sentiment Analysis, U.S. Presidential Candidates*

1. Introduction

The political communication in the contemporary societies has completely been changed by the digital media channels. The citizens can use Twitter and other social media to open their voices and minds on a political matter, respond to the political authorities and participate in a discussion that is not confined within the traditional media channels. These websites have become important platforms of political discussions where individuals share responses, support, criticism, and commentary of political figures and events. The mass media has altered its dynamics with the social media allowing individuals to participate in a live political debate by placing the news through fast information dissemination and the interactive aspect of the social media. This has rendered social media as an emerging essential information source to understand the perspective of the people in regards to some issues and also digital age political discourses.

Within the framework of political communication, Twitter has proved to be the particularly efficient source of research of the level of popular attitude to political leaders and politicians. Its short text messaging style encourages individuals to send short comments and emotional statements, normally in direct referencing to political leaders. Increasing literature exists regarding Twitter data as a form of analyzing the trend in political discourse, sentiment and polarization during election periods. To demonstrate the point, an enormous number of tweets regarding the U.S. presidential election have shown that social media debate can be employed as the source of information on the overall views of the population and the emotional response of the population to the political candidates (Ali et al., 2022). These works demonstrate that the digital communication platforms serve as arenas, and citizens discuss and construct stories about political leadership.

The influence of social media on the communication in elections is not a new topic of research of the last several years. Research that has investigated Twitter chatter during election cycles has demonstrated that attitudes of people prior to and following elections can be used to indicate a modification in people in relation to political actors and events of campaigns (Chaudhry et al., 2021). On the same note, studies examining Twitter use during presidential elections in other nations have shown that sentiment analysis can also be used to show patterns of support, criticism, and neutrality in the political discourse (Macrohon et al., 2022). These results demonstrate the increasing role of computational methods in the study of media and communication, in which large sets of posts on social media are processed in order to determine the opinion of the population and the patterns of the discussion.

Scholars have also looked at the creation and formation of political issues and stories in online discourse besides the sentiment measure. The Twitter discussions of the election campaigns have been investigated and shown that certain political issues and news can be highly polarized based on the ideological difference between the users, and add to the political polarization in the online platforms (Katalinić et al., 2023). It is also revealed that political discussions on social media may include the words of hostility or hate speech to the political topics or organizations, which proves how internet platforms may enhance emotional politics (Pierri, 2024). The evidence has shown that the discourse on political leaders on social media in most instances is more likely to be highly emotional and ideological statements that create broad trends of political polarization.

Other than being polarized, scholars have also been interested in the emotional expression diffusion in online political discourses. The electoral studies in other nations have demonstrated that individual expression of emotion on Twitter can bleed into the influence circles, which ultimately cause a communal feeling and aggregation of polarization in political discussion (Zhang et al., 2025). It means that, not only the social media platforms provide the individuals with a chance to showcase their voices, but also the shared attitudes and emotions of the people engaged in the political discourse are diffused by the platforms.

Communication between political actors and citizens is also a two-way process in which the users of the social media can interact with the political material as well as deliberate on it. The body of knowledge regarding the political discussion on Twitter suggests that this type of communication may assist in engaging and discussing the population, but basing on the political context and the participation of the audience, these discussions may assume numerous different shades and forms (Ackland et al., 2023). Furthermore, the study that focuses on the communication of the candidates on Twitter has found out that even the political participants can take advantage of social media to communicate with the voters in terms of the election campaigns by appealing to the emotions, introducing the issues, and framing the problems (García-García and Trujillo, 2023). Through these interactions, the growing irrelevance of social media is portrayed to shape the communication dynamics of the political players besides the response of the masses.

The other aspect of social media communication during elections is the real time communication that occurs during the political events such as the televised debates taking place. Other studies have reported comparative research of Twitter use in election debates in other countries which revealed social media services are parallel spaces of commentary and social interaction where the citizens instantaneously react to the political messages delivered by the traditional sources of the media (Fontenla-Pedreira et al., 2023). It is such an interaction that generates a dynamic communication space in which traditional and digital media still constitute the political narratives in a non-stop fashion.

Although the literature on social media and political communication is increasingly growing, the candidate-centered discourse is still under the need of being studied through narrower settings. A large amount of research utilizes big data sets of elections, or studies the political discourse on wide political matters. Nevertheless, only a smaller number of studies focus on the way citizens talk and rate the individual presidential candidates based on their daily posts on social media. The analysis of such candidate-oriented discussions may help to understand the specifics of how political views and feelings are manifested in the digital public.

The current work fills this gap by evaluating Twitter posts that contain the mention of two presidential candidates in the United States one, Joe Biden, and the other, Donald Trump. Through the text analysis and sentimental classification, the research investigates the opinion and emotional response of Twitter users on these political leaders. Through the study of trends of both discourse and feeling in candidate-based tweets, this study can help us better understand how political messaging takes place in modern social media space. By this way the study offers the understanding of how digital spaces serve as places where citizens express political sentiments and engage in communal discourses on political leadership. The objectives of this study are:

1.   To analyze the discourse patterns in Twitter posts mentioning Joe Biden and Donald Trump.
2.   To examine the sentiment distribution (positive, negative, and neutral) expressed toward the two candidates in Twitter posts.
3.   To compare linguistic and sentiment characteristics between tweets mentioning Joe Biden and tweets mentioning Donald Trump.

2. Methodology

2.1 Research Design

The paper employed a quantitative text analysis research design in order to analyze the discourse and the attitude of Twitter users towards the U.S. presidential candidates. We have decided on the text analysis as it provided an opportunity to perform a systematic investigation of the linguistic patterns, the emotional overtones in user-created texts in the social media. The approach ensured that the research identified dominating discourse characteristics and emotive disposition with respect to tweets discussing political candidates. As the focus on the textual matter, the study explored the debate and the critique of Joe Biden and Donald Trump by users in the social media discussions. This design conformed to the media and communication research designs that study digital discourse within the current online communication setting.

2.2 Data Source

The information presented in this paper is based on a publicly accessible dataset that has Twitter posts about U.S. presidential contenders (Saeed, 2023). The data was in two CSV files, namely Bidenall2.csv and Trumpall2.csv. These files had text posts that were made by the Twitter users mentioning Joe Biden and Donald Trump. There were two variables in each entry: username and tweet text. The data consisted of the user-generated political speech on the Twitter platform. Twitter was chosen as the source of data since it is a common platform through which political discourse has been conducted and people are able to write about, react and comment on political leaders and issues of national interest.

2.3 Dataset Description

The data consisted of 5,328 Twitter posts that were published regarding the two presidential candidates. There were 2,540 tweets on the Bidenall2.csv file and 2,788 tweets on the Trumpall2.csv file. The two fields included in each record were the name of the twitter account and the content of the tweet. The data set was in the form of brief social media messages where the users were talking about, mentioning or responding to the two presidential candidates. Since the dataset was concerned with the issue of candidate-related tweets, it enabled a corpus of political talk that involved the popular commentary on Joe Biden and Donald Trump in the context of communicating via Twitter.

2.4 Data Preprocessing

Analysis of the textual data was done after cleaning and preprocessing of the textual data was done. The tweets were also strip-cleaned to remove the URLs, punctuations and special characters that can be used to disturb the analysis of the text. The information was converted to lowercase to ensure that there would be uniformity in the dataset. The tokenization process was implemented to split the tweets into individual words and conduct the systematic analysis of words patterns. The removal of stop words was done to ensure the semantic clarity in the analysis given the fact that they carry low semantic meaning. The preprocessing included above prepared the data that should be sent to sentiment classification and discourse analysis because it made the textual data sort and be ready to be processed by use of the computer tools.

2.5 Sentiment Analysis

The sentiment analysis was performed to find out the tone of the emotion that was expressed in the tweets that discussed Joe Biden and Donald Trump. The attitude of all the tweets was examined to determine whether the tweet was positive, negative or neutral about the said candidate. Sentiment polarity was determined by using natural language processing approach through which the emotional orientation of the textual content was determined. The trends of approving, critiquing and not taking sides in the (social media) debates on the candidates by studying the patterns of the debate enabled the identification of the trends. With the sentiment polarity used in classifying the tweets, the study could examine how the Twitter users were in a position to show the evaluative attitudes to the two presidential candidates in the larger context of the social media politics.

2.6 Discourse Analysis

The discourse analysis was used to analyze the linguistic patterns and dominant themes that were observed in tweets about the two candidates. It was discussed using common words, expressions, and themes that were used in the discourse about Joe Biden and Donald Trump. The key word frequency analysis was done to determine the commonest words that were commonly used in each of the data sets. The trends provided information on the ways the users framed political discourse and also voiced their opinions about the candidates. The discourse analysis made it possible to identify the organizational and characteristic of the communication regarding the candidate on the Twitter platform through examination of the textual patterns in the tweets.

2.7 Analytical Techniques

A number of analysis methods were used to study the data in an organized manner. Tweets and other general characteristics of the dataset were summarized using descriptive statistics. Sentiment distribution analysis was done to find the percentage of positive, negative, and neutral tweets that were related to each candidate. The frequency analysis of words was used to establish the common words that are used in the discussion on Joe Biden and Donald Trump. This was followed by comparative analysis to assess the difference in pattern of sentiment and linguistic features in the two candidate datasets. These methods provided the possibility of a systematic study of political rhetoric manifested in posts on Twitter.

3. Results

3.1 Descriptive Statistics

A total of 5,328 Twitter posts which mentioned the two presidential candidates were included in the dataset. The dataset of Biden had 2,540 tweets and the Trump dataset had 2,788 tweets. Each tweet was made up of two variables the user's name and the text. Biden dataset was posts of 2277 unique users, and Trump was posts of 2701 unique users. Bidens averaged at around 85 characters in length of tweets about him and Trump had a length of 86 on average as indicated in Table 1. The textual content of the posts contained mentions of candidates, which meant that the data had direct user commentary on Joe Biden and Donald Trump within the Twitter communication platform.

Table 1. Descriptive Statistics of the Twitter Dataset

Variable	Biden Dataset	Trump Dataset	Total
Number of Tweets	2,540	2,788	5,328
Number of Unique Users	2,277	2,701	–
Variables per Record	Username, Text	Username, Text	–
Average Tweet Length (Characters)	85	86	–
Platform	Twitter	Twitter	Twitter
Candidate Mentioned	Joe Biden	Donald Trump	–

Note: The dataset consists of Twitter posts mentioning the two U.S. presidential candidates. Each record includes the username of the Twitter account and the textual content of the tweet.

3.2 Sentiment Distribution

Sentiment analysis provided evident trends in the tone of emotional information in the tweets about the two candidates. Out of the 2,540 tweets that talked about Joe Biden, there were almost 1,420 tweets (55.9%) that were negative, 720 tweets (28.3%) were neutral, and 400 (15.7%) tweets were positive. Of the 2,788 tweets that refer to Donald Trump, 1,540 tweets (55.2%) expressed negative sentiment, 760 tweets (27.3%) were neutral, and 488 tweets (17.5%) tweets were positive (Figure 1). These findings showed that sentiment was mostly negative when it came to the discussion of the two candidates. Nevertheless, a visible proportion of the tweets also contained a neutral commentary of the neutral character and a smaller percentage of the tweets expressed supportive attitudes to the candidates.
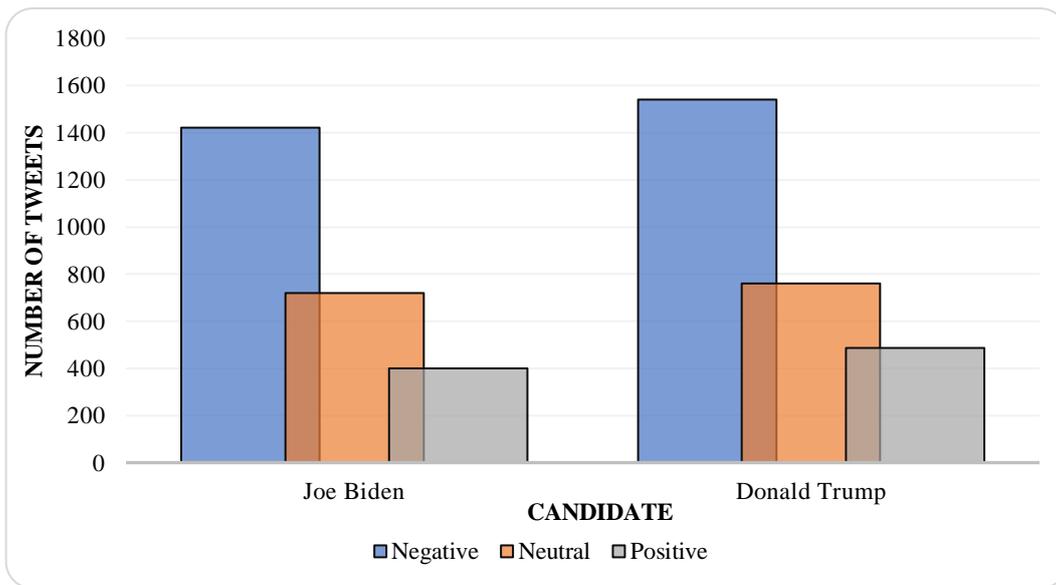
Figure 1. Sentiment Distribution of Tweets

3.3 Keyword and Discourse Patterns

The frequency analysis of keywords helped to reveal a number of repetitive words in the tweets related to the candidates. The common words in the Biden dataset were Biden, president, people, America and vote. The name of the candidate was used in around 1,980 tweets, which displayed a key interest in the candidate. Words that were prevalent in the Trump data were Trump, president, people, support, and country. The word " Trump " was used in some 2,120 tweets. Other discourse features like mentions, hashtags and links were also identified and 209 hashtags were used in Trump-related tweets and 189 hashtags used in Biden-related tweets signify that there was active political talking in online discursive interactions (Table 2).

Table 2. Keyword Frequency and Discourse Elements in Candidate-Related Tweets

Category	Biden Dataset	Trump Dataset
Most Frequent Keywords	Biden, the president, people, America, vote	Trump, the president, people, support, country
Frequency of Candidate Name	1,980 tweets	2,120 tweets
Number of Tweets in Dataset	2,540	2,788
Hashtags Observed	189	209
Mentions Present	Yes	Yes
Links Observed	Present in multiple tweets	Present in multiple tweets

Note: Keyword frequency analysis identified recurring political terms within tweets mentioning Joe Biden and Donald Trump. Candidate names appeared frequently within the tweets, indicating that discussions were strongly centered on the political figures. The presence of hashtags, mentions, and external links suggests that users actively engaged in political commentary and information sharing on the Twitter platform.

3.4 Comparative Analysis

Comparative analysis highlighted similarities and differences in discourse patterns between tweets mentioning the two candidates. Negative sentiment appeared slightly higher in Biden-related tweets (55.9%) compared with Trump-related tweets (55.2%). Positive sentiment was marginally higher in tweets mentioning Trump (17.5%) than in those referencing Biden (15.7%). Neutral tweets represented 28.3% of the Biden dataset and 27.3% of the Trump dataset, as also presented in Figure 2. Linguistic patterns also showed that tweets referencing Biden more frequently included policy-related words such as "vote" and "America," while tweets mentioning Trump more often contained terms associated with support or criticism, reflecting polarized discourse surrounding the candidates.
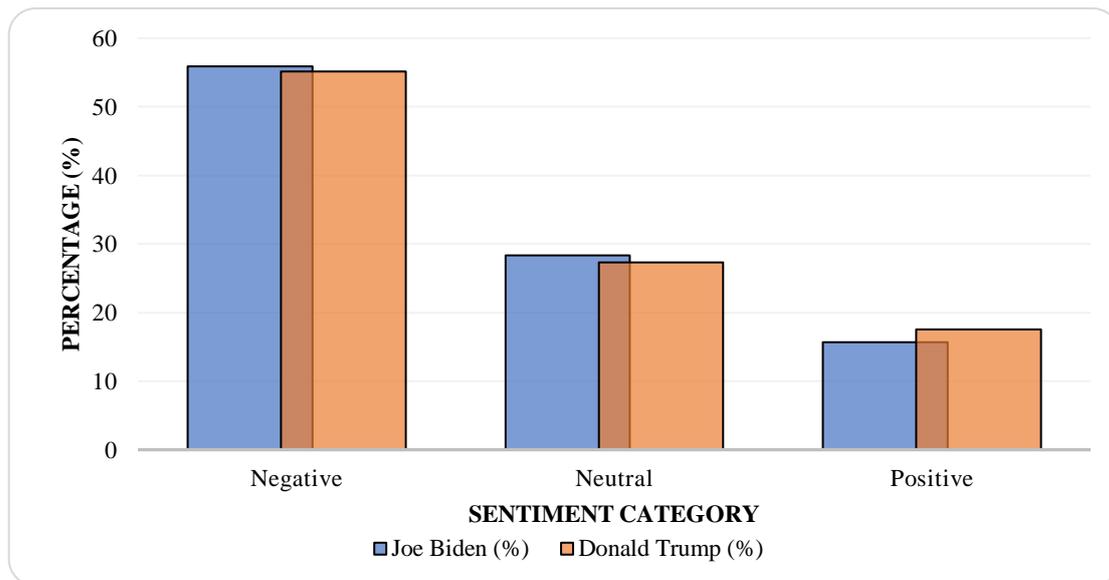
Figure 2. Comparative Sentiment Distribution of Tweets

4. Discussion

The findings of the present study confirm the fact that Twitter is a significant channel of expression of political discourse and attitude towards the key political leaders. The review shows that high percentages of tweets that had references to Joe Biden and Donald Trump were in negative sentiment, with minor percentages being in neutral or positive sentiment. This trend appears to be a sign that Internet-based political debates are usually filled with criticism, disagreements, and feelings. The preponderance of negative emotion points to the confrontational nature of the political discourse in online communication in which the audience is likely to utilise the social media to convey discontent or criticism of the political parties involved.

The results also indicated that the two candidates were not only discussed in repetitive linguistic patterns regarding leadership, problems of the country, and the policies that will be used to govern the country. The repetition of such words as president, people, and America was mentioned in the datasets quite often which presupposes that users contextualized their remarks against the broader background of politics and society. This means that the debate of political leaders on Twitter has been not only opinion centric but in the majority of cases there is a reference made concerning governance, national consciousness and matters of concern among the people. The fact that the neutral tweets are also relatively neutral also indicate that the individuals who have given the tweets are also engaged in informational or observational commentary but not necessarily in making judgments that are evaluative. In total, the findings provided some light on Twitter as a virtual space where citizens actively contribute to the development of political discourses and show their attitudes to political leadership.

Past studies have highlighted the impact social media sites have had with regards to bringing a feeling into the masses and political rhetoric, especially when there is a political hotpotato in the area. The results of research analyzing the sentiment of social media have indicated that online debates often portray emotional responses to political players and occurrences of high magnitude (Huh and Park, 2024). Studies of political campaign communication have also established that social media allows candidates and citizens to construct political problems and stories in the context of digital communication (Tawiah, 2025).

In a similar vein, research studies conducted on Twitter discussion have shown that the political accounts tend to shape themselves into ideologically or partisan explanations of the events occurring in the outside world (Jing and Ahn, 2021). Emotional analyses of the election-related tweets also revealed that the online political dialogue may change dramatically based on the political processes and the dynamics of the campaigns (Cury, 2019). This study has been followed by additional research that Twitter users tend to indicate their political position by use of language, framing, and evaluative phrases in social media content (Kim et al., 2025). The cross platform comparative analysis of digital political communication has also demonstrated the growing significance of social media spaces to political communication and citizen discourse (Velasco Molpeceres et al., 2025).

The results of the recent work support this line of research, as it further enhances the notion that Twitter is a powerful platform of popular manifestation of political orientations and commentary on political leaders.

This research is associated with several implications on the media and communication studies due to its findings. First of all, the findings highlight the importance of the social media services as the contemporary arenas of political discussion and opinion representation. Twitter also enables individuals to engage in a mass-public discourse on political leaders, and it turns out to be a decentralized form of political communication, where the citizens participate in the construction of political discourses. Second, according to the preponderance of negative feeling reflected in the data, online political talk

can strengthen the criticism and polarizing opinion. This tendency might influence the perception of the political leaders in the online world and might lead to the further evolution of the situation of the political polarization.

The paper demonstrates, in terms of methodology, that text analysis approaches can work well in examining the sentiment and discourse patterns of social media communication. It implies that these approaches allow researchers to study great volumes of user-created content in a more organized manner and identify trends in political speech. Their findings therefore contribute to the growing body of computational communication research in that they show how digital textual data can be used in examining political talk and popular mood within the context of the social media space.

The study possesses a series of weaknesses that it can be noted notwithstanding the contributions made. First of all, the number of tweets used in the research was rather small when compared to the immense volume of the political information shared in Twitter that can diminish the applicability of the findings. Second, the dataset did not include any time metadata (timestamps) thus, discourse or sentiment change over the course of time could not be analyzed. Third, no additional information on interactions (retweets, replies, and engagement statistics) was provided in the dataset and therefore was constrained to study the patterns in influence or spread of information. To address these deficiencies in future research, one might utilize larger datasets and include the temporal and interaction variables which will enable an in-depth examination of the processes of political communication on the social media sites.

5. Conclusion

The study has examined the issue and stance concerning social media in U.S. presidential contenders and has performed a textual analysis of Twitter posts that were published mentioning both Joe Biden and Donald Trump. It was discovered that twitter is a vibrant place of political expression where individuals can readily share their views, response and commentary on political leaders. The data analysis indicated that the most prevalent type of expression was that of negative sentiment in the tweets stating both candidates with small percentages of the tweets being negative attitude, a neutral attitude and positive attitude. Themes of leadership, the matters of the country and interests of people and it could be said that the language with repetitive patterns of political speech were also present in the discourse on the same and could be more inclined to place their judgments in a bigger political and social context. Overall, the results suggest the significance of Twitter as a digital communicative place, where the political conversation and political appraisal of the candidates is present and undergoing a continuous re-creation by the participants. The findings have implications to the area of media and communication studies since the research demonstrates that social media data examined in the context of text would enable one to obtain an insight into the political discourse of the people. The analysis of candidate-centered tweets helps to prove how citizens use social media to become a part of the political agenda and express their emotion towards the politicians. These findings justify the significance of the digital platforms as contemporary arenas of the political communication and opinion expression. The research can be expanded in the future by incorporating more meaningful datasets; these will include more posts on social media. The longitudinal analyses would also compare the change of sentiment and discourse change over time when different periods of election cycles.

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