

Sentiment Analysis of TikTok Comments on the Weakening of the Rupiah Exchange Rate as an Indicator of Public Perception of Financial Risk

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ABSTRACT

The weakening of the rupiah against the U.S. dollar is an economic issue that can influence the public's perception of financial risk. The social media platform TikTok has become one of the channels the public uses to express their opinions on current economic conditions. This study aims to analyze the sentiment of TikTok users' comments regarding the weakening of the rupiah as an indicator of the public's perception of financial risk. The method used is text mining with a Lexicon-Based Sentiment Analysis approach. The research data consists of 163 TikTok comments discussing the weakening of the rupiah exchange rate. The analysis stages include data preprocessing, word cloud visualization, and sentiment classification into positive, neutral, and negative categories. The results show that negative sentiment dominates at 56.44%, followed by neutral sentiment at 38.65%, and positive sentiment at 4.91%. The most frequently occurring words include "Prabowo," "MBG," "rupiah," "president," "rise," and "dollar." The dominance of negative sentiment indicates public concern regarding the impact of the weakening rupiah, such as rising prices, declining purchasing power, and economic uncertainty. The research results suggest that social media sentiment analysis can serve as an early indicator for understanding the public's perception of financial risks in real time.



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1. INTRODUCTION

Advances in information and communication technology have led to the rapid growth of social media as a tool for interacting and disseminating information worldwide. Social media also serves as a form of entertainment and a vital source of data for understanding how the public perceives a particular issue. According to Zulqornain et al. 2021, social media data can be used to analyze public opinion broadly and in real time [3]. In the context of a digital society, social media is no longer merely a means of communication; rather, it has evolved into a primary space for the public to voice their views and shape collective perceptions. Public policies emerging in the digital space quickly trigger reactions, discussions, and assessments from netizens. Therefore, social media can be utilized as a mirror of social reality that reflects public attitudes and opinions regarding developing national issues [4].

Among the various platforms available, TikTok is currently one of the most widely used social media platforms by the Indonesian public. The platform makes it easy for users to share short videos that often spark widespread discussion in the comments section. Its fast-paced and viral nature makes TikTok an effective barometer for understanding public opinion in real time [4]. According to a We Are Social report, as of January 2024, TikTok in Indonesia reached approximately 126.83 million users, making Indonesia the country with the second-largest TikTok social media reach in the world [1]. Intense interaction on platforms like TikTok generates massive amounts of data, often referred to as Big Data. Most user comments consist of unstructured text, including colloquial language, abbreviations, and even emojis, making analysis impossible using conventional approaches. This creates significant technical challenges in extracting meaningful information from thousands of such texts to understand the patterns and intentions behind netizens' conversations [4].

A currency is a key indicator of a country's economic stability because it reflects both its strength and its vulnerability. The rupiah, as Indonesia's national currency, plays a vital role in the country's economic framework. The rupiah's exchange rate against the U.S. dollar serves as a primary measure of Indonesia's economic strength, as the U.S. dollar is the dominant currency in international trade and finance [2]. Exchange rates can fluctuate due to various factors, including interest rates, inflation, global economic uncertainty, trade deficits, and shifts in foreign investment. When exchange rates fluctuate significantly, this can weaken the local currency, such as the rupiah. This depreciation can reduce purchasing power and impact the country's economic stability [2]. According to a report from Tempo.co (May 21, 2025), the exchange rate of the rupiah against the US dollar showed a significant weakening between April and May 2025. This situation was influenced by various factors, including global trade tensions, U.S. tariff policies, and a decline in consumer purchasing power following the Eid al-Fitr holiday. These developments have raised concerns regarding inflation rates, the trade deficit, and the overall stability of the national economy [2].

Developing effective policies to address fluctuations in the rupiah's exchange rate against the U.S. dollar involves not only the government and financial institutions but also the public, particularly businesses. When the public understands how exchange rate fluctuations can lead to higher prices for imported goods and a decline in purchasing power, this can help maintain economic stability. Therefore, understanding public sentiment is crucial for creating effective policies. Public sentiment regarding fluctuations in the rupiah exchange rate can be analyzed through responses on social media. As a widely used platform, social media allows users to express opinions and share information quickly. The resulting data can serve as a valuable source for understanding public perceptions of economic issues such as currency fluctuations. Sentiment analysis on social media is essential for formulating responsive and targeted policies [2].

To gain a more structured understanding of public opinion, a structured approach to sentiment analysis is required. Sentiment analysis is a branch of natural language processing (NLP) used to identify and classify opinions or emotions in a text into three categories: positive, negative, or neutral [3]. Sentiment analysis is a field of computational science aimed at analyzing a person's opinions and emotions as expressed in text. The goal

of sentiment analysis is to identify patterns in text and sentences within comments by detecting the polarity of a document [1].

Based on the above description, this study was conducted to analyze the sentiment of TikTok users' comments regarding the weakening of the rupiah exchange rate as an indicator of the public's perception of financial risk, utilizing a text mining approach. The text mining analysis used in this study is Lexicon-Based Sentiment Analysis. Lexicon-based sentiment analysis is an approach that utilizes a sentiment lexicon to assess emotional polarity in text. This method relies on a list of words assigned specific sentiment weights, enabling the identification of positive, negative, or neutral opinions within a document or sentence. The primary advantage of this approach is its ease of interpretation and implementation, as it does not require large training datasets compared to other machine learning methods such as Support Vector Machine (SVM) and Naïve Bayes [7]. The process of lexicon-based sentiment analysis generally involves several stages. First, the text to be analyzed undergoes preprocessing, such as removing punctuation, word normalization, and tokenization. Next, each word in the text is matched against the sentiment lexicon to obtain the corresponding sentiment score. These scores are then summed or averaged to determine the overall polarity of the text. This approach is effective in handling informal text, such as social media posts, where language usage tends to be more varied [12]. Through the analysis of comments posted by TikTok users, this study is expected to provide insight into public perceptions regarding the weakening of the rupiah exchange rate and serve as a source of information that can support the formulation of economic policies that are more responsive to public opinion in the digital space.

2. METHOD

Using data from TikTok user comments on news videos about the decline in the value of the rupiah, this study uses a text mining technique. Kowsari et al. (2019) define text mining as the practice of automatically extracting information from vast amounts of unstructured text in order to uncover unknown knowledge [1].

A lexicon-based method was used for sentiment analysis, which entails comparing textual terms to a sentiment vocabulary that has been carefully created to take into account the context of the depreciation of the rupiah. A sentiment score is given to each remark based on the ratio of positive to negative words. After that, comments are divided into three groups: neutral (score = 0), negative (score < 0), and positive (scoring > 0) [2].

Data was manually gathered by copying comments from a number of news sources, including Tribun News and Kompas, as well as from a number of content creators' accounts that addressed the subject. 163 of the 169 comments that were gathered were used in the study after duplicates were eliminated. R software was used to examine the data once it was input into Microsoft Excel.

The research procedure was conducted in three main stages, as follows.

Step 1: Text Preprocessing

Prior to using the data for model construction, preprocessing is a crucial step that needs to be completed [1]. The goal of this step is to prepare the text data for analysis. The following preprocessing algorithms are used:

1. Case folding; which changes all text to lowercase
2. Cleaning; eliminates superfluous spaces, numbers, special characters, and URLs
3. Stopword elimination; eliminates frequently used terms that are useless for analysis, like pronouns, conjunctions, and slang exclusive to TikTok.
4. Filtering; eliminating duplicate and empty comment lines, as well as terms less than two characters

Step 2: Word Cloud Visualization

3. RESULTS AND DISCUSSION

3.1 Word Frequency Analysis Results

This study utilized 163 TikTok comments related to the depreciation of the Indonesian Rupiah against the United States Dollar as the research dataset. Prior to sentiment analysis, the data underwent a preprocessing stage, including the removal of URLs, numbers, punctuation marks, duplicate comments, and common words (*stopwords*). This process aimed to reduce noise in the text data and improve the quality of the analysis.

Following the preprocessing stage, word frequency analysis was conducted to identify the most frequently used words in TikTok users' comments. The results revealed that the word *prabowo* appeared most frequently, with 30 occurrences, followed by *mbg* (26 occurrences), *rupiah* (25 occurrences), and *presiden* (24 occurrences). In addition, words such as *naik* (increase) and *dolar* (dollar) were also frequently mentioned in discussions regarding the depreciation of the Rupiah.

Table 1. Top Ten Most Frequently Occurring Words in TikTok Comments

Kata	Frekuensi
prabowo	30
mbg	26
rupiah	25
presiden	24
naik	13
dolar	12
kerja	8
stop	7
kopdes	4
nyesel	4

Based on Table 1, discussions regarding the depreciation of the Rupiah were not limited to economic issues but were also associated with government leadership and public policies. The high frequency of the words *prabowo* and *presiden* indicates that many users linked economic conditions to national leadership. Meanwhile, the occurrence of words such as *naik*, *dolar*, and *nyesel* (regret) reflects public concerns regarding the economic consequences of the weakening Rupiah.



Figure 3. Word Cloud of TikTok Comments on the Depreciation of the Indonesian Rupiah

As illustrated in Figure 1, the words *prabowo*, *mbg*, *rupiah*, and *presiden* appear more prominently than other words, indicating that these terms were the main focus of public discussions. This finding is consistent with Liu and Son [8], who stated that social media text analysis can effectively identify issues that attract public attention in real time through the identification of dominant keywords.

3.2. Sentiment Analysis Results

Sentiment analysis was performed using a *lexicon-based sentiment analysis* approach, which classified comments into three sentiment categories: positive, neutral, and negative. The classification was based on the occurrence of positive and negative words within each comment.

The results indicate that negative sentiment dominated the comments. Out of the 163 comments analyzed, 92 comments (56.44%) were classified as negative, 63 comments (38.65%) as neutral, and only 8 comments (4.91%) as positive.

Table 2. Distribution of Sentiment Categories

Sentimen	Jumlah	Persentase (%)
Negatif	92	56.44
Netral	63	38.65
Positif	8	4.91
Total	163	100

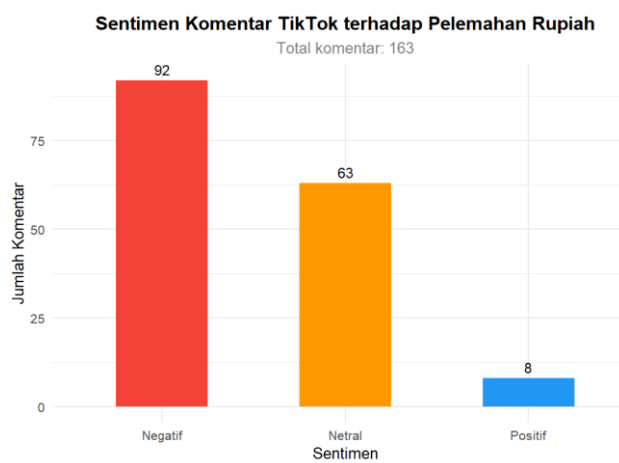


Figure 2. Distribution of Sentiment Categories in TikTok Comments

Based on Table 2 and Figure 2, negative sentiment accounted for the largest proportion of comments. This finding suggests that most TikTok users expressed unfavorable views regarding the depreciation of the Indonesian Rupiah. Negative comments generally contained criticism of current economic conditions, concerns about increasing prices of goods and services, and dissatisfaction with policies perceived to contribute to the weakening exchange rate. Meanwhile, neutral sentiment accounted for 38.65% of the comments, indicating that a considerable number of users simply shared information, opinions, or observations without expressing strong positive or negative emotions. In contrast, positive sentiment represented only 4.91% of the total comments, suggesting that relatively few users expressed optimism regarding the economic situation. These findings are consistent with Wang et al. [11], who reported that periods of increasing economic uncertainty are often accompanied by a rise in negative sentiment on social media platforms. Furthermore, Ahmed and Sleem [10] argued that individuals tend to express

concerns and dissatisfaction through digital platforms when facing uncertain economic conditions.

3.3. Negative Sentiment as an Indicator of Financial Risk Perception

From a risk management perspective, the dominance of negative sentiment (56.44%) indicates that the depreciation of the Indonesian Rupiah is perceived as a financial risk by a large portion of the public. The substantial number of negative comments reflects concerns about various potential economic consequences, including rising prices of goods and services, declining purchasing power, and increasing economic uncertainty. The frequent appearance of words such as *naik*, *stop*, *nyesel*, and *dolar* suggests that users not only recognize the depreciation of the Rupiah but also associate it with possible adverse effects on their financial well-being. This finding demonstrates that social media serves as an important platform where individuals express their perceptions and concerns regarding economic risks. The results of this study support the findings of Wang et al. [11], who highlighted the relationship between public sentiment on social media, financial risk perception, and economic uncertainty. When economic conditions are perceived as unstable, negative sentiment tends to increase and becomes evident in online discussions. Similarly, Ahmed and Sleem [10] found that growing economic uncertainty may strengthen negative public perceptions regarding financial conditions and economic policies. This study also aligns with Liu and Son [8], who emphasized that social media sentiment data can function as an *early warning indicator* for understanding public responses to changes in economic conditions. Therefore, the predominance of negative sentiment identified in this study may be interpreted as an indication of heightened financial risk perception among the public regarding the depreciation of the Indonesian Rupiah. Overall, the findings demonstrate that TikTok comments not only reflect public opinion toward economic conditions but also provide valuable insights into public financial risk perceptions in a timely and real-time manner. Consequently, social media sentiment analysis has the potential to serve as a complementary tool for economic risk identification and monitoring.

4. CONCLUSION

This study aimed to analyze TikTok comment sentiment regarding the depreciation of the Indonesian Rupiah as an indicator of public financial risk perception. Based on the analysis of 163 comments, negative sentiment dominated with a proportion of 56.44%, followed by neutral sentiment (38.65%) and positive sentiment (4.91%). The dominance of negative sentiment indicates that the public is concerned about the economic impacts of the Rupiah depreciation, including rising prices, declining purchasing power, and increasing economic uncertainty. These findings suggest that social media sentiment analysis can be utilized to identify public financial risk perception in a timely and real-time manner. The high level of negative public sentiment may trigger panic behavior such as a rush to purchase foreign currency, which could further exacerbate the depreciation of the Rupiah and amplify financial risk. Future research may employ larger datasets and apply machine learning or deep learning approaches to improve sentiment classification accuracy.

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