The Sentiments Analysis of Donald Trump and Jokowi's Twitters on Covid-19 Policy Dissemination

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Received December 28, 2020; Accepted March 05, 2021
ISSN: 1735-188X
DOI: 10.14704/WEB/V18I1/WEB18096

Abstract

As Covid-19 spreads to other nations and governments attempt to minimize its effect by introducing countermeasures, individuals have often used social media outlets to share their opinions on the measures themselves, the leaders implementing them, and the ways in which their lives are shifting. Sentiment analysis refers to the application in source materials of natural language processing, computational linguistics, and text analytics to identify and classify subjective opinions. The reason why this research uses a sentiment case study towards Trump and Jokowi's policies is because Jokowi and Trump have similarities in handling Covid-19. Indonesia and the US are still low in the discipline in implementing health protocols. The data collection period was chosen on September 21 - October 21 2020 because during that period, the top 5 trending on Twitter included # covid19, #jokowi, #miglobal, #trump, and #donaldtrump. So, this period is most appropriate for taking data and discussing the handling of Covid-19 by Jokowi and Trump. The result shows both Jokowi and Trump have higher negative sentiments than positive sentiments during the period. Trump had issued a controversial statement regarding the handling of Covid-19. This research is limited to the sentiment generated by the policies conveyed by the US and Indonesian Governments via @jokowi and @realDonaldTrump Twitter Account. The dataset presented in this research is being collected and analyzed using the Brand24, a software-automated sentiment analysis.

Further research can increase the scope of the data and increase the timeframe for data collection and develop tools for analyzing sentiment.

Keywords

Social Media, Covid-19 Policy, Sentiment Analysis, Brand24.

Introduction

The Social Media

Social media includes Facebook, Google+, Twitter, Blog, Wikipedia which provides microblogging services, and YouTube and Flickr media as content sharing platforms. The hallmarks of social media are user-created accounts, online identity image building, and the network of friends currently considered part of the Web 2.0 revolution. Social media, characterized by user generated content, online identity formation, and relational networks, is considered part of the Web 2.0 revolution). Social networking has an especially enticing e-participation potential. Bertot et al (2012) states: There are four key possible strengths of social media: communication, engagement, empowerment, and time. Social media is a participatory and interaction platform, where users can interact socially with each other online. Users can communicate with others and create social communities, exchange data, develop common interests, and achieve common goals. It gives users the ability to communicate with one another and create a community to socialize, exchange data, or achieve common goals or interests. As it gives them a place to chat, social media will inspire its users. Social media provides its users with easy access to share information easily and cheaply. Excellence in terms of time, social media shares information in real time (Bertot et al., 2012).

Social networking networks offer an evolving field of communications with government initiated by civilians. Social media is portrayed in the context of the public sector as technologies that empower public agencies to generate greater public engagement (Criado et al., 2013). There are possibilities for public engagement, coproduction, and crowdsourcing methods and technologies as government uses social media networks (Bertot et al., 2012). Improvements in government accountability, policy making, public service delivery, and information management can be provided by social media platforms (Bonsón et al., 2012).

A few years ago, many people questioned what Web 2.0 would bring to the government sector. In the United States, the digital divide can be overcome in terms of user activity. On

the other hand, inequality of access is still a problem for some of the population, namely users whose access is cut off will be categorized as "second class citizens" (Chen & Aklikokou, 2020). Many people realize that this does not lead to large citizen involvement if only relying on technology (Weller et al., 2010). ""Close to the" disappointment trough "of Gartner's Hype Cycle, several agencies soon discovered that Web 2.0 innovations could reinforce faulty ideas and make small populations appear larger than they really are (Weller et al., 2010). When early Web 2.0 experiments failed and actions were annoying to a halt, there were also more punishments than incentives for their creative actions noticed by early government adopters of technology (Weller et al., 2010).

Covid-19 Policy and the Social Media

China has been struggling to control a new variant of the virus, which is officially named Serious Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) since the end of 2019 until now. Even Vietnam at that time made a boundary along 1281 kilometers and high trading volume with nor then giants to prevent the entry of the virus into the country (La et al., 2020). As a result of this prevention effort if the Vietnamese government was for 2 months there were only 239 confirmed positive cases with a total of zero cases of death with zero reported deaths. Within two months of the identification of the first case, the number of cases in China had risen to 82,526 with a total of 3,330 deaths (La et al., 2020).

People have expressed their views and exchanged knowledge, as well as misinformation about it, via social media outlets, such as Twitter, since the early stages of the disease (Lopez et al., 2020). As Covid-19 spreads to other nations and governments attempt to minimize its effect by introducing countermeasures, individuals have often used social media outlets to share their opinions on the measures themselves, the leaders implementing them, and the ways in which their lives are shifting (Lopez et al., 2020). Social media, such as Twitter, as opinion-sharing and information-sharing channels for Covid-19 will only continue to expand, precisely because of the 'social distancing' measures placed in place to mitigate it (Lopez et al., 2020).

Reported in Kompas.com, on April 24, 2020, both Indonesia and America through Jokowi and Trump have cooperation in the provision of medical devices. In addition, President Jokowi and President Trump also agreed to strengthen partnerships in the trade and economy sectors after the economic recovery period after Covid-19. But on the other hand, what is in the spotlight in responding to Covid-19 is the slow policy steps taken by both of them, both of which tend to think of it as a common cold that can easily heal itself. Facing this, responses certainly emerged from all circles of society which were then conveyed

through social media, and gave birth to sentiment towards Jokowi and Trump's policy of handling Covid-19.

Policy-maker can collect data sourced on social media to analyze public dialogue about the Covid-19 pandemic and what actions should be taken to reduce its impact through social media Twitter. We review the corpus of Jokowi and Trump's tweets that are relevant to Covid-19 policies, by identifying general responses, and variations in responses over time, countries, and policies are taken.

The Logic of Twitter

In theory, each communication medium has relatively different physical, psychological, and social characteristics. The characteristics of social media will influence the process, knowledge, and understanding of media by users (Ott, 2017). Twitter is a microblogging medium that provides short content features in the form of quick comments, phrases, video links, and photos (Stieglitz et al., 2018). Twitter users can send and receive "tweets", which are text with no more than 140 characters. Twitter has an increasing number of users every year. Since its first launch in March 2006, in 2014 it has increased to 500 million users and generates more than 400 million tweets per day (Spina et al., 2019). Twitter is distinguished by three main characteristics as a means of communication: ease, impulsivity, and incivility.

Measurement of Social Listening

Measurement is a crucial component of social listening. Social listening can be extended to public relations, publicity, and advertisement fields from the viewpoint of company functions (Erturk, 2020). The measurement data, the number of mentions and followers, and a group of intelligence systems, may be based on public data (Kietzmann et al., 2011). Power, emotion, enthusiasm, and scope are optional metrics for evaluating social listening references (Kietzmann et al., 2011). The intensity metric is the number of times that the channel chosen references a business or commodity. The percentage of citations, i.e. positive versus negative, is the sentiment metric. The passion metric is the frequency at which a business or a commodity is discussed by certain people. The reach metric is the different users in the power metrics separated by mentions (Kietzmann et al., 2011).

The second is the calculated item type, such as opinion, feature story, Q&A, and input from the consumer. The third is the exposure of the companies in the calculated object, which implies whether it is possible to recognize the images of the companies within the public material. The fourth is the people who are making the messages. The fifth is the tone, which indicates that a reader seems to have a disagreement with the company. The sixth is the

kind of media in which the product has appeared. The main message in the item is the seventh (Schweidel & Moe, 2014).

Software-automated sentiment analysis, on the other hand, is a viable tool, both faster and simpler (Erturk, 2020). Also, by mixing manual analysis and software, Hopkins & King (2010)propose a hybrid sentiment analysis. In certain instances, for example, a person can detect feelings about the price of a commodity that can not be detected by automated analysis. In addition, most systems in a typical conversation do not distinguish irony and sarcasm, which leads the vast majority of automated sentiment analysis systems to only detect correctly at a rate of 50 percent or less (Erturk, 2020).

Related Studies

Academic researchers have paid attention to the topic of social media use (Gautam & Yadav, 2014). Substantial research in the area of sentiment analysis on Twitter have been performed in recent years. In recent years, researchers have conducted research related to sentiment analysis on social media Twitter. As done by Gautam & Yadav (2014) who investigated sentiments about machine learning on Twitter media. This research uses NLP-based methods, data collection on Twitter, then data processing. Next, function extraction was performed to identify relevant sentiment characteristics (Gautam & Yadav, 2014).

Go et al. (2009) conducted a sentiment analysis on Twitter media using remote surveillance and extensive work. The data includes tweets containing text and emoticons as noisy labels. The method uses a combined model between Bayes' naive classifier, maximum entropy model, and support vector (Go et al., 2009).

Ali et al (2020) use the Brand24 tool to track specific keywords on Twitter. The keywords used include "Restrictive Surgery Webinar", 'Plastic Surgery Webinar", "BAPRAS', "Royal College of Surgeons", "BSSH", "PLASTA ', and" British Burns Society. The result was 733 mentions of keywords in the period 6 May 2019 to May 5, 2020, and there were 727 mentions after March 23, 2020. This result reflects an increase in the number of mentions of 22.017 percent after the lockdown (Ali et al., 2020).

Research Methods

We used a mixed-methods analysis incorporating an approach to case study, content analysis, analysis of social networks and analysis of critical discourse. In this early research and in future work, our aim is to collect proof of how the three pillars are being met. The number of Twitter users who followed Jokowi and Trump official accounts was too limited

to disclose the results at the report time. The software used in this analysis is Brand24. Brand24 is a social media analysis tool. One of the features that Brand24 offers for analyzing Twitter's social media are the ability to measure hashtag performance. Brand24 will follow user and community conversations on Twitter, and accurately measure the reach of Tweets. The data collected by Brand24 includes the total number of Tweets that contain words or hashtags according to certain keywords, the number of likes, responses, shares, and positive and negative mentions.

This study collects data from Twitter and do the analysis with Brand24 for 21 September until 21 October 2020 from @jokowi and @realDonaldTrump. The data collection period was chosen on September 21 - October 21 2020 because from the hashtag data on Twitter, during that period, the top 5 trending on Twitter included # covid19, #jokowi, #miglobal, #trump, and #donaldtrump. So, this period is most appropriate for taking data and discussing the handling of Covid-19 by Jokowi and Trump.

Data

The dataset presented is being continuously collected using the Brand24. The dataset presented here covers 21 September to 21 October 2020 and contains 1018 tweets interaction from Donald Trump and 37795 tweets from Jokowi account. Keyword searches for tweets are Covid19, Jokowi, and Trump from 21 September to 21 October 2020. The output from Brand24 consists of the total number of results from Twitter, some tweets containing the word or hashtag according to the keyword, estimated reach, interaction, social media shares, number of likes, the number of positive and negative mentions over a certain period. This study collects data from Twitter and do the analysis with Brand24 for 21 September until 21 October 2020. Here's the Brand24 mind map process in analyzing data from Twitter.

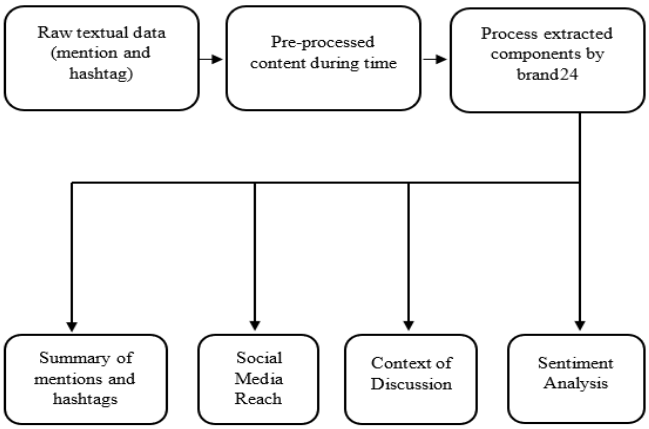


Fig. 1 Mind Map of Brand24 Analytic Process

The estimation process in this study was carried out by Brand24. Through this software, researchers only need to select the chosen keywords. Based on Figure 1, the keywords chosen are called raw textual data, where the data taken by Brand24 are mentions and hashtags. Then, the researcher determined the data coverage period. After the data is processed by this software, the extraction process is carried out automatically to produce infographics in the form of sentiments, summary of mentions, hashtags, and reaches (Ali et al., 2020). From these results, discussions can then be carried out.

Results

The Number of Mentions

This metric tells how popular the topic is to the audience.

Fig. 2 Jokowi's Volume of Mentions

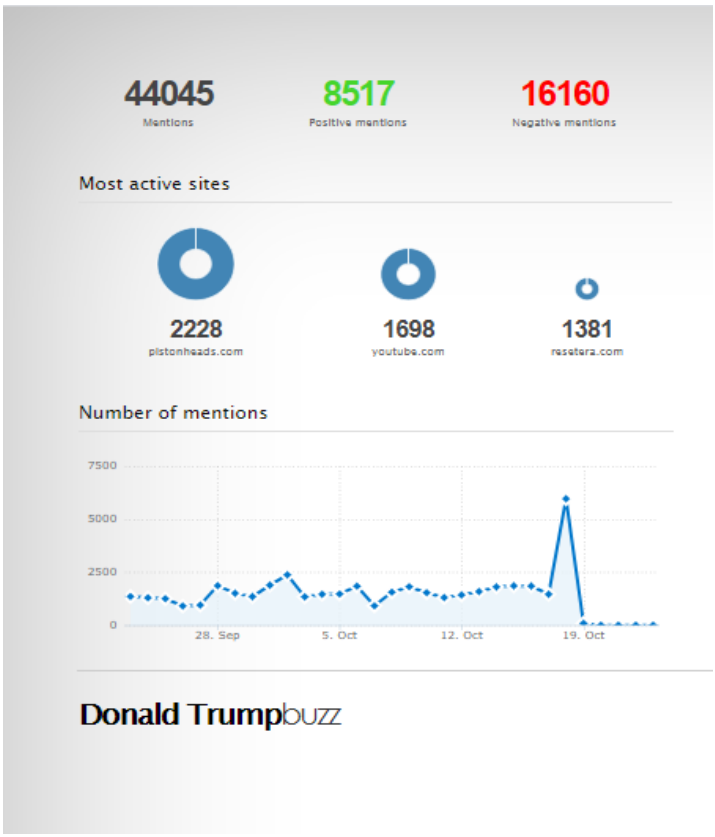


Fig. 3 Trumps's Volume of Mentions

Through this Brand24 analytic tool software, all mentions of Jokowi and Trump during the handling of Covid-19 and related to both policies, automated into mentions with positive, negative, and neutral content, from all mentions addressed to Jokowi and Trump.

From the two volume mentions in Figure 2, it can be seen that the volume mentions of Jokowi are 13010 or 36% of the total mentions. Meanwhile, the negative mentions were 6212 or 17%. Apart from mentions that are categorized as positive or negative, it means mentions with neutral content.

Although there are many kinds of messages used on Twitter by Jokowi, one thing has been the emphasis, and that is the coordination issue. Collaboration is necessary because collaboration between competent entities can also be used, according to Hemingway and Gunawan (2018), to filter, analyze and standardize the information to be transmitted to the public (Prayoga, 2020).

There is actually another official account that is representative of the government, in addition to Jokowi, namely the Ministry of Health Twitter (@KemenkesRI). In his tweets, Jokowi did not mention the Ministry of Health account. Coordination should be done here,

with cooperation and public notice, such as regular notifications to the Ministry of Health on the number of sufferers, victims or others (Prayoga, 2020).

The information given by Jokowi and the Ministry of Health has different trends. Jokowi offered more detail about the government's policies, while the Ministry of Health was more focused on the current coronavirus status update in Indonesia. Jokowi also provided the group with a lot of inspiration to be equally powerful in coping with this complex situation. It is reflected here that Jokowi has carried out one of the disaster communication roles, which is to perform public healing (Prayoga, 2020).

Sentiment analysis.

Analyze sentiments that show how the audience feels about a related topic.

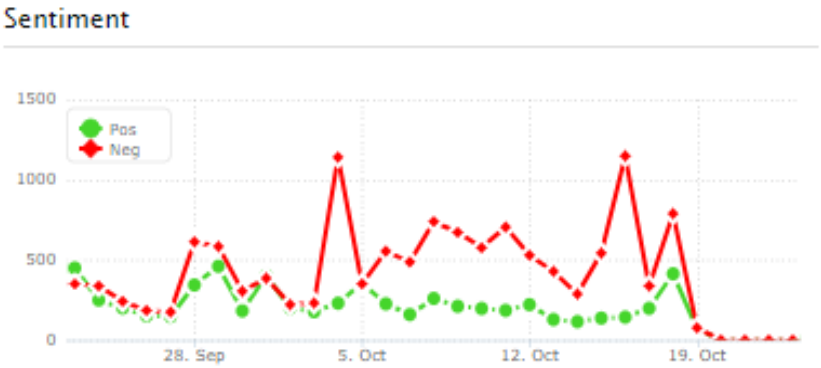


Fig. 4 Jokowi's Sentiment Graph

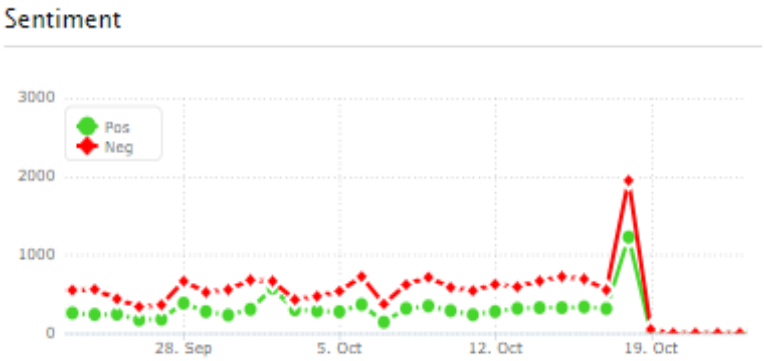


Fig. 5 Trump's Sentiment Graph

Sentiment analysis becomes a tool or application for language processing, text analysis, linguistic computation for the identification and classification of public opinion on social media. The purpose of sentiment analysis is to determine the attitude of the researcher towards the subject of a document.

From these results, it can be seen that Jokowi's sentiment analysis regarding Covid-19 policy is more volatile than Donald Trump's as shown in Figure 4 and 5. Although both Jokowi and Trump have higher negative sentiments than positive sentiments during the 1 month period, September 21, 2021 to October 21, 2021.

Negative sentiment emerged because the tweet data and negative mentions about Jokowi and Trump were more than just positive tweets and mentions. The algorithm used is that if a tweet about Jokowi or Trump contains more positive sentences than negative sentences, then the result of the analysis will be positive (worth +1). Conversely, if a tweet about Jokowi or Trump contains more negative than positive sentences, then the analysis result will be negative (worth -1). However, if the number of positive and negative sentences is the same, the analysis result is neutral (0).

Negative sentiment towards Jokowi can arise because of the Jokowi administration's policies in handling Covid-19. When responding to a crisis, a leader must communicate transparently to the public; have and drive clear and swift direction and action; involved and present; and all processes are accountable (Pratama et al., 2019).

On the other hand, a press media Nuice Media has conducted a survey of Twitter users on November 5, 2020 regarding public satisfaction in seeing the handling of the Covid-19 situation as shown in Figure 6. There are 8747 Twitter users who participated in this survey. The results show that 95.7% of survey participants voiced their dissatisfaction, and 4.3% expressed satisfaction with the Jokowi administration's handling of the Covid-19 situation.

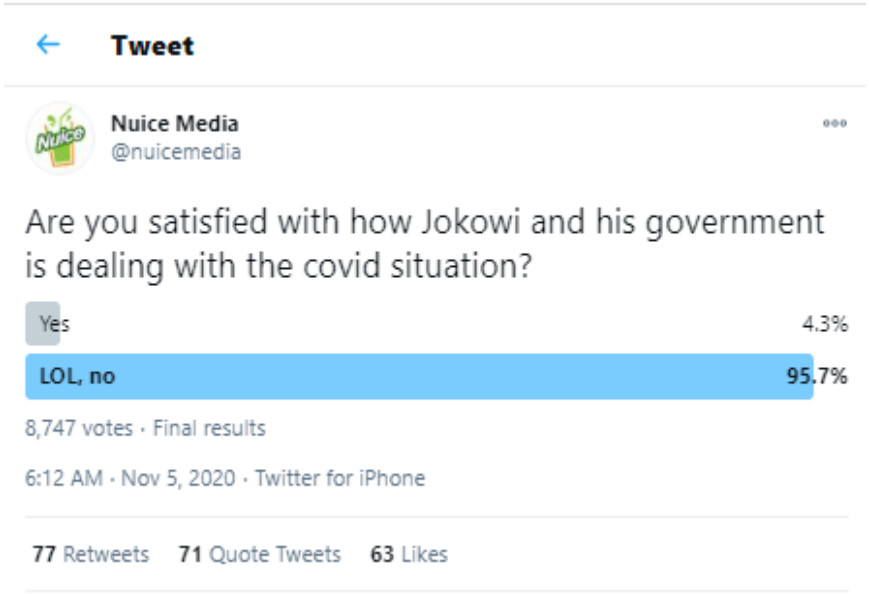


Fig. 6 Survey Result by Nuice Media through Twitter

Negative sentiments can also emerge from Jokowi's government ministers. Minister Terawan received negative sentiment on Twitter, for denying the threat of a virus that turned out to be a pandemic. As the highest authority in the health sector, this denial has influenced other ministers such as the minister of transportation, coordinating minister for political, legal and security affairs, minister of interior, vice president, even the president himself. Therefore, President Jokowi must lead his ministers to turn towards the latest developments filled with uncertainty (Pratama et al., 2019).

On the other hand, in America, Americans via Twitter have negative sentiments regarding Trump's handling of Covid-19 which tends to be dangerous. Trump actually made some controversial Tweets. His tweets related to his distrust of Covid-19 and his tendency to underestimate Covid-19.

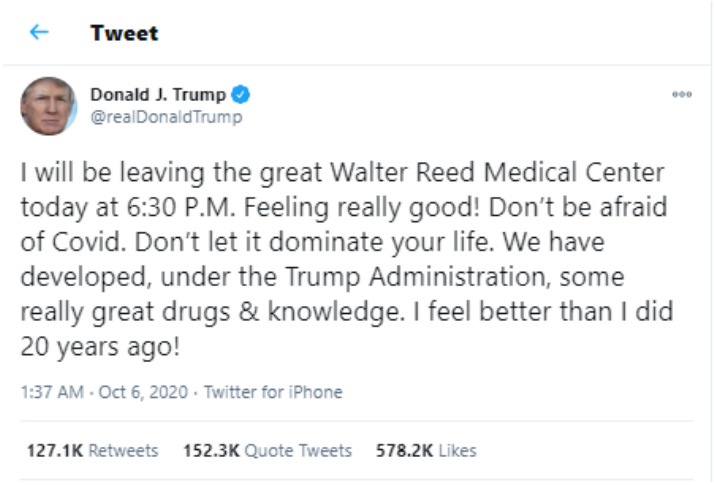


Fig. 7 Trump's Controversial Tweet on October

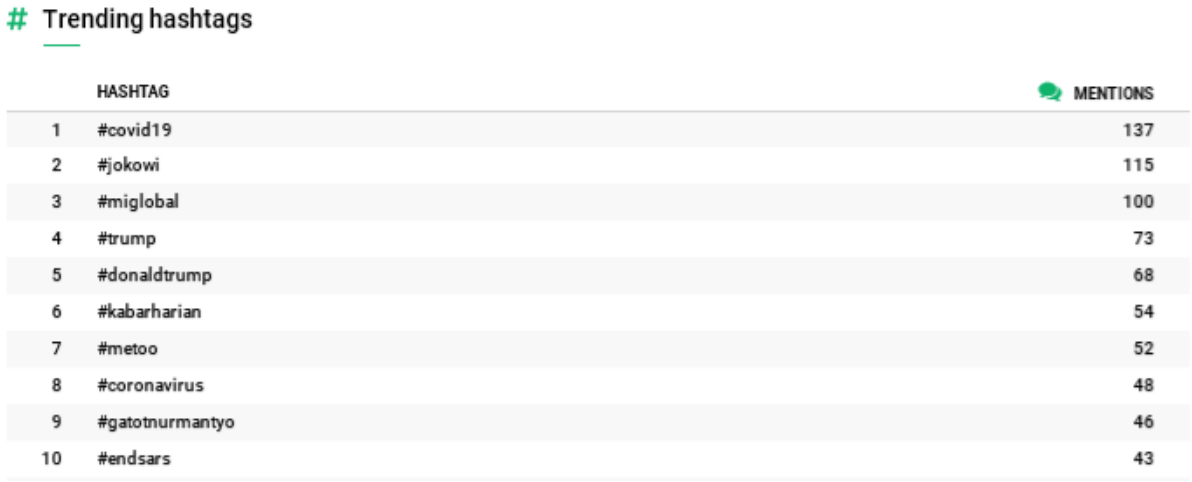
Some of his controversial tweets were covered in the US daily newspaper, Sky News, on 12 October 2020 as shown in Figure 7. What Trump said via Twitter will lead his followers to believe whatever Trump says. However, this tendency to underestimate Covid-19 has actually invited public controversy. The number of followers of the trump, which reached 88.9M, managed to boost trending on Twitter regarding Trump's tweet.

In The New York (2020), Trump openly questions whether the SARS-CoV-2 virus can be "cured" by injecting a disinfectant into the body. Previously, Trump had issued a controversial statement regarding the handling of Covid-19. Previously, he finally decided to withdraw US funding to the World Health Organization (WHO) because he considered the organization to be too China-centric and gave wrong recommendations regarding handling Covid-19 from the start.

Interestingly, President Joko Widodo agreed with Trump's reckless statement. On April 24, 2020, in uploading a Youtube video on the official account of the Indonesian Presidential Secretariat, Jokowi welcomed the news from the US Department of Homeland Defense. This of course further encourages the negative sentiment of netizens towards the policy of handling Covid-19 by both Jokowi and Trump.

Trending Hashtags

A list of trending hashtags helps increase visibility and reach a larger audience.



Trending hashtags

	HASHTAG	MENTIONS
1	#covid19	137
2	#jokowi	115
3	#miglobal	100
4	#trump	73
5	#donaldtrump	68
6	#kabarharian	54
7	#metoo	52
8	#coronavirus	48
9	#gatotnurmantyo	46
10	#endsars	43

Fig. 8 Trending Hashtags during 21 September-21 October 2020

Often seen on platforms like Twitter, trending hashtags are the ones that appear most in people's feeds and are often the #tags that are searched for most often. It's no secret that Covid-19 is a trending topic in the media, and with all the hashtags surrounding the pandemic, it's easy for some posts to get lost in newsfeeds.

According to the Media Update News that published on April 20, 2020 hashtag for #Covid_19SA / #Coronavirus / #Covid19 have been grouped together because, well, they're all discussing the same thing. The only difference is that #Covid_19SA (and its variations, such as #Covid19SouthAfrica and #Covid19SA) is specifically used in relation to updates that pertain to South Africans. Globally, everyone is using #Covid19 and #Coronavirus in posts to discuss the pandemic and any updates in relation thereof. As it is such a broad hashtag, it would be wise to use it in correlation with other #tags that are more specifically related to the discussed topic. The #Covid19 hashtag can be trending because People want to know what's happening regarding the pandemic, and social media is one of the fastest ways to find out. Social is instant, and many people prefer to get a quick update on platforms like Twitter as opposed to searching for updates on Google.

During the period the data was taken, trending on Twitter based on the output produced by Brand24 shown that trending number 1 was # Covid19 as shown in Figure 8. This shows that of the number of tweets related to Jokowi and Trump during that period, netizens were talking about Covid-19 the most. In addition, in the top-5 trending hashtags, Jokowi and Trump were also the most talked about topics in the world during that month.

Top Public Profiles

The monitoring tool identifies social media accounts discussing relevant topics.

Fig. 9 Top Public Profiles during 21 September-21 October 2020

Fig. 10 Top Public Profiles during 21 September-21 October 2020

Top public profile is the top public profile that talks about both Jokowi (Figure 9), and Trump (Figure 10) in conveying topics and policies about Covid-19 on Twitter, which has achieved the most reach and the highest engagement. This top public profile is important because it is related to the influence conveyed by these public figures to all audiences on Twitter so that it will generate broad sentiment for readers.

Some of these Twitter accounts are Twitter accounts with a large degree of influence on readers because of the large number of followers. The Top-1 of the top five is The Economist. The Economist is an international weekly newspaper printed in magazine-format and published digitally that focuses on current affairs, international business, politics, and technology (economist.com). As shown in Figure 11, the total number of followers of The Economist is 25.1M.

Fig. 11 The Economist's Twitter Account

Some of the tweets that have been published by The Economist regarding Jokowi's handling of Covid-19, among others, relate to Jokowi's hesitation in taking a policy of economic downturn in Indonesia which will cause riots to the people.

Fig. 12 The Economist's News

What The Economist tweeted would be read by its followers, as shown in Figure 12, so that the news about the handling of covid and the pros and cons of handling by the government, will appear on the timeline of 25.1M followers, and more or less will affect the perspective of the reader. This is driven by several studies which state the influence of social media on public opinion. Media can still influence what people think about (Krings, 2020).

Conclusions

Public policymakers can analyze public dialogue about the Covid-19 pandemic 7d and solutions to reduce the spread and impact of Covid-19. They can identify variations in public responses on Twitter over time, country, and policy. This research examines the responses of Jokowi and Trump's tweets regarding the Covid-19 policies. To analyze public dialogue about the pandemic and steps being taken to reduce it, policymakers can dig into this social media data. To identify the general response to the pandemic and how this response varies over time, country and policy, we aim to review the corpus of Jokowi and Trump's tweets that are relevant to Covid-19 policy. We used a mixed-methods analysis incorporating an approach to case study, content analysis, analysis of social networks and analysis of critical discourse. The dataset presented is being continuously collected using the Brand24. The dataset presented here covers 21 September to 21 October 2020 and contains 1018 tweets interaction from Donald Trump and 37795 tweets from Jokowi account. The result shows that that Jokowi's sentiment analysis regarding Covid-19 policy is more volatile than Donald Trump's. Although both Jokowi and Trump have higher negative sentiments than positive sentiments during the 1month period, September 21, 2021 to October 21, 2021. Negative sentiment towards Jokowi and Trump can arise because of the Jokowi bad administration's policies in handling Covid-19 and also Trump's handling of Covid-19 which tends to be dangerous.

Limitations and Recommendations for Further Research

This research is limited to the sentiment generated by the policies conveyed by the US and Indonesian Governments via the Twitter accounts of the two countries' presidents, namely @jokowi and @realDonaldTrump. The data in this study is still quite small because it is only in a period of one month. Future research can increase the data collection period. In addition, the analysis was carried out limited to the output produced by the Brand24 software. Further research can elaborate the analysis by conducting sentiment analysis with other methods so that the resulting sentiment is stronger in representing the true sentiment of society. Further research on sentiment analysis can be carried out by not only taking Twitter data from the president of a country, but from other social media data because the

sentiment conveyed by the public regarding government policies is not only conveyed through Twitter.

Author Contribution

The main author of this article is Rahmad Agus Dwianto who contributed to finding research ideas, data collection, data processing, and data analysis. Ahmad Nurmandi's role is as a guide, providing input on analysis ideas. Salahudin contributed as an article editor.

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