

# Mapping of COVID-19 Information Dissemination by Indonesia Government and Stakeholders (Social Media Analysis on Twitter)

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## ABSTRACT

This study aims to figure out the mapping of COVID-19 information dissemination and communication by the government and other stakeholders in Indonesia during the Covid-19 outbreak on social media. This study uses social media data from four Twitter accounts, namely user @Jokowidodo, the president of Indonesia, user @BudiG.Sadikin the Indonesian Minister of Health, @KemenkesRI, the official account of Indonesian Ministry of Health, and @WHOIndonesia, the official account of World Health Organization (WHO) for Indonesia, as the four influential parties in handling the Covid-19 outbreak. This study uses the Ncapture and Nvivo 12 application to collect and analyze the data. The results showed that among the latest 30 posts in mid-June 2021 from those 4 twitter accounts, @KemenkesRI posted 24 tweets that contained the information about the COVID-19 outbreaks, while the other 6 tweets contained about other issues. User @BudiG.Sadikin posted 19 tweets related to COVID-19 informations, and 11 tweets about other issues. User @Jokowidodo posted 15 tweets about the COVID-19 outbreak and the other 15 tweets on different issue. The last one is from @WHOIndonesia which only posted 13 tweets related to the outbreak, and 17 tweets unrelated to the issue.

**Keywords:** COVID-19, Information Dissemination, Communication, Government.

## 1. INTRODUCTION

The first instance of the new coronavirus that caused COVID-19, subsequently called SARS-cov-2, were verified in December 2019 by officials in Wuhan, China [1]. After intensive investigations, Chinese authorities reported the first human case with the symptoms of coronavirus infections in early December 2019.

The investigations revealed that some of the first cases were related to a wholesale food market in Wuhan. Wuhan market stall owners, market employees, and casual market visitors were among the first initial patients, indicating that the particular market played a significant role in the early spreads of the COVID-19 pandemic. Consequently, the market was shut down on January 1, 2020. Since that first occurrence in

Wuhan, the virus has spread widely among the countries which eventually became an alarming pandemic.

The spread of Covid-19 worldwide necessitates countermeasures by the government and other stakeholders to mitigate the problems. The outbreak has made access of information as an essential element that the government and stakeholders must provide. Another thing that is just as important for the government to take into account during the pandemic is the effectiveness of knowledge dissemination among the people. Effective dissemination implies that the information about any healthcare issues are able to reach the people in the most efficient way possible[2]. The way governments and other stakeholders communicate is also seen as benchmark in overviewing the effectiveness on the spread of information. People were familiar with mass media such as newspapers, television, or radio as an effective medium for disseminating information. But at this time, the conventional method is beginning to be replaced by the use of social medias such as Facebook, Twitter, or Instagram.

One of the social media platforms that is widely used nowadays is Twitter. Twitter is a messaging and social networking platform that allows users to write posts in a maximum of 240 characters called as "tweets"[3]. During the pandemic, many resources stated that Twitter is proved to be a valuable tool in promoting timely and creative research[4]. Thus, we are using the data we gained from Twitter as the primary information in this research to analyze the pattern of the spread of information by the governments, and other stakeholders in Indonesia. The particular data will be obtained from a determined amount of tweets from the accounts of several important figures from the government of Indonesia, and the related stakeholders in handling the issues caused by the current pandemic. Those figures will be: user @Jokowidodo, as the president of the Republic of Indonesia, user @BudiG.Sadikin as the Indonesian Minister of Health, @KemenkesRI, the official account of Indonesian Ministry of Health, and @WHOIndonesia, the official account of World Health Organization (WHO) for Indonesia. We aim to overview any patterns of information dissemination from those accounts to conclude whether the particular accounts have been proactive in playing their important role of disseminating information during the COVID-19 pandemic.

## 2. METHOD

This research was conducted to obtain information on the effectiveness of the role of disseminating information regarding the COVID-19 outbreak by the Government of Indonesia and other related stakeholders. Therefore, this research will be conducted as a meta-analysis research. The meta-analysis allows the research to have combination of mixed results and considers relative amount of samples. Meta-analysis research is conducted by evaluating data from several primary research. The findings of this analysis are utilized to decide whether to accept (support) or reject (abort) the determined hypothesis and to gain precise directions for further researches from the developments on social media.

The primary data sources in this study are several tweets from four Twitter accounts, namely user @Jokowidodo, as the president of the Republic of Indonesia, user @BudiG.Sadikin as the Indonesian Minister of Health, @KemenkesRI, the official account of Indonesian Ministry of Health, and @WHOIndonesia, the official account of World Health Organization (WHO) for Indonesia. The available information from those accounts will be downloaded using the N-capture program. After every data is prepared, the authors will put the information into Nvivo 12 application and review the result by creating charts of mentions, hashtags, and posts from the accounts. The results showed that the four accounts are actively using Twitter to spread information and education regarding the COVID-19 Pandemic.

Furthermore, we are using international journals and articles for additional source for the research. The writings are accessed through <https://www.google.com>. We use "COVID-19 Information Dissemination by the Government of Indonesia and related stakeholders" as the keywords in accessing the related journals. From these keywords, we obtained 15 documents which we use as supporting research material.

## 3. BASIC THEORY

### 3.1 *Twitter as a Media of Opinion Mining*

People express themselves through social media. Twitter, for example, is a widely used social media platform where users may state their opinions on any topics or events [5]. Most users regularly use certain hashtags to tweet about

current events, which then are used to overview the general opinions regarding the particular matter [6]. Regarding the COVID-19 outbreak, most of the tweets posted include news and reports of the outbreaks worldwide, mass condolences regarding the losses caused by the outbreak, public demands for initiatives from the governments both nationally or internationally, and information regarding critical healthcare problems [7].

Most studies that use Twitter as the resource for the researches conclude that Twitter is a fascinating source in describing the public's opinions or emotional tendencies on a particular issue. However, researching from Twitter still have a few shortcomings, one of them is the fact that Twitter is not particularly an academic platform for academia to exchange information, thus, the opinions posted there will not be entirely supported with academic credibility[8]. Nevertheless, in several previous studies that have been used as references by the author, Twitter has become a massive research tool in Indonesia since the accumulation of Indonesian Twitter users is around more than 52% of the total of Twitter users worldwide [9].

### ***3.2 Information Dissemination by the Government of Indonesia and Related Stakeholders on Twitter***

Good government public communication has been considered as most important in relation to access of information regarding availabilities of healthcare services to secure the public safety during the current pandemic. However, effective public communications still possess huge importance across any sectors[10]. Twitter has a significant amount of users worldwide [11]. The impact of Twitter for the public to obtain information regarding healthcare as well as the risk of disseminating false information from the particular platform has sparked passionate debate among public [12]. The public's attitude against the social distancing policies can be overviewed by analyzing the general mood, emotion, and content from public tweets regarding the policy [13]. The information distributed by the government's official accounts through Twitter may be a proper media to educate the public on the importance of social distancing in the prevention of the spread of the COVID-19 infection. Credible information spread within good quality tweets will engage the interest of

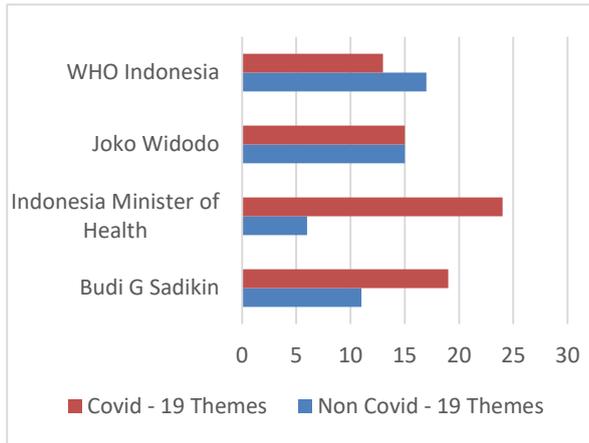
users in Twitter by liking, replying, or retweeting the particular tweet.[14] The more engagement to one tweet will result in the platform's algorithm to spread the particular tweet to other users related to the first user who engaged in the tweet. The work of the algorithm will consequently enable the information to be accessed widely.

In this age of media integration, all types of information dissemination offer a mix of dissemination method which break the constraints of the conventional way of information dissemination [15]. Several programs aim to widely disseminate up-to-date information, and improve the communication, coordination, and collaboration among the governments, healthcare providers, and related stakeholders in handling the pandemic [16]. This study determined several account from the parties stated before as the research object based on the most frequently retweeted users in Twitter [17].

## **4. FINDINGS AND DISCUSSION**

### ***4.1 Information Dissemination by the Government of Indonesia and Related Stakeholders from Twitter Posts***

One of the indicators that we use in this research is the quantity of information spread by the government of Indonesia and related stakeholders from their twitter posts. We have collected 30 most recent tweets in June 2021 from each of the determined accounts. To process the data, we used the crosstab query feature on NVIVO 12 Plus to determine the amount of posts from each account that discussed issues regarding the COVID-19 outbreak and the amount of posts that did not discuss the issues. Hereby is the result of the first indicator:



Picture 1. Number of Posts about Covid-19

We found that from the latest 30 posts of the 4 accounts taken in mid-June 2021, @KemenkesRI spread the most information related to the COVID-19 outbreak in the total of 24 tweets with the other 6 tweets unrelated to the outbreak. @BudiG.Sadikin is on the second place with 19 tweets related to the outbreak, and 11 tweets unrelated to the outbreak. @Jokowidodo is following on the third place with the total of 15 tweets about COVID-19 outbreak, and 15 tweets unrelated to the outbreak. The last account who tweeted the least amount of tweet related to COVID-19 outbreak is @WHOIndonesia with only 13 posts related to the outbreak and the rest 17 posts were unrelated to the outbreak.

We concluded that the Ministry of Health of the Republic of Indonesia, is proven to be the most proactive party among the government in spreading information regarding the pandemic to the public on social media. Their official account managed to post daily updates regarding the number of cases, the number of people recovered, and the death toll that occurred because of the COVID-19 infection. Thus, the role of public communication is carried out seriously by the institution to make sure the trusted data and information regarding the pandemic is delivered to the public. While World Health Organization (WHO) has warned the public on the distribution fake news, incorrect information, and misleading scientific claims[18], national governments are responsible to provide the reliable source of news and information as well as to oversee the spread of false information.

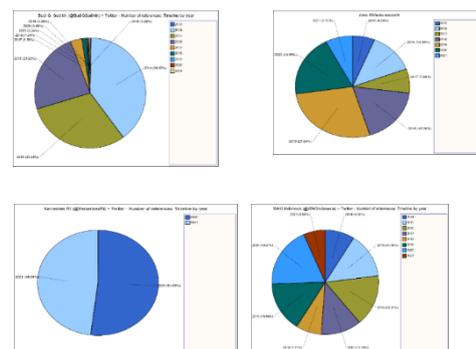
The effort from the government to spread information on the outbreak came from the

President of the Republic of Indonesia and the Minister of Health of the Republic of Indonesia as well. From the research, the two accounts mainly tweeted information and persuasion for every citizen to get their COVID-19 vaccination. Good communication and persuasion on COVID-19 vaccination is needed to help shaping the public opinion regarding the vaccination, hopefully to finally result in the public realization of the good benefits of the vaccines [19].

The twitter official account of WHO Indonesia is one of the accounts which updates plenty of information regarding to the outbreak as well. Although in their 30 most recent tweets in mid-July 2021, their account posted fewer tweets on the topic of the outbreak compared to the other 3 accounts, the reading materials issued by WHO regarding the pandemic provided huge information to the public, as well as other researchers.

#### 4.1.1 Information Dissemination by Government and Stakeholders by Post Timelines

We overviewed the 4 account’s activities on twitter from the past several years. From that, we aimed to find out the intensity of each account’s activities in Twitter since the beginning of the outbreak in Indonesia. Below is the diagram of the twitter activities of the 4 account by year:



Picture 2. Number of Posts by Timelines

From the diagram, the account @Jokowidodo is most active in the year of 2019 than in 2020 where the outbreak is started in Indonesia. The account’s activity in 2019 is assumed to be associated with the Indonesian



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