

An Analysis of the post-COVID-19 Information Distribution on Social Media

Athanasia Oktaviani Puspita Dewi^{1*}, Aulia Isnaini¹, and Mega Fitri Lestari¹

¹Faculty of Humanities, Diponegoro University, Indonesia

Abstract. The pandemic has transformed various aspects of everyday life. Since it first spread in 2020 until this day, the world has drastically reduced face-to-face interaction, resulting in almost all daily activities have been adapted to the virtual world. Social media, the bridge that connects people at this time when social distancing is imposed, records public issues and opinions in these difficult times. Entering the post-pandemic era, social media plays an important role in recording the world's journey to deal with the impact of COVID-19. This study examines the dissemination of information in one of the social media that is widely used by the world's population, Twitter. With the quantitative method, the distribution of information on Twitter related to what issues are being discussed post-pandemic is analyzed. The trend of information in this application shows the focus mainly fell on various social issues that affect many people, especially regarding economic recovery. The results of this study can be used as a source of information or a reference source, and can also be used as data in predicting various kinds of post-pandemic activities.

1 Introduction

Two years have passed since COVID-19 started to infect the global population. Since the end of March 2020, back when more than 100 countries implemented a lockdown policy as a form of limiting the spread of the virus, every individual in various parts of the world has begun to learn how to survive with minimal social interaction. The internet, undoubtedly, became the center of global activity. As a result of the limited direct communication that can be done, virtual communication platforms such as social media are people's choice to stay connected to the outside world.

Now, at an important moment when the world is recovering from the damage caused by the pandemic, even though people have been allowed to return to their social life activities as before, social media is not being abandoned by the society. In fact, its use is getting more and more relevant after many new users join during the pandemic. As the world begins to prepare for life after COVID-19, the topics of conversation that netizens are interested in are also changing. If previously the rise in cases and the direct impact on their lives at that time was a major concern, now the topic that attracts public attention is the continuing impact of COVID-19 on post-pandemic. No longer centered on the fear of spreading and increasing the

* Corresponding author: nurilyas@ums.ac.id

number of cases, the trend of circulating information on social media is something that deserves attention because it can reflect the current public concern in social issues and the impact of COVID-19 that emerged in the post-pandemic period. This article analyzed the information distribution in the post-pandemic age that's happening on social media, in this case, Twitter. As a popular social media platform that declared itself as a place to keep up with news and current events, along with commentary on such things, Twitter is the most suitable media to see the trend of information distribution in the internet.

2 Methodology

This research uses data mining method with cluster analysis. According to Tan (2006), clustering is a process to group data into several clusters or groups so that the data in one cluster has the maximum level of similarity and the data between clusters has the minimum similarity. Cluster analysis is the right method to identify homogeneous objects into groups called clusters. The clusters formed have high internal homogeneity and high external heterogeneity (Hair, et al., 2010:486). The analysis is carried out through several stages as shown in Figure 1.

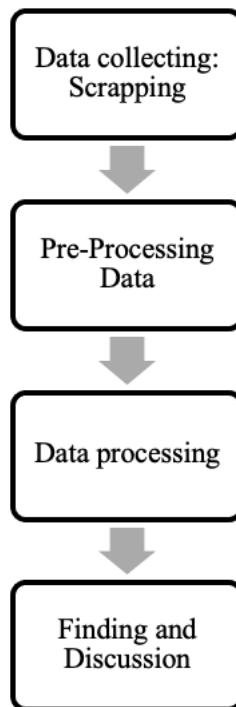


Fig. 1. The stage of analysis

In the first stage, the data collection was done in form of web scraping techniques to retrieve data from a website automatically (Riyadi, 2013). According to Aalst (2016, 325), the initial success in carrying out the mining process relies on the support of good tools. As a platform that has been developed ever since 21 years ago, Rapidminer software is chosen for the data mining process in this study. Data collection was carried out through Twitter social media with the keyword "post-Pandemic". The search was executed by filtering data only on July 3, 2022. Scrapping was carried out on those that had been found to produce 100 tweets.

The data that has been collected is a semi-structured data so it requires additional processing to interpret the data. This is the pre-processing stage. This process is very important and cannot be missed because it will be interconnected and affect the cluster analysis process. This process is carried out on the data in several steps:

a. Select Attribute

In the data that has been collected, only the data with text that explains the contents of the tweet is selected. The contents in this case refers to the part of tweets that mentioning the post-pandemic. This step needs to be done so a conclusion can be drawn later.

b. Replace

At this stage, two replacements are performed. In the first replace all Retweets will be deleted so that only data is left from tweets, and unrelated characters are deleted in posts to reduce characters that are not needed in cluster analysis such as @ to the word before the . In the second replace, deletion of the text in the form of 'https:' and the youtube link. Thus, the data that was successfully obtained is more relevant to the research topic and easier to analyze.

c. Tokenizing

In this process, word groups are separated from sentences in the data that has been filtered in the previous step.

After pre-processing the data, then the data will be processed to take the essence of the data that has been taken so that it leads to a concrete conclusion.

3 Finding and Discussion

3.1 COVID-19 Pandemic

COVID-19 is a well-known type of deadly infectious virus. Ever since its first appearance in 2019, it was able to become a pandemic that shocked the world in 2020. According to the Inspector General of the Ministry of Education and Culture, the COVID-19 pandemic occurred simultaneously all over the world. The COVID-19 outbreak that suddenly appeared was able to paralyze all the normal activities in society and became an unstoppable storm that ravaging various essential aspects of life. Every individual in this age of crisis had tried to do their best, but in the end there was a decline and massive changes in society systems. People live in limitations and was forced to adapt in order to survive. Due to almost all of the everyday aspects have undergone a fundamental change, it's not wrong to say that this pandemic forcefully took real life activities into virtual world.

It's been more than two years since the COVID-19 pandemic has been present in the Earth. The public reactions has been varied from anger, denial, fearful to ignorance, until times made society accepted it as natural thing in their lives. Many new regulations have been implemented to suit the pandemic situation. Now that the COVID-19 pandemic is predicted to end soon, the government has started to loosen up the strict rules. People are starting to get used to being back in full real life activities, doing physical activities and leaving the virtual world. The government and several parties have taken initial steps to fix problems that have occurred during the COVID-19 pandemic. The only concern that still left now is what will be done and what should become the priority of the community as an initial step to face the post-pandemic period.

3.2 The Influence of Social Media on the Dissemination of Information during a Pandemic

The impact of the pandemic is undoubtedly quite large on people's lives. As the only possible easy alternatives, everyday activities have been shifted to the virtual world. In addition to the fact that there's not much entertainment can be found at home, most people, especially teenagers, spend their days with playing gadgets and social media more often than before. These gadgets and social media tend to be used to exchange information and communicate over long distances. Ease of information is one of the benefits of gadgets, for example, information can be obtained anywhere and anytime at the same time. Even updates on the number of patients and victims of COVID-19 are also carried out virtually in social media which resulted in the information can be quickly distributed in seconds. In the pandemic, many people found out that social media is not only makes it easier to retrieve information, but also can be used as a means of entertainment, sharing, and so on.

There is a significant rise in the use of social media during the pandemic. The analysis that was done by Kepios showed that, in Indonesia alone, the internet increased by 2,1 million (around 1%) between 2021 and 2022. One of the social media that is widely used by the global population, Indonesia included, is Twitter. On this popular platform, people freely express and share their emotions and information, even with an account that uses fake identities. Twitter itself is a platform that is widely used by the public to share or update information about the latest issues that have occurred. Uniquely on this Twitter platform, it can identify issues that are currently happening with the hashtag feature. The trending system makes it easy to know which topics are currently being talked about by the masses. It's common for the information trend that happens on Twitter to spread on other social media platforms. As the fifth-largest country in terms of Twitter Users, Twitter had 18.45 million users in Indonesia in January 2022. This is enough to explain why the data that was collected in the mining process mainly comes from Indonesian users, showing that the citizen of this country is actively distributing information regarding about pandemic on Twitter.

3.3 The analysis of Post-Pandemic Information Distribution on Social Media Twitter

To understand the information distribution on Twitter post-COVID-19, the data in this study were analyzed using the data mining method. This data mining process was carried out with the help of data mining software, RapidMiner Studio. The training data was processed in the form of text processing. The results of data training are classified in the following table.

Table 1. The result of data training

No.	Popular Issues	Frequency	Percentage
1.	Economic recovery	74	74%
2.	Hajj	6	6%
3.	Social protection	3	3%
4.	Entertainment	5	5%
5.	Others	12	12%

Pre-processing can be defined as a process of separating words from sentences to take a core or conclusion from the entire data. After experiencing several stages of data filtering, the data of 100 Twitter posts, or commonly called *tweets*, containing the issue of community preparation in the face of a pandemic were obtained. The number of samples is only 100 data

due to simplifying the calculation in order to do cluster analysis. Sugiyono (2017: 91) suggests a good sample size for research between 30 to 500. Therefore, to facilitate the processing and analysis of the data we get, we only use 100 samples to represent the research data.

Based on the results of cluster analysis conducted on 100 tweets, it was found that 74% of the tweets were talking about the efforts of the government and certain parties in improving and restoring the economy, especially for MSMEs and the tourism sector. In addition, 6% of the sample data discusses the Hajj, this is quite reasonable because the restrictions of Hajj caused by the pandemic have been lifted for this year's pilgrimage. 3% of the data also discusses social protection not only at the level of Indonesia but also in the world. 5% of the entertainment in the data is an issue regarding the Prambanan jazz festival and also the Indonesian people's taste in film, which they feel has changed quite a bit after living with the pandemic for 2 years. The last data or the rest discuss things that are less important or random.

In the description of the data presented above, it can be concluded that the sector that experienced the worst decline was the economic sector. In this sector alone, Indonesia also experiencing several problems. An example of this is the existence of economic assistance for the community that was required by a lot of citizens to supply their primary needs. Another concern that heavily being talked by the general public is the paralysis of activities, office activities, and other work that are also diverted inside the house. Therefore, many offline merchants and businesses have suffered heavy losses and bankruptcy that resulted in some of them even having no income during the pandemic. This finding matched with the result of the study supported by UNICEF (2021) that stated 74,3% of Indonesia's households that were interviewed in October-November 2020 were earning significantly less than they were in January 2020. The end of the pandemic is a moment that everyone waited with great anticipation, there is a great hope that life would be back to normal. In the post-pandemic period, there's a huge yearning in society for economic recovery. Therefore, the government and several communities have begun to prepare everything to deal with the post-pandemic as well as possible, such as starting to think about a business or preparing to find a decent job. That way, this article is expected to be a source of information or inspiration for the community to predict what will happen in the post-pandemic and start preparing plans to adapt and survive.

4 Conclusion

The outbreaks of COVID-19 have become a major event in history that changing the pattern of people's lives. Humans have survived these difficult times by depending on their activities on gadgets and actively using online information sites to obtain the latest information or things they want. The social media platform called Twitter is a well-known place to exchange the latest issues and discuss the current trend. After analyzing the main topic that is currently being talked about by general Twitter users regarding the post-pandemic topic, we arrived at the deduction that the worst decline during the COVID-19 pandemic occurred in the economic sector. Therefore, the main concern that surfaced in the post-pandemic time is the recovery of the economic community, especially for the MSMEs and job seekers. With this information, this research is expected to be able to raise awareness among the public so the related parties can be prepared for the future.

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