

Research article

Twitter's Role in the Formation of Public Knowledge About COVID-19

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ORCIDChairun Nisa Zempi: <https://orcid.org/0000-0001-5004-4173>**Abstract.**

This article analyzed the role of Twitter in the formation of public knowledge regarding COVID-19. During the pandemic, public knowledge became essential to take concrete actions for the prevention and handling of the situation. The authors used a qualitative descriptive method to describe in general terms information related to the pandemic that they found on Twitter. The results showed that Twitter is an effective communication network to provide public information. Central accounts can be created on Twitter that can act as information centers. As such, the public not only gains more diverse knowledge but can also participate in active virtual discussions. The authors thus view Twitter as a helpful form of collaborative learning to spread awareness about COVID-19.

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1. Introduction

The COVID-19 pandemic has become a global threat. According to real-time data from the World Health Organization (WHO) until early August 12, 2021, more than 237 million confirmed positive cases of the Covid-19 virus spread across 213 countries. Indonesia is the number 20 country with the most positive confirmed cases in the world.

The delivery of information quickly and efficiently in controlling the pandemic is an important key. Therefore, simple, easy-to-digest, up-to-date information media is needed so that the public can take concrete preventive and countermeasures related to Covid-19. Lack of public awareness and preparedness will risk wider transmission of the virus. Thus, the challenge is how to transfer knowledge about Covid-19 to the public quickly.

As part of new media, social media helps someone get information faster [1]. Social media has the ability to reach a large number of audiences/users. This ability can be used to spread messages and information about Covid-19. So that social media is considered as a mass communication tool that can promote adaptive responses to

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encourage awareness, knowledge, and positive health response attitudes, and adherence to Covid-19 prevention and handling measures [2].

Twitter is an effective social media in informing past pandemics. Previous research from Alessio Signorini, Alberto Maria Segre, and Philip M. Polgreen in 2011 found that Twitter plays an influential role in tracking reports of patients infected with the H1N1 virus in America. Moreover, Twitter is also effective in increasing public interest and knowledge about health-related events. In India, Twitter allows early detection of outbreaks of H1N1 disease through data analysis [3]. Twitter's ability to inform in real-time and massively is a factor that causes Twitter to become an effective social media when informing about a pandemic disaster[4].

This article focuses on exploring the role of Twitter in shaping public knowledge about Covid-19 in Indonesia. The large use of Twitter as a means of communicating and obtaining information about the pandemic disaster raises questions about the role of Twitter in shaping public knowledge regarding Covid-19. How does twitter become a means of forming public knowledge about Covid-19? Can the knowledge gained by twitter become the primary reference for public knowledge related to Covid-19.

2. Methods

This research is descriptive research using a qualitative approach. The data collection of this research was obtained through the observation of tweet analysis on Twitter. To make it easier for researchers to analyze tweet data that researchers have obtained, researchers use secondary data, namely relevant information and literature from the internet. Researchers also use social network analysis software, NodeXL, to provide a real picture of the researchers' observations. The combination of Twitter data, previous literature, and network descriptions is expected to provide a comprehensive analysis of the role of social media in the formation of public knowledge about Covid-19.

3. Discussion

3.1. Communication Network as a Source of Information

The communication network is a relationship formed due to communication between actors[5]. The communication process occurs due to the need for individuals to obtain information. Each account communicates through features, *replies*, *retweets*, and *hashtags* on Twitter and forms a communication network. The communication network will

create the information specification. These specifications will make it easier for people to get information and knowledge about Covid-19.

When it comes to communication networks, many actors are interconnected. Central actors usually mediate these linkages. In this study, the main actors are the Twitter accounts that spread the most information about Covid-19. Main actors can be identified through the intensity and interaction of accounts in disseminating information about the Covid-19 issue. The more communication networks are formed through the account, the more likely it is to become a central account. Therefore, main accounts become an essential component in the formation of public knowledge.

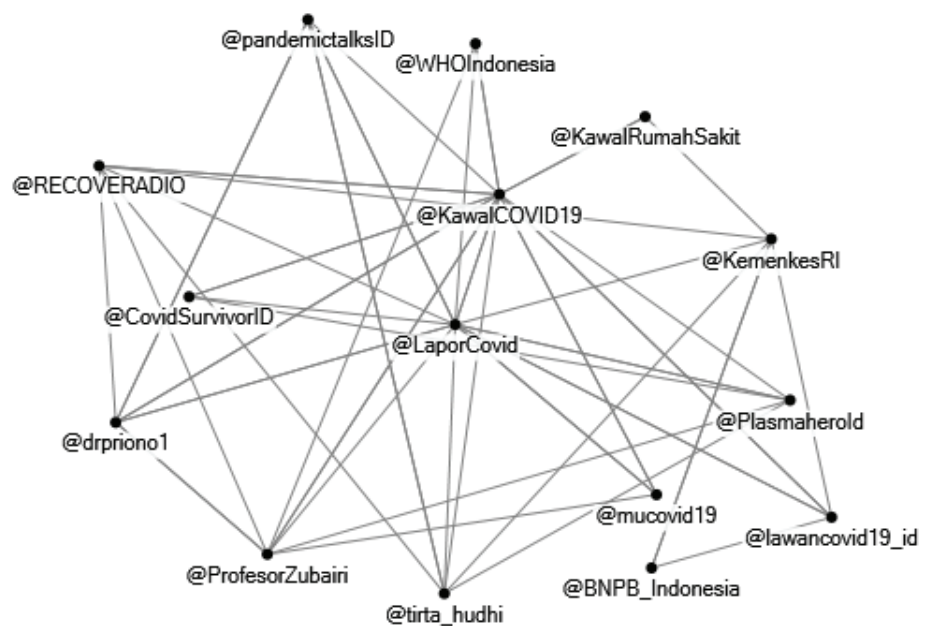


Figure 1: Sociometry of central accounts on the topic of the Covid19 discussion in Indonesia on Twitter. Source: processed by researchers using nodeXL (2021).

Sociometry in Figure 1 shows the central accounts on the topic of Covid19 discussion on Twitter. The author uses the nodeXL software to view the communication network regarding information about Covid-19. There are 16 Twitter accounts, namely @pandemictalksID, @tirta_hudhi, @KemenkesRI, @LaporCovid, @drpriono1 @KawalCOVID19, @ProfesorZubairi, @mucovid19, @CovidSurvivorID, @lawancovid19_id, @KawalRumahSakit, @RECOVERADIO, @WHOIID, @Plas @BNPB_Indonesia), which were detected as central accounts that were active in providing Covid19 information to the public.

These accounts are intertwined creating a communication network that is useful for public knowledge. Each node or account has its role in creating information. Accounts @KawalCOVID19 and @laporCovid provide data transparency and information regarding

Covid-19 in Indonesia. Accounts @drpriono1, @ProfesorZubairi, @tirta_hudhi are privately managed accounts, and they are experts who know Covid-19 in their respective fields. Pandu Riono (@drpriono1) is an epidemiologist, Zubairi Djoerban (@ProfesorZubairi) is a doctor, and chairman of the Covid-19 handling task force of the Indonesian Doctors Association (IDI), Tirta Mandira Hudhi (@tirta_hudhi) is a doctor and influencer who actively discusses Covid-19 since the start of the pandemic.

The @KemenkesRI account @BNPB_Indonesia is an official government account that provides information and handling of Covid-19 originating from the government to be conveyed to the public. Accounts @pandemictalksID, @RECOVERADIO @WHOIndonesia @lawancovid19_id, and @mucovid19 actively give information on handling Covid-19 as hoaxes and facts about Covid-19, vaccinations, herd immunity. The @KawalRumahSakit and @Plasmaherold accounts provide specific information about the availability of hospitals and blood plasma for Covid-19 patients. While the @LongCovidID and @CovidSurvivorID accounts are Indonesian Covid-19 survivor communities, this account contains information for people who have been affected by Covid19.

These central accounts can become opinion leaders in the network. In a network, opinion leaders are very influential in the interaction process of network members. Opinion leaders are a group of people or accounts who have the power to bring about change and influence the masses with the ideas or thoughts they convey[6]

The public is not only provided with single information, but they also get other information that may be equally important at the same time. For example, when someone searches for information regarding the number of positive confirmed patients in Indonesia, he does not only get information about what he is looking for. At the same time, he also received information such as the map of the spread of Covid-19, vaccines, or prevention of Covid-19.

3.2. Public Discussion

Knowledge is not limited to self-knowledge. However, knowledge must be able to generate knowledge in giving opinions so that public discussion can be created. Public discussion is a manifestation that the community already has an awareness of the issues being discussed.

Apart from being a medium of information, Twitter also raises public discussion. The encounter between new media and public discussion allows the public to generate deeper knowledge. Messages posted by central accounts on Twitter usually lead to

discussion in the comments column. The existence of social media is quite helpful in the process of deepening knowledge about Covid-19 in the community.

However, it should be noted that public discussions on social media cannot be used as valid knowledge. There are risks such as sources of information that are not credible, information disclosure is not comprehensive, so that the public does not know which information is valid and invalid[2]. Research from Daniel R. George, Liza S. Rovniak, and Jennifer L. Kraschnewski in 2013 revealed the dangers of using social media in medicine, such as patient privacy issues, information confusion or the validity of information that would harm patients and society[7].

The increasing quantity of communication networks does not always make the quality of communication also increase. The quality of the communication network will depend on how the network members use it. Public knowledge gained on social media will be useful when the public can filter credible and trusted information.

3.3. Hashtag as Knowledge Collaboration

Hashtags can be seen as a form of knowledge collaboration in the Twitter network regarding specific issues. Messages on *hashtags* are usually concise, clear, and easy to understand so that when someone reads the *hashtag*, the reader immediately understands what the user wants to convey *hashtag*[8].

The hashtag is one of the features on Twitter that is marked with a symbol (#), followed by a concatenated word. These words are usually specific words related to the topic being discussed. *Hashtags* are used as a tool to share content and get maximum attention.

The public who are aware of the importance of knowledge about Covid-19 will try to disseminate information. The communication network will be wider by using hashtags, so other Twitter users will likely widely read the information. The forms of messages from *hashtags* are various, such as #gunakanmasker, #jagajarak, #ayovaksin, #Cucuitangan, #Indonesialawancovid, #laporcovid, #PatuhiProtokolKesehatan. Twitter users who have united to spread information through the *hashtag* help increase public awareness of the COVID-19 issue.

4. Conclusion

Public knowledge about the Covid-19 issue is the key to overcoming this pandemic. Twitter as a social media exists to facilitate the public to get massive information quickly. The

communication network becomes an important function in the dissemination of public information. Central accounts are a source of information that can provide knowledge related to Covid-19. Through the communication network, the public can have virtual discussions to give rise to a more concrete and in-depth understanding. The use of *hashtags* on Twitter is a form of knowledge collaboration that already has knowledge and awareness of the issue of the Covid-19 pandemic.

This article only describes in general the role of Twitter in increasing public knowledge about the Covid-19 issue. The author realizes that not all information on Twitter can be used as helpful knowledge. So that further research is needed regarding the process of absorbing public information on the Covid-19 issue and mapping more specific communication channels on each Covid-19 issue.

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