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Indonesian Public Response to Online Learnings During the Covid-19 Pandemic: An Analysis of Social Media

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A B S T R A C T

Online Learnings that were implemented during the Covid-19 pandemic invited pros and cons, especially on social media, that could be directly observed by the public. When analyzed properly, the pros and cons contain valuable information that the authorities can use to evaluate Online Learning policies. This study describes the narrative developed on social media Twitter related to Online Learning during the Covid-19 pandemic. This research includes the social network analysis (SNA) research with a descriptive qualitative approach. The platform used to collect data is Drone Emprit Academic (DEA), an SNA tool. The data analyzed relates to the number of tweets, influential actors, narrative sentiments, and robots that tweet the topic. This research does not contribute justification for right and wrong but attempts to present reliable data exposure. Based on Online Learning tweets collected on July 22-29, 2020, there were 2,903 tweets. The tweets are classified as organic because the influential actors come from personal accounts, not accounts of famous figures. Criticism of Online Learning administration is the dominant response because there is still an economic and digital divide among the public. The government needs to evaluate Online Learning policies and reconsider just education during the Covid-19 pandemic.

A R T I C L E   I N F O

1. INTRODUCTION

The Covid-19 pandemic that began in early 2020 in Wuhan, China, and began to spread throughout the world has changed almost the entire order of human life (Sciortino & Saini, 2020; Mizumoto *et al.*, 2020). Based on the official WHO Covid-19 website, on July 28, 2020, it is confirmed that to date, there have been 16,341,920 cases with 650,805 deaths due to them. This figure was obtained from the cumulation of data on Covid-19 cases in more than 200 countries. In Indonesia, based on the official website of the Covid-19 task force, there were 102,051 positive cases as of July 28, 2020. The increasing number of the spread of Covid-19 has made the public need to be more accustomed to a new, clean, and healthy lifestyle (Habibi, 2020).

The application of health protocols in Indonesia is regulated in the Decree of the Minister of Health of the Republic of Indonesia No HK.01.07 / MENKES / 382/2020 concerning Health Protocols for Communities in Places and Public Facilities in the Context of Prevention and Control of Corona Virus Disease 2019 (Covid-19). Based on this document, the health protocol includes efforts to prevent and control Covid-19 in public places and facilities by taking into account the aspects of individual health protection and critical points in public health protection, involving managers, administrators, or people in charge of public places and facilities and the user community.

The public has begun to adapt to new habits such as wearing masks when going out of the house, washing hands diligently, not hanging out with many people, and other activities that comply with other health protocols. In addition, many of what was initially done through physical meetings are now reoriented to virtual spaces. For example, learning in schools and colleges is now almost entirely done online. In Indonesia, the implementation of online learning refers to Circular Number 4 of 2020 concerning the Implementation of Education in the Emergency Coronavirus Disease (Covid-19).

This online learning becomes the solution for learning during a pandemic as well as a means of suppressing the spread of the virus, which is still tending to increase. Policies regarding the learning process during the pandemic cover various aspects, not only problems of teaching and learning methods but also learning evaluation issues such as grade promotion and graduation examinations (McNamara & Brown, 2009; Zapalska & Brozik, 2006). The national exam, which had been the concentration of students and schools during the pandemic, was later canceled. This policy is also based on the Circular of the Minister of Education and Culture of the Republic of Indonesia Number 4 of 2020 concerning the Implementation of Education in the Coronavirus Disease (Covid-19) Emergency Period. Online learning has become the new normal in the world of education in Indonesia in response to the spread of Covid-19, which has yet to predict the end time. Only the public with compliance with health protocols can accelerate the end of the pandemic period in Indonesia.

The transition from face-to-face schools to online learning is not only related to the locus of the learning process. Various problems accompany this adaptation process. The gap between the economy and digital infrastructure is one of them (Cullen, 2001; Zhao, 2009). It is common knowledge that there are still many Indonesians who send their children to school below the poverty line (Rahmat, 2014). This transition indeed had a very serious shock effect. Not only because they think about school fees and buy internet quotas, but many people have also lost their jobs because of Covid-19 (Pakpahan, 2020).

The story of Dimas Ibnu, a student of SMP Negeri 1 Rembang who came to school alone because he did not have a device to study online, went viral instantly. Of course, there are many other Dimas-Dimas in this country that are not highlighted by the media (Ahmad, 2019;

Hadiyat, 2014). Online learnings, which are indeed a response to Covid-19, leave many issues that need to be of mutual concern as well as to the government, schools, teachers, students, and parents of students. On the one hand, it is very well understood that the policy taken is a tactical step by the government in responding to crisis situations. On the other hand, it also proves that there is no crisis mitigation roadmap in the education sector (Lee *et al.*, 2008; Liou, 2015). This discourse will increasingly find the solution if policymakers can absorb the aspirations of the public through credible channels.

Conventional analyzing data on social media will confuse the public because the data is too large, varied, and grows rapidly. Another case is data analysis on social media using tools based on big data technology such as DEA, a social network analysis platform provided by the Islamic University of Indonesia (UII) (Suharso, 2019). Through this DEA, the public will have the opportunity to know objective facts. Post-truth often infects social media users. This post-truth symptom is characterized when objective facts are no more trusted than private-public assumptions. This symptom is, of course, very dangerous for Indonesia, which based on the We Are Social Hootsuite research in January 2020 alone, has more than 160 million active social media users.

The discourses of online learning had enlivened the virtual society, especially on the Twitter platform, which made it possible to quantify tweets. Based on the DEA portal, it is known that on July 22 to 29, 2020 alone, there were 5,414 tweets related to online learning, which were taken from social media Twitter. These tweets on social media are attached to sentiments that represent the public's reaction to the phenomenon being highlighted. The portrait of the public reaction can be used by various parties as a reflection of the implementation of online learning during the Covid-19 pandemic, as well as reading trends using the social network analysis method (Suharso, 2019).

Online learning-related policies that are taken based on objective data and public aspirations are highly anticipated by the community. Instead of formulating an effective and efficient learning system policy, malpractice in reading social situation data can have detrimental or even harmful implications. During a crisis due to this pandemic, all policies must be aligned with health protocols established by the government, including policies regarding the learning process.

This study aims to analyze the public's response to online learning on social media. The analysis will be carried out using the Drone Emprit Academic (DEA). This platform will help researchers determine the size of tweets, influential actors, influential media, and public sentiment towards online learning. The results of this study will broaden the perspective of the reader regarding online learning discourse on social media so that it can produce a proportional reaction.

This paper consists of several parts. The first part is the introduction. In this section, the researcher will describe the overview of the phenomenon of online learning during the pandemic, which is widely discussed on social media to the point that this research is relevant to do now. The second part is the literature review and the theoretical framework. This section contains descriptions of previous research and relevant theories that can be used to photograph the phenomena that will be studied in this study. The third part is the research methodology. This section contains operational descriptions of the research methods carried out in this study. The next part of this paper is the discussion section that contains the results of the data analysis from this study. The last part of this section is the conclusions and suggestions.

2. LITERATURE REVIEWS AND THEORIES

There have been a lot of discourses about online learning in this pandemic. Like playing puzzles, the previous studies and this research are parts of the puzzle. Reading this research, as well as previous research, will provide a comprehensive understanding of the phenomenon of online learning.

From the researcher's search, several relevant studies are almost close to this research. The first research that has been found by the researcher is conducted by Zaharah *et al*. (2020) with the title Impact of Corona Virus Outbreak Towards Teaching and Learning Activities in Indonesia. Research using the literature study approach aims to explain the various effects of the coronavirus on teaching and learning activities, which include social, cultural, and economic aspects. The literature borrowed to reveal this phenomenon is generally related to the disciplines of education, sociology, and anthropology. This research does answer the normative problem that the solution to learning during a pandemic is online learning (Zaharah *et al*., 2020). However, this study has not directly answered how the public responds to the online learning policy. In addition, the interpretation of this literature is prone to be subjective. Thus, there may be a distortion of information in the rewriting process.

Second, a research conducted by Basilaia and Kvavadze (2020) with the title Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. This research is qualitative research with a case study approach. This study aims to determine the success of a learning transition from face-to-face to online. From the results of research involving a private school in Georgia, it is known that through the Google Meet platform, the transition from face-to-face learning to online learning is said to be successful (Basilaia & Kvavadze, 2020). The two researchers suggested that the learning transition method could be followed by other schools in Georgia and other countries. This research, which was conducted only at one private school, is very far from being used to capture the phenomenon of online learning as a whole. The research will be better if it can obtain opinion data from the wider public.

Third, a research conducted by Lancker and Parolin (2020) with the title COVID-19, School Closures, and Child Poverty: A Social Crisis in The Making. The study aims to explain the impact of school closings for poor students during the COVID-19 pandemic in America and Europe. Research conducted with this literature study explains that school closure has implications not only for the learning process but also for other things, such as economic problems. It is written in the literature that poor children struggle more during school holidays. This is because, in America and Europe, it is customary for schools to provide lunch for children, so when school is off, their families have to add to the cost of children's lunches. In addition, according to other literature, it is stated that there are social and economic gaps during online learning (Lancker & Parolin, 2020). This study puts literature as key data to reveal facts about online learning from a sociological perspective. This study portrays a pretty good social situation, but the data presented is still limited to data that comes from scientific works only. Meanwhile, spontaneous data from the public, such as tweets on social media, are not used as additional data.

Of the three studies that discuss the phenomenon of online learning above, it is dominated by literature research. This is understandable because, during the Covid-19 pandemic, it was indeed risky to take data directly into the field. Unfortunately, social media, which is currently said to represent a human presence in virtual space, has not been discussed optimally. This research will fill that gap.

This study will analyze tweets on social media Twitter related to public comments on online learnings. Research that uses a social network analysis approach is expected to find objective facts related to issues that develop in public. The picture of the real situation is expected to be one of the considerations for policymakers to formulate the right online learning policy, which is following public conditions.

Online learning existed long before the Covid-19 pandemic hit, one of which was driven by the rapid development of information technology (Hoi *et al.*, 2021; Panigrahi *et al.*, 2018). However, its use is seriously and includes holistic education aspects during this pandemic. Once online learning has become the new normal of the learning process during a pandemic, discussing inclusiveness issues in online learning finds its relevance.

This online learning was initially a distance learning solution offering flexibility in terms of where and when to study as a result of globalization. The idea of inclusive online learning emerged soon because the learning involved various parties with ethnic, religious, racial, cultural, capability, nationality, and other diverse backgrounds. The demographic composition that contains a variety of diversity is an aspect that must be considered to create inclusive online learning (Rutherford & Kerr, 2008).

The activities of preparation for learning, implementation, and evaluation of learning are carried out by upholding the principles of inclusion. This online learning involves several key instruments. One of the key instruments in online learning is technology. This technology is related to infrastructure and the ability to use it.

Online learning itself, in terms of loci, can be said to be inclusive because it can be accessed by anyone. In this case, online learning is a symbol of the fading of the different entities that previously always seemed to be carried everywhere during face-to-face learning. Inclusive learning will be announced to be successful if learning is implemented evenly, closes the existing gaps, and creates harmony amid diversity. The success of this education is indicated by the birth of learners who do not judge the differences around them.

On the Center for Teaching and Learning website, to create inclusive learning, at least five principles need to be considered. The five principles include:
(i)   Fostering a sense of collective belonging
(ii) Explicitly know the expectations of students
(iii) Learning content that recognizes the s diversity and is open to criticism and suggestions
(iv) Followable learning design with various accessibility
(v) Reflect on the commitment to online learning that is oriented towards inclusion values

3. METHOD

This research was conducted using social network analysis (SNA). The SNA used is the Drone Emprit Academic (DEA) provided by the Indonesian Islamic University (UII). The DEA portal can be accessed after membership registration is verified by the admin. DEA is one of the SNAs created by the nation's children, Ismail Fahmi, through his company called Media Kernels. This portal collects various tweet data on social media (Twitter) following projects proposed by members. The proposed topics are based on Sustainable Development Goals (SDGs) (Suharso, 2019). The data is then made public and free for members to use. Members then contribute by sharing the results of their writings or research involving the DEA.

The topic of online learning is a project that is still active today. The project began collecting social media data on 22-29 July 2020. From the data collected by DEA, the author will then analyze it by highlighting several important things, namely related to the number of tweets, actors, hashtags, robot accounts, and public sentiment that discuss online learning topics. The

data will be critically described by the author so that readers will get a comprehensive understanding. **Figure 1** is a flow chart of the implementation of this research.
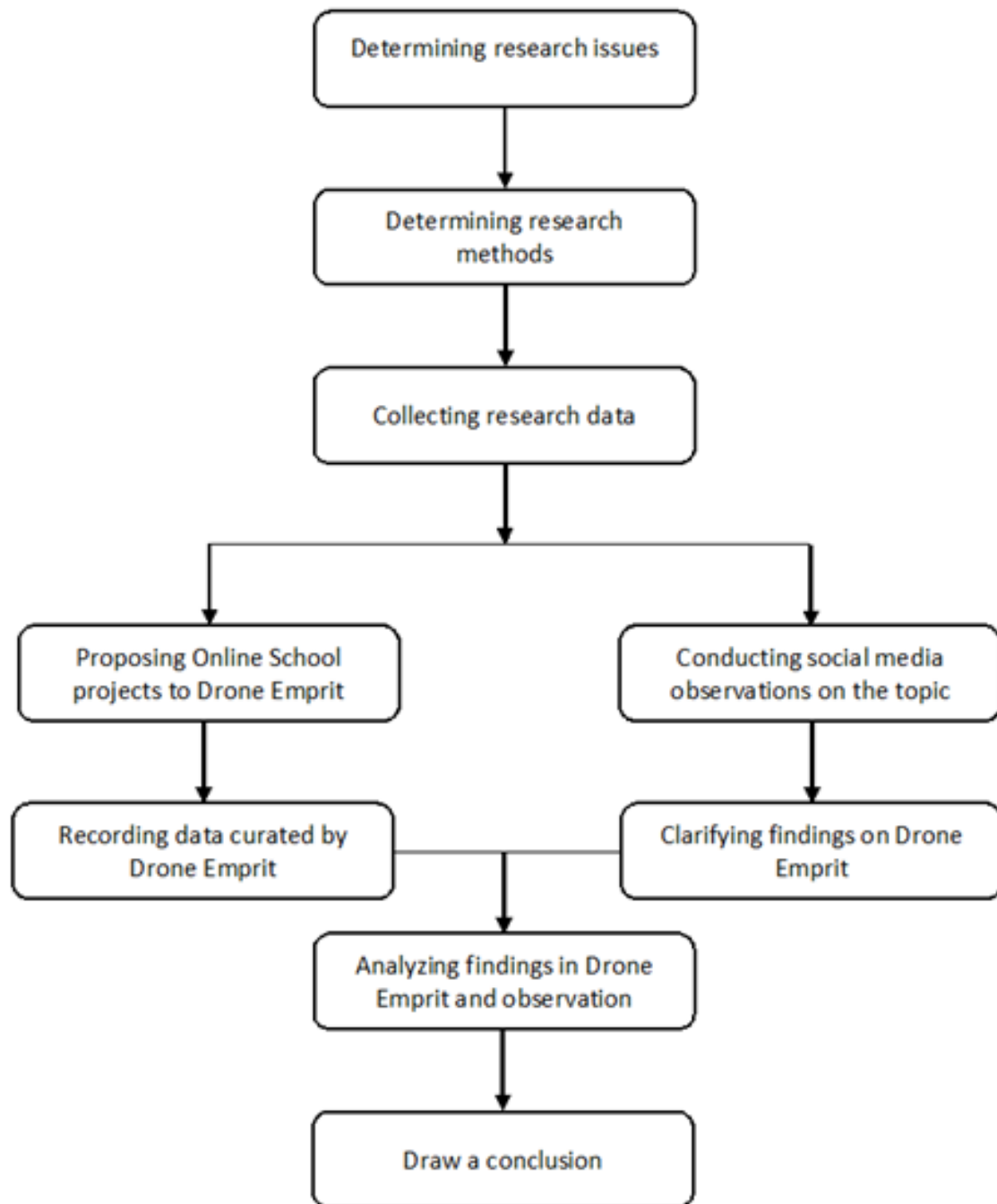
**Figure 1.** Research methods.

4. RESULTS AND DISCUSSION

This online learning analysis on social media will be discussed based on several discussion clusters, including; the number of tweets, the hashtag, the robot account, and public sentiment. All data was taken from the DEA social network analysis platform.

4.1. Tweets Statistics

The online learning project is included in the category of Quality Education SDGs. All data is taken from tweets on Twitter. The peak of his tweet was on July 27, 2020, when "online

learning" was mentioned 2,903 times. **Figure 2** shows the total online learning topic on twitter by time and **Figure 3** shows the map of public distribution discussing about online learnings on twitter by location.
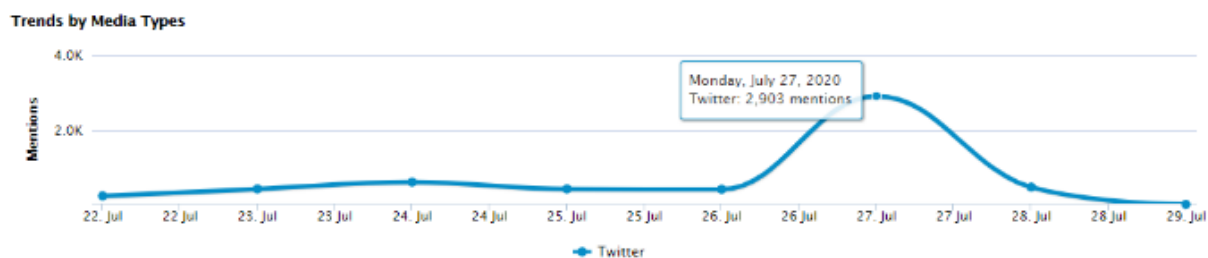
Figure 2. Total "online learning" tweets on twitter by time.

Based on the location of the buzzer, the tweet is indeed dominated by the island of Java. It can also be found on the islands of Sumatra, Kalimantan, Sulawesi, Nusa Tenggara, and Maluku. The 10 cities that produced the most tweets are; Jakarta, Bandung, Yogyakarta, Surabaya, Tangerang, Semarang, Malang, Bogor, Bekasi, and Tasikmalaya. Cities outside Java, which were initially believed to be the most affected by the online learning policy due to the lack of infrastructure, were not included in the cities that tweeted most of the topic.
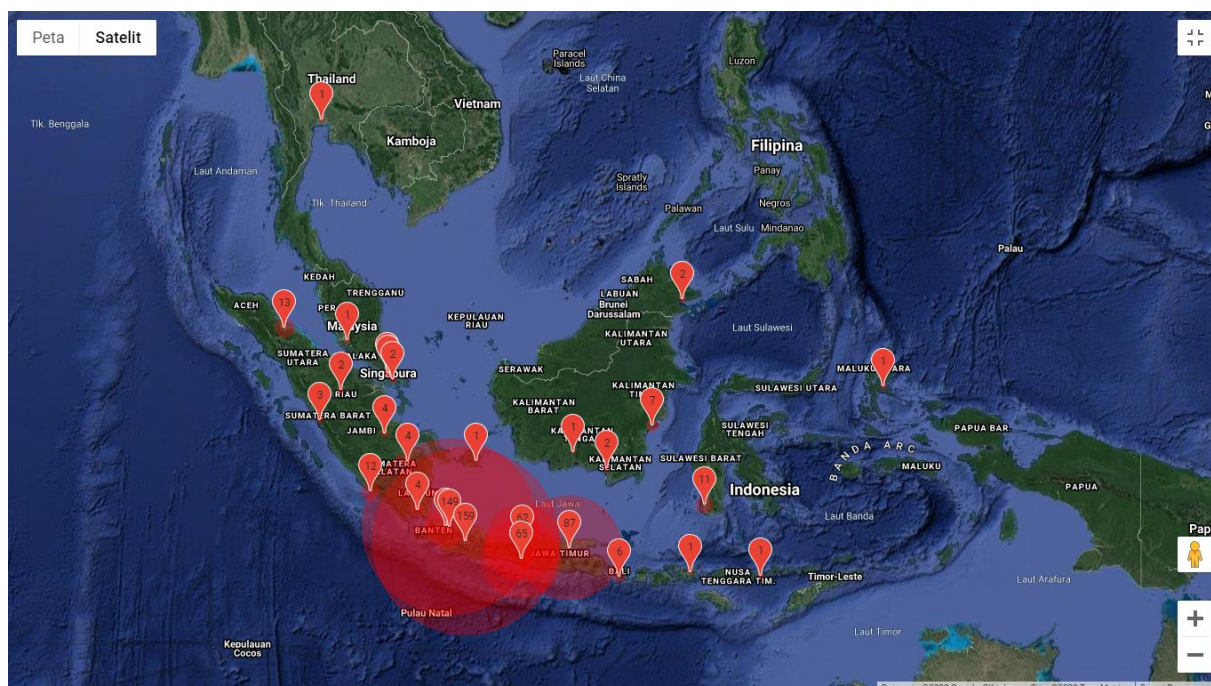

Figure 3. Map of public distribution discussing online learnings on twitter by location (province).

4.2. Actors

These tweets do not just appear without the contribution of the actor as the buzzer of this online learning topic. **Figure 4** shows the actors and the number of retweet or reply interaction. The top 10 accounts with the highest levels of interaction are as follows.

What is interesting is that the Twitter account that gets the most interaction is not the elite. The @sumpagatau account only has 3,749 followers. Meanwhile, an account, namely @TsamaraDKI, that comes from the elite, has political careers, and has a verified account by Twitter, is only at number four. Whereas @TsmaraDKI has as many as 283,9000 followers.

This shows that this online learning topic is not based on the ideology of character even though what they both voiced was almost the same, which is the nuances of criticism of online learning policies. **Figures 5** and **6** are showing the related tweet by online learning that it achieved the highest engagement.
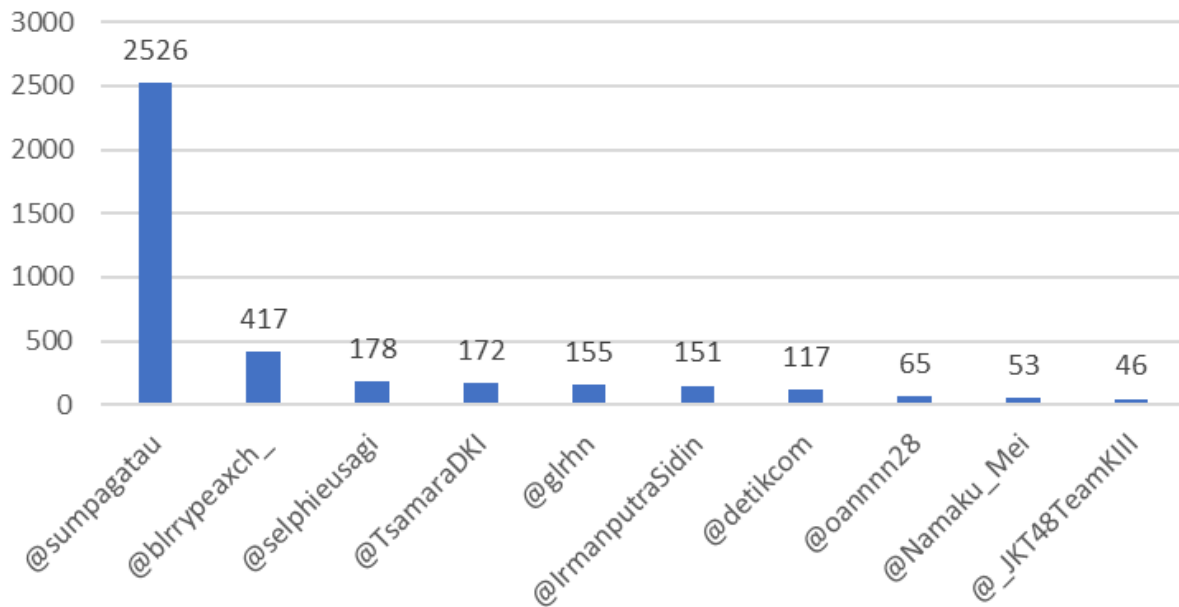
Figure 4. Actors and the number of retweet or reply interactions.
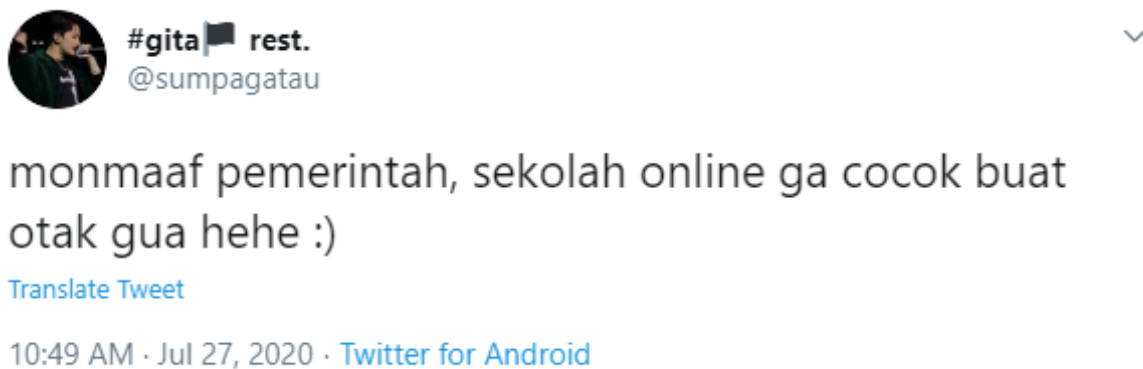
Figure 5. Tweet of @sumpagatau account related to "online learning" that achieved the highest engagement.

The tweet from the @sumpagatau account reads, "Sorry government, online learnings are not suitable for my brain hehe:)." The tweet has nuances of criticism of the government for organizing online learnings but is delivered humorously. Even though it was written in the non-standard language, even with typos, the message conveyed was understandable. This reflection can be seen from the total replies and retweets that tend to have the same sentiment as the @sumpagatau account. The @sumpagatau account tweeted the highest engagement, which was 2526 retweets and replies in writing. This achievement beats the tweet of the @TsamaraDKI account, which is a popular figure. **Figure 7** shows the visual social network analysis drones emprit related to online learnings on 22-29 July 2020. In the SNA image of the DEA, it is clear that the @sumpagatau account dominates the discourse about online learning on Twitter. The tweet from the @sumpagatau account is associated with the @blrrypeaxch_ account tweet, which reads "online learning: negative covid, positive stupid".

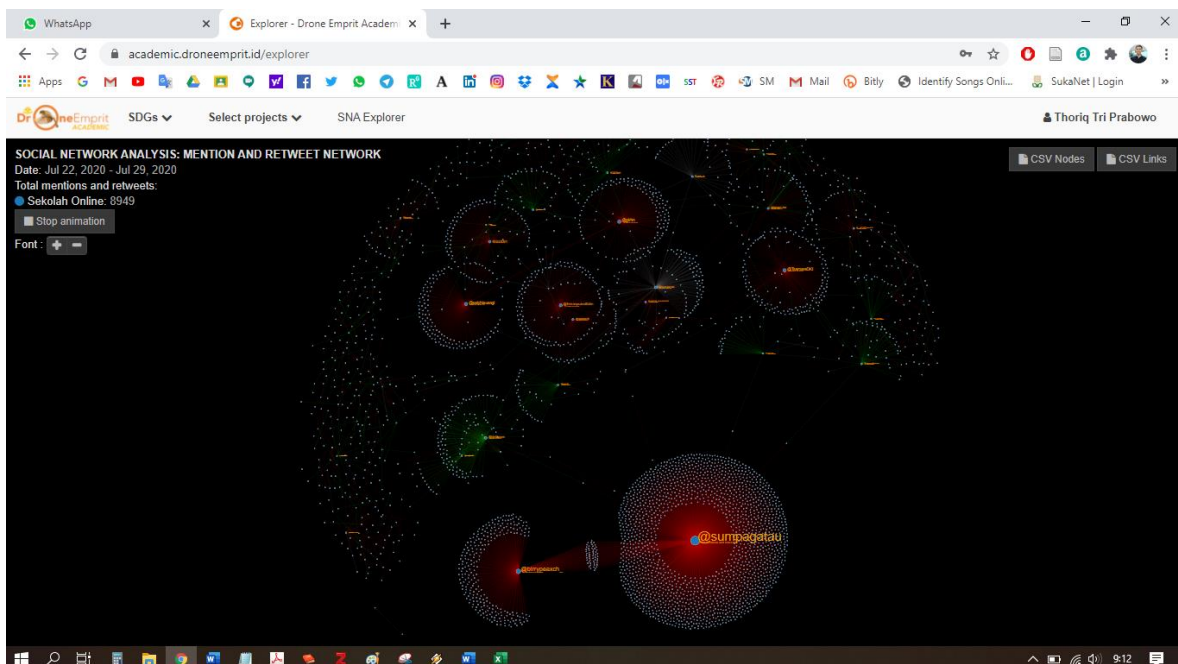**Figure 6.** Twitter username @TsamaraDKI account tweet related to "online learning".

Figure 7. Visual social network analysis drones emprit related to "online learnings" on 22-29 July 2020.

The criticism nuanced tweet was almost the same as @sumpagatau. This can be seen from the slice of the public who interacted in the two tweets. The alternative clusters that also have criticism nuances, when sorted according to the number of interactions in a row, are tweeted by @selphieusagi; @TsamaraDKI; @lhnhn; @IrmanputraSidin; @detikcom; @ oannnn28; @MyName_May; and @ _JKT48TeamKIII.

4.3. Hashtags

The hashtag that has become a symbol of the mass movement also accompanies this topic. **Figure 8** is the top10 hashtags with the highest total mentions.

The highlight of the hashtag #Sekolah (#School) is not that surprising. The hashtag #Rembang (name of the place) became immensely popular because many people responded to Dimas's story, a student at SMP Negeri 1 Rembang, who went to school alone because his father did not have the money to buy a gadget. This news is widely circulating in online media and social media, so it is natural to fuel discussions about this Online Learning. Another hashtag that is getting enough attention is the emergence of a political movement that also piggybacks on this Online Learning's topic even though the numbers are insignificant, namely #LindungiAnakDariHTIdanCovid and #JokowiTurun (nonrelated topics).
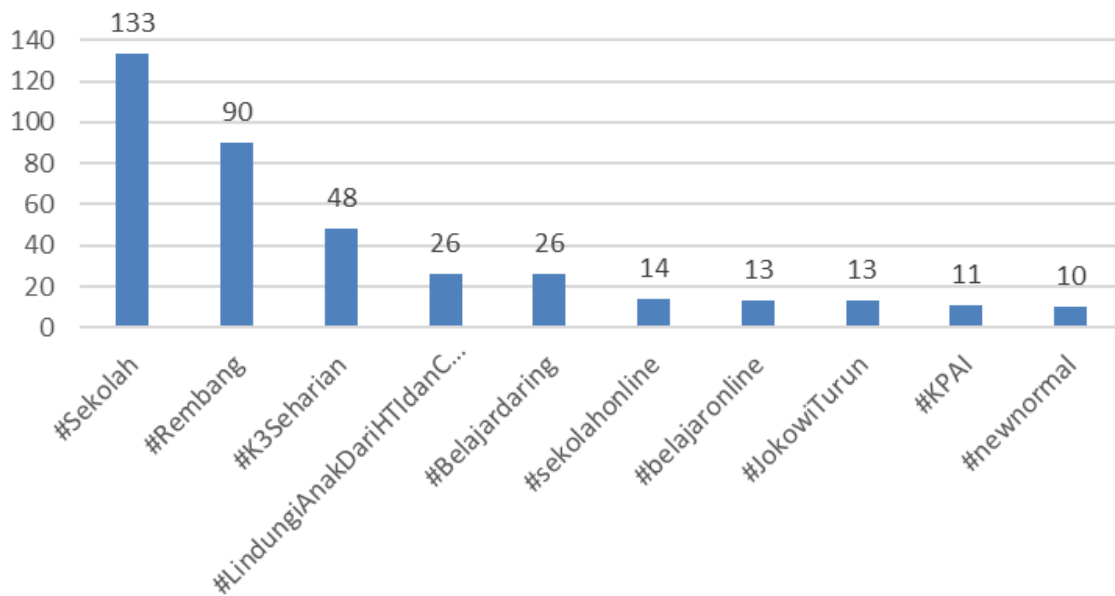
Figure 8. Hashtags and total mentions in tweets related to "online learning."

4.4. Robot Accounts

The hashtag that has become a symbol of the mass movement also accompanies this topic. **Figure 9** shows the tweet related to online learning by the bot. **Figure 9** is the top10 hashtags with the highest total mentions.

The ten accounts with the most bot users include: @HaeDinaa; @sofian_tampu; @tempodotco; @ 99christmas; @GoldenrulesJong; @Julius @CompasTV; @ tatatatu99; @DeviAnggrainiL; and @Rido_Lizze. Of the ten accounts, several online media accounts use bots, namely @tempodotco and @KompasTV. Using bots for this topic tends not to master the narrative, but rather to raise back tweets that have been buried with tweets again so as not to lose attention.
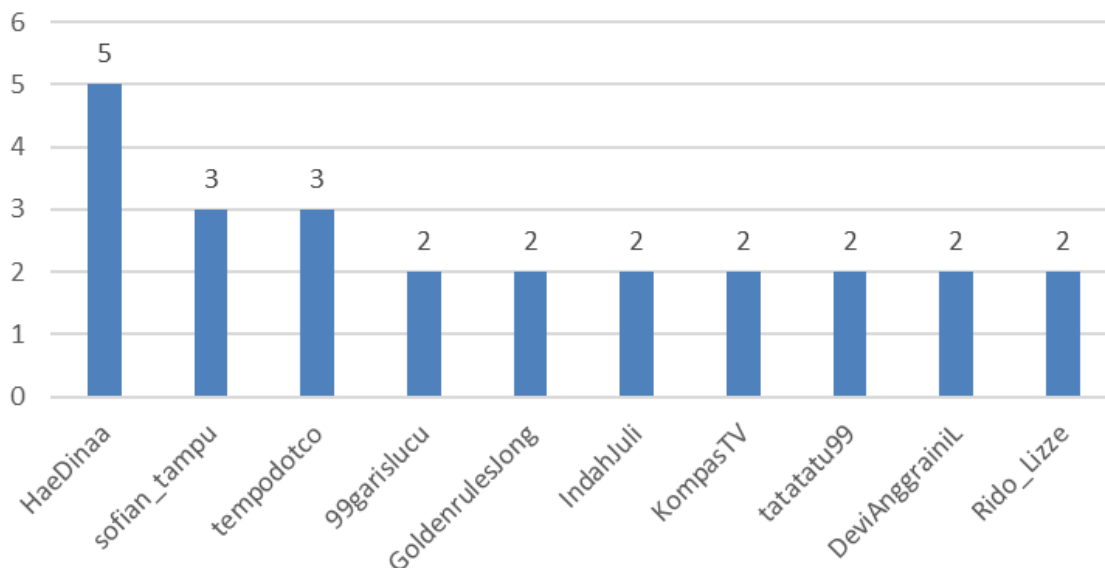
Figure 9. Tweet related to "online learning" by the bot.

4.5. Sentiments

Figure 10 shows the Analysis of public sentiment towards Online Learnings. Through this sentiment analysis, public emotions regarding Online Learning can be presented. Based on DEA data analysis results, which analyze language, it is known that negative sentiments dominate sentiment toward Online Learning. The percentage of public sentiment, starting from neutral, positive, and negative, was 3.65%, 19.28%, and 73.59%.
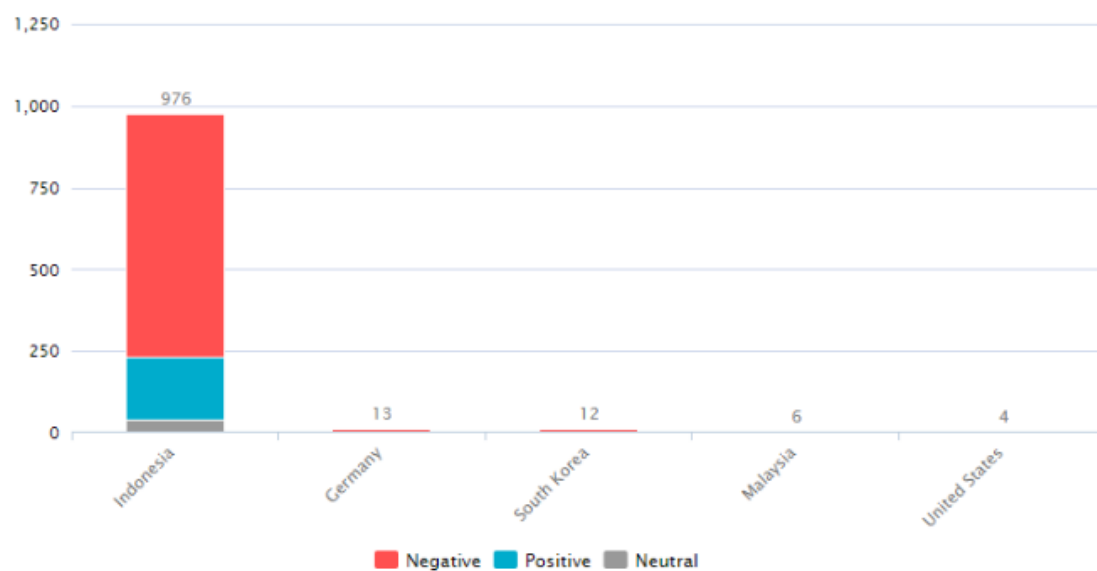

Figure 10. Analysis of public sentiment towards online learnings.

Public emotions related to this Online Learning vary among the three most, namely trust, anger, and sadness by **Figure 11**. This trust is filled with the belief that Online Learnings that suddenly started because of Covid-19 are certainly not free from shortages. Anger is filled with sharp criticism of Online Learning that often contains diction. Meanwhile, sadness is filled with narratives about the sad story of Online Learning's difficulties amid economic disparities among student families.

Emotions Analysis
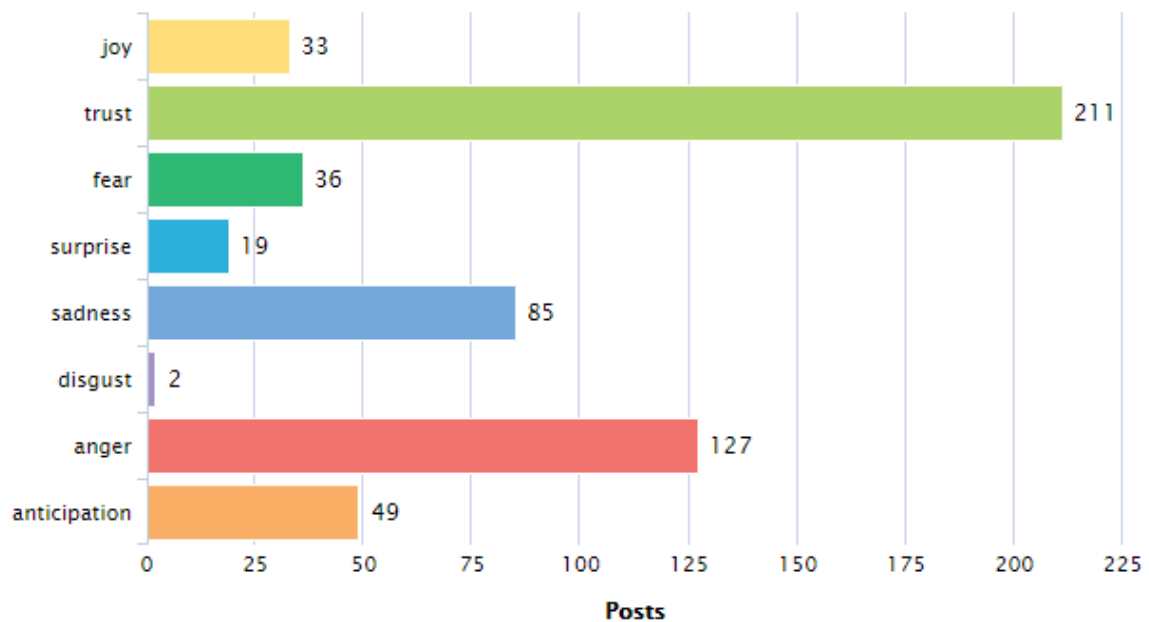
Figure 11. Analysis of public emotions towards online learnings.

5. CONCLUSION

Based on Online Learning tweets collected on July 22-29, 2020, there are 2,903 tweets related to Online Learnings. Online Learning as an issue on Twitter was highlighted based on the accounts' character and background which shrank it. This data makes Online Learning highlighted from different perspectives both as a social issue and as a policy. Almost all people voice their aspirations regarding Online Learning on Twitter. The tweets can be entirely organic, even though political players want to take up the issue, although the numbers are also insignificant. The main idea that was carried out was criticism from various parties regarding Online Learning during the pandemic period due to economic disparities at the grassroots level. Instead of getting a proper education, Online Learning makes it difficult for the inadequate public. Calls for assistance in the form of internet access and the provision of free gadgets for poor students appear naturally at each criticism with a different narrative. On the other hand, this Online Learning, which seems to be implemented without preparation, actually makes students confused. The public assesses that learning preparation, implementation, and evaluation of learning still do not pay attention to the principle of inclusion. When looking at the results of this research, policymakers need to review Online Learning policies. Public tweets dominated by criticism with various variants said that this Online Learning needed to be formulated regarding economic disparities between student families. Besides, there needs to be a road map for inclusive Online Learning to be agreed upon at the national level so that the students from Sabang to Merauke have the same understanding. Transferring learning from face-to-face to online and transferring knowledge and character is also guaranteed to be carried out well in this online learning.

6. ACKNOWLEDGMENTS

7. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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