Big Data Analysis of COVID-19 Mitigation Policy in Indonesia: Democratic, Elitist, and Artificial Intelligence

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Abstract: In response to mitigate COVID-19 local transmission, the Indonesian government has launched several regulative policies. This paper aims to analyze whether the decision-making process of those regulative policies is closed to a democratic or elitist approach and whether the government has adopted Artificial Intelligence (AI) in these processes. We focus on large-scale social distancing (PSBB), homecoming restriction in the Eid Mubarak (Mudik), and new-normal life policy case studies. The research has shown that elite roles are quite dominant with little consideration for public consultation and little attention to the use of AI to consider public preferences. The data were collected from two well-known national online media, which are nasional.kompas.com and tempo.co, while the big data mining and analysis have been applied through N-Vivo 12 software. We argue that although the elitist paradigm can be recognized as an efficient approach in the pandemic and emergency, the decision-makers can accommodate public preferences if they can get insights from online media news with the help of AI technology.

Keywords: Big Data, COVID-19, Democratic, Elitist, and Artificial Intelligence

1. Introduction

By March 2020, the first positive COVID-19 person had been identified in the capital city of Indonesia, Jakarta. The spread of the disease continued in the following weeks and months. For example, at the end of March 1500 cases was confirmed while at the end of May it jumped into 25,200 cases [1]. Until July 2020, 34 provinces in Indonesia had been affected with the highest percentage of the case in East Java, Jakarta, South Sulawesi, West Java, and Central Java, respectively.

The Indonesian government has introduced a series of policies to prevent the spread of the virus. In this study, we define public policy as an action taken by governments to address public problems [2] in the form of regulation or public leader’s statements, for example, on mass media. In a democratic society, however, policy responses to deal with the public issues never come from nowhere space. Those must be decided based on a dialectical discourse, negotiation, and discussion between decision-makers and society at large who will be affected by the policy. However, many decision-making processes involve a handful of people with less public consultation and dialogue [3]. This contradicts with the era when information is integrated into the internet, decision-makers can easily learn what public expectations are through Artificial Intelligence (AI) technology.

Several studies have discussed the government policy in Indonesia and how the probability of the AI used in dealing with the COVID-19 pandemic. For example, Djalante et al., (2020) have highlighted the response of the Indonesian government, NGOs, and the community and recommended five recommendations towards an effective response [4]. Others have focused on lockdown response and the effectiveness of large-scale social distancing (PSBB) [5]. Rest of studies, mostly, came from natural sciences, for example, the relation between weather and Covid-19 pandemic [6] and the relation between sunlight exposure and Covid-19 status [7]. Moreover, little attention has been paid to the use of AI in the decision-making process of the COVID-19 mitigation policy.

This study, therefore, analyses the regulative policies introduced by the Indonesian government in mitigating the Covid-19 deployment. We apply the analytical framework of democratic and elitist approach in public policy studies and its relationship with AI adaptation. Our analysis focuses on three regulative policy case studies, including large-scale social distancing (PSBB), homecoming restriction in the Eid Mubarak (Mudik), and new-normal life policy. We will critically discuss whether the decision-making process of those Covid-19 policies have involved state and non-state actors, hired
public aspirations, and adopted the AI tool? We emphasize the role of AI as studies have shown the advantages of AI for decision-making where AI allows leaders to make better decisions and to increase innovation [8].

2. Analytical Framework

In this study, we focus on the regulative policy concerning how the government takes action to deal with the COVID-19 mitigation by regulating or controlling people's activities within the country [9].

There are two frameworks to analyze actors involved in the decision-making process of regulative policy, which are democratic and elitist models. The democratic model sees that the decision-making process is a public consensus of various actors with different interests and values and each tries to influence the decision [10]. Every actor has an equal opportunity to influence the final decision as power is not concentrated in the top government institution [11-13]. The final decision of public policy should be as an equilibrium of political consensus among various social groups based on negotiation and conflict resolution [14]. The form of these social groups, for example, can be interest groups or social movement organizations [15].

In contrast, the elitist model scholars argue that public policy is a political product reflecting the values and interests of the elite group as powers are not equally distributed. Only powerful actors are involved in the decision-making process, neither civil society organization nor citizen, in general, are engaged [3]. Vilfredo Pareto has also classified the political elite into two categories, governing elite and non-governing elite [16, 17]. The governing elites are people who are in their bureaucratic or political positions while non-governing elites are leaders of interest groups and social movement organizations [18]. Due to the consequence of the governing and non-governing elite dynamics, government policies have rarely answered the need of society [19].

In the rise of computing power and data mining, the government can also adopt Artificial Intelligence (AI), which is understood on how to learn from experience to arrange the public policy [20] based on the data set rather than purely based on intuition or elite pressure. In this study, we consider that AI is not a machine to replace humans, but it is instead a tool to assist decision-makers [21] on how they can accommodate public preferences. However, the challenge is whether decision-makers can gain such valuable insights from the sheer amount of information on the internet and whether they prefer to integrate the processed data into the decision-making process [22]. The previous study has shown that decision-makers can benefit from the repeated issue at a massive scale as knowledge to let them know how to accommodate or to deal with the problem [23].

3. Research Method

In this paper, we based our research on big data which referred to a large volume, complex, growing data set with multiple, autonomous sources [24]. We mined the data from government regulations, the ministerial acts, online news from well-known mainstream media in Indonesia, which are tempo.com and kompas.com. We carried out the google tool engine using keywords such as “PSBB”, “Dilarang Mudik”, etc. As the sources of those media written in the native language, we applied keywords in Bahasa Indonesia, and we downloaded the data in the form webpage NVivo capture. From there, the collected data were classified based framework of resource files on the NVivo. To analyze public preferences, for example, what kinds of policy people expect, we also apply cloud analysis through the picture of the “word frequency query” of the NVivo 12 software.

After the data classification, we validated the materials with information from other sources. Data validation is critical in qualitative research-based to examine its reliability. As the basis of this study is using big data analysis, we never confirmed the validation of the data through the interview with the editorial team of the online media which can also be considered as the weakness of this study. However, with the fast development of networking, data storage, internet access, and data collection capacity, big data through data mining has helped the reliability of studies such as biomedical, physics, and health [24].

In social science, this type of data collection and analysis can be categorized as content analysis which aims to interpret meaning from the text data either document or news media which have been processed. we only utilized the conventional approach in which we directly interpreted the meaning of the texts from the data following the democratic and elitist framework of this study [25]. This method
was different from the traditional approach which utilized the coding method to the actual texts before researchers were able to interpret the data [26].

4. Result
In this part, the aim, context, and political dynamic of three case studies of our analysis are discussed.

4.1. Large-scale social distancing (PSBB)
March 31st, the Indonesian central government introduced the large-scale social distancing policy (PSBB). This regulative policy restricted social activities in public spheres to mitigate the spread out of the COVID-19 virus. Unlike the lockdown or territorial quarantine, the PSBB limited social activities and it still allowed certain emergent economic activities to continue. The central government through the ministry of health affairs is the only authoritative institution that can approve the PSBB proposal from provinces and municipalities.

Figure 1. Cloud analysis of public preferences relating to COVID-19 mitigation policy

The PSBB policy contradicted the public preferences as many civil society groups and local governments demanded the lockdown. For example, the head of the Indonesian Medical Doctor Association (IDAI) publicly asked the central government to enact a lockdown policy. Many local leaders such as province, regency, and mayors also initiated to close their regions, for example, the province of Papua and the city of Tegal. Our cloud analysis (figure 1) has also shown that people demanded lockdown. “Lockdown” word was the highest percentage among the other words relating to public demand of COVID-19 mitigation policy followed by “nasional” or national and “pemerintah” or government.

Responding to those aspirations, the Indonesian president, Joko Widodo stressed that the local governments will never apply lockdown policy and prohibited local government to enact local lockdown due to their authority within the central government [27]. In the implementation of PSBB, the central government several times rejected the proposal from local governments such as the Jakarta province, the city of Mimika, and Pekanbaru [28]. The central government argued that they rejected PSBB proposals from provinces and municipalities as the cases in those regions could be controlled, and the rate of mortality was still low.

4.2. Homecoming Restriction of Eid Mubarak 2020
By April 21st, the Indonesian central government had announced the homecoming restriction in the Eid Mubarak 2020, which would be officially valid between April 24th and May 31st, to break the chain of COVID-19 diseases from the urban to the rural areas [29]. In the Indonesian context as the largest Muslim population in the globe, homecoming is critical for the society when people living in the urban areas were able to visit their families in villages to celebrate the Eid Mubarak festival [30]. The central government will temporarily control all public transportations, including airplanes and ships, as well as private cars.

Two weeks before the Eid Mubarak festival, however, the ministry of transportation told the media that all public transports including buses and trains, airplanes, and ships connecting
among regions in the country were free to operate [31]. Many civil society organizations criticized this policy due to the operation of public transport, the government will not be able to control social mobilization towards the Eid Mubarak celebration. For example, the Indonesian Consumers Foundation (YLKI) said that this policy was contra-productive with the Eid homecoming restriction [32].

According to investor.id, loosening public transport before the Eid festival was occurred due to the political lobby by flight companies. For example, a transportation policy analyst said that after the establishment of ministerial decree no 25/2020, several flight companies pressured and threatened the government that they will declare bankruptcy and will never continue the operation after the outbreak [33]. Due to the pressure, the ministry of transportation agreed to give discretion to several flight companies that they could reopen their flight services following the COVID-19 protocols toward the passengers and the destinations [34]. For example, to be able to get on board, passengers should have had a negative swab test result while the destination of the flight route should be the green zone which means quite safe from the COVID-19.

4.3. New Normal Life Policy

At the end of May, the central government throws an issue to the public sphere that the government will try to implement a new normal life policy. Joko Widodo also talked to media that people should realize that the virus will always be around us which referred to the WHO argument [35]. The new normal life is a situation when people can continue their life, such as in a normal condition regarding the economic, education, and political activities, but people should follow the COVID-19 protocol introduced by the government.

Figure 2. Cloud analysis of public challenge towards new normal policy

The Indonesian COVID-19 task force representative said that they had never been involved in the discussion process of new normal life policy planning [36]. Some civil society organizations such as Muhammadiyah and IDI countered the powers. For example, IDI representatives told that they refused the new normal life policy and argued that many provinces were vulnerable and at a high risk of pandemics [37]. Our cloud analysis (figure 2) has also shown that during May and June public was highly concerned about the issue of COVID-19, and they refused the new normal life policy. For example, among the concerned words were “covid” or COVID-19, “Kesehatan” or “health”, pandemi or “pandemic”, positif or “infected people”, and risiko or “high risk”.

Tempo magazine (30/5/2020) reported a special investigation regarding the lobbying process behind the scenes of the new normal life policy. On May 23rd, the head of the Indonesian Commerce Association (KADIN) came to the presidential palace. They addressed their concern about the worsening economic situation in the mid of the pandemic. Before this meeting, KADIN representatives had conducted a meeting with the Indonesian Coordinator Ministry of Economic and the ministry of finance informing the weakening business of its members [38]. KADIN also addressed that due to PSBB, many companies under the KADIN members went bankrupt while others had terminated their employment. They hope that the central government to reopen business sectors [38].
5. Discussion

The result has shown that the role of the central government in the decision-making processes is dominant. Our cloud analysis (see figure 1) based on media discourse has shown that the public has demanded the central government for the lockdown to mitigate the spread of the virus. According to Purdy (2012) [39], the powerful actor can be dominant as they have the authority, resources, legitimacy. In this regard, the central government has kept the power on their hand to decide the final decision. From the AI perspective, although the information regarding local government and civil society aspirations are publicly available on the online media, the central government has fewer preferences to process and to use the data.

The structure of policy in mitigating the COVID-19 has shown hierarchical and top-down. For example, provinces and municipalities are not able to effectively enact the PSBB without the approval of the central government. This fact has shown that although people elect the local leaders [40], the elected leaders have less authority to run the PSBB in a hierarchical structure. This contradicts with the AI paradigm when the decision-making process is based on knowledge processed from the large and massive data. The local leaders ideally should have more powers to apply local regulative policy as they have more information regarding its local population [41].

The three cases of study have shown that the decision reflects the needs of elites. The central government tends to neglect the input from local leaders and civil society organizations. They are not able to gain valuable insights, as wished in the AI approach, from the sheer amount of the information on the internet and to integrate the processed data [22]. Our cloud analysis has shown that between May and June the public was highly concerned about the issue of COVID-19 (see figure 2), but the government continued to introduce the new normal life policy. Although Indonesia adopts the democratic political system, civil society groups have less access to aggregate their interests and to influence the decision [13]. This fact confirms the argument that neither civil society organizations nor citizens, in general, have been involved in the decision-making process. We argue that AI technology can mediate this barrier to bringing the decision-making process to be more democratic and consensus-oriented if the government is able to get insights from big data storage such as online media.

Due to the high pressure from the business sectors, the central government tends to accommodate the economic interest of business elites. The package of COVID-19 mitigation policy in Indonesia is more likely a political product reflecting the values and interests of elite groups, either the ruling or ruled parties. The governing elites are represented by the Indonesian president and the ministries under his office while non-governing elites are business organizations who are powerful to influence the decision-making process. Due to this type of elite dynamics, the COVID-19 policies have rarely answered the need of society, and citizen aspirations are likely manipulated [3]. Concerning the AI approach, we argue that intense elitist pressure can undermine the way on how decision-makers consider using AI to accommodate public preferences.

6. Conclusion

This study analyses whether the decision-making process of regulatory policies introduced to mitigate the spread of COVID-19 in Indonesia is closed to a democratic or elitist approach, and whether the government has adopted Artificial Intelligence (AI) in these processes. The study has found that the central government’s position in decision-making processes is dominant because it keeps the power such as resources and legitimacy in its hands. The policy structure has shown to be hierarchical and top-down and the decision in the three case studies is reflecting the needs of elites.

The central government has fewer preferences to use the AI on how to get insights from the online data regarding public preferences. Although the elitist paradigm can be recognized as an efficient approach in the pandemic and emergency, it can also undermine democratic values in the transition of political development after the Post Suharto regime. With the help of AI technology, the decision-makers can hire and accommodate public preferences in the pandemic situation from the big data storage such as online media. Finally, we argue that intense elitist pressure in the decision-making process can undermine the way on how decision-makers consider AI to accommodate public preferences.

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