

# How Jakarta Public Transport Uses Social Media Platforms and as an Air Pollution Control Project?

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## ABSTRACT

This study investigated how Jakarta's public transportation uses social media (Twitter) during the COVID-19 pandemic, as well as how public transportation can help Jakarta reduce air pollution. MRT Jakarta, KAI Commuter, and Jakarta Transportation are the three official Twitter accounts for Jakarta's public transportation. Under the COVID-19 pandemic, the main way for the government to inform the public about the transit infrastructure is through the social media site Twitter, as well as the use of public transportation to combat air pollution. The qualitative observational research technique used in this study combines data from multiple sources and is assisted by the NVivo 12 Plus tool, which allows more accurate data collection and content analysis. The positions of the three official Twitter accounts were analyzed based on research findings in two categories: First, Twitter account content includes the hashtag COVID-19, allows Jakarta transportation to meet standard health guidelines during COVID-19, and attractiveness of public use. transportation to reduce air pollution in Jakarta. Second, Twitter account content based on topics often discussed in the implementation of transportation as an air pollution control project in Jakarta during COVID-19 was checked.

**Keywords:** Air Pollution, COVID-19, Public Services, Social Media, Transportation.

## 1. INTRODUCTION

The Indonesian capital of Jakarta, which is one of the world's most populous cities [1]. Jakarta is not just Indonesia's capital, but also a major metropolis. A major metropolitan metropolis, Jakarta is Indonesia's capital and a hub for government, business, and private activity [2]. In Jakarta and its surroundings, trade and industry are everywhere. A significant emphasis area in government transportation is transportation, which is a key component of life and living systems, government systems, as well as social and economic systems [3]. Factors such as socio-demographics have an impact on the region's transportation production [4]. Population increase will have a significant impact on the ability of

transportation to meet local requirements [5].

Jakarta is a large city that cannot be divorced from the issue of air pollution. When it comes to air pollution, no major city on the planet is immune to the epidemic [6]. Similar to Jakarta, this city is one of the major cities in the world with dangerously high levels of air pollution. The well-being of people can be jeopardized as a result of air pollution. The high population density in Jakarta is also linked to the widespread use of private cars, which is one of the major sources of air pollution. One of the Jakarta government's attempts to use a strong and accurate public transportation system is to ensure the consistency of public transportation facilities, allowing people to access information easily, which is in high demand among Jakarta residents [7].

As a vital component of infrastructure, public transportation has an impact on population growth patterns [8]. In this context, government transportation, land use planning policies are important [9]. It is expensive to build transportation infrastructure. In transportation maintenance or redesign, it is impossible to exaggerate the importance of environmental feedback [10]. The COVID-19 epidemic has made it more important than ever for people to keep a safe distance and follow safety rules [11]. Public transportation in Jakarta is dominated by Transjakarta. In the Pandemic era, for example, the Large-Scale Social Restriction Status (PSBB) was modified to Transitional PSBB, which impacted the number of travelers in Jakarta, as shown in the following table 1.



Source: Jakarta Transportation Department

**Figure 1** Number of Transjakarta Passengers January-June 2020

From May to June 2020, the number of passengers in Transjakarta increased by 86 percent, reaching 4.45 million. A rise in PSBBs is likely now that DKI Jakarta has changed the status of Large-Scale Social Restrictions (PSBB) to Transitional PSBBs. The government's use of Twitter as an educational and intelligence tool has grown in recent years, beginning with the high level of awareness and involvement potential, as well as how to turn information into additional connections [12]. The Jakarta transportation system during the COVID-19 epidemic was one example of how social media, in addition to being topical, may be utilized to discover solutions to common problems [13]. Now, more than ever, we must understand more about events and material tweeted by DKI Jakarta's transportation stakeholders [14].

This study uses NVivo 12 Plus to examine how social media stakeholders provide public information on transportation in DKI Jakarta, and the results are transparent. refreshment of knowledge Data processing and interpretation is different in this thesis. Using social media (Twitter) as a major source of public knowledge regarding DKI Jakarta's transportation system may be explored in the future. Ensuring proper and accurate operation of the transportation system to increase awareness among the people about utilizing public transportation, which is an air pollution control initiative.

## 2. LITERATURE REVIEW

### 2.1. Public Service

Public service may be defined as providing services (serving) to people or groups that have an interest in the organization by following established fundamental norms and procedures [15]. Government cannot serve itself but can help the world by creating conditions that allow people to develop their skills and creativity to achieve common objectives [16]. In terms of political success, civil service is the most significant factor [17]. People will evaluate government success based on its programs [18]. This refers to a product's capacity to satisfy stated requirements as well as those that are inferred [19]. When it comes to public services, information technology should be utilized to make them faster and more transparent [20]. Information technology-based public services must be implemented to reduce the danger of inequality in service delivery, misunderstanding about the duration or cost of programs, and, of course, illegal payments [21]. Public transportation is a service that the government provides to its people [22]. When people and goods are moved, they are transferred from their origin to their destination [23]. Transportation is one of the citizens' greatest concerns [24].

### 2.2. Social Media

COVID-19 is a virus that has spread over the world. In these conditions, countries want credible information to avoid symptoms and diseases [25]. In this way, social media should be used before or during a disaster to ensure that all information communicated is well-received [14]. A smartphone in today's society gives everyone access to a wide range of social networking sites such as Twitter [26]. This disease impacts the way individuals interact in a digital environment. Information has become a need in the knowledge society after the internet era [27]. Individuals and groups within a community should be in touch. This means that they think and behave as if they are digital natives, and they act, engage, and perform as if they are digital natives [28]. social networks as a networking technique in social systems [29]. As an example, forums, websites, and microblogs like Twitter may provide a venue in cyberspace for e-commerce events [30]. As a result, Twitter has become one of the most widely utilized platforms for government information dissemination [12].

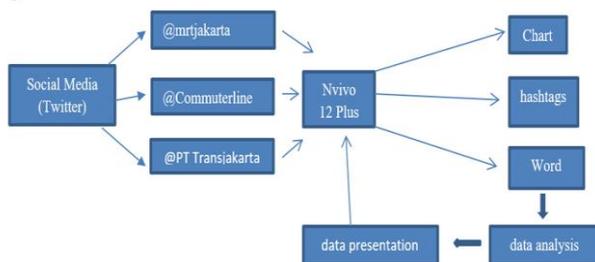
### 2.3. Air Pollution in Big Cities

Fast-paced economic practices require the use of city transportation. The people's purchasing power for private vehicles will increase in line with economic growth, which is marked by improving per capita income. Due to

the impact of morbidity and mortality, as well as the lack of advantage of environmental comfort due to decreased visibility, urban air pollution can cause health problems [31]. Damage measurement of significant air emissions from the perspective of appropriate environmental policy reforms may include significant costs to governments and actors of economic practices that cause air pollution [32]. Because air quality is related to health problems, this problem must be immediately addressed in big cities to become an important issue. The air exposure has been linked to major health problems such as cancer, lung disease, and cardiovascular disease. Among the age categories at risk of illness because of air pollution are children, pregnant women, and the elderly [7].

### 3. MATERIAL AND METHODS

This study employed a descriptive qualitative analytical method. To analyze the data, NVivo 12 Plus was used [33], and data were collected from the official Twitter accounts of the MRT Jakarta (@mrtjakarta), KAI Commuterline (@Commuterline), and Jakarta Transportation (@PT Transjakarta) using Ncapture of NVivo 12 Plus with Chrome Web. Three Ncapture Twitter accounts were linked together, and the hashtag map was utilized to automatically identify which hashtags were being used the most. This tool may also be used to discover terms that occur often in data observations or phrases that are frequently addressed, and the Word Tree feature can be used to examine how conversations are interconnected. For example, the Word Cloud feature might be utilized to limit the number of keywords that appear often in the three Twitter accounts and choose words that are important to Jakarta transit. After that, the data analysis and data presentation were conducted.



**Figure 2** Transport system information may be obtained by analyzing social media research (Twitter).

### 4. RESULTS AND DISCUSSION

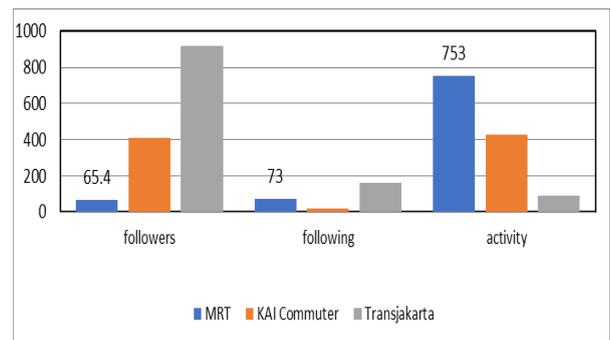
When it comes to transportation, DKI emphasizes the model of Jakarta Smart City, which is based on Jakarta. With public transportation in Jakarta, a software infrastructure or application has been created that is

accessible to all people. Jakarta also adopted the PSBB in its entirety following the COVID-19 epidemic, which had an impact on the city's transportation system.

Indonesia's social mobility is at risk because of the COVID-19 pandemic's rapid expansion [34]. Because of COVID-19, transportation companies such as MRT Jakarta, PT Transjakarta, and KAI Commuter use Twitter as a way to raise public awareness of the transportation system in general.

#### 4.1. Social Media, Information Facilities for the COVID-19 Era Transportation System and Public Transportation Air pollution solutions

Transportation Jakarta uses a two-way public information channel, in which Twitter users have different comments to enable diverse and transparent communication. Transportation Jakarta is a public transportation system that is well-connected and offers high mobility, making it convenient for residents to get around [14]. Internet consumers searching for connections and information love Twitter, a social networking program that allows users to communicate with one other and share information. As a social media platform, Twitter is widely used to share information with the public. KAI Commuter, MRT Jakarta as well as PT Transjakarta's official Twitter accounts all have blue checkmarks next to them (Verified Account). It has 65,400 followers, 73 followers, and 753 tweets/events on Twitter. The KAI Commuter Twitter account, on the other hand, has 411,600 followers, 20 followers, and 425 events/tweets posted. Finally, PT Transjakarta's official Twitter account has 918.100 followers, just 163 followings, and only 92 tweets/events posted. to the right.



**Figure 3** Follower counts and Twitter activity

On Twitter, they also posted on their home page an image with a link to the official COVID-19 website that is maintained by the government Naturally, the general people will take advantage of this easy access to information to learn more about COVID-19 [13]. A similar trend can be seen on the official Twitter accounts of MRT Jakarta (MRT Jakarta), KAI Commuter (KAI

Commuter), and PT Transjakarta (PT Transjakarta). This official Twitter account's information is publicly available, thus anybody with a Twitter account may access it and download it if they so want. It's best to utilize figures 4, 5, and 6 to illustrate this concept.

Figure 4 indicates that the official Twitter account of MRT Jakarta contains covid-19-related hashtags in one of its posts, such as seventeen tweets of COVID-19 hashtags and eight tweets at home, based on hashtags from NVIVO 12 Plus's map phase. This account's hashtag lists include 197 MRT Jakarta tweets, 179 MRT Jakarta tweets, and 141 MRT Jakarta tweets.

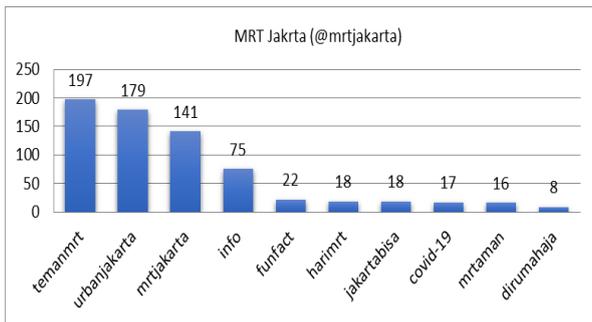


Figure 4 Hashtag the Official MRT Jakarta Twitter Account

When looking at the official Twitter account of KAI Commuter, there are many hashtags connected to covid-19, such as covidSAFE, which has 93 tweets, followed by intervieworona with 5 tweets and new normal with 5 tweets. Rekancommuters, covidSAFE, and Indonesians have the most hashtags, with 372 tweets in the first position, 93 tweets in the second, and 37 tweets in the third. A common subject of discussion during COVID-19 in Jakarta.

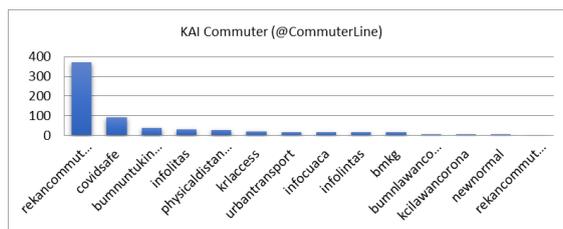


Figure 5 Hashtag the official KAI Commuter's Twitter account



Figure 6 Hashtag the Official PT TRansjakarta Twitter Account

PT Transjakarta's official Twitter account has 20 tweets, making it the most popular hashtag, followed by 5 tweeps. The hashtag tjetanggapcorona has 20 tweets, making it the most popular hashtag, followed by the hashtag tjetanggapcorona. Ten people have used the first hashtag: tijeyang. The second hashtag has ten people who have used it: tijeyang.com, and the third has ten people who have used it: @tijeyang com. The hashtag is part of a public awareness initiative to make it easy for all to stay up to date on health care and procedures offered by Jakarta transportation [14]. Social media efforts to steer news related to COVID-19, which is currently of the highest degree of urgency, are a means of protection against the dissemination of hoaxes that have the potential to unsettle Indonesians and crack the nationalism chain in society [13].

The Jakarta government is also encouraging numerous developments in the public transit infrastructure through social media for people in Jakarta to begin converting from private cars to public transportation. Efforts by the government to minimize air pollution by promoting the use of public transit. Pollution in the air is a felony against the climate. Environmental crime is when members of the government or legal authorities violate the law by polluting and/or destroying the environment, including the natural/physical environment, the artificial environment, and the socio-cultural environment.

Environmental crime is distinct from all offenses, both traditional and modern, from a criminological standpoint. Environmental crime is described as an act of expropriation or deprivation of rights to the environment and the sources of people's livelihoods that are carried out directly by the influence of capital power, political power, and power within a business/government entity, causing and resulting in continuous destruction or destruction [35].

As part of the private vehicle restrictions, the DKI Jakarta Provincial Government will tighten emission test requirements for all private vehicles beginning in 2019 and ensure that no private vehicle older than 10 years old will operate in the DKI Jakarta region by 2025. To do this, the Head of the DKI Jakarta Provincial Transportation Agency will draft law on age restrictions for private vehicles; the Head of the DKI Jakarta Provincial Environmental Agency will tighten the provisions on emission testing for all private vehicles beginning in 2019 and include the implementation of regular emission tests for all motorized vehicles as one of the corollaries, and the Head of the DKI Jakarta Provincial Transportation Agency will draft law on age restrictions for private vehicles as one of the corollaries.

In 2020, the DKI Jakarta Provincial Government will improve walking comfort by speeding the development of

pedestrian facilities on 25 protocol highways, avenues, and links to mass public transit, similar to other hashtags related to motivating people to turn to public transportation. During the rapid expansion of pedestrian services, the footing is being done by the DKI Jakarta Provincial Highways Agency, and the DKI Jakarta Provincial Transportation Agency will plan traffic engineering to keep traffic flowing smoothly, tighten monitoring, and work with law enforcement authorities to prevent motorized vehicles from abusing pedestrian facilities.

**4.2. Frequently Discussed Topics Related to Transportation as a project to control air pollution during COVID-19.**

The official Twitter accounts of MRT Jakarta, KAI Commuter, and PT Transjakarta have been used to analyze the popularity of Twitter hashtags. Analysis of Word Frequency queries using NVivo 12 software. Using NVivo 12 plus software, the results of word frequency searches will be shown on the MRT Jakarta Twitter account in the form of the 20 most often submitted terms/themes (figure 7). KAI's Twitter account will then post the results of the word frequency query analyzed using NVivo 12 plus software of the 20 terms/themes that appear most often (figure 8). According to a study done using NVivo 12 plus software on PT Transjakarta's Twitter account, the 20 terms or themes that show up most often will be listed in the following format: (figure 9).



**Figure 7** MRT Jakarta's Twitter account's word frequency analysis



**Figure 8** KAI Commuter's Twitter account's word frequency analysis



**Figure 9.** PT Transjakarta's Twitter account's word frequency analysis

The Jakarta Twitter account, we claim, is a medium for identifying information from other users who have the same news. During the COVID-19 era, the type of identity was designed to put social distance between Jakarta transportation users [14]. Figures 7, 8, and 9 show 20 topics that were frequently debated on the official Twitter account of MRT Jakarta, KAI Commuter, and PT Transjakarta during COVID-19. First, none of the 20 most commonly debated subjects on the MRT Jakarta Twitter account listed COVID-19. Second, several issues related to COVID-19 are regularly debated on the KAI Commuter Twitter account, including "distancing as much as 112 counts, physical counts as much as 112 counts, #covidsafebumn as much as 93 counts" and "distancing as much as 112 counts, physical counts as much as 112 counts." Third, several topics related to COVID-19 are regularly discussed on PT Transjakarta's Twitter account, including "28 counts of fitness, 21 counts of Covid, and 20 counts of #tjet Responscorona.

Air pollution is an important public issue stakeholders pay attention to, as do these 3 Twitter accounts discuss topics related to environmental health or air pollution. Once a public problem has been identified and

policymakers agree to put it on the legislative agenda, the next step is to develop a solution. Policymakers will be faced with various policy options to solve this problem. Policymakers will be faced with conflicts of interest between various parties that participate in policy making at this stage. Policy decisions will be made as a result of agreements and consultations involving interested parties in policy-making in such circumstances [31].

Air pollution is described as pollution caused by human activities such as pollutants from factories, motorized cars, burning trash, farm waste, and natural events such as forest fires, volcanic eruptions, and flames that emit smoke, gas, and heat clouds, as specified in Law Number 23 of 1997, article 1 paragraph 12 concerning Environmental Pollution. Since Jakarta is known for its air pollution, the government, such as these 3 official Twitter accounts handles, must include information-related content to increase public consciousness of the importance of using public transportation as a means of reducing pollution.

The subject of twitter 3 is that transportation is conscious of population development and the high usage of private cars, which is inversely proportional to road infrastructure growth. People are now increasingly involved in utilizing private cars due to the bad state of public transportation. Vehicle traffic is hampered due to a lack of road space. Congestion is inevitable, and all relevant parties must treat it seriously. For public awareness of public transportation by including a clear and accurate explanation of the scheme, such that many people move from private cars to public transportation, thus reducing Jakarta's air pollution crisis. Give a rundown of one of the government's plans to transform public transit into an air pollution-control scheme in Jakarta.

## 5. CONCLUSION

According to the findings of this study, the level of information dissemination in Jakarta during the COVID-19 epidemic was different. The KAI Commuter Twitter account is the most active in terms of information sharing. COVID-19 saw both accounts sharing a lot of information with Jakarta transportation users. As a result of pandemic information, participants in transportation are reminded to wear masks, maintain a safe distance, and avoid crowds. As a result of pandemic information, transportation participants are reminded to use masks, maintain a safe distance from others, and avoid crowds.

Similarly, in response to an old epidemic, namely, air pollution, the government has made public transportation a means of reducing air pollution in Jakarta. Several rules were put in place by the

government to encourage people to use public transit instead of private automobiles like cars and motorcycles. Again, using social media to disseminate awareness about a safe and right transportation system. Therefore, people turn to public transportation and help air pollution crisis in Jakarta.

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