

# Social Media and Social Movement in Indonesia; Communication Network on Twitter Regarding the Kanjuruhan Football Supporter Tragedy

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**Abstract.** This research focuses on the communication network analysis method that discusses the relationships in the communication network on the hashtag #PrayForKanjuruhan on Twitter (X) social media. This research aims to find out the communication network pattern, the role of actors in the network, and the main actors in the communication network on the hashtag #PrayForKanjuruhan for the period October 1 - November 30, 2022. This study uses a quantitative method with a descriptive communication network analysis approach. Researchers chose four main actors to disseminate information related to the keyword or hashtag #PrayForKanjuruhan, namely @panditfootball, @detikcom, @VICE\_ID, and @NarasiNewsroom. The results revealed that each leading actor has a wheel network pattern, with each main actor being the leader of each information disseminated and only having interactions with their network members, for the role of actors calculated through degree centrality, betweenness centrality, closeness centrality, and eigenvector centrality. The actor with the most dominant role and the critical actor of the network, namely @panditfootball, has the highest centrality value among the three actors, making him the most famous actor and able to contact his network members quickly. This leading actor also has an essential influence on the communication network of information dissemination related to #PrayForKanjuruhan.

## 1 Introduction

The Kanjuruhan issue or tragedy is one of the football tragedies that has been heated in recent months. This tragedy occurred due to the match between Arema FC and Persebaya Surabaya, held on Saturday, October 1, 2022, and located at the Kanjuruhan stadium, Malang Regency, East Java. In this tragedy, there were many fatalities; according to Bola.net, [1] the total number of supporters who lost their lives was 132 people; 96 people were seriously injured, and 484 people suffered minor injuries. The Kanjuruhan tragedy was even declared the second deadliest football incident or riot in the world, quoted from

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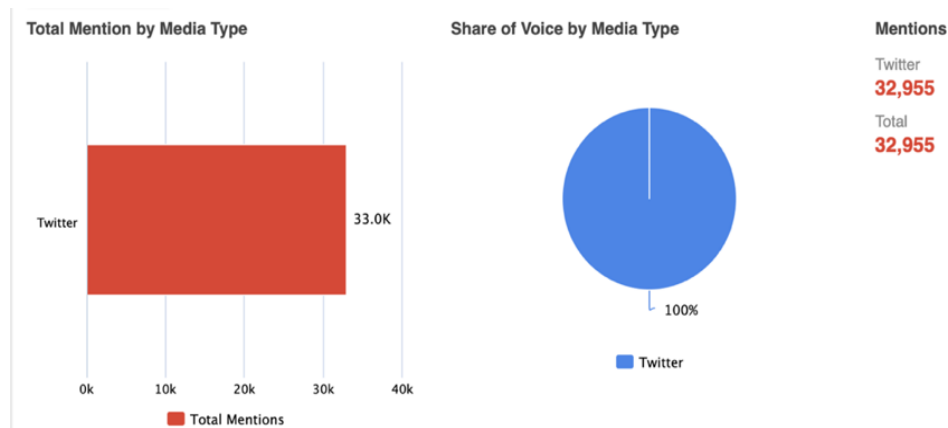
Detiknews [2]. The existence of a humanitarian tragedy like this, of course, did not escape the attention of Mr. President, namely Ir. Joko Widodo. Quoted from Kompas.com [3], Mr. Jokowi stated this tragedy. In the statement, he not only gave condolences to the victims but also said that PSSI, as the parent of the entire Indonesian football club, stopped League 1 so that a thorough evaluation could be carried out, and he also stated to the police so that this case was thoroughly investigated and investigated.

The Kanjuruhan tragedy certainly grabbed the attention of the news media, the authorities, the government, and people throughout our homeland, especially on social media platforms. In Indonesia, social media users are very massive, as reported by research conducted by [4], which states in the data that social media users in Indonesia are 191.4 million users, namely 68.9% of the total population of Indonesian society. Indonesians use social media for an average of 3 hours and 17 minutes. Social media users in 2022 increased by 12.6% from the previous year, and the majority of users are men, with a percentage of 53.5%, and women, with a rate of 46.5%. According to the same data, one of the reasons many Indonesians use social media is to see what is being discussed by many people, with a percentage of 50.1% [4].

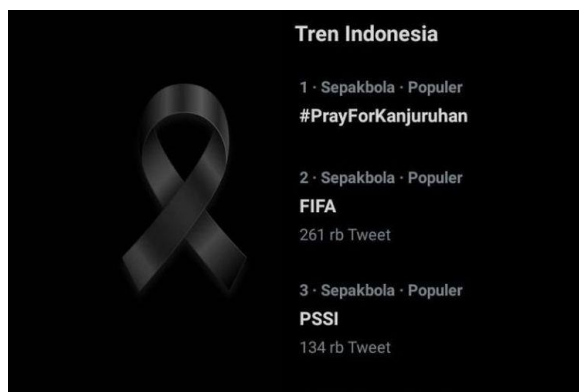
Social media platforms have expanded the scope of voices responding to social justice movements, significantly impacting the public conversation on important social justice issues [5]. Being social in the context of social media means creating connections within the confines of an adaptive algorithmic architecture, where every click, share, like, and post establishes a connection and marks the beginning of a relationship [6]. An example of social media that is very loud when talking about issues or the Kanjuruhan tragedy is Twitter (X). Twitter (X) is a social media platform used to share the latest information that is currently trending. It is one of the social media Indonesians widely use; as reported by [7], Indonesia is ranked 5th as the most Twitter (X) users globally, with 18.45 million active users. Since the Kanjuruhan tragedy on October 1, 2022, many virtual world communities in Indonesia have responded to this humanitarian disaster by using the features on Twitter (X), namely hashtags. A hashtag is a keyword or symbol in the form of a hash sign (#) used in social media and is very popular [8]. Hashtags on Twitter (X) categorize a topic being discussed so that it can be easily searched [9].

Twitter is one of the media that mediates social movements in cyberspace. Social movements involve prolonged contestation of authority with interaction between challengers and power holders [10]. In the era of information and digital media, Castells said that social movements have led to networked social movements based on cultural values (justice), are loose and semi-spontaneous coalitions relying on internet technology, and are local-based movements with global goals [11]. What is happening now is the formation of digital discussion spaces that significantly change the form of discursive argumentation [12]. The concept of computer-mediated communication has shifted towards social-mediated communication, allowing users to reshape interactive communication in a global community [13].

The hashtag #PrayForKanjuruhan was trending at the time of the tragedy and became the most used hashtag, making it the first top trend on Twitter (X). Even as late as November 20, 2022, some social media users still talked about the Kanjuruhan tragedy and reacted to the development of the Kanjuruhan tragedy case. According to Drone Emprit data in Figure 1 and Figure 2, there were still a lot of mentions related to the hashtag #PrayForKanjuruhan on Twitter (X) social media, with a total of 32,955 thousand mentions in the period from October 1 to November 30, 2022. The total mention data is the result of mentions, which have a total of 3,256 or 9.88%; replies, which have a total of 1,495 or 4.54%; then there are retweets, which have the highest percentage of 85.58% or a total of 28,204.



**Fig. 1.** Total mentions related to the hashtag #PrayForKanjuruhan  
Source: Drone Emprit (2022)



**Fig. 2.** Trending hashtag #PrayForKanjuruhan  
Source: Aboutmalang.com (2022)

From the above explanation regarding the Kanjuruhan tragedy on Twitter (X) social media, a conversation or exchange of information and its dissemination that occurred among fellow users on Twitter (X) related to the hashtag #PrayForKanjuruhan was conducted using the communication network analysis method. Communication network analysis is a method that explains the structure of networks and social networks [5]. The network in the study of communication networks is the existence of certain relationships between one actor and another described in a particular social structure [5]. According to Scott (2000: 2-3), quoted from [5], social research generally produces only attributive and relational data. These attributive data are a person's knowledge, opinion, or behavior concerning an issue. Meanwhile, communication network studies do not focus on attributive data but on relational data, namely the relationship between one actor and another.

According to Wellman (1998), as quoted from [5], one of the characteristics of communication network studies is that they focus on individual data rather than aggregate data. The communication networks on Twitter (X) are the most accessible for identification and analysis regarding actors, relationships, and network structure. Communication networks can describe the structure of conversations and relationships between individuals on Twitter (X) related to the hashtag #PrayForKanjuruhan. By using communication

network analysis, we can find out the structure of a communication network, find out the pattern of interaction between network members, how closely and intensively a person interacts in a network, describe the position of a person or actor in the network, who is the most dominant or decisive actor or person in the network, and who are the people or actors who connect one person to another in the network [5].

When discussing a topic, exchanging information on Twitter (X) social media between two or more people can describe the communication network. Each individual has a vital role according to the frequency of providing and receiving information. This research will analyze, know, and tell the social network and the structure of the network on Twitter (X) social media, primarily related to the hashtag #PrayForKanjuruhan, which will influence a network with another network in the formation of opinions or responses from the virtual world community. According to Eriyanto, in communication network analysis, two important things are the primary keys in the communication network. The first is actors who see issues or phenomena on the micro side. Second is the relationship, namely how actors interact with each other [5].

This research is relevant because it is related to the issue or tragedy of football supporters in Kanjuruhan, Malang, Indonesia, which is hotly discussed by the public, especially on social media Twitter (X). This research focuses on the relationship between actors in the #PrayForKanjuruhan network on Twitter social media (X) rather than on the distribution of hashtags or the intensity of conversations related to the hashtag or keyword #PrayForKanjuruhan. The researcher also analyzed how Twitter (X) social media became a medium for social movements and social media-mediated communication.

## 2 Method

The research method used in this research is a quantitative research method with a positivist paradigm. As stated by [14], quantitative research is research based on the understanding or paradigm of positivism; quantitative research is also often considered pure research because the research results are explained with data or exact numbers. The positivism paradigm is based on the belief that it views knowledge or science as the only valid thing because it is based on a person's experience that is captured through the five senses and then processed through reason or logical thinking [15]. Researchers use communication network analysis (CNA) to describe the network structure and social network in communication in this study, namely social issues on Twitter (X) social media. Researchers chose to use a descriptive type of research to describe in detail the actors that exist and are involved in the network and its structure [16]. This research focuses more on communication networks that occur on social media, which shifts the focus from individual traits to relational ties between social entities [17], [18]. This analysis of communication networks on social media is often called social network analysis.

In this study, the researcher meticulously selects the level of network analysis at the actor level (individual), focusing on how an actor forms and makes patterns on a network. The center of attention is the actor (node) in a network [5]. The study applies the principle of probability in sampling as an empirical way to show the number representation in mapping data sources [19]. Researchers took the population through Twitter (X) related to the Kanjuruhan tragedy, especially on the hashtag #PrayForKanjuruhan, by using time limits (event-based), namely from October 1, 2022, to November 30, 2022. This period was chosen as it was the occurrence of the Kanjuruhan tragedy and was widely discussed by the public on social media, especially Twitter (X) and mass media. The data was collected meticulously by crawling data using Drone Emprit based on tweets, retweets, and mentions related to #PrayForKanjuruhan. In this study, researchers used complete network data analysis at the level of centrality measurement, which is a measure used in network analysis

that shows how the position of actors (nodes) in the network is prominent or most decisive in the network [20]. There are four measurements in the centrality level: degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality [21], [22].

### 3 Result and Discussion

Based on the research results, researchers found 32,961 accounts or Twitter (X) users. Out of the 32,961 accounts, researchers took only four main actors who create and disseminate information in a communication network. The first account is @panditfootball, an account that discusses explicitly football both nationally and internationally, and the other three accounts are @detikcom, @VICE\_ID, and @NarasiNewsroom as journalism media organization accounts that discuss various topics, including football hats. The researchers use Gephi to analyze the four actors' communication networks. Actor data (nodes) and link data (edges) were obtained by researchers using Drone Emprit as a tool for data collection from the data processed using Gephi obtained the results of 7922 nodes and 8754 edges. Researchers will describe the results of data and observations through Twitter (X) media as follows.

#### 3.1 Role of Actors in Communication Networks

In the actor identification section, there are four accounts that researchers chose based on the highest followers and the most relationships, namely @panditfootball, @detikcom, @NarasiNewsroom, and @VICE\_ID. In this section, researchers will present indications that strengthen the role of actors as disseminators of information through calculations from Gephi.

**Table 1.** Actors and Calculation Results

No	Actor Name	Degree	Betweenness	Closeness	Eigenvector
1	@panditfootball	1142	0.00002	1.0	1.0
2	@detikcom	671	0	0	0.586276
3	@VICE_ID	485	0	0	0.433762
4	@NarasiNewsroom	310	0	0	0.269712

Source: Research Results

According to Table 1, the four accounts, namely @panditfootball, @detikcom, @NarasiNewsroom, and @VICE\_ID, one conclusion is that all these accounts have a high degree of centrality or popularity compared to other accounts in conversations related to the hashtag or keyword #PrayForKanjuruhan on Twitter (X) social media. However, in out-degree, these four accounts have no outgoing relationships, and only @panditfootball has one outgoing relationship in the network. This relationship means that these four accounts are prevalent. Still, they do not have conversations with other accounts, especially those related to the #PrayForKanjuruhan hashtag, or they need to be more active in establishing relationships with different accounts in the network. The @panditfootball account plays a significant role by having a high level of centrality, namely because this account is popular, @panditfootball, namely the dissemination of information carried out can directly reach readers or other actors related to the hashtag #PrayForKanjuruhan.

In conversations related to the keyword or hashtag #PrayForKanjuruhan, of the four accounts, namely @panditfootball, @detikcom @NarasiNewsroom, and VICE\_ID with a value of 1.0, which indicates that @panditfootball has close communication. Meanwhile, the three actors do not have closeness centrality with the lowest value of 0, which means

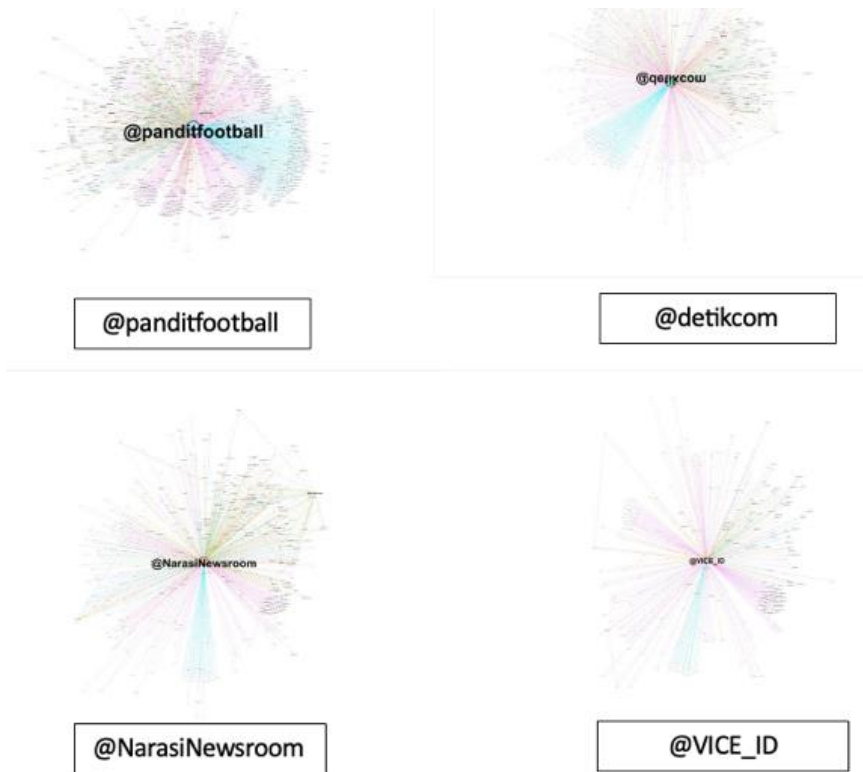
that the three actors do not have closeness to actors in the network. This closeness means that with a high value of closeness centrality, the @panditfootball account can quickly reach other actors in the network either directly or indirectly and has the freedom to spread information related to the hashtag #PrayForKanjuruhan.

The researchers took five accounts with the highest linkage centrality, namely @panditfootball, @joshuanade, @lantip, @okijogjezz, and @al\_lasan. These five actors have the highest centrality value in the network, indicating that these actors are interconnected or interacting. However, out of these five actors, only one actor selected by the researchers has a linkage value, namely @panditfootball. Meanwhile, the actors @detikcom, @NarasiNewsroom, and @VICE\_ID have no linkage value with other actors, which means that the @panditfootball account has a mediating or linking role but needs to be more dominant and mediate with its network members, especially in providing information compared to other members related to #PanditFootball. Information compared to other members related to #PrayForKanjuruhan. In addition, to contact the actor @panditfootball, you must first go through two actors, namely @netijenomous and @waahyuu1987.

In conversations or networks related to the keyword or hashtag #PrayForKanjuruhan on Twitter (X) social media, researchers chose the four actors to have high eigenvector numbers or values. @panditfootball, with a perfect value 1.0, means this account has an essential influence in conversations, primarily related to the hashtag #PrayForKanjuruhan. This technique also applies to the other three actors, namely @detikcom, @NarasiNewsroom, and VICE\_ID. This conversation is a form of two-way communication that refers to a communication process in which actors and audiences listen to each other. In addition, in the network formed, actors react to content created by others [23]. These three accounts have the same important role as the @panditfootball account, although these three accounts do not have a very high value; however, with the results of this eigenvector calculation, it can be concluded that these three accounts have an equally important role in networks or relationships, especially in disseminating information about #PrayForKanjuruhan.

### **3.2 Communication Network Pattern**

As shown in Figure 3, the four actors, namely @panditfootball, @detikcom, @NarasiNewsroom, and @VICE\_ID, are the center of information dissemination related to #PrayForKanjuruhan on Twitter (X) social media. These four actors have a very low density of less than 0.5. Density measures or describes the intensity among network members in communicating or interacting with each other. A high density indicates that the network's actors communicate with high intensity. In contrast, actors in a network with a low density can mean that there is a lack of interaction occurring in the network or that the interaction among members is uneven and only some actors are dominant. A conversation or interaction that has a high density is characterized by a density value above 0.5. Below 0.5 means that the conversations in the network are uneven or there is very little interaction.



**Fig. 3.** Actor Communication Network Pattern

Our analysis reveals that the four actors, @panditfootball, @detikcom, @NarasiNewsroom, and @VICE\_ID, exhibit a wheel or star-shaped pattern in the communication network. This pattern is characterized by a central leader who controls the flow of information and initiates conversations. In this case, the leader is the communicator, while the network members can only receive information and engage in reciprocal conversations with the leader. The four actors have assumed leadership roles in their respective networks, controlling the dissemination of information and interactions related to the #PrayForKanjuruhan hashtag. Social movement activity on social media becomes very audible because of the interconnectedness of actors in a network. In social movements on social media, other parties interested in the same topic almost always emerge to exert their power side by side, in opposition or orthogonal to the movement [24].

Looking at all the statistical data or communication network data processed by the researchers using Gephi, it can be concluded that the dominant or critical actor in the #PrayForKanjuruhan conversation compared to other actors on Twitter (X) social media is the actor @panditfootball. Judging from the profile, this actor is a media that focuses on football; of course, this @panditfootball account only focuses on discussing football and everything related, including the Kanjuruhan tragedy that occurred, a football tragedy. However, if we look at the data starting from Degree Centrality with 1142, this account is viral in the #PrayForKanjuruhan conversation on Twitter (X) social media. Closeness Centrality, with a value of 1.0, allows this account to reach other network actors directly or indirectly quickly. Betweenness Centrality, with a value of 0.00002, illustrates that this account is a source and provider of information sources and can determine actors in the network. It can also be used to contact actors directly or must pass through other members.

This account's eigenvector centrality has a value of 1.0, indicating that this account is considered essential or has a significant influence by actors in the network when discussing or providing information about #PrayForKanjuruhan.

However, the @panditfootball account has the disadvantage of low density compared to the other three actors. Although many people retweet, the resulting network is loose, meaning that the interactions and relationships between the actors and the network are passive and not interactive. The @panditfootball account only gets a density of 0.001, which explains that the more retweets, the more looseness in a network, ultimately makes reciprocity ineffective and the density level smaller.

### **3.3 Twitter (X)'s Role in the #PrayForKanjuruhan Social Movement**

Twitter (X) as a social media has the same characteristics as other social media, which is easy to spread quickly; this is consistent with the results of the data, especially the actor @panditfootball as a journalism media; this actor spread articles related to the hashtag #PrayForKanjuruhan. Eventually, many retweeted and commented on the article, reaching 4900 accounts, according to Drone Emprit data. The communication networks on Twitter (X) are the most accessible for identification and analysis regarding actors, relationships, and network structure [25]. Twitter (X) has become one of the most popular social media platforms for fuelling social movements and serving as a medium for communication. Social media-mediated communication involves not only interpersonal communication but also group communication, public communication, and mass communication. When using social media, users do not just convey opinions, arguments, or ideas interpersonally but affect the public globally.

The hashtag #PrayForKanjuruhan arose from the community's disappointment with the organizers and authorities who were perceived to have failed to provide security for the riots that occurred, the Kanjuruhan incident, which claimed many lives and gave Indonesian football a bad name. X users used hashtags to spread opinions, form digital social movements, reach out to such communities, and perform community building [26]. Twitter (X), in this case, as social media, has played a role as an effective and fast digital social movement tool, especially in spreading opinions and narratives to the public, especially in #PrayForKanjuruhan, with this hashtag and other related hashtags on Twitter (X). This digital social movement would not have happened.

With this hashtag on Twitter (X), people who can get the same ideas or narratives related to #PrayForKanjuruhan can finally get involved in social movements in digital space. As stated by [27], connective action is fluid as opposed to collective action, relies on organizational structures, and assumes collective identity development. Social movements do not have defined leaders and clear organizational structures, and members can quickly join or leave each movement. Social media platforms make it easier for individuals and groups to organize social movements with the participation of actors in cyberspace [28]. Social media-mediated communication networks can overcome the vulnerability and difficulty of organizing social movements in the real world. This research's findings offer the potential to understand better the continuity and change of social movements mediated by social media.

## **4 Conclusion**

This research concludes that the communication network pattern of each actor in the #PrayForKanjuruhan conversation has a wheel or star-shaped network pattern. The four actors in the network are the leaders of every piece of information disseminated and only have interactions with their network members. Each actor in the communication network is



that of the four actors; they all have a role as facilitators of information for members of the communication network related to the hashtag or keyword #PrayForKanjuruhan. The dominant actor or critical actor in this network is the actor or account with the name @panditfootball, which is an account that has a total following of 641.7k and has the highest centrality calculation among the other three accounts, such as Degree Centrality with a value of 1142 making it a famous actor, Closeness Centrality with a value of 1.0 which makes this actor have the ability to contact network members either directly or indirectly quickly. Betweenness Centrality with a value of 0.00002 means that this account is a source of information, determines its network members, and to contact it must go through two accounts, namely @netijenomous and @waahyuu1987. Eigenvector Centrality has a value of 1.0, which means that this actor has an essential influence on actors in his network in disseminating information related to #PrayForKanjuruhan. Twitter (X) plays a vital role in conveying information effectively and efficiently. It can lead to social movements on Twitter (X) using the hashtag #PrayForKanjuruhan and opinions and narratives about the Kanjuruhan tragedy.

Researchers can provide practical suggestions for actors who are journalists to interact with the audience and not only passively disseminate information, but especially in delivering news that is opinion. Meanwhile, academic suggestions that researchers can provide are conducting research related to sentiment analysis in social media, using other levels of analysis, not only the actor level of analysis but the group or system level of analysis, conducting analysis that is not only on the whole network but can conduct research or analysis on ego-centered networks, researching social movements or social issues that are larger in scope using the communication network analysis method.

## References

1. A. Arifin, "Korban Meninggal Tragedi Kanjuruhan, Mereka Bukan Hanya Angka," *www.bola.net*, vol. 18, no. 10, Oct. 2022.
2. M. O. Erwanti, "131 Tewas, Tragedi Kanjuruhan Laga Sepakbola Paling Mematikan Ke-2 di Dunia," *Detiknews.com*, vol. 5, no. 10, DetikNews, Jakarta, Oct. 2022.
3. S. Wiryono, "Pernyataan Lengkap Jokowi Terkait Tragedi Stadion Kanjuruhan," *Kompas.com*, vol. 2, Jakarta, Oct. 02, 2022.
4. Wearesocial and HootSuite, "Digital 2022: Indonesia Data Reportal," 2022.
5. J. L. Blevins, J. J. Lee, E. E. McCabe, and E. Edgerton, "Tweeting for social justice in #Ferguson: Affective discourse in Twitter hashtags," *New Media Soc.*, vol. 21, no. 7, pp. 1636–1653 (2019). doi: 10.1177/1461444819827030.
6. J. Haßler, A. K. Wurst, M. Jungblut, and K. Schlosser, "Influence of the pandemic lockdown on Fridays for Future's hashtag activism," *New Media Soc.*, vol. 25, no. 8, pp. 1991–2013 (2023) doi: 10.1177/14614448211026575.
7. Statista, "Countries with most Twitter (X) users 2022," 2022.
8. C. Christian and G. Sukendro, "Kreatif Hashtag (Analisis Deskriptif Makna Penggunaan Hashtag Pada Iklan Tokopedia #MulaiAjaDulu Di Youtube)," *Prologia*, vol. 3, no. 1, p. 54 (2019). doi: 10.24912/pr.v3i1.6206.
9. M. Mustofa, "Peran Hashtag (#) Dalam Media Sosial Sebagai Upaya Branding Pustakawan," *Libr. J. Perpust.*, vol. 7, no. 1, pp. 34–36. (2019). doi: <http://dx.doi.org/10.21043/libraria.v7i1.4970>.
10. S. Harlow, "Social media and social movements: Facebook and an online Guatemalan justice movement that moved offline," *New Media Soc.*, vol. 14, no. 2, pp. 225–243 (2012). doi: 10.1177/1461444811410408.

11. M. Castells, *The Rise of the Network Society*, Second Edi., vol. I. West Sussex: Blackwell Publishing, 2010.
12. T. Bucher, "Networking, or What the Social Means in Social Media," *Soc. Media Soc.*, vol. 1, no. 1 (2015). doi: 10.1177/2056305115578138.
13. T. Macafee, B. McLaughlin, and N. S. Rodriguez, "Winning on Social Media: Candidate Social-Mediated Communication and Voting During the 2016 US Presidential Election," *Soc. Media Soc.*, vol. 5, no. 1. (2019). doi: 10.1177/2056305119826130.
14. J. W. Creswell, "Research Design: Qualitative, Quantitative and Mixed Method Approaches," *SAGE Publ.*, (2016) doi: 10.4135/9781849208956.
15. M. M. Reynalda, "Proses dan Paradigma Penelitian," in *Metode Penelitian Pendekatan Kuantitatif*, Bandung: Media Sains Indonesia, 2021, p. 178.
16. E. Eriyanto, "Hashtags and Digital Movement of Opinion Mobilization: A Social Network Analysis/SNA Study on# BubarkanKPAI vs# KamiBersamaKPAI Hashtags," *J. Komun. Indones.*, vol. 8, no. 3, p. 1, (2020). doi: <https://doi.org/10.7454/jki.v8i3.11591>
17. K. Nasionalita and C. Nugroho, "Communication Network of Cyber Prostitution on Twitter in Indonesia," in *International Proceeding of 2021 6th International Conference on Management in Emerging Markets*, Bandung, August 11-13 (2021).
18. D. Isa and I. Himelboim, "A Social Networks Approach to Online Social Movement: Social Mediators and Mediated Content in #FreeAJStaff Twitter Network," *Soc. Media Soc.*, vol. 4, no. 1 (2018). doi: 10.1177/2056305118760807.
19. A. Wulandari, R. A. Fitriawan, C. Nugroho, R. P. Nurdiarti, M. Nastain, and K. Nasionalita, "Indonesia's Women: Corruption Is a Normal Thing (Survey of Women's Perception of Corruption in Indonesia)," *SAGE Open*, vol. 14, no. 2, pp. 1–12 (2024). doi: 10.1177/21582440241259956.
20. Eriyanto, "Analisis Jaringan Komunikasi," *Perpust. Nas. Katalog Dalam Terbit.*, 2014, doi: 10.1017/CBO9781107415324.004.
21. S. Sumartias, D. A. T. Puluubu, Sudarmono, A. N. Adi, and E. Ratnasari, "Democracy in the Indonesian Digital Public Sphere: Social Network Analysis of Twitter Users' Responses to the Issue of Nationalism Knowledge Test at the Corruption Eradication Commission (TWK-KPK)," *J. Ilmu Sos. dan Ilmu Polit.*, vol. 26, no. 3, pp. 240–257. (2023). doi: 10.22146/jsp.70896.
22. M. Muslikhin, L. W. Evelina, M. Rizkiansyah, I. Prawira, and R. E. Irawan, "Environmental communication network on Indonesian forest fires on Twitter in pandemic COVID-19 era," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 951, no. 1 (2022). doi: 10.1088/1755-1315/951/1/012026.
23. D. Ingenhoff, G. Calamai, and E. Sevin, "Key Influencers in Public Diplomacy 2.0: A Country-Based Social Network Analysis," *Soc. Media Soc.*, vol. 7, no. 1 (2021). doi: 10.1177/2056305120981053.
24. D. Freelon, C. McIlwain, and M. Clark, "Quantifying the power and consequences of social media protest," *New Media Soc.*, vol. 20, no. 3, pp. 990–1011 (2018). doi: 10.1177/1461444816676646.
25. C. Nugroho, *Cyber Society ; Teknologi, Media Baru dan Disrupsi Informasi*. Jakarta: Kencana Prenada Media Group, 2020.

26. L. Bozarth and C. Budak, “Beyond the eye-catchers: A large-scale study of social movement organizations’ involvement in online protests,” *New Media Soc.*, vol. 23, no. 10, pp. 3062–3083 (2021). doi: 10.1177/1461444820943854.
27. A. Khalil and L. K. Storie, “Social media and connective action: The case of the Saudi women’s movement for the right to drive,” *New Media Soc.*, vol. 23, no. 10, pp. 3038–3061 (2021). doi: 10.1177/1461444820943849.
28. A. Rohman, “Persistent connection and participation: New media use in post-peace movement Ambon, Indonesia,” *New Media Soc.*, vol. 21, no. 8, pp. 1787–1803 (2019). doi: 10.1177/1461444819831973.