

**SOCIAL NETWORK ANALYSIS ON TWITTER SENTIMENT DATA USING NETLYTIC (CASE STUDY: 'GANJAR' AND 'WORLD CUP')**

**Berlian Oktaviano KURNIAWAN<sup>1</sup>**

<sup>1</sup>Communication Science Study Program, Faculty of Computer Science, Dian Nuswantoro University, Semarang, Indonesia  
E-mail: berlianok41@gmail.com

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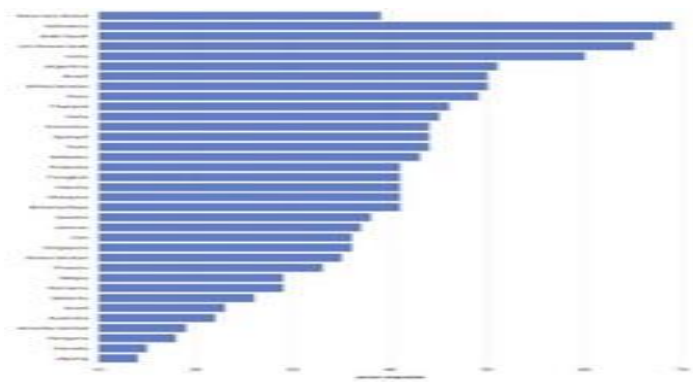
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**Abstract:**  
This research looks at the types of relationships and the structure of communication networks on the topic 'Ganjar' and 'World Cup' which are naturally carried out by actors on Twitter by using Social Network Analysis. The data collection method uses the Netlytic website using the topics 'Ganjar' and 'World Cup' which are currently trending in Indonesia on the Twitter application. In addition, this study also uses qualitative data, namely data in the form of words. The data was obtained from an analysis of quantitative data from the Netlytic website which contains 8,226 posts crawled using the keywords 'Ganjar' and 'World Cup' on April 21, 2023 at 11:38:30 WIB. The data contains various tweets from Twitter users. Many tweets showing Ganjar's rejection of the U-20 World Cup could affect his electability. Apart from that, Twitter users also expressed their disappointment at what Ganjar was doing. Actor @matanajwa is an actor who dominates the communication network with the topics of 'Ganjar' and 'World Cup.'

**Keywords:** Social Network Analysis, Ganjar, World Cup, Twitter, Netlytic

**INTRODUCTION**

Every individual needs exercise. Exercising regularly, it will have a positive impact on physical development. In addition, exercise can also affect mental development (Khairuddin, 2017). One of the most popular sports in Indonesia is football. The enthusiasm of the Indonesian people for football can be seen from survey data in 2022 conducted on Indonesian respondents getting a percentage reaching 69% like football. (Annur, C. M, 2022).



**Figure 1.** Percentage Chart of Football Fans by Country (September 2022)

Not only Indonesia loves football, but there are several countries, Saudi Arabia, the United Arab Emirates, and India, that also have a high percentage of football fans. However, the percentage obtained is still inferior to Indonesia; even in countries whose notables participated in the 2022 World Cup yesterday alone, the percentage of football fans still needs to catch up. Football has developed rapidly and is not just a popular sport but a sports and entertainment industry.



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(Syahputra, I, 2016). No wonder there are so many football fans, every football match that is held certainly attracts the enthusiasm or euphoria of football fans to come to watch directly at the stadium.

Football in Indonesia has a container or association called PSSI (Persatuan Sepakbola Seluruh Indonesia), founded by Soeratin Sosrosoegondo. PSSI is under the auspices of the world football federation, FIFA (Fédération Internationale de Football Association), founded by football associations in Europe (Aruan, 2014). FIFA is the committee for organizing the World Cup. The World Cup was first held in 1930 in Uruguay as the host and world champion for the first time. The World Cup continues to be held every four years until now. It reached the 22nd edition in 2022 yesterday in Qatar as the host, and Argentina emerged as the 22nd edition world champion.

The World Cup is organized not only for senior national teams but there are trophies for the 20-year age group (U-20 World Cup) and the 17-year age group (U-17 World Cup). The World Cup from senior to age group has different hosts and world champions for each group. FIFA has rules in determining the host country with several influencing factors that become FIFA's concern, both from the senior group to the age group.

Word got out that Indonesia was hosting the U-20 World Cup in 2021, but there were obstacles to the COVID-19 pandemic, so the event was canceled. However, FIFA did not revoke Indonesia's status as host of the U-20 World Cup and was retained to host the next cup in 2023. On the way to organizing the U-20 World Cup, many obstacles became the spotlight of various media. Starting from the Kanjuruhan tragedy to the qualification of the Israeli national team at the U-20 World Cup in Indonesia, which reaped controversy and criticism.

Several political Images, regional leaders, political parties and community organizations issued various statements rejecting the participation of the Israeli national team in the U-20 World Cup. One of the regional leaders who also rejected the Israeli national team was Ganjar Pranowo, Governor of Central Java. "So that the U20 World Cup can be held without sacrificing our long commitment to realize an independent Palestine. As well as maintaining socio-political peace within Indonesia," said Ganjar Pranowo in a written quote on YouTube Kompas.com.



**Figure 2.** Ganjar’s Statement of Rejection of Israel’s National Team Participation

The turmoil intensified over the rejection that occurred until FIFA also highlighted the uproar. The complaint was fatal because FIFA stated on its official website that Indonesia's U-20 World Cup event was officially canceled. Although Erick Thohir, as Chairman of PSSI, has taken various ways, even President Jokowi also intervened; the hopes of the Indonesian people must be dashed by not qualifying Indonesia as the host of the U-20 World Cup in 2023.



**Figure 3.** FIFA Statement Officially Canceling the U-20 World Cup in Indonesia

Through the official website, in its statement, FIFA did not reveal the exact reason for the cancellation of Indonesia hosting the U-20 World Cup. In its statement, FIFA only said Indonesia failed related to the current situation. The disappointment of the people of Indonesia also surfaced; they expressed their emotions by tweeting on Ganjar Pranowo’s Twitter and Instagram comments column.



**Figure 4.** Ganjar Trending on Twitter

Various expressions of disappointment and curses were conveyed to Ganjar Pranowo, who had rejected the participation of the Israeli national team, which made Indonesia revoke its host status. This made Ganjar’s name a trending topic on Twitter. Ganjar was among the 35,000 Tweets received by netizens because of the ease of accessing Twitter to express opinions.

Based on this background, the author conducted research on the sentiment of Twitter platform users regarding the trending topics of ‘Ganjar’ and ‘Piala Dunia’ in Indonesia. Research on two non-linear topic words that are trending on Twitter is rare. Studies that have existed are about



SeaGames2022 (Akbar, M. A et al, 2022), political Images (Pramono, A et al, 2020), the electability of Ridwan Kamil and Anies Baswedan (Berliana, D. F & Santoso, B, 2022) and others. The Tweets of Twitter users can be valuable research data because they can form social networks.

## METHODS

**Data Collection Method.** The type of data used in this research is quantitative data. This research contains data in the form of numbers or numbers. Data collection uses the Netlytic website using the topics 'Ganjar' and 'Piala Dunia,' which are trending in Indonesia in the Twitter application. In addition, the research also uses qualitative data, namely data in the form of words. The data is obtained from analyzing quantitative data from the Netlytic website.

**Data Processing Techniques.** In this study, the authors used several techniques in data processing as follows:

**Data Retrieval (Crawling).** Data retrieval was carried out using the Social Network Analysis method on the Netlytic website related to the trending topics of 'Ganjar' and 'Piala Dunia' in Indonesia on Twitter. The author enters the keywords 'Ganjar' and 'Piala Dunia' on Netlytic by extracting information on tweets, replies mentions and comments of Twitter users.

**Text Analysis.** The author visualizes the text that produces the Words Cloud by using the automatic features provided by Netlytic, namely the Keyword & Emoji Extractor. From the data extracted in Netlytic, several famous words mentioned on social networks on Twitter were obtained from the results of the cleansing process.

**Network Analysis.** The next stage is network analysis by visualizing the relationship patterns by actors who interact in the social network of the topics 'Ganjar' and 'Piala Dunia' on Twitter. The author uses the Communication Network Discovery feature by checking the box on User. A replied to User B, User A quoted User B, User A retweeted User B and User A mentioned User B (for 'original' tweets only), then clicked analyze Remaining Posts. In the last stage, the author conducted a visualization after several stages in the Communication Network Discovery feature were carried out. This resulted in a relationship pattern on the keywords 'Ganjar' and 'Piala Dunia.'

## RESULT AND DISCUSSION

Based on data retrieval (crawling) with the keywords 'Ganjar' and 'Piala Dunia' conducted using the Netlytic website on April 21, 2023, at 11:38:30 WIB. Netlytic managed to pull 8226 posts from the dataset.

**User Tweets.** From the data that Netlytic managed to retrieve, there are various tweets from Twitter users. Many of these tweets show that Ganjar's rejection of the U20 World Cup can affect his electability. In addition, Twitter users also showed their disappointment with what Ganjar had done.

1	id	tweetid	guid	link	author	title	description	pubdate	source	fa
2	1	1645705062004695040	<a href="https://twitter.com/kumparan/status/1645705062004695040">https://twitter.com/kumparan/status/1645705062004695040</a>	<a href="https://twitter.com/kumparan/status/1645705062004695040">https://twitter.com/kumparan/status/1645705062004695040</a>	kumparan	Berdasarkan survei LSI bulan April 2023, usia Piala Dunia U-20 batal digelar di Indonesia, elektabilitas Ganjar Pranowo turun.	Berdasarkan survei LSI bulan April 2023, usia Piala Dunia U-20 batal digelar di Indonesia, elektabilitas Ganjar Pranowo turun.	2023-04-11 4:27:1	dkv.it	
3	2	1645704865199570946	<a href="https://twitter.com/dikikambong/status/1645704865199570946">https://twitter.com/dikikambong/status/1645704865199570946</a>	<a href="https://twitter.com/dikikambong/status/1645704865199570946">https://twitter.com/dikikambong/status/1645704865199570946</a>	dikikambong_	Ganjar Pranowo menolok Timnas Israel bermain dalam Piala Dunia U-20 2023 berdampak terhadap elektabilitasnya dan PDIP.	Ganjar Pranowo menolok Timnas Israel bermain dalam Piala Dunia U-20 2023 berdampak terhadap elektabilitasnya dan PDIP.	2023-04-11 4:26:3	Twitter Web App	
4	3	1645704855426830338	<a href="https://twitter.com/dikikambong/status/1645704855426830338">https://twitter.com/dikikambong/status/1645704855426830338</a>	<a href="https://twitter.com/dikikambong/status/1645704855426830338">https://twitter.com/dikikambong/status/1645704855426830338</a>	dikikambong_	Elektabilitas Ganjar Pranowo dan PDIP Setelah Gagal Piala Dunia U-20, Periset LSI: Turun 4 Persen.	Elektabilitas Ganjar Pranowo dan PDIP Setelah Gagal Piala Dunia U-20, Periset LSI: Turun 4 Persen.	2023-04-11 4:26:2	Twitter Web App	
5	4	1645702559632601088	<a href="https://twitter.com/moammarfatahl1/status/1645702559632601088">https://twitter.com/moammarfatahl1/status/1645702559632601088</a>	<a href="https://twitter.com/moammarfatahl1/status/1645702559632601088">https://twitter.com/moammarfatahl1/status/1645702559632601088</a>	moammarfatahl1	Terkait dengan Piala Dunia U-20, Ganjar mengatakan sebagai tuan rumah, Indonesia diharapkan	Terkait dengan Piala Dunia U-20, Ganjar mengatakan sebagai tuan rumah, Indonesia diharapkan	2023-04-11 4:17:2	Twitter Web App	
6	5	1645702474265919488	<a href="https://twitter.com/Rizwariyb/status/1645702474265919488">https://twitter.com/Rizwariyb/status/1645702474265919488</a>	<a href="https://twitter.com/Rizwariyb/status/1645702474265919488">https://twitter.com/Rizwariyb/status/1645702474265919488</a>	Rizwariyb	Direktur Eksekutif Lembaga Survei Indonesia (LSI) Djayadi Hanan mengatakan, kemungkinan pengaruh	Direktur Eksekutif Lembaga Survei Indonesia (LSI) Djayadi Hanan mengatakan, kemungkinan pengaruh	2023-04-11 4:17:0	Twitter Web App	

Figure 5. Twitter users' tweets on the keywords 'Ganjar' and 'Piala Dunia.'

Three essential words stand out from other famous words: Ganjar, Piala and Dunia. Although 'Piala and 'Dunia' are the same, the two words should be separate and have slightly different popularity. After going through the cleansing process and removing stop words, the resulting Words Cloud obtained the Top 30 famous words in the keywords 'Ganjar' and 'Piala Dunia.'



Figure 6. Word Cloud of Keywords 'Ganjar' and 'Piala Dunia'

**Communication Network Relationship.** The results of this study indicate that the network relationship is direct or has a direction where there are actors with the role of sending information, this is the core of the network model, and as actors who receive it around it, there are information characteristics of the wheel communication model (Bakry & Kusmayadi, 2021 in Akbar et al., 2022).

Table 1. 'Ganjar' and 'Piala Dunia' Communication Network Actors



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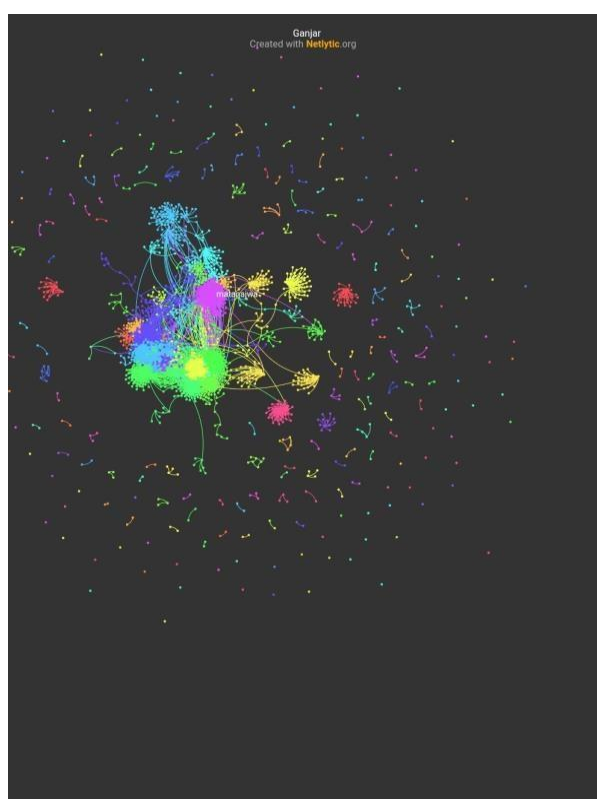
No.	Aktor	Degree	Indegree	Outdegree
1.	matanajwa	830	829	1
2.	kangenband123	624	621	3
3.	nusantara_one	594	594	0
4.	dennysiregar7	198	197	1
5.	aryprasetyo85	178	171	7
6.	ch_chotimah2	166	163	3
7.	paltiwest	167	164	3
8.	kepaargawinata2	147	142	5
9.	kakekhalal	133	127	6
10.	gunromli	85	83	2

Source: Data Processed 2023

The table above shows that in the communication network on Twitter, there are actors who play a role. These actors can dominate a topic in the communication network, and there may be one or more dominant actors. In the 'Ganjar' and 'Piala Dunia' communication networks, the main actor is the actor @matanajwa because he has a degree number of 830 which is more significant than other actors. The number of indegrees that is greater than the number of outdegrees determines that the actor is often accessed, replied to and mentioned by other Twitter users. This will impact the level of popularity of the actor to dominate the communication network.

**Communication Network Pattern.** Visualization of the analysis through Netlytic produces 5 clusters and several other clusters with network patterns in the DrL Layout model (Long edges are hidden to highlight clusters) as follows:





**Figure 6.** Communication Network of ‘Ganjar’ and ‘Piala Dunia’

Based on the network pattern above, it can be concluded that there are main actors in each cluster. The main actors that have the highest popularity are cluster 1: matanajwa, cluster 2: kangenband123, cluster 3: nusantara\_one, cluster 4: \_\_rismawidiono\_, kakekhalal, rizkir4madani, sherin\_tiana, ganjarpranowo, marahichsan, cluster 5: aryprasetyo85, ch\_chotimah2, doankwarto, gunromli. Netlytic with the keywords ‘Ganjar’ and ‘Piala Dunia’ obtained a diameter result of 22, which is the longest distance between one actor to another actor and requires a step of 22 edges. The density of the keywords ‘Ganjar’ and ‘Piala Dunia’ is 0.000311. Judging from the density value, which is close to 0, it can be interpreted that there are users who have little interaction and talk to each other with many other users. Reciprocity obtained from the keywords ‘Ganjar’ and ‘Piala Dunia’ is 0.007846. The value shows that some users do two-way communication, and there is a reciprocal relationship by replying to tweets between users even though not enough people do it. The resulting modularity of 0.802400 shows a clear division between communities in the keywords ‘Ganjar’ and ‘Piala Dunia’ on Netlytic because the resulting value is more than 0.5. Netlytic obtained a centralization result of 0.100100; this value is relatively low because it is close to 0. Thus, information is spread freely among many users, and not only 1 user uses and dominates the keywords ‘Ganjar’ and ‘Piala Dunia.’

**CONCLUSION**

From the results of research and discussion in the previous chapter, it can be concluded that there is data on 8226 posts on crawling conducted using the keywords ‘Ganjar’ and ‘Piala Dunia’ conducted on April 21, 2023, at 11:38:30 WIB. The data contained a variety of tweets from Twitter users. Many of these tweets show that Ganjar's rejection of the U-20 World Cup can affect his



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electability. In addition, Twitter users also showed their disappointment with what Ganjar had done. The actor @matanajwa is the dominating actor in the communication network with the topics 'Ganjar' and 'Piala Dunia.' The low value of centralization between actors In the communication network on the topic of 'Ganjar' and 'Piala Dunia' shows that information is spread freely among many users and not only 1 user who uses and dominates the keywords 'Ganjar' and 'Piala Dunia.'

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