

Strengthening digital citizenship through discourse analysis of presidential and vice-presidential candidates in the 2024 Presidential Election

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Article History

Submitted : 17-01-2024

Revised : 17-03-2024

Accepted : 06-04-2024

Published : 30-04-2024

Article Link

<https://journal.uny.ac.id/index.php/civics/article/view/71620>

Abstract

With the rapid advancement of information technology and increased internet access in Indonesia, citizens' participation in the digital realm has grown substantially. Digital citizens' presence is crucial in the 2024 Presidential Election, playing a pivotal role in disseminating political information, influencing public opinion, and providing support to candidates. This study examines the digital citizens' discourse on presidential and vice-presidential candidate pairs in the 2024 election in the digital public sphere. The method of issue analysis employs topic modeling with keywords "anies & muhaimin," "ganjar & mahfud," and "prabowo & gibran" on social media platform X. The research findings indicate that the discourse is clustered for each candidate pair. Narratives of support and optimism predominantly characterize the Anies-Muhaimin pair. The Ganjar-Mahfud pair exhibits clusters covering volunteer support, constitutional narratives, development aspirations, uniform buzzer narratives, and support from figures such as Yenny Wahid and advocacy for Palestine. The Prabowo-Gibran pair has clusters discussing support from the younger generation, political dynasty issues, PDIP reactions, and buzzer strategies with massive hashtags. Digital citizens engage in organized and diverse discourses regarding



Budi Mulyono et.al.

presidential and vice-presidential candidates, emphasizing the importance of understanding these dynamics to ensure responsible participation in the digital political process.

Keywords: digital citizenship, digital citizen, presidential election, social media

Introduction

The patterns of internet access and usage deconstructed to online society economically, socially, and politically (Hicks, 2016). In the continuously evolving digital era, the paradigm of data science application has expanded beyond the realm of exact sciences to the domain of social sciences. McFarland, Khanna, Domingue, and Pardos (2021) state that computing on phenomena has a broad meaning and identifies new forms of data, measurement, descriptive, predictive, and experimental in the world. Currently, it is not only mathematics and statistics that play a pivotal role in data analysis but also substantial contributions from social science disciplines, one of which is digital citizenship. This phenomenon mainly arises due to the shift of societal activities increasingly penetrating the digital sphere.

Responding to the latest trends in handling data in data curation, big data, data management, data science, and data analysis has become important (Zakaria, 2022). There was a conditional relationship between internet skills and online news behaviors, a finding that suggests a correlation between an individual's internet proficiency and their online news consumption habits (Beam et al., 2018). Digital platforms led to the formation of digital citizenship forms (Bignami & Hanakata, 2024). Thus, it results in a digital society that provides socio-digital experiences (Oza et al., 2024). The use of data science, particularly digital data, is becoming increasingly evident in the context of digital citizenship. Digital citizenship encompasses citizens' participation, involvement, and interactions in the virtual world, which is progressively dominating everyday life. Data science is a crucial instrument in uncovering patterns of behavior, preferences, and social dynamics emerging in this digital space. By analyzing data generated from online interactions, we can better understand how citizens engage in the digital democracy process, express their opinions, and contribute to shaping public opinion.

The potential of social media had access opportunities in semi-democratic environments where attempts to restrict media freedom and freedom of expression were common (Namasinga et al., 2020). There was an integration of social media usage positively related to social media addictions (Matsuzaka et al., 2023). Engagement in a digital world complexity impacted digital inclusion (Petrovčič et al., 2022). However, the privacy of internet usage became a new dimension of the digital gaps (Bartol et al., 2022). Social media is no longer just a space for digital communities to interact with other users; it has also become a platform for expressing opinions on what individuals think and responding to trending issues or news. One of the issues currently capturing public attention is political matters, particularly related to the upcoming 2024 Presidential Election. The stages of the 2024 Presidential Election, from the declaration of presidential and vice-presidential candidates and the registration moments to the rumors and issues surrounding each candidate, have become topics that adorn social media, especially on platform X (formerly Twitter) in recent times.

Despite social media interactions, these can associate with positive welfare and social connectedness. It should emphasize the interaction between friendships and mental health (Vaillancourt et al., 2024). Concerns about the negative impacts of social media have raised society's awareness of the notable of media literacy as a potential solution (Cho et al., 2022). Social media has developed rapidly intending to meet society's needs (Gruzd et al., 2017). Among the various types of social media, the researcher focuses on platform X (Twitter). This microblogging site allows users to send and read messages similar to blogs, limited to 280 characters displayed on the user's profile. The choice of platform X over other social media justified for two main reasons. Firstly, platform X is among Indonesia's top four most popular social media platforms, following WhatsApp, Instagram, Facebook, and TikTok (Kemp, 2022).

Secondly, platform X (Twitter) prioritizes political content as a significant part of its public discourse compared to other social media platforms (Huszár et al., 2022, hal. 1).

The social level and social media usage refer to social, economic, and cultural capital (Yates & Lockley, 2018). The social level and social media usage refer to social, economic, and cultural capital (Davidson & Joinson, 2021). This analytical approach can provide an overview of the dominant topics or issues discussed regarding each presidential candidate, even though the collected data is extensive and diverse. The analysis results using topic modeling reveal that each candidate tends to focus on similar issues, particularly concerning the narrative of supporting the progress of Indonesia and winning the election. However, unique issues specific to each candidate also identified. One notable example is the issue of Gibran's candidacy within the context of the Prabowo-Gibran topic.

This research makes a valuable contribution to civic education by analyzing the discourse in the digital public space surrounding presidential and vice-presidential candidates in the 2024 Indonesian Presidential Election. By examining discussions of digital citizens, the study not only broadens understanding of how digital technologies affect political participation but also delves into citizenship issues in that context. The contextualization of digital citizenship through this research can increase awareness of the importance of digital literacy and digital citizenship among citizens. Thus, this research provides a better understanding of contemporary political dynamics and supports the development of relevant civic curricula that are responsive to changes in the digital public space.

Digital citizenship is developed in research (Peart et al., 2023). The formulation of the problem in this study is: How is the discourse that occurs in the digital public space related to presidential and vice-presidential candidates in the 2024 Indonesian Presidential Election? This research aims to analyze and understand the discourse in the digital public space surrounding presidential and vice-presidential candidates in the 2024 Indonesian Presidential Election. This research can make a theoretical contribution by broadening our understanding of the role of digital technology in political participation and enriching the concept of digital citizenship. Analyzing discourse in digital public spaces can yield new insights into how citizens use digital media to participate in political processes and shape their opinions. In practical terms, this research can help increase students' understanding and awareness of the role of digital technology in citizenship, as well as help build digital literacy and citizenship among the younger generation. By providing insight into relevant citizenship issues in the context of the 2024 Presidential Election, this research can also be a foundation for developing a civics curriculum that is more contextual and responsive to Indonesia's evolving political and social realities.

Method

The researcher conducted issue analysis using the topic modeling method by extracting data from social media platform X using the keywords "anies & muhaimin," "ganjar & mahfud," and "prabowo & gibran." The analysis period was adjusted to the declaration dates of each candidate and concluded on November 16, 2023, with a total of 993,798 posts or data.

Topic modeling is an approach in clustering within the field of Machine Learning used to analyze a collection of text documents, such as posts from social media X containing the specified keywords during the designated period. Social media X was chosen as the data source for several reasons, including being text-based, having high volume and diversity, providing real-time updates, supporting API, and being a platform where important events and hot news topics are discussed, especially in the political and global context.

The data collection methodology employed non-probability sampling, where all data containing the specified keywords during the predetermined period were taken. Data retrieval was done through crawling. Meanwhile, the analysis method used was the BERTopic topic modeling. BERTopic is one of the topic modeling approaches that utilize a pre-trained

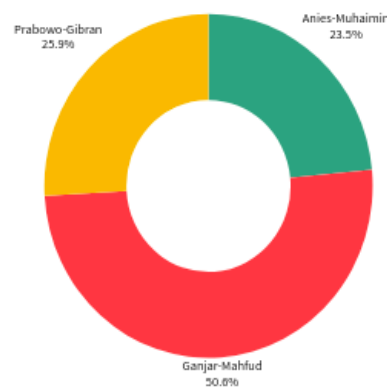
transformer model, specifically BERT (Bidirectional Encoder Representations from Transformers). This method allows for more accurate and contextual topic modeling, particularly in analyzing complex text. The topic modeling process involves several stages, including data collection, preprocessing, feature extraction (embedding, dimensionality reduction, clustering, count vectorizer, weighting scheme), and modeling/training data.

Result and Discussion

Within the field of digital citizenship, numerous academics offer their own interpretations and explanations of citizenship. This diversity is reflected in the various scholarly perspectives on digital citizenship, which stem from the concept's multidisciplinary and multidimensional nature. The author, drawing from a range of literature on citizenship studies, takes a unique approach by categorizing the concept of digital citizenship into three distinct but interconnected categories: online ethics and responsibility (Ribble & Bailey, 2011), media and information literacy (Hobbs & Jensen, 2009; Simsek & Simsek, 2013), and online civic engagement and participation (Choi, 2016; Jones & Mitchell, 2016; Mossberger et al., 2008; Richardson & Milovidov, 2019).

One of the most intriguing aspects of the data findings is the unexpected patterns that emerge. Despite the data being collected over different time spans, the amount of data obtained for each pair of Presidential and Vice-Presidential candidates does not always follow a predictable trend. For example, the pair Anis and Muhaimin, over a 75-day period (September 2 to November 16), obtained 233,427 data or 23.5%. In contrast, the pair Ganjar and Mahfud, over a 29-day period (October 18 to November 16), acquired 502,837 data or 50.6%. Lastly, the pair Prabowo and Gibran, within a 22-day period (October 25 to November 16), obtained 257,234 data or 25.9% of the total data, as shown in Figure 1.

Figure 1.
Percentage Data Comparison

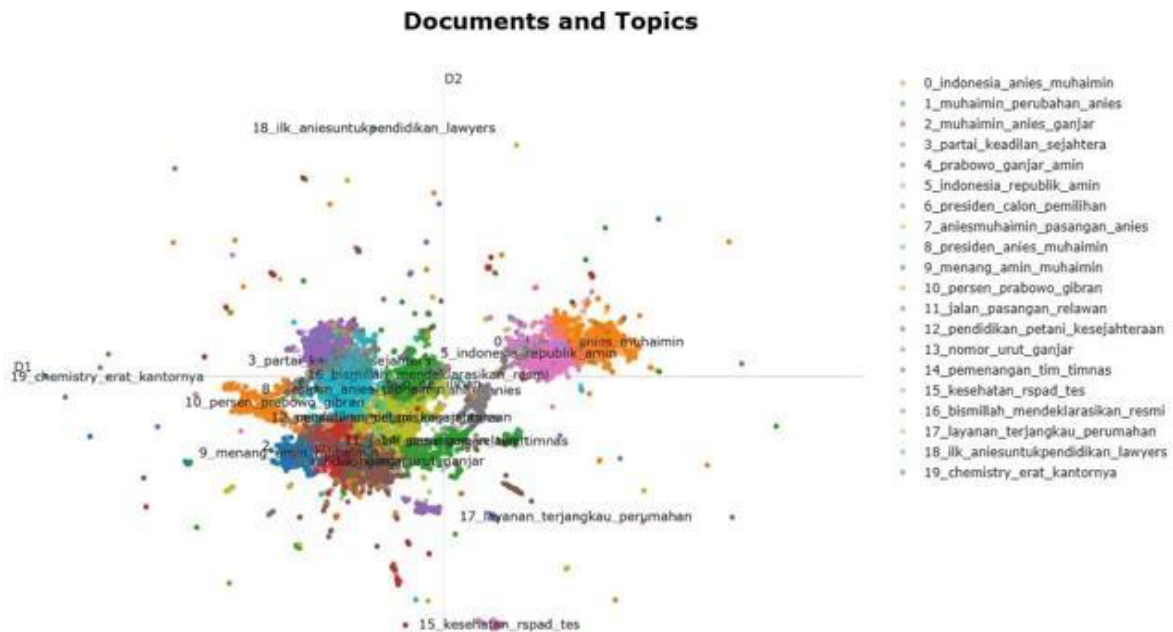


Indeed, during the declaration on September 2, the pair Anis and Muhaimin did not attract great attention from digital citizens. On the contrary, the pair Ganjar and Mahfud declared on October 18 that they had garnered the greatest attention from digital citizens. Meanwhile, the pair Prabowo and Gibran, despite having a relatively short 22-day period, amassed a substantial amount of data, even surpassing the data for the Anis and Muhaimin pair. Upon analysis using topic modeling, it is known that digital citizen discussions about the Anies-Muhaimin pair are classified into 19 issue topics.

The discussion centered on the potential of strengthening digital citizenship through discourse analysis of the presidential and vice-presidential candidates in the 2024 presidential election. Topic 0 and Topic 5 expressed hopes for Anies-Muhaimin (AMIN) to lead Indonesia towards progress and justice. The moment of registration to the General Election Commission of Indonesia, a process facilitated by dedicated volunteers, was extensively discussed in Topic 6 and 11. The changing political dynamics of the coalition, particularly the entry of the National Awakening Party (Partai Kebangkitan Bangsa) due to Muhaimin's vice-presidential candidacy,

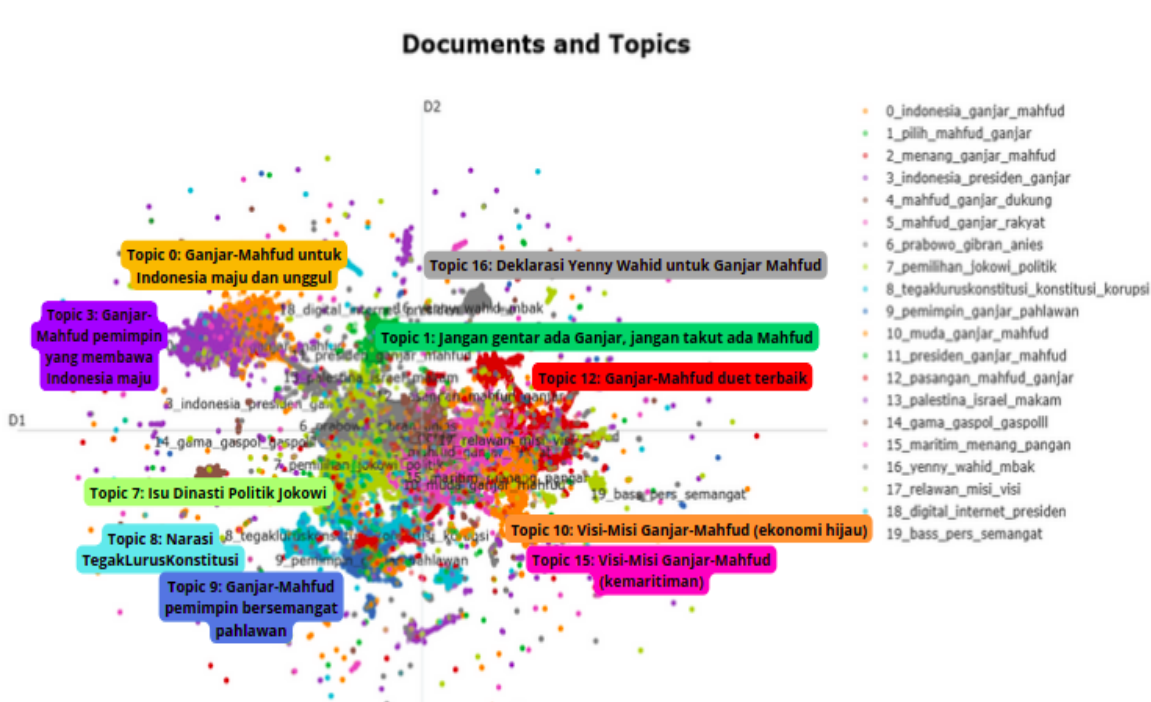
was a key point in Topic 3. The discussion also highlighted The Democratic Party (Partai Demokrat), which exited a coalition named The Coalition of Change. Gibran's candidacy was mentioned in Topic 8, and AMIN supporters suggested that this controversy could attract votes from Jokowi supporters who had been disappointed.

Figure 2.
Anies-Muhaimin Topic Distribution



On October 18, 2023, Mahfud MD was chosen as the vice-presidential candidate for Ganjar Pranowo, sparking 33,995 discussions in a single day. However, digital citizen discussions about the Ganjar and Mahfud pair afterward experienced a downward trend, indicating a surprise effect among digital citizens regarding the selection of Mahfud MD, who is associated as the most experienced and firm politician in law enforcement. This initial impact slowly faded over time. Out of the total 502,837 data points related to Ganjar and Mahfud, after being analyzed with topic modeling, the discussions of digital citizens on social media platform X are as follows:

Figure 3.
Distribution of the Ganjar-Mahfud Topic



The positive narrative that the leadership of Ganjar-Mahfud can make Indonesia progress and excel is widely voiced, especially in Topics 0 and 3. Topic 1, which contains supportive narratives with editorial content that includes the tagline "Do not be afraid, Ganjar is here, do not worry, Mahfud is here," is also frequently expressed. Additionally, support for this pair often quotes their vision and mission, from realizing a green economy and advancing Indonesia's maritime sector to ensuring food welfare. The nomination of Gibran as Prabowo's vice president has also been responded to by supporters of this pair, expressing the hashtag #UpholdTheConstitution, as seen in Topics 7 and 8. The declaration of support from Yenny Wahid also generates its discussion in Topic 16.

Therefore, the digital citizen discourse on the Ganjar and Mahfud pair clustered into five topic clusters:

1. Volunteer support for Ganjar-Mahfud is an ideal pair
2. Ganjar-Mahfud narrated as leaders obedient to the constitution and anti-thesis to the Prabowo-Gibran pair
3. Hope for Ganjar-Mahfud to lead Indonesia towards progress and excellence
4. Narratives from supportive buzzers for Ganjar-Mahfud with uniform editorial content
5. Additional support for Ganjar-Mahfud due to endorsements from Yenny Wahid and consistent advocacy for Palestine

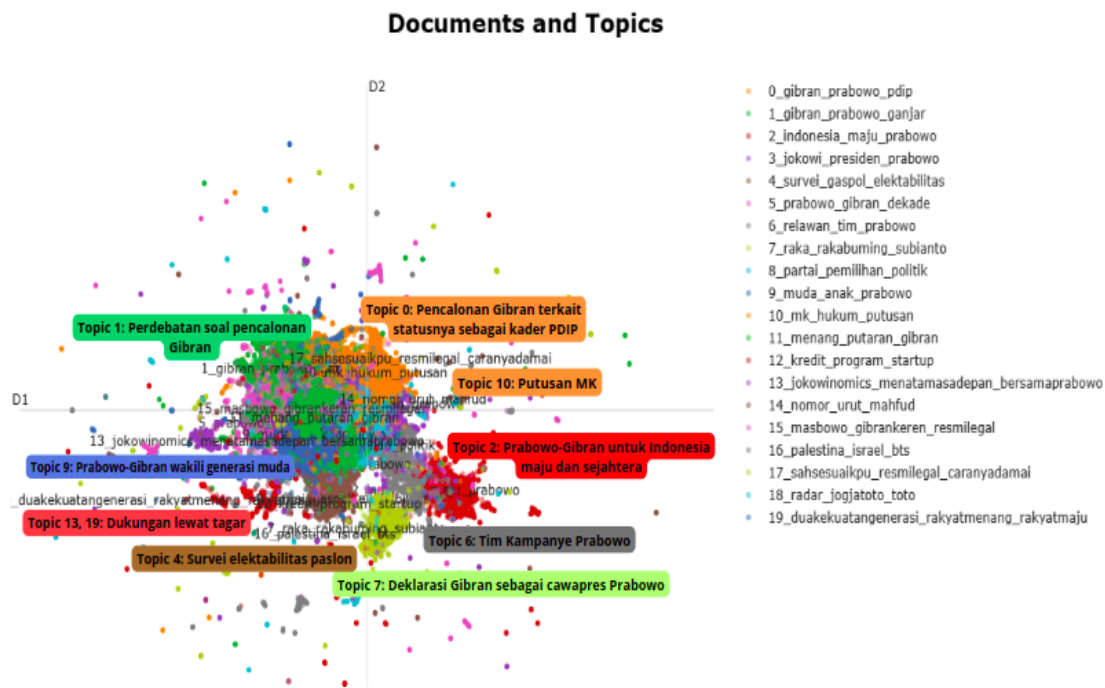
In the context of strengthening digital citizenship through discourse analysis of presidential and vice-presidential candidates in the 2024 presidential election, the positive narratives regarding Ganjar-Mahfud's leadership that be able to make Indonesia advanced and superior were widely expressed, especially in Topic 0 and Topic 3. Topic 1 contained support narratives by the editorial contents that included the tagline "Do not be afraid, Ganjar is here, do not worry, Mahfud is here," which was also frequently expressed. In addition, support for the pair often cites their vision and mission, ranging from realizing a green economy and advancing Indonesia's maritime sector to ensuring food welfare. Gibran's candidacy as Prabowo's vice-president was also responded to by the pair's supporters, using the hashtag #TegakLurusKonstitusi, as seen in Topics 7 and 8. Yenny Wahid's support statement also generated its discussion in Topic 16.

Citizen's digital discourse on the pairing of Ganjar and Mahfud grouped into five topic clusters:

1. Volunteer support for Ganjar-Mahfud is an ideal pair
2. Ganjar-Mahfud was portrayed as a leader who was abode by the constitution as opposed to the Prabowo-Gibran pair
3. The hopes of Ganjar-Mahfud led Indonesia toward progress and excellence
4. Narratives from supporting buzzers for Ganjar-Mahfud by uniform editorial content
5. Additional support for Ganjar-Mahfud due to support from Yenny Wahid and consistent advocacy for Palestine

Prabowo Subianto and Gibran Rakabuming Raka were officially declared as presidential and vice-presidential candidates on October 25, 2023, after registering with the Election Commission (Komisi Pemilihan Umum or KPU) of the Republic of Indonesia. The intensity of discussions on the Prabowo-Gibran topic is relatively significant and has good resilience, indicating intentional efforts to maintain its intensity, and its tendency also increases daily. Even from the peak time data, the most conversation data occurred on November 15, amounting to 24,279 data points. From the total data of Prabowo-Gibran, which amounts to 257,534, when analyzed with topic modeling, the discourse that becomes the focus of digital citizens on social media platform X related to Prabowo-Gibran is as follows:

Figure 4.
Spread of the Prabowo-Gibran topic



The nomination of Gibran as Prabowo Subianto's vice received significant attention in digital discussions on social media X. This issue emerged in Topic 0, Topic 1, and Topic 3, each with different tendencies. Topic 0 discusses Gibran's status as a PDIP cadre. Topic 1 is related to Ganjar Pranowo, and Topic 3 is related to Jokowi's interference issue. Discussions related to this topic are found in Topic 10, which specifically addresses the MK decision, deemed ethically flawed and sparking debates about Gibran's candidacy. Support for Prabowo often takes the form of hashtags, as seen in Topics 9, 13, and 19, discussing this candidate as representing the younger generation. Gibran's declaration as Prabowo's vice, without negative tendencies, is evident in Topic 7.

Therefore, it can be concluded that the digital discourse on the Prabowo-Gibran pair is clustered into four topic clusters:

1. The flood of support and positive narrative for Prabowo-Gibran due to their representation of the younger generation
2. Issues of political dynasty and Jokowi's involvement in Gibran's candidacy through the MK decision
3. PDIP playing the victim, PDIP's stance would be different if Gibran becomes Ganjar's vice-presidential candidate
4. Buzzer actions boosting the Prabowo-Gibran pair with massive hashtags

In the context of strengthening digital citizenship through discourse analysis of the presidential and vice-presidential candidates in the 2024 presidential election, significant attention to Gibran's candidacy as Prabowo Subianto's vice-presidential candidate became the main highlight in digital discussions on social media X. The emerging topics, such as Topic 0, Topic 1, and Topic 3, provided a diverse picture of the aspects related to Gibran's candidacy. Discussions on Gibran's relationship of membership with the Indonesian Democratic Party of Struggle (Partai Demokrasi Indonesia Perjuangan or PDIP) in Topic 0, his relationship with Ganjar Pranowo in Topic 1, and Jokowi's alleged interference in Topic 3 gave rise to diverse perspectives that enriched the understanding of the political dynamics of the 2024 presidential election. In addition, the reviews in Topic 10 specifically discuss the Constitutional Court's

decision that was deemed ethically flawed decision on Gibran's candidacy. It was a notable part of exploring the ethical implications of the political process.

In the digital discourse on the Prabowo-Gibran pairing, the analysis identified four topic clusters that illustrate the various narratives and perspectives associated with the pairing:

1. There was a flood of support and positive narratives towards Prabowo-Gibran, who was seen as a representation of the younger generation, which fits with the theme of strengthening digital citizenship.
2. Discussions on the issue of political dynasties and Jokowi's alleged involvement reflect ethical debates in the context of citizenship.
3. Narratives portrayed the Indonesian Democratic Party of Struggle (Partai Demokrasi Indonesia Perjuangan or PDIP) as a victim, and speculation about the party's stance if Gibran becomes Ganjar's vice-presidential candidate provided insight into the political dynamics that influenced citizen participation.
4. The efforts of buzzers actively supporting the Prabowo-Gibran pairing through the massive use of hashtags highlight the role of technology in shaping public opinion, which was relevant and related to the context of strengthening digital citizenship.

Strengthening digital citizenship was becoming increasingly relevant in analyzing the discourse of presidential and vice-presidential candidates in the 2024 presidential election. Regarding digital citizenship, Brandau et al. (2021) explained that digital citizenship promotes awareness of rights and responsibilities in using information technology and participating in digital public spaces. Furthermore, Yue and Beta (2022) suggested that democratizing information and communication technology shaped new citizen participation. Recently, we were in an era where social media had an increasingly dominant role in shaping public opinion; understanding the dynamics of digital conversations about these candidates was essential to strengthen civic participation and awareness in the digital realm. Discourse analysis of posts and widespread social media discussion could provide valuable insights into people's preferences, hopes, and concerns for their future leaders. The term digital citizenship covers a wide range of purposes (Jones & Mitchell, 2016). Automation and digitalization accelerated various aspects of social life (van Toorn & Cox, 2024). The characteristics that corresponded to the trends of digitalization of citizenship life (Bretschi & Weiß, 2022)

The researcher assumed that this study would reveal how the election of presidential and vice-presidential candidates in the 2024 presidential election, a significant event that could shape the future of the country, would reflect in the digital discourse of the community. The depth of understanding of the dominant narratives, raised issues, and public responses to each candidate is not just academic, but has direct implications for formulating more targeted policies to strengthen digital citizenship. In addition, this analysis also could help identify the potential polarization or disinformation that could disrupt the democratization processes and political stability.

Digital media provides new tools for people under certain conditions (Petersen et al., 2018). In digital situations, digital citizenship was a new form of community (Fell, 2022). Digital citizenship practices were contextualized within the framework of society and technology (Yue & Beta, 2022). Strengthening digital citizenship through discourse analysis of presidential and vice-presidential candidates in the 2024 presidential election was not only about knowing people's political preferences but also a strategic step in building awareness, understanding, and more active participation in the digital realm. By basing further policies and interventions on the findings from this analysis, it was hoped that a more inclusive, responsive, and democratic digital environment could be created for Indonesian society, fostering a sense of hope and optimism

Conclusion

Our analysis of the digital public discourse surrounding the 2024 Indonesian presidential election, using topic models, uncovers a wealth of positive sentiment towards the presidential and vice-presidential candidates. The prevailing narratives on social media platforms are ones of support and optimism, with a strong belief in the potential of the candidates to lead Indonesia towards development and justice. The discourse, grouped into specific topics for each pair: Anies-Muhaimin, Ganjar-Mahfud, and Prabowo-Gibran, each highlights unique narratives about support, leadership qualities, and hopes for the country's future, fostering a sense of hope and optimism among the public.

Among the candidate pairs, Anies-Muhaimin has the most minor data, although it shows an increasing trend over time. In contrast, Ganjar-Mahfud has the most significant data, although it has had a downward trend since its launch. Prabowo-Gibran also collected a large amount of data, maintaining a relatively consistent level of conversation and showing an increasing trend. This analysis underlines the critical role of buzzers in catalyzing discourse, especially as seen in the Prabowo-Gibran and Ganjar-Mahfud pairs. The use of hashtags and specific narratives by these buzzers reflects a joint effort to shape public opinion. Notably, hashtags unrelated to the election narrative were also used, indicating a multifaceted approach to influencing digital public discourse. These findings not only provide valuable insights into the dynamics of digital citizenship and political discourse in Indonesia but also offer practical implications for understanding and engaging in the digital public sphere, empowering our audience with actionable knowledge in the context of citizenship education.

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