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| **RESEARCH ARTICLE**

Introducing Landmarks: The Tugu Yogyakarta's Popularity in Literature Review and Online Media

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| **ABSTRACT**

This paper explores the cultural and urban significance of Tugu Yogyakarta, a famous monument in Yogyakarta, Indonesia. Located at the city's main crossroads, Tugu Yogyakarta is essential to Yogyakarta's Philosophical Axis, symbolizing the city's identity and pride. This analysis examines the academic discourse and social media presence of Tugu Yogyakarta, highlighting the monument's historical, cultural, and urban importance. The study emphasizes the role of social media platforms such as Instagram and TikTok in promoting the monument to a broader audience through visual and interactive content, with virtual reality (VR) technology discussed to provide virtual tours, increasing public engagement and awareness without time and distance limitations. The findings expose that academic literature, predominantly produced by Indonesian researchers, focuses on cultural heritage, urban design, and educational roles, while the topic is just starting to gain attention internationally. The social media analysis shows strong public engagement, with hashtags like #tugujogja widely used, reflecting the monument's cultural significance. This study combines a literature review with social media data analysis, making it a unique approach to comprehensively assess the monument's popularity and public awareness of its historical and cultural value. The social media data was analyzed using Gephi and Excel to calculate hashtag frequency and visualize network interactions. The findings show the critical contribution of Tugu Yogyakarta to the sustainability of cultural heritage preservation. The study highlights the synergistic relationship between academic research and the social media presence in promoting Tugu Yogyakarta, with digital platforms significantly boosting its visibility and public engagement. In conclusion, this study provides a multifaceted analysis of Tugu Yogyakarta, integrating cultural aspects, urban elements, and city marketing strategies. Successful promotion of the monument through academic works and social media can enhance heritage conservation and strengthen the public's engagement with Yogyakarta's historical landmarks.

1. Introduction

Tugu is the most common name for the Tugu Pal Putih in Yogyakarta. Considering its location and popularity in Yogyakarta, this study will refer to it as Tugu Yogyakarta. It is an icon of Yogyakarta City (Syahdani & Lucky Kardanardi, 2022; Trispratiwi et al., 2023), which is a crucial element of philosophical heritage as well as the urban axis (Andjanie et al., 2023). In urban terms, it is an essential part of the Yogyakarta Philosophical Axis. Its long history and cultural value make it a symbol of identity and pride for the people of Yogyakarta (Fathana & Dewi, 2023; Kardanardi & Syahdani, 2023; Kratonjogja. id, 2022; Syahdani & Lucky Kardanardi, 2022; Trispratiwi et al., 2023) This monument is frequently discussed in many local journal articles and limitedly in international journals. It is also widely shared on popular social media platforms. Academic discussions explore its historical, cultural, and urban side importance, among other study aspects. Meanwhile, social media users share images and stories, increasing visibility and bridging traditional cultural narratives with modern communication methods. In the digitalization era, it is crucial to explore social

media's contribution to promoting the historical object. Social media platforms like Instagram, TikTok, and others effectively promote tourism through visual and interactive content, enhancing public awareness of heritage sites through virtual tours (Eriya & Putri, 2018). Additionally, virtual reality (VR) technology offers virtual visits without time and distance constraints (Yanti et al., 2023). The importance of Tugu Yogyakarta as a core theme in international studies can be strengthened by reviewing similar phenomena in other countries, such as:

a. The Arc de Triomphe in Paris, located at the intersection of 12 streets, is a symbol of respect for French soldiers (Ben-Amos, 2012; Nationaux, 2023; Vlachou & Panagopoulos, 2022)
b. The Buenos Aires Obelisk symbolizes modernization identity in the city's fourth centennial (Allen-Mossman, 2016).
c. The Victory Monument, known in Thai as Anusawari Chai Samoraphum, symbolizes military power and nationalism (Candelaria, 2023; Noobanjong, 2011).
d. The Tower of Pisa, Italy, symbolizes the city's wealth and prosperity (Faria et al., 2022).

The values and symbols contained in the three monuments show that Tugu Yogyakarta has a unique value, that is its role as a philosophical-historical-cultural element attached to the spatial layout of the city (Fathana & Dewi, 2023; Kardanardi & Syahdani, 2023; Kratonjogja. id, 2022; Syahdani & Lucky Kardanardi, 2022; Trispratiwi et al., 2023) to be recognized by UNESCO as a world cultural heritage (Humas DIY, 2023; UNESCO World Heritage Committee, 2023), and to become a city icon (Syahdani & Lucky Kardanardi, 2022; Trispratiwi et al., 2023). Therefore, Tugu Yogyakarta must be highlighted as the core theme of this literature review study.

This study examines the impact of academics' roles in scholarly papers and the use of social media in public engagement to introduce Tugu Yogyakarta. It analyzes the effectiveness of both in promoting the Tugu as historical objects. As a research subject, there has yet to be comprehensive research specifically investigating how extensively Tugu Yogyakarta has been discussed academically or its popularity on social media. This study is unique because it combines the approach of literature review analysis and social media data analysis, which has yet to be previously undertaken. Therefore, this study is justified. The expected outcomes include a better understanding of public awareness of the monument, as well as identifying boundaries for treating it as a frequently discussed and visited site. The combination of literature review and social media data analysis is a comprehensive city marketing study for future cultural heritage preservation sustainability. It reinforces the importance of maintaining Tugu Yogyakarta as a city landmark.

Figure 1. The Tugu Yogyakarta, an icon and symbol of Yogyakarta's philosophy

Tugu Yogyakarta is a monument. It is an essential urban element, has a high value, and is one of the symbols and place markers in Yogyakarta (Kratonjogja. id, 2022). The monument is located at the intersection of the city's four main roads and has become a landmark. In terms of philosophy, visual aspects, and the implementation of digital technology, it can be explained that Tugu Yogyakarta is an integral part of the philosophical axis of the city, connecting Mount Merapi with the South Sea through Kraton Yogyakarta, has high aesthetic value, thus providing a sense of interest to people who see it (Sadana, 2021; Sadana et al., 2024). Regarding digital media development, social media has an essential role in promoting increasing public awareness and participation in the monument as a cultural heritage through the rapid dissemination of information (Liang et al., 2020; Morin, 2014). The Tugu Yogyakarta's form and environmental situation can be seen in Figure 1.

2. Literature Review

The use of systematic literature review provides benefits such as (1) providing verified Information (Paul et al., 2023; Tóth et al., 2023) in (2) identifying research gaps (Snyder, 2019) with (3) better transparency, validity, and reliability (Snyder, 2019), and (4) solid integration across different discussion contexts (Paul et al., 2023; Snyder, 2019), (5) minimizing bias (Mulyana et al., 2023; Paul et al., 2023; Snyder, 2019), with (6) the capability to cover a broader context and identify research trends related to the core theme studied (Mulyana et al., 2023; Paul et al., 2023; Tóth et al., 2023), (7) comprehensive in multi-disciplinary discussion (Mulyana et al., 2023; Paul et al., 2023), including (8) applications on the policy and practice side (Snyder, 2019), and (9) it shifts from various perspectives (Mulyana et al., 2023).

A systematic literature review will review articles openly and systematically (Snyder, 2019) to reduce possible bias (Mulyana et al., 2023; Paul et al., 2023; Snyder, 2019), thus providing more reliable and greater accuracy of findings and the conclusion (Paul et al., 2023; Tóth et al., 2023)in rapidly (Tóth et al., 2023). A systematic review is flexible in research methods to identify the appropriate empirical findings (Perez et al., 2023; Tóth et al., 2023) to address a specific research question (Tóth et al., 2023). It interprets findings on a research topic (Mulyana et al., 2023; Snyder, 2019) to answer the research questions or situation (Snyder, 2019). Furthermore, the workflow in a systematic literature review involves the literature identification and collection, organizing and filtering of sources, and reporting the results systematically (Kraus et al., 2022; Paul et al., 2021)

Related to social media data, the research object, Tugu Yogyakarta, is a city landmark that is a component of cultural heritage (Ayudya, 2023; Fathana & Dewi, 2023; Kratonjogja. id, 2022; Syahdani & Lucky Kardanardi, 2022) and also serves as a tourist attraction. Social media data analysis helps understand and measure people's engagement levels in commenting and sharing information and identifying the most impactful aspects, including those related to promotions (Dwivedi et al., 2021). Additionally, social media insights contribute as an efficient and dynamic communication media (Nanda & Kumar, 2022) to increasing awareness through relevant and engaging content (Dwivedi et al., 2021; Nanda & Kumar, 2022). Related to the cultural aspect of urban design, social media data analysis can show human behavior, understand people's views (Nanda & Kumar, 2022), and promote historic urban landscape preservation (van der Hoeven, 2019). A good social media data analysis enables the understanding of public participation in the cultural environment related to city marketing campaigns (Giglio et al., 2019; Zhou & Wang, 2014) and makes it easier to realize fundraising for the promotion of the city's products and services (Zhou & Wang, 2014).

3. Methodology

This study combines Systematic Literature Review (SLR) and social media data analysis to understand the trends and perceptions related to Tugu Yogyakarta in academic discourse and public perception (Jiang et al., 2024; Khirfan et al., 2020). Combining these two methods will enrich the results and contribute to the broader impact of the object studied (Jiang et al., 2024; Khirfan et al., 2020) on cultural identity and tourism marketing.

The SLR approach involved a detailed examination of 52 relevant academic articles from 1998 to 2024. These articles were selected based on specific predefined criteria (Hiebl, 2021; Labadze et al., 2024), such as the relevance of the research topic, accessibility of the articles (Hiebl, 2021; Moed et al., 2020), national or international status (Moed et al., 2020), and primarily their relevance to Tugu Yogyakarta. This selection process ensured a comprehensive representation of the subject, highlighting gaps in the literature and suggesting new directions for future research. Then, the articles were validated through a systematic review process, which included matching themes and discussions across papers (Cassell et al., 2018; Hiebl, 2021) to identify key themes and discussions.

Social media analysis tracks Tugu Yogyakarta's popularity in the public mind. To analyze its popularity in public perception, the researchers selected platforms with similar attraction and recognition content that are rationally easy to access and liked by users (Dolan et al., 2019). Thus, five online platforms were selected based on their popularity and the richness of content related to the research object. Those five online platforms consisting of three social media, one online video media, and one photo-based online media are (1) Instagram, (2) TikTok, (3) Facebook, (4) YouTube, and (5) Shutterstock.

The data validation was developed through qualitative manual coding (Chukwuere et al., 2022) based on popular discussions on various online platforms related to the Tugu Yogyakarta. The results were decomposed into hashtag mentions (#mentions) that were searched for the number of uses on selected online platforms. The coding results of ten hashtags tracked for use on online platforms are presented in Table 1.

Table 1. List of hashtags (#) searched on social media.

No.	Hashtags	No.	Hashtags
1.	#tugujogja	6.	#tugupalputihjogja
2.	#tugu_jogja	7.	#tugupalputihjogya
3.	#tugujogjakarta	8.	#tugupalputihyogyakarta
4.	#tugu_jogjakarta	9.	#sumbufilosofi
5.	#tugupalputih	10.	#sumbufilosofiyogyakarta

Furthermore, data was collected on hashtags related to Tugu Yogyakarta across various social media platforms, totaling 111,445 relevant hashtag uses that indicate the monument's popularity and visual perception among the public. The social media data was analyzed using the Gephi (Bastian et al., 2009; Jiang et al., 2024) and Microsoft Excel to calculate the frequency of hashtag use. This step helped us understand hashtag interactions and node connectivity and visualize the social media network.

The ethical aspects of social media analysis are related to the research limitations. Regarding the research object, Tugu Yogyakarta is a public city landmark whose physical and cultural expression is popular and has been discussed by the public. Regarding the human aspect of social media, the analysis focuses on Tugu Yogyakarta's popularity based on public hashtags (#).Ethical approval may not be required to use public data that does not involve direct interaction with individuals (Chen, 2023; Dwivedi et al., 2021), does not involve risk, and is anonymous (Chen, 2023).

4. Results and Discussion
4.1 Findings of the Literature Review on the Tugu Yogyakarta
The initial search results of the literature review found 60 articles related to the object of study, Tugu Yogyakarta. The screening process resulted in 83% or 50 articles relevant to the research topic, while the other ten unrelated articles were removed from the analysis process. The results of the literature review analysis are visualized in the graph presented in Figure 2.
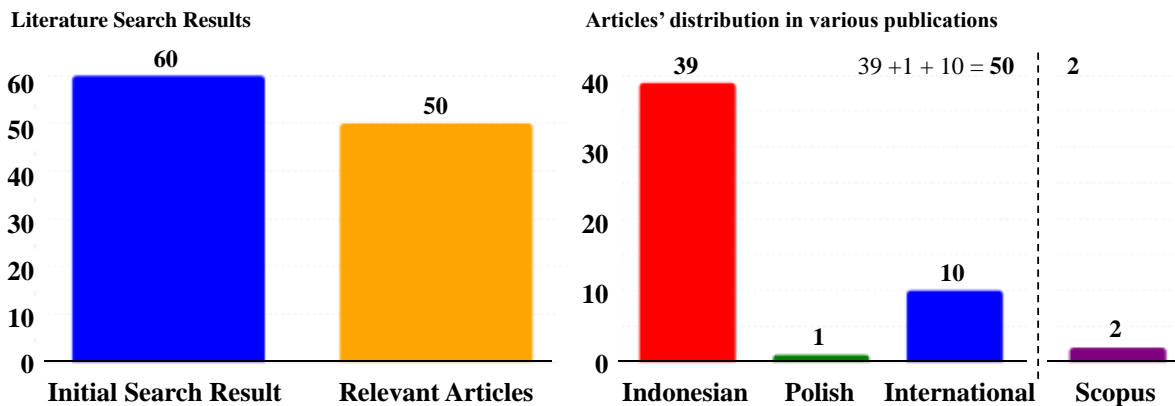

Figure 2. Search Results, Relevance, and Distribution of Article Publishing

The graph in Figure 2 shows that of the 50 articles relevant to the research object, the majority are Indonesian national literature, with a total of 39 articles or 78%. The rest are divided into 10 international literature and one national literature from Poland. Of the ten international literatures, two were indexed by Scopus. The distribution of these articles shows that discussions related to the object of research tend to be dominated by Indonesian researchers and discussed at the national level. This shows that Tugu Yogyakarta is an essential topic among Indonesian researchers and academics. In addition, topics related to the Tugu Yogyakarta have also begun to be looked at by international researchers and academics. In the journal from Poland, Tugu Yogyakarta is not discussed directly but is used as a reference related to the collective identity of space. This situation of interest in this topic shows that Tugu Yogyakarta is increasingly recognized as an object of research in the international sphere. The existence of studies in Scopus-indexed literature shows that the object of research is increasingly recognized at a broader international level.

Table 2. Article distribution in academic fields and themes.

No.	Academic fields spread	Number of articles	Identified themes	Articles
1	Architecture, Urban Studies and Planning	24	Technology Integration in Heritage Promotion	6
2	Arts, Design, and Humanities	6	Urban Design and Planning	11
3	Economic and Business	9	Cultural Heritage, Identity, and Conservation	13
4	Education	2	Tourism and Community Impact	13
5	Engineering	3	Educational Uses and Approaches	7
6	Language Sciences	1		
7	Religion and Philosophy	2		
8	Social and Behavioral Sciences	3		
Total articles		50		50

The review process involved analyzing the distribution of titles against 12 academic fields (Aalbers et al., 2015; Elsevier, 2024; LL Dikti, 2020) and identifying the themes formed from these titles. The review shows that as a core theme, the discussions related to the Tugu Yogyakarta are spread across eight of the 12 academic fields and split into five themes. The findings on the articles' distribution in academic fields and themes' variation show that some specific themes, such as urban design and planning and educational uses and approaches, are almost similar to and overlap with the academic fields of Architecture, urban studies and planning, and education. The attached Table 2 shows how the articles' spread pattern overlaps and intersects the academic fields and themes.

4.2 Findings of the Social Media Analysis on the Tugu Yogyakarta

A social media data study was conducted to support the findings of the literature review study. In selecting media widespread among users (Dolan et al., 2019), the researchers chose the following platforms: (1) Instagram, (2) TikTok, (3) Facebook, (4) YouTube, and (5) Shutterstock. The data search began by trying out various sets of words related to Tugu Yogyakarta that users on social media widely used. The search process produced several word strings that gave excellent and unfavorable results on the digital platforms studied. The search process resulted in 10 sets of words with the hashtag sign (#) and the number of occurrences, as presented in Table 3.

Table 3. The hashtag's use about Tugu Yogyakarta on various digital platforms

Series of words / Platform	Instagram	TikTok	Facebook	YouTube	Shutterstock	Amount
#tugujogja	436.826	16.000	294.000	6.000	5,275	**758,101**
#tugu_jogja	500	1.453	0	0	0	1,953
#tugujogjakarta	0	0	3.300	100	3,912	7,312
#tugu_jogjakarta	100	0	0	0	0	**100**
#tugupalputih	5.296	0	1.100	143	447	6,986
#tugupalputihjogja	888	0	0	0	376	1,264
#tugupalputihjogya	100	3.629	0	0	12,134	15,863
#tugupalputihyogyakarta	30	0	0	0	12,135	12,165
#sumbufilosofi	2.962	0	2.000	433	0	5,395
#sumbufilosofiyogyakarta	456	0	0	100	20	576
Total of hashtags	447,158	21,082	300,400	6,776	34,299	447,158

Table 3 shows the number of occurrences of hashtags (#) related to Tugu Yogyakarta on five different digital platforms: Instagram, TikTok, Facebook, YouTube, and Shutterstock. This data illustrates the popularity of each hashtag on these platforms. The data in Table 3 shows that the hashtag #tugujogja is the most used by online media users, while the hashtag #tugu_jogjakarta is the least used. The hashtag #tugujogja was used by users 758,101 times, while the hashtag #tugu_jogjakarta was used 100 times. Based on online media, Instagram media is the one that displays the most hashtags related to Tugu Yogyakarta, and YouTube media is the one that shows these hashtags the least. Instagram media displays hashtag variations 447,158 times, and YouTube media displays hashtag variations 6,776 times. The description of the use of hashtags on each platform is given in the following descriptions.

The #tugujogja hashtag appeared 436,826 times on Instagram, showing its high popularity. The hashtag appeared 16,000 times on the TikTok platform, indicating that TikTok users are actively using this hashtag. The hashtag appeared 294,000 times, which

illustrates the significant popularity of this hashtag on Facebook. The hashtag appeared 6,000 times on YouTube and 5,275 on the Shutterstock platform. This consistent usage pattern means that content related to the Tugu Yogyakarta is often uploaded to these two platforms. Furthermore, the hashtag #tugu_jogja appeared 500 times on Instagram, showing a much lower popularity than the previous hashtag. On TikTok, it appeared 1,453 times and did not appear on Facebook, YouTube, or Shutterstock.

The #tugujogjakarta hashtag did not appear on Instagram and TikTok. This finding shows that the hashtag must be better known on these two platforms. Furthermore, on Facebook, this hashtag appeared 3,300 times; on YouTube, 100 times; and on Shutterstock, it appeared 3,912 times. This analysis means that this hashtag is almost equally recognized by people on Facebook and Shutterstock but rarely used by people on YouTube. Meanwhile, the hashtag #tugu_jogjakarta appeared on Instagram only 100 times and did not appear on TikTok, Facebook, YouTube, and Shutterstock. This review result illustrates the feeble use of this hashtag in the community. It is suspected that the use of the separator "_" tends to make it difficult, so users of these platforms do not think of this hashtag.

The hashtag #tugupalputih appeared on Instagram 5,296 times. Not appearing on TikTok, it appeared 1,100 times on Facebook, 143 times on YouTube, and 447 times on Shutterstock. Meanwhile, the hashtag #tugupalputihjogja appeared on Instagram 888 times. It did not appear on TikTok, Facebook, and YouTube. It appeared 376 times on Shutterstock. The hashtag #tugupalputihjogya on Instagram was used 100 times, and it appeared 3,629 times on TikTok. It did not appear on Facebook and YouTube; on Shutterstock, it appeared 12,134 times. Meanwhile, the hashtag #tugupalputihyogyakarta only appeared 30 times on Instagram and did not appear on TikTok, Facebook, and YouTube. On Shutterstock, it appeared 12,135 times.

Furthermore, the search was directed to other hashtags that still have philosophical relevance to the Tugu Yogyakarta, namely the hashtags #sumbufilosofi and #sumbufilosofiyogyakarta. The results showed that the hashtag #sumbufilosofi appeared on Instagram 2,962 times, did not appear on TikTok, appeared 2,000 times on Facebook, 433 times on YouTube, and did not appear on Shutterstock. Meanwhile, the hashtag #sumbufilosofiyogyakarta only appeared 456 times on Instagram, did not appear on TikTok and Facebook, appeared 100 times on YouTube, and only 20 times on Shutterstock.

5. Discussion
5.1 Discussion of the Literature Review on the Tugu Yogyakarta
Table 2 discusses the spread of articles based on academic fields and themes. Regarding the spread of academic fields, the research findings show intersections in similar classifications between academic fields with several themes, with a scattered pattern that does not always coincide. For example, a comparison of the number of article distributions in the academic field of architecture, urban studies, and planning with the theme of urban design and planning or the academic field of education with the theme of educational uses and approaches is needed. In this example, the comparison of antara academic field of Architecture, Urban Studies, and planning dengan tema urban design and planning adalah 24 berbanding 11. Another example is the comparison antara field of studi education dengan theme of educational uses and approaches adalah two berbanding seven. This example shows that academics can write articles with broad and varied themes as long as they are within the corridors of their knowledge. The description of the situation has a broader meaning in the form of intersections between classifications of discussion, which shows the flexibility to choose or follow trending themes that were of interest when the article was written within the framework of the academic fields that the authors pursue.

Table 4 shows the details of the study themes, the number of authors, and the distribution of publication years. The situations indicate that the Tourism and Community Impact theme has a more sustainable trend relevance. An interesting finding from this research is the strength of the themes of (1) Cultural Heritage, Identity, and Conservation and the theme of (2) Tourism and Community Impact. Both are the most frequently discussed themes by researchers, as seen from the more significant number of articles published on these two themes, each discussed by 13 authors. The year distribution of these two themes shows that Tourism and Community Impact have a more even publication period than cultural heritage, Identity, and Conservation. The strength of these two themes is the answer to the survival of tourism activities in Yogyakarta's 'ground zero' area during the three years of the COVID-19 pandemic (Ayudya, 2023). Furthermore, themes with less interest are Urban Design and Planning with 11 authors, Educational Uses and Approaches with ten authors, and Technology Integration in Heritage Promotion, discussed by six authors.

Table 4. Study themes, number of authors, and year distribution.

Theme of study	Number of authors	Distribution year of publication	Number of publication years
Technology Integration in Heritage Promotion.	6	2023, 2024	2
Urban Design and Planning.	11	2019, 2021, 2023	3
Cultural Heritage, Identity, and Conservation.	13	2018, 2019, 2020, 2023, 2024	5
Tourism and Community Impact.	13	2018, 2019, 2020, 2022, 2023, 2024	6
Educational Uses and Approaches.	7	1998, 2015, 2018, 2019, 2022, 2023	6

According to the distribution of publication years, the most frequently appearing themes are Tourism and Community Impact and Educational Uses and Approaches, each appearing in 6 years of publication. The Tourism and Community Impact theme was published in 2018, 2019, 2020, 2022, 2023, 2024, while the Educational Uses and Approaches theme was published in 1998, 2015, 2018, 2019, 2022, 2023. The data on the distribution of publication years shows that the Educational Uses and Approaches theme is the oldest and longest-lived aspect of the study. The publication looks unique, starting with a scarce publication period and becoming more frequent from 2015 to 2023. The themes of technology integration in heritage promotion and urban design and planning are attractive to fewer researchers. Six authors discussed the Technology Integration in the Heritage Promotion theme, while nine discussed the Urban Design and Planning theme. Further details on each theme are provided in the next section of this systematic review.

The articles on the theme of Technology Integration in Heritage Promotion generally explain the implementation of digital technologies such as augmented reality (AR) and other digital devices (Permadi et al., 2024; Revanda Silva Astianto Putri et al., 2023; Revanda Silva Astianto Putri & Rahmawati, 2023) as a means of improving the tourist experience at Tugu Yogyakarta. The implementation involves integrating technology in promoting cultural heritage with modern technology (Prayudi & Wicaksono, 2023; Trispratiwi et al., 2023). In more detail, this aspect of technology implementation discusses interactive virtual experiences about Tugu Yogyakarta more thoroughly and deeply through the development of AR applications (Revanda Silva Astianto Putri et al., 2023). Similarly, the exploration of the use of various digital platforms to support the preservation and promotion of Tugu Yogyakarta through the ability to document and disseminate information about its importance as a landmark (Permadi et al., 2024).

The Urban Design and Planning theme, in general, explains the role of Tugu Yogyakarta as an important element in urban planning and design (Ayudya, 2023; Cahyadiarta et al., 2017; Fadlliyah & Setiawan, 2023; Nursalam et al., 2023; Retnowati, 2017; Roders & Francesco Bandarin, 2019; Sadana, 2021; Sunaryo et al., 2013; Syahdani & Lucky Kardanardi, 2022; Wiyoso & Pramitasari, 2021). A more detailed description that is interrelated is the discussion of the application of the Historic Urban Landscape (HUL) approach to Tugu Yogyakarta with regard to the integration of cultural heritage in the urban planning and development process (Roders & Francesco Bandarin, 2019), which keeps Yogyakarta's 'ground zero' alive during the uncertain situation during the pandemic, including its tourism life (Ayudya, 2023). The development of this situation is apparently supported by aspects of management, licensing, and location of outdoor advertising media placement (Retnowati, 2017), given the importance of visual aesthetics and visual attraction of the Tugu Yogyakarta as a central element in urban design that affects the image for Yogyakarta's cultural identity (Sadana, 2021).

As a theme that is of great interest to researchers, Cultural Heritage, Identity, and Conservation, the discussion on this theme seems to focus more on the transformation of cultural values around Tugu Yogyakarta and its preservation efforts (Haq, 2023; Irwandi, 2018; Nurhajarini, 2018; Sadana et al., 2024; Sari et al., 2019; Wardani et al., 2011; Wibowo, 2024), in relation to the role of Tugu as part of the philosophical axis that strengthens the city's cultural identity (Alia-K. et al., 2019; Diana Kurnia Putri, 2019; Sadana et al., 2023; Septiani & Sari, 2023; Syahdani & Lucky Kardanardi, 2022; Wardhani, 2018). From the focus of the discussion of these articles, two articles were found that were closely related to the theme, namely the community's understanding of changes in cultural values around Tugu Yogyakarta and the impact of changes in the urban environment on the perception and role of Tugu Yogyakarta (Sadana et al., 2024). This study is reinforced by a comprehensive historical and architectural analysis of the design evolution process and its historical context (Wardani et al., 2011).

Tourism and Community Impact is the theme that attracts the most interest from researchers. Discussions related to tourism and community impact tend to focus on the effects of tourism development on the local economy and socio-culture of the community around Tugu Yogyakarta (Febriana et al., 2022; Habibah et al., 2024; Kardanardi & Syahdani, 2023; Rahadiyanti & Astrid

Kusumowidagdo, 2022; Rizki et al., 2024; Sunaryo et al., 2013; Syahdani & Lucky Kardanardi, 2022; Yanti et al., 2023), and as an essential example in tourism promotion (Erikha, 2018; Fajrina & Marcillia, 2022; Saputra, 2018; Sari et al., 2019; Tantri & Irmawati, 2018), and collective identity in a clearly defined space (Szkop, 2018). There are some quite interesting discussions, such as an analysis of the role of Tugu Yogyakarta as a city icon to attract tourists and increase its visibility as a landmark (Yanti et al., 2023). In addition, the resulting socio-economic impact and its effect on local businesses, employment, and city infrastructure is also a situation that needs to be studied in more depth (Kardanardi & Syahdani, 2023; Syahdani & Lucky Kardanardi, 2022), as well as aspects of its maintenance costs to support tourism (Tantri & Irmawati, 2018).

The Educational Uses and Approaches theme has reached a life cycle of 25 years, with article findings from 1998 to 2023. The subject matter of this theme is more inclined to the utilization of Tugu Yogyakarta as a teaching aid and reference for learning history (Adrisijanti, 1998; Andjanie et al., 2023; Fathana & Dewi, 2023; Haq, 2023; Haryono, 2020; Nirwana & Riski Damastuti, 2022; Rokhima et al., 2023) as well as the introduction of flash mob media and educational videography (Budisantoso, 2015; Widyawati, 2019; Yudisthira & Riananditasari, 2023). As a teaching aid and reference for history learning, Tugu Yogyakarta is explored as a location for natural interaction between students and real historical objects sesungguhnya (Haq, 2023). It is also evidence of archaeological findings that broaden insights into Yogyakarta's past (Fathana & Dewi, 2023).

The information in Table 4 shows the relationship between three major themes: (1) urban design and planning, (2) cultural heritage, identity, and conservation, and (3) tourism and community impact, with (4) technology integration in heritage promotion, and (5) educational uses and approaches. The relationship between these themes can support the significant role of urban design and planning, especially in preserving and strengthening cultural identity through architectural and urban design elements. For example, using digital technology to design the urban space around Tugu Yogyakarta will contribute to better urban planning and design. The relationship between urban design and Planning and Educational Uses and Approaches can also be seen as the importance of architecture and urban-planning education in teaching the practices of designing and managing urban spaces that preserve cultural heritage.

The relationship between the themes of Cultural Heritage, Identity, and Conservation and Technology Integration in Heritage Promotion shows the importance of integrating the preservation of Tugu Yogyakarta's cultural heritage with technology, such as virtual and augmented reality, to realize a more thorough and engaging interactive for visitors, while protecting sensitive cultural artifacts from physical damage. The relationship between the Cultural Heritage, Identity, and Conservation theme and Educational Uses and Approaches can be seen in how education plays an essential role in conserving and inheriting cultural identity. Through education, communities and the younger generation can better understand the importance of preserving their cultural heritage while utilizing technology as a tool.

The relationship between Tourism and Community Impact and Technology Integration in Heritage Promotion provides an opportunity to develop increasingly innovative ways of promoting culture-based tourism integrated with local communities, utilizing technology to disseminate information and attract tourists. In turn, this harmonious relationship can have a positive impact on the economic, social, and cultural growth of local communities. The relationship between Tourism and Community Impact and Educational Uses and Approaches shows how significant the benefits of education about sustainable tourism are to communities. This education is essential to ensure that increased tourism does not damage cultural heritage but supports and strengthens it.

Overall, the relationship between (1) Urban Design and Planning, (2) Cultural Heritage, Identity, and Conservation, and (3) Tourism and Community Impact with the themes of (4) Technology Integration in Heritage Promotion and (5) Educational Uses and Approaches shows that technology integration and educational approaches play an important role in supporting urban design, heritage conservation, and tourism development, for the future sustainability of Yogyakarta research.

Table 5. Articles distribution by scope.

| Rank | Academic fields | Amount | Scope | | | Scopus |
			National	International	Foreign national	
1	Architecture, Urban Studies and Planning	24	16	8		2
2	Economic and Business	9	4	5		
3	Arts, Design, and Humanities	6	5	1		
4	Engineering	3	3			
5	Social and Behavioral Sciences	3	1	1	1	
6	Education	2	2			
7	Religion and Philosophy	2	2			
8	Language Sciences	1	1			

Rank	Academic fields	Amount	Scope			Scopus
			National	International	Foreign national	
Total		50	34	15	1	2
			50			

Table 5 shows the processed results of the literature review in the form of the distribution rank of articles (Aalbers et al., 2015; Elsevier, 2024; LL Dikti, 2020). Considering the large number of article distributions, it can be seen that Architecture, urban studies, and Planning are academic fields that dominate the articles reviewed, with the number of articles 24. This field was followed by Economics and Business with 9 articles, and Arts, Design, and Humanities with 6 articles. The three largest academic fields show that the core theme of Tugu Yogyakarta is most studied from the perspective of architecture, urban planning, and design, followed by Economics and Business, and Arts, Design, and Humanities.

The dominance of discussions in the academic field of Architecture, Urban Studies, and Planning is likely due to the direct relevance between the core theme of Tugu Yogyakarta and issues of urban planning and design and architecture. Tugu Yogyakarta, as one of the iconic symbols of the city, is closely related to urban identity, spatial planning, and urban planning. Architecture and urban planning are highly relevant in understanding and developing concepts regarding the preservation, conservation, and redesign of the area around Tugu Yogyakarta, making it a central theme in academic studies in this field.

Many discussions in the academic fields of Economics, business, arts, Design, and Humanities illustrate the direct impact of architectural and urban spatial arrangements on the economic sector, such as tourism and local economic activities. The variation of this scientific study composition means that the process of spatial arrangement around Tugu Yogyakarta can increase economic activity, which is the focus of studies in Economics and Business. Meanwhile, as a cultural-historical object, Tugu Yogyakarta attracts Arts, Design, and Humanities academics to explore its artistic meaning, cultural identity, and inherent heritage. Thus, there is a close interaction between architecture, urban studies, planning studies, economic and business studies, and arts, design, and humanities studies.

The lack of discussion related to this theme in other academic fields, such as Engineering, Social and Behavioral Sciences, Education, Religion and Philosophy, and Language Sciences, can be caused by several factors, such as (1) lack of direct ties, (2) research focus that tends to be different, and (3) limited resources and specialization of researchers in these fields on the core theme.

The pattern of interdisciplinary relationships between these fields of study This relationship shows that Tugu Yogyakarta is studied more from a perspective that involves direct interaction with physical, economic, and cultural space. In contrast, in other aspects, the interaction is not so close to Tugu Yogyakarta. Intense direct and indirect interactions are natural, considering that Tugu Yogyakarta is a physical element of the city in the form of a monument.

Furthermore, based on the scope of publication presented in Table 5, it can be seen that the majority of articles are in the national scope, with a composition of 34 articles in the national scope, 15 articles in the international scope, and one article in the foreign national scope. When associated with academic fields, it can be seen that Architecture, Urban Studies, and Planning have 16 articles in the national scope and eight articles in the international scope. This variation in the scope of publication confirms that studies related to the Yogyakarta Monument are mostly carried out in a national context, which reflects the importance of the Yogyakarta Monument as a local symbol and an integral part of the sustainability of the city's identity.

On the other hand, the Economic and Business field has a more balanced distribution, with four articles in the national scope and five in the international scope. This combination shows a significant balance of interest in studying the economic and business aspects of Tugu Yogyakarta at the national and global levels.

The Arts, Design, and Humanities field has five articles in the national scope and only one in the international scope. This composition could indicate that the study of art, design, and humanities related to Tugu Yogyakarta is preferred to a local or national perspective.

Additionally, in other fields such as Engineering, Social and Behavioral Sciences, Education, Religion and Philosophy, and Language Sciences, besides the small number of articles, the scope of publication is very much focused on the national scope. Only a few articles are included in the international and foreign national scope.

The data intersection related to Scopus indexed publications in Table 4 and Table 5 shows that only two articles are indexed by Scopus, and both are from the fields of Architecture, Urban Studies, and Planning. The analysis of the two articles shows the high

consistency of the field of Architecture, Urban Studies, and Planning with the Yogyakarta Monument as the core theme. The very few Scopus-indexed articles strengthen the indication that until now studies related to the Yogyakarta Monument have been carried out mostly by local researchers. Two Scopus-indexed articles (Fathana & Dewi, 2023; Yanti et al., 2023) were compiled by Indonesian authors from Yogyakarta. This shows that the echo of The Cosmological Axis of Yogyakarta as a world cultural heritage (UNESCO World Heritage Committee, 2023) is still not widespread outside the Yogyakarta area.

The data in Table 5 also shows that of the 50 articles studied, 34 were published nationally in Indonesia. Only 1 article was written by a foreign author nationally in his own country, and 15 articles were published in the international scope. This composition means that the core theme of Tugu Yogyakarta still tends to be published in national journals which is more focused on the specific context of Indonesia, so there is a challenge that requires more attractive incentives to bring it higher to the international scope.

The other possibility is that at this point in time, it is still more important to focus on the dissemination of knowledge about Tugu Yogyakarta at the national level rather than pursuing international indexation, which is difficult for Indonesian academics to achieve. Moreover, its relevance is directly related to urban issues in Indonesia, and its practical benefits are more needed by the local community.

5.2 Discussion of the Social Media Analysis on the Tugu Yogyakarta

Based on the description of the popularity and distribution of occurrences of hashtags related to Tugu Yogyakarta on digital platforms, it can be said that the hashtag #tugujogja is the most popular, with significant usage on Instagram and Facebook, and has visible activity on TikTok and Shutterstock. In contrast, hashtags such as #tugu_jogja and #tugu_jogjakarta had minimal usage rates, especially on platforms other than Instagram and TikTok. Other hashtags, such as #tugupalputih and #sumbufilosofi, with their variations, show a more limited usage level, with the dominant usage on Instagram. This trend means that Instagram is the medium that most people use to find and convey information about Tugu Yogyakarta.

When comparing hashtags on Instagram and Shutterstock, it can be seen that the hashtag #tugujogja is the most popular hashtag on Instagram. In contrast, the most popular hashtag on Shutterstock is #tugupalputihjogya. If you look at the string of words, ignoring the aspect of letter usage, the word 'tugu jogja' is more popular than the word 'tugu pal putih jogja' in the general public. Meanwhile, the involvement of the word 'pal putih' in the word 'tug' tends to be better known by researchers and academics. The impression that emerges is that Shutterstock users tend to have interests that focus more on scientific, professional, or uses that support visual content in a more formal context. In contrast, Instagram users prefer personal expression, sharing experiences, or visually exploring tourist sites.

A summary of the social media analysis of Tugu Yogyakarta shows that #tugujogja is the most popular hashtag on digital platforms, especially on Instagram and Facebook. #tugujogja is much higher than other hashtags, such as #tugu_jogja or #tugu_jogjakarta. Meanwhile, Instagram proved to be the leading platform in the search for sharing information about Tugu Yogyakarta, with a significant number of hashtag appearances. In contrast, platforms such as YouTube and TikTok showed lower hashtag usage. In addition, hashtags such as #tugupalputih were more recognized by academics and researchers, reflecting professional and scientific interest, especially on Shutterstock.

To visualize the dynamics of interactions between hashtags in the form of a network, hashtag usage data is processed using the Gephi application (Bastian et al., 2009), (Jiang et al., 2024). The results of the data processing can be seen in Figure 2.
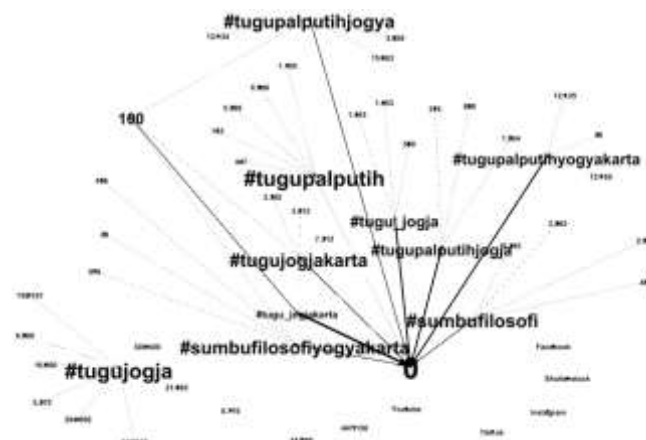

Figure 3. Interaction Network between Hashtags on Various Online Platforms

The graph in Figure 3 visualizes the relationships between various hashtags associated with the Tugu Yogyakarta provided in Table 2. The line thickness in the graph indicates the frequency of co-use between two hashtags. The thicker the line, the more frequently the two hashtags are used together. The size of the nodes reflects the total frequency of use of that hashtag across different social media platforms. The graph shows that #tugujogja and #sumbufilosofi are the two most frequently used hashtags and have many connections with other hashtags. The graph also shows that #tugujogja, #sumbufilosofi, #tugujogjakarta, #tugupalputih, #tugupalputihjogja, and #tugupalputihjogya are important hashtags.

The line pattern on the Graph explains the position of #tugujogja as a central node with high connectivity to many other hashtags, such as #sumbufilosofi, #tugu_jogja, #tugujogjakarta, and #tugupalputih. Furthermore, the strong connection between #sumbufilosofi and #sumbufilosofiyogyakarta shows the consistency of the relationship between the two hashtags and the philosophical themes related to the Tugu Yogyakarta. Furthermore, #tugujogjakarta and #tugupalputih are important nodes with several connections, indicating the wide use of these hashtags across various platforms. The use of letters in the hashtags #tugupalputihjogja and #tugupalputihjogya shows the variety of writing often used by users, and both hashtags have connections to the main hashtag: #tugujogja and #sumbufilosofi.

Visually, hashtags can be seen from the size of the lines and nodes. The hashtag texts visible on the graph are referred to as nodes. The line thickness in the diagram indicates the frequency of co-use between two hashtags. The thicker the line, the more frequently the two hashtags are used together. The size of the nodes reflects the total frequency of use of that hashtag across the various online platforms studied. Based on the line's thickness and the nodes' size, #tugujogja and #sumbufilosofi are the two most frequently used hashtags and have many connections.
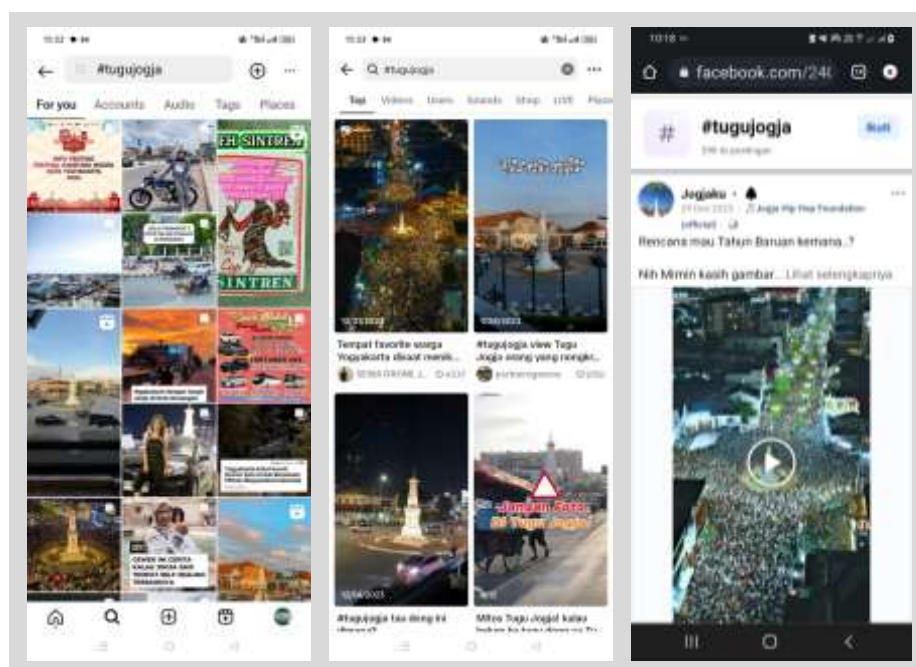

Figure 4. Overview of Hashtag #tugujogja Search on Instagram, TikTok, and Facebook

Based on the analysis of hashtag interactions, #tugujogja is the most popular and frequently used hashtag on various social media platforms. #sumbufilosofi and its variations illustrate the frequent philosophical aspects related to the Tugu Yogyakarta discussed on social media. Variations of hashtag writing, such as #tugupalputihjogya and #tugupalputihjogja, show flexibility in writing hashtag codes, which affects indexing on social media platforms. This description can provide insights into how hashtags are used and interact with each other in online discussions related to Tugu Yogyakarta.

5.3 Integrated Discussion: Literature Review and Social Media Analysis

The Tugu Yogyakarta, a cultural and historical landmark, is prominently featured in academic literature and social media platforms. Studies highlight its significance in cultural heritage and identity, emphasizing its role in maintaining Yogyakarta's philosophical axis and collective identity (Sadana, 2021) (Alia-K. et al., 2019). Social media supports this narrative, with hashtags like #sumbufilosofi and #tugupalputih showing high engagement, particularly on Instagram and Facebook, reflecting public interest in the monument's deeper meanings (Dolan et al., 2019) (van der Hoeven, 2019). Regarding tourism and community impact,

literature underscores the monument's critical role in urban tourism and local economic vitality, even during the COVID-19 pandemic (Ayudya, 2023) (Saputra, 2018). This cultured-based economic is mirrored on social media, where hashtags such as #tugujogja are widely used, demonstrating robust engagement from local and international audiences and thus supporting local tourism (Dwivedi et al., 2021). Additionally, technology integration in heritage promotion is discussed in the literature, highlighting digital tools and virtual reality as essential for enhancing the visibility of Tugu Yogyakarta (Yanti et al., 2023). The integration of digital technology in online platforms like Instagram and YouTube, where interactive media and VR content about the monument are widespread, bridging traditional narratives with modern communication (Liang et al., 2020). Finally, educational uses and approaches are emphasized in the literature, showing the monument's significance in academic programs and community awareness initiatives. (Cahyadiarta et al., 2017). Social media complements this by democratizing access to historical and cultural information about Tugu Yogyakarta, with hashtags related to educational content being actively shared, particularly on Instagram, fostering a broader understanding and appreciation of the monument (Fadlliyah & Setiawan, 2023). This integrated analysis highlights the synergistic relationship between academic research and social media in promoting and preserving Tugu Yogyakarta, ensuring its continued significance in scholarly and public domains.

6. Conclusion

The literature review's findings show similarities in views among researchers and academics. The Tugu Yogyakarta is an interesting topic for Indonesian researchers and is starting to be considered by international academics. This topic is also starting to get better recognition at the international level, with articles indexed by Scopus. Regarding the digital aspect, the increasing application of digital technology in urban planning and design and cultural preservation positively impacts the tourism sector and the development of educational materials.

Regarding urban planning and design, Tugu Yogyakarta is a cultural symbol that plays a role in economic development and tourism. As its support, it is necessary to carry out continuous maintenance for the sustainability of Tugu Yogyakarta as a cultural heritage. Therefore, it is essential to guarantee the continuity of maintenance financing to maintain the physical condition of Tugu Yogyakarta, and it's surrounding environment as social space.

In education, Tugu Yogyakarta has a strategic role in introducing cultural and historical values to the younger generation. Its role is as a teaching aid through direct interaction with the object and a reference for learning history. The use of online social and digital media and the emergence of word combinations related to Tugu Yogyakarta reflects the popularity of hashtags and user engagement. The results of the analysis of hashtag usage on five platforms, Instagram, TikTok, Facebook, YouTube, and Shutterstock, show that Tugu Yogyakarta is very popular, with an exposure of 809,715 related hashtags. The high usage of that hashtag indicates significant public attention to the Tugu Yogyakarta. Social media is essential in promoting Tugu Yogyakarta and raising public awareness of its historical and cultural value. Visual capabilities in interactive content on popular platforms such as Instagram and TikTok effectively attract attention and introduce the monument to a broader audience.

The distribution pattern of articles based on academic field and theme shows the flexibility in each discipline in developing the theme of study, especially the Yogyakarta monument as the core theme. This flexibility illustrates the breadth of methods that can be used to disseminate knowledge about the Yogyakarta Monument to the public. Furthermore, the low number of hashtags closely related to the philosophical value of the Yogyakarta Monument but do not directly include the word Tugu Yogyakarta is a challenge for the relevant agencies to introduce it to the public further. An example is to expand the echo of The Cosmological Axis of Yogyakarta as a World Cultural Heritage outside the Yogyakarta area.

Finally, the findings of this study demonstrate the significant attraction of Tugu Yogyakarta in both academic and public contexts. The combination of literature review and social media analysis shows that Tugu Yogyakarta is not only a relevant research subject at local and international levels but has also become a cultural icon successfully promoted through social media. The results of this study also confirm that Tugu Yogyakarta plays a significant role in the development of culture, economy, education, and cultural heritage preservation. Utilizing digital media can increase public awareness and involvement through digital technology and social media.

Conflicts of Interest: The authors declare no conflict of interest.
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