PALU-KORO FAULT ON SOCIAL MEDIA: EXPLORING DISASTER INFORMATION SPREAD AND THE POTENTIAL OF GEOTOURISM PROMOTION

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ABSTRACT

This article discusses the role of influencers, social media, and information spread in promoting the geotourism of the Palu-Koro Fault. As one of the governmental bodies responsible for the existence of geotourism, the Central Sulawesi Provincial Tourism and Creative Economy Office is trying to introduce these relatively new geotourism sites. One of the efforts is to make full use of social media. Social media is considered capable of providing comprehensive information to heterogeneous communities worldwide. The trend of using social media to promote tourism is a discourse. Influencers are used as public figures not only to introduce geotourism but also to build branding. Social media posts are inseparable from the messages displayed, where both visualization and messages can persuade the audience. Geotourism is one of the many topics brought up by social media users regarding the post-disaster recovery efforts in Pasigala. Thus, in this study, we applied a multi-method analysis by comparing the data collected from Twitter and in-depth interview with key informant from the Central Sulawesi Provincial Tourism and Creative Economy Office and three influencers who promoted the recovery of Pasigala. We then performed the social network analysis using the data collected from the interviews with some key informants from the Central Sulawesi Provincial Tourism and Creative Economy Office and three collaborating influencers.

Keywords: *Geotourism; Palu-Koro; Social Media; Information; Social Network Analysis*

INTRODUCTION

Palu-Koro Fault Geotourism is a group of geological site-based tourism destinations that appeared due to shifts in the Palu-Koro Fault area, which administratively includes Palu, Sigi, and Donggala (Pasigala). The Palu-Koro Fault is one of the fastest slip-rate faults in Southeast Asia, with a 2-4cm annual slip rate (Gunawan et al., 2020; He et al., 2019; Setianingsih et al., 2013). Historical records show that several large earthquakes have caused damage and loss of life. The most recent large-scale activity occurred on 28th September 2018 in the form of an earthquake with a magnitude of 7.5 on the Richter Scale, which also caused liquefaction and tsunami (He et al., 2019; R. F. Hidayat et al., 2020). On this day, the disaster claimed thousands of deaths and other victims, caused damage to tens of thousands of houses, and destroyed a lot of public facilities. On the other side, however, the recent activity of the Palu-Koro Fault line has created new tourist attractions from the impacted sites of these geological events. Impacted sites such as Mamboro and Buluri where the land subsidence (downlift) is observable; liquefaction locations in Balaroa, Petobo, and Jono Oge; and the emergence of new hot springs in Bora of Sigi Regency (Risnawati et al., 2021).

The name Palu-Koro was first proposed by Sarasin & Sarasin in 1901, which Rutten later used in 1927. This fault system incises the end of the Makassar Strait through Palu. It continues to Bone bay, making Palu-Koro the main geological structure in the Province of Central Sulawesi (Efendi et al., 2020). In several studies, the Matano and the Lawanopo fault are associated with

the Palu-Koro fault (Ismullah M. et al., 2015; Parkinson, 1998; Rahardiawan & Arifin, 2016; Smith & Silver, 1991). The Palu-Koro Fault is located along the Palu-Koro Valley, stretching from Palu Bay to the southeast. Based on data from the Shuttle Radar Topography Mission (SRTM), it is clear that there is a straight line along the Palu-Koro Valley, which is related to the presence of the Palu-Koro Fault. The Palu-Koro Fault can be divided into seven segments from north to south (Gunawan et al., 2020). The type of movement of the Palu-Koro Fault has been studied by several experts who agree that vertical movements dominate the northern part of the fault. At the same time, the southern part is horizontal to the left, which also forms several highs and lows, which can be recognized as Lake Matano, Lake Poso, and the Palu valley (Ismullah M. et al., 2015; Parkinson, 1998; Rahardiawan & Arifin, 2016; Smith & Silver, 1991).

The evidence and geological processes of the Palu-Koro Fault can be superior or distinguishable compared to others. The Palu-Koro Fault line is also considered an excellent location to study paleoseismology. Nationally, the Palu-Koro Fault area is used as a field campus for geology and geodesy students as well as a location for actual work lectures, thesis research, and undergraduate students' final projects, both from the geological, cultural, biological, and tourism aspects (Gunawan et al., 2020; He et al., 2019). Government agencies such as the Geological Agency, the Indonesian Institute of Sciences (LIPI), the Agency for the Assessment and Application of Technology (BPPT) and other research institutions have conducted many geological mapping and disaster studies. Internationally, the Palu-Koro Fault area is currently an attractive location for seismic research because of the earthquake of September 2018. It has several new aspects, such as the nature of the underwater landslide that generated a tsunami, a massive liquefaction phenomenon, the local wisdom, and toponymy of the Kaili Tribe village, which is based on natural events and plant species, as well as the duration of the earthquake itself (Bakri et al., 2020; Damayanti et al., 2021; Gunawan et al., 2020; He et al., 2019).

The Palu-Koro Fault area has long been known to have many biological and non-biological natural resources. One of these natural resources is in the form of a biophysical environment with a unique variety of flora and fauna. The establishment of conservation centers such as nature reserves, wildlife reserves, and protected forests makes a potential to be developed (Merker et al., 2009; Moss & Wilson, 1998; Roy et al., 2006). In addition, the unique and high-value natural beauty has a tourist attraction, making Central Sulawesi Province one of the destinations for local, national, and international tourists (Materru, 2017; Minardi et al., 2020).

The development of the geotourism potential of the Palu-Koro Fault has become part of the local government program (Sutikno et al., 2018). One of the highlights is using social media as a tourism promotion medium. Promoting is not only to attract tourists and provide income to local governments but also become public information in the form of history and knowledge about the existence and sites that were born from natural disasters (Jatiningsih, 2021; Karim et al., 2020; Sutikno et al., 2018). The challenge that became one of the concerns was to build the branding (Christou, 2015; D. Hidayat et al., 2019; Sang, 2021). The branding is expected to reduce community trauma with memories of the disasters (Khairil et al., 2020; Salawali et al., 2020).

Social media is a part of human lifestyle and needs. In today's digital era, social media is also used to fulfill the need for widely understood information sources to the public at large. One of the advantages of social media is that it is easy to obtain information and responses from other users, which gives birth to digital culture in a virtual society. *Digital culture* is a social formation generated through engagement with information and communication technology (Littlejohn et al., 2018). McLuhan states that *the medium is the message*, meaning that the message conveyed by the media is not more important than the media used. Media or communication channels have power and influence on society (Morissan, 2015). The Provincial Office also uses the benefits of social media for the Tourism and Creative Economy of Central Sulawesi to promote the existence of geotourism, which is present after the earthquake, liquefaction, and tsunami on 28th September 2018. As such, we based this research on several questions. How is the promotion carried out? What is the impact of the promotion? How is the information spread compared to other media?

LITERATURE REVIEW

a. Geotourism

The term geotourism is a combination of two words, *geo* which refers to geographic form, geomorphology, and other natural resources, and *tourism* which refers to visits to exciting areas for appreciation and education (Dowling & Newsome, 2006; Hermawan & Abdul, 2018; Hose, 2012a). Geotourism is a holistic approach to sustainable tourism that focuses on all points that can be defined to create an authentic travel experience (Hermawan & Abdul, 2018). The interest in important natural sites from a geological or geomorphological standpoint has been practiced for a long time. Therefore, the development of geotourism will offer the concept of nature-based tourism that highlights the beauty, uniqueness, rarity, and wonder of a phenomenon that is closely related to geological phenomena described in popular or simple language (Dowling & Newsome, 2006; Hermawan & Abdul, 2018; Hose, 2012a).

Tom Hose was the first scientist to introduce the term geotourism in the Geological Society in 1996 in a paper titled *Geotourism, or can tourists become casual rock hounds: Geology on your doorstep* (Hose, 2012b). The term geotourism in Indonesia was introduced in a national seminar on geotourism in 1990 as a tourism activity that utilizes all aspects of geology with the scope of abiotic elements such as landscapes, rocks, minerals, fossils, soil, and water, including geological history. Thus, it is necessary to increase the enrichment of insight and understanding of the process of natural physical phenomena (Hermawan & Abdul, 2018). Geotourism focuses on the geological appearance of the earth's surface and what is contained therein to encourage further understanding of the environment, nature, and culture as a form of appreciation and conservation as well as being concerned with the preservation of local wisdom (Hose, 2012a). The differences in nature, culture, society, and built elements in each hemisphere can stimulate a person or group interested in visiting. Geological data and information that has been recorded in geological maps can be used in planning tourism activities (Hermawan & Abdul, 2018).

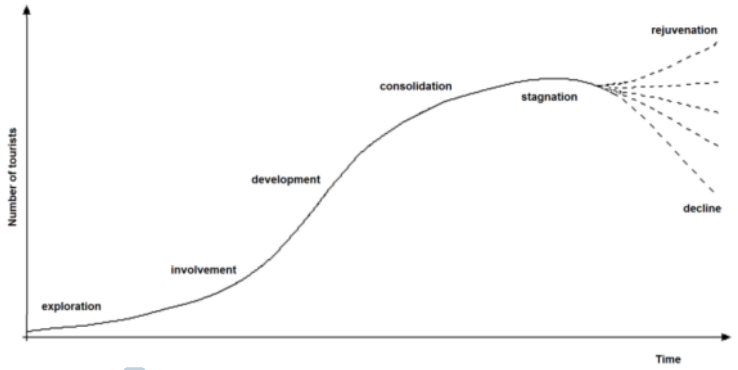


Figure 1. Butler's Tourism Area Life Cycle (TALC) Model

Geotourism itself is still *tourism* in essence. Thus, geotourism has a life cycle. Butler explained that a tourist destination's lifespan starts from exploring the potential site (Baum, 1998; Butler, 2004). From the exploration, the involvement of *stakeholders* is required to develop the area itself. After the consolidation period, a tourism area entered a stagnation period where two different outcomes can be expected: decline or rejuvenation of the area (see Fig. 1) (Butler, 2004).

It can be inferred that the potential that can be used as tourist attractions include: (1) geological structures, (2) stratigraphy, (3) topography, and (4) rocks, fossils, and minerals. While the criteria for geotourism destinations are as follows: (1) the existence of information and enrichment aspects of geological science; (2) the existence of a diversity of attractions in one area; (3) beauty, authenticity, scientific value, and uniqueness of nature; (4) opportunities for nature-based adventures; (5) The existence of a natural and protected ecosystem through conservation-based tourism activities/management (Chung-Shing et al., 2020; Dowling & Newsome, 2006; Hermawan & Abdul, 2018; Hose, 2012a; Wabnitz et al., 2017). Geotourism is considered a viable tactic to stimulate economic activity and sustainable development in geoparks, although the rollout of geoparks and geotourism is still in its infancy. A geopark at least must be: (1) developed by conservation-based management and education activities based on sustainable development for the welfare of the community and (2) providing benefits for local communities that support conservation principles related to natural resources, culture, heritage, and tradition (AbdelMaksoud et al., 2021; Briggs et al., 2022; Sahide et al., 2020; Wabnitz et al., 2017). The critical role of geoparks in developing geotourism and the local economy in rural areas is to create innovative local companies and generate new sources of income. Geoparks also play a role in reviving local culture (Amalia & Hanika, 2021; Karim et al., 2020; Materru, 2017; Wan Abdul Halim et al., 2021).

b. Tourism Promotion and the Spread of Information

Promotion comes from the word *promote*, defined as developing or improving. Promotion includes all marketing mix aspects whose primary role is to hold more persuasive

communication (Kotler et al., 2019). Promotion is a part of the marketing strategy process as a way to communicate with the market using the company's promotional mix composition (D. Hidayat et al., 2019; Kotler et al., 2019; Widyastuti et al., 2020). Promotion can be defined as the coordination of all seller-initiated efforts to establish multiple channels of information and persuasion to sell goods and services or introduce an idea (Kotler et al., 2019). Promotion is a company activity in its efforts to influence actual and potential consumers so that the intended consumers are willing to buy the products offered now or in the future (Widyastuti et al., 2020). Although communication between companies and consumers is implicit in every element, most corporate communications take place as part of a carefully planned and supervised promotional program (Belch et al., 2020; Chaudhuri et al., 2018; Mussol et al., 2019).

Conceptually, promotion is a communication activity either directly or indirectly from individuals, groups, and organizations that facilitate the exchange of information to persuade one or more people or the general public to accept the products produced by a person or a company (Kotler et al., 2019; Liliweri, 2011; Priansa, 2017). Meanwhile, tourism promotion has a broader meaning than just selling goods. Tourism promotion is a system that includes efforts to identify policies and strategies, programs, and patterns in a promotion that are to be met with product development systems and strategies (Christou, 2015; Lourenção et al., 2020; Sang, 2021). The purposes of tourism promotion activities are: (1) *notifying*, aimed at providing information to targeted tourists about tourism promotion, regarding these objects related to price, quality, terms, uses, and features, which is generally preferred in the early stages to attract interest and help tourists in making decisions; (2) *persuading*, persuasive and encourage tourist interest to create a long-term influence and positive impression; (3) *reminding*, to maintain attention to retain existing tourists (Lourenção et al., 2020; Rangkuti, 2017; UNWTO, 2018).

Tourism has a broad scope. Things that happen and can attract tourists, from natural causes to man-made, can be said to be tourism (Butler, 1998; UNWTO, 2018). Disasters are detrimental to society because they cause damage to infrastructure, death, loss of property, and more. However, disaster-affected areas can be used as tourism media to reintroduce the potential of the disaster-affected areas (Christou, 2015; Fitriyah & Nurhaeni, 2021). Disaster tourism is visiting places that have experienced natural and man-made environmental disasters. Opinions about the morality and impact of disaster tourism are pretty diverse. Proponents of disaster tourism claim that this activity raises public awareness, helps the local economy and introduces local culture (Karim et al., 2020; Materru, 2017; Sang, 2021; Wan Abdul Halim et al., 2021).

METHODOLOGY

This study utilizes both qualitative and quantitative content analysis on social media concurrently. By combining a case study approach with a big data analysis, we could compare and validate the spread of information about the disaster that occurred on 28th September 2018 on social media. While the main problem posed in this research concerns the role of social media in promoting Geotourism of the Palu-Koro Fault through Instagram, we also explore the

network of information on Twitter. The primary data source is obtained from interviews with informants, including key informants from the Central Sulawesi Provincial Tourism and Creative Economy Office and three influencers (Ade Tandra, Grace Girsang, and Shannon Dorothea). Another primary data source was obtained from direct field observations on Instagram and collected tweets in a couple of years starting from the date of the disaster (28th September 2018 to 24th August 2021), using Twitter API through R. Qualitative data analysis, social network analysis, and text network analysis are used to describe the reality of the data.

RESULTS AND DISCUSSION

a. Post-2018 Disaster: Information Spread on Twitter

The media have evolved in a variety of roles. Information needs can affect the media used. The higher the need for information, the higher the media used to obtain that information. However, in using the media, most people tend to only care about the content of the message and often do not realize that the media that conveys the message also affects it (Morissan, 2014). Apart from social media, official websites are also an option to accommodate information. In Indonesia, websites in government agencies are also used for improving accountability by creating E-Government. Significant influencers, from government officials to prominent public figures of Indonesia, are using Twitter.

Thus, we decided to analyze the information network on Twitter regarding the 2018 disaster of Palu, Sigi, and Donggala (Pasigala). The summarized data we pulled from Twitter are presented in Table 1.

Table 1. Number of data pulled from Twitter

Tweets	Unique Words	Users	User Nodes
25,834 tweets	15,324 unique words	24,233 users	19,546 user nodes

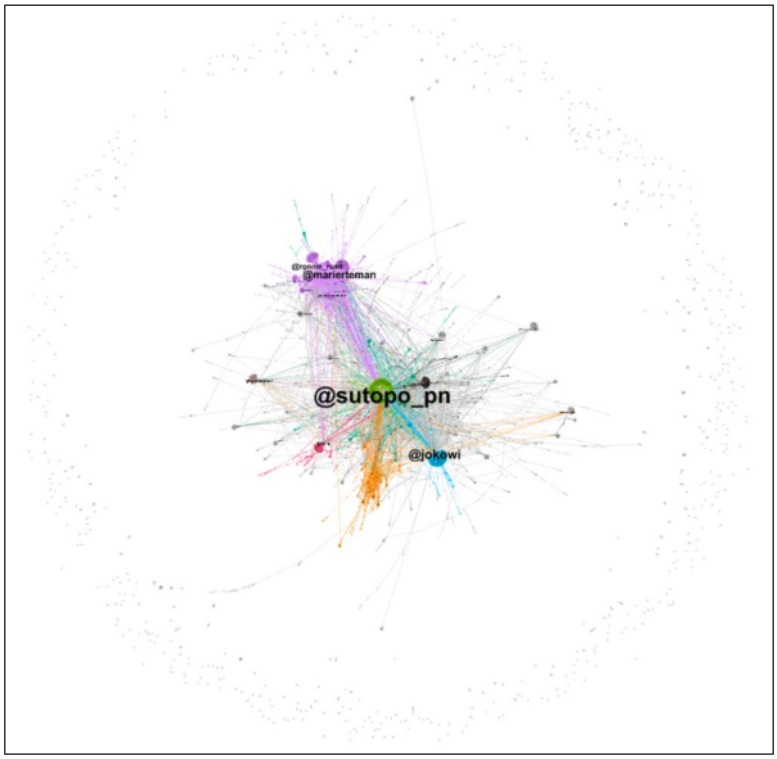
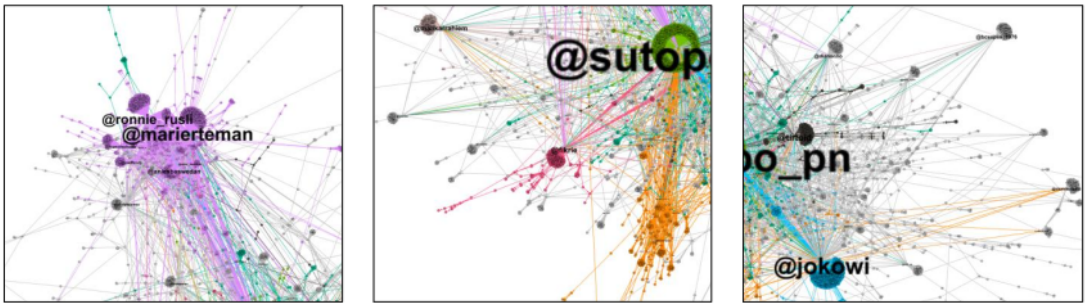


Figure 2. Visualisation of the entire network



(a) (b) (c)

Figure 3. Enlarged view of the three most prominent clusters

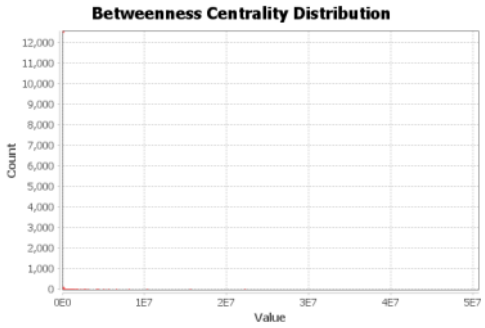


Figure 4. Betweenness centrality distribution

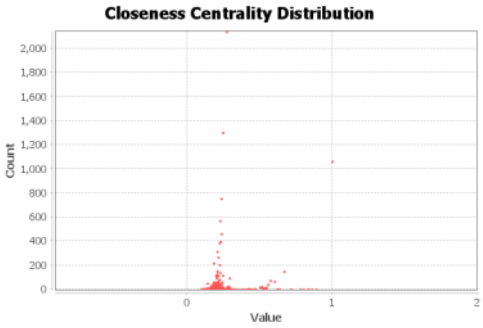


Figure 5. Closeness centrality distribution

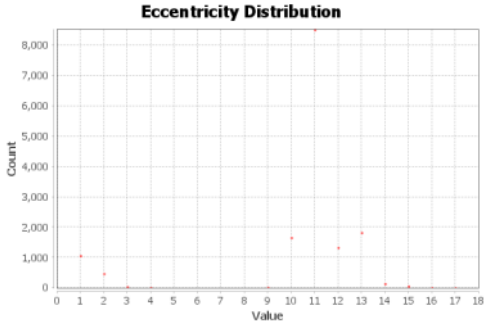


Figure 6. Eccentricity distribution

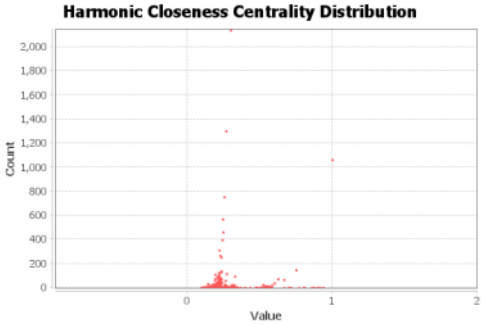


Figure 7. Harmonic closeness centrality distribution

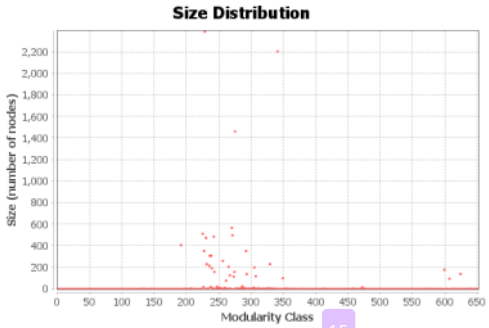


Figure 8. Modularity size distribution

Figure 2 visualizes the full-scale interaction between users grouped into a few significant clusters on the network. The network is 17 in diameter with an average path length of 4.53374068211722 (4.534 rounded) based on Ulrik Brandes' algorithm (Brandes, 2001). The network in Figure 2 has 609 weakly connected components with 15,150 strongly connected components with a moderate degree of 1.144. From the connected nodes, we can see 652 different communities with 0.809 modularity.

The most prominent account regarding the 2018 disaster of Pasigala is @sutopo_pn. This account belongs to Sutopo Purwo Nugroho, the head of the Information Centre and Public Relations Department of the then National Disaster Management Agency of Indonesia. From his

account, we can see accounts that influence the network, such as @marierteman and @ronnie_rusli (Fig. 3 (a)) to @jokowi (the President of Indonesia). We can also pinpoint some media accounts, such as @tirtoid, which also impacted the network clusterization (see Fig. 3 (c)). Some accounts do not become part of the information network. These accounts are presented as individual isolated vertices that formed a ring around the leading network (see Fig. 2).

The nature of the network's edges visualized in Figure 2 and Figure 3 in extension also showed that the users who followed different people came into the same information source. The opposite was true, where information was disseminated and received from one user. One such source is the account @sutopo_pn which became one of the government fronts to combat misinformation and hoaxes regarding the disaster and the post-disaster recovery efforts. This phenomenon is akin to the two-hop neighbourhoods where vertices hop one another (Myers et al., 2014).

Figure 9. Word-cloud view of associated words

From 25,834 tweets we queried, we got 15,324 unique words after cleaning and counting collected tweets. The data were mapped into a word cloud, in which each size of the words in the word cloud represents the frequency of said words (see Fig. 9). The trending topic on Twitter regarding 2018 disaster revolves around the post-disaster (*pascabencana*) recovery and reality, which can be inferred from the frequency of the associated words. The wide range of topics and associated words used by the users showed that the users exhibited increased activity during a crisis such as the disaster of Pasigala. These findings are akin to and supported the finding of Malasig & Quinto, especially regarding the seeking and spread of information (Malasig & Quinto, 2016). The topic of post-disaster recovery revolves not only on the humanitarian and material side of things but also on restructuring and rebuilding for future development. One such topic is *geotourism*.

Data from the field observation and reports of the post-Pasigala disaster identification by the Central Sulawesi Provincial Tourism and Creative Economy Office showed that the disaster not only struck existing tourism sites but also opened new sites. The new sites in question are geotourism sites that emerged after the disaster of 28th September 2018, while the old sites are geotourism sites that have been formed throughout the recorded history of

the Palu-Koro Fault earthquake since 1927. These geological sites are distinguished by historical evidence sites of geological activity (*geoevidence*) and formed due to geological processes into geological features. With a limited area stretching from north to south, the Palu-Koro Fault line is named according to the relationship between geological history and in situ civilization. The locations and names of the sites identified by the Central Sulawesi Provincial Tourism and Creative Economy Office are presented in Table 2.

Table 2. Geological sites in the Palu-Koro Fault area

#	Site	Area Cluster	Description
1	Bambarano Beach	Donggala	Impacted beach of 1968 tsunami (morphological site)
2	Lake Talaga	Donggala	Tectonic lake (morphological site)
3	Equator Siweli	Donggala	0° equator area
4	Mapane Hot Spring	Donggala	A hot spring that emerged post-1968 earthquake
5	Mapaga Beach	Donggala	Impacted beach of 1968 tsunami (morphological site) with evidence and remainder of wrecked village due to tsunami
6	Tanjung Karang Beach	Donggala	Downlift impacted beach of 2018 earthquake (morphological site)
7	Buluri Beach	Palu	Downlift impacted beach of 2018 earthquake and environmental damage due to the C-class mining site (morphological site)
8	Mamboro coast	Palu	Tsunami-impacted beach of 2018 earthquake with ships aground far into the lands
9	Mollusc Fossil site of Tondo	Palu	The emergence of sandstones full of mollusc fossils due to tectonic activity. Large sized mollusc fossils were also found (paleontological site)
10	Talise Beach	Palu	Downlift impacted beach of 2018 earthquake (morphological site)
11	Fractured area of Diponegoro st.	Palu	5.5 meters surface shift due to 2018 earthquake (fault line)
12	Fractured area of Cemara st.	Palu	5.5 meters surface shift due to 2018 earthquake (fault line)
13	Liquefaction site of Balaroa	Palu	Liquefaction impacted site due to 2018 earthquake
14	Liquefaction site of Petobo	Palu	Liquefaction impacted site due to 2018 earthquake
15	Matantimali peak	Sigi	1,000m altitude plateau
16	Liquefaction site of Jono Oge	Sigi	Liquefaction impacted site due to 2018 earthquake
17	Fractured area of Pevunu st.	Sigi	5.3 meters surface shift due to 2018 earthquake (fault line)
18	Bora Hot Spring	Sigi	A hot spring that emerged post-2018 earthquake
19	Maranatha	Sigi	Plateau area full of mangrove. Geoevidence of ancient coast. Current location is 22 km from the nearest coast.
20	Liquefaction site of Sibalaya	Sigi	Liquefaction impacted site due to 2018 earthquake
21	Fracture accumulated area of Saluki	Sigi	510 meters surface shift due to 2018 earthquake (fault line)
22	Fault line area of Rogo	Sigi	4 meters downlift impacted area due to 2018 earthquake
23	Lake Lindu	Sigi	Tectonic lake (morphological site)
24	Maima Hot Spring	Sigi	A hot spring that emerged post-2018 earthquake
25	Lariang River	Sigi	Fluvial landscape and the confluence of three rivers assumed as the turn point of Palu-Koro Fault to Matano Fault

Although the promotion plan for the geotourism sites had been planned, the COVID-19 pandemic proved to be another challenge to be tackled, not only locally for tourism in Central Sulawesi but also nationwide in Indonesia (Cahyadi & Newsome, 2021; Fitriyah & Nurhaeni, 2021). Reopening the tourism industry topic in the middle of a pandemic also brought up the overall economic factor affected by the tourism industry, such as Small and Medium Enterprises (SMEs) (Fitriyah & Nurhaeni, 2021; Mohamad, 2022; Obembe et al., 2021).

b. New Media, Influencers and Promotional Efforts of Palu-Koro Fault Geotourism Sites

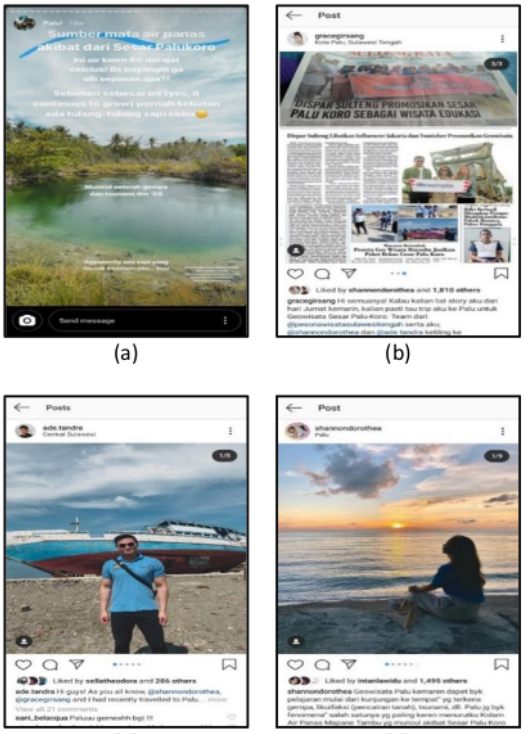
The Central Sulawesi Provincial Tourism and Creative Economy Office is one of the leading governing bodies for developing tourism in Central Sulawesi. The Office formulated a tourism program for Tourism and Creative Economy of Central Sulawesi to promote sites along the Palu-Koro Fault area. Therefore, this program is named Geowisata Sesar Palu-Koro (Palu-Koro Fault Geotourism program), with *koro* referring to the Lariang River. The name formulation emphasizes that these sites extend from Palu Bay to the Lariang River. Palu-Koro Fault Geotourism is an educational tour in which there are 25 tourist attraction sites. Tourists will be served with knowledge regarding these sites, from the history of their formation to precautionary ways for every tourist to prepare for a similar disaster. This is part of the program to make visitors or tourists always alert and also as an effort to educate and care for the community.

The internet's developments and growth made Instagram one of the most prominent social media in Indonesia, with 85 million users (Kemp, 2021). Therefore, the Central Sulawesi Provincial Tourism and Creative Economy Office used Instagram for promotions related to the Palu-Koro Fault Geotourism program through the official Instagram account of the Central Sulawesi Provincial Tourism and Creative Economy Office (@pesonawisatasulawesitengah) with 1,899 followers and 412 uploads. To maximize the role of social media, collaboration with influencers is also an option chosen by the Tourism Office. As many as 20 posts and even re-uploading as many as 11 posts from influencers were published. By uploading photos and messages strung together in their Instagram accounts, hopefully it will provide a stimulus and build a brand image for the geotourism program. The influencers also upload photos while participating in geotourism activities on each of the influencers' Instagram pages. This case aims to promote the Palu-Koro Fault Geotourism program more widely. In addition to using Instagram, promotions are also carried out through the YouTube channel.

For some, the use of WhatsApp groups is an effective means of conveying information. Through chain messages, WhatsApp can be used as a medium to introduce products or services en masse. Social media trends as a communication medium connecting many people with very diverse backgrounds are not only limited to Instagram, Facebook, Twitter, and YouTube but also WhatsApp groups. The use of WhatsApp can result in positive impacts by providing more personal experiences.

Digital culture embodies a virtual society that indirectly changes consumer behaviour. Consumers, in the sense of society today, prioritize searching for information through social media. One of the changes in the behaviour of the virtual community is visiting tourist destinations they found through social media. Consumer behaviour is interpreted as the behaviour consumers display when they search, buy, use, evaluate and spend on products to

meet their needs and desires (Priansa, 2017). Some use such trends to use social media as a medium for promotion and as a job. With persuasive abilities through messages, an account can significantly influence its followers. Therefore, the role of influencers in posting messages and images becomes a very effective means of promotion. Technological developments and the role of new media are part of digital culture that turn influencers into propagandists who are considered capable of influencing society in general, as the communicators of persuasive messages to educate and promote to the public the existence of the Palu-Koro Fault geotourism.



(a) (b)

(c) (d)

Figure 10. Examples of Influencer posts on Pasigala disaster sites

Influencers who visited the sites were informed with the knowledge of Palu-Koro Fault Geotourism sites. From the field observation and interview results, one of the trips offered in the geotourism is the Family Trip program. This program is expected to arouse the community's interest in visiting and studying natural phenomena formed by earthquakes, tsunamis, and liquefaction. The Family Trip is a three-day program to visit 25 geotourism sites along the Palu-Koro Fault, from Palu Bay to the Lariang River. Through this program, the Central Sulawesi Provincial Tourism and Creative Economy Office wants to show the uniqueness and educational value of each Palu-Koro Fault Geotourism site in collaboration with several influencers.

Based on the interview with three influencers who promoted the geotourism sites (Ade Tandra, Shannon Dorothea, and Grace Girsang), it can be concluded that the posts by

influencers do not only display non-verbal messages (images and photos) but also combine them with a verbal message design to persuade the audience (see Fig. 9 (a) through (d)). The promotion of each influencer does not just stop when they upload a photo or video, but they also answer every question and respond to comments and messages. Ade Tandra emphasized interaction with people around him (friends and families) and his followers.

The three influencers who promoted the program used a more positive message selection. The promotions carried out do not focus on trauma due to natural disasters but rather on the positive values that can be given. Grace Girsang emphasized in the interview that the central message of this geotourism promotion is *educational tourism* which is to *see and understand what and how geological processes formed the sites*. The message of not dwelling on what happened and focusing on what can be learned from the disaster is also mirrored by Shannon Dorothea, from which we quote:

> My main message is to increase public awareness. I promote in a different way, creating a future oriented cheerful atmosphere, not reminiscing about the past all the time. (Interview with Shannon Dorothea, 8th April 2020).

The good impression that is depicted in the message is built to increase the positive image of the situation. The impression is managed to project an excellent image to build trust and encourage one to pursue specific goals through assertive or defensive behaviour (Littlejohn et al., 2018). Good message management can persuade not only others but also increase the positive impression of the message. This aspect is what influencers consider when composing a message they post. The posts are not only just mere information but also able to leave a deep impression in the audience's minds.

Promoting the Palu-Koro Fault Geotourism is not just about attracting visitors or tourists. A critical aspect to consider is building a brand from the Palu-Koro Fault Geotourism program, where the tourist destinations are areas or sites that have been affected by a natural disaster. Branding is an attempt to influence others in choosing a particular brand with guaranteed promises and values (Christou, 2015; D. Hidayat et al., 2019; Molyneux, 2015). Added value or positioning that distinguishes a brand from other brands became the core of all marketing activities. Therefore, the role of social media in promoting the Palu-Koro Fault Geotourism program is not only to introduce the program as a tourist destination and attract visitors but also to build trust for the community and a sense of security and comfort when visiting the sites (Amalia & Hanika, 2021; Damayanti et al., 2021; Materru, 2017).

The responsibility of the influencers is to show a positive impression from every post uploaded on their social media accounts. Therefore, the visualization and the message must attract the audience's interest (Berhanu & Raj, 2020; Bizirgianni & Dionysopoulou, 2013). Heterogeneous audiences must be the primary consideration for influencers to create messages and impressions from each post. Similar to posts to promote geotourism sites, influencers must be able to impress, attract and empower their followers (Khan et al., 2022; Yu et al., 2021). Promoting tourist destinations related to natural disasters is not as easy as promoting tourist destinations in general. While tourist attraction has its strength as a component of tourism products because it can generate motivation for tourists and attract tourists to travel (Christou, 2015), disaster-related tourist destinations also paint the horror and

trauma the disaster created (Khairil et al., 2020; Salawali et al., 2020). Therefore, the message has to be constructed in a fine line between focusing on the disaster and emphasizing on the travel experience and educational value that can be given, as we quote from the interview with Gafriani:

> ....Our message is directed in a positive manner. We offer the public the educational value and knowledge of these 25 sites. (Interview with Gafriani, 31st January 2020).

In the message-learning approach, persuasion messages occur when the information in a message is learned or processed through several stages (Littlejohn et al., 2018). Therefore, post-disaster geological tourism sites' traumatic and negative impressions must be removed. For this reason, one of the efforts is to carry out promotions highlighting the advantages and positive values of geotourism. Messages are created and designed from the choice of words to the delivery of information.

CONCLUSION

The use of social media in the digital cyber era is an opportunity and a challenge in promoting Palu-Koro Fault Geotourism. With social media trends targeting the general public, strategies and management are also required to optimize the promotion objectives. Geotourism is one of many topics brought on by social media users regarding the post-disaster recovery efforts of Pasigala. In reconstructing the tourism industry in the Pasigala area, the Central Sulawesi Provincial Tourism and Creative Economy Office rebuilt and rebranded the existing and new tourism sites into geotourism sites. In this case, the Central Sulawesi Provincial Tourism and Creative Economy Office mixed both rejuvenation efforts for existing sites and the development of new sites based on the Butler's Tourism Area Life Cycle (TALC) Model into one promotion program. While this study focused on the reality of the social media environment based on the disaster of Pasigala, further study regarding the long-term efficacy of the program is needed.

Optimizing the role of social media is done through effective planning, both from messages, contents, images, and feedback from influencers as social media account owners. In this case, the message's logic takes on a role where a plan is part of the thought process. There is a logical arrangement of messages in a plan where it consists of expressive logic to express open and reactive thoughts; conventional logic where communication plays a role in compiling messages that are polite, precise, and based on rules that are known to everyone; and rhetorical logic or the arrangement of messages with flexibility, insight, and focus. The sites that emerged more or less create a terrible and frightening memory of the disaster. As such, media framing of the disaster of Pasigala became a challenge in making the Palu-Koro Fault Geotourism program one of the tourist destinations.

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