

Article

The impact of social media activity on destination networking in the city of Yogyakarta, Indonesia

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Abstract: The study aims to investigate and analyse the social media, precisely the Instagram activity of several hotels in the city of Yogyakarta, Indonesia. Having been the second most popular destination besides Bali, it is mainly dominated by domestic tourism. Although several governmental institutions exist, the study focuses on the hotel's activity only. The main purpose was to find, that after the classification of the posts, whether there is a more positive effect of one as opposed to the other type of posts. In addition, it was also important to see if with the time advancing positive effect of likes and comments appear and the relation of hashtags, likes and comments. Data was collected between 1st of January 2023. and 15th of July 2024. The first step was to collect posts done by the suppliers and then the posts were classified. Also, the number of hashtags used were collected. Second step was to collect the response from the demand side by gathering their likes and comments. Data then was analysed with SPSS 24 and JASP program. Results show that while there is no significance on increasing likes and comments with the months advancing, but in terms of the type of the posts there is. Promotional posts with other suppliers tend to bring a lot more comments and likes than selfpromotional posts. This study's main purpose to analyse through social media posts to enhance online networking by local suppliers promoting each other's products.

Keywords: social media; collaboration; hashtags; post effectiveness; user-generated content

1. Introduction

This study aims to investigate the less known area of Indonesia than Bali but not less in cultural and natural heritage. The Island of Java is known and rich for its Muslim related gastronomy and religious heritage. The dominant tourists to Jogja are tourists from Malaysia and Singapore. There are also quite a lot of tourists from Europe. Malaysia and Singapore want to increase the frequency of flights there. That's why they pay a lot of attention to Yogyakarta city and its accommodation offers. Protecting the landscape is key to the sustainability of tourism, and developing heritage sites means taking a balanced approach to enhancing the visitor experience, maintaining authenticity, and ensuring long-term conservation (Kőmíves, 2024). Social media is the most effective means of disseminating information, so the Tourism Office has been looking for the right time to spread positive content. The Tourism Office uploads content to various social media such as tourism activities, culinary, creative economy, fashion business, culinary, and Yogyakarta hidden gems. With that, the Tourism Office is considered to provide a positive aura for tourists (Salsabila et al., 2022). Strengthening tourism institutions in the Borobudur region involving the government, the private sector and the community as well as a collaboration so that there is synergy and integration between tourism stakeholders facilitated by the local

government through special agencies and the central government through the ministry, which in charge of tourism (Arintoko et al., 2020). Social media posts are a tool for all participant in the tourism sector. This is why the relation of tourists on social media and also the supply side of the management cooperation was investigated. Social media plays a vital role in getting feedback from demand and also placing products from the side of supply. While the majority of literature portrays social media as a positive tool for tourists, aiding decision-making and enhancing tourism experiences (Liu et al., 2020; Osei et al., 2018; Schoner-Schatz et al., 2021). Previous research has underscored the vital role of social media as an information resource and a pervasive technology that shapes tourists' expectations of destinations and influences their decision-making (de la Hoz-Correa and Muñoz-Leiva, 2019; Gaffar et al., 2022; Narangajavana et al., 2017; Tussyadiah and Wang, 2016). According to research from Nielsen 2010, people are using social networks as 25% of their time is spent on the internet and it is still increasing from the year before. (Nielsen, 2010). This is a key point why social media, especially Instagram was chosen. Instagram is the third most popular social media in the world with two million monthly users along with WhatsApp (Statista, 2024). The most popular is still Facebook, with 378.05 million users worldwide. There has been a number of investigations on the role of social media introducing innovation and other means related to this (Angst et al., 2010; Homburg et al., 2010; Kulviwat et al., 2008).

According to the Contagion theory the main purpose of people or enterprises seek others with similar behaviour is to interact with them (Burt, 1987; Contractor and Eisenberg, 1990; Latane, 2000). Tourism often has no other means of engaging but the internet due to geographical distances. Whether it is domestic tourism or incoming there are great geographical barriers when it comes to supply and demand to meet and this especially refers to tourism. Another significant point is the interaction that can be expressed through posts and also comments and likes. This is investigated by Van Dijck and Poell (2013) by individuals connect and interact through posted messages on social media platforms, they are co-creating tourism experiences on social media. In the realm of tourism, research indicates that tourists often perceive destinations followed by members of their social network, even if they have their own preconceived image (Pan et al., 2021; Park and Nicolau, 2015). When it comes to analysing specific tourism attributes, it is possible to measure through texts and sentiments of tourist satisfaction through social media and also to measure the importance and performance of them (Chen et al., 2022). This is also backed up by Sigala (2016), that online sharing, commenting, tagging, rating, liking in other words using innovative forms of digital technologies brought a new form of tourist experiences. Employers enhance the success of their business by retaining key people and developing the professional competencies of their employees so that the knowledge accumulated by the organization and the IC of its employees further strengthen the organization (Kőmíves, 2016). Moreover, collaboration networking leads to sustainable tourist destination along with other means of digital tools (El Archi et al., 2023). However, development countries tend to use their social media for monitoring tourism but it does not refer to less developed countries, which are equally rich in cultural and nature-based tourism. In the case of Indonesia there are significantly more research on Bali but less on the other areas like Java (Bhatt and Pickering, 2022a, 2022b). Also, less research done in

sustainable digital tools rather in the field of smart tourism destination with non-digital sustainable practices (El Archi et al., 2023).

Figure 1 shows the connection on how the stakeholder by having a page, posts, and the use of hashtags reaches its followers and likers.

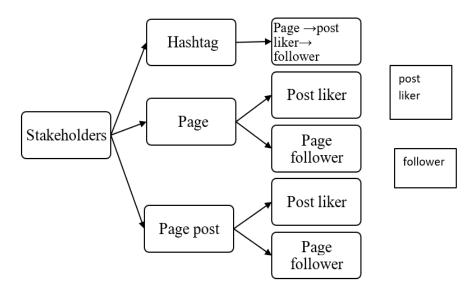


Figure 1. Tools for the effective use of social media by tourism offer players, own compilation.

2. Literature review

Instagram is a very easy engaging social media platform to people of different ages and social groups. Indonesia is the fourth largest country in terms of Instagram audience, having 100.9 million and the third on Facebook, having 119.05 million users (Statista, 2024). Social media is a vital tool for interaction between tourists and stakeholders. Tourists have the chance to not only appear as private users but also professionals, and also invite their friends and share photos among other users. Brands however can relate to their customers and use it as their marketing tool (Boyd and Ellison, 2007; Smith et al., 2012). Coelho (2015) did post typology research with several types of posts related to different kinds of business from different areas. The main point was to have small businesses which have active social media accounts. Right from the beginning it was investigated and determined that co-created value, which is vital in our study is a joint participation from supply and demand side in both tourism and hospitality (Vargo and Lusch, 2004). Studies were also done on using advertisement tools (Tham et al., 2020) however in our study organic tools were primary. Consumer travel research and decision-making are increasingly impacted by the faster and wider spread of word-of-mouth information via social media platforms (Leung, 2019). Resultantly, tourist destinations have also added social media platforms to their traditional marketing portfolio (Uşaklı et al., 2017). Chandrasekaran and Annamalai (2023) has made research on the Facebook and Twitter activity of DMO in India. Tourist engagement was measured by likes, comments/tweets, and shares/retweets counts. The analysis revealed that interactive and informative posts gained maximum engagement on Facebook and Twitter, respectively. Hruška and

Pásková (2018) has made a study on comparing the social media activity of national tourism organizations. The importance of social influence as a determinant of technology acceptance and usage has been primarily examined in an organizational setting (Hausman et al., 2003, Taylor and Todd, 1995). A review of content strategy on social media suggests that content interactivity, vividness, and elaborateness are the key determinants of user engagement with marketer-generated posts (Antoniadis et al., 2019; Tafesse, 2015).

According to (Huang et al., 2024) the connectivity is shaped whoever is participating in social media not important their roles, but the idea of adding value and mutually shape the network. In our study it is important to have engagement regarding the posts which were analysed. Freire and Veríssimo (2021) classified the research schemes into four clusters: ICT and destination management improving tourism experience, co-creation and social approach, customers' collaboration and satisfaction, and co-creation in the sharing economy. In our study the latter two are important.

2.1. The use of social media tools on Instagram

It has been long known and fought for to have efficient tools and posts to be visible and to be noticed online. The internet offers a wide range of different tools whose sole purpose is one thing, when you are a professional: to be visible and also to get your product to your customers. YouTube and Instagram users solely purpose is to influence their customers or possible customers purchasing decision (Mehta et al., 2021). Solokova (2020) also looked at the purchasing behaviour focusing on businesses credibility. One of the key points of our investigation is to see which type of posts hotels post and which have more engagement on Instagram. The typology of posts has been already early overlooked, however the research on it is not plentiful.

Research done on post typology on Instagram shows that events and promotion are more engaging than other types of posts. This research however, was focusing on small enterprises not from the tourism field necessarily. The purpose was to see the relationship between dependent variables, which are likes and comments and independent variables like post typology, segments etc. (Coelho, 2016). This is also measured with customer interaction which is another vital point to measure how engaging a post is. Bonilla-Quijada (2021) found the opposite: advertising-related posts have a more negative effect, but using Berlin as a brand is more positive when it comes to likes and comments from a tourist's point of view. Customer engagement was also investigated from the point of view of brand-related posts. It is another very important tool to engage people and also to make posts more vivid (Luarn et al., 2015). During Covid the communication and also the interaction of guests have changed dramatically. As there were no potential customers, the ones engaging in posts expressed more desire rather than real-time demand. Keller et al. (2023) did a study on how the types of posts have changed and came out in the four periods of Covid, and how people's reactions were on them. They also investigated hashtags used on them, which is another tool to not only find information on Instagram but also increase the visibility of posts. Pachucki et al. (2022) states that not only content and social media communication changed since Covid but also people's reaction. Since post-Covid period started, people are more active on social media than before. Aydin (2019)

chose luxury hotels to investigate, as they tend to have better social networking due to their excessive financial support rather than small businesses. In our research we also chose two luxurious hotels for the same purpose. Aydin investigated the visual posts, which were more effective, and text-based posts, which were less effective. His research also emphasised the importance of organic tools to drive traffic and interest in supplier's posts. Another important tool besides post content, photos, likes, and comments is the use of hashtags. Widely used hashtags can go a long way for people to find the posts which interest them. It can even go further and not only helps finding information but also shapes the customer to become informed decision-makers (Jagadeesan and Karthikeyan, 2023).

Table 1 below is a map of previous literature on Facebook and Instagram.

	Table 1. Literature on	social	media	activity,	own	compilation.
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Authors	Research topic	Platform	Time Period	Result
Coelho (2016)	Typology of posts, customer interaction	Facebook 680 posts Instagram 1169 messages	August-September 2014.	Promotional posts are more effective on Facebook and Instagram
Luarn et al. (2015)	Typology of posts	Facebook 1030 posts	1st of March–1st of May 2014.	The impact of posts on online engagement
Bonilla-Quijada et al. (2021)	Typology of post	Instagram 279 posts	1st of January–31st of December 2018.	the effects of certain posts in urban tourism
Aydin (2019)	post effectiveness, interactions	Facebook 1847 posts	1st of August–31st of August	Social media is not fully utilised in tourism and luxury travels
Pachucki et al. (2022)	Post content and interaction	Facebook 1136 posts	Pre-Covid, Lockdown, and Post-Covid period 12th of December 2016– 16th of November 2020.	Post Covid posts content change
Keller et al. (2023)	Post typology and interaction	1616 Facebook 923 Instagram posts	1st of March 2020-28th February 2022.	The interaction and content of posts during COVID period
Buarki and Alkhateeb (2017)	Use of hashtags	Instagram	-	Use of popular hashtags
Laucuka (2018)	use of hashtags	Instagram, Twitter	-	Use of popular hashtags
Marine-Roig et al. (2017)	use of hashtags, InstaMeet	Instagram	25-26 March 2017.	Use of InstaMeet hashtag
Jagadeesan and Karthikeyan (2023)	tagging on Instagram	Instagram		Significance of tagging and non-tagging on Instagram

2.2. Classification of social media posts

Social media posts have been categorized a number of ways in different research done before. It is vital when it comes to measuring social media posts effectiveness. The primary aim of businesses is to market the product in a way that the consumer likes and hears the messages very clearly (Laskey et al., 1989). Tafesse and Wien (2017) emphasize this by pointing out the importance of brand related posts as a tool of marketing. Rivas et al. (2020) similar to our study, collected data manually and identified 9 categories according to the content of the posts. His study was done in health-related area not in tourism. In our study the first category is self-promotion, thus the hotel doing posts using his image only. Previous study by Islam et al. (2019) describing self-promotion both positive and negative, however there is a key difference between his research and the one done by us. His research is about people

promoting themselves and ours is about businesses promoting strictly their business thus the promotion is not a person but a product. Hotels are naturally promoted also on social media. There are several ways to do so for example through the influence done by celebrities (Supardin et al., 2018). Ho et al. (2022) studied Facebook as a platform to see how effective the posts are when it comes to booking a hotel discovering on social media. More studies on hotels including Cheng et al. (2020) clearly states that hotels use social media to influence customers on booking and as a marketing tool. Gamification is another way of influencing traveller's choice (Hristova et al., 2020). This method has been around for ages so it was reimplemented by Kachniewska (2015) for using it as a modern tool mainly on social media. Guest satisfaction type of posts are mostly research but not so much on social media. There are number of platforms to express customer experiences by stating reviews, like on google, Tripadvisor. On social media it is more expressed by comments. Out of the four nominated typology of posts, two are very vital for our study: one is selfpromotional posts the other is promoting destination affiliates. Affiliate marketing according to Adel (2023) is important on every level of decision making, however it brings a number of challenges when it comes to using it. Through affiliation they both gain increased visibility even followers (Dwivedi, 2017). Qualitative and quantitative research on the topic was done by Jyotsna et al. (2024), providing effective information on how to improve affiliate strategies. Bevendorff et al. (2022) shows that it is not only effective in gaining more visitors but also in terms of costs effectiveness is economical too. Most important in terms of our study is the studies done by Rolim et al. (2020) and Suryanarayana (2021), because of showing that affiliation can reach wider audience, more likes and comments to customers who would not be seeing the posts otherwise. It is also proven that when a post has high number of likes and comments the audience acts positively to it (Aramendia-Muneta, 2021).

Figure 2 below is to show the four main typology of the posts done by suppliers influencing the side of the demand.

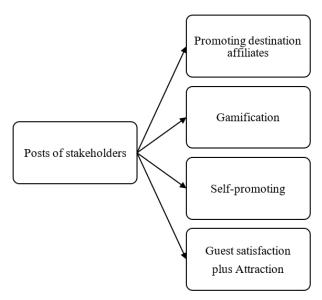


Figure 2. Four main posts typologies done by suppliers influencing demand, own compilation.

3. Methodology

Firstly, randomly selected hotels on booking in order to filter the 5 most active hotels on social media in each region. These selections included big chain hotels, big hotels and smaller hotels also. Database was built in an excel sheet with sufficient data which included likes and also the followers and comments. The posts were then classified of two types: self-promotion (SP) and promotions (P). Self-promotion could mean the hotel itself or the restaurant within the hotel. The promotion goes further and included events with the cooperation of other organizations as well as events might not be related to the hotel but influencing because it is nearby. Being part of a bigger body of literature on social media research such as digital anthropology (Avallone, 2020; Hine, 2021; Hjorth et al., 2017; Mestanza-Ramón et al., 2020; Pertierra et al., 2018; Pink et al., 2015), netnography is derived from ethnography. It is a form of qualitative research to analyse cultural experiences that are reflected "within the traces, practices, networks and systems of social media" (Kozinets, 2019).

Data collection was carried out between January 2023 and July 2024. In the excel sheet the different types of hotels were entered, their time of posting as well as the number of likes and comments they received. Additionally, the hashtags used by the hotels were also collected. Data was then analysed with using IBM SPSS 24 and JASP program.

Third step was to see if they use the most common hashtags and also post regularly for example twice a week. Creating statistical data by investigating the type of posts by the suppliers, the number of networking indicated in the posts. From the demand side we have investigated the likes, comments on posts done by suppliers.

Table 2 below is to show Facebook and Instagram activity of each hotel chosen.

Name of the page	Facebook likers	Facebook followers	Facebook reviews	Instagram followers
Yogyakarta Mariott Hotel	18,000	18,000	3.9 (2714 reviews)	24,400
Java Village Resort	624	667	4.3 (255 reviews)	1474
NDalem Eyang Dwijo	786	790	4.8 (8 reviews)	2076
Hyatt Regency Yogyakarta	46,000	46,000	4.1 (4970 reviews)	51,000
Phoenix Hotel Yogyakarta	N/A	N/A	N/A	12,000
d'Omah Yogya Hotel	N/A	N/A	N/A	12,400
Royal Ambarrukmo Yogyakarta	27,000	27,000	4.0 (4841 reviews)	21,700

Table 2. Chosen hotels social media activity, own compilation.

Based upon our research the following hypothesis were proposed and the following methods were used.

H1: There is a connection between the number of likes and posts and the time and month advancing.

In the case of posts and likes to see with the time and months advancing Pearson correlation analysis was used, and a further monotony value was also conducted using Kendall tau-b correlation coefficient and Spearman's rank correlation coefficient. In both case decisions were made with 0.05 significancy level.

H2: There is a relation between the number of Hashtags and the number of likes and comments.

In this case Pearson correlation analysis was used, and a further monotony value was also conducted using Kendall tau-b correlation coefficient and Spearman's rank correlation coefficient. In both case decisions were made with 0.05 significancy level also.

H3: The type of posts (SP and P) related to the number of comments and likes.

A binary t-test and also its robust version (Welch's t-test) and Mann-Whitney tests were used. For the extent of the difference, Cohen-delta effect rate was calculated. The significance level at 5% (p/SIG = 0.05) were determined, and in the case of Cohen's effect size, 0.3 medium and 0.7 high limit value was determined (to define the difference between the groups below 0.3 weak, between 0.3 and 0.7 medium, above 0.7 significant were considered).

H4: There is notable difference between hotels in terms of likes, comments and hashtags.

Hotels were compared using a one-way ANOVA analysis, based on the number of likes, number of comments and number of hashtags. The significance level was determined 5% (p/SIG = 0.05), the effect rate was determined using eta-square. The difference between averages is shown by indicating the averages of the groups, as well as Tukey's pairwise comparison was calculated.

4. Results

H1: It was found that there is a positive connection between the number of likes and also number of comments. This is clearly seen in the Pearson correlation (r = 0.738, p < 0.001), that more comments bring more likes as well: However, there is no relation between the likes-comments and the time and month advancing. The number of comments (r = 0.026, p = 0.488), and the number of likes (r < 0.01, p = 0.982) shows, that there is no connection between the increase of likes and comments and the increase of the months.

H2: In the case of P and SP we have found that it does not depend on the capacity and size of the hotel (p = 0.241). But in terms of the likes and comments there is a definite difference between the P and SP. According to the binary t-test (t (722) = 5.471, p < 0.001), with medium extent of the difference (Cohen-delta = 0.515). In the case of P 14.436 is the average number of comments and in the case of SP is 3.45. Investigating the number of likes (t (722) = 6.4, p < 0.001), with medium extent of the difference (Cohen-delta = 0.602) in the case of P the average number is 477.550, and in the case of SP 106.732.

H3: There is a notable difference between hotels also, when it comes to hotel/page likes (F(5.720) = 4.124, p = 0.001, eta-squared = 0.028). Highest is Royal, with 348.609, second is Sheraton with (232.245), third is Marriott (201.646). Javav (59.267), Malioboro (55.276) does not reach the average 100 comments, NDalem (15.333) stays under an average of 20 comments. In terms of comments there is no significant difference among the hotels (F(5.719) = 1.832, p = 0.104).

H4: There is significant differences between the hotels in terms of likes (F (5.720) = 4.124, p = 0.001, eta-squared = 0.028). Royal is the highest with an average of 348.609 like, followed by Sheraton with 232.245 and Marriott with 201.646 likes. Javav with 59.267 and Malioboro with 55.276 does not reach an average of 100

comments and NDalem stays under 20 averages with 15.333. In terms of comments there is no significant differences between the hotels (F (5.719) = 1.832, p = 0.104). In the number of hashtags there is a difference (F (5.720) = 57.398, p < 0.001, eta-squared = 0.285) and we can declare that Royal with 8.774 is high on average, Javav with 7,614, and Malioboro with 5.571 is medium on average. Marriott goes behind a little with 5, with 4.937 Sheraton is almost using 4. NDalem do not use hashtags, in that case cannot be measured.

5. Discussion

The purpose of this study was to point out the effectiveness of joined cooperation with local or hotel related suppliers. Previous studies were looking at the effectiveness on influencing customers by doing self-related posts thus promoting the hotels itself. Our study intended to go further to show the difference between the self-promotional and joined promotional posts. Rivas et al. (2020) classified posts related to the content not the method they used. Our study is different in a way that while this study also classified posts but rather than doing it by the content, it is done according to the method they used- whether it is done promoting the premise itself or in a joined cooperation with other, not hotel- related supplier. While hashtags were created to increase visibility, it is also important to know what other factors influence viewers engagement and decision. Celuch (2021) did point this out saying the number of hashtags does not necessary increase comments and reactions. His study looked at the effectiveness of food-related hashtags when it comes to food festivals. Our study came more to the results, that the number of comments bring definitely more likes, not necessary the number of hashtags. A similar study was done by Turancı (2019) who had looked at the effect of hashtags in health tourism in Turkey using descriptive analysis of "healthtourismturkey" hashtag, precisely the sharing of this hashtag, indicating how popular it was. This does not include the effectiveness of the hashtag itself, only the number of times it was used. In our study the number of hashtags were noted. Yoo (2024) had a direct study on which hashtags were more effective when it comes to likes and comments. The study classified the hashtags and found that promotional hashtags are the same less effective as the ones are complicated and too long. This study was done in the fashion industry not in the tourism industry like ours. Our study had specifically looked at the hotel industry to see which hashtags and how many are more effective and came to a conclusion that there is no direct relation between hotels with more followers and the number of hashtags. For future study it is vital to also investigate the effectiveness of certain hashtags. The limitations of the study were that it was not possible neither to detect activity nor being able to interview the organizations.

In Indonesia, where picked our sample hotels, Priharta (2023) did a research on how hashtags influence in Indonesia brand awareness in beauty industry and found that there is a strong and positive relationship between hashtags and brand awareness. In our study it was not proven directly, as the aim was to look whether more hashtags would bring either more comments or likes.

In overall we have looked at the relationship between hashtags, comment and likes and how they increase the post's visibility. It was investigated how many

comments each hotel gets and also what type of posts are more effective. Previous researchers have looked at one specific hashtag and we have looked at the usage of them, our study focused on the connection between all three of them.

6. Conclusion

Our study did research on several Indonesian hotels and how well they use their social media tools as well as how effective is to do a digital networking by promoting products, organizations and events nearby. The hospitality product is not meeting with the destination products on social media platform even though the number of nights and online activity is increasing. Considering the effort hotels put into their social media activity the response and co-creation from the demand side is not meeting the expectations. The hotel is taking advantage of its position of organizing event and having tagged by big organisations, it receives more comments and likes on their posts. As search engines look for the time and effort done in posts and also the response consumers make it is proven by our study that these types of posts are far more effective than the ones where they promote only themselves. The study would have liked to involve the role of destination management organization (DMO) but it was found that there is no significant direct activity between hotels and governmental organizations. DMO could be a bridge between tourist and suppliers by tagging and promoting all stakeholders, having all stakeholders at one place and also giving guarantee, as a local, knowing and promoting reliable stakeholders. Especially when it comes to smaller hotels with less capital to invest into social activity. Our study proves, that promoting other stakeholders is far more effective than self-promotion and this also refers to DMO's. It is also proven that from the demand's side enough effort is done by posting regularly, but it seems that posts are not engaging enough to generate sufficient likes and especially comments. It is also proven by our study that promoting and using local suppliers are generally more effective, when it comes to comments and likes. It is suggested to make more posts like this in the future by using either local suppliers with sufficient followers or make posts more engaging by asking questions, generating game-type content which would more engage followers.

Considering that not sufficient interview was conducted with the other stakeholders it is one of the aims of future investigation. It is also an aim to investigate territorial differences with other countries as well as further investigation of the following: are certain days of the week bring more effective posts? Are certain hashtags more effective?

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