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Social Network Analysis About Brand Awareness of Shopee Indonesia on Twitter

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Abstract

Brand recognition and brand memory are two crucial elements in brand awareness. Shopee Indonesia is one of the e-commerce companies in Indonesia that has an active account on social media, especially Twitter. This study aims to determine brand awareness in the Shopee Indonesia social network on Twitter through the hashtag #ShopeeID. This study uses the concept of brand awareness, social media Twitter, and Social Network Analysis (SNA). The SNA research method uses the Netlytic and Gephi applications. The data generation was collected from 23 until 30 May, 2022. The results showed that using hashtags in status uploads on social media could build brand awareness. The hashtag #ShopeeID can create consumer awareness of a brand as one of the e-commerce companies in Indonesia. This awareness is formed through the frequent and repeated use of hashtags by both Shopee and consumers. Shopee, a key player in disseminating information, uses Twitter as a medium to provide information through promos and giveaways. This research has implications for how e-commerce companies use hashtags in social media to create brand awareness. Businesses should pay more attention to using specific hashtags that reflect the brand than the business. When consumers can recognize a brand, that is where brand awareness is achieved.

Keywords: *Brand Awareness, Twitter, Social Network Analysis, E-commerce, Shopee.*

INTRODUCTION

People make social media a part of their daily life. They started by finding and sharing information to become a forum for marketing activities. Social media is an integral part of a company's digital transformation. Content marketing through social media is crucial for the effectiveness of marketing communications (Pappas et al., 2019). Twitter is one of the most popular social media platforms used by the general public, and Indonesia ranks fifth in the world in terms of Twitter users (Annur, 2022).

Along with these advances, e-commerce is developing in the digital world, where individuals are involved and carry out activities both in the

economic and business fields (Prajana et al., 2021). The existence of e-commerce is one of the business alternatives that can be applied today because it has succeeded in changing people's behaviour (Cordelia et al., 2022). Every year, e-commerce is becoming more competitive. E-commerce companies must have solid brands to compete for customers. As one of the leading indicators of brand equity, brand awareness is often used to assess a strong brand. Therefore, businesses must increase brand awareness because it can influence customer purchasing decisions (Fauziah et al., 2018).

Shopee Indonesia is one of the top five e-commerce in Indonesia. This platform offers various things that are needed by the Indonesian people (Prajana et al., 2021). On Twitter's social media, Shopee actively disseminates information on promos and giveaways by following the hashtag #ShopeeID in every upload. Shopee does this to build awareness while increasing engagement with its consumers.

Research on social network analysis related to awareness of e-commerce in Indonesia can be said to be minimal; even the authors have not found the Shopee company as the research object. Bratawisnu and Alamsyah (2018) analyzed user interactions on Twitter by comparing three e-commerce in Indonesia, namely Lazada, Tokopedia, and Elevania. The study found that Lazada's social network was superior to Tokopedia and Elevania. There are many actors on Lazada's Twitter social media, and the interaction level between actors is much higher than in Tokopedia and Elevania (Bratawisnu & Alamsyah, 2018). Lazada successfully builds awareness because more actors talk about this brand on Twitter than other brands.

Research on social network analysis and branding has also been conducted but does not focus on awareness. As was done by Mahdi Shiddieqy Setatama and Dodie Tricahyono in 2017 regarding the dissemination of country branding using the hashtag or keyword "Wonderful Indonesia." The findings show that the interaction network on Twitter has the best performance compared to Facebook and Google Plus (Setatama & Tricahyono, 2017). Other network analysis shows that brands generally use hashtags on Twitter to increase brand recognition and online circulation (Mangiò et al., 2021).

To enrich social network analysis research on e-commerce in Indonesia, the authors are interested in researching Shopee Indonesia company. This study aims to determine brand awareness in the Shopee Indonesia social network on Twitter through the hashtag #ShopeeID. The social network analysis approach describes and determines communication patterns and relationships between actors. In addition, the author will also conduct text analysis to see what words are being discussed by the actors in the communication network.

Brand Awareness

Brand awareness is a state in which a brand is recognized by potential customers and is specifically associated with a product. A company or business aims to position the brand they create so that it is always in front of consumers' minds (Setatama & Tricahyono, 2017). The previous study has successfully created the modelling and mapping of information dissemination and brand awareness to customers using a social network analysis approach. It is the interactions between two actors in the network to identify actors who

are considered to have a very high number of interactions in disseminating information on the web (Alamsyah et al., 2014).

Brand awareness is achieved by building brand familiarity through frequent exposure. That is, the more a customer "experiences" a brand by seeing, hearing, or thinking about it, the more likely he will remember it strongly (Keller, 2013). Brand awareness is "the ability of potential customers to recognize or recall that a brand belongs to a certain product category" (Bilgin, 2018).

Brand awareness has two components, namely, brand recognition and brand recall. The ability of a customer to confirm previous exposure to a brand when given the brand as a cue is brand recognition. Meanwhile, the customer's ability to recall a brand when given a product category, the demands provided by that category, or some other form of inquiry as a cue is brand recall (Keller, 2013, p. 73).

In short, brand recall requires memorizing the brand name, whereas brand recognition captures familiarity with the brand's perceived quality and its products. This concept was used in previous research where the respondent's level of brand awareness became a benchmark in assessing the potential of memes. The results showed that memes were as effective as traditional advertising in increasing brand awareness (Fauziah et al., 2018). In this study, the hashtag #ShopeeID became a benchmark in raising brand awareness.

Social Media Twitter

Twitter is one of the largest social networks. Now, Twitter is still widely used by the people of Indonesia. As a popular social media platform, Twitter is also a potential marketing tool for electronic word-of-mouth (e-WOM) communication. Twitter users can network with other users by disseminating information, providing opinions or views, debating (trending topics) currently, and becoming part of the topic by tweeting using specific hashtags (Husnusyifa, 2019).

The use of hashtags is a new technique for Twitter users to express collective concern for a particular social issue or topic. Hashtags are another option for spreading thoughts or ideas on social media (Achsa, 2018). A hashtag is a word label that begins with a fence sign (#). The function of this hashtag is to group photos spread on Instagram into a group so that it is easy to find (Ramadhan & Dianita, 2021). Hashtags create an ample space where individuals can express their views on the same topic. Without the need to be a follower of a particular social media account, one can express acceptance or disapproval of a topic using hashtags (Bruns & Burgess, 2012).

The Shopee Indonesia company specifically creates the #ShopeeID hashtag that represents the company's brand and uses it in every post or tweet. Consumers or online shops also often use these hashtags in their marketing activities. In addition, in every giveaway that is carried out, Shopee also often uses unique hashtags such as #ShopeeGiveawaySamsungTAB, #ShopeeGiveawayGadget, #ShopeeKasihrealme, and many more. This method is done as a way of marketing to make it viral or become a trending topic on Twitter. Creating unique hashtags can create consumer awareness in remembering or recognizing a brand.

METHODOLOGY

The method used in this research is Social Network Analysis (SNA), included in the quantitative research method. SNA can disseminate current issues or trends and a wide variety of cases (Rakhman et al., 2021). Social network analysis can visualize structural or hierarchical properties in social networks. The components of a social network can be interconnected if they have a relatively permanent relationship that connects one actor to another (Manik, 2018).

Social network analysis helps understand social interactions by representing users as nodes and the relationships between users as edges (Bratawisnu & Alamsyah, 2018). This strategy applies both at the micro and macro levels. At the macro level, the primary measurement is focused on the communication network, namely the pattern of relationships and interactions generated by the flow of messages delivered by communicators at a specific location and time. At the micro level, the phenomenon is seen through the eyes of communicators, also known as actors in a communication network (Eriyanto, 2014). Actors are called nodes, while the resulting relationships are called edges. Mentions, tags, replies, retweets, and reposts are examples of relationships formed on social media (Eriyanto, 2014).

There are two types of networks on Twitter social media based on the actors' relationship: the name network and the chain network. Name networks, also known as 'who mentions whom,' are communication networks where actors mention other actors in uploaded messages. While the chain network, which is often known as "who replies to whom," is a communication network built by posting the actors' social media act of replying to a message can form a chain network (Gruzd et al., 2016).

The design in this study is descriptive, offering an accurate, factual description of a problem topic that is currently happening, with an emphasis on the population or object without identifying it with the relationship between variables (Kriyantono, 2016). The data obtained are evaluated using statistics, tables, or graphs, and the relationship between the resulting data is examined (Creswell, 2014). Shopee was chosen as the object of research because it has been one of the e-commerce sites consistently ranked first in e-commerce since 2018 (Putri & Devita, 2021). Then the population in this study is netizens from Twitter who have activity on the #ShopeeID hashtag with a total of 2500 tweets taken on 30 May 2022.

Data collection is done by taking the #ShopeeID hashtag dataset through the help software. The data collection technique used in social networking research is called data crawling, which involves mining all tweets, replies, retweets, and mentions linked to keywords (Srinanda et al., 2020). A version of Netlytic accessible crawling data is only limited to 2500 tweets. The time frame taken is seven days between 23 – 30 May 2022. This time range was chosen because it coincided with the giveaway conducted by Shopee.

After data collection, the next stage is the measurement carried out on two communication networks: the name network and the chain network. The analysis was carried out at two levels, namely micro and macro. The micro level examines phenomena through the actor's point of view by calculating

the degree of centrality, which shows the popularity of actors in a communication network. The number of relationships addressed to an actor, or what is known as an in-degree, will reveal the actor's popularity. Then the number of relationships addressed by actors to other actors is called out-degree (Gruzdt et al., 2016). Meanwhile, the macro-level measurements and analysis of the social network structure will be performed, including the diameter, density, reciprocity, centralization, and modularity (Eriyanto, 2014).

After that, the text in the #ShopeeID hashtag was analyzed using text mining, namely by forming a word cloud to see words that often appear. In general terms, the word cloud is a visualization of words whose size is proportional to the frequency with which they appear. Word clouds help readers identify words that often arise about a topic (Luo et al., 2013). The purpose of text analysis is to find trends and patterns of messages that are present in a communication network (Harder et al., 2015).

RESULT AND DISCUSSION

This study uses data collected through the Twitter social network from 23-30 May 2022, which is then used as a dataset. Data was collected using software by entering keywords, namely the hashtag #ShopeeID and found 2500 messages with unique posters version of Netlytic software that is accessible only limits a maximum of 2500 messages so that the number of tweets processed is limited. Then the author also uses Gephi as software to see the number of nodes and edges.

Analysis of the #ShopeeID Communication Network on Twitter

Dataset Stats	
Dataset Name:	Shopee
Dataset Last Updated:	2022-05-30 06:35:55
Dataset Source:	twitter
Total Messages:	2500
Unique Posters:	989

Figure 1. Shopee Indonesia Twitter Dataset
Source: Netlytic (2022)

Table 1.
Number of Nodes and Edges on the #ShopeeID Network
Source: Gephi (2022)

Graph Metric	Nilai
Nodes	1009

Edges	726
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Table 1 shows that the Shopee Indonesia account on Twitter has a network node which indicates 1009 actors are talking about #ShopeeID on Twitter social media, and the number of edges is 726. It means there are 726 unique relationships between different actors in the network.

Then the analysis of the types of communication networks based on the name network or who mentions whom can be seen in Table 2, and the form of network visualization is shown in Figure 2. The chain network or who replies to whom can be seen in Table 3, and the network visualization is in Figure 3. Both networks have the same number of groups, namely as many as five clusters.

From the visualization results on the name network, it can be seen that the communication pattern is centered on the dominant actor, namely the @shopeeid account. Shopee often uses the #ShopeeID hashtag in every post, accompanied by other supporting hashtags according to the program or event that is taking place. Meanwhile, the chain network shows that the distribution of actors in this network is more than in the name network.

Table 2.

Name Network Structure in #ShopeeID
 Source: Netlytic (2022)

Analysis	Data
Diameter	10
Density	0,008354
Reciprocity	0,000000
Centralization	0,389600
Modularity	0,259700

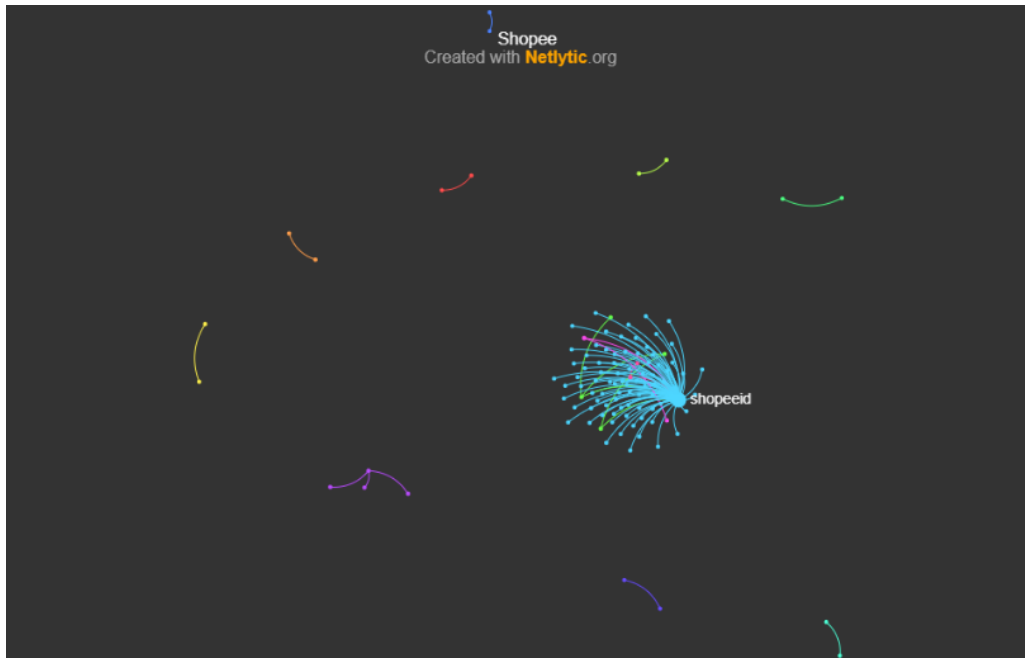


Figure 2. Network Name Visualization in #ShopeeID
Source: Netlytic (2022)

Table 3.
Chain Network Structure in #ShopeeID
Source: Netlytic (2022)

Analysis	Data
Diameter	15
Density	0,001949
Reciprocity	0,000000
Centralization	0,377600
Modularity	0,401900

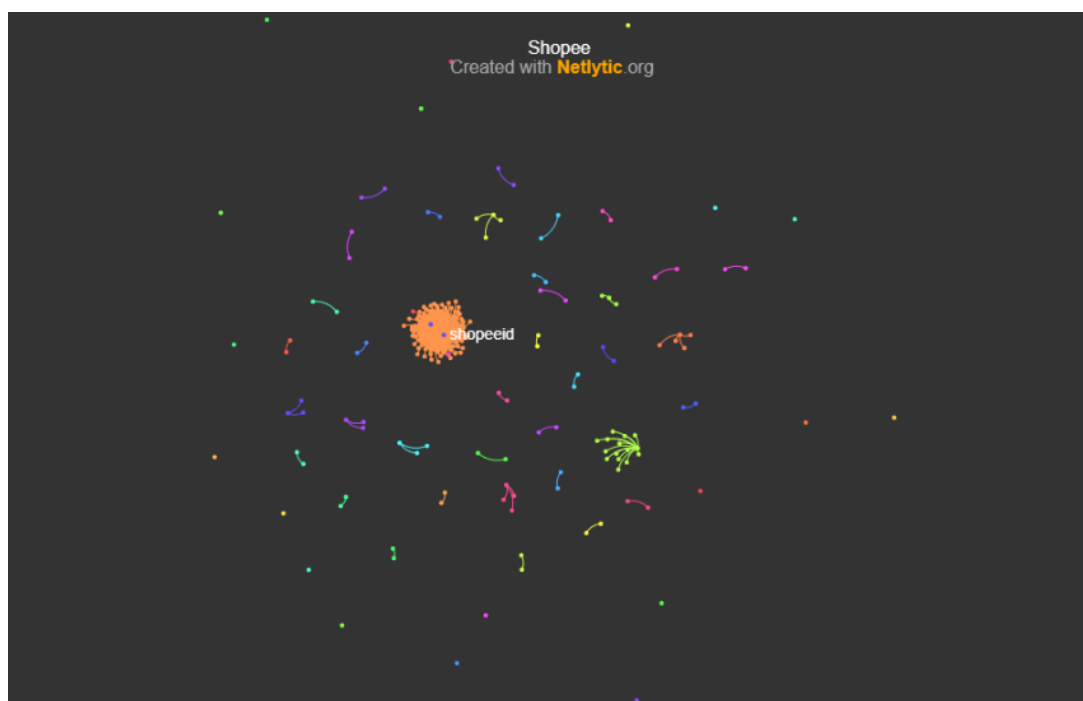


Figure 3. Chain Network Visualization in #ShopeeID
Source: Netlytic (2022)

The macro-level analysis compares the two types of communication network structures. The name network has a lower diameter value than the chain network, which is 10, meaning that the distance between actors in the name network is not too far. The diameter is the farthest distance that connects one actor to another in the network. The smaller the diameter value in the network, the shorter the space, making it easier for the actors to communicate with each other (Eriyanto, 2019). While the chain network has a higher value of 15, the distance between actors in the chain network is rather far because it requires 15 actors to convey information.

Next is density. The intensity of communication between network members is indicated by density (Carolan, 2014). A dense network suggests that its members interact with each other. At the same time, a low-density network makes interaction between members rare. The density itself is between 0-1. The thickness for both network types, name network and chain network, is relatively low, namely 0.008354 and 0.001949, because they are not close to 1. This result indicates no interaction density between actors in both types of communication networks in the #ShopeeID hashtag. They do not discuss or interact much with each other.

Next is reciprocity, which is a measure that shows a two-way relationship that occurs between social media accounts or actors (nodes) in the network (Eriyanto, 2019). Value reciprocity for both types of networks shows the number 0. It means that there is no reciprocal interaction. In other words, the actors only carry out activities in one direction and do not reply or mention in response to the given exchange. This result shows that the #ShopeeID hashtag is mainly used to convey messages or information, so communication occurs only in one direction.

Then the value of centralization on the name network is higher, namely 0.389600, compared to the chain network, which is 0.377600, but the

centralization of these two networks is still relatively low. The #ShopeeID hashtag is free to spread across the network without focusing on specific actors. The higher the degree of centralization (pointing to number 1), the more dominant the central actor is. Still, if the degree of centralization is low (pointing to the number 0), it is considered decentralized, and information flows more widely to many actors (Anestha & Fatoni, 2020).

This result also impacts modularity in the low-name network, 0.259700, and modularity for the chain network, which is 0.401900. Modularity determines whether the clusters represent different communities in a network. Value modularity indicates a division of the district represented by groups, a low value (less than 0.5) suggests that clusters are found to overlap more significantly (Anestha & Fatoni, 2020). The low modularity of the name network means that there are not many other dominant actors scattered in the #ShopeeID hashtag, as shown in Figure 2.

Furthermore, at the micro-level analysis, we can determine the popularity of actors in a #ShopeeID communication network through centrality measurements based on the value of in-degree and out-degree centrality.

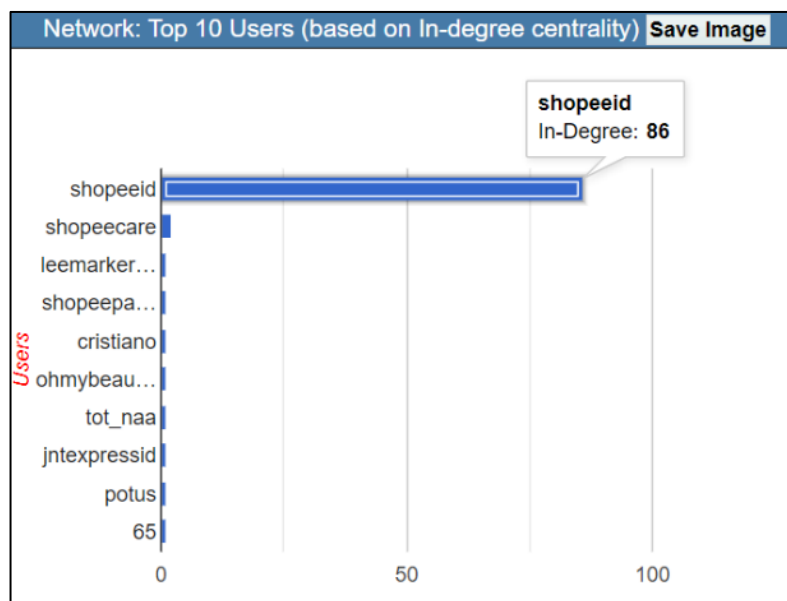


Figure 4. Top 10 Users Based on In-Degree Centrality in #ShopeeID
Source: Netlytic (2022)

Figure 4 shows that the @shopeeid account is the most dominant actor because it has the highest indegree centrality value, 86. It means other Twitter users have mentioned, retweeted, and replied to the @shopeeid account 86 times, thus placing @shopeeid as the most famous actor in the #ShopeeID network. This result is not surprising because Shopee often holds giveaways, so many consumers are interested and involved in the program. An example can be seen in Figure 5 below.



Figure 5. @ShopeeID Giveaway Program
 Source: Twitter (2022)

Shopee held a giveaway form of a Samsung Galaxy Tab worth 2.5 million by following the conditions stated in the tweet, namely @ShopeeID, retweet, and liking, then replying by adding the hashtag #RabuSeruSamaShopee. The tweet was uploaded on 25 May 2022, with 11.6K comments and received retweets and likes from Twitter users.

Figure 6 is the profile of the @ShopeeID account, which was taken on 31 May 2022, and it seems that tweets have been posted since January 2015 with 807.4K followers. Shopee also specifically created an @ShopeeCare account for customer service.



Figure 6. @ShopeeID Account Profile
Source: Twitter (2022)

Figure 7 shows the actor with the highest out-degree centrality, namely the @yfcprima and @ecomshitposting accounts, with a value of 3. It means that the actor mentions, retweets, or replies to a user's tweet and uploads another three times. In other words, they can be said to be active users of Twitter but rarely upload tweets. Then other popular accounts with high scores were followed by @asrikapoor, @dreamrose_, @naaseeworld, @iztii_azkayra, @rianamuftiwiidya, @frhafms, @ohbadhuman, and @_neoreta. Most of these accounts are known to have participated in the giveaway Shopee.

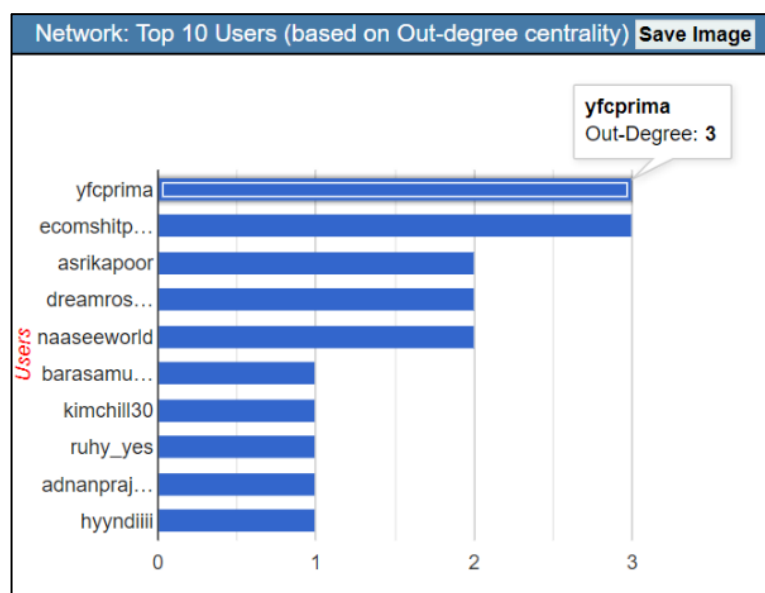


Figure 7. Top 10 Users Based on Out-Degree Centrality in #ShopeeID
Source: Netlytic (2022)

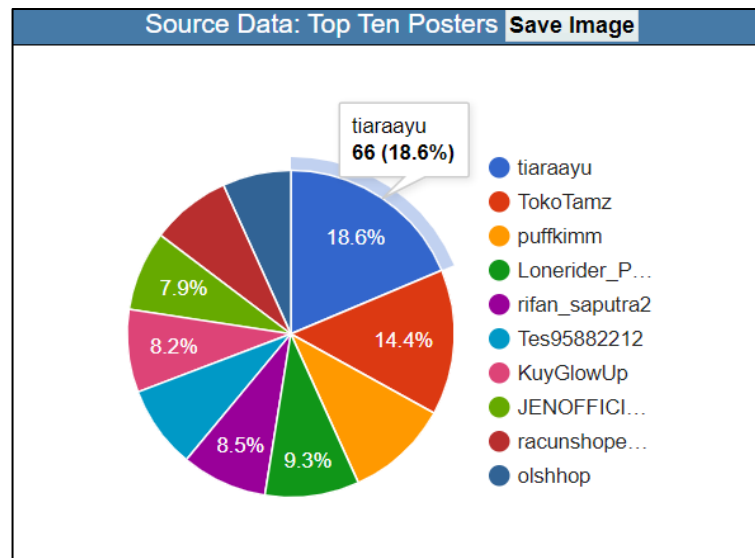


Figure 8. Top Ten Posters in #ShopeeID
Source: Netlytic (2022)

Meanwhile, based on the Top Ten Posters in Figure 8, the account @tiaraayu was ranked first at 18.6%. It means that the account most often tweets using the hashtag #ShopeeID on Twitter social media. The author also found that the @tiaraayu account is an account of one of the sellers on the e-commerce platform. So it is no wonder the account is ranked first in the Top Ten Posters because every product sold through the Shopee application can also be connected to Twitter social media accounts. The @tiaraayu account profile was taken on 31 May and seemed to have tweeted 151.2K and had 26K followers.

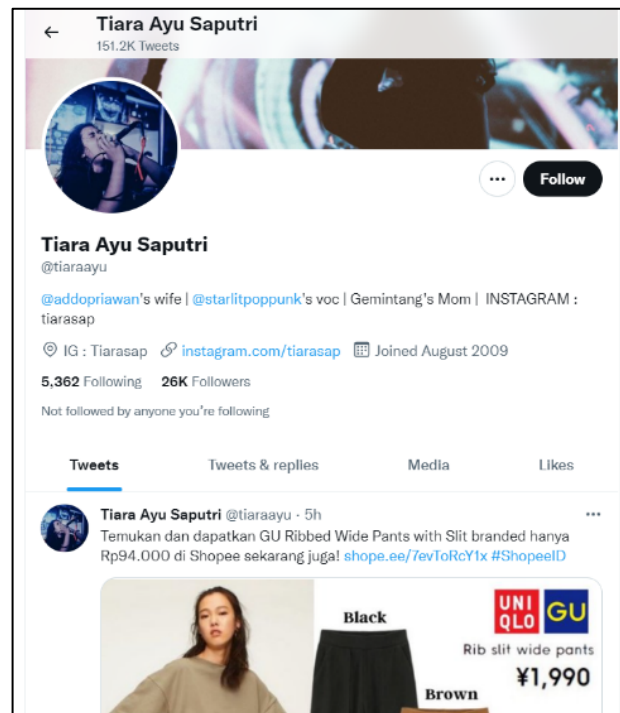


Figure 9. @tiaraayu Account Profile
Source: Twitter (2022)

The analysis above shows that Shopee Indonesia, with the hashtag #ShopeeID, has many network members with low-density relationships or minimal interaction between actors and a decentralized network (spread) where actors are not connected. The pattern of social network communication that is formed is also one-way. That is, there is a giver and a recipient of the message. However, there is a dominant actor in the network. It is evidenced by the visualization results of the name network displayed by Netlytic, which shows the communication pattern centered on the chief actor, the @shopeeid account. When viewed from the @shopeeid account page, the average upload is in the form of a giveaway. So do not be surprised if the communication pattern formed is only one way.

Then it can also be seen from the accounts that use the #ShopeeID hashtag the most, like @tiaraayu. The account's tweets also only contain information about the products sold, and always use the hashtag #ShopeeID in every upload. With the repetition of the #ShopeeID hashtag on his account, he indirectly encourages netizen awareness that his products are part of Shopee.

Keller (2013) says brand awareness is achieved by building brand familiarity through frequent exposure. Shopee, the dominant actor, has also proven this because it often holds giveaways with attractive prizes. In every giveaway that is carried out, Shopee always uses unique hashtags. One of them is the hashtag #RabuSeruSamaShopee, shown in Figure 5. It is a form of marketing that Shopee does to continue building consumer brand awareness. In addition, through these activities, an engagement between consumers and brands is also formed. The more a customer "experiences" a brand by seeing, hearing, or thinking about it, the more likely they are to remember it strongly (Keller, 2013). The use of hashtags is crucial in every

marketing activity on social media. Business people should be able to create a hashtag that represents the brand rather than the company. That way, consumers will easily recognize or remember a brand by building brand awareness.

#ShopeeID Text Analysis on Twitter

Text analysis in this study is used to see what words are often discussed in the Shopee Indonesia Twitter social media communication network. The #ShopeeID hashtag network contains famous or most frequently used words. Based on the Top 10 Most Frequently Used Words, five words have the highest number of up to thousands, including: "#shopeeid", "#shopee", "#dapatkan", "#menjual", dan "#seharga".

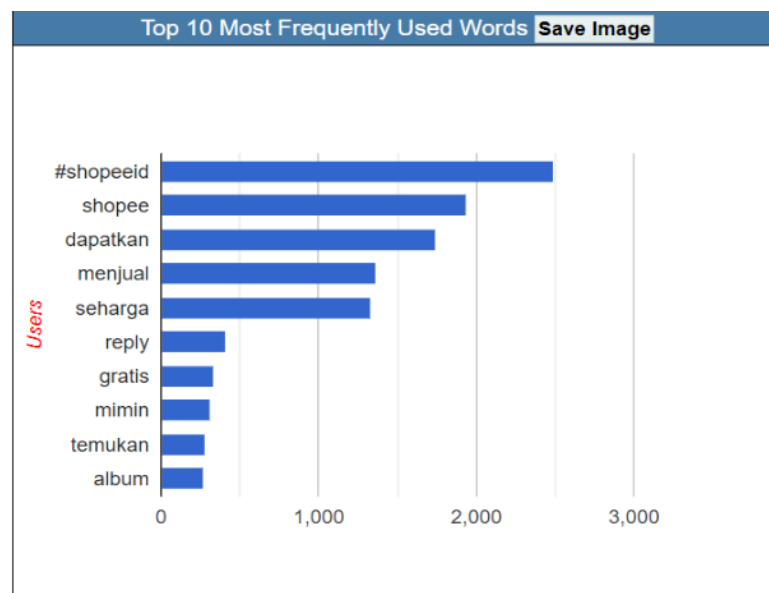


Figure 10. Top 10 Most Frequently Used Words in #ShopeeID
Source: Netlytic (2022)

It is the same as the result of word clouds. In the #ShopeeID conversation, there were 2500 tweets and word clouds displaying the five most frequently used words, namely "#shopeeid" 2512 times, "shopee" 2033 times, "dapatkan" 1746 times, "menjual" 1364 times, and "seharga" 1328 times used. In these 30 words, no negative words were found in the #ShopeeID network. All the more words point to marketing, giveaway, or other promo information.



Figure 11. Word Clouds #ShopeeID
Source: Netlytic (2022)

2022-05-28	TokoTamz	[TERBARU] Tas Tote Bag Wanita Huruf Abjad Ready Makassar COD Toko Tamz dengan potongan 13%! Hanya Rp25.229. Dapatkan segera di Shopee! https://t.co/JQkOGCrRjM #ShopeeID https://t.co/JtqWXYJel6
2022-05-28	ra_jauhari	Sobat Shopee! Mau dong dapetin GADGET GRATIS dari mimin? ❤️ Caranya gampang banget! Hanya dengan klik banner di bawah ini dan FOLLOW IG SHOPEEBEAUTY_IDI 🙏
2022-05-28	D26Store	Saya menjual Sweater Hoodie Ac Milan Cam... seharga Rp. Dapatkan di Shopee sekarang! https://t.co/RmAkN834tP #ShopeeID https://t.co/9nht4d8wWY
2022-05-28	bisnisjilbab05	Pass,, #jilbab #Jilbabsange #HijabNakal #jilbabcrost #hijab #HijabisOurRight #jilbab #cadar #sugardaddyneed #RacunShopee #Shopeepay #ShopeeID #Shopee
2022-05-28	r_yayasan	Saya menjual SERAGAM PEMADAM KEBA... seharga Rp102.900. Dapatkan di Shopee sekarang! https://t.co/XYKBoQ7CKk #ShopeeID https://t.co/orszB3igsR
2022-05-28	AmirFMYA	@ShopeeID Secepatnya min #ShopeeID
2022-05-28	naekkeo_yaa	WTS READY STOCK DIGIPACK GLITCHMODE JISUNG CHENLE -SEALED- https://t.co/auJkM6083c #ShopeeID https://t.co/9e3deu8Rt9
2022-05-28	azaliaa_13	@ShopeeID Dear Mimin Shopee... Berilah saya kesempatan untuk memenangkan giveaway nya Saya pengen menang giveaway,saya pengen ngerasain menang giveaway #ShopeeID terimakasih smoga mimin baca

Figure 12. Post on Word #ShopeeID
Source: Netlytic (2022)

Figure 12 shows that the word "#shopeeid" is mainly used by the seller or those who have an online shop on Shopee's e-commerce platform, one of which is the @r_yayasan account which uploads as follows:

*"Saya **menjual** SERAGAM PEMADAM KEBA... **seharga** Rp102.900. **Dapatkan di Shopee** sekarang! <https://t.co/XYKBoQ7CKk> #ShopeeID <https://t.co/orszB3igsR>"*

This is also the same as the words "shopee", "dapatkan", "menjual", and "seharga". The majority of the use of these words are widely used in marketing activities. However, some use the phrase "#shopeeid" to win the giveaway program, such as the following uploads by the @azaliaa 13 account:

*"@ShopeeID Dear Mimin Shoppe....
Berilah saya kesempatan untuk memenangkan giveaway nya
Saya pengen menang giveaway, saya pengen ngerasain menang giveaway
#ShopeeID
terimakasih smoga mmin baca"*

The results of the analysis of the text above show that the use of hashtags in every marketing activity on social media can build consumer awareness of a brand. Like the @tiaraayu account, he always uses the hashtag #ShopeeID in his marketing activities. Repeating the hashtag in each upload will automatically encourage awareness that the products he sells are part of Shopee or can be purchased through the Shopee application.

Meanwhile, hashtags like "#ShopeeID" were used more frequently on Twitter than words without hashtags, such as "shopee." It is consistent with the results of previous studies that a brand has a general tendency to use hashtags on Twitter to increase brand recognition and online circulation (Mangiò et al., 2021). In addition, Twitter users can also network with other users to disseminate information by posting specific hashtags (Husnusyifa, 2019).

The findings show that using hashtags in social media can build brand awareness since netizens use most #ShopeeID hashtags with online shop accounts to disseminate information about the products for sale. The previous study (Ramadhan & Dianita, 2021) has indicated that to conduct effective marketing communication, including messaging strategy and media strategy on social media by using features such as Followers & Following, Captions, Like & Comments, Mention & Tagging, Hashtags, and Instastory to support marketing communication strategy. Implementing an effective marketing communication strategy through social media could build brand awareness to the brand recall stage.

CONCLUSION

This study shows the importance of using hashtags in building brand awareness on Twitter social media. The hashtag #ShopeeID can create consumer awareness of a brand as one of the e-commerce companies in Indonesia. This awareness is formed through the frequent and repeated use of hashtags by both Shopee and consumers. When consumers can recognize a brand, that is where brand awareness is achieved.

Shopee Indonesia accounts play an important and interactive role because they have the highest indegree centrality value. The Shopee Indonesia account also creates the #ShopeeID hashtag so that all information about Shopee Indonesia activities is centered on the Shopee Indonesia account. Meanwhile, the communication pattern formed in the #ShopeeID network is one-way. It means that Shopee Indonesia dominates social networks on the hashtag. Shopee, a key player in disseminating information, uses Twitter solely as a medium to provide information in promos or giveaways. Shopee benefits from social media users who visit the Shopee Twitter page by providing interesting information. These Twitter social media users will share hashtags with their followers to disseminate information through #ShopeeID.

The results of this study have implications for how e-commerce companies use hashtags in social media to create brand awareness. Businesses should pay more attention to using specific hashtags that reflect the brand than the business. Thus, consumers will be easy to recognize or remember the brand. Brand recognition and brand memory are significant in creating brand awareness.

The limitations in this study are limitations in terms of energy, cost, and time. The author only uses the accessible version of the Netlytic application, so the number of tweets processed is limited. Then the author does not analyze the actor level in-depth, so she cannot see indicators related to betweenness centrality, closeness centrality, and eigenvector centrality. The author suggests that further researchers can add research instruments to complement the findings.

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