

Analysis of cashback promotion in the fintech industry among user interaction

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ABSTRACT

The development of technology and the ease of use of online-based services have given rise to various forms of breakthroughs in the field of new technology in society. This study aims to determine whether cashback promotions can shape customer engagement in the social customer relationship management network on Gopay, OVO, and LinkAja on Twitter. The data used in this study is secondary data, which is tweets containing interactions between Twitter users regarding three fintechs in Indonesia, namely Gopay, OVO, and LinkAja. The total tweet data in all e-wallets is 3,603 from 2018-2022. Data analysis used by researchers uses the social network analysis method by calculating and comparing the network properties of cashback promotional content for the three research objects from 2018-2020 and 2020-2022. The results show that cashback promotional content on the Gopay e-wallet in 2020-2022 has better network property performance to form more optimal customer engagement.

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1. Introduction

The development of technology, especially the internet, currently provides accessible opportunities for all people from various backgrounds to carry out their activities. Technological advances positively influence the country's economy, especially the transformation or change in payment methods (Iman, 2020). The development of technology and the ease of using online-based services has given rise to various forms of breakthroughs in the fields of new technology in society, such as the emergence of services in digital format that serve in the financial and shopping sectors or what we know today as the financial technology (fintech) industry, namely the purchase system and also digital payments through online applications that are tasked with making payments or mobile payment (m-payment) which are money storage applications (Abdillah, 2020). Government policies towards the fintech industry include regulations to monitor and secure the operations of fintech companies, protect consumers in digital transactions, encourage financial technology innovation, collaborate with

traditional financial institutions, and improve technology infrastructure to facilitate growth and access to digital financial services. The ultimate goal is to create a balanced environment between innovation, consumer protection and financial stability (Fachrurrazy & Siliwadi, 2020). The strategy that can be used so that people are highly interested in using fintech is to carry out a promotional strategy (Pollio & Cirolia, 2022). Promotion is a form of activity to create profitable transactions through communication to fulfil and satisfy consumer desires. Thanks to technological advances, customer-related activities are easier to manage and can also form a network of conversations from the interactions of many people (Dewnarain et al., 2019). The term used to define customer relationship management is social customer relationship management (SCRM) (Chatterjee et al., 2021).

SCRM aims to form customer engagement, which can help generate customer loyalty and positive word of mouth (Susilo et al., 2019). In other words, promotion can form a producer activity directed directly to consumers and potential consumers to form a transaction activity and loyalty. One promotion that is often used is the cashback promotion. Cashback is a refund or money used in payment (Kusumaningrum & Setiawan, 2021) various kinds of cashback range from 20%, 30%, and even up to 50%. Giving cashback can get a cash refund or virtual money based on the requirements put forward by the company, such as a minimum purchase (Putri et al., 2022). Implementing this promotion it is hoped to increase consumer buying interest.

Analysis of the discussion of user interactions through social media is considered an indication of one of the places for disseminating information on the internet in providing information, receiving information, and disseminating other information to other users so that the wider community can find out about it (Bratawisnu & Alamsyah, 2019). There are various kinds of social media in Indonesia, for example, Facebook, Twitter, Instagram, and YouTube, which are used in this study. One of the reasons for using Twitter social media is that it is a personalized social media that can combine interactive communication with other users and allow information to be collected from various current sources (Bruns, 2019). Twitter is a social media that is very effective as a place to establish communication relationships, exchange photos and videos, and write in the form of reviews or experiences that they want to share at a speed comparable to conventional mass media with everyone around the world (Yao et al., 2021). In addition, the data taken from this study is in the form of text containing Twitter users' reviews about what they discuss about cashback promos on Gopay, OVO, and LinkAja fintech. The data contained on the Twitter platform is called user-generated content (UGC) (Hu & Trivedi, 2020). The definition of UGC is a review that comes from consumers who voluntarily provide helpful or entertaining information, which is then used by others to be taken into consideration before buying a product (Al-Rawabdeh et al., 2021). In addition, UGC is a data collection activity presented for data collection through tweets and users taken through keywords determined by the researcher (Mayrhofer et al., 2020).

This study uses the social network analysis (SNA) method as a reference for researchers to analyze (Ridzky & Irawan, 2022). According to Azmi et al. (2021), SNA is modelling of users by combining a point (nodes) and interacting between these users by symbolizing with a line (edges). In this study, one focus of data is drawn: cashback promotions on three fintech in Indonesia, namely Gopay, OVO, and LinkAja. In the second quarter of 2019, it was found that Gopay, OVO, and LinkAja occupied the top 4 positions with the number of active monthly users (Nugroho & Hasibuan, 2022). Gopay is a payment tool found in the Gojek, but over time, Gopay can be used to make various payment transactions (Anggraini & Suroyo, 2019). OVO is an e-wallet under the auspices of the Lippo company and is more commonly known as PT. Visionet

Internasional (Safitri & Andriansyah, 2020). LinkAja is one of the e-wallets founded by PT. Fintek Karya Nusantara combines several state-owned companies (Fikri & Lisdayantis, 2020).

In previous research researched user interactions on social media by fintech Gopay, OVO, and LinkAja and took data information via Twitter, in contrast to the research which compared user experience on digital wallets Gopay, OVO, and LinkAja for students in Bandung (Dewi & Ariyanti, 2020). In previous studies, there has never been research related to cashback promotions, so this research has the opportunity to add discussion of these topics to expand data information as a differentiator and renewal of analyzing data generated through SNA. The objective is to see customer engagement formed from cashback promotions in the SCRM network on Gopay, OVO, and LinkAja.

2. Literature Review and Hypothesis Development

2.1. Cashback Promotion

Promotion is a form of activity in disseminating information that aims to offer a product so that consumers are interested in knowing about or buying the product (Istanti et al., 2020). Cashback promotion is a form of promotion in the form of a specific refund in cash, virtual currency, or products by fulfilling specific predetermined requirements (Raninda et al., 2022). Refunds aim to temporarily increase the number or frequency of purchase of funds sufficient to attract consumer interest (Hasyim & Ali, 2022).

2.2. Financial Technology

Along with the times, technological development is proliferating in meeting human needs. This is because using technology makes everything more effective and efficient (Zhao et al., 2019). Likewise, the financial sector also experienced developments. One of the developments in the financial sector is the fintech industry, which is a new product resulting from a breakthrough in technological advances in combination with the financial industry (Sudiatmika et al., 2020). Many people and financial service companies compete to offer ease of transactions using financial technology services. This technological development has changed the lifestyle of today's society with digital technology-based services (Syafitri, 2020).

2.3. E-wallet

E-wallet is one of the electronic money storage that can be used to make online payments (Adults, 2020). The emergence of this e-wallet makes it easy to transact without carrying cash or debit cards (Danisa, 2021). E-wallet are generally applications or platforms that can be downloaded on smartphones or other devices and provide an easy and secure way to make payments, transfer money, and pay bills (Putri, 2022). The e-wallet market share is Gopay, OVO, and LinkAja, three e-wallet service providers competing in the digital payment market. Gopay and OVO, managed by Gojek and Grab, have a significant market share. At the same time, LinkAja has a strong presence, especially regarding government transactions and financial inclusion.

2.4. Social Customer Relationship Management

It is an approach to customer relationship management that utilizes social media platforms and online communications. This involves interaction, monitoring, and company intervention in responding to customer needs, questions, complaints, and feedback through social media such as Facebook, Twitter, Instagram, and others. Social customer relationship management helps companies build closer and more intimate relationships with customers

(Hasanat et al., 2019). The goal is to increase customer satisfaction, strengthen loyalty, and build a positive company image through effective online interactions.

2.5. Social Network Analysis

Social network analysis (SNA) is a method used to study the relationships and behaviour of individuals within a group, which is described as the relationship of a network consisting of nodes and edges. SNA can also study the network patterns of organizations, ideas, and people connected across various environments. Therefore, SNA can be adopted by companies to gain insight and knowledge about markets and communities on social media. Several network properties help identify the relationships between nodes that describe individuals or groups or an organization (Pollack & Matous, 2019) for some network properties in SNA, namely nodes, edges, average weighted degree, network diameter, and modularity.

3. Research Method

3.1. Research Method

This qualitative research uses the social network analysis method by calculating six network characteristics: nodes, edges, average degree, average weighted degree, network diameter, and modularity (Murshed et al., 2020). The data is collected through the Twitter application as secondary data by connecting Twitter social media users to the Gopay, OVO, and LinkAja fintech industries. The data is taken through tweets to search for keywords on Twitter users as data to be tested, where the topic or theme uses marketing content used by Gopay, OVO, and LinkAja, namely cashback promotions. This research takes data from 2018 - 2020 and 2020 - 2022, totalling at least 100 yearly data.

3.2. Research Flow

The first research flow, namely seeing the phenomena that exist in the fintech industry in Indonesia and continued with the identification of problems obtained from the phenomenon in the form of problem formulation, namely to see the effect of cashback promotion in shaping customer engagement in the SCRM network of the three fintech namely Gopay, OVO, and LinkAja on Twitter. Then, proceed to analyze data from UGC on the Twitter application by searching for a tweet with the keyword cashback on each fintech, namely "@gopayindonesia", "@ovo_id", and "@linkaja". Then, proceed with the data collection process on Twitter. In this data collection, they use Jupyter tools in phyton by only managing Indonesian tweet data. This simplifies data exploration, cleaning, and transformation prior to network analysis. The data to be taken is a minimum of 100 per criterion and year, and the data withdrawal time is three years from January 2018 to December 2020 and from January 2020 - June 2022. Then, after the tweet data has been collected, data preprocessing is then carried out. At this stage, it aims to eliminate irrelevant tweets, mentions, replies, and retweets to make it easier to carry out the analysis process (Murshed et al., 2020). The results of this data preprocessing are in CSV format. After that, the data is processed using words, which results in data formats such as Excel, net, STP, and STW (Figure 1).

After data processing, the data network structure data preprocessing is processed again in the Gephi application to create a network model visualization. Gephi provides robust capabilities in creating interactive data visualizations and uncovering patterns of relationships and nodes. After the network model visualization results of the three fintech companies are complete, the next step is to analyze and compare the network characteristic values of the three Fintech companies and analyze which one is superior in designing

customer engagement as a result of implementing social customer relationship management (Figure 1).

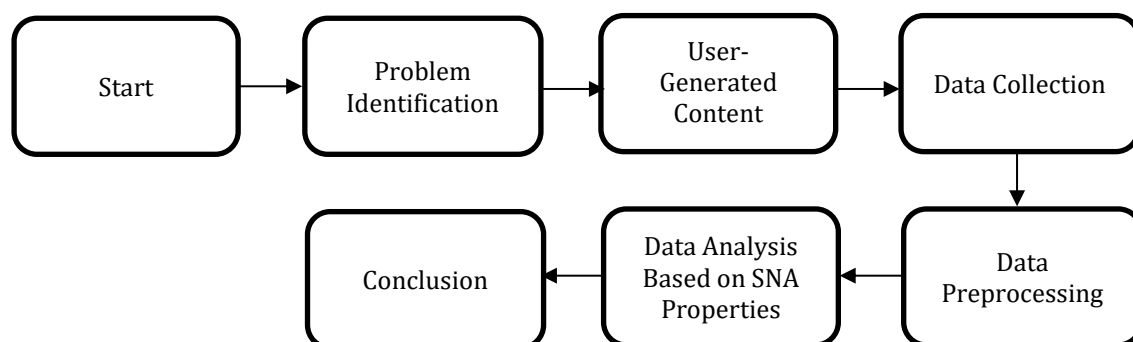


Figure 1: Research Flow

4. Result and Discussion

Table 1 shows the results of collecting data from Twitter with the keyword cashback promotion content on the three e-wallets. This research takes data from January 2018 - December 2020 and January 2020 - June 2022, as much as at least 100 data each year, by utilizing the integrated development environment (IDE) of Jupyter Notebook.

Table 1. Results of Data Withdrawal from Twitter

Year	Digital Wallet	Content	Total Data
January 2018 - December 2020	Gopay	Cashback	616
	OVO		1.539
	LinkAja		797
January 2020 - June 2022	Gopay	Cashback	266
	OVO		127
	LinkAja		258

Source: Data Processed (2022)

Data obtained from cashback keywords from January 2018 – December 2020 on the Gopay e-wallet includes 616 keywords, then on the OVO e-wallet includes 1.539 keywords, and on the LinkAja e-wallet includes 797 keywords. Then, the data obtained from cashback keywords from January 2020 – June 2022 on the Gopay e-wallet includes 266 keywords, the OVO e-wallet includes 127 keywords, and the LinkAja e-wallet includes 258 keywords. After crawling or retrieving data, the following process is data preprocessing with the help of a dictionary to eliminate unnecessary tweets. It is easier to carry out an analysis process called the cleaning process so that it is free from noise and processed using Wordij.

Table 2 is the result of data processing using Wordij, where the table shows that the amount of tweet data on Cashback promotional content in January 2018 - December 2020 for the Gopay is 5.623 words, 410 unique words, and 1.371.463 average words. For OVO, there are 14.235 words and 2.060.058 words on average, and on LinkAja, there are 6.266 words, 405 unique words, and 1.547.161 average words. The cashback promotional content for January 2020 – June 2022 for the Gopay is 2.665 words, 242 unique words, and 110.124 average words. On the OVO, there are 965 words, 85 unique words, and 1.135.294 average words; on LinkAja, there are 2.018 words, 190 unique words, and 1.062.105 average words.

Table 2. Data Processing Results Using Wordij

Year	Digital Wallet	Content	Word Count	Unique Word	Average Number
January 2018 - December 2020	Gopay	Cashback	5.623	410	1.371
	OVO		14.235	691	2.060
	LinkAja		6.266	405	1.547
January 2020 - June 2022	Gopay	Cashback	2.665	242	110.124
	OVO		965	85	1.135
	LinkAja		2.018	190	1.062

Source: Data Processed (2022)

The table above states that the highest score in the total number of words for January 2018 - December 2020 is the tweet for the keyword cashback to the OVO, with a total of 14.235 words. Then, the unique word section with the highest value is also on the OVO, with a total of 691 unique words, and the average part of the word with the highest value is the OVO, with a total of 2.060.058. For the highest value in the total number of words section in the period January 2020 - June 2022 is the Gopay with a total of 2.665 words, then for unique words that have the highest value is the Gopay with a total of 242 unique words, and the average part of the word the one with the highest value is the OVO of 1.135.294.

Table 3. Gopay, OVO, and LinkAja Cashback Network Properties 2018 - 2020

Network Property	Value		
	Gopay	OVO	LinkAja
Node	52	87	131
Edges	215	596	501
Average Degree	3.371	3.731	3.259
Average Weighted Degree	96.615	257.448	76.397
Network Diameter	2	4	5
Modularity	0.373	0.165	0.331

Source: Data Processed (2022)

Table 4. GoPay, OVO, and LinkAja Cashback Network Properties 2020 - 2022

Network Property	Value		
	Gopay	OVO	LinkAja
Node	242	85	190
Edges	273	92	185
Average Degree	2.256	2.165	1.947
Average Weighted Degree	1.424	16.306	12.874
Network Diameter	7	5	6
Modularity	0.434	0.14	0.258

Source: Data Processed (2022)

Tables 3 and 4 show network properties results with the keyword cashback on each Gopay, OVO, and LinkAja on Twitter. From the data, nodes result from an analysis that has been carried out related to those in a network formed from the calculation of a social network property that explains that users use the keyword cashback to interact on Twitter. Then, the second property, edges, are networks that connect between nodes. The third property, the average degree, is the number of relationships between users in a social network. If the value is higher, the relationship between users will spread more and more widely. Then, the average weighted degree network property is the average weight on a network connection. Then, the network property network diameter describes the distance to nodes in a network. The information will take longer to spread if the more significant the diameter distance is. The

following network property is modularity, which measures how well the network is divided into communities.

The following section is the result of the analysis that has been carried out related to those in a network formed in the calculation of a social network property. In calculating this social network property, the user relationship with the promotional content of the keyword cashback in Twitter within two years using Ghepi software. The results of this social network calculation can help map this interaction as follows:

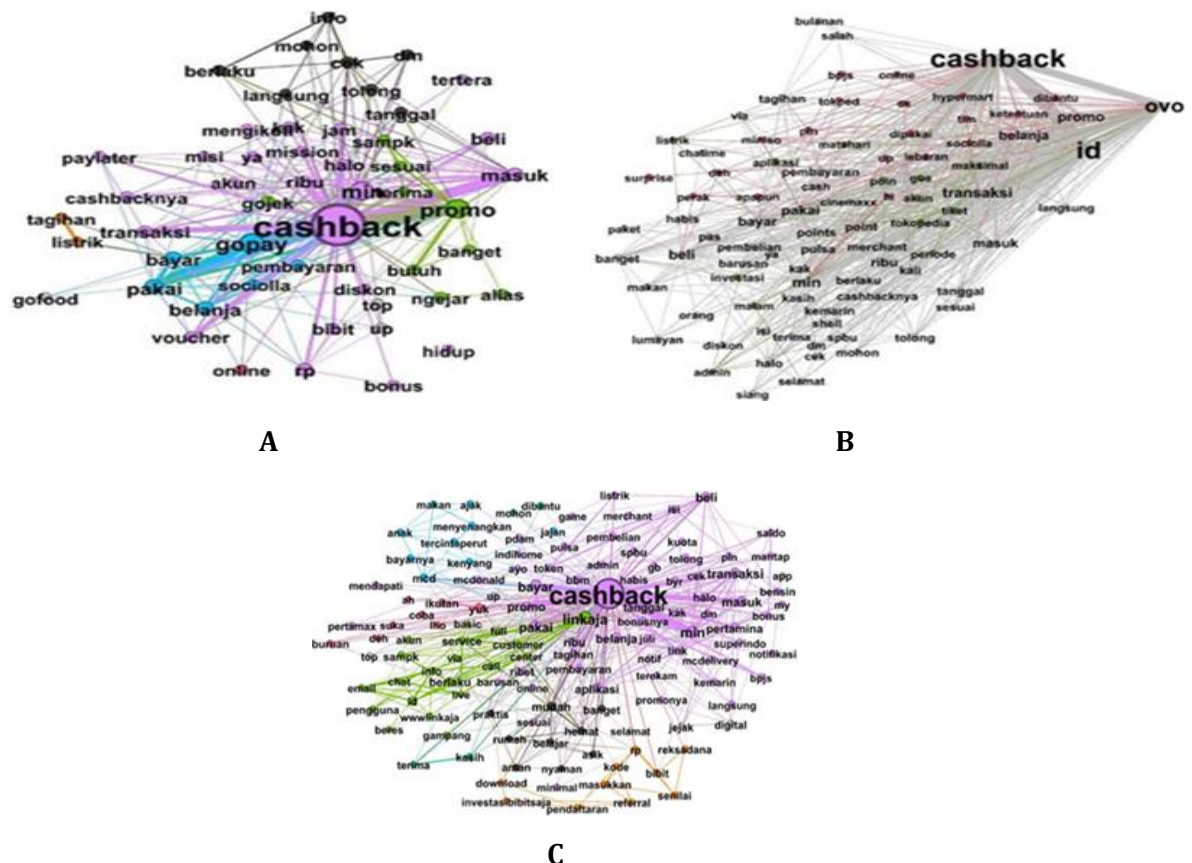


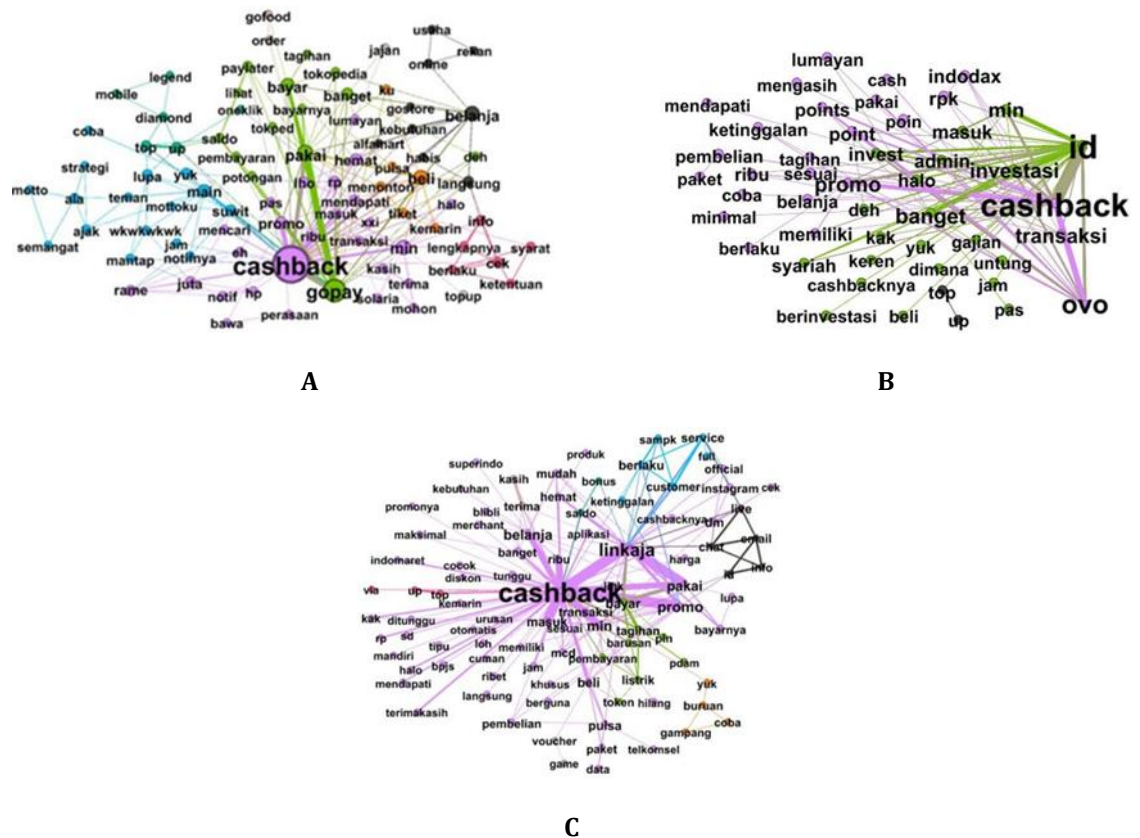
Figure 2. Cashback Network Visualization Results on Gopay, OVO, and LinkAja January 2018 - December 2020
Source: Data Processed (2022)

In (Figure 2A) visualization results of the cashback promotional content on Gopay on Twitter from January 2018 - December 2020 show that users also often talk about the Gopay cashback promo because it is often used on the GoFood platform as a payment method. Moreover, 2019 - 2020 is the peak of the COVID-19 virus outbreak, which requires many people to carry out independent isolation, so they often carry out online purchasing activities. The conclusion that can be drawn is that by using cashback on Gopay, people can save their expenses for buying goods online without meeting in person. Moreover, it allows them to make transactions more safely and avoid the potential for virus transmission, so loyalty can be formed using the e-wallet (Ridhwan et al., 2021).

In (Figure 2B), visualization results of the cashback promotional content on the OVO on Twitter from January 2018 - December 2020 show that users also discuss the promo at HyperMart. Where transactions at HyperMart can be done using the OVO as a payment method.

HyperMart has collaborated with OVO as one of the payment method options provided to customers. Using OVO, customers can easily make payments without cash or credit cards. In addition, OVO also provides attractive promos, one of which is cashback for every transaction made at HyperMart. In conclusion, Hypermart and OVO support each other in terms of safe and easy payment transactions while providing cashback can also influence the increase in the use of OVO for customers (Sahidah et al., 2021).

In (Figure 2C), visualization results of the cashback promotional content on LinkAja on Twitter from January 2018 - December 2020 show that users often discuss cashback promotions on LinkAja in making investment payments on the seedling application. LinkAja and seedling investment applications are separate entities with no direct connection. However, LinkAja users can use their balance to invest in mutual funds through the investment platform provided by Bibit. This integration is possible through a partnership between the two companies, allowing LinkAja users to easily access and manage their investments on the Bibit app using their LinkAja balance. Moreover, with the cashback promo provided, transactions will be much more efficient and can also increase loyalty to using LinkAja. The following are the results of social network visualization regarding the Gopay, OVO, and LinkAja fintech industries for the period January 2020 – June 2022.



**Figure 3. Visualization Results of Cashback Network on Gopay, OVO, and Linkaja
January 2020 - June 2022**

Source: Data processed by the author, 2022

In (Figure 3A), visualization results of the cashback promotional content on Gopay on Twitter for January 2020 – June 2022 show more discussion of payments that can be made using Gopay on other platforms besides GoFood. It can be seen in the visualization results that

Gopay can now be used to make payments on Tokopedia, where the cashback offered by Gopay increases the attractiveness of this platform for new users. Cashback offers incentives through cashback or special offers, encouraging new users to try and use Gopay. Thus, the relationship between Gopay cashback on Tokopedia is mutually beneficial between Gopay, Tokopedia, and users. Users will get a discount or refund, Gopay and Tokopedia will get an increase in transactions, and the use of Gopay as a payment method will increase.

In (Figure 3B) visualization results of the cashback promotional content on the OVO on Twitter for January 2020 – June 2022 show that more often talk about promos when making transactions on investment platforms, one of which is Indodax. Indodax is an investment platform or crypto asset exchange allowing users to buy, sell, and store cryptocurrencies such as Bitcoin, Ethereum, etc. Indodax also collaborates with OVO to facilitate users through the use of the OVO payment method in making transactions on the Indodax platform. With this relationship, OVO users who transact at Indodax can use the OVO cashback program (Anisah & Crisnata, 1970).

In (Figure 3C), visualization results of the cashback promotional content on LinkAja on Twitter for January 2020 – June 2022 show that cashback is often used on LinkAja in making payment transactions at Superindo. Getting cashback usually involves users making certain payment transactions at Superindo using LinkAja. After successfully making a payment, a certain percentage or value of the total purchase will be returned to the user's LinkAja account. This cashback can be used for future transactions or withdrawn as cash. The cashback provided by LinkAja can provide additional benefits for users when shopping at Superindo. Thus, the relationship between LinkAja and cashback at Superindo incentivizes users to use this digital payment platform and increases LinkAja usage at Superindo.

The SNA method is closely related to SCRM in each e-wallet in the context of customer engagement. That is, it can identify the customer network. Through SNA, e-wallets can identify customer relationships and interactions on their platforms. This information helps e-wallet understand how customers connect, form groups, and interact within the e-wallet ecosystem. This allows e-wallets to understand the dynamics of their customer community. Then, we can understand the increase in customer engagement. By better understanding customer networks and behaviour through SNA, Gopay, OVO, and LinkAja, we can develop better strategies to increase customer engagement. More tailored messages, relevant promotions, practical support, and proactive action based on SNA results can increase customer engagement. Using the SNA method in SCRM for each e-wallet can result in a deeper understanding of customers, enable more effective strategy development, and ultimately influence increased customer engagement through more personal and relevant interactions.

5. Conclusions and Suggestions

When viewed from 2018 - 2022, cashback promotional content is often a conversation on each e-wallet in conducting various kinds of transactions. It is interrelated in forming customer engagement, but based on the results of network property calculations on the SCRM network, the comparison results from the period January 2018 - December 2020 and January 2020 – June 2022 state that the cashback Gopay promotional content in 2020 - 2022 has better network property performance because it excels in 4 of the six network properties, namely nodes, edges, average degree, and modularity which get the highest number of values in a social network property on the keyword cashback promotional content on each e-wallet. Cashback Gopay in 2020 - 2022 has a higher social network property value regarding nodes, which indicates that many users are talking about Gopay cashback on social media. Although the average weight of a conversation network relationship on Twitter is much less than the cashback promotional content on OVO in 2018 - 2020, the number of interactions owned by cashback promotional content on Gopay in 2020 - 2022 is much more. This can indicate that

the ability to form customer engagement is good, so the cashback promotional content on Gopay in 2020 - 2022 has the best SCRM performance. This research only focuses on analyzing cashback promotions, so it needs to be compared with other promotional content. The contribution of this research is to provide insight to companies to find out the performance of SCRM network competitors in shaping customer engagement, which can support companies in making decisions regarding the next SCRM strategy. Further suggestions for writers who will research on other social media that the author still needs to research, such as Facebook or Instagram.

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