

The Effect of Purchase Intention and Customer Behavior during the Covid-19 Pandemic on Ride-Hailing Application Loyalty

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Abstract—Changes in lifestyle have a significant impact on the development of IT services, especially transportation. Consumers easily order vehicles anywhere and anytime. Electronic word of mouth (eWOM) assists consumer decisions, but the information conveyed is less consistent and creates distrust. The COVID-19 pandemic causes company revenue to decline, even though implementation is said to be successful if it gets positive feedback and increases productivity. So, this study aims to determine the factors influencing purchase intention and customer behavior during the pandemic on ride-hailing application loyalty. The data used is 17 informants of Go-Jek, Grab, and Maxim application users. Using ewom with phenomenological qualitative methods analyzes user perceptions based on application experience. Data were analyzed using Atlas.ti software. The results show that the ewom theory is still relevant in the era of social media, especially during the pandemic. The main findings show customer loyalty consists of information quality; reviews; costs, trust; subjective norms; sentiment, emotion; satisfaction; and service quality. The new findings show the lack of influence of sentiments on customer behavior towards ride-hailing use. This study uses industry-level objects so that future research can focus on one company and evaluate the sentiment-emotion factor after the pandemic to get detailed results so that it can fully represent the existing phenomenon.

Keywords—Electronic word-of-mouth; purchase intention; customer behavior; loyalty; ride-hailing; COVID-19 pandemic.

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I. INTRODUCTION

Using the Internet creates opportunities to take advantage of market changes and gain a competitive advantage in the face of competition[1]. In the development of transportation business technology, consumers are facilitated by ordering vehicle services anywhere and anytime [2], such as the speed of getting a vehicle, competitive prices, ease of payment, and more guaranteed security. Electronic word-of-mouth (eWOM) is becoming an important part of commercial commerce. Information communicated, such as experiences, evaluations, discussions, and recommendations regarding products, services, or companies through online media[3], makes an important measure to promote and increase market share.

The dissemination by consumers to promote information enabling the orientation of use and experience from one another and benefiting stakeholders is known as social media marketing [4], a commercial behavior initiated and accomplished through social media [5]. Creating and uploading advertising content is one aspect of social media marketing. Adversity intelligence is a person's ability to

overcome obstacles and challenges in life with resilience and perseverance[6].

The growth of e-commerce has resulted in intense competition between m-commerce[7], one of which is ride-hailing services that complement mass transportation [8], become competitors to public transportation [9], replace traditional modes of travel and private transportation[10] as well public transportation [11]. To remain competitive, it is necessary to pay attention to user acceptance of purchase intentions and the use of ride-hailing, such as Go-Jek, Grab, and Maxim, which provide users with many choices. Based on market capitalization, the value of Grab and Go-Jek beat other large transportation companies, but the quality of eWOM information is less consistent due to online trolling, which makes consumer buying decisions unprofitable. E-commerce needs to build a fair, transparent, and open community, so further discussion is needed regarding the influence of information on trust and intention to use it [3].

In addition, the COVID-19 pandemic has caused most companies to experience a decrease in revenue. The lack of human movement seriously blows transportation business factors, causing substantial losses. Post-pandemic, the size of

the global ride-hailing market is projected to grow by 55.6% from 2020 to 2021[12], given the role of environmental awareness in its use [13]. A barrier strategy between drivers and passengers, cleaners, and digital thermometers to minimize the threat of virus infection can rejuvenate the online transportation market, but it can cause a jump in fares. The transportation sector experienced a trend of changes in passenger and driver behavior due to this incident.

More than 100 million users have downloaded the Go-Jek and Grab applications. More than 10 million users have downloaded the Maxim application, connecting millions of passengers, drivers, merchants, and businesses. Go-Jek is a Southeast Asian company that is included in the list of world-changing companies by Fortune magazine, Indonesia's economy has grown by up to 80% since the COVID-19 pandemic in food merchant partners thanks to Go-Jek's digitalization solutions for MSMEs. The Grab application addresses the problem of inequality in access, infrastructure, and income. Meanwhile, the Maxim application, a newcomer during the pandemic in 2021, then spread its wings in the realm of food & goods.

As a marketing strategy, social media platforms allow user content creation and exchange through personal statements or opinions to describe public opinion about products or services [12]. Ewoms are positive or negative statements by customers about products or services available to audiences via the Internet. Previous research has used it to evaluate ride-hailing before the COVID-19 pandemic. Twitter analysis has also been carried out to understand the impact of the COVID-19 pandemic and find out the behavior patterns of users of ride-hailing services[12]. existing studies discuss ride-hailing during the COVID-19 pandemic related to economic and social issues[14], company performance in dealing with crises[15]. Therefore, this study aims to explore and answer questions about how the construct of the ride-hailing application acceptance model developed during the COVID-19 pandemic. So, through existing developments, it is necessary to analyze through eWOM, which builds purchase intention, usage interest, and customer behavior, to lead to customer loyalty in ride-hailing applications.

Social media has been engaged to communicate, support, and promote products through eWOM marketing [16], contributing to testing and complementing eWOM theory and its relevance in the pandemic and social media era. Various factors were found that influence purchase intention, behavior, and customer loyalty. Increasing company awareness of these factors helps provide marketing recommendations to increase customer loyalty based on consumer needs. Previously, purchase intention, customer behavior, and loyalty were the objectives of any research study. However, other studies say purchase intention [17] and customer behavior [18] can affect loyalty, so the influence of the two on customer loyalty in ride-hailing applications will be examined more deeply. The literature is described in a structured and systematic way so that this research can answer and complement eWOM research on ride-hailing, which is growing rapidly due to the growth of mobile devices[19]. The compilation results can provide updates for improving public interest through the factors contained in eWOM on ride-hailing.

Social media as a communication tool allows individuals to broadcast, approach, influence people, and share user-

generated content [4]. Services such as blogs, virtual communities, social networks, and media-sharing sites such as YouTube [20] are used by individuals who share interests, attitudes, or relationships in life. In marketing, social media mobilizes promotional information that allows the orientation of each other's use and experience and benefits the parties involved so that eWOM in social media has a wide influence on human interaction. Several articles focused on social media and its impact on customer behavior and perception. They considered it the main source of information and used it to make purchasing decisions. Decisions are predicted by the information posted on the platform, where consumers collect, evaluate, and select the best options, even during the post-purchase process.

Previously, WOM identified the level of involvement with the product or service described by other consumers through messages[21]. As an oral communication between communicator and recipient, WOM recommendations play an important role in product evaluation and subsequent purchase decisions, which prove to be more effective than other marketing communication tools [22]. Marketers undertake activities to influence and accelerate marketing growth through WOM [21], which has been reconceptualized and transformed into eWOM, enabling information to reach a wider audience, so it is important to understand aspects of online communication from a different perspective [22]. Information from friends, relatives, or online communities is seen as more honest, credible, and trustworthy than that provided through websites and commercial advertisements [21]. Consumers are increasingly dependent on eWOM opinions because they have a clear negative or positive value [23], [24], allowing for the sharing of information and evaluations that guide other buyers in their choice of products or services[20]. There are eight dimensions to eWOM: platform assistance, venting negative feelings, concern for other customers, extraversion or positive self-enhancement, social benefits, economic incentives, helping the company, and seeking advice [25].

Consumers' perceptions of the usefulness of information and determinants of purchase intention refer to online consumer reviews and useful information[26]. Useful information understood in the context of services is more interesting than useful information understood in goods because services are more difficult to assess due to their intangibility[26]. Researching consumers' perceptions of useful information is also important because understanding what makes it useful provides insight into how consumers judge the quality of services sold.

Purchase intention is an attitude towards information[27]; a positive attitude towards advertising develops a higher purchase intention for the advertised item [22]. Reviews affect consumer attitudes and behavior through information adoption, product considerations, attitudes, and purchase intentions[26]. Online shoppers are more sensitive to eWOM and apply it to low-priced products [18]. Purchase intention increases with positive reviews and decreases with negative reviews. This means that positive reviews contribute to an increase in effective product or service orders [20]. "Long-term sustainable purchase" is defined as the intention to continue buying goods after the customer has purchased the product or service [28].

Social media and its impact on customer perception and behavior are considered the main source of information and are used to make purchasing decisions [4]. Several studies discuss customer behavior in terms of information adoption [29], review behavior [30], and intentions [7], thus describing the involvement of actors whose behavior [20]. Consumers share their positive and negative experiences on various social media platforms using technology-related services [31], forming user attitudes [5]. When the product is experiential, the amount of information required for purchase increases [29].

In transportation, it is necessary to explore loyalty that does not only focus on public transportation[32]. The extent to which consumers intend to provide products/services with their exclusive protection over a continuous period [17] has now become a common means for the community to meet travel needs [33]. eWOM affects future customers, the benefits of the relationship, subsequent purchases, and loyalty enhancement processes, wherein customer participation in mass customization services leads to increased customer satisfaction, loyalty, and repurchase[18], so it can increase the company's competitive advantage, performance, and profitability[34]. The importance of customer value and loyalty is considered as the intention to reuse [35]; for customers to be satisfied with the quality of the existing system, information quality, and service quality [28]. It is necessary to review the website that develops and rewards a group of users through a loyalty program that will encourage contributions [21]. Thus, it can retain existing passengers and attract new passengers from other modes[32].

Transportation has changed because of the pandemic; a massive shift is occurring from public transport to private vehicles. Drastic reductions also occurred in international and interstate travel[36]. Service providers need high creativity in responding to crises that are expected to cause a paradigm shift in travel behavior, psychological hygiene, and customer finances[12]. Meanwhile, the COVID-19 pandemic crisis poses challenges to business organizations, requiring innovations that allow organizations to identify new business models that will enable them to survive the current crisis [37].

In the eWOM study, previous researchers examined the effect of eWOM on social media on consumer purchase intentions[27], resulting in quality, credibility, need, attitude, usefulness, and information adoption factors influencing purchase intention. Then examine the online product brand descriptions, eWOM content, digital retail platforms, and innovation adoption factors on consumer decision-making processes[38], revealing that consumer perceptions of product usability, technology, trustworthiness, reviews, and retail platforms influence attitude and purchase intention of technology products. Then re-study the influence of people making online repurchases because of considering expectations and satisfaction of product and system attributes[28], resulting in a positive effect and influencing repurchase. Investigating consumer perceptions of information helpfulness in eWOM [26] can predict purchase intention and the relationship between popularity, source homophile, source expertise, and purchase intention. Then develop and validate application success models based on e-commerce systems and marketing literature[35], quality, price, promotion, and eWOM can be added to that model. Up to

adding the social-psychological distance of consumers to examine the effect of eWOM on trust and purchase intention [3], the relationship between information quality and trust is positively related to purchase intention.

Then in the ride-hailing research, other researchers analyzed the factors that influence the behavioral intention of Go-Jek users [7], resulting in factors such as perceived ease of use, subjective norm, perceived enjoyment, and variety of services influencing the behavioral intentions of ride-hailing users. Then build and validate the conceptual link between loyalty and perceived service quality, passenger satisfaction[32], revealing that perceived service quality is the most important determinant. Then using factors that influence the decision to use the Uber and Grab customer model[39], the customer's intention to choose share mobility depends on gender, age, cost of living, mileage, utility, popularity, family, community, and attractiveness. To advance the understanding of consumer loyalty by considering attitudes on consumer psychology[17], environmental awareness, price awareness, perceived usefulness, ease of use, security risk, and value are important predictors.

While research during a pandemic identified consumer emotions in applying user-oriented products and their effects on emotions before and during the pandemic [40], consumers shifted from positive emotions to negative ones. Until analyzing Twitter data to understand the impact of the pandemic, knowing the behavior patterns of online transportation service users with sentiments and emotions from the user's perspective[12], resulted in data that pre-pandemic, most tweet sentiments were neutral. During the pandemic, there were more negative tweets than positive, whereas neutral tweets have not changed. Therefore, this study also wants to know the emotional sentiment of users during a pandemic on ride-hailing. This study refers to the research model of the three types of research so that it can provide model development to increase customer loyalty.

The development of the model is carried out to explain the theory that is the basic reference for research, which is combined with the results of previous research so that ideas are obtained that can be studied further. Article writing refers to articles by [41], [42]. In general, the results of a systematic literature review illustrate that there are 13 dimensions related to purchasing intentions[43], spread into e-WOM (loyalty, information quality, source credibility, review, trust, product usefulness, satisfaction, customer behavior), online transportation (subjective norm, service quality management, cost), and the COVID-19 pandemic (organizational strategies, sentiment-emotion).

The concept of purchase intention uses information quality, review, and cost. Information quality, as the effect of eWOM in social media [27], determines purchase intention from information helpfulness [26] and becomes the effect of eWOM in social commerce [3]. The review consists of positive and negative as the effect of eWOM [20], determine purchase intention from a rating of reviews [38], and sales from the valence of review [44]. Cost is used to determine the intention to use ride-hailing from living cost [39], and purchase intention [17]. These are proposition 1. Then factors that drive customer behavior are carried out using trust, subjective norms, and emotional sentiment. Trust determines behavioral intention [7], as the effect of eWOM on purchase

intention [20]. Subjective norms determine behavioral intention [7] and intention to use ride-hailing [39]. Sentiment emotion determines the impact of the pandemic on customer behavior on ride-hailing [12], and the application of PSS[40]. These are prepositions 2. While loyalty is carried out using satisfaction and service quality. Satisfaction was used to

determine online repurchasing[28], intention to reuse and eWOM[35], positive or negative eWOM writing[21], and ride-hailing customer loyalty[32]. Service quality is used for service optimization and innovation in online transportation [45] and knowing loyalty[32]. This is a minor preposition 3. The conceptual model can be seen in Fig. 1.

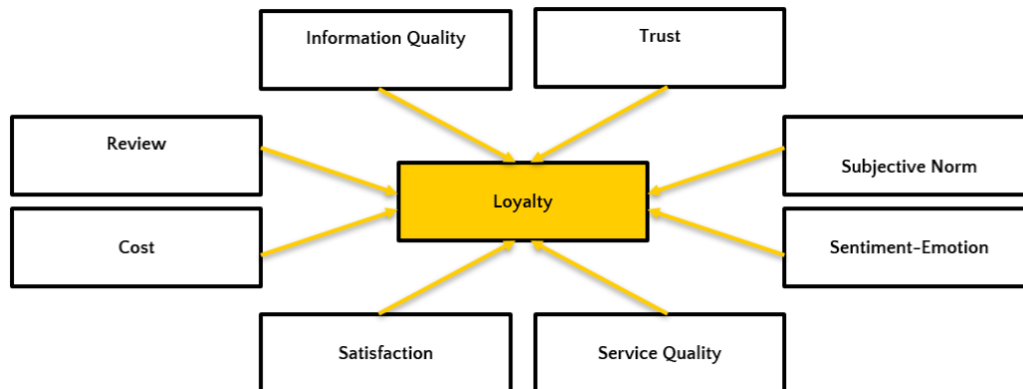


Fig. 1 Conceptual model

In addition, it is said that purchase intention from WOM affects loyalty [17]. Customer behavior on eWOM affects the enhancement of loyalty [18]. So, loyalty is thought to be influenced by purchase intentions and customer behavior. This becomes a major proposition in the study and produces a conceptual model for loyalty (information quality, review, cost, subjective norm, sentiment-emotion, trust, satisfaction, service quality). Therefore, this study aims to determine the factors influencing purchase intention and customer behavior on ride-hailing application loyalty during the pandemic.

II. MATERIALS AND METHOD

The authors identify the issue of the strategy of forming ride-hailing loyalty by eWOM. Results are needed to move towards sustainable urban mobility. This is the initial basis of the research. Various literature reviews are accessed from well-known publishers along with theories, related research,

and method trends that are collected to produce a systematic literature review whose articles are published in this article [43], providing an overview of 13 factors that shape customer purchase intentions. Eight factors determine strongly suspected the cause of purchase intentions, the spread of e-WOM, online transportation, and the COVID-19 pandemic.

The researchers designed qualitative research with a phenomenological approach that describes the individual experience of a phenomenon and the researcher's interpretation [46], carried out in the city of Palembang as one of the users of the Go-Jek, Grab, and Maxim applications to verify the formation of sustainable urban mobility on the alleged eight factors. Through real field datasets, this assumption was verified through 3 types of informant's resource persons totaling 17 people, key informants from internal companies (INF.1), regular informants from passengers (INF.2), and additional informants from drivers (INF.3). The flowchart of the method can be seen in Fig. 2.

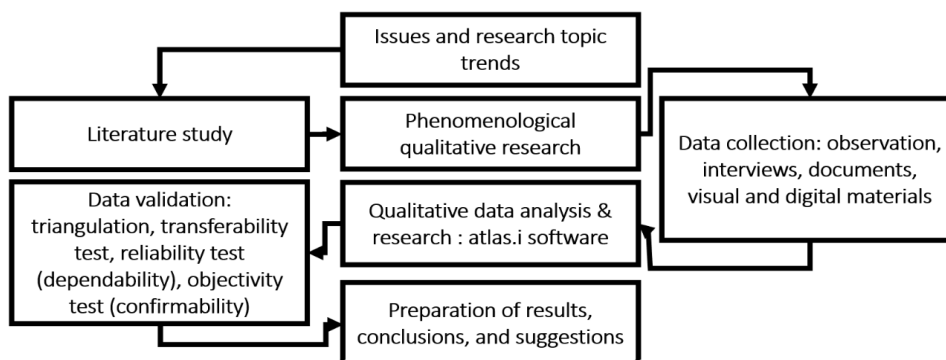


Fig. 2 Flowchart of the method

All data were collected through observation, in-depth interviews, document collection, and audio-visual recording, which were analyzed using Atlas.ti software so that the analysis results were organized, systematic, effective, efficient, more visual, portable, and facilitated the analytical

discussion process. In addition, the accuracy of the analysis results is validated internally and externally and tested for reliability and objectivity. Although the research sources, techniques, and time are different, the results of interviews, previous studies, and current phenomena refer to the same meaning and statement. Therefore, this study contributes to

providing a model to explain the factors that influence purchase intention, customer behavior, and customer loyalty on ride-hailing application services using eWOM theory to test and complement eWOM theory and its relevance during the COVID-19 pandemic and in the era of social media.

III. RESULTS AND DISCUSSION

A. Research Object

The object of the research was to be carried out on three ride-hailing applications. The Go-Jek application operates in 3 countries with more than 20 services in 1 leading on-demand platform, in real-time, 167 cities and regencies in Indonesia. The Grab application from Malaysia provides online-to-offline transportation services in 500 cities, mostly in 8 countries in the Southeast Asian region. Meanwhile, the Maxim application from Russia has been operating in more than 22 regions in Indonesia and 500 regions in Russia. A total of 17 informants were used as research samples based on the purposive sampling method, namely two informants as internal companies (INF.1), nine informants as passengers (INF.2), and six informants as drivers (INF.3).

The characteristics of informants 1 to 2 are ride-hailing Grab and Go-Jek employees. Informants 3-5 are new passengers, informants 6-8 are rare passengers, informants 9-11 are frequent passengers, informants 12-14 are motorbike drivers, and informants 15-17 are car drivers. Data was collected by observing Palembang City for more than a week using three ride-hailing applications. Interviews were conducted with 17 informants from different backgrounds. In addition, eWOM material, ride-hailing, the covid-19 pandemic, and Qualitative research were also collected, as well as audio-visual data storage during the interviews.

B. Analysis Results

Data were analyzed using Atlas.ti 9.1.7 software. The stages are as follows:

- Making a hermeneutic unit by naming the project as "ride-hailing."
- Creating a primary document by inputting 17 interview data from informants.
- Making quotations by selecting important quotes in each interview transcript of each informant.
- Providing a code by marking certain quotations marked with the analyzed factors.
- Conducting analysis by creating a network of relationships between the quote data and the informant's citation code.
- Making memos by providing notes on the analyzed data.
- Output data by representing the results of the analysis into a conclusion statement. The result is divided into three parts.

The first part is the purchase intention. There are three supporting factors: information quality, review, and cost. Based on the interpretation of quotations from 17 informants, information quality is the strength of the content embedded in informational messages[47], consisting of "relevance" which affects when users know information from various sources, "timeliness" when users get the timeliness of receiving information, "accuracy" which affects when users get

accurate and reliable information, "comprehensiveness" when users get complete information, and "usefulness" when users get valuable and useful information. Then the review is a summary, a review from several sources from films, books, news, and others, consisting of "positive reviews," which are influential when users find many positive reviews, and "negative reviews," when users find many negative reviews. Meanwhile, the cost is the flow of financial or other resources spent to buy or pay for products/services, consisting of "price consciousness," which affects when the user gets a lower price, and "living cost" when the user has a suitable cost of living for the use or service revenue from ride-hailing. So, information quality, reviews, and costs in eWOM are important factors in attracting the intention to buy and use ride-hailing applications during the pandemic because most of the use is due to the information obtained. Wom still has an important role because users directly get information from friends or family. Positive reviews are more trusted than negative reviews. Price is known to be the main comparison, although service quality is another major factor.

The second part is customer behavior. There are three supporting factors: trust, subjective norm, and sentiment emotion. Based on the interpretation of quotes from 17 informants, trust is the belief that something that is relied on will meet expectations, consisting of "source trust" which is influential when users get a reliable source of information, "review trust" which is influential when users find reviews accompanied by evidence, and "site trust" which affects when a user has a trusted site to serve as a source of information. Then subjective norm is the individual's perception of people who expect individuals to perform certain behaviors, consisting of "person beliefs" which influence when users get influenced by others, and "social pressure," which affects when users get influenced by social society. While sentiment-emotion is emotion as a complex psychological state that is limited to the psychological dimension, and sentiment as a mental attitude or thought is influenced by emotions that are tied to social objects, consisting of "customer sentiment" which affects when the user feels a neutral, positive, negative mood. Although the effect is very small compared to other factors, "customer emotion" has an effect when the user feels a sad, happy, or angry mood.

The last part is loyalty. There are three supporting factors, namely satisfaction and service quality. Based on the interpretation of quotes from 17 informants, satisfaction is a feeling of pleasure or disappointment that arises after comparing perceptions of product performance/results and expectations, consisting of "perceived sales promotion" which affects when users get lots of promos from applications, "perceived service quality" which influential when users get Maximum service and complete features, and "perceived benefits of application" which affect when users benefit from using ride-hailing applications. While service quality is a form of service that is carried out optimally with all excellence in meeting customer needs and expectations, consisting of "service processes" which affect when users get an easy service process, and "service optimization," which affects when users get optimal service, latest or different from others. The results of this analysis refer to the network of all citations of informants carried out using the Atlas.ti software, which can be seen in Fig. 3.

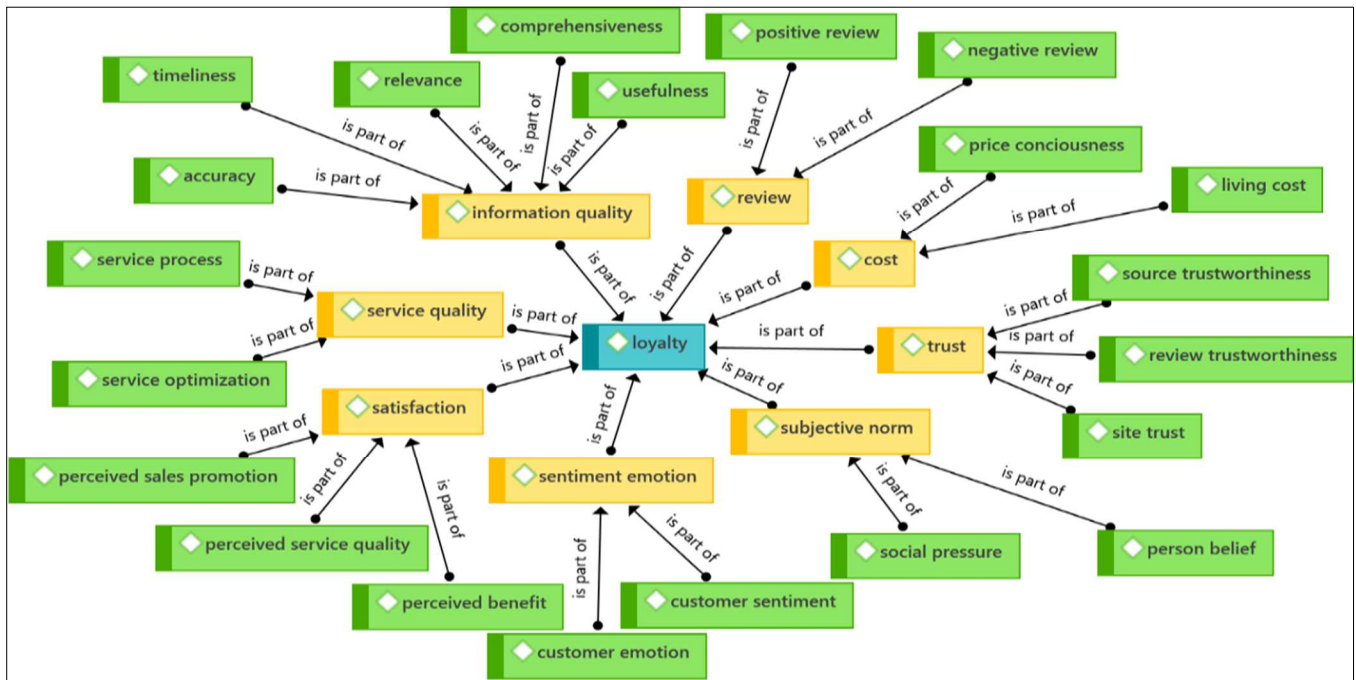


Fig. 3 Analysis result with Atlas.ti Software

C. Research Findings

1) *Preposition 1*: Purchase intention affects loyalty obtained from information quality, reviews, and cost.

- Information quality.

Information quality consists of (a) "relevance" about information through the kopda/kopline community, low costs, promos, vouchers, price discounts, income, convenience, and bonuses, supporting theories that social networking resources are a way to be more interactive with mutual exchange of ideas [47], e-tailers convey relevant information that helps understand and evaluate products [26], ewom provide recipients with relevant information to understand better between themselves and the source [3]; (b) "timeliness" regarding special event information, estimated travel time, driver position, when the promo is running supports the theory that ewom is more timely because it covers various topics about product/service feasibility [47], ewom shares experiences and opinions from time to time [30], information is measured through the timeliness communicated by ewom [3]; (c) "accuracy" regarding promos, low prices, terms and conditions, travel, content, suspend, peak hours, and income discounts, supports the theory that in e-commerce, accuracy is a measure of information quality [47], [30]; (d) "comprehensiveness" of reviews, detailed information, company confirmations, advertisements, driver data, prices, and completeness of pandemic security protection, supports the theory that online reviews are complete in covering a broad source of customer opinion [47], consumers make decisions if informed complete product[30], the quality of information is measured by the completeness of the information communicated by ewom [3]; and (e) "usefulness" about programs, new benefits, and new ride-hailing regulations operating during a pandemic, supporting the theory that information is evaluated on the basis of usefulness,

although consumers prioritize source credibility [47], usability and ease of use predict individual attitudes toward receiving technology [27], in ewom sourcing expertise is important for consumers when assessing the usefulness of information [26], if users feel the comments are useful then they will adopt the information [30], increasing the usefulness of information can increase consumers' willingness to share experiences [3].

- Reviews

Reviews consist of (a) "positive reviews" and (b) "negative reviews" about the good/bad experience of prices, driver services, health protocols, and pandemic vaccinations that were greater positive than negative reviews, supporting the theory that reviews positive increases order intention, positive brushes, trust is higher than negative comments[20], positive/negative user ratings affect the perception of certain consumer reviews [38], positive reviews outnumber negative reviews on many rating sites [21], customers can be influenced by negative reviews on trusted networks [44], [48].

- Costs

Costs consist of (a) "price consciousness" regarding lower Maxim prices, Grab provides more discounted prices than promos/vouchers, supports the theory that ride-hailing is considered the most efficient in terms of access and costs, and Bluebird costs are higher than Grab and Go-Jek; living cost about [2], [49]; (b) "living costs" about low costs and promos save a lot on ride-hailing costs, and crowded orders can increase drivers' income to meet living costs, supporting the theory that they tend to base their decisions on the average monthly cost of living, low-income earners choose the cost model low[39], income influence decisions [50], [51]. Thus, **preposition 1** supports the theory that online retail success depends on continued use by determining whether a product meets initial

expectations [28], companies use information, comments, and prices to encourage repeat product purchases [35].

2) *Proposition 2*: customer behavior affects customer loyalty, obtained from trust, subjective norms, and sentiment.

- Trust

Trust consists of (a) "source trustworthiness" about information originating from companies, application ratings, friends, family, and government both on social media by eWOM or WOM, supporting the theory that online platforms are important sources of information because they are experiential and consumption experiences are subjectively evaluated by consumers[20], consumers consider the credibility of information sources in the process of assessing WOM recommendations[3]; (b) "trustworthiness review" regarding the attachment of photo and video evidence related to the situation, supporting the theory that if the information communicated by eWOM is supported by strong evidence, consumers will attribute it to quality[3]; and (c) "site trust" regarding ratings on applications, discussion forums, official company accounts, review columns, and websites that provide reviews, supporting the theory that social media sites are platforms for receiving consumer feedback that help understand consumer perceptions and develop marketing strategies [3].

- Subjective norm

Subjective norm consists of (a) "person belief" about being influenced by the closest people, reviews on social media regarding ride-hailing experiences, either by eWOM or WOM, supports the theory that someone uses technology to fulfill other people's advice compared to feelings. and his beliefs [7]; and (b) "social pressure" regarding the environment that uses Maxim because it is cheap, Grab/Go-Jek because there are lots of promos or influencers. After all, many fans cause someone to follow a trend, supporting the theory that customer behavior is influenced by group, family, and social role status and popularity [39].

- Sentiments

Sentiments consist of (a) "customer sentiment" about the majority being neutral and positive, or bad when having a good/bad ride-hailing experience, neutral means that this factor has less effect on ride-hailing use, although it supports the theory that pre-pandemic the majority of tweet sentiment (36%) was neutral, (32%) positive and negative, but after the pandemic more negative tweets (34%) were analyzed than positive tweets (30%). Finally, this is a new finding in the study; and (b) "customer emotion" regarding sadness must be supported by certain conditions to increase passengers or lower drivers, pleasure increases mood and enthusiasm for activities. Still, it supports the theory that the pandemic has changed travel behavior, psychological hygiene, and finance paradigm, but lacks influence. This makes it necessary for companies to assess behavioral changes in customer emotions regarding management, security, and policies that ensure the future of ride-hailing [12]. So, **proposition 2** supports the theory that making e-mails with comments or reviews is one type of extra-role behavior by buyers that affects customer loyalty with interest, enjoyment, and satisfaction caused by the behavior itself[18].

3) *Proposition 3*: Finally, loyalty is influenced by purchase intentions, user behavior, as well as from satisfaction, service quality, and service quality.

- Satisfaction

Satisfaction consists of (a) "perceived sales promotion" about price promotions, daily, special events, bonuses, unique, attractive, and easy to understand make loyal customers, support the theory that customers are aware of a perceived sales promotion reducing the price/cost of the product [32]; (b) "perceived service quality" about safe and comfortable travel, full features, protect pandemic and contactless food features, and service marts, supports the theory that these attributes help passengers expect and evaluate ride-hailing services on passenger satisfaction and loyalty [32], the quality of booking and post-booking can affect loyalty [52]; (c) "perceived benefit of application" regarding abundant promos, low prices, convenience, complete features, on time, bonuses, and convenience, supports the theory that profit is a predictor of perceived service quality, satisfaction, and sustainable passenger loyalty [32].

- Service quality

Service quality consists of (a) "service process" about an easy, convenient process, friendly driver behavior, complete health features, and protocols, easy payments via e-wallet, supporting the theory that complex service process interactions provide services in a collaboration that realize service innovation [45]; and (b) "service optimization" regarding the new feature of multiple bookings in 1 location, reservations such as bluebird services, business cars to get luxury cars, mart services, masking telephone numbers, attractive interfaces, and optimizing low prices, supporting the theory that optimizing services by service quality improvement strategies can increase customer satisfaction [45], there is a strong relationship between satisfaction and loyalty[53] some individuals feel safe and high safety from the ride-hailing feature [54]. So, **proposition 3** is by the research findings, which can be seen below.

- **Information quality factor statement**: information quality affects customer loyalty (relevance, timeliness, accuracy, comprehensiveness, and usefulness affect information quality). Proposition: appropriate.
- **Review factor statement**: Reviews affect customer loyalty (positive and negative reviews affect the review rating). Proposition: appropriate.
- **Cost factor statement**: cost affects customer loyalty (price consciousness and living cost affect the cost level). Proposition: appropriate.
- **Trust factor statement**: trust affects customer loyalty (source, reviews, and site trustworthiness affect trust). Proposition: appropriate.
- **Subjective norm factor statement**: Subjective norm affects customer loyalty (person belief and social pressure affect subjective norm). Proposition: appropriate.
- **Sentiment emotion factor statement**: sentiment emotion affects customer loyalty (customer sentiment and emotion navigate sentiment emotion). Proposition: appropriate and finding.
- **Satisfaction factor statement**: satisfaction affects customer loyalty (perceived sales promotion, service

quality, and benefit of application affect satisfaction). Proposition: appropriate.

- **Service quality factor statement:** service quality affects customer loyalty (service process and optimization affect service quality). Proposition: appropriate.

The new finding obtained is the lack of influence of emotional sentiment on the use of ride-hailing applications. The "customer sentiment" quote from the informants analyzed resulted in that most of the informants were less affected by mood when using the ride-hailing application. Most of the perceived sentiments are neutral and positive. The perceived neutral sentiment means that whatever the condition of a person's sentiment does not affect the use of ride-hailing, which is usually experienced by informants where ride-hailing has become a daily necessity. Meanwhile, the "customer emotion" quote from the informants analyzed showed that most informants were also less affected by mood when using the ride-hailing application. It is known that the

sentiment factor will be greater if sad emotions arise if it must be supported by certain conditions or circumstances that allow ride-hailing to increase or decrease. However, it is known that Grab companies are still targeting this factor even though they have a small market segment, and it is known that companies such as Maxim have not targeted their marketing towards sentimental emotion because they are more focused on providing services and low prices. This means that this factor still has an influence on the use of ride-hailing applications, which has an impact on application loyalty.

Based on these findings, the study's results support the proposition that purchase intention is influenced by information quality, review, and cost. Then customer behavior is influenced by trust, subjective norms, and sentiment emotion. In comparison, loyalty is influenced by satisfaction, service quality, purchase intention, and customer behavior. So, it produces the final model which can be seen in Fig. 4.

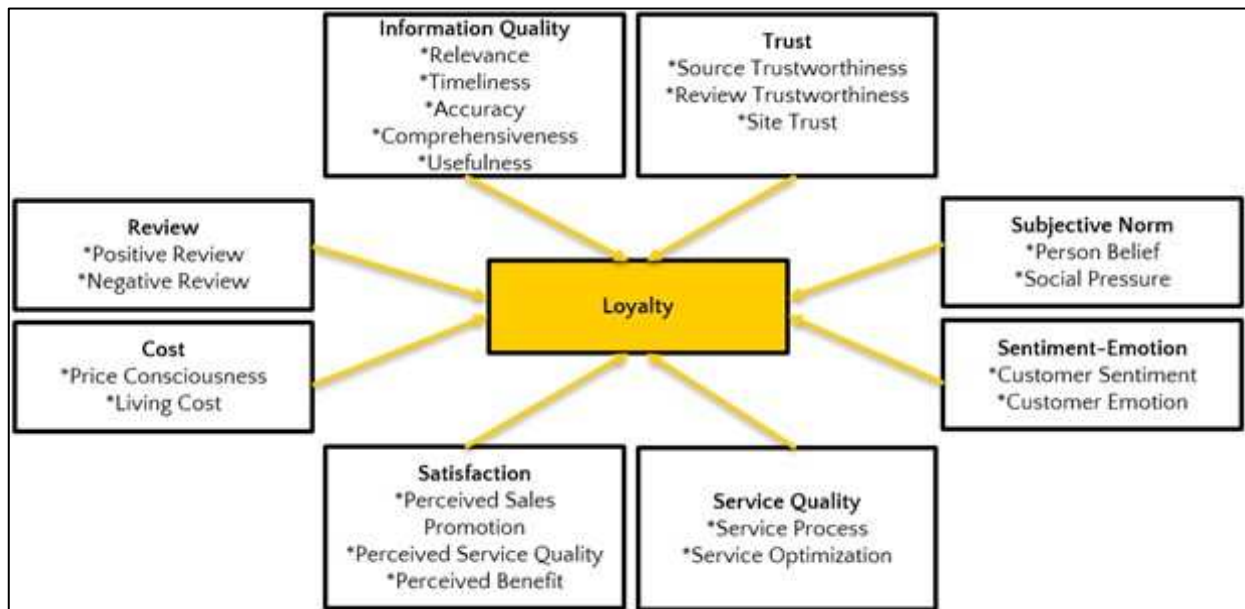


Fig. 4 Final model

This study contributes to providing a model to explain the factors that influence purchase intentions, customer behavior, and loyalty on ride-hailing application services using the eWOM theory to test and complement the eWOM theory and its relevance during the COVID-19 pandemic and in the social media era, where each of these factors has its element in it which related informants analyze. The implementation uses a qualitative research design using a phenomenological approach which is discussed in depth at each research stage.

The resulting final model development refers to the theory and previous research. The model is built based on the purchase intention factor [3], [5], [17], [26], [27], [28], [38], [39], [55], which consists of information quality [3], [7],[26] [27], [30], [47], reviews [20], [21], [38], [44], and cost [2], [17], [39]. Then it is built based on customer behavior factors [7], [29], [30], which consists of trust [3], [7], [20], [31], subjective norm [7], [39], sentiments [12], [40]. In addition, it is built with loyalty theory [17], [18], [32], which consists of purchase intention, customer behavior, satisfaction [21], [28],

[32], [35], and service quality [32], [45]. Practically, this study provides an overview of the driving factors for the use of ride-hailing applications, especially in the city of Palembang on the Go-Jek application, Grab an application, and Maxim application, as a reference for marketing recommendations by online transportation companies to increase customer loyalty which is known from consumer needs for transportation application services. online. The results can provide an overview for the community regarding the benefits derived from activities using ride-hailing applications.

4) *Validation:* The findings were validated by applying (1) internal validation-triangulation, external transferability, reliability dependability test, and objectivity-conformability test. Internal validation-triangulation used triangulation of informants from different backgrounds, techniques with the same meaning but different questions. External-transferability validation compiles research reports based on

the planned stages. Reliability-dependability test that examines the entire research process and attachments to the results of interviews by related examiners. Objectivity-confirmability test that confirms the results of the research on all relevant informants to ensure that the initial and final statements of the informants have the same meaning as previous studies and the phenomena that occurred [55]. Source triangulation can be seen below.

Company Internal Employees Informant Categories: INF.1.1 Grab employees, INF.1.2 Maxim employees. **Passengers Informant Categories:** INF.2.1.1 Economics and business student, INF.2.1.2 education program students, INF.2.1.3 Sociology student, INF.2.2.1 Housewife, INF.2.2.2 Economics and business student, INF.2.2.3 Private sector employee, INF.2.3.1 Private sector employee, INF.2.3.2 Online merchant, and INF.2.3.3 Housewife. **Driver Informant Categories:** INF.3.1.1 Grab drivers, INF.3.1.2 Information systems student, INF.3.1.3 Private sector employee, INF.3.2.1 Law student, INF.3.2.2 Grabcar drivers, INF.3.2.3 Maximcar drivers.

Triangulation is done by comparing and re-examining the level of trustworthiness of information obtained through different times and tools in qualitative research [2]. Comparing the observation data with interview data, comparing what people say in public with what they say in private, comparing what people say in public with what they say in private, what people say about research situations with what they say all the time, comparing a person's circumstances and perspectives with various opinions and views of people such as ordinary people, people with secondary or higher education, rich people, government people, and compare the results of interviews with the contents of documents related. Although the data is obtained from different sources, the results represent the same meaning and statement. The results of data triangulation can be seen as follows:

- 1st factor: Interview.

Users know information from social media, mass media, advertisements, family, friends, and community groups, by WOM and eWOM, with the information's relevance, timeliness, accuracy, completeness, and usefulness. **Previous research:** E-tailers convey relevant information to customers to understand and evaluate product performance quality [26]. Ewom is a timelier covering various topics, whether the product/service is worth using[47]. **Phenomenon:** According to viva.co.id, social media is a platform to sell products, promote customers, critique/suggest interaction, and collaborators. According to idwebhost.com, the information posting time is 9-11 am or 1-2 pm when mobility is low.

- 2nd factor: Interview.

Reviews of price experience, driver services, health protocols, and vaccinations during a pandemic, positive reviews affect more than negative. **Previous research:** Positive comments posted affect users' evaluations, attitudes, and beliefs towards products [20], ratings affect the perception of particular reviews [38], positive reviews outnumber negative reviews on many rating sites[21]. **Phenomenon:** According to liputan6.com, a viral driver after his video review showed a dirty food stall, forcing users who

read the review to be careful in choosing where to eat in the application.

- 3rd factor: Interview.

Cost of price consciousness through low prices, rebates, promos, vouchers, and living costs that save costs and crowded orders that increase driver income to meet living costs. **Previous research:** Ride-hailing is considered efficient in terms of access and costs, able to manage access, and managerial aspects to reduce transaction costs [2]. With ride-hailing saving time and money, customers base their decisions on the average monthly cost of living[39]. **Phenomenon:** According to kontan.co.id, many passengers have switched to the Maxim, because this operator from Russia is considered to provide too low fares.

- 4th factor: Interview.

Trust from source trust through company accounts, play store, friends, family, and government, on a WOM and eWOM basis. Review trust from photo and video evidence. Site trust discussion forum site. **Previous research:** Online platforms are an important source of information because of the evaluation of consumption experiences by consumers [20]. The credibility and quality of the information in the process of assessing eWOM[3]. **Phenomenon:** According to techno.com, social media is the most widely used source of information in Indonesia, with a percentage of 79%, although trust relies more on people closest to them.

- 5th factor: Interview.

Subjective norm from, person belief through WOM closest people and eWOM social media. Social pressure from the environment causes a person to follow existing trends. **Previous research:** One's beliefs make others involved in activities behave[7]. Social factors influence customer behavior, companies need to encourage popularity through mass media and build advertising strategies [39]. **Phenomenon:** According to kompas.com, to increase sales by utilizing influencers or those from celebrities, bloggers, YouTubers, and public figures.

- 6th factor: Interview.

Sentiment emotion, from customer sentiment through positive/negative feelings when having a good/bad experience. Customer emotion from feeling sad/happy is supported by certain conditions (rain, lazy, hungry, tired, sick, problems) that allow passengers to increase/descend. **Previous research:** Positive/negative words can indicate positive/negative sentiments based on the context. The emotional analysis provides a deeper analysis than sentimental, where positive is labeled happy, and negative is labeled sad, angry, or disgusted[12]. **Phenomenon:** According to katadata.co.id, Go-Jek is a company that fulfills employee happiness with 4.4 ratings from 434 reviews.

- 7th factor: Interview.

Satisfaction from discounted prices, daily promos, special events, unique, attractive, and easy-to-understand income bonuses will make loyal customers **Previous research:** Perceived sales promotion affects passenger satisfaction and loyalty in using ride-hailing services[32]. **Phenomenon:** According to beritasatu.com, the Grab application gets the

highest level of satisfaction among digital service users in Indonesia.

- 8th factor: Interview

Service quality from an easy service process for all people, convenience, driver behavior, complete features, health protocols, and easy payments with an e-wallet that can be used for bank transfers. **Previous research:** Complex service process interactions provide services in collaboration, including selecting channels, accessing platforms, matching requests, paying, waiting for services, receiving services, and evaluation [45]. **Phenomenon:** According to Suara.com, the pandemic will not only have an impact on health but will change people's lives and habits, namely increasing the adoption and use of digital services to meet the consumption needs of Generation Z.

IV. CONCLUSION

This study focuses on the driving factors of purchase intention, user behavior, and ride-hailing loyalty. During the pandemic, loyalty was influenced by eight factors: information quality, reviews, costs, trust, subjective norms, sentiments, satisfaction, and service quality verified through eWOM. However, new findings reveal the lack of influence of sentiment-emotional factors on ride-hailing use, namely neutral and positive. Emotional sentiments will increase if sadness is supported by certain conditions, which will still affect ride-hailing loyalty. Admittedly, some limitations need to be further evaluated in terms of the post-pandemic ride-hailing sentiment factor so that it can describe the phenomenon. In promoting ride-hailing, customer-driver interactions need to be more comfortable and active to attract loyalty. While surveys may not fully represent the ride-hailing market, research on socio-demographic effects is necessary to develop different marketing strategies. The model for the results of phenomenological qualitative research needs to be developed using quantitative or mixed methods so that it is more objective and can clearly measure ride-hailing success in Indonesia.

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