

Antecedents of Ride-Hailing Service Customer Satisfaction During New Normal Era Using the PLS-SEM Method

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Abstract

Ride-hailing business in Indonesia is facing challenges due to the COVID-19 pandemic. This situation urgently needed readjustment to maintain customer satisfaction with unexplored antecedents and its relationships between known variables from before the pandemic. Therefore, this study will explore the relationship between ride-hailing customer satisfaction and its antecedents in terms of price perception and COVID-19 prevention services during the new normal era. This study conducted an online survey with convenience sampling techniques in the sampling process. Afterward, Partial Least Square (PLS)-Structural Equation Modeling (SEM) is used as the analysis tool because the predictability of exogenous variables is the main objective. In this exploratory study, the formative measurement model is used and analyzed thoroughly by the SMART-PLS application. The results show that price perception and COVID-19 prevention service significantly influence ride-hailing customer satisfaction. However, the COVID-19 prevention service does not have a significant indirect effect on customer satisfaction through price perception as a mediator variable. The discussed strategies that can be applied to maintain and increase customer satisfaction are developing exclusive features for female customers, improving health protocols in the new normal era, and strengthening the market position with operational excellence.

Keywords

COVID-19 Prevention Service, Customer Satisfaction, PLS-SEM, Price Perception, Ride-Hailing

1. Introduction

Along with the rapid development of technology, means of transportation in today's modern era progressing so fast. Many online-based transportation provider services arise in Indonesia. Providing many convenience aspects, these ride-hailing transportation services grow inseparable from people's needs in everyday life (Triwanda 2020). Ride-hailing also plays a big part in Indonesia's national economy. Lembaga Demografi Fakultas Ekonomi dan Bisnis Universitas Indonesia (LD FEB UI) stated that more than 80% of Indonesia society consistently use ride-hailing as the means of transportation and there are 24% increased revenue in 2021 for ride-hailing drivers in Indonesia (Purwanti 2021). However, there is still limited research on this growing logistic business. Research on passengers' behavior and attitude toward ride-hailing services that focused on developing countries is quite rare (Shah and Hisashi 2021). These findings evoke urgency to understand customer satisfaction better in the ride-hailing business, especially in Indonesia.

Many previous studies support the motivation to dig deeper into customer satisfaction in the ride-hailing business. Data from Statista predicted that ride-hailing users will increase by 75% to 40 million people in 2023 (Yanti 2021). Databoks also supports this fact from a recent survey on August 2022, there is 28.4% of respondents in Indonesia choose ride-hailing as their main transportation on daily basis. Ride-hailing becomes the second-highest transportation choice for Indonesian. Even when there are increasing tariffs on ride-hailing services due to fuel prices rising, 29.1% of ride-hailing customers will still use ride-hailing services in the future along with another 14% will combine ride-hailing with commuting with their private transportation (Mutia 2022). According to research conducted by the Institute for Development of Economics and Finance (INDEF), 64% of online transportation services user in Indonesia has increased their frequency of use the ride-hailing service since the pandemic and 60% stated that they would continue using ride-hailing services even though there were no promos. The same research also shows that 73% of respondents claim the ride-hailing service improves their productivity (Wally 2022). Thus, ride-hailing is an important

aspect of people's needs nowadays. However, when the ride-hailing business world was first challenged by the COVID-19 pandemic, Statqo Analytics stated that there are a significant decrease in ride-hailing's active users. In the four first months of the pandemic, ride-hailing activity decreases up to 28% for Grab and 35% for Gojek (Yanti 2021). Therefore, the pandemic brings unpredictable effects on ride-hailing businesses that need to be handled from a new perspective to avoid another decreasing customer number.

Many businesses have felt the impact of the COVID-19 pandemic, including the ride-hailing business. Since many online-based transportation provider services are rising, this business must be prepared for a new challenge after the pandemic situation. Moreover, the safety aspect during the pandemic also affects user satisfaction and trust in reusing online transportation services (Lestari 2020). This new aspect must be considered for the ride-hailing business to adapt during the pandemic and new normal era. How it will impact customer satisfaction and how it will affect the known variable of antecedent customer satisfaction before the pandemic happen are the problem that was trying to be solved. This goes hand in hand with the ride-hailing company's commitment to getting a better understanding of the COVID-19 transmission risk in its service environment including between its driver partners and customers. Naturally, the ride-hailing company is trying to maintain COVID-19 prevention awareness during the new normal era without compromising the quality of its services to customers (Sultan 2021). The limitation and assumption that being used is the known antecedent variable that will continue to hugely impact customer satisfaction are only price perception since this variable is frequently used in many previously published papers and proved to always significantly influence customer satisfaction before.

1.1 Objectives

Therefore, the objective of this study is to explore the relationship between ride-hailing customer satisfaction and its antecedents in the form of price perception and COVID-19 prevention services. In advance, this research will also answer some research questions regarding the significance, the mediator variable effect, the predictability of exogenous variables in the model, the predictive relevance, and the fitness of the suggested model. The object of this research was one of the popular ride-hailing companies in Indonesia, Grab. The collected data from the online survey will be analyzed with Partial Least Square (PLS) and Structural Equation Modeling (SEM) in the SMART PLS application. PLS is used because this method can find out the influence between variables whereas SEM can simultaneously evaluate the dependent relationship between measured variables and latent constructs as well as the relationship between latent variables.

Hopefully, with this new exploratory study conducted, ride-hailing companies can improve their knowledge about customer satisfaction antecedents and adapt quickly during the new normal era. So, they can keep the satisfaction level or increase it to attract more customers. Significantly, this paper will contribute more because COVID-19 prevention services are taken into account in a formative model. The PLS-SEM method is appropriate for this model and for cooperating with new unexplored variables, especially in customer satisfaction of ride-hailing businesses. This paper intended to deliver a complete evaluation process of a formative measurement model in the PLS-SEM method.

2. Literature Review

Customer satisfaction is an attitude shown by the customer to a product after using or consuming the product. Customer satisfaction is determined by the customer's perception of the performance of the product or service in meeting customer expectations. There are five main determining factors of customer satisfaction, namely product quality, price, service quality, emotional factors, and costs. Although, some researchers focus not only on these factors. Research conducted by Juniantara and Sukawati (2018) showed that price perception, promotion, and service quality have a positive effect on customer satisfaction and customer satisfaction can affect customer loyalty. Customer satisfaction can be influenced by two additional factors, pricing and service quality. Price perception regarding price discounts and service quality regarding driver friendliness have a major impact on customer satisfaction (Mujahid et al. 2022). If a customer feels satisfied with the value provided by a service they will tend to use these services in the long term (Hartatie and Haksama 2018). Another factor that can influence customer satisfaction is trust. Trust has a significant positive influence on customer satisfaction (Pasharibu et al. 2018).

The price perception variable is being used here as one of the known customer satisfaction antecedents pre-pandemic. Price remains significant in many various past studies on customer satisfaction's antecedent. Not only significant, but the price also becomes an important factor to create positive satisfaction according to the ride-hailing customer before the pandemic happens. Some dimensions that can affect price perception are affordability, matching price with its

quality, price competitiveness, and matching price with its benefit (Setiawan et al. 2022). Price perception significantly affects customer satisfaction in another ride-hailing company study before the pandemic (Adnyana and Suprapti 2018). This effect is to be expected to happen still after the pandemic. There is a car ride-sharing study in the new normal era that proves price perception still significantly affect customer satisfaction. Here, providing discounts or promotions for each particular transaction is a key factor in price perception (Mujahid et al. 2022). Perceived price is defined as the consumer's perception of the price that must be spent to obtain an item or service. Perceived price also is proven significantly influence customer satisfaction. This shows that the better the price perceived by the customer, the more customer satisfaction will increase (Witama and Keni 2019). In the transportation industry, tariffs and prices play an important strategic role in determining the marketing strategy, namely the close relationship between price and value, where consumers seek the price offered and the value provided (Silva 2020).

COVID-19 becomes an unexpected variable in many ongoing businesses during the pandemic and new normal era. COVID-19 has proven to have a significant impact on public satisfaction, especially for a highly educated community. This circumstance raises public demand for providing pandemic prevention and control services (Xie et al. 2022). Nonetheless, the COVID-19 aspect still has not yet been cooperated as an independent variable in the ride-hailing customer satisfaction study. Some past studies dig deeper into the ride-hailing case with COVID-19 as a consideration in each indicator (Hamid 2020), (Lestari 2020). Other studies are seeking the COVID-19 impact from a ride-hailing perspective. If the ride-hailing driver itself felt the COVID-19 impact after the pandemic (Wang et al. 2022), the customer also expected to experience it differently. The ride-hailing drivers' needs also shift in their working conditions, such as the demanding provision of sanitation resources, masks, and extra incentives. In this case, one might expect that the situation for ride-hailing drivers after the pandemic will not return to pre-pandemic (Fielbaum et al. 2022) and eventually it will be felt too by the customer. On that account, the ride-hailing company must ensure its drivers and customers are being protected from COVID-19 transmission to create a sense of safety when traveling. Learning from the previous study in taxi/cab services case, it is necessary to ensure driver and passenger protection, such as using a mask, frequently washing hands, using hand sanitizer, minimizing contact, and cleaning the vehicle. Before drivers and customers can practice self-protection, a clear guideline is a must. All terms, rules, and regulations must be accessible and up-to-date with government policy (Baluja et al. 2021). The vaccination rate also plays a significant role in on-demand mobility services such as ride-hailing. The vaccination rate (VAC) is correlated to bike-sharing system usage (Lei and Ukkusuri 2022). Therefore, all of these needs and procedure is being considered in constructing the COVID-19 prevention service variable.

To achieve an understanding of customer satisfaction, the analysis method PLS SEM can be used. Many customer satisfaction studies have proved to be effectively explored with the same method. PLS-SEM also can be applied to many case studies, from a general ride-hailing case (Hamid 2020) to a specific ride-hailing company (Perera and Samarasinghe 2022). The data sample is usually collected with a questionnaire that can be shared online or paper-based as long as the result is in scale form. Random sampling for testing developmental theories and newly added constructs also proves suitable to be analyzed with PLS-SEM afterward (Nguyen-Phuoc et al. 2020). Another sampling method that can be used is a convenience sample in a prediction-oriented study (Ha et al. 2019). For that reason, PLS-SEM is a suitable method to be applied in this study.

Considering the previous review, the structural model of this research is proposed in Figure 1 follows. This structural model or inner model is composed of two exogenous constructs that will explain one endogenous construct. There is also one mediator variable, price perception, between COVID-19 prevention service and customer satisfaction.

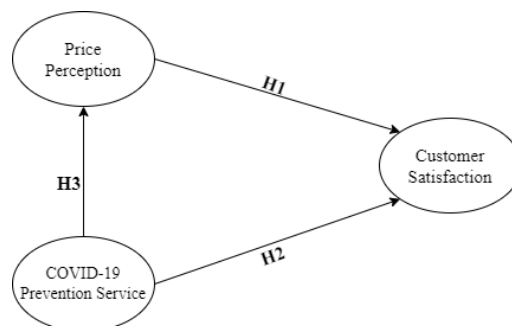


Figure 1. Proposed research model

In this model, the exogenous constructs are price perception and COVID-19 prevention service. These two constructs will explain or influence one endogenous latent variable, namely customer satisfaction. Each of these constructs has a formative measurement model. The research hypothesis is set for each factor that will be tested for its effect on customer satisfaction. There are three pairs of hypotheses, namely H1, H2, and H3. H1 is the hypothesis for the price perception variable significantly affects customer satisfaction. H2 is a hypothesis for the COVID-19 prevention service variable has a significant effect on customer satisfaction. H3 is the hypothesis for the COVID-19 prevention service significantly affects price perception.

3. Methods

The type of research used in this study is qualitative research. The qualitative research method is exploratory to discover new ideas and insights. A new variable in ride-hailing that will be incorporated into this study is COVID-19 prevention services. Primary data for this study were collected from an online questionnaire with the respondents who have used GrabBike ride-hailing service in Indonesia. The questionnaire was published approximately for 3 months via many online platforms and social media.

A convenience sampling technique is used in this study, therefore many responses can be collected within a short period. This method is used based on the availability of elements and the ease of obtaining them. With this method, additional inputs are not required for mainstream research. No criteria are required to be part of this sample hence elements in the samples can be simplified.

There are four sections in the questionnaire. In the first section, the respondent answered questions regarding their social background, such as age and gender. These questions are the basis for demographic respondent analysis. The second section asked about respondents' price perception in four specific indicators and one global question. The next section contains three indicators and one global question about COVID-19 prevention services. Lastly, there are two net promoter score questions about customer satisfaction in ride-hailing services. The second and third sections used a five-point Likert scale e.g. Strongly agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly disagree (1). However, the net promoter score in the last section used a ten-point scale where respondents were grouped into three levels. They can be promoters if they choose scores 9 to 10, passives for scores 7 to 8, and detractors if they choose scores 0 to 6.

The collected data were analyzed using PLS-SEM which is often used to develop theories in exploratory research. The formative model in this study is exploring the phenomena that occur and adds to existing theories about customer satisfaction with ride-hailing services. SEM applications that are mostly used include path analysis, confirmatory factor analysis, second-order factor analysis, regression models, covariance structure models, and correlation structure models.

Data analysis was performed using three tools in SMART PLS, namely the PLS algorithm, bootstrapping, and blindfolding. Using the PLS algorithm, path coefficient values, outer loading, direct and indirect effects, R^2 values, F^2 values, construct reliability and validity, discriminant validity, and collinearity will be analyzed. The outer weight from bootstrapping is necessary to assess each indicator's relative importance in formative measurement models. The Q^2 value will evaluate the level of relevance using blindfolding. Q^2 shows how good the resulting observation value is.

4. Data Collection

The number of respondents to this questionnaire has fulfilled the ten times rule. The minimum sample collected according to the ten times rule is ten times the largest number of formative indicators used to measure one construct, which is 40 or 10 times the largest number of structural paths directed at a particular construct in the structural model, which is 20. So, the number of respondents in this study concluded that it met these requirements (Hair et al. 2017).

Table 1 shows the demographic information of the respondents in terms of gender and birth year generation. From the total of 79 respondents gained, females are the most common gender among respondents with a representation of 89.9%, while males represent only 10.1% of the total respondents. The results of data collection also show that the

majority are generation Z (those born between 1995-2010) with a representation of 97.5%, while millennials only represent 2.5% of the total respondents.

Table 1. Respondents' demographic information

Respondents' Profiles	Number	Percent (%)
Gender		
Male	8	10.1%
Female	71	89.9%
Birth Year Generation		
Baby Boomers (1946-1964)	0	0%
X Generation (1965-1980)	0	0%
Millennial Generation (1981-1994)	2	2.5%
Z Generation (1995-2010)	77	97.5%
Alpha Generation (2011-2025)	0	0%

5. Results and Discussion

5.1 Formative Measurement Model Evaluation

This study used a formative measurement model in all of the variables, which are price perception, COVID-19 prevention service, and customer satisfaction. These variables are analyzed according to the type of question that is being asked to the respondent. The evaluation includes convergent validity, collinearity, significance also its relevance. A detailed summary of the measurement model evaluation can be seen in Table 2 below.

Table 2. Detailed summary of measurement model evaluation

Latent Variable	Dimension Attributes	Code	Convergent Validity	VIF Value	Outer Weight	Outer Loading
Price Perception	Appropriate tariff with its service	H1	0.769	1.673	0.128	0.000
	Discount offers	H2		1.327	0.374	0.005
	Competitive price	H3		1.398	0.111	0.000
	Rate per distance	H4		1.898	0.529	0.000
COVID-19 Prevention Service	Vaccinated drivers	C1	0.701	1.389	0.026	0.000
	Health protocols in service	C2		1.629	0.974	0.004
	Responsive/adaptive regulation	C3		1.266	0.003	0.000
Customer Satisfaction	Giving high rating	N1	0.829	1.294	0.006	0.000
	Recommending to others	N2		1.294	0.156	0.001

For convergent validity, this study conducted redundancy analysis to measure indicators correlative positively with reflective measures of the same construct using different indicators. In this analysis, a new path model was made with two constructs. First, the formative construct model is an exogenous latent variable with all the specific indicators. Second, the single-item construct is endogenous with a global satisfaction question to validate the formative measurement. The COVID-19 prevention service variable yields a path coefficient of 0.701, which is above the recommended threshold of 0.70, thus providing support for the formative construct's convergent validity. The redundancy analyses of price perception yield estimates of 0.769, respectively. For customer satisfaction, the redundancy analysis yields a path coefficient of 0.829. Thus, all formatively measured constructs exhibit convergent validity.

High correlations are not expected between items in formative measurement models. A related measure of collinearity is the variance inflation factor (VIF), defined as the reciprocal of the tolerance. In the context of PLS-SEM, a tolerance value of 0.20 or lower and a VIF value of 5 or higher indicate a potential collinearity problem (Hair et al. 2017). According to the results, H4 has the highest VIF value (1.898). Hence, VIF values are uniformly below the threshold

value of 5. Therefore, collinearity does not reach critical levels in any of the formative constructs and is not an issue for the PLS path model estimation.

Lastly, the p values in the formative measurement models must be lower than 0.05 to establish significant outer weights at a significance level of 5%. The only formative indicators that are significant at a 5% level are C1, C3, and N1. The results report of the SmartPLS 3 software also provides their outer loadings, t values, and p values in the results table for the outer loadings. Using this information, the p values of all indicator loadings are clearly below 0.01, suggesting that all loadings are significant at a 1% level. Thus, all the indicators in the formative constructs are retained, even though their outer weights are not significant because they have an absolute contribution to its construct.

5.2 Structural Model Evaluation

At this stage, we will evaluate the structure of the model that has been made by looking at the effect of exogenous variables on endogenous variables. In model structure measurement there is no deletion of variables because this measurement only looks at the relationship between variables. The measurement of the model structure uses the calculation of the coefficient of determination (R^2), path coefficient, Q^2 predictive relevance, mediating analysis, and model fit.

The value of R^2 shows how accurately the exogenous latent variables predict the endogenous variables. In other words, the coefficients represent the amount of variance in an endogenous construct explained by all the exogenous constructs related to it. An R^2 value below 0.2 is considered weak in academic research (Leguina 2015). According to a study conducted by Chin (2010), a value of around 0.670 is significant, a value of around 0.333 is normal, and a value of 0.190 or less is weak. The R^2 value for the customer satisfaction variable shows a normal value based on the price perception variable and the COVID-19 prevention service. Meanwhile, the value of R^2 price perception shows a weak level. Table 3 shows the value of the coefficient of determination of this study.

Table 3. Coefficient of determination (R^2)

Variable	R^2	R^2 Adjusted
Price Perception	0.177	0.166
Customer Satisfaction	0.35	0.332

The effect size (F^2) was used in the analysis to assess whether the omitted construct had a large impact on the endogenous construct; effect sizes can be calculated by comparing R^2 to the proportion of the variance of the remaining unexplained endogenous latent variable. Thresholds show that 0.02-0.14, 0.15-0.34, and higher than 0.35 are defined by Cohen (2013) as having minimal, moderate, and high effects, respectively. Table 4 gives the meaning (F^2) for each variable direction.

Table 4. Effect size (F^2)

F^2	Price Perception	Customer Satisfaction
COVID-19 Prevention Service	0.22	0.20
Price Perception		0.19

Changes in the value of the endogenous determination coefficient R^2 of customer satisfaction are moderately influenced by the exogenous variables COVID-19 prevention service and price perception. Variable COVID-19 prevention service has a moderate impact on price perception. Thus, removing the COVID-19 prevention service control variable will have a major influence on both variables and model fit in the study. Furthermore, Table 5 shows the hypothesis testing (direct effect), which is the theoretical basis for studying the relationship between COVID-19 prevention services, price perception, and customer satisfaction

Table 5. Path coefficient assessment

Direct Relationship	Original Sample	T-Value	P-Value	Status
H1:Price perception – Customer Satisfaction	0.305	2.065	0.039	Accepted
H2:COVID-19 Prevention Service – Customer satisfaction	0.394	2.951	0.003	Accepted
H3:COVID-19 Prevention Service – Price Perception	0.421	3.611	0.000	Accepted

Based on the calculations, all hypotheses are accepted. This means that the exogenous variables in the study significantly influence each other's endogenous variables. Based on the conceptual model in this study, there is a process perception variable as a mediator between the various COVID-19 prevention service and customer satisfaction variables. Mediation occurs when a third mediating variable intervenes between two other related constructs. With the presence of mediator variables, there is an opportunity to change the construct of exogenous variables to endogenous variables. Therefore, further tests are needed to determine the direct effect of exogenous variables on endogenous variables (X Y) and the indirect effects of exogenous variables on mediator variables and then endogenous variables (X M Y). The direct effect is the relationship connecting the two constructs with one arrow. Indirect effects are relationships that involve a sequence of relationships with at least one intervention construct involved (Hair et al. 2017). Table 6 shows the indirect effect of this study. The results show that there is no mediating role in this study.

Table 6. Indirect effect

Indirect Relationship	Original Sample	T-Value	P-Value	Status
COVID-19 Prevention Service – Price perception – Customer Satisfaction	0.128	1.431	0.153	Rejected

The next analysis to be carried out is to look at the value of predictive relevance (Q^2). The value of predictive relevance shows the ability of exogenous variables to predict the value of endogenous variables (Hair et al. 2017), and the results from Table 7 show that each variable has predictive relevance.

Table 7. Predictive relevance assessment

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
Customer Satisfaction	158.000	125.314	0.207
Price Perception	316.000	291.031	0.079

The final analysis in the structural model section is the fit model. In this study, the two main indicators used to show the suitability of the model for the results of data retrieval are the SRMR and NFI values. According to Hair et al. (2017), the acceptable SRMR value for the fit model is 0.08 and the NFI value should be 0.9. The SRMR value in this study was 0.059. while the NFI value is 0.9. so that it can be said that the designed model has shown compatibility with the results of the data collection carried out. The final model in this study is shown in the Figure 2 below.

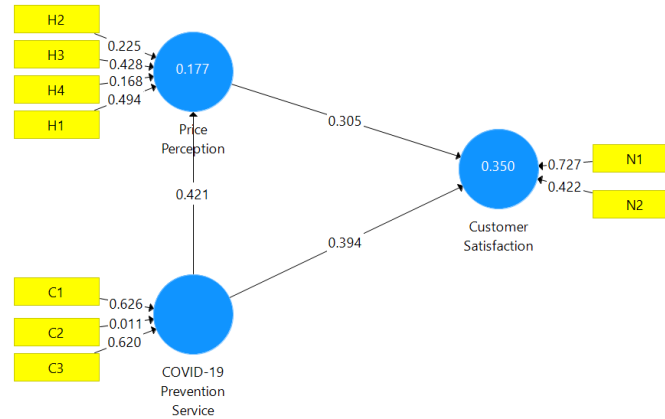


Figure 2. Structural model

5.3 Proposed Improvements

The findings of this study clearly show that COVID-19 prevention services affect price perception in ride-hailing customers. The more customer feels safe with ride-hailing COVID-19 prevention service, the customer will positively see the price, as long as they receive good prevention service. They grow more acceptance level to a certain higher price if they receive a safer way to commute. In addition, each variable also directly influences customer satisfaction significantly. Therefore, these two variables can not be ignored and must be improved to maintain customer satisfaction. Price perception is still a significant aspect of customer satisfaction even after the pandemic. This fits with the fact that many people develop a sensitive perception of the price aspect and the economic struggle in Indonesia. The pandemic's emergence makes most customers take a closer look at prices because many people have layoffs of income after the COVID-19 pandemic. Kemnaker (Kementerian Ketenagakerjaan) RI stated that in 2020, there are already 3.06 million people who lost their job (CNN Indonesia 2020). Therefore, Indonesia's income per capita declined by US\$180 (Badan Kebijakan Fiskal 2021), and the GDP of Indonesia declined by 60 trillion USD in 2020 due to the pandemic (World Bank 2021). COVID-19 prevention service also significantly affects customer satisfaction because COVID-19 awareness is lively in the new normal era.

Everyone commits to preventing another pandemic wave so quick responsiveness in ride-hailing becomes a massive positive value in customers' view. This goes along with the fact that C3 become the most significant indicator in the COVID-19 prevention service variable. This can be another vital lesson for the ride-hailing company to always quickly adapt to the environment in particular regulations that affect lifestyles in commuting. Ride-hailing companies must plan for any unexpected conditions that affect their customer. It is also crucial to ensure all their partners follow the new regulation. From the C1 and C2 indicators, all the aspects strongly depend on the partner's cooperation to follow new rules, like having two doses of vaccines and always wearing masks when in service. Thus, every ride-hailing company's strategy will lead to increased customer satisfaction. More customers will be expected to give a high rating of the ride-hailing service and recommend it to other potential customers, such as their friends, family members, or colleagues. This will make a good promotion with word to mouth (WOM) method (Irawan and Sibarani 2020), (Boimau and Bessie 2021).

Based on the results of data processing and analysis of the relationship between indicators and customer satisfaction, several possible strategies can be developed by the ride-hailing company. The first strategy is developing exclusive features for female customers. This strategy focused on women because the demographic distribution of the questionnaire results shows that ride-hailing customers are dominated by women. Women represent a large portion of the existing ride-hailing user base globally and the 66% majority in Indonesia (International Finance Corporation 2018). This condition goes along with the fact that women are more likely than men to use ride-hailing to fulfill their complex transportation needs driven by household management responsibilities, such as going shopping, traveling to health services, and visiting relatives. Women's ride-hailing usage is also more frequent and has more types of trips compared with men. Ride-hailing also fills a transportation gap, such as going out at night (International Finance Corporation 2018). To sustain the majority of ride-hailing customer satisfaction, the company must acknowledge and familiarize their female customer's needs. The strategies that might be developed in the future are providing further security guarantees for women. Improving security guarantees for female customers is necessary considering there are many sexual harassment cases lately in public transportation. In 2021, there are 8.730 sexual harassment cases in

Indonesia, and what is worse is that in January 2022, there are already 797 cases (Amalia 2022). The guarantee of security for the female customer can be one of the ride-hailing company's added values. Ride-hailing can improve the data trail from the app for every ride, giving transparent information about their driver in advance, better educating both drivers and riders regarding the security features in the app, as well as engage more with users and new technology to prevent any security incidents (International Finance Corporation 2018). In addition, ride-hailing can give a more flexible extra option to women riders to choose women drivers in advance to create more sense of safety. Of course, with this guarantee, women will trust the services provided by the company more and feel safer using the services company. Eventually, this strategy can promote satisfaction and create a sense of loyalty, not only to the women's customers but also to their family members. Another approach is providing rewards for female customers on special days for women, such as mother's day, Kartini's day (emancipation day), and so forth.

The second strategy is improving health protocols in the new normal era. This is considering COVID-19 prevention service is a significant variable influencing customer satisfaction positively. Based on this, the service provided by the ride-hailing company has met customer satisfaction. This may be happening due to the arising concern and awareness of the COVID-19 pandemic lately. Health awareness becomes the most important aspect from the customer's point of view, especially when they want to go outside. The preceding study demonstrates that the residents who were seriously affected by the pandemic had greater expectations for the pandemic prevention policies and services (Chen et al. 2021). This means prevention services must meet the expectation of customers so that customer satisfaction also increased. The provided services must be suitable to their changing lifestyle in the new normal era (Lestari 2020). This strategy does not have to be in a pandemic situation. All kinds of changing mass conditions, especially in commuting activities should be paid attention to by the ride-hailing company. The complex part of this strategy is controlling and reinforcing the implementation in the field. Therefore, the ride-hailing company must educate and give intensive knowledge about the transmission of COVID-19 and how easy it is to be exposed. This knowledge will create a strong belief in drivers and justified action (Sultan 2021).

The third strategy is a strategy that focuses its operations on providing the most beneficial price aspects for its customers (cost-centric) which strengthens market position with operational excellence. Ride-hailing can practice operational excellence so that the costs applied are minimum costs and services can be provided at relatively low prices. This can be applied according to the questionnaire statements as well (such as discounts and fare compatibility). Offering proper and affordable prices is an effective strategy since before the pandemic. The tariff must be suitable with its technology, service, benefit expected and obtained, and how cheap it is compared to other competing companies (Boimau and Bessie 2021). The more reasonable price is perceived by the customer, customer satisfaction will increase as well (Witama and Keni 2019). The same policy can be applied in the new normal era because the indicator shows a significant influence in this same category, such as setting the appropriate price according to its customer, the rate must be appropriate with its distance, and offering a more appealing price than other ride-hailing services (Adnyana and Suprapti 2018).

Another aspect that focused on this study is giving various discount offers. Promo codes also can be a promoting tool in crowded places (such as the mall, parks, and supermarkets), commuting transit places (terminals, stations, and bus stops), or on social media. It will be another positive value-adding if the promo codes can be flexibly used (Sandika 2018). Another cost-centric strategy is providing price discounts during the first month of using the app (Wang et al. 2020), end of the month, or at certain moments, such as payday, religious holiday, customer's birthday, or national holiday. Therefore, discount offers seem unique and not-so-ordinary (Irawan and Sibarani 2020). These "free services" as a kind of reward will make the customer feel appreciated, so the customer will continue to use ride-hailing service. Another reward that can be applied is a redeemable voucher that can be easily claimed (Santosa and Mashyuni 2021).

5.4 Limitation and Recommendation

However, this study has a limitation on the number of respondents which is less than a hundred. But, it does not make it less convincing since it is already concluded as valid according to past studies (Hair et al. 2017). Another limitation is the known antecedent variable used is only price perception. For further research, it is recommended to add other perceived value variables or dimensions, such as perceived quality or technology/information system aspect. It is also encouraged to use more respondents for a more accurate sample with another sampling method. Another interesting point is getting more insight into generation Z as a substantial customer in the ride-hailing company. All of these recommendations can improve ride-hailing's customer satisfaction in the future and develop a new perspective to understanding their customer better.

6. Conclusion

This study explored the relationship between ride-hailing customer satisfaction and its antecedents in the form perception and COVID-19 prevention services by the Partial Least Square (PLS) and Structural Equation Modelling (SEM) in the SMRT PLS application. PLS was used because the method found out the influence between variables whereas SEM can simultaneously evaluate the dependent relationship between measured variables (price perception, COVID-19 prevention service, and customer satisfaction) and latent constructs as well as the relationship between latent variables. This study would like to fill the research gap in ride-hailing customer satisfaction studies in a developing country such as Indonesia in the new normal era.

The result shows that COVID-19 prevention services affected price perception in ride-hailing customers significantly. Moreover, price perception and COVID-19 prevention service directly influence customer satisfaction significantly. Customers are satisfied with ride-hailing because of their good COVID-19 prevention services. Even after the pandemic, price perception is still a significant aspect of customer satisfaction. However, the COVID-19 prevention service does not have a significant indirect effect on customer satisfaction through price perception as a mediator variable. Thus, price perception can't be a mediator for those two variables.

The result of the F^2 value for the COVID-19 Prevention Service variable is 0.22, this value is included in the moderate category, so eliminating this variable will affect the other two variables and the model fit. The R^2 value for the price perception variable is 0.177 (weak level), while for the customer satisfaction variable it is 0.35 (normal level). The predictive relevance assessment (Q^2) shows a value of 0.207 for the variable customer satisfaction and 0.079 for price perception, so it can be said that each variable has predictive relevance. Measurement of the fit model in this study shows quite good numbers with an SRMR value is 0.059 and an NFI value is 0.9. Thus, it can be said that this model is fit for the results of data collection.

From the results, companies can apply several strategies to increase customer satisfaction. The first strategy is to develop exclusive features for female customers which can be done by increasing the security guarantee. The second strategy is to improve health protocols in the new normal era, so that prevention services can meet the expectations of customers. The final strategy is to strengthen market position with operational excellence, so the costs applied are minimum costs and services can be provided at relatively low prices.

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