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The Influence of Price, Driving Safety, and Service Quality on GoRide Customer Satisfaction Using the SEM-PLS Method in Tegal Regency

John Kenedy[1]✉, Ade Nurul Hidayat[1], Adi Rusdi Widya[1]

[(1)]Program Studi Teknik Industri, Fakultas Teknik, Universitas Pelita Bangsa

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✉ Corresponding author:
[johnkhen49@gmail.com]

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Abstract

This study analyzes the effect of price, riding safety, and service quality on GoRide customer satisfaction in Tegal Regency using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method. Data were collected from 100 GoRide users through a 5-point Likert-scale questionnaire. SmartPLS 4.1.0.9 was used to assess the validity and reliability of the research instrument, and to evaluate both the measurement (outer) and structural (inner) models. The results show that all outer loading values exceed 0.7 and Average Variance Extracted (AVE) values are above 0.5, indicating good validity and reliability. The inner model analysis confirms that price, riding safety, and service quality significantly affect customer satisfaction, with riding safety having the strongest impact. These findings suggest that service providers should focus on improving safety standards, enhancing service quality, and ensuring price transparency to boost customer satisfaction.

1. INTRODUCTION

Amid rapid technological advancements, ease of access to various necessities, including transportation, has become a priority. In Indonesia, the transportation system is divided into conventional and online modes. Conventional transportation is often less integrated, leading to issues such as traffic congestion and long waiting times. In contrast, online transportation provides a more practical and efficient solution, prompting many people to switch to app-based services(Sari & Hayah, 2018).

GoRide, as part of Gojek, is one of the most popular online transportation services. The ease of booking, price transparency, and convenience it offers have led people to increasingly rely on technology for their daily mobility. The presence of this service reflects a shift in user preferences toward more flexible and modern transportation options. Research indicates that Gojek's service quality—including response speed, punctuality, driver attitude, as well as safety and comfort during the journey—has a significant positive impact on customer satisfaction(Naya et al., 2024).

Although GoRide is well received in Tegal Regency, several challenges remain, particularly concerning customer satisfaction. Factors such as price, driving safety, and service quality play a crucial role in influencing user

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satisfaction. For instance, fluctuating prices during peak hours are a common complaint, while safety concerns remain a major issue due to the high number of accidents. Data from the Central Statistics Agency (BPS) of Tegal Regency recorded 513 accidents in 2023, resulting in 177 fatalities and 742 minor injuries(Badan Pusat Statistik Kabupaten Tegal, 2024).

The service quality of drivers also plays a crucial role in customer satisfaction. However, no specific study has yet analyzed the relationship between price, driving safety, and service quality in relation to GoRide customer satisfaction in Tegal Regency. Previous studies have shown that service quality has a positive impact on customer satisfaction (Lania Muharsih, 2021) and is influenced by factors such as price and brand image (Hulud et al., 2022).

Based on this background, this study aims to analyze the influence of price, driving safety, and service quality on GoRide customer satisfaction using the Structural Equation Modeling (SEM) method in Tegal Regency. It is expected that driving safety will have a more significant impact compared to other factors, considering the importance of safety in transportation services.

2. METHODS

This study employs a quantitative method with a Structural Equation Modeling-Partial Least Squares (SEM-PLS) approach. SEM-PLS was chosen due to its advantages in analyzing data with a relatively small sample size and its ability to operate without assuming a normal distribution (Hair et al., 2021). The research was conducted in Tegal Regency, targeting individuals who have used online motorcycle taxi services. A total of 100 respondents aged 15–50 years were selected to ensure that the collected data reflects the perspectives of an age group actively using these services. Data collection was carried out through questionnaires distributed both online via Google Forms and offline to reach a broader range of respondents.

3. RESULT AND DISCUSSION

This study collected data from 100 GoRide users in Tegal Regency through an online questionnaire using a 5-point Likert scale to assess their experiences and satisfaction. The collected data was then analyzed using SmartPLS version 4.1.0.9, which enables testing the relationships between variables through the PLS-SEM method. The analysis included validity and reliability tests of the research instrument, as well as an evaluation of the measurement model (outer model) and structural model (inner model) to assess the impact of price, driving safety, and service quality on customer satisfaction.

3.1 Outer Model Analysis

The outer model analysis specifies the relationships between latent variables and their indicators or, in other words, defines how each indicator is associated with its respective latent variable. The following tests are conducted to evaluate the outer model:

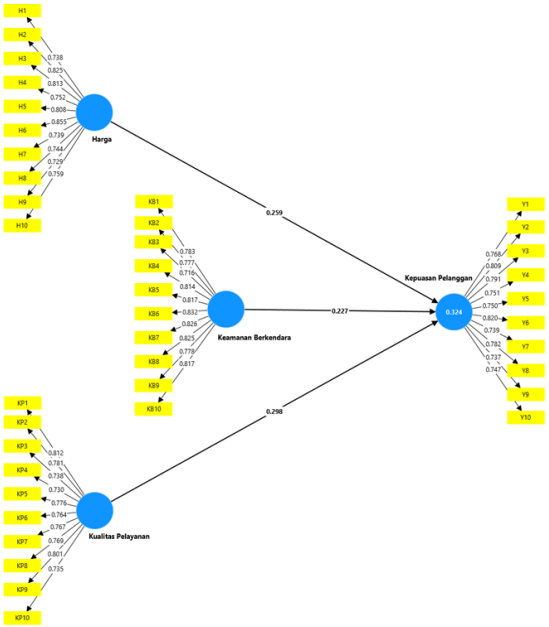

Figure 1. Outer Model Analysis

Figure 1 presents the results of the outer model analysis, illustrating the research structure used in this study. This visualization includes loading factor values, which indicate the contribution of each indicator to its corresponding latent variable. These values serve as the basis for assessing the validity and reliability tests of the indicators in measuring the research constructs. A more detailed discussion of this analysis will be provided in the following sections to offer a deeper understanding of the model used and its implications for this study.

3.1.1 Validity Test

The validity test is conducted to determine the extent to which an indicator of a construct measures what it is supposed to measure. The validity test can be assessed through the results of convergent validity and discriminant validity. Convergent validity results can be observed from the loading factor and average variance extracted (AVE) values, while discriminant validity results can be seen from the cross-loading values.

1. Convergent Validity

To evaluate convergent validity, the outer loading of each indicator and the Average Variance Extracted (AVE) can be used (Hair et al., 2021).

Tabel 1. Convergent Validity Values

Variabble	Items	Loading	AVE
Price	H1	0.738	0.604
	H2	0.825	
	H3	0.813	
	H4	0.752	
	H5	0.808	
	H6	0.855	
	H7	0.739	
	H8	0.744	
	H9	0.729	
	H10	0.759	
Driving Safety	KB1	0.783	0.639
	KB2	0.777	
	KB3	0.716	
	KB4	0.814	
	KB5	0.817	
	KB6	0.832	
	KB7	0.826	
	KB8	0.825	
	KB9	0.778	
	KB10	0.817	
Service Quality	KP1	0.812	0.590
	KP2	0.781	
	KP3	0.738	
	KP4	0.730	
	KP5	0.776	
	KP6	0.764	
	KP7	0.767	
	KP8	0.769	
	KP9	0.801	
	KP10	0.735	
Customer Satisfaction	Y1	0.768	0.593
	Y2	0.809	
	Y3	0.791	
	Y4	0.751	
	Y5	0.750	
	Y6	0.820	
	Y7	0.739	
	Y8	0.782	

	Y9	0.737
	Y10	0.747

Based on Table 1, it can be observed that the outer loading values for all variable items exceed 0.7, with the highest value being 0.855 for H6 and the lowest outer loading value being 0.716 for KB3. Regarding the AVE values, all variables have values greater than 0.5. The highest AVE value is 0.639 for the Driving Safety variable, while the lowest AVE value is 0.590 for the Service Quality variable. Therefore, the model is considered valid in terms of convergent validity.

2. Discriminant Validity

Discriminant validity indicates the extent to which a latent variable or construct is truly distinct from other constructs, as demonstrated by empirical research findings. To assess discriminant validity, three approaches are used: cross-loadings, Fornell-Larcker criterion, and Heterotrait-Monotrait Ratio (HTMT).

Tabel 2. Cross Loadings Values

Indikacor	Price	Driving Safety	Service Quality	Customer Satisfaction
H1	**0.738**	0.206	0.197	0.369
H2	**0.825**	0.288	0.179	0.348
H3	**0.813**	0.244	0.189	0.346
H4	**0.752**	0.223	0.231	0.315
H5	**0.808**	0.315	0.285	0.432
H6	**0.855**	0.168	0.291	0.366
H7	**0.739**	0.279	0.228	0.225
H8	**0.744**	0.278	0.247	0.256
H9	**0.729**	0.203	0.236	0.237
H10	**0.759**	0.252	0.184	0.223
KB1	0.410	**0.783**	0.176	0.323
KB2	0.465	**0.777**	0.297	0.335
KB3	0.501	**0.716**	0.281	0.263
KB4	0.186	**0.814**	0.188	0.237
KB5	0.129	**0.817**	0.237	0.293
KB6	0.180	**0.832**	0.102	0.378
KB7	0.243	**0.826**	0.218	0.331
KB8	0.146	**0.825**	0.198	0.270
KB9	0.112	**0.778**	0.199	0.322
KB10	0.120	**0.817**	0.129	0.257
KP1	0.324	0.263	**0.812**	0.403
KP2	0.238	0.161	**0.781**	0.369
KP3	0.230	0.254	**0.738**	0.332
KP4	0.033	0.120	**0.730**	0.234
KP5	0.267	0.343	**0.776**	0.382
KP6	0.183	0.116	**0.764**	0.216
KP7	0.284	0.077	**0.767**	0.298
KP8	0.190	0.174	**0.769**	0.349
KP9	0.254	0.148	**0.801**	0.319
KP10	0.159	0.188	**0.735**	0.314
Y1	0.253	0.104	0.281	**0.768**
Y2	0.341	0.240	0.365	**0.809**
Y3	0.455	0.238	0.392	**0.791**
Y4	0.319	0.168	0.353	**0.751**
Y5	0.348	0.234	0.441	**0.750**
Y6	0.307	0.260	0.400	**0.820**
Y7	0.348	0.444	0.297	**0.739**
Y8	0.240	0.432	0.180	**0.782**
Y9	0.191	0.366	0.209	**0.737**
Y10	0.326	0.420	0.320	**0.747**

Based on Table 2, it can be observed that the correlation between each indicator and its respective construct is higher than the correlation of the indicator with other constructs. Additionally, the indicators of each latent variable perform better than those of other variables. Therefore, the model is considered valid in terms of discriminant validity.

Tabel 3. Fornell-Lacker Criterion Values

Variable	Price	Driving Safety	Service Quality	Customer Satisfaction
Price	0.777			
Driving Safety	0.315	0.799		
Service Quality	0.293	0.5252	0.768	
Customer Satisfaction	0.418	0.384	0.431	0.770

Based on Table 3, it can be seen that the square root of the AVE for each construct or variable is greater than 0.50 and is also higher than the correlations between other latent variables. The square root of AVE values are as follows: Price (0.777), Driving Safety (0.799), Service Quality (0.768), and Customer Satisfaction (0.770). Since these values are higher than the correlations with other constructs in the same column, all constructs in the estimated model meet the criteria for discriminant validity.

Table 4. Heterotraitt-Monotrait Ratio (HTMT) Values

Variable	Price	Driving Safety	Service Quality	Customer Satisfaction
Price				
Driving Safety	0.335			
Service Quality	0.304	0.263		
Customer Satisfaction	0.419	0.398	0.443	

Based on Table 4, it can be seen that the Heterotrait-Monotrait Ratio (HTMT) values are less than 0.85, indicating that all constructs in the estimated model meet the Heterotrait-Monotrait Ratio (HTMT) criteria.

The results of the discriminant validity analysis indicate that this research model meets the discriminant validity criteria based on cross-loadings, the Fornell-Larcker Criterion, and the Heterotrait-Monotrait Ratio (HTMT).

Each indicator has a higher correlation with its respective construct than with other constructs, the square root of AVE is greater than the correlation between latent variables, and the HTMT values are below the 0.85 threshold. Thus, the model is discriminantly valid and can be used for further analysis.

3.1.2 Reliability Test

The criteria for research results to be considered reliable is when the composite reliability and Cronbach's alpha values are ≥ 0.70 (Hair et al., 2021).

Table 5. Composite Reliability & Cronbach's Alpha

Variable	Composite Realibility	Cronbach's Alpha
Price	0.940	0.928
Driving Safety	0.942	0.937
Service Quality	0.929	0.923
Customer Satisfaction	0.928	0.924

In Table 5, it can be observed that the composite reliability and Cronbach's alpha values for each variable are ≥ 0.8, indicating strong reliability. Specifically, the Price variable has a composite reliability of 0.940 and a Cronbach's alpha of 0.928, while Riding Safety has values of 0.942 and 0.937, respectively. The Service Quality variable shows 0.929 for composite reliability and 0.923 for Cronbach's alpha, whereas Customer Satisfaction records 0.928 and 0.924. Based on these results, it can be concluded that all variables exhibit good reliability, making them suitable for further analysis.

3.1.3 Multicollinearity Test

The multicollinearity test is divided into two parts: Outer VIF and Inner VIF (Hair et al., 2019). The results obtained from the multicollinearity test are as follows:

Table 6. Outer VIF

Price		Driving Safety		Service Quality		Customer Satisfaction	
Indicator	VIF	Indicator	VIF	Indicator	VIF	Indicator	VIF
H1	2.207	KB1	3.303	KP1	3.140	Y1	2.363
H2	2.780	KB2	3.362	KP2	2.890	Y2	2.481
H3	2.846	KB3	3.037	KP3	2.195	Y3	2.418
H4	2.177	KB4	2.794	KP4	2.475	Y4	2.879
H5	2.896	KB5	3.193	KP5	2.226	Y5	2.142
H6	3.323	KB6	2.931	KP6	2.621	Y6	3.435
H7	4.813	KB7	3.195	KP7	3.949	Y7	2.362
H8	4.292	KB8	3.713	KP8	4.072	Y8	2.826
H9	4.249	KB9	2.386	KP9	3.614	Y9	2.836
H10	3.614	KB10	3.008	KP10	3.630	Y10	2.255

Based on the results presented in Table 6, the VIF values < 5, indicating that there is no multicollinearity issue among the indicators within each variable. Next, an inner VIF analysis is conducted to examine potential multicollinearity between dependent and independent variables. The results of the inner VIF analysis are as follows:

Table 7. Inner Vif

Variable	VIF
H → Y	1.173
KB → Y	1.143
KP → Y	1.129

Based on the results presented in Table 7, the VIF values < 5, indicating that there is no multicollinearity issue between the dependent and independent variables.

3.2 Inner Model Analysis

To assess correlation and determination in this study, the R-Squared Test (R^2), F-Square, Prediction Relevance Test (Q^2), and Standardized Root Mean Square Residual (SRMR) are examined (Hair et al., 2019). Additionally, in the structural model, the estimated path coefficients and their significance levels are obtained, which serve as the basis for decision-making in hypothesis testing.

3.2.1 The R-Square (R^2) test

Evaluates the predictive power of the model. R^2 value of 0.75, 0.50, and 0.25 can be categorized as having substantial, moderate, and weak predictive power, respectively (Hair et al., 2021).

Table 8. R-Square Values

Variable	R Squared	R Squared Adjusted
Customer Satisfaction	0.324	0.303

Based on Table 8, the R-Square value of 0.324 indicates that 32.4% of the variability in Customer Satisfaction is influenced by Price, Driving Safety, and Service Quality, while 67.6% is affected by other factors outside the model. After adjustment, the Adjusted R-Squared value slightly decreases to 0.303, which still suggests that the influence of independent variables falls within the weak category.

3.2.2 F Square

The f^2 (effect size) value is used to assess the relative impact of an independent variable on the dependent variable in the structural model (Hair et al., 2021). The interpretation of f^2 values is as follows: $f^2<0.02$ indicates no significant influence; $0.02 \leq f^2<0.15$ suggests a small effect; $0.15 \leq f^2<0.35$ indicates a moderate effect; and $f^2 \geq 0.35$ represents a large effect.

Table 9. F Square Values

Variabel	R Squared
Price	0.085
Driving Safety	0.067
Service Quality	0.116

Based on Table 9, the F Square values indicate that Price, Driving Safety, and Service Quality have varying degrees of influence on Customer Satisfaction. Price has a small effect with a value of 0.085, followed by Driving Safety at 0.067. Service Quality, although still categorized as a small effect with a value of 0.116, has a greater impact compared to the other two variables.

3.2.3 Predictive Relevance Test (Q-Square)

A model is considered to have good predictive validity if the Q-Square (Q^2)>0 (Hair et al., 2021). This value indicates that the developed model can explain variations in the data and has sufficient predictive relevance.

Table 10. Predictive Relevance Test (Q2)

Variable	Q-Squared
Customer Satisfaction	0.171

Based on Table 10, the Q-Square value is greater than 0, indicating that all models in this study have predictive relevance. Specifically, the Customer Satisfaction variable has a Q-Square value of 0.171, confirming that the model can explain a meaningful portion of the variance in the data.

3.2.4 Standardized Root Mean Square Residual (SRMR)

An SRMR value of ≤ 0.1 is considered to indicate model fit, while ≤ 0.08 is regarded as perfect fit (Hair et al., 2021). The SRMR results obtained in this study are as follows:

Table 11. Standardized Root Mean Square Residual (SRMR)

Model Fit and Quality	Hasil
Standardized Root Mean Square Residual (SRMR)	0.065

Based on Table 11, it can be seen that the indicator results are already fit, with an SRMR value of 0.065 ≤ 0.08. Thus, it can be concluded that the result is significant and meets the criteria for an ideal research model.

3.3 Hypothesis Testing

Hypothesis testing in this study was conducted to determine the extent to which the independent variables—Price (H), Riding Safety (KB), and Service Quality (KP)—influence the dependent variable, Customer Satisfaction (Y). Using the Structural Equation Modeling (SEM) method based on Partial Least Squares (PLS), this analysis evaluates the causal relationships between variables by examining the path coefficient, significance level (p-value), and T-statistic.

Table 12. Hypotheses Tests

Hipotesis	Structural Relation (Path)	Original Sample	Standard Error	T Statistic	P-Value	Results
H1	H → Y	0.259	0.100	2.419	0.016	Supported

H2	KB → Y	0.227	0.097	2.389	0.017	Supported
H3	KP → Y	0.298	0.040	2.616	0.009	Supported

Based on the results in Table 12, the following conclusions can be drawn:

The first hypothesis (H1) regarding the effect of Price on Customer Satisfaction shows a P-Value of 0.016, which is less than 0.05. This means that H1 is accepted, indicating that Price has a positive influence on Customer Satisfaction.

The second hypothesis (H2) concerning the effect of Riding Safety on Customer Satisfaction has a P-Value of 0.017, also less than 0.05. Thus, H2 is accepted, demonstrating that Riding Safety positively influences Customer Satisfaction.

The third hypothesis (H3) about the effect of Service Quality on Customer Satisfaction shows a P-Value of 0.009, which is below 0.05. This indicates that H3 is accepted, confirming that Service Quality positively affects Customer Satisfaction.

4. CONCLUSION

Based on the analysis using SEM with SmartPLS 4.0, this study examines the effect of service price, riding safety, and service quality on GoRide customer satisfaction in Tegal Regency.

Service Price has a positive effect on customer satisfaction, with a path coefficient of 0.259 and a p-value of 0.016 (significant at the 95% confidence level). However, the F Square value of 0.085 indicates that its impact is relatively small compared to other factors.

Riding Safety is also significant, with a path coefficient of 0.227 and a p-value of 0.017. While customers are more satisfied with a safe riding experience, the F Square value of 0.067 suggests that its impact is still limited compared to other factors.

Service Quality has the greatest influence on customer satisfaction, with a path coefficient of 0.298, a p-value of 0.009, and an F Square value of 0.116. Factors such as driver friendliness, app responsiveness, and travel comfort play a crucial role in determining customer satisfaction.

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