



Analysis of Service Quality and Product Quality on Customer Purchase Decisions in CV. Surya Indah Jaya Medan with Price as a Variable Intervention

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ABSTRACT

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This study aims to determine the effect of service quality and product quality on customer purchase decision in CV. Surya Indah Jaya Medan with price as a variable intervention. This type of research is explanatory research. The population in this study were all customers of CV. Surya Indah Jaya, totaling 7,311 customers. The technique of determining the sample is to use the 10% significant slovin technique so that as many as 99 samples are obtained. In the study which will be distributed with questionnaires measured by a Likert scale. The data analysis used multiple linear regression analysis and the coefficient of determination as well as simultaneous test and partial test. The results showed that service quality and product quality have a significant effect on customer purchase decision in CV. Surya Indah Jaya Medan with price as a variable intervention.

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1. Introduction

Developments in the current economy are growing rapidly, causing companies to be required to find and build a system that can professionally retain their customers. One of the things that a business considers is to keep its loyal customers because it is increasingly expensive to acquire new customers in a fierce competition. This requires entrepreneurs to be more sensitive and creative to changes that occur both overall. Conditions that can be met by entrepreneurs so that they can achieve a goal, namely by trying to achieve the goal of creating and retaining buyers.

CV. Surya Indah Jaya Medan is a company engaged in the shipping sector where in this case the company is considered to be experiencing a decline in sales of its services because customers are starting to rarely use its services. The number of companies engaged in similar fields makes customers have many alternatives to evaluate so that when customers want to use the services of one company, of course customers will look for the best company which can provide more advantages to these customers. Price is an exchange rate issued by buyers to get goods or services that have use value and their services. Prices are also the result of policies regarding product pricing, which may include price lists, discounts, payment periods, credit terms, or other policies. With the price, buying and selling transactions can occur to customers.

One of the effects of price that can reduce purchasing decisions is that the price offered by the company is considered higher than other companies so that the services offered are not too affordable for the purchasing power of the entire community. Some customers also often find other companies with similar service offerings but offer lower prices than the company's price. The high price is also considered not acceptable by customers because the quality of service is not good accompanied by inappropriate product quality where the service delivery from the company is considered not good because the employees are less friendly and less reliable to provide explanations regarding the clarity of arrival time. The service problems are also related to the provision of guarantees where other companies have guarantees of refunds to customers if the goods sent have problems



while in the delivery process, but CV. Surya Indah Jaya does not provide such services so that consumers are starting to be interested in the services of other companies.

In addition, in terms of the quality of the company's products, it is considered not good because many customer delivery goods are sometimes damaged or some are open, making customers lose trust. The condition of the ship also looks old and is considered unfit for use, making customers a little hesitant to use the ship for fear of sinking or being damaged in the middle of the voyage. Customers also often complain that their products sometimes take a long time to arrive at the intended address due to land vehicles such as pick-ups that are old and also often experience damage to their vehicles, thus hampering delivery from the company to the intended address.

2. Method

2.1 Location and Time

The research was conducted at CV. Surya Indah Jaya, whose address is at Jalan Sutomo No. 24 C, Medan. The research time is planned from October 2021 to January 2022.

2.2 Population and Sample

The population in this study were all customers of CV. Surya Indah Jaya, totaling 7,311 customers. The technique of determining the sample is to use the 10% significant slovin technique so that as many as 99 samples are obtained.

2.3 Data Collection Method

Collecting data through a questionnaire is done by asking questions to parties related to the problem. To assess respondents' responses, the author uses the Likert scale which uses several question items to measure individual behavior by responding to 5 choice points on each question item.

2.4 Validity and Reliability Test

The data obtained needs to be tested for its accuracy and reliability so that the results of data processing can be more precise and accurate. Therefore, it is necessary to know how high the validity and reliability of the measuring instrument (instrument) used.

Based on the research, each variable of the questionnaire item that was tested for validity, all the questionnaires had met the valid criteria and were eligible to be used as a questionnaire in further research. While in reliability test, all variable questionnaire item is reliable and can be used as research instrument.

3. Research and Analysis

3.1 Normality Test

The residual normality test is used to test whether the residual value resulting from the regression is normally distributed or not. A good regression model is to have residuals that are normally distributed. There is some method to do the normality test such as histogram graphic, normal probability plot of regression graphic and one sample Kolmogorov Smirnov statistic.

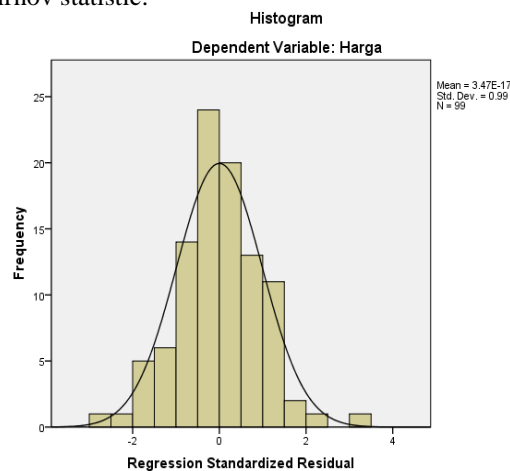


Fig 1 Histogram Graphic

Based on the picture above, it can be seen that the line forming a bell, not going left or right. This shows that the data is normally distributed and meets the assumptions of normality.

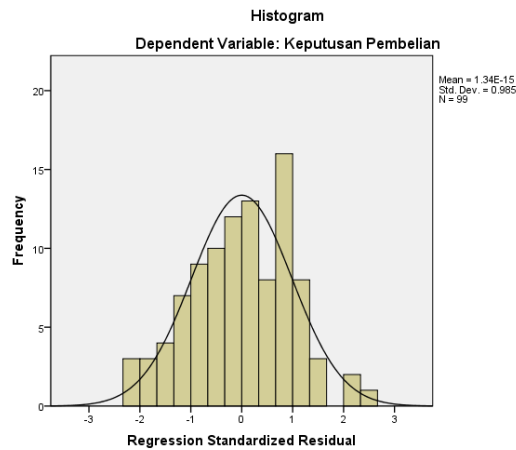


Fig 2 Histogram Graphic

Based on the picture above, it can be seen that the line forming a bell, not going left or right. This shows that the data is normally distributed and meets the assumptions of normality.

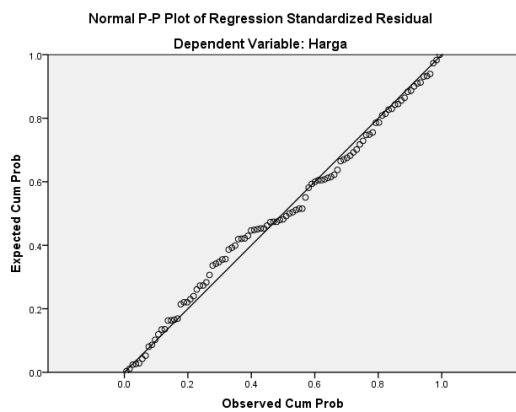


Fig 3 Normal Probability Plot of Regression Graphic

Based on the picture above, it shows that the data (dots) spreads around the diagonal line and follows the diagonal line. So from this figure it is concluded that the regression model residuals are normally distributed.

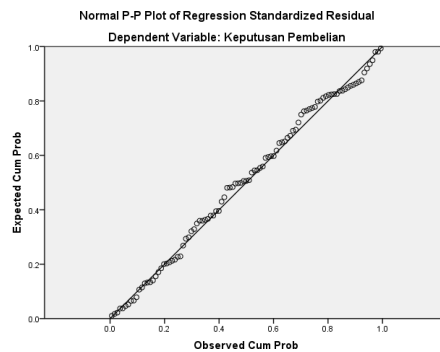


Fig 4 Normal Probability Plot of Regression Graphic

Based on the picture above, it shows that the data (dots) spreads around the diagonal line and follows the diagonal line. So from this figure it is concluded that the regression model residuals are normally distributed.

Table 1
One-Sample Kolmogorov Smirnov Test

		Unstandardized Residual
N		99
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	4.56003679
Most Extreme Differences	Absolute	.065
	Positive	.050
	Negative	-.065
Kolmogorov-Smirnov Z		.647
Asymp. Sig. (2-tailed)		.796

a. Test distribution is Normal.

b. Calculated from data.

Source: Research Result, 2021

Based on the table above, the results of the Kolmogorov-Smirnov normality test prove that the significant value is greater than 0.1, namely 0.796, it can be concluded that the data is classified as normally distributed.

Table 2
One-Sample Kolmogorov Smirnov Test

		Unstandardized Residual
N		99
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	3.15606745
Most Extreme Differences	Absolute	.059
	Positive	.050
	Negative	-.059
Kolmogorov-Smirnov Z		.584
Asymp. Sig. (2-tailed)		.885

a. Test distribution is Normal.

b. Calculated from data.

Source: Research Result, 2021

Based on the table above, the results of the Kolmogorov-Smirnov normality test prove that the significant value is greater than 0.1, namely 0.885, it can be concluded that the data is classified as normally distributed.

3.2 Multicollinearity Test

Multicollinearity is a condition in the regression model where there is a perfect or near perfect correlation between independent variables where a good regression model should not have a perfect or nearly perfect correlation between the independent variables. The commonly used test method is to look at the Tolerance and Variance Inflation Factor (VIF) values in the regression model where the VIF value is less than 10 and has a Tolerance value of more than 0.1.

Table 3
Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Service Quality	.737	1.357
Product Quality	.737	1.357

a. Dependent Variable: Price

Source: Research Result, 2021

Based on the table above show that all the variables have a tolerance value more than 0.1 and VIF value less than 10 which can be concluded that there is no problem found in multicollinearity test.

Table 4
Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Service Quality	.654	1.530

Model	Collinearity Statistics	
	Tolerance	VIF
Product Quality	.613	1.631
Price	.599	1.670

a. Dependent Variable: Purchase Decision

Source: Research Result, 2021

Based on the table above show that all the variables have a tolerance value more than 0.1 and VIF value less than 10 which can be concluded that there is no problem found in multicollinearity test.

3.3 Heteroscedasticity Test

Heteroscedasticity is a condition where in the regression model there is an inequality of variants from the residuals from one observation to another where a good regression model does not occur heteroscedasticity.

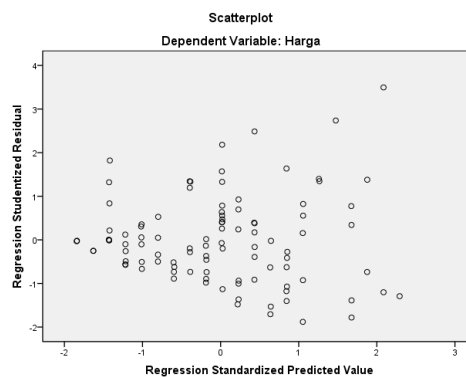


Fig 5 Scatterplot Graphic

Based on the scatterplot graph presented, it can be seen that the dots spread randomly and do not form a clear pattern and are spread either above or below zero on the Y axis. This means that there is no heteroscedasticity in the regression model, so the regression model can be used to predict performance based on the input of the independent variable.

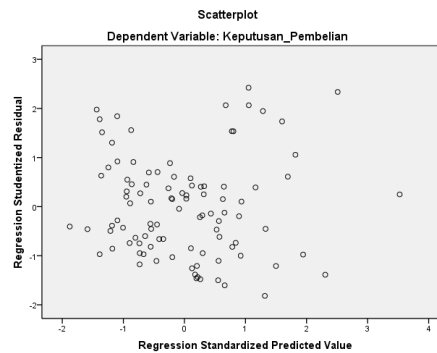


Fig 6 Scatterplot Graphic

Based on the scatterplot graph presented, it can be seen that the dots spread randomly and do not form a clear pattern and are spread either above or below zero on the Y axis. This means that there is no heteroscedasticity in the regression model, so the regression model can be used to predict performance based on the input of the independent variable.

3.4 Multiple Linear Regression Analysis

Multiple regression analysis is an analysis to determine whether there is a significant influence between two or more independent variables on one independent variable.



Table 5
Multiple Linear Regression Analysis Test
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.145	3.325		.344	.731		
	Service Quality	.407	.116	.322	3.496	.001	.737	1.357
	Product Quality	.493	.112	.405	4.403	.000	.737	1.357

a. Dependent Variable: Price
Source: Research Result, 2021

$$\text{Purchase Decision} = 1,145 + 0,407 \text{ Service Quality} + 0,493 \text{ Product Quality} + e$$

(1)

Based on the above equation, then: Constant (a) = 1.145. This means that if the independent variable, namely service quality and product quality is 0, then the price at CV. Surya Indah Jaya is 1.145. Where if there is an improvement in service quality, there will be an increase in price by 0.407. Likewise with product quality where if there is an improvement in the product quality, the price will increase by 0.493.

Table 6
Multiple Linear Regression Analysis Test
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	22.874	2.314		9.883	.000		
	Service Quality	.185	.086	.221	2.156	.034	.654	1.530
	Product Quality	.454	.085	.562	5.314	.000	.613	1.631
	Price	-.144	.071	-.217	-2.024	.046	.599	1.670

a. Dependent Variable: Purchase Decision
Source: Research Result, 2021

$$\text{Purchase Decision} = 22,874 + 0,185 \text{ Service Quality} + 0,454 \text{ Product Qualit} - 0,144 \text{ Price} + e$$

(2)

Based on the above equation, then: Constant (a) = 22.874. This means that if the independent variable, namely service quality, product quality and price is 0, then the purchase decision at CV. Surya Indah Jaya is 22.874. Where if there is an improvement in service quality, there will be an increase in purchase decision by 0,185. Likewise with product quality where if there is an improvement in the product quality, the purchase decision will increase by 0.454. Thus where if there is an improvement in the price, the purchase decision will decrease by 0.144.

3.5 Coefficient Determination

Analysis of determination or also called R Square symbolized by R² is used to determine the magnitude of the influence of the independent variable (X) together on the dependent variable (Y) where the smaller the coefficient of determination, this means the effect of the independent variable (X) on the dependent variable (Y) is getting weaker. Conversely, if the coefficient of determination is closer to number 1, then the effect of the independent variable on the dependent variable is getting stronger.

Thus, if coefficient determination is 0, this indicates that there is no percentage contribution of influence given by the independent variable to the dependent variable. However, if the coefficient of determination is 1, then there is a contribution that the independent variable gives to the dependent variable is perfect.

Table 7
Coefficient Determination Test
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.633 ^a	.401	.389	4.607

a. Predictors: (Constant), Product Quality, Service Quality

b. Dependent Variable: Price

Source: Research Result, 2021

Based on the table above, the value of the R Square coefficient of determination is 0.605. This shows that the variable ability of service quality and product quality explains the effect on price at CV. Surya Indah Jaya by 40,1%. While the remaining 59,9% is the influence of other independent variables not examined in this study such as promotion, trust, loyalty and others.

Table 8
Coefficient Determination Test
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.591 ^a	.349	.329	3.206

a. Predictors: (Constant), Price, Product Quality, Service Quality

b. Dependent Variable: Purchase Decision

Source: Research Result, 2021

Based on the table above, the value of the R Square coefficient of determination is 0.605. This shows that the variable ability of service quality, product quality and price explains the effect on purchase decision at CV. Surya Indah Jaya by 32,9%. While the remaining 67,1% is the influence of other independent variables not examined in this study such as promotion, trust, loyalty and others.

3.6 Simultaneous Hypothesis Test (F Test)

F test or regression coefficient test is used to determine whether simultaneously the independent variable has a significant effect on the dependent variable. In this case, to find out whether simultaneously the independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 10%. The criteria for evaluating the hypothesis in this F test are:

H_0 Accepted if: $F_{count} < F_{table}$,

H_a Accepted if: $F_{count} > F_{table}$

Table 9
ANOVA Test

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1364.922	2	682.461	32.150	.000 ^a
Residual	2037.806	96	21.227		
Total	3402.727	98			

a. Predictors: (Constant), Product Quality, Service Quality

b. Dependent Variable: Price

Source: Research Result, 2021

Based on the table above, it is found that the value of F_{table} (2.14) and significant $\alpha = 10\%$ (0.1), namely F_{count} (32.150) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously service quality and product quality have a significant effect on price.

Table 10
ANOVA Test

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	523.482	3	174.494	16.982	.000 ^a
Residual	976.155	95	10.275		
Total	1499.636	98			

a. Predictors: (Constant), Price, Product Quality, Service Quality

b. Dependent Variable: Purchase Decision

Source: Research Result, 2021

Based on the table above, it is found that the value of F_{table} (2.14) and significant $\alpha = 10\%$ (0.1), namely F_{count} (16.982) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously service quality, product quality and price have a significant effect on purchase decision.

3.7 Partially Hypothesis Test (t Test)

The t test or partial regression coefficient test is used to determine whether partially the independent variable has a significant effect on the dependent variable or not. In this case, to find out whether partially the



independent variable has a significant effect on the dependent variable or not. The test uses a significance level of 0.1 and a two-sided test. The criteria for evaluating the hypothesis in this t test are:

H_0 Accepted if: $t_{count} < t_{table}$

H_a Accepted if: $t_{count} > t_{table}$

Table 11
Coefficient Test

Model	t	Sig.
1 (Constant)	.344	.731
Service Quality	3.496	.001
Product Quality	4.403	.000

a. Dependent Variable: Price

Source: Research Result, 2021

Based on the table above, it can be concluded that service quality and product quality partially have a positive and significant effect on price which can be seen at the t_{count} is greater than t_{table} (1.660) and the significant is less than 0,1.

Table 12
Coefficient Test

Model	t	Sig.
1 (Constant)	9.883	.000
Service Quality	2.156	.034
Product Quality	5.314	.000
Price	-2.024	.046

a. Dependent Variable: Purchase Decision

Source: Research Result, 2021

Based on the table above, it can be concluded that service quality and product quality partially have a positive and significant effect on price which can be seen at the t_{count} is greater than t_{table} (1.660) and the significant is less than 0,1.

4. Conclusion

The conclusions that researchers can draw from the results of this study are as follows:

- The results of the partial test calculation obtained that service quality has a positive and significant influence on price can be seen from the t_{count} value $> t_{table}$ of 1.660 and a significant value < 0.1 .
- The results of the partial test calculation obtained that product quality has a positive and significant influence on price can be seen from the t_{count} value $> t_{table}$ of 1.660 and a significant value < 0.1 .
- The results of the partial test calculation obtained that service quality has a positive and significant influence on purchase decision can be seen from the t_{count} value $> t_{table}$ of 1.660 and a significant value < 0.1 .
- The results of the partial test calculation obtained that product quality has a positive and significant influence on purchase decision can be seen from the t_{count} value $> t_{table}$ of 1.660 and a significant value < 0.1 .
- The results of the partial test calculation obtained that price has a negative and significant influence on purchase decision can be seen from the t_{count} value $> t_{table}$ of 1.660 and a significant value < 0.1 .
- The value of F_{table} (2.14) and significant $\alpha = 10\%$ (0.1), namely F_{count} (32.150) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously service quality and product quality have a significant effect on price.
- The value of F_{table} (2.14) and significant $\alpha = 10\%$ (0.1), namely F_{count} (16.982) and sig.a (0.000a). This indicates that the results of the study accept H_a and reject H_0 . Comparison between F_{count} and F_{table} can prove that simultaneously service quality, product quality and price have a significant effect on purchase decision.

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