International Journal of Management and Business Intelligence (IJBMI)
Vol. 2, No. 4 2024: 331-348

Product Quality, Price Perception, Customer Loyalty on IM3-Indosat SIM Card's Users

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A R T I C L E I N F O

Keywords: Product Quality, Price Perception, Customer Loyalty, SIM Card

Received : 22, June
Revised : 21, July
Accepted: 30, August

A B S T R A C T

This study aims to examine the impact of Product Quality and Price Perception on Customer Loyalty. The research is quantitative and employs a survey methodology. The sample consists of 100 respondents. Primary data was analysed using SPSS version 26 for evaluation. The analysis results indicate that both Product Quality and Price Perception have a positive and significant influence on Customer Loyalty, with a significance value of 0.000 less than 0.05 and F-count of 146.348 greater that F-table 3.09. The coefficient value shows that 75.1% of Customer Loyalty is explained by Product Quality and Price Perception. These findings confirm the initial hypothesis, demonstrating a positive and significant effect of Product Quality and Price Perception on Customer Loyalty at 75.1%.

INTRODUCTION

Cellular network technology has come a long way since its humbler beginning of 1G. How long did it take to go from 1G cellular network technology up to the current state of things as we approach with 5G — close to forty years, during which many mobile telecommunication operators decided not only that services such a tariff for date traffic and starter SIM cards were worth billions. PT Indosat, as a cellular network provider which open services for this to the wider community using mobile phones either prepaid or postpaid. But it was the buying of cellular services that put stress on users and providers alike because in times of monetary crisis, the cellular network services prepayment system was deemed to be a solution.

IM3 Ooredoo is one of the interests from Indosat product for young age with advanced technology. In return for bringing this product to market, the company provides a variety of more flexible bonus products that incentive and reward those who top up at Family Mobile. One of the companies many plans to achieve customer loyalty by looking after their customers on high quality products and with competitive prices. IM3-Indosat Ooredoo continues to improve quality and price perception in all of Indonesia, as many Indonesians continue their day-to-day activities from home due to the current pandemic. Indosat Ooredoo Hutchison has recorded a 14 percent year-on-year (YoY) growth in the first quarter of 2024, reaching Rp 11.7 trillion in revenue with a customer base of 100.8 million users (Robinsyah, 2024).

Products should be of higher quality at a favorable price to stimulate more transactions (Ardiansyah PS, 2024). On the other hand, each provider needs to consider their own price and quality for a product version survive on the market (Ardiansyah, T.E;Rauf, Abdul, 2023). These responses about the product being offered is not only an expression of satisfaction but it contributes to loyalty towards which facilitates retaining customers because they will no longer have any hesitation in terms of quality (Darwin & Mayuree, 2019). Thus, product quality has a relevancy to customer loyalty (Elaman & Agustin, 2019). Additionally, a fair pricing policy from the company will shape consumer behavior in making purchasing decisions, which will ultimately lead to customer satisfaction (Maryati & Khoiri.M, 2021) (Cardia, Santika, 2019).

Based on this description, this research was developed to explore the relationship between Product Quality, Price Perception, and Customer Loyalty in IM3-Indosat SIM card users.

LITERATURE REVIEW

Marketing Management

In business, the firms establish strong links with customers to build up a firm relationship which creates a social process whereby individuals and groups obtain what they need and want by freely offering and exchanging valuable products or services with others (Sasongko et al., 2022). As such marketing managers are often involved in analysis, planning, implementation and control of programs for creating and maintaining profitable exchanges with targeted buyers aimed at achieving organizational or corporate objectives (Rauf

et al., 2021). For this reason, management plays an important role in ensuring that the desired target market is reached as well as attracting more customers.

It can therefore be said that marketing management is a process through which companies engage their customers to develop relationships with them so that customer value is received in return. This encompasses analysis, planning, execution and control of programs intended for establishing, growing, and maintaining profitable exchanges with buyers to satisfy organizational or corporate objectives (Febryanti & Hasan, 2022).

Product Quality

The quality of the product is an aspect that requires special attention from a company, as it is closely related to consumer satisfaction, which is the primary goal of the company's marketing activities (Sasongko et al., 2022). The quality of a product is also linked to how well the product offered matches what is sold by the seller, with the price representing the value that must be paid to acquire the product. From these statements it can be said that product quality includes specific characteristics, both visible and invisible, that affect the ability of a product or service to fulfil customer satisfaction (Rut Winasis & Sabar, 2024). Because it is closely related to this, companies need to pay special attention to the quality of their products (et al., 2023). In addition, product quality is also related to the suitability of the product offered and sold by the seller, so that the price becomes the value that must be paid to obtain the product (Ardiansyah, T.E;Rauf, Abdul, 2023).

From this description it can be concluded that there are several indicators of product quality as follows: a) Product and performance, b) Range and type of features, c) Reliability or durability, d) Sensory characteristic, e) Ethical profile and image.

Price Perception

Consumer's price perception is how they judge if a product is costly, affordable or cheap. And with this, customer loyalty can be improved by looking at prices as relating to quality of product. The way in which customers interpret and understand the information about the prices as well as its significance for them forms part of price perception. Thus, strengthening customer loyalty is one of the most important roles played by price. So long as the price is perceived to reflect a good value for money, consumers will continue using a given product. (Sari, 2022).

From this explanation, it can be concluded that price is perceived by consumers as either too high, fair, or too low. Prices that align with the quality of the product enhance customer loyalty. Price depends on how consumers understand price information. Therefore, price plays an important role in increasing customer loyalty. Consumers will continue to consume the product if the price and quality match. Additionally, price perceptions can be assessed using several indicators, including: a) price performance, b) price compatibility with product quality, c) price compatibility with benefits, and d) price competitiveness (Ardiansyah, T.E;Rauf, Abdul, 2023).

Customer Loyalty

Customer loyalty can be understood as the strength of the relationship between an individual's attitude towards a product or service and the propensity to make repeat purchases (Hoe & Mansori, 2018). Loyalty can also be seen as satisfaction that eventually influences perceived quality, thus affecting loyalty and certain consumer activities. Also, from another point of view, customer loyalty is a result of satisfaction with a product or service that has positive effects on the company like repeat purchases by loyal customers (Fakhri, 2022).

From the previous descriptions, it can be said that customer loyalty is a business plan in maintaining old customers so that they continue to buy a product or use the services offered in a business. The process is that satisfaction influences perceived quality which can have an impact on loyalty and intentions for certain behavior from a customer. Furthermore, customer loyalty can be measured by the following indicators: a) Repeat purchases, b) the similar service, c) Promote products to others, d) Product Attractiveness (Surianti, 2018).

Conceptual Framework

The conceptual framework is designed to facilitate understanding of the relationship between variables that are considered important in the research to be carried out. In this case, the conceptual framework will describe the effect of product quality and price perception IM3-Indosat SIM card users/customer loyalty.

H1: The effect of Product quality being an independent variable upon customer loyalty is resulting from this factor.
H2: The effect of price perception being an independent variable upon customer loyalty is resulting from this factor.
H3: Customer loyalty is the dependent variable that is influenced by the independent variable's product quality and price perception.

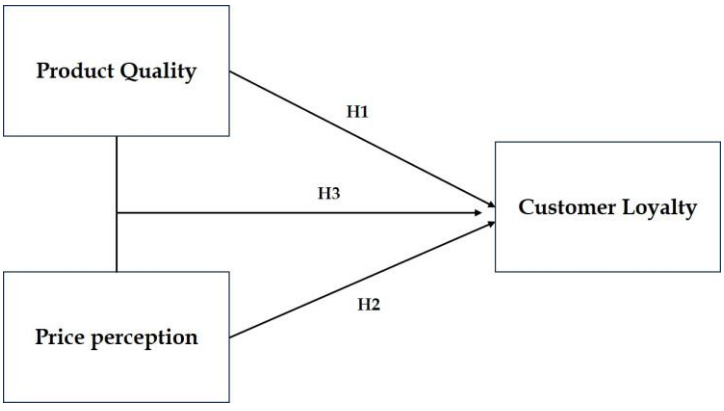

Figure 1. Conceptual Framework

Hypothesis

Product Quality and Its iinfluence on Customer Loyalty. Product quality is the specific attributes of goods or services that determine whether they can satisfy their customers, be it obvious or not. There is a positive and significant relationship between product quality and customer loyalty. Based on this explanation, the hypothesis that can be formulated would be: ***H1:*** Product quality has a positive and significant effect on the loyalty of IM3-Indosat SIM card users.

Price Perception's iinfluence On Customer Loyalty. Price stands for the money consumers pay in order to acquire or use services or goods. Based on this explanation, the hypothesis that can be formulated would be as follows: ***H2:*** Price perception has a positive and significant influence on IM3-Indosat SIM card users/Customer Loyalty.

Product quality and price perception influence on customer loyalty at the same time, both product quality and price perception are able to meet customers' needs or wants as we shall see later in the paper. Based on this explanation, the hypothesis that can be formulated would be as follows: ***H3:*** Product Quality and Price Perception simultaneously affect IM3-Indosat SIM card users/Customer Loyalty.

METHODOLOGY

Research Approach and Variables

A quantitative design with an associative. The independent variables are product quality (X1) and price perception(X2). Dependent variable; Customer loyalty and it is denoted by Y Indicators of the Variables in this research:

Table 1. Variable Indicators

Variables	Indicators
Product Quality (X1)	Product and performance
	Range and type of features
	Reliability or durability
	Sensory characteristi
	Ethical profile and image
Price Perception (X2)	Price performance
	Price compatibility with product quality
	Price compatibility with benefits
	Price competitiveness
Customer Loyalty (Y)	Repeat purchase
	The similar service
	Promote products
	Product Attractiveness

The measurement of these variables is conducted using a Likert scale, which is a measurement method with an ordinal scale where numbers are assigned based on levels (1 up to 5) (Arikunto, 2016).

Sampling and Population

This study focused on the City of Tangerang, as the population, though the exact number of individuals was not counted. It is assumed that the sample drawn will closely reflect the results we would obtain if we received a 75% response rate from every individual in the population, which is a realistically impossible scenario. The method used is a quasi-non-probability sampling technique with Lem show (Sugiyono, 2022). This technique was chosen because the population members cannot be precisely identified, leading to a filtering process until 100 respondents were obtained. The sample criteria for selecting respondents are as follows: a) Users of IM3-Indosat SIM cards, b) Residents or people of Tangerang. The following is the Lem show formula for determining the sample size.

$$n = \frac{Z^2.p.q}{d^2} \qquad \text{…….. (1)}$$

Note: n is total of sample, Z is normal standard (1,967), p is proportion estimator (0,5) q is the 1-p count result and *d* are interval (0,1). Furthermore, n can be calculated as follows:
N is ((1,976 x 1,967) x 0,5 (1-0,5)): (0,1 x 0,1). So, n is (3,869089 x 0,25): 0,01. n is 96.727 is then rounded up to 100.

Data sources and Collecting Data Method

Primary data. Data sources that directly provide data to data collectors, and are obtained through questionnaires. Secondary Data. data is a source that does not directly provide data to data collectors, for example through other people or through documents. In carrying out data collection, several other methods: a) interview, b) Questioner, c) Observation.

Data Analysis Method

The data analysis method in this study employs statistical software commonly used in another research, specifically SPSS V.26. The testing stages are as follows:

1. **Instrument Test**

a. **Validity Test,** the validity of the instrument in this study was tested using factor analysis techniques developed in SPSS to describe the relationships between various factors within a variable.

b. **Reliability Test,** while no answers were considered incorrect or assigned a score of 0, the reliability was checked using Cronbach Alpha formula as it provided information on how well all items worked together in producing consistent scores. Factor analysis was also used to ascertain the reliability of testing using SPSS version 26.

2. **Correlation Analysis**

a. **Simple Correlation Analysis,** The Pearson product moment correlation coefficient (r) is a statistic that determine the linear relationship between two variables in R. This statistic has many uses so basically, are you familiar with

Independent and dependent variables? The correlation coefficient-based formula is his below:

$$r = n\Sigma xy - (\Sigma x)(\Sigma y) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Note: r is Correlation coefficient between variable X and variable Y.
n is number of samples, ∑X is total score for all items on variable X,
∑Y is total score for all items on variable Y.

b. Multiple Correlation Analysis, the product moment correlation analysis used in the following equation to determine the degree of relationship between the two variables is:

$$R_{y.x_1x_2} = \sqrt{\frac{r^2_{yx_1} + r^2_{yx_2} - 2r_{yx_1} r_{yx_2} r_{x_1x_2}}{1 - r^2_{x_1x_2}}} \quad \ldots\ldots\ldots\ldots (3)$$

Note: R(yx1x2) is Correlation between variables 1 and 2 together with variable Y. ryx1 Product moment correlation between X1 and Y. ryx2 is Product moment correlation between X2 and Y. ryx1x2 is Product moment correlation between X1 and X2.

3. Coefficient of Determination

To aid in analyzing and testing the proposed hypotheses, the collected data was processed using SPSS Version 26 for Windows. The coefficient of determination can be derived by squaring the correlation coefficient value. The coefficient of determination can be calculated using the following formula:

$$Kd = r^2 \times 100\% \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Note: Kd is the coefficient of determination, r2 is the Square of the Correlation Coefficient.

4. Linear Regression Analysis

a. Simple Linear Regression, Simple linear regression is only one independent variable (X and Y). In general, the regression equation formula is:

$$\dot{Y} = a + b.X \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Note: $\hat{Y}$ is customer loyalty prediction, X is the independent variable. *A* is the constant value, and *b* is the regression coefficient for the independent variable.

b. Multiple Linear Regression, the general format of multiple regression analysis is as follows:

$$\dot{Y} = a + b1X1 + b2X2 + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

Note: Y represents Customer Loyalty Value, X1 denotes Product Quality, X2 stands for Price Perception, A is the Constant Value, ε represents epsilon (other factors not examined), b1 is the partial regression coefficient for the first independent variable, and b2 is the partial regression coefficient for the second independent variable.

5. **Hypothesis Test**

a. T-test

1) Hypothesis 1-The Impact of Product Quality and Price Perception on Customer Loyalty When the t-count greater than of t- table it indicates H1 rejected and Ha accepted, meaning that Product Quality has a significant effect on Customer Loyalty for IM3 -Indosat SIM card user.
2) Hypothesis 2-Price Perception the Bottom Line in Customer Retention If the t-count greater than t-table Ha is accepted, H0 is rejected means that Price Perception has a Significant Effect on Customer Loyalty of IM3-Indosat SIM Card Users.

b. F-test, the research hypotheses used in this test are, Ha: Product Quality and Price Perception have a significant combined effect on Customer Loyalty among IM3-Indosat IM3 SIM card users. If the significance level is less than 0.05, the decision is to reject Ho and accept Ha. If the F-statistic value is greater than the F-table value, then Ho is rejected.

RESULT AND DISCUSSION

From the sample data collection, it was found that the respondent characteristics were categorized based on gender, age of IM3-Indosat SIM card users. From the sample data collection, it is evident that most IM3-Indosat SIM card users are female, with a total of 54 respondents, while the remaining 46 respondents are male. The results of the sample data collection indicate that most respondents are teenagers aged 18-25, with a total of 83 respondents, while the remaining 17 respondents are aged 27-35.

Table 2. Gender of IM3-Indosat SIM card users

Gender	Frequency	Percent
Male	46	46%
Female	54	54%
Total	100	100%

Source: Processed Data, 2024

Table 3. Age of IM3-Indosat SIM card users

Age	Frequency	Percent
18 - 25 Tahun	83	83%
27 - 35 Tahun	17	17%
Total	100	100%

Source: Processed Data, 2024

The sample data collection results show that the average respondent feedback for the Product Quality variable is 3 on a scale of 1-5. Similarly, the average response for the price perception variable is also 3 on a scale of 1-5. For

the Customer Loyalty variable, respondents also gave an average score of 3. This indicates that respondents are neutral toward the Product Quality variable, suggesting that the quality of products from IM3-Indosat SIM Card is perceived as variable. Regarding the price perception variable, consumers sometimes agree and sometimes disagree with the prices offered byIM3-Indosat SIM Card. Meanwhile, in terms of Customer Loyalty, consumers tend to recommend IM3-Indosat SIM Card products to relatives or friends if they find them suitable, but will not recommend them if they do not.

Validity Test

The Pearson Correlation test results in the validity test indicate that the Product Quality, Price Perception, and Customer Loyalty variables are deemed valid because the calculated r-count is greater than the r-table value, which is 0.196. Therefore, it can be concluded that each statement or question item in these variables is valid.

Table 4. Validity Test

Variabel	Statements	r-count	r-table	Status
Product Quality	X1.1	0,854	0,196	Valid
	X1.2	0,804	0,196	Valid
	X1.3	0,798	0,196	Valid
	X1.4	0,777	0,196	Valid
	X1.5	0,812	0,196	Valid
	X1.6	0,776	0,196	Valid
	Y1.7	0,715	0,196	Valid
	Y1.8	0,797	0,196	Valid
Price Perception	X2.1	0,718	0,196	Valid
	X2.2	0,782	0,196	Valid
	X2.3	0,777	0,196	Valid
	X2.4	0,814	0,196	Valid
	X2.5	0,717	0,196	Valid
	X2.6	0,715	0,196	Valid
	X2.7	0,727	0,196	Valid
	X2.8	0,818	0,196	Valid
Customer Loyalty	Y1.1	0,808	0,196	Valid
	Y1.2	0,852	0,196	Valid
	Y1.3	0,79	0,196	Valid
	Y1.4	0,76	0,196	Valid
	Y1.5	0,798	0,196	Valid
	Y1.6	0,831	0,196	Valid
	Y1.7	0,825	0,196	Valid
	Y1.8	0,67	0,196	Valid

Source: Processed Data, 2024

Reliability Test

Based on the calculation of Cronbach's Alpha values, all question or statement items for the Product Quality, Price Perception, and Customer Loyalty (Y) variables show values greater than the alpha threshold of 0.6. This

indicates that all question items for these variables are consistent or reliable, with calculated r-table value greater than the r-alpha.

Table 5 Reliability Test

Variables	r-table	r-alpha	Status
Product Quality	0,919	0,6	Reliabel
Price Perception	0,893	0,6	Reliabel
Customer Loyalty	0,915	0,6	Reliabel

Source: Processed Data, 2024

Correlation Analysis

According to the results of the simple correlation test, the correlation value for Product Quality is 0.861, which is categorized as very strong since it falls within the range of 0.80 to 1.00. Meanwhile, the correlation value for Price Perception is 0.782, which falls into the strong category within the range of 0.60 up to 0.799.

Table 6. Simple Correlation of Product Quality

Correlations		Customer Loyalty	Product Quality
Pearson Correlatio	Customer Loyalty	1	0.861
Sig. (1-tailed)	Customer Loyalty	.000.	0
N	Customer Loyalty	100	100

Source: Processed Data, 2024

Table 7 Simple Correlation of Price Perception

Correlation s		Customer Loyalty	Price Perception
Pearson Correlatio	Customer Loyalty	1	0.782
Sig. (1-tailed)	Customer Loyalty	0	0
N	Customer Loyalty	100	100

Source: Processed Data, 2024

Based on the results of the multiple correlation test, the data shows that the significance value for the F change is below 0.05, at 0.000, indicating an effect or correlation. The multiple correlation coefficient (R^2) of 0.751 is obtained from 0.867 x 0.867. This means there is a strong correlation, within the range of 0.60 up to 0.799, between the Product Quality and Price Perception variables and Customer Loyalty.

Table 8. Multiple correlation

Model Summary									
Model	R	R Square	*Adjusted R Square*	*Std. Error of the Estimate*	*Change Statistics*				
					R Square Change	*F Change*	*df1*	*df2*	*Sig. F Change*
1	.867[a]	0.751	0.746	3.179	0.751	146.348	2	97	0

a. Predictors: (*Constant*), Price Perception, Product Quality

Source: Processed Data, 2024

Coefficient of Determination

The results of the simple determination test show that the R^2 value for Product Quality is 0.742, obtained from 0.861 x 0.861. This indicates that the influence of Product Quality on Customer Loyalty is 74.2%. Meanwhile, the R^2 value for Price Perception is 0.611, obtained from 0.782 x 0.782. This shows that the influence of Price Perception on Customer Loyalty is 61.1%.

Table 9. Simple Determination Test of Product Quality

Model Summary				
Model	R	R *Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.861[a]	.742	.739	3.222

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

Source: Processed Data, 2024

Table 10. Simple Determination Test of Price Perception

Model Summary				
Model	R	R *Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.782[a]	.611	.607	3.954

a. Predictors: (*Constant*), Price Perception

Source: Processed Data, 2024

The results of the multiple determination test show that the R^2 value is 0.751, calculated from 0.867 x 0.867. This indicates that Product Quality and Price Perception account for 75.1% of the impact on Customer Loyalty, while the remaining 24.9% is influenced by factors not covered in this study.

Table 11. Multiple Determination Test

Model Summary				
Model	R	R *Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.867[a]	.751	.746	3.179

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

Source: Processed Data, 2024

Linear Regression Analysis

In column B, the coefficients indicate that the constant (a) value is 3.164, and the coefficient for Product Quality (b) is 0.866. Therefore, the regression equation can be expressed as follows:

$$(Y') = 3{,}164 + 0{,}866\ X1 \qquad \ldots\ldots\ldots\ldots\ (7)$$

The constant of 3.164 means that if the Product Quality value is 0, then Customer Loyalty is 3.164. The regression coefficient for Product Quality of 0.866 indicates that each increase of one unit in Product Quality will raise Customer Loyalty by 0.866. Adding the constant value of 3.164, Customer Loyalty will be 4.030 for each one-unit increase in the Product Quality variable.

Table 12. Simple Regression Product Quality

Coefficients [a]						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(*Constant*)	3.164	1.604		1.972	0.051
	Product Quality	0.866	0.052	0.861	16.777	0
a. Dependent Variable: Customer Loyalty						

Source: Processed Data, 2024

In column B, the coefficients show that the constant (a) value is 0.522, while the coefficient for Customer Loyalty (b) is 0.922. Thus, the regression equation can be written as follows:

$$(Y') = 0{,}522 + 0{,}922\ X2 \qquad \ldots\ldots\ldots\ldots\ (8)$$

From this equation, the study indicates that the constant of 0.522 means that if there is no value for Price Perception or it is zero, then Customer Loyalty is 0.522. The regression coefficient for Price Perception of 0.803 shows that each increase of 1 unit in Product Quality will raise Customer Loyalty by 0.922. When added to the constant value of 0.522, Customer Loyalty will be 1.444 with a 1 unit increase in the Price Perception variable.

Table 13. Simple Regression Price Perception

Coefficients [a]						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(Constant)	0.522	2.371		0.22	0.827
	Price Perception	0.922	0.074	0.782	12.406	0
a. Dependent Variable: Customer Loyalty						

Source: Processed Data, 2024

According to the results of the multiple regression test, the values obtained can be incorporated into the linear equation model as follows:

(Y') = 1,129 + 0,710 X1 + 0,215 X2 …… (9)

A constant value of 1.129 indicates that, with or without the Product Quality and Price Perception variables, Customer Loyalty will consistently have a value of 1.129. The coefficient b1 of 0.710, with a positive value, means that each 1-unit increase in Product Quality will raise Customer Loyalty by 0.710, added to the constant value of 1.129, resulting in 1.839, assuming other variables remain constant. The coefficient b2 of 0.215, also with a positive result, indicates that each 1-unit increase in Price Perception will boost Customer Loyalty by 0.215, added to the constant value of 1.129, making it 1.344, assuming other variables remain constant.

Table 14. Multiple Regression

Coefficients [a]						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(*Constant*)	1.129	1.908		0.592	.74,25
	Product Quality	0.71	0.01	0.706	7.389	0
	Price Perception	0.215	0.113	0.183	1.909	0.059

Source: Processed Data, 2024

Hypothesis Test

The T-test results for product quality indicate a significant finding, as the t-value is 16.777, which exceeds the critical t-value of 1.984, and the significance level is below 0.05. This leads us to reject the null hypothesis (H01) and accept the alternative hypothesis (Ha1), confirming that product quality has a strong and positive impact on customer loyalty. Similarly, for price perception, the t-value of 12.406 also surpasses the critical t-value of 1.984, with a significance level under 0.05. As a result, we reject the null hypothesis (Ho2) and accept the alternative hypothesis (Ha2), indicating that price perception significantly influences customer loyalty as well.

Table 15. T-test results of Product Quality

Coefficients [a]						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(*Constant*)	3.164	1.604		1.972	0.051
	Product Quality	0.866	0.052	0.861	16.78	0
a. Dependent Variable: Customer Loyalty						

Source: Processed Data, 2024

Table 16. T-test results of Price Perception

Coefficients [a]						
Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(*Constant*)	0.522	2.371		0.22	0.827
	Price Perception	0.922	0.074	0.782	12.406	0

a. Dependent Variable: Customer Loyalty

Source: Processed Data, 2024

From the F-test results, it was found that the F-count and F-table values are 146.348 and 3.09 respectively, obtained from the ANOVA table and statistical table with a significance level of 0.05: df1 = k-1 or 3-1 = 2, and df2 = n-k or 100-3 = 97. The F-table value is 3.09. Thus, it is known that the significance value from the F-test is 0.000 less than 0.05, indicating a significant influence with a positive value, as F-count greater than F-table, i.e., 146.348 greater than 3.09. Therefore, the H0 is rejected, meaning that there is a joint influence of the Product Quality and Price Perception variables on Customer Loyalty.

Table 17. F-test results

ANOVA [a]						
Model		*Sum of Squares*	*df*	*Mean Square*	F	*Sig.*
1	*Regression*	2.958.470	2	1.479.235	146.348	.000[b]
	Residual	980.440	97	10.108		
	Total	3.938.910	99			

a. Dependent Variable: Customer Loyalty

b. Predictors: (Constant), Price Perception, Product Quality

Source: Processed Data, 2024

The T-test results for product quality indicate a significant finding, as the t-value is 16.777, which exceeds the critical t-value of 1.984, and the significance level is below 0.05. This leads us to reject the null hypothesis (H01) and accept the alternative hypothesis (Ha1), confirming that product quality has a strong and positive impact on customer loyalty. Similarly, for price perception, the t-value of 12.406 also surpasses the critical t-value of 1.984, with a significance level under 0.05. As a result, we reject the null hypothesis (Ho2) and accept the alternative hypothesis (Ha2), indicating that price perception significantly influences customer loyalty as well. This finding is also consistent with the research conducted by (Darwin & Mayuree, 2019), which showed that product quality has a positive and significant impact on customer loyalty.

The analysis results also indicate that the Price Perception variable has a positive and significant impact on Customer Loyalty, with a significance value of 0.000 less than 0.05 and a t-count of 12.406 greater than t-table 1.984. The

coefficient shows a result of 61.1%, meaning that Price Perception influences Customer Loyalty by 61.1%. This finding supports the previous hypothesis, which stated that there is a positive and significant effect of Price Perception on Customer Loyalty. This result is also supported by the research of (Surianti, 2018), which states that price is the amount of money paid for a service, or the amount of value that consumers exchange to gain the benefits of owning or using products.

The results of the multiple regression analysis show that in the coefficient table, for each variable, if one variable increases by 1 while the others remain constant, it will reduce Product Quality by 0.710 and Price Perception by 0.215. Furthermore, the previously analyzed data indicates that Product Quality and Price Perception have a positive and significant effect on Customer Loyalty, with a significance value of 0.000 less than 0.05 and an F-count of 146.348 greater than F-table 3.09. The coefficient results show an impact of 75.1%, meaning that Product Quality and Price Perception influence Customer Loyalty by 75.1%. This result confirms the previous hypothesis, demonstrating a positive and significant effect of Product Quality and Price Perception on Customer Loyalty. This result is also supported by the research of (Rochmah & Muzdalifah, 2024)

CONCLUSIONS AND RECOMMENDATIONS

The Product Quality variable has a positive and significant impact, with a significance value of 0,000 less than 0,05 and a t-count of 16,777 greater than t-table 1,984. The coefficient results show an effect of 74,2%. This indicates that Product Quality influences Customer Loyalty by 74,2%, and supports the previous hypothesis that there is a positive and significant effect of Product Quality on Customer Loyalty.

The Price Perception variable has a positive and significant effect on Customer Loyalty, with a significance value of 0,000 less than 0,05 and a t-count of 12,406 greater than t-table 1,984. The coefficient results indicate an impact of 61,1%. This means that Perception of Price affects Customer Loyalty by 61,1%, confirming the previous hypothesis that there is a positive and significant influence of Price Perception on Customer Loyalty.

The variables of Product Quality and Price Perception have a positive and significant impact on Customer Loyalty, with a significance value of 0,000 less than 0,05 and an F-count of 146,348 greater than F-table 3,09. The coefficient results show an impact of 75,1%. This indicates that Product Quality and Price Perception influence Customer Loyalty by 75,1%, and supports the previous hypothesis that there is a positive and significant effect of Product Quality and Price Perception on Customer Loyalty.

Given that Product Quality has been shown to positively influence customer loyalty, it is recommended that the company focus on enhancing product quality to ensure customer satisfaction and maintain customer loyalty.

Given that price perception has been shown to positively affect customer loyalty, it is recommended that the company continually evaluate its pricing

strategy, align it with improvements in product quality, and establish customer segments and categories.

FURTHER RESEARCH

This study is limited to a single geographic area and focuses on a specific set of variables. Future research should explore additional factors by incorporating variables such as customer satisfaction, purchasing decisions, and promotional policies. It is also recommended to conduct qualitative research on business strategies and marketing performance outcomes.

ACKNOWLEDGMENT

In this study, we extend our deepest gratitude to the Dean of the Faculty of Economics and Business-UMT Indonesia. We also thank the Director of LPPM-UMT Indonesia and express our appreciation to Ms. Faizah Nur. A.R for her significant contributions to this research.

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