

## THE EFFECT OF PRODUCT QUALITY ON CUSTOMER SATISFACTION: A CASE STUDY AT PT RINAYA DWI SINERGI

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### Abstract

*Iconnet is an Indonesian state-owned company that provides fiber optic-based broadband internet services from PT Indonesia Comnets Plus (ICON+), a subsidiary of PT PLN (Persero). Internet service companies experiencing rapid consumer growth must consistently uphold their customer satisfaction levels. This study aims to analyze the effect of iconnet product quality on customer satisfaction at PT Rinaya Dwi Sinergi Banjarbaru. Product quality is a key factor in maintaining and increasing customer satisfaction, especially in the highly competitive internet service provider industry. The Iconnets' customers received a questionnaire as a data collection tool for this quantitative study. The results of the study indicate that product quality has a positive and significant effect on customer satisfaction. Linear regression testing shows that improving product quality, including internet speed, connection stability, and package variations, contributes to customer satisfaction levels. These findings indicate that improving product quality, especially in terms of speed and connection stability, can directly increase customer satisfaction. The study's results predict that PT Rinaya Dwi Sinergi will persist in enhancing the quality of its Iconnet products to sustain and enhance customer loyalty.*

**Keywords:** Product quality, satisfaction, internet service, loyalty

### Introduction

In the dynamic digital era, maintaining and enhancing customer satisfaction through the quality of Internet service products is crucial. Based on the Indonesian Telecommunication Statistics report, the results of the 2021 national survey data collection showed that 62.10 percent of the Indonesian population had accessed the internet (Sutarsih, 2021). Every year, the number of internet users in Indonesia rises, signifying a high demand for high-quality internet services. As an internet service provider, it is crucial to deliver high-quality products to meet customer expectations and ensure their satisfaction. One of the companies engaged in providing internet services in Indonesia is PT Rinaya Dwi Sinergi, a company that collaborates in offering internet services called iconnet. Iconnet, an internet service company from PT Indonesia Comnets Plus (ICON+), a subsidiary of PT PLN (Persero), is a partner in service delivery, but PT Rinaya Dwi Sinergi must first understand and measure the quality of the internet it provides. Iconnet's design aims to offer fast, stable, and high-quality internet services, catering to the needs of consumers seeking uninterrupted internet access. However, not only the availability of these services determines a product's success in the market, but also the quality of the products it offers. Product quality plays an important role in creating consumer satisfaction, which in turn will have an impact on loyalty and repeat purchases in the future. Currently, the condition of the business world requires companies to be able to compete in the midst of increasingly fierce competition. As more manufacturers strive to meet customer needs and expectations, they prioritize product quality and customer satisfaction (Budiarno et al., 2022; ).

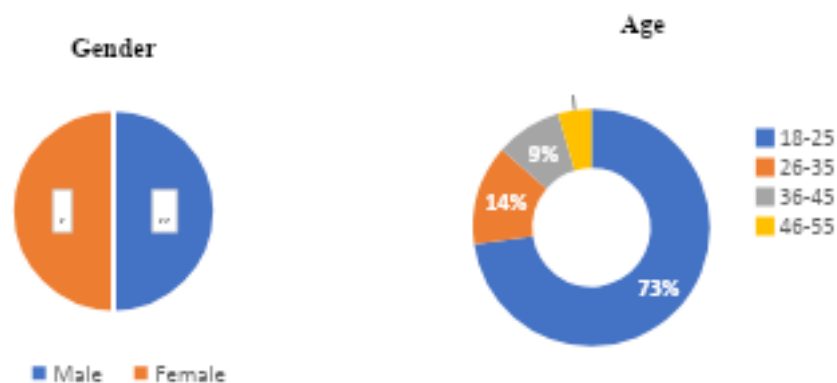
Aspects such as connection speed, network stability, response to handling disruptions, and customer support services can determine the quality of internet services. Users directly experience the speed and stability of the internet connection when they access it. Meeting consumer needs is the main goal for every company. In addition to being an important factor for the continuity of the company, consumer satisfaction also plays a role in increasing competitiveness. Consumers who are satisfied with the products and services they receive tend to make repeat purchases when similar needs arise in the future. Thus, consumer satisfaction is a key element that drives repeat purchases, which contributes significantly to the company's total sales volume (Daga, 2019; Kumrotin & Susanti, 2021).

Customers are one of the important components in running a business. The more customers a business product has, the more it will grow, as the number of customers directly correlates with the amount of income generated. (Srisusilawati et al., 2023) Customer retention serves as a key metric for assessing customer satisfaction. Traditionally, customer satisfaction is considered the main factor that influences customer behavior in the long term. Customer retention reflects a business's ability to retain customers and encourage them to make repeat purchases. This is a crucial aspect, as products and prices alone cannot sustain customer satisfaction. In short, customer retention means ensuring that customers feel satisfied enough to remain loyal to the company and not switch to competitors (Ummah, 2019). Consumer perceptions of a product or service's ability to facilitate customer expectations determine consumer satisfaction. If a product or service meets or exceeds their expectations, consumers feel satisfied (Chandra et al., 2020; Sanjaya, 2019). However, various challenges arise regarding how product quality can significantly affect customer satisfaction. These challenges include internal and external factors that can influence consumer assessments of Iconnet services. For instance, external factors like weather conditions or specific geographic areas can impact the network quality and connection speed of Iconnet. In addition, the tight competition in the internet service industry causes PT Rinaya Dwi Sinergi to continue to innovate and adapt so that Iconnet remains relevant in the eyes of customers. Therefore, the company needs to understand more deeply the specific factors of product quality that most affect customer satisfaction.

### Methods

This study uses a quantitative approach that aims to measure the effect of product quality on customer satisfaction. Complex data variations and systematic advantages of quantitative research ensure consistent execution of research procedures from start to finish (Ghazali, 2016). We chose the quantitative approach due to its ability to provide objective and measurable data, allowing for statistical analysis to yield valid conclusions. We collected data in this study by designing and distributing a questionnaire to twenty-two Iconnet service users at PT Rinaya Dwi Sinergi Banjarbaru. We used a Likert scale in the data collection stage of the questionnaire. Ghazali (2016) states that the Likert scale gauges an individual's or group's attitudes, opinions, and perceptions regarding a social phenomenon. The Likert scale allows someone to express their agreement or disagreement with a particular subject, object, or event (Pranatawijaya et al. 2019). The indicators used for the product quality and satisfaction variables are based on Kotler & Armstrong (2019) and Nugroho et al. (2020). We conducted the analysis stage after the data collection stage to gauge Iconnet customers' perceptions of product quality based on their level of satisfaction. To make generalizations about the population, quantitative research systematically arranges samples that are considered representative of the population (Hardani, 2020). We quantitatively analyze the data collection results using statistics to ascertain how much product quality influences customer satisfaction.

### Results and Discussions



**Figure 1**  
**Respondents' Profile**

Based on the gender data of the respondents, out of a total of 22 Iconnet product users, 11 persons were male and others were female, each accounting for 50% of the total. This indicates that the study had

a balanced frequency of male and female respondents. The age level of the respondents can reflect their level of maturity and adulthood in thinking, which in turn influences their experience and the way they answer the questionnaire. Based on age data, the majority of respondents were in the age range of 18–25 years, with as many as 16 people (73%), followed by the age range of 26–35 years, with as many as three people (14%), 36–45 years, with as many as two people (9%), and 46–55 years, with as many as one person (4%).

**Table 1 Summary of Validation Test Results**

Correlations

		KPT	STT
KPT	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	22	22
STT	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	22	22

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Data Processing Result, 2024

The validity test results for the product quality and satisfaction variables, as presented in Table 1, confirm the validity of all statement items. The Pearson correlation value for each item, greater than 0.0981 or  $r_{\text{count}} > r_{\text{table}}$ , evidences this. Thus, the statements in the questionnaire are proven to be accurate in measuring product quality against customer satisfaction. We can proceed to the subsequent phase of the analysis.

**Table 2 Summary of Reliability Test Result**

Variable	Cronbach's Alpha
Product Quality	0.793
Satisfaction	0.788

Source: Data Processing Result, 2024

Table 2 displays the reliability calculation results for the product quality variable, yielding a Cronbach's Alpha value of 0.793 and the customer satisfaction variable of 0.788, both of which are greater than 0.60. Therefore, we declare the variables in the questionnaire to be reliable. Therefore, we can rely on and trust every statement in the questionnaire pertaining to the product quality variable. The importance of this high reliability in research lies in its ability to produce accurate and consistent data, accurately reflecting the actual conditions of the variables under study. This gives researchers confidence that further analysis and interpretation of the results will reflect a valid relationship between product quality and customer satisfaction.

**Table 3 Normality Test Result**

One-Sample Kolmogorov-Smirnov Test

		KPT	STT
N		22	22
Normal Parameters <sup>a,b</sup>	Mean	29.2727	12.3182
	Std. Deviation	3.36907	1.88696
Most Extreme Differences	Absolute	.123	.160
	Positive	.123	.158
	Negative	-.114	-.160
Test Statistic		.123	.160
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>	.146 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.  
Source: Data Processing Result, 2024

Regression analysis requires proof of a normal distribution in the data. The results of the normality test in Table 3 show that both residual data values of 0.200 and 0.146 exceed 0.05. Therefore, we can conclude that the distribution of the data is normal. We use the one-sample Kolmogorov-Smirnov test in this normality test. The results of this test indicate that the data is suitable for further analysis through a regression model.

**Table 4 Summary of Regression Test Results**

Hypothesis	Model summary (R <sup>2</sup> )	ANOVA		t-test	Sig.
		F-test	Sig.		
Product Quality <input type="checkbox"/> Satisfaction	0.596	29.541	0.000	5.435	0.000

Source: Data Processing Result, 2024

Based on the table above, the adjusted R-squared value is 0.596, or equivalent to 59.6%. This shows that the independent variable, namely product quality, contributes 59.6% to the dependent variable, namely customer satisfaction. Other factors not discussed in this study influence the remaining 40.4%. These results indicate that product quality plays an important role in determining the level of customer satisfaction, although there are other factors that also have an influence.

To determine whether the independent variables in the overall regression model significantly affect the dependent variable, we use the simultaneous significance test, or F test. Based on Table 4, the F value is 29.541 with a significance level of 0.000. We can conclude that overall product quality significantly influences customer satisfaction because the significance value is less than 0.05. Additionally, we conducted a t-test to determine the partial influence of the product quality variable on the dependent variable, customer satisfaction. The test determined a significance value criterion of less than 0.05. We conclude that product quality partially influences customer satisfaction, with a t value of 5.435 and a significance level of 0.000 (less than 0.05). Other researchers' previous research aligns with this result (Budiarno et al. 2022; Chandra et al. 2020; Nugroho et al., 2020; Ummah, 2019).

## Conclusion

The research concludes that the quality of the product, specifically the Iconnet internet product from PT Rinaya Dwi Sinergi, significantly influences customer satisfaction. This study shows that product quality contributes 59.6% to customer satisfaction, which shows the important role of service quality in creating a positive experience for users. Connection speed, network stability, and responsiveness to disruptions are key factors that influence customer perceptions of product quality. We have tested and proven the validity and reliability of the questionnaire to measure the variables of product quality and customer satisfaction, demonstrating that we can trust the data collection instrument to accurately describe the relationship between the two variables. Furthermore, the normality test results demonstrate a normal data distribution, enabling the accurate execution of regression analysis.

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