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THE INFLUENCE OF PRODUCT QUALITY AND SERVICE QUALITY ON CUSTOMER SATISFACTION OF PERTAMAX 92 AT PT. CERAH SINERGI INDONESIA

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Abstract

This study aims to determine: Effect of Product Quality and Service Quality on Satisfaction 92 PT. Cerah Sinergi Indonesia. The Influence of Product Quality on Pertamax Customer Satisfaction 92 PT. Cerah Sinergi Indonesia. The Effect of Service Quality on Pertamax Customer Satisfaction 92 PT. Cerah Sinergi Indonesia. This research was conducted with a quantitative approach. The population in this study were customers at PT Cerah Sinergi Indonesia, amounting to 493. The sampling technique in this study used the Slovin method of withdrawal, so the sample in this study amounted to 84 respondents. The data analysis technique used is multiple linear analysis. Researchers conducted research using questionnaires and carried out statistical calculations with the help of the SPSS Version 20 program. Based on the data obtained in this study and the results of hypothesis testing variables at a significant level of 5% on customer satisfaction, obtained a value of 0,245 or 24,5% and service quality variables has a significant influence on customer satisfaction with a value of 0,609 or 60,9%. Test Coefficient (R2) , namely the Effect of Product Quality and Service Quality on Customer Satisfaction, obtained a value of 0,655 or 65,5% while the remaining 34,5% came from other variables not examined.

Keywords: *product quality, customer satisfaction and service quality*

Introduction

The energy sector, particularly the retail fuel industry, is one of the fundamental pillars driving the global economy and everyday life. In Indonesia, the rapid growth of vehicle ownership and economic activity has made the retail fuel market highly dynamic and competitive. In such a market landscape, the ability of fuel providers not only to supply products but also to meet and even exceed consumer expectations is crucial to maintaining business sustainability and profitability.

PT. Cerah Sinergi Indonesia, as one of the players in the Pertamax 92 sales segment, faces significant challenges amid intense competition. Observations of the company's sales data show a sharp decline in sales volume over the past year. In 2023, PT. Cerah Sinergi Indonesia recorded a sales volume of 358,457 kilograms/liters of Pertamax 92 out of a total purchase of 360,000 kilograms/liters. The loss due to evaporation shrinkage was recorded at 1,543 kilograms/liters. However, in 2024, despite maintaining the same purchase amount of 360,000 kilograms/liters, the recorded sales volume dropped to only 330,560 kilograms/liters, with a higher evaporation shrinkage of 2,640 kilograms/liters.

This decline indicates a sales volume deficit of 27,897 kilograms/liters from 2023 to 2024. Assuming the same selling price of Pertamax 92 at Rp13,500 per kilogram/liter for both years, this volume drop potentially causes a gross revenue loss of approximately Rp376,609,500 (27,897 kg/l × Rp13,500/kg/l). Additionally, the increase in evaporation shrinkage also contributes to the loss. In 2023, the evaporation loss was equivalent to Rp20,830,500 (1,543 kg/l × Rp13,500/kg/l), while in 2024, it increased to Rp35,640,000 (2,640 kg/l × Rp13,500/kg/l), reflecting an additional loss of Rp14,809,500. This substantial decline in performance clearly indicates problems that need further investigation, considering the significant potential financial losses for the company.

Further exploration through a preliminary survey indicates that this sales performance issue is strongly suspected to originate from PT. Cerah Sinergi Indonesia's inability to maintain consistent product and service quality. The preliminary survey found several significant customer complaints. Although the quality of Pertamax 92 is generally considered good, there were complaints regarding functional inconsistency or

421

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discrepancies in the measured quantity perceived by customers, directly leading to dissatisfaction. Moreover, the service quality of employees is often deemed suboptimal, particularly in terms of friendliness and responsiveness to customers. The lack of employee responsiveness has caused many customers to feel that the expected level of service is unmet. These issues have created negative perceptions among customers, resulting in dissatisfaction or even disappointment, directly affecting repurchase intentions, which in turn is strongly suspected to be the cause of the identified decline in sales volume in 2024.

In the context of marketing management, product and service quality have long been identified as key determinants of customer satisfaction. However, in this modern era and with the rapid acceleration of the digital revolution in recent years, consumer definitions and expectations of these two quality concepts have evolved significantly. Traditionally, product quality has been defined as the extent to which a product's attributes and characteristics meet or exceed consumer expectations, encompassing aspects such as performance, reliability, durability, and conformance to standards (Kotler & Keller, 2021). However, in contemporary studies, scholars—including those from Indonesia—tend to emphasize a more holistic dimension. Product quality is now not only about physical features but also about how the product contributes to the total value and customer experience, including ease of use, integration capabilities, and the product's ability to solve consumer problems effectively (Vargo & Lusch, 2023). Indonesian marketing experts have also begun to highlight that product quality is evaluated not only from technical aspects but also from the strength of perceived value for money and the product's relevance to the dynamic needs of local markets. For instance, references from Indonesian researchers such as Prof. Rhenald Kasali, Dr. Hermawan Kartajaya, or other academics from reputable Indonesian management/marketing journals that discuss value perception or product relevance in the Indonesian market. Increasing consumer awareness of sustainability and ethical production has also become an integral part of the perception of product quality, where a "high-quality" product is also expected to be produced responsibly (Smith & Johnson, 2024).

Similarly, service quality has transformed from mere transactional efficiency to a more personal and immersive experience. While classical models such as SERVQUAL developed by Parasuraman, Zeithaml, and Berry (1988) remain foundational, recent studies highlight that service quality is now closely linked to the overall customer experience (CX). Scholars such as Meyer and Schwager (2022) emphasize that service quality includes the entire customer journey, not just single interactions. Indonesian experts also stress that in the Indonesian context, service quality is highly influenced by speed, friendliness, adaptability to local customer preferences, and integrated efficiency of both digital and physical service processes. The advancement of technologies such as artificial intelligence (AI) and data analytics has also enabled service providers to personalize interactions and even predict customer needs (Lee & Kim, 2023).

As a consequence of the evolving definitions of product and service quality, the concept of customer satisfaction has also deepened. Fundamentally, customer satisfaction is a post-consumption evaluation in which customer expectations are compared with perceived product or service performance (Oliver, 2022). However, in contemporary studies, customer satisfaction is increasingly seen as more than a fleeting emotion; it is the foundation for building customer loyalty, retention, and brand advocacy (Chen & Wang, 2023). Indonesian researchers and experts also agree that customer satisfaction in the domestic market is strongly influenced by the perception of overall value, consistent positive experiences across various touchpoints, and the brand's ability to establish emotional connections with consumers, often reflected in online reviews and word-of-mouth recommendations.

Although many studies confirm the positive relationship between product and service quality with customer satisfaction across various industries, there remains a gap in understanding how these dynamics specifically apply to the retail fuel industry in Indonesia, especially in the context of private companies like PT. Cerah Sinergi Indonesia and its Pertamax 92 product. The sales volume decline identified from 2023 to 2024, supported by preliminary survey findings regarding complaints on product quality (functional inconsistency/measurement discrepancies) and service quality (lack of friendliness and responsiveness), suggests fundamental factors influencing consumer purchasing decisions. Previous research may not have fully captured significant changes in consumer behavior, rising digital awareness, or the impact of global economic fluctuations on perceptions of quality and satisfaction in this sector. This gap highlights the need for updated investigation that not only confirms fundamental relationships but also integrates current theoretical perspectives and contextual relevance in the Indonesian market to identify the root causes of this sales volume decline.

Understanding the specific factors influencing Pertamax 92 customer satisfaction at PT. Cerah Sinergi Indonesia through the lens of contemporary theory will provide more relevant and actionable insights. Based on the background outlined above, the author proposes the following research title:

"The Influence of Product Quality and Service Quality on Customer Satisfaction of Pertamax 92 at PT. Cerah Sinergi Indonesia."

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This research aims to:
1) Identify and analyze the influence of product quality on customer satisfaction.
2) Identify and analyze the influence of service quality on customer satisfaction.
3) Identify and analyze the simultaneous influence of product quality and service quality on customer satisfaction.

Literature Review

Product Quality. Product quality refers to the ability of a product to meet or exceed customer expectations in terms of functionality, durability, reliability, and conformity to standards. Kotler and Keller (2021) define product quality as the totality of features and characteristics of a product that bear on its ability to satisfy stated or implied needs. In the retail fuel industry, product quality may include the accuracy of fuel volume, perceived engine performance, and environmental safety. Recent studies have expanded the definition of product quality beyond technical specifications. Vargo and Lusch (2023) argue that product quality must also encompass the overall customer experience and the product's role in delivering value solutions. In the Indonesian context, experts such as Rhenald Kasali and Hermawan Kartajaya emphasize the importance of perceived value for money and product relevance to local market preferences. Consumer perceptions of ethical production and sustainability have also become integral to the evaluation of product quality (Smith & Johnson, 2024).

Service Quality. Service quality has evolved from a transactional efficiency model to a customer experience-centered model. Parasuraman, Zeithaml, and Berry (1988) introduced the SERVQUAL model, which outlines five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions are widely used to assess service delivery across industries. More recent approaches emphasize the holistic customer experience (Customer Experience - CX) throughout the entire service journey (Meyer & Schwager, 2022). In the Indonesian service landscape, speed, friendliness, cultural sensitivity, and digital integration are increasingly vital. Studies highlight that consumers now expect personalized, responsive, and seamless services, both offline and online. Technological advancements, including AI and data analytics, have further enabled service providers to tailor and predict customer needs more effectively (Lee & Kim, 2023).

Customer Satisfaction. Customer satisfaction is the post-consumption evaluation of a product or service, typically defined as the degree to which perceived performance meets or exceeds customer expectations (Oliver, 2022). It is widely regarded as a key predictor of customer loyalty, repurchase intentions, and positive word-of-mouth. Contemporary literature sees customer satisfaction not only as an emotional response but as a strategic foundation for long-term business success (Chen & Wang, 2023). In the Indonesian context, satisfaction is influenced by perceived total value, consistency across customer touchpoints, and the emotional connection between customers and brands. Online reviews and peer recommendations play a significant role in shaping these perceptions.

Research Methodology

Research Methodology. This research employs a descriptive verification method using survey techniques. The approach used is correlational. Based on preliminary observations and sales reports of Pertamax 92 during the period of August to October 2024, a total of 493 vehicles were recorded as having made purchases at PT. Cerah Sinergi Indonesia. This number was established as the population in this study. A sample of 84 customers was determined using a random sampling technique, based on the Slovin formula with a margin of error of 10%. The independent variables (X) consist of product quality and service quality. Product quality is measured through dimensions such as performance, reliability, durability, and conformance to standards (Kotler & Keller, 2021). Meanwhile, service quality is measured based on the five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy, as developed by Parasuraman et al. (1988) and supported by recent studies by Hutabarat et al. (2023) and Ariantika et al. (2024). The dependent variable (Y) is customer satisfaction, measured through indicators of expectations, perceptions, perceived value, and customer loyalty (Oliver, 2022). Data were collected using a questionnaire with a 5-point Likert scale and were converted from ordinal to interval data using the Method of Successive Interval (MSI). Instrument testing was conducted through a validity test (Corrected Item-Total Correlation > 0.30) and a reliability test (Cronbach's Alpha > 0.60). Data analysis included descriptive analysis, classical assumption tests (normality test using Kolmogorov-Smirnov, linearity test using ANOVA F-test, heteroscedasticity test using scatterplot, and multicollinearity test using VIF and Tolerance values), multiple linear regression analysis, Pearson correlation coefficient, coefficient of determination (R^2), and hypothesis testing using t-test (partial) and F-test (simultaneous).

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Research Results

This study aims to analyze the influence of product quality and service quality on customer satisfaction for Pertamax 92 consumers at PT. Cerah Sinergi Indonesia. A multiple linear regression analysis was conducted using three main variables: product quality (X_1), service quality (X_2), and customer satisfaction (Y).

1. **Multiple Linear Regression Result**

Table 1. Summary of Multiple Linear Regression Analysis

Variable	Coefficient (B)	t-Statistic	Sig. (p-value)	Description
(Constant)	3.305	-	-	—
Product Quality (X_1)	0.245	2.031	0.045	Significant
Service Quality (X_2)	0.609	5.715	0.000	Significant

Source: Data Processing Result, 2025

Based on the results of data processing using SPSS, the following regression equation was obtained: $Y = 2.098 + 0.245X_1 + 0.609X_2$.

This equation indicates that both product quality and service quality have a positive relationship with customer satisfaction. In other words, any improvement in product quality or service quality will proportionally increase customer satisfaction.

2. **Partial Test (t-test)**

Table 2. Summary of t-Test Results (Partial Test)

Variable	Regression Coefficient	t-Statistic	d.f.	Sig. (p-value)	Conclusion
Product Quality (X_1)	0.245	2.031	81	0.045	Significant – Influences Satisfaction
Service Quality (X_2)	0.609	5.715	81	0.000	Highly Significant – Strong Influence

Source: Data Processing Result, 2025

The t-test was conducted to evaluate the partial influence of each independent variable on the dependent variable. The results are summarized in the table below:

These results indicate that both independent variables have a statistically significant influence on customer satisfaction.

3. **Simultaneous Test (F-test)**

Table 3. F-Test (ANOVA)

Model	F Count	df1/df2	Sig. (p-value)
Regression	79.958	2/81	0.000

Source: Data Processing Result, 2025

The F-test was used to determine the simultaneous effect of the two independent variables on the dependent variable. The ANOVA result shows:

F-value = 79.958 with significance level = 0.000.

Since the significance value is less than 0.05, it can be concluded that product quality and service quality jointly have a significant effect on customer satisfaction.

4. **Coefficient of Determination (Adjusted R²)**

Table 4. Summary of Coefficient of Determination (R Square)

Model	R	R Square	Adjusted R Square
1	0.814	0.662	0.655

Source: Data Processing Result, 2024

The value of Adjusted R Square is 0.655, which means: Approximately 65.5% of the variance in customer satisfaction can be explained by product quality and service quality. The remaining 34.5% is influenced by other variables not included in this research model.

5. **Reflection on Results**

Overall, the statistical analysis confirms that product quality and service quality are two key factors that significantly influence customer satisfaction with Pertamax 92. The regression model used

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demonstrates a strong explanatory power. However, considering that 34.5% of the variation in satisfaction remains unexplained, further discussion is needed to explore other potential factors—such as customer loyalty, promotional effectiveness, or shifting consumer behavior—that may also contribute to the observed decline in sales volume.

Discussion

The results of this study indicate that both product quality and service quality have a positive and significant influence on customer satisfaction among Pertamax 92 users at PT. Cerah Sinergi Indonesia. This finding is consistent with the descriptive analysis, in which all three variables were rated in the "Very Good" and "Very Satisfied" categories, indicating that the company has created a positive impression in the eyes of its customers. This result supports the view of Kotler and Keller (2021), who stated that customer satisfaction is closely related to the perceived quality of products and services received throughout the customer journey.

Product quality reflects attributes such as reliability, functionality, and performance consistency, all of which are critical to building consumer trust in fuel products. Meanwhile, service quality in the context of gas stations includes responsiveness, friendliness, employee professionalism, and the overall customer experience. Both variables, based on the statistical tests, were proven to significantly contribute to customer satisfaction.

Nevertheless, although these indicators showed positive results, the company still experienced a decline in sales volume during the same period. This contradiction demonstrates that customer satisfaction does not always correlate directly with repeat purchases or customer loyalty. This aligns with contemporary marketing literature, which differentiates between satisfaction and loyalty. A customer may feel satisfied yet still switch to a competitor due to price considerations, more attractive promotions, easier access, or additional benefits offered by another provider.

Furthermore, the adjusted R square value of 0.655 indicates that 65.5% of the variation in customer satisfaction can be explained by product quality and service quality. The remaining 34.5% is influenced by other variables that were not examined in this study. This opens opportunities for future research to explore other factors, such as customer loyalty, price perception, brand image, and the effectiveness of promotional strategies.

From a managerial perspective, these findings emphasize that improving product and service quality remains important, but is not sufficient to ensure long-term customer retention. A more comprehensive approach is needed, including strengthening promotional strategies, utilizing digital platforms, and conducting competitor analysis to respond to the increasing competition in the retail fuel market.

Conclusion

Based on the results of the research and the discussion, the following conclusions can be drawn:

1. The product quality of Pertamax 92 at PT. Cerah Sinergi Indonesia has a positive and significant effect on customer satisfaction. This indicates that the higher the customer's perception of product quality, the higher the level of satisfaction they experience.
2. Service quality also has a positive and significant effect on customer satisfaction. Responsive, friendly, and professional service has been proven to meaningfully enhance both customer experience and satisfaction.
3. Simultaneously, product quality and service quality have a significant influence on customer satisfaction, as demonstrated by the F-test. These two variables together explain 65.5% of the variation in customer satisfaction, while the remaining portion is influenced by other factors not examined in this study.
4. Although the level of customer satisfaction is categorized as "very satisfied", the company has experienced a decline in the sales volume of Pertamax 92. This indicates that satisfaction does not always align with customer loyalty or repurchase decisions, and that a broader strategic approach is needed to retain customers.

Therefore, it is recommended that PT. Cerah Sinergi Indonesia strengthen its customer retention strategies by implementing loyalty programs, optimizing promotional efforts, and enhancing digital customer engagement in order to maintain its position in the competitive retail fuel market.

Recommendations

1. PT. Cerah Sinergi Indonesia is advised to strengthen its customer retention strategies by developing loyalty programs, enhancing digital interaction quality, and optimizing promotions, so that customers remain engaged and less likely to switch to competitors.
2. The company should maintain consistency in product and service quality, as both have been proven to significantly influence customer satisfaction.

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3. Further research is recommended to explore other influencing factors, such as customer loyalty, price perception, and promotional effectiveness, in order to gain deeper insights into the decline in sales volume despite high satisfaction levels.

Acknowledgment

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