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Analysis of the Role of Satisfaction in Mediating the Influence of Fastron Series Lubricant Products on Customer Loyalty

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Abstract

Business developments in the era of globalization have led to increasing competition in the national lubricant industry. This condition requires companies to be able to maintain and increase customer loyalty to the products offered. Customer loyalty can be formed when consumers feel satisfied after using the product, while satisfaction itself is largely influenced by consumer perceptions of product quality. In this study, this relationship is analyzed to determine the extent to which the quality of Fastron Series products influences customer loyalty with satisfaction as a mediating variable. The research method uses a quantitative approach with data processing through multiple linear regression using SPSS software. The data collection technique was carried out by distributing questionnaires to respondents using accidental sampling. The study population was Fastron Series product users at PT Pertamina Lubricants Marketing Operation Region (MOR) IV Semarang. The findings of this study are expected to provide a basis for consideration for companies in strategies to improve product quality and build customer loyalty.

Keywords: Product Quality, Customer Satisfaction, Customer Loyalty.

1 Introduction

The era of globalization is marked by changes in various aspects, one of which is global corporate competition. This situation means that there are no longer any boundaries in business, companies from within and outside the country can compete freely and tightly to attract customers. According to Hemmer and Champy (in Hera and Halim, 2008), changes in the business environment accompanied by economic globalization have an impact on the 3Cs: Customer, Competition, and Change. Currently, customers control the business, so companies must focus on customer needs and desires with the dual goal of attracting new customers and retaining existing customers. Customers who persist in purchasing a product repeatedly are loyal customers. According to Jennie (1997) in Nuraini (2009), loyal customers are those who are so satisfied with a particular product that they are enthusiastic about introducing it to everyone they know. The impact of loyal customers is that the product becomes more widely known and is believed to have many advantages.

Currently, PT. Pertamina Lubricant is not the only producer that dominates the domestic lubricant market because there are other producers competing. PT. Pertamina Lubricant has a Grand Strategy to improve its lubricant products to become World Class Lubricants which includes lubricants becoming subsidiaries, Organic and Inorganic Growth properties, expansion into overseas markets, and having high competitiveness according to the demands of a hyper-

competitive market. The importance of customer loyalty has become increasingly apparent since the liberalization of the Indonesian lubricant market based on Presidential Decree Number 21 of 2001 so that competition in the lubricant market is getting tighter. The impact is that PT. Pertamina's lubricant market share fell to 55% in 2011, then fell again in 2015. In addition, the entry of imported lubricant products burdens domestic lubricant producers.

Based on these conditions, PT. Pertamina Lubricant is faced with the problem of retaining customers and market share. According to Harry Puspito (In Marketing Research Indonesia, 2014), the business world must increase the number of customers and their loyalty. However, consumers may continue to buy a product but are actually dissatisfied and stay for certain reasons. Therefore, companies must satisfy customers. According to Tjiptono (2006), quality is the level of quality to meet consumer needs, and meeting customer expectations results in satisfaction. The Fastron Series has won the 2017 Indonesia Original Brand award as proof of product quality has been recognized. Fastron is recognized by OEMs such as Lamborghini, Mercedes Benz, BMW, VW, Volvo, Porsche, Toyota, Daihatsu, Honda, and others. According to the Director of Sales & Marketing of PT. Pertamina Lubricants, Pertamina lubricant products have been accepted in the domestic and international markets and have received recognition from various automotive manufacturers worldwide.

Referring to this opinion, this study was conducted in relation to customer loyalty of PT. Pertamina Lubricant lubricants, especially Fastron Series, among customers in Semarang City. The object of the study is customer loyalty which is influenced by Customer Satisfaction, while Customer Satisfaction is related to Product Quality. According to Tjiptono (2008), consumer satisfaction is the level of a person's feelings after comparing with their expectations. If PT. Pertamina Lubricant MOR IV is able to understand and fulfill customer expectations, then customer satisfaction can be realized.

2 Literature Review

2.1 Customer Loyalty

Tjiptono (2000) defines loyalty as a condition in which consumers have a favorable disposition towards a product or supplier, characterized by a regular pattern of recurrent purchases. Engel (1995) defines loyalty as a profound commitment to repurchase or consistently prefer a product or service, resulting in repeated acquisitions of the same brand or a collection of brands, despite the influence of situational factors and marketing strategies that may induce brand switching behavior.

2.2 Customer Satisfaction

Kotler (2007) defines consumer satisfaction as an individual's emotional response of joy or disappointment following the comparison of their assessment of a product's performance with their expectations. According to Sumarwan (2003), satisfaction is the emotional state resulting from the comparison of perceived performance or outcomes with expectations. The level of satisfaction reflects the disparity between perceived and intended performance.

2.3 Product Quality

Tjiptono (2006) defines quality as the anticipated standard of excellence and the regulation of variability in attaining that standard to satisfy consumer requirements. David Garvin (in Lovelock,

1994) categorizes quality into five aspects. These viewpoints elucidate why excellence is often seen variably by individuals in diverse contexts.

2.4 Lubricant

In machinery, there is always mechanical contact between one element and another. This mechanical contact produces friction. Friction is the force that resists the sliding or rolling motion of one object against another (Sukirno, 2011). According to Darmanto (2011), continuous friction will result in wear. Wear due to machine contact in internal combustion engines, production machines, and others must be avoided because it will cause damage.

2.5 Framework of thinking

1. The Influence of Product Quality on Customer Satisfaction

All corporate endeavors are fundamentally directed towards client happiness. Consumer satisfaction is an individual's emotional response of gratification or discontent that emerges from juxtaposing their perceptions of a product's performance with their expectations (Kotler, 2007). A customer is considered satisfied when the quality of a company's product aligns with their expectations.

Kotler and Armstrong (2004) assert that the correlation between Product Quality and Consumer Satisfaction is reinforced by the premise that if product quality falls short of expectations, buyers experience dissatisfaction or disappointment. The metrics employed to assess Product Quality include Performance, Durability, Conformance to Specification, Features, Reliability, Aesthetics, Perceived Quality, and Serviceability.

2. The Influence of Product Quality on Customer Loyalty

Swastha and Irawan (2002) identify three elements that influence customer loyalty towards a product or service: (1) Product, (2) Service, and (3) Price. Consequently, an enhanced level of Product Quality fosters greater Customer Loyalty. Nasution (2005) defines Product Quality as a dynamic state associated with products, personnel, processes, tasks, and the environment that fulfills or beyond consumer expectations. High product quality yields advantages for consumers, fostering a positive perception of the product.

3. The Influence of Customer Satisfaction on Customer Loyalty

Organizations can gain advantages by fostering elevated levels of satisfaction. According to Akbar and Parvez (2009), the determinants of client loyalty include service quality, trust, and customer happiness. Loyal customers are generally less inclined to change brands, exhibit reduced price sensitivity, purchase more often and/or in greater volumes, and generate robust word-of-mouth referrals.

According to Wijayanti (2008), customer satisfaction can increase their purchasing power. Creating optimal service quality can foster loyalty in customers' minds. Satisfaction is positively associated with loyalty, but it's important to note that increased satisfaction doesn't always translate into an equal increase in loyalty.

Kotler and Armstrong (2004) assert that the correlation between Product Quality and Consumer Satisfaction is reinforced by the premise that when product quality falls short of expectations, consumer dissatisfaction or disappointment ensues. The metrics employed to assess Product

Quality include Performance, Durability, Conformance to Specification, Features, Reliability, Aesthetics, Perceived Quality, and Serviceability.

2.6 Hypothesis

A conceptual framework was established indicating that Service Quality and Product Quality directly and indirectly affect Customer Loyalty, with Customer Satisfaction serving as an intermediary variable. The schematic of the research framework is illustrated in Figure 1 below:

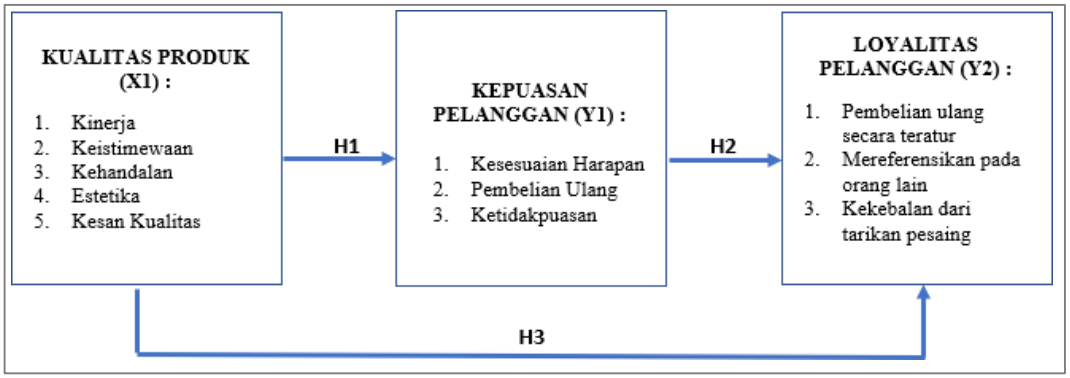

Figure 1. Research Framework

Equality:

$$Y1 = p1X1 + e1$$
$$Y2 = p2X1 + p3Y1 + e2$$

A hypothesis is a provisional response to a research issue, as articulated in the framing of the research problem (Sugiyono, 2006). Consequently, the ensuing hypothesis is derived from the established framework:

H1: There is a significant influence between Product Quality and Customer Satisfaction.
H2: There is a significant influence between Customer Satisfaction and Customer Loyalty
H3: There is a significant direct influence between Product Quality and Customer Loyalty.
H4: There is a significant indirect influence between Product Quality and Customer Loyalty through Customer Satisfaction.

3 Methods

A population is a defined group of study items or subjects characterized by specific attributes identified by the researcher, from which conclusions may be derived. The study's population comprised Fastron consumers in Semarang City, Central Java. A sample is a subset of a population possessing specific attributes. The employed sampling technique is non-probability sampling, specifically accidental sampling, which relies on chance encounters with individuals who fulfill the criterion for data sources. The sample size in this study is calculated using a calculation due to the infinite population (Arikunto, 2012).
So the sample size in this study is:

$$n=0.102(1.9762)\times(0.52)=97.61\approx100$$

Thus, the number of samples in this study was 100 respondents. Data collecting procedures refer to the techniques employed to get the necessary data for research purposes. This study employed

documentation and questionnaires as data collecting methods. The research instrument was developed as a closed-ended questionnaire featuring statements pertaining to Fastron Series product quality, customer happiness, and customer loyalty. Each statement was associated with the corresponding variable indicators as outlined in the operational description. The instrument employed a 1–5 Likert scale, yielding quantitative data amenable to statistical analysis.

Validity is an assessment that signifies the degree of authenticity or legitimacy of an instrument (Suharsimi, 2006). This validity test aims to assess the degree of validity of an instrument. An instrument is deemed valid if it can precisely provide data pertaining to the variables under investigation. Reliability is a metric employed to assess the consistency of constructs or research variables. Reliability testing is performed to assess the consistency of a measuring device, commonly with the Cronbach's Alpha statistical test.

Path Analysis Test
This analysis uses a multiple regression model, namely:

1. Model 1: The Effect of Product Quality on Customer Satisfaction.
2. Model 2: The Influence of Product Quality and Customer Satisfaction on Customer Loyalty.

Based on the model above, the following equation is obtained:

$$Y1=p1X1+e1$$
$$Y2=p2X1+p3Y1+e2$$

Prior to doing path analysis, the data underwent conventional assumption tests to confirm that the regression model satisfied statistical prerequisites. These tests included multicollinearity, heteroscedasticity, normality, and linearity. Hypothesis testing is done by:

1. F test (simultaneous) to determine whether the independent variables together have a significant effect on the dependent variable.
2. The t-test (partial) is used to see the influence of each independent variable and intervening variable on the dependent variable individually.

This study used the Sobel Test to investigate the mediating effect of customer satisfaction on the connection between product quality and customer loyalty. The Sobel Test quantifies the amount of the indirect effect via the intervening variable by utilizing the path coefficient and standard error derived from the established regression model.

4 Results and Discussion

4.1 Respondent Characteristics

The characteristics of respondents in this study can be seen from gender, age, education, occupation, monthly income, Fastron Series lubricant products used, and the brand of vehicle used.

The research findings show that most respondents were male, in the productive age group, with a relatively good level of education, and had jobs and income levels that allowed them to perform routine vehicle maintenance. Respondents used various Fastron Series lubricant variants and different vehicle brands, thus reflecting diverse perceptions regarding product quality, satisfaction, and loyalty.

These characteristics indicate that respondents who use the Fastron Series are consumers who pay sufficient attention to vehicle maintenance and have sufficient experience in evaluating the lubricant products they use.

4.2 Variable Category Description

Categorization of Product Quality Variables (X2)

The table above explains that the answers given by respondents to the Product Quality Variable with 14 instruments from five indicators; (1) Performance, (2) Specialty, (3) Reliability, (4) Aesthetics, and (5) Perceived Quality. A total of 12 instruments have a high index while the other 2 instruments have a very high index. The lowest value is 3.89 which is on the aesthetic indicator, followed by a value of 3.84 which is on the perceived quality indicator.

Categorization of Customer Satisfaction Variables (Y1)

The calculation results of the scores obtained for the Customer Satisfaction variable as an intervening variable are explained in Table 4.8. The quality of Fastron is in accordance with my expectations with an index of 4.27, which is categorized as very high. The service provided by the workshop/retailer employees to customers is in accordance with my expectations with an index of 3.94, which is categorized as high. I received clear information about Fastron from the workshop/retailer employees, which is also categorized as high.

In general, the index obtained shows that respondents tend to agree to strongly agree with the statements on the customer satisfaction variable, so it can be said that the level of customer satisfaction with Fastron Series lubricant products is in the high to very high category.

Categorization of Customer Loyalty Variables (Y2)

The table above explains that the answers given by respondents to the Customer Loyalty Variable as a Dependent Variable for the interval 3.20–3.59 with the highest frequency value is strongly agree, with a score of 790 or in percentage 39.5, so it can be said that respondents strongly agree with the Customer Loyalty Variable as a Dependent Variable. Respondents' opinions on the Customer Loyalty variable are the frequency of respondents' answers tending to strongly agree, this shows that with higher customer loyalty to Fastron Series products, the potential for repurchase will increase.

4.3 Research Instrument Test Results

Validity Test Results

Validity is an assessment that denotes the degree of accuracy or legitimacy of an instrument (Suharsimi, 2006). The Validity Test aims to ascertain whether the items in the questionnaire effectively elucidate the subject under investigation. This test is conducted by juxtaposing the computed r with the tabulated r. If the computed r value exceeds the table r and is positive, the inquiry is deemed genuine (Ghozali, 2009). An instrument is considered legitimate if it can reliably reflect data from the variables used to assess the validity of the questions under investigation.

According to the validity test results, all categories pertaining to product quality, customer satisfaction, and customer loyalty have a calculated r value exceeding the tabulated r value and are positively correlated, thus deemed valid.

Reliability Test Results

Dependability is a tool that is utilized for the purpose of measuring the consistency of research variables or constructs. Ghozali (2011) posits that a variable is deemed dependable if respondents' answers to inquiries remain constant throughout time. A variable is deemed dependable if its Cronbach's Alpha exceeds 0.60 (Ghozali, 2009).

Table 4.10 indicates that the questionnaire statements exhibit reliability, as evidenced by a Cronbach's alpha value exceeding 0.6. This signifies that each statement item utilized will yield consistent data, implying that if the statement is posed again, the responses will be comparable to the prior answers.

4.4 Classical Assumption Test Results

This study incorporates conventional assumption tests, specifically normality tests, multicollinearity tests, and heteroscedasticity tests.

The statistical analysis indicates a Kolmogorov-Smirnov value >0.05, signifying that the data follows a normal distribution.

For the purpose of determining the degree of correlation that exists between the independent variables in a regression model, the multicollinearity test is utilized. In an effective regression model, the independent variables must be uncorrelated. The test results indicate that the tolerance value approaches 1 and the VIF is below 10, so concluding that the model is devoid of multicollinearity.

All variables were found to have a significance value exceeding the 5% confidence level (0.05). Therefore, it can be concluded that the regression model does not contain heteroscedasticity.

4.5 Path Analysis Test Results

Path analysis is employed to evaluate the direct and indirect impacts of product quality on customer loyalty via customer satisfaction. The structural model is formulated using product quality (X2) as the independent variable, customer satisfaction (Y1) as the mediating variable, and customer loyalty (Y2) as the dependent variable.

The obtained path equation is:

$$Y1 = \beta 1X2 + e1$$
$$Y2 = \beta 2X2 + \beta 3Y1 + e2$$

This equation demonstrates that product quality substantially affects consumer happiness. Every enhancement in product quality correlates with a 0.654 rise in customer satisfaction.

This equation demonstrates a substantial correlation between product quality and consumer loyalty. Every enhancement in product quality corresponds to a 0.391 rise in consumer satisfaction.

This equation demonstrates a substantial correlation between customer pleasure and customer loyalty. Every enhancement in customer satisfaction corresponds to a 0.380 increment in client loyalty.

The computation of the aforementioned influence yields a total effect value, specifically the impact of product quality on customer loyalty mediated by customer happiness, represented as X1 Y1 Y2 = 0.654 + 0.380 = 1.304.

4.6 Goodness of Fit (GoF) Analysis

For the purpose of determining how well a created route model can explain the phenomenon that is being investigated, a Goodness of Fit (GoF) analysis is utilized. The GoF value is derived from the integration of the R-square value and the communalities value.

The calculation findings indicate that the GoF value falls under the good category, so confirming that the structural model employed in this study is suitable for elucidating the relationships among product quality, customer satisfaction, and customer loyalty factors.

4.7 Regression Results Analysis and Discussion

Product Quality Improvement

The table above explains that the answers given by respondents to the Product Quality Variable with 14 instruments from five indicators; (1) Performance, (2) Specialty, (3) Reliability, (4) Aesthetics, and (5) Perceived Quality. A total of 12 instruments have a high index while the other 2 instruments have a very high index. The lowest value is 3.89 which is on the aesthetic indicator, followed by a value of 3.84 which is on the perceived quality indicator.

This shows that the increase in the quality of Fastron Series products perceived by consumers is in the high to very high category, so that product quality is an important factor in forming customer satisfaction and loyalty.

Increased Customer Satisfaction

The calculation results of the scores obtained for the Customer Satisfaction variable as an intervening variable indicate that most indicators are in the high to very high category. Fastron's quality meets my expectations, with an index of 4.27, categorized as very high. The service provided by the workshop/retailer employees to customers meets my expectations, with an index of 3.94, categorized as high. I received clear information about Fastron from the workshop/retailer employees, which is also categorized as high.

This conclusion corroborates the path analysis results, indicating that product quality significantly influences customer satisfaction, with each enhancement in product quality corresponding to a 0.654 rise in customer satisfaction.

Increased Customer Loyalty

The table above explains that the answers given by respondents to the Customer Loyalty Variable as a Dependent Variable for the interval 3.20-3.59 with the highest frequency value is strongly agree, with a score of 790 or in percentage 39.5, so it can be said that respondents strongly agree with the Customer Loyalty Variable as a Dependent Variable. Respondents' opinions on the Customer Loyalty variable are the frequency of respondents' answers tending to strongly agree, this shows that with higher customer loyalty to Fastron Series products, the potential for repurchase will increase.

This equation demonstrates that there is a substantial relationship between the quality of the product and the loyalty of the consumer, as well as the satisfaction of the customer. Every

enhancement in customer satisfaction correlates with a 0.380 rise in client loyalty. This suggests that initiatives to enhance the quality of Fastron Series products, hence augmenting consumer pleasure, would directly and indirectly foster more customer loyalty.

5 Conclusion

Conclusions can be derived from the research findings and data analysis regarding the impact of Fastron Series Product Quality on Customer Loyalty, with Customer Satisfaction serving as an intervening variable:

1. The independent variable, Product Quality (X1), significantly influences the intervening variable, Customer Satisfaction (Y1). Higher quality of the Fastron Series product correlates with increased customer satisfaction.
2. The independent variable, Product Quality (X1), significantly affects the dependent variable, Customer Loyalty (Y2), both directly and indirectly. Higher product quality correlates with increased consumer loyalty.
3. The Customer Satisfaction variable (Y1) significantly influences the Customer Loyalty variable (Y2), which serves as the dependent variable. Increased customer satisfaction correlates with elevated customer loyalty.
4. The Customer Satisfaction variable (Y1) can be described as an intervening variable that generates an indirect influence between the Product Quality variable (X1) and the Customer Loyalty variable (Y2). This is because the three variables are interdependent on one another. Higher product quality correlates with increased consumer satisfaction. Elevated customer satisfaction yields a significant degree of client loyalty.

There are several suggestions that can be proposed by the author after knowing the research results, namely as follows:

1. The Fastron Series products have achieved good quality, meeting various domestic and international standards. Suggestions for improving product quality include increasing the range of specifications required by customers. The Fastron Series is required to keep pace with developments in vehicle engine technology. Furthermore, it is crucial to gain quality recognition from various vehicle brands.
2. Customer satisfaction can be improved by educating staff at authorized and unofficial repair shops about the advantages of the Fastron Series. Staff should provide information about the Fastron Series specifications for customers' vehicle engines.
3. Customer loyalty can be increased through several aspects, including collaborating with well-known vehicle brands and automotive communities to increase customer trust in Fastron products. Furthermore, promotional programs, discounts, and sweepstakes should be offered to repeat Fastron customers.

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