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The Impact of Product Quality towards Sales at PT. Pentaco Makmur Medan

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ABSTRACT

This research explains a conceptual model that elucidates the factors that influence the impact of product quality at PT. Pentaco Makmur Medan and how this information can be effectively used for business development and sustainability. This study is a review that identifies sales as the dependent variable, through a systematic review of online literature sources. Three independent variables were then identified viz. product features, service value chain and consumer behaviour. The research objectives and research questions were defined to assess the influence of the independent variables on customer satisfaction. It was identified that critical product features identified and shared during early stages of product development influences customer satisfaction by reducing product failures. Furthermore, customer satisfaction mediates improved service value leading to loyalty and finally, consumer behaviour in sharing experiences extends the product's life and influences customer satisfaction

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INTRODUCTION

In any company, either trading firms or service firms, the company must face the competition. The competition faced by the manufacturing companies in winning their products is increasing. In order to stand still the existence of the company, the company must be able to compete with other similar field companies. One of the ways to compete with other companies and win the competition is to enhance the quality of the products. This way can make the customers not to turn to other companies. If a product fulfils the customer's expectations, the customer will be pleased and consider that the product is of acceptable or even high quality. If his or her expectations are not fulfilled, the customer will consider that the product is of low quality. This means that the quality of a product may be defined as its ability to fulfill the customer expectations. According to Kotler (2007:140): "Product quality, customer satisfaction, customer loyalty, and sales are intimately connected. Higher level of quality results in higher level of customer satisfaction which increases the sales in the company". PT. Pentaco Makmur Medan is a manufacturing company in producing plastics products such as wrapped plastics, plastics ropes, plastic sacks, etc. The company found out that the sales targets are not achieved. The director of PT. Pentaco Makmur Medan concluded that the company does not prioritize the good product quality so that the sales do not increase which can be seen in the table below:

Table 1. The Sales Target Comparison From 2021-2023

Year	Actual Sales	Expected Sales	Percentage
2021	12,850,890,000	15,000,000,000	85.67%
2022	11,138,767,000	15,000,000,000	74.26%
2023	9,777,865,400	15,000,000,000	65.20%

Source: PT. Pentaco Makmur, 2023

From the table of sales target comparison above, the sales in 2021 decreased from 85.67% to 74.26%. There is decreasing sales in 2023, the sales are 65.20%. PT. Unilever Indonesia has observed the factor of the decreasing sales has a relation with product quality. The quality of the product that is being made is very important to a company whatever they are making. The higher the quality if a product the more the company can charge for that product. If the company makes a low-quality product that is not very good people will not buy it, also if people can find a similar product at a lower price and higher quality they will buy. When a business makes a product, they must decide on the following things: what is the lowest level of quality that is acceptable for the product, who responsible for the quality control, and a method of quality control that will be used that does not impact the cost to severally.

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METHODOLOGY

In order to enhance the process of completing these writings, the writer does the design of the research in order to gain information needed. The analysis of how the impact product quality is done through descriptive research and testing of hypothesis. To prove the hypothesis the writer mentioned above, the writer uses two analysis methods which are descriptive research and correlative research.

Descriptive research is also called statistical research. It is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in as situation. Descriptive studies are undertaken when the characteristics or the phenomena to be tapped in a situation are known to exist, and one wants to be able to describe them better by offering a profile of factors. Correlation research is a form of research or analysis in which correlate one variable with another variable in order to determine if there is any relationship between those variables. Correlation research also allows testing of the expected relationships between and among those variables and the making of predictions. It can also assess many relationships in everyday life’s events.

Hypothesis testing offers an enhanced understanding of the relationship that exists among variables. It could establish cause and effect relationships, and could be done both quantitative and qualitative data. A sample should be measure by gathering the number of populations.

Population is the whole research objects as the source of data with a certain characteristic in the research. Sample is a set of individuals or items selected from a population. According to Arikunto (2005:134) about the total sample: "If there are less than 100 subjects, it is better to take all of them so that the research is population research. Furthermore, if the number of subjects is greater than 100, it can be taken between 10-15% or 20-25% or more. (If the subject of the research is less than 100, it is

better to take all the samples, so that the research is considered as population research. But, if the subject is more than 100, sample can be taken from 10- 15% or 20-25% or more of population”.

There are 80 retailers of PT. Pentaco Makmur Medan. Based on the theory of Arikunto above, the writer decided to take all the dealers of PT. Unilever Indonesia as the sample, which are 80. The writer will take all the population as the sample. This type of research is called census study because the data is gathered on every member of the population.

Data Analysis Method

There are two types of variables:

Independent Variable: Product Quality

Independent variable is one that influences the dependent variable in either a positive or negative way. The independent variable of this research is: product quality.

Dependent Variable: Sales

The dependent variable is the variable of primary interest to the researcher. It is the main variable that lends itself for. The dependent variable is sales.

In completing the writings, the writer uses some methods, which is doing observation and spreading questionnaire. According to Cooper & Schindler (2008:192): “Observation qualifies as scientific inquiry when it is conducted specifically to answer a research question, is systematically planned and executed, uses proper controls, and provides a reliable and valid account of what happened.”

In observation, writer is going to do the research by collecting the information and data needed about product quality and searching the sources to gain some information. There are two types of data used in this research, which are primary and secondary data.

Primary data

Primary data referred as the direct information gained from the company as the research object, those data are collected directly from first-hand experience, which can be done through researches, surveys and experiments. Primary data collection can be done through questionnaire, observation and interview. The writer will distribute questionnaire to the respondent at PT. Pentaco Makmur Medan to gather data and some other data is collected by observing the activity in the company.

Secondary data

Secondary data referred as published data, the data that has been collected in the past or data that has already exists somewhere having being collected for some purposes. It can be said as the information gained from published or compiled sources. Secondary data can also refer to an existing primary data that was collected by a party and then being re-used by the current one. The writer uses various sources of secondary data, such as books, journals and internet. In the process to gain the real data for the research, the writer distributes questionnaire to dealers of the company as the respondents, which the questionnaire are arranged in Likert scale. Likert scale is psychometric scale that is commonly used in questionnaire and respondents specify their level of agreement to a statement. In the opinion of Sekaran (2003:197),” Likert scale is designed to examine how strongly subjects agree or disagree with statements on a 5- point scale.” The result of the question will be measure by using Likert scale and the value of each point are stated as:

RESULT

Validity Test

The test of data validity was done in order to know the validity of the questions in the questionnaires. The writer will use 10 people outside the sample. The purpose of using this test is to test the degree to which evidence and theory support the interpretations and determine the degree of

support for the conclusion that the causal variable caused the effect.

Reliability Test

The test of reliability is counted from the results of questionnaire for variable x and variable y. The reliability test is used to test whether the questionnaires are trustworthy enough or not. To ensure the data is reliable, the writer uses Cronbach’s Alpha formula in proving that the data are not error.

The Correlation Test

In order to count the product moment correlation, the writer needs to arrange a table as follows: According to the table above, the writer could get the quantitative data as below:

$$\begin{aligned}
 n &= 80 \\
 \sum X &= 1194 \\
 \sum Y &= 1440 \\
 \sum X^2 &= 20524 \\
 \sum Y^2 &= 28226 \\
 \sum XY &= 23058
 \end{aligned}$$

To determine the relationship level between variable X (Product Quality) and variable Y (Sales), the writer uses the test of correlation as follows:

$$\begin{aligned}
 r &= \frac{n \cdot (\sum XY) - (\sum X) \cdot (\sum Y)}{\sqrt{[n \cdot (\sum X^2) - (\sum X)^2] \cdot [n \cdot (\sum Y^2) - (\sum Y)^2]}} \\
 r &= \frac{80 \cdot 23,058 - (1194) \cdot (1440)}{\sqrt{[80 \cdot (20524) - (1194)^2] \cdot [80 \cdot (28226) - (1440)^2]}} \\
 r &= \frac{1,844,640 - 1,719,360}{\sqrt{[216,284] \cdot [184,480]}} \\
 r &= \frac{125,280}{168,747} \\
 r &= 0.74
 \end{aligned}$$

From the calculation of correlation coefficient between Variable X and Variable Y, the writer got the result of 0.74. Then 0.74 means the product quality has a strong relation toward sales at PT. Pentaco Makmur Medan.

The Determination Test

Next, in order to find out the percentage impact of product quality towards sales, the writer can calculate it by the determination of correlative coefficient. The determination calculation is as follows:

$$D = r^2 \times 100\%$$

$$D = (0.74)^2 \times 100\%$$

$$D = 0.5476 \times 100\%$$

$$D = 54.76\%$$

The percentage impact of product quality towards sales at PT. Pentaco Makmur Medan is 54.76% and the remaining percentage of 46.24% was impacted by the other factor that was not reviewed by the writer (such as service quality).

The Linear Regression

Regression analysis is a statistical data technique that analyzes the linear relationships between two variables by estimating coefficient for an equation for a straight line.

$$Y = a + b x$$

$$r_{xy} = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{\{n(\sum x^2) - (\sum x)^2\}\{n(\sum y^2) - (\sum y)^2\}}}$$

$$b = \frac{1,8446,40 - 1,719,360}{1,641,920 - 1,425,636}$$

$$b = \frac{125,280}{210,284}$$

$$b = 0.60$$

$$a = \frac{\sum Y - (b \sum X)}{N}$$

$$N$$

$$a = \frac{1440 - (0.6 \cdot 1194)}{80}$$

$$a = 9$$

The linear equation means that for each one increase in the variable x (product quality), the values of variable Y (Sales) will increase by 0.60. The linear regression shows a positive relationship between product quality and sales.

Test Of Hypothesis

Here, the writer used the z-test to test the hypothesis, whether to be accepted or to be rejected. The calculation is as follows:

$$Z_{\text{count}} > Z_{\text{table}} \quad : \text{Alternative Hypothesis (Ha) is accepted}$$

$$Z_{\text{count}} < Z_{\text{table}} \quad : \text{Null Hypothesis (Ho) is accepted}$$

From the calculation above, $Z_{\text{count}} = 6.57$. The accuracy level is 95% and it is a two-tailed test. So, $6.57 > 1.96$ which means $Z_{\text{count}} > Z_{\text{table}}$. The writer can conclude that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected so Product quality has impact towards sales at PT. Pentaco Makmur Medan.

DISCUSSION

From the answers of the questionnaires, the retailers said that the PT. Pentaco Makmur Medan has not implemented a good product quality. The respondents answered that product quality has impact towards sales at the company, the respondents are dissatisfied with the product quality so the sales decrease.

From the calculation of correlation coefficient between product quality and sales, the writer got the result of 0.74. The score of 0.74 is indicated as strong or high. It means that the product quality has a strong impact (relation) towards sales at PT. Pentaco Makmur Medan. The percentage impact of product quality towards sales at PT. Pentaco Makmur Medan is 54.76% and the remaining percentage of 46.24% was impacted by the other factor that was not reviewed by the writer (such as service quality). From the Hypothesis test, the writer found out that the Null Hypothesis (Ho) is rejected and the Alternative Hypothesis (Ha) is accepted. The writer can conclude that Product quality has impact towards sales at PT. Pentaco Makmur Medan.

CONCLUSION

The writer will answer the problem which Is there any impact of product quality towards sales? Based on the calculation of correlation test, linear regression, the answer is yes, product quality has impact towards sales in PT Pentaco Makmur Medan. So, if the level of product quality increases, the sales also increase and the lower level of product quality, the sales will decrease.

The second problem is How strong the impact of product quality towards sales, as has been calculated by using formula of correlation, there is a positive relationship between variable X (Product Quality) and variable Y (Sales) and product quality has a strong impact towards sales at PT Pentaco Makmur Medan.

RECOMMENDATION

PT Pentaco Makmur Medan Increases and updates the performance and the physical for more outstanding appearance and plastics product performance.

PT Pentaco Makmur Medan pays attention to the features of the plastics products in order to increase the sales.

PT Pentaco Makmur Medan always give a brief and good product warranty to the retailers for more details.

PT Pentaco Makmur Medan increases and maintains the product durability and make sure the product has the long durability time.

PT Pentaco Makmur Medan may directly ask the customers and implement the customers attention.

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