THE EFFECT OF PRODUCT QUALITY TO THE LOYALTY OF TAHU TEMPE NUR CAHYO CONSUMERS IN BIAK PAPUA

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Abstract: Nur Cahyo is one of the industry players producing tahu and tempe in Biak Papua. The quality of the product that the product offered by the seller has an extra selling value that is not owned by the competitor's products. In Biak Numfor Regency, there are several entrepreneurs who open businesses in the field of tahu and tempe production, one of which is tahu and tempe Nur Cahyo production. Every month Nur Cahyo supplies ± 40 tons of soybeans. With the daily production of tempe as much as ± 200 pieces and also tahu. The research objective was to determine the influence of product quality on consumer loyalty to tahu and tempe Nur Cahyo in Biak Papua. This research uses the quantitative method. In this research the sample set is consumers who purchase tahu and tempe Nur Cahyo industry from 250 populations using the Slovin formula with a margin of error of 5%, the results are 154 in other words the sample from the research as many as 154. Sampling technique non-probability sampling. The sampling of respondents was done using purposive sampling technique, the sample criteria or data sources selected in the study were consumers or customers who purchased tahu and tempe Nur Cahyo in Biak Papua. From the decision-making criteria for the hypothesis, there is a significant positive effect between product quality and consumer loyalty as seen from the tcount 10.357 > from the ttable value 1.987. With a significant value of 0.000 < 0.05, then Ho is rejected and H1 is accepted, which means that there is a significant effect of the product quality variable (X) on the loyalty variable (Y). Research results Product quality variable (X) after hypothesis testing There is an influence between product quality on consumer loyalty of tahu and tempe Nur Cahyo industry. The magnitude of the influence of product quality on customer loyalty can be seen in the value of the coefficient of determination (R²) which has a value of 0.523 or 52.3%.

Keywords: Product Quality, Loyalty, Customers, Tahu Tempe

1. Introduction
Tahu Tempe is a food product that is already popular in Indonesian society. Since long time ago, Indonesian people are accustomed to consuming tahu or tempe as side dishes to accompany rice or as a snack. Tempe tahu is a food that is very popular with Indonesians because it tastes good and the price is relatively cheap. Tahu contains several nutritional values, such as protein, fat, carbohydrates, calories, minerals, phosphorus, and B-complex vitamins. Tahu is also often used as one of the low-calorie diet menus because of its low carbohydrate content. Indonesia itself is the largest tempe producer country in the world and is the largest soybean market in Asia. As much as 50% of Indonesia's soybean consumption is done in the form of tempeh, 40% tahu, and 10% in the form of other products (such as tauco, soy sauce, etc.). The average consumption of tempe per person per year in Indonesia is currently estimated to be around 6.45 kg.
The owner of Nur Cahyo tahu and tempe industry, Mr. Nurachmad, said that he stopped selling his products directly to the market, but consumers who came directly to Tahu Nur Cahyo making factory to buy tahu and tempeh. Whether it's buyers who immediately consume tahu and tempe or traders who buy it and then sell it back. Talking about the quality of tahu Nur Cahyo, from some consumers said, for the tahu product itself, in terms of size it is smaller and the texture is a little rough compared to the tahu product on the spot. Other. And for the tempe product itself, the texture is less dense, like when it is processed / cut, the middle will be slightly crushed.

The possibility of a decrease in the number of consumers indicates that consumer loyalty is reduced and has an impact on decreasing consumer acquisition of Tahu Nur Cahyo. Increasingly tighter competition and growing consumer expectations have encouraged companies to focus more on efforts to retain existing customers. Maintaining the existing market through developing consumer loyalty is a strategic goal of companies to maintain their business and profits. According to Hasan (2013: 121) consumer loyalty is behavior that is attracted to the brand of a product, including the possibility of renewing the brand contract in the future, if the product is not able to satisfy the customer, the customer will react by way of exit and voice.

Consumer loyalty is a measure of consumer attachment to a product. This measure is able to provide an idea of whether or not consumers may switch to another product. However, with the lack or weakness of Tahu Nur Cahyo products, the actual quality of Tahu Nur Cahyo products is still questionable. Customers who are satisfied with the performance of a product will encourage consumers to make repeat purchases and create a loyal attitude towards the product.

2. Method
This research method uses quantitative research because it uses statistical analysis and aims to test predetermined hypotheses. The target population in this research are consumers who buy tahu and tempe with the total population used is 250 taken from the data of consumers who came to buy Tahu Nur Cahyo products in the last few days. Thus, consumers are expected to understand and know about the product. In this study the sample set is consumers or customers who purchase tahu and tempe in Tahu Nur Cahyo industry from 250 populations using the Slovin formula with a 5% margin of error. as many as 154 in other words the sample of this study was 154. The sampling technique in this study was non-probability sampling. Respondents were taken using purposive sampling technique, the sample criteria or data sources selected in the study were consumers or customers who purchased Tahu and tempe Nur Cahyo in Biak Papua. To find out the number of samples we used in this study, we used the slovin formula. as follows:

\[ n = \frac{N}{1 + (Ne^2)} \]

(source: www.statistikian.com)

Explanation:
- \( n \): number of samples
- \( N \): number of populations
- \( e \): margin of error

Based on the notation formula for the minimum research sample size by Slovin above, if we have 250 people in a population, we can determine the minimum sample to be studied. The margin of error specified is 5% or 0.05.

The calculation is:

\[ n = \frac{N}{1 + (Ne^2)} \]
\[
\begin{align*}
    n &= \frac{250}{1 + (250 \times 0.05^2)} \\
    n &= \frac{1 + 0.625}{250} \\
    n &= \frac{1.625}{153.84} = 153.84
\end{align*}
\]

If rounded, the minimum sample size of 250 populations at a 5% margin of error is 154.

**Research design**

In this research, researchers focused on product quality that affects consumer loyalty to tahu tempe Nur Cahyo. This is because Tahu Nur Cahyo products still have shortcomings in product quality, but there are still many enthusiasts of Nur Cahyo products, considering that Nur Cahyo is not the only one who produces tofu and tempeh and maybe the quality is higher than Nur Cahyo own products. The data analysis technique used simple regression analysis and coefficient determinants. The hypothesis that will be proven in this study is the influence of the independent variable (product quality) on the dependent variable (product result). To test the significance of the correlation coefficients of X and Y variables, it is done by comparing the \( t_{\text{count}} \) and \( t_{\text{table}} \), with a significance test with the formula:

\[
t_{\text{count}} = \sqrt{\frac{n-2}{1-r^2}}
\]

(Ridwan, 2010: 81)

**Keterangan:**
- \( T_{\text{count}} = t \) value
- \( R = \) Correlation coefficient
- \( n = \) Number of samples

The decision-making criteria for the proposed hypothesis are:
- If \( t_{\text{count}} > t_{\text{table}} \) atau \( t_{\text{count}} < t_{\text{table}} \) so \( H_0 \) accepted and \( H_a \) rejected.
- If \( t_{\text{count}} < -t_{\text{table}} \) atau \( t_{\text{count}} > t_{\text{table}} \) so \( H_0 \) rejected and \( H_a \) accepted.

Statistically the hypothesis to be tested is at an error level of 0.05 with the degree of freedom (dk) \( (n-k-1) \) as well as the one-party test. The criteria for acceptance or rejection of the main hypothesis in this research are written as follows:

\( H_0 : \rho = 0, \) means = there is no effect of product quality on consumer loyalty

\( H_a : \rho \neq 0, \) means = there is an effect of product quality on consumer loyalty.

**3. Result and Discussion**

Data description is an effort to display data so that the data can be presented properly and interpreted easily. In this study, the data used consisted of one independent variable and one dependent variable, namely product quality \( (X) \) and consumer loyalty \( (Y) \).

The data collected came from distributing questionnaires were out of the 250 questionnaires we distributed and returned as many as 100, in other words, 100 respondents filled out questionnaire sheets from various ages, sexes, recent education and occupations of these respondents who came from people or consumers who come to buy Nur Cahyo tahu products.

**a. Tanggapan responden terhadap Kualitas Produk Tahu Tempe Nur Cahyo Biak**

From the results obtained by researchers in distributing questionnaires to consumers of tahu Nur Cahyo in Biak, we can know the consumer’s assessment of the quality of tofu and tempeh...
products. With a total of 16 questions that aim to find out how interested respondents are in product quality.

1) **Performance**

Results of the Recap of Respondents' Responses to the Shape and Size of Good and Appropriate Tahu Tempe, can be seen that 32 respondents answered strongly Agree. Then 65 respondents answered agree. Then, 3 respondents answered neutral or about (3%), while the answers to disagree and strongly disagree were empty. The average respondent's answer was 4.26. Respondents' responses about products that are not easily destroyed when processed with 40 respondents answered strongly agree or about (40%). Then 57 respondents answered agree or (57%). Then no one answered for a neutral choice, while to disagree 1 respondent with a percentage of about (1%) and 2 respondents strongly disagreed with a percentage of (2%). The average respondent's answer was 4.32.

2) **Features**

Respondents' responses to the quality of taste better than other Tahu Tempe, a total of 32 respondents answered strongly agree or about (32%). Then 43 respondents answered agree or (43%). Then 23 respondents answered neutral or about (23%), while for the answer to disagree there was 1 respondent with a percentage of (1%) and strongly disagree there was 1 with a percentage of (1%). The average respondent's answer was 4.04. Respondents' responses to the provision of processed soybeans apart from Tahu and Tempe with 33 respondents answered strongly agree or about (33%). Then 59 respondents answered agree or (59%). Then the respondents answered neutral, disagree and strongly disagree, each is empty. The average respondent's answer is 4.25.

3) **Reliability**

Respondents' responses to the shape and color of the product do not change over time, with 29 respondents answering strongly or about (29%). Then 71 respondents answered agree or (71%). Then the respondents answered neutral, disagree and strongly disagree, each is empty. The average respondent's answer is 4.29. Respondents' Responses to the Price of Cheap Tahu Tempe with 18 respondents answered strongly agree or about (18%). Then 51 respondents answered agree or (51%). Then 8 respondents answered neutral or about (8%), while the answers to disagree and strongly disagree were empty. The average respondent's answer was 3.87.

4) **Suitability**

Respondents' responses to pricing in accordance with the number of 28 respondents answered strongly agree or about (28%). Then 57 respondents answered agree or (57%). Then 15 respondents answered neutral or about (15%), while the answers to disagree and strongly disagree were empty. The average respondent's answer was 4.13. Respondents' Response to the Provision of Tahu Tempe Products Without a Vacancy Time with 27 respondents answered strongly agree or about (27%). Then 73 respondents answered agree or (73%). Then the respondents answered neutral, disagree and strongly disagree, each is empty. The average respondent's answer was 4.27.

5) **Durability**

Respondents' Responses to the Stable Shape and Color of Tahu and Tempe with 35 respondents answered strongly agree or about (35%). Then 63 respondents answered agree or (63%). Then 2 respondents answered disagree or about (2%), while the neutral and strongly disagreeing answers were empty. The average respondent's answer was 4.31. Respondents' Responses to Tempe Tofu Can Last Long / Maximum seen by the number of 37 respondents answered strongly agree or about (37%). Then 41 respondents answered agree or (41%). Then 17 respondents answered neutral or about (17%), while for the answers to disagree there were 4 respondents with a percentage (4%) and strongly disagree with 1 respondent (1%). The average respondent's answer was 4.09.

6) **Service**

Respondents' responses to good and friendly workers with a total of 42 respondents answered strongly agree or about (42%). Then 56 respondents answered agree or (56%). Then 2 respondents answered neutral with a percentage of (2%), disagree and strongly disagree, each
is empty. The average respondent's answer is 4.40. Respondents' responses to serving buyers quickly with 23 respondents answered strongly agree or about (23%). Then 73 respondents answered agree or (73%). Then 4 respondents answered neutral or about (4%), while the answers to disagree and strongly disagree were empty. The average respondent's answer was 4.19.

7) Aesthetics
Respondents' responses to the typical smell or aroma of Tahu Tempe in general, 32 respondents answered strongly agree or about (32%). Then 65 respondents answered agree or (65%). Then the respondent answered that there was 1 neutral with a percentage (1%), 2 respondents disagreed with (2%) and strongly disagreed with it. The average respondent's answer was 4.27.
Respondents' responses to the sharpness of a typical taste of tahu and tempeh in general. with a total of 41 respondents answered strongly agree or about (41%). Then 59 respondents answered agree or (59%). Then the respondent answered neutral, disagreed, each was blank and strongly disagreed, there were 2 respondents with a percentage (2%). The average respondent's answer was 4.35.

8) Perception
Respondents' responses to having reliability with a total of 51 respondents answered strongly agree or about (51%). Then 75 respondents answered agree or (75%). Then 8 respondents answered neutral or about (8%), while the answers to disagree and strongly disagree were empty. The average respondent's answer is 4.43. Respondents' response towards meeting consumer needs 69 respondents answered strongly agree or about (69%). Then 29 respondents answered agree or (29%). Then 2 respondents answered neutral with a percentage of (2%), disagree and strongly disagree, each is empty. The average respondent's answer was 4.67. Furthermore, the respondent's average is sought to facilitate the assessment of the average, an interval is made. In this assessment the authors determine the number of interval classes of 5, the formula used according to Sudjana (2006: 79)

b. Respondents' Responses to Consumer Loyalty of Tahu Tempe Nur Cahyo Products

1) Make Purchases Regularly
Respondents' responses toward will continue to buy Tahu Tempe Nur Cahyo with a total of 34 respondents answered strongly agree or about (34%). Then 63 respondents answered agree or (63%). Then 3 respondents answered neutral or about (3%), while the answers to disagree and strongly disagree were empty. The average respondent's answer is 4.31.
Respondents' responses to buying tofu and tempeh products at least 4 times a week. with a total of 35 respondents answered strongly agree or about (35%). Then 60 respondents answered agree or (60%). Then 5 respondents answered neutral or about (5%), while the answers to disagree and strongly disagree were empty. The average respondent's answer was 4.30.

2) Making Purchases in All Product Lines
Respondents' responses to consuming other products offered by Nur Cahyo with a total of 22 respondents answered strongly agree or about (22%). Then 73 respondents answered agree or (73%). Then there were no respondents who answered the neutral category, while for the category of answers to disagree there were 3 respondents with a percentage (3%) and strongly disagree with 2 respondents (2%). The average respondent's answer is 4.10.
Respondents' responses to buying other products offered by Nur Cahyo with a total of 37 respondents answered strongly agree or about (37%). Then 59 respondents answered agree or (59%). Then the respondents who answered the neutral category were 1 with a percentage (1%), 2 disagree with (2%) and strongly disagree with 1 respondent (1%). The average respondent's answer was 4.29.

3) Recommend Other Products
Respondents' responses toward recommending Nur Cahyo Tahu Tempe Products with a total of 44 respondents answered strongly agree or about (44%). Then 53 respondents answered agree or (53%). Then 1 respondent answered neutral or about (1%), while for the category of disagree there was 1 with a percentage (1%) and strongly disagree with 1 with (1%). The average respondent's answer is 4.38. Respondents' Response to Speaking Positive Things About Tofu Nur Cahyo seen by the number of 35 respondents who answered strongly agree or about (35%). Then 28 respondents answered agree or (28%). Then 25 respondents answered neutral or about (25%), while for the category of disagree there were 2 with a percentage of (2%) and for strongly disagreeing was empty. The average respondent's answer was 4.06.

4) Shows Immunity

Respondents' responses toward prioritizing Tahu Tempe Nur Cahyo seen by the number of 49 respondents answered strongly agree or about (49%). Then 49 respondents answered agree or (49%). Then the respondents who have the neutral category do not exist, while for the category of disagree 2 respondents with a percentage of (2%) and strongly disagree that there are no blanks. The average respondent's answer was 4.45. Respondents' response to always making Nur Cahyo's tahu to be used as side dishes, a total of 15 respondents answered strongly agree or about (15%). Then 84 respondents answered agree or (84%). Then the respondent who chose the neutral category was 1 respondent with a percentage (1%), disagreed and strongly disagreed, each was empty. The average respondent's answer is 4.50. From the questionnaire distributed to respondents, it can be seen about the respondent's response to consumer loyalty tofu and tempeh from Nur Cahyo Biak, to facilitate the assessment of the respondent's answer, the following assessment criteria are made: the respondents to facilitate the assessment of the average, an interval is made.

4. Hypothesis testing

Hypothesis testing is a method of decision making based on data analysis, either from controlled experiments or from observations (uncontrolled). In statistics, a result can be said to be statistically significant if it is almost impossible for the event to be caused by a coincidence, within a predetermined probability of probability. Hypothesis testing is sometimes called "confirm data analysis." Decisions from hypothesis testing are almost always made based on testing the null hypothesis. This is a test to answer questions that assume the null hypothesis is true.

a. Simple Linear Regression Analysis Test

Hypothesis testing is done by simple linear regression analysis using SPSS 22.0 for windows software. The results obtained show the effect of the independent variable on the dependent variable.

Following are the results of the calculation using the SPSS 22.0 for windows software:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>6.794</td>
<td>2.636</td>
</tr>
<tr>
<td>kualitas produk</td>
<td>.400</td>
<td>.039</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Consumer loyalty

Source: software SPSS 22.0
In the coefficients table, in column B the Constant (a) is 6.797, whereas the product quality value (b) is 0.400, so the regression equation can be written:

\[ Y = a + bX \text{ atau } 6.797 + 0.400X \]

The coefficient b is called the regression direction coefficient and states the change in the average variable Y for each change in variable X by one unit. Change is an increase if b is positive and a decrease if b is negative. So that from this equation it can be translated:

1) A constant of 6.797 states that if there is no product quality value, the loyalty value is 6.797.
2) The X regression coefficient of 0.400 states that for each addition of 1 product quality value, the consumer loyalty value increases by 0.400

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>323.415</td>
<td>1</td>
<td>323.415</td>
<td>107.259</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>295.495</td>
<td>98</td>
<td>3.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>618.910</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the “ANOVA” output table above, it is known that the significant value (Sig.) In the F test is 0.00. Because Sig. 0.00 <0.05, so as the basis for decision making in the F test, it can be concluded that product quality (X) has an influence on consumer loyalty (Y) or means significant.

b. The coefficient of determination

Table 5.33

Results of the Summary Model of Product Quality to Consumer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.723a</td>
<td>.523</td>
<td>.518</td>
<td>1.73645</td>
</tr>
</tbody>
</table>

Source: software SPSS 22.0

The table above explains the value of the correlation / relationship (R) which is equal to 0.744 and explains the percentage of the influence of the independent variable on the dependent variable which is called the coefficient of determination which is the result of the following equation:

\[ KD = r^2 \times 100\% \]

Where:

\[ KD \] : determinant
\[ r \] : Correlation coefficient (0.744)

Then:

\[ KD = (0.723)^2 \times 100\% = 0.523 \times 100\% = 52.3\% \]

Based on the results of the above calculations, it is known that the independent variable (product quality) determines the dependent variable (consumer loyalty) by 52.3%.
c. Hypothesis Test (t test)

\[ T_{count} = r \sqrt{ \frac{n-2}{1-r^2} } \]
\[ t_{count} = 0.723 \sqrt{ \frac{100-2}{1-0.723^2} } \]
\[ t_{count} = 10.357 \]

To determine the value of \( t_{table} \) with the percentage of alpha determined at 0.05 is:

- Alpha value \( \frac{a}{2} = \frac{0.05}{2} = 0.025 \)
- Degrees of freedom (dk) \( = n - 2 \)
  \[ = 100 - 2 \]
  \[ = 98 \]

Then \( t_{table} (98 ; 0.05) = 1.987 \) (seen from the distribution of \( t_{table} \) value)

From the decision making criteria for the hypothesis, there is a significant positive effect between product quality and consumer loyalty as seen from the \( t_{count} 10.357 > \) from the \( t_{table} \) value 1.987. With a significant value of 0.000 < 0.05, then \( H_0 \) is rejected and \( H_1 \) is accepted, which means that there is a significant (significant) effect of the product quality variable (X) on the loyalty variable (Y).

5. Discussion of Hypothesis Test Results

This discussion was conducted to determine the relationship between independent variables, namely product quality, to the dependent variable, namely consumer loyalty in the tahu industry, Nur Cahyo Biak. From the analysis of the data that has been obtained from the questionnaire obtained from 100 respondents, the researcher then uses a system of analysis tools in the form of SPSS 22.0 software with multiple regression analysis methods, and can be interpreted as follows:

- The effect of product quality on consumer loyalty of tahu tempe Nur Cahyo in Biak Papua

  Product quality is a factor that influences consumers to make purchases. Quality or not a product can be seen from the reaction shown when the quality of the desired product can meet consumer expectations, it is consumer loyalty. Quality is very important and foremost in determining the choice to choose a product without considering other factors.

  a. Product Quality

  From the recapitulation of respondents' responses about product quality, from 100 respondents who filled out a questionnaire. The highest answer given by the respondent is the answer to the questionnaire that meets the needs of the consumer where 69% of the respondents strongly agree, 29% of respondents agree and 2% give negative responses, with an average respondent of 4.6

  b. Consumer Loyalty

  From the recapitulation of respondents' responses about consumer loyalty, 100 respondents filled out a questionnaire. The highest answer given by the respondent was the answer to the questionnaire prioritizing tahu and tempe Nur Cahyo 49% of the respondents strongly agreed, 49% of the respondents gave agreed responses and 2% gave disagreement, with the average respondent's response was 4.49.

  From the results of hypothesis testing conducted, there is a significant positive effect between product quality and consumer loyalty as seen from the \( t_{count} 10.357 > \) from the \( t_{table} \) value 1.987. With a significant value of 0.000 < 0.05, then \( H_0 \) is rejected and \( H_1 \) is accepted, which means that there is a significant (significant) effect of the product quality variable (X) on the loyalty variable (Y).
6. Conclusion and Suggestion
   a. Conclusion
   Based on the results of research and discussion, it can be concluded as follows:
   1) Product Quality
   From the recapitulation of respondents' responses about product quality, from 100 respondents who filled out a questionnaire. The highest answer given by the respondent is the answer to the questionnaire that meets the needs of the consumer where 69% of the respondents strongly agree, 29% of respondents agree and 2% give negative responses, with an average respondent of 4.6
   2) Consumer Loyalty
   From the recapitulation of respondents' responses about consumer loyalty, 100 respondents filled out a questionnaire. The highest answer given by the respondent was the answer to the questionnaire prioritizing tahu and tempe Nur Cahyo 49% of the respondents strongly agreed, 49% of the respondents gave agreed responses and 2% gave disagreement, with the average respondent's response was 4.49.
   The product quality variable (X) after testing the hypothesis there is an influence between product quality on consumer loyalty tahu and tempeh in the tahu and tempeh nur cahyo industry. The magnitude of the influence of product quality on customer loyalty can be seen in the value of the coefficient of determination (R²) which has a value of 0.523 or 52.3%.
   b. Suggestion
   For the tahu and tempeh industry, Nur Cahyo, the author gives suggestions to improve the quality of tahu and tempeh products. From what some consumers have conveyed during the author's research, the product of tempeh Nur Cahyo when it is processed, some of the tempe must be destroyed and for tahu it is enough just improve the quality.

References


UU perlindungan konsumen 1999 pasal 1 ayat 2

