The Influence of Product Quality, Promotion and Design on Purchase Decisions for Yamaha Nmax Motor Vehicles SPSS Application Based

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Abstract
This study aims to analyze the influence of product quality, promotion and design on purchasing decisions for Yamaha Nmax motorcycle products and analyze the variables that have the most dominant influence on purchasing decisions for Yamaha Nmax motorcycle products in the community in the Medan City. From the results of the classical assumption analysis, the normality test with the Kolmogorov-Smirnov was obtained significantly greater than 0.05, which means that the data distribution is normal. Multicollinearity test obtained VIF and Tolerance values that are close to one so that it can be concluded that the regression model has no multicollinearity problem, while the heteroscedasticity test using the Glejser method states there is no problem. Based on the results of multiple linear regression analysis from the t test, it was found that partially product quality had a significant effect on purchasing decisions for Yamaha Nmax motorcycle products, while promotion and design had a significant effect on the 5% level. From the results of the F test that simultaneously product quality, promotion and design have a significant effect on purchasing decisions for Yamaha Nmax motorcycle products where the value of $F_{calc} > F_{table}$. Product quality has the most dominant influence on purchasing decisions for Yamaha Nmax motorcycle products. The R square value is 0.255, which means that the dependent variable can be explained by the independent variable by 25.5% while the remaining 74.5% is explained by other variables outside the model.

Keywords: Purchase Decision, Product Quality, Promotion and Design, SPSS Application

Introduction
In line with the demands for transparency and accountability for the implementation of regional autonomy in terms of regional financial management, government agencies are required to carry out financial management and be accountable. The life of modern society today also influences the pattern of people's behavior in purchasing. Modern life is often identified with a lifestyle that always follows the trends or developments of the times.

In these conditions, the decision to choose a brand also plays a role in modern lifestyles, so that the desire to buy branded products also colors a person's consumption pattern.

Lannon (1996) in Muafi (2003) adds that, "the life of modern society has implications for the role of brands, meaning that consumers do not just want products, but also brands". An established brand is usually used as a symbol as a successful product, so that brand equity also affects the emotional condition of consumers. Even though there are many similar products circulating in the market, especially competing products, it will all depend on the consumer's equity towards the brand. This means that if consumers understand correctly about the brand they believe in, then the brand personality in the minds of consumers will be stronger. Brand equity is a consumer's total perception of a brand that can be formed through information from friends, opinions or own experiences. If consumers have a good perception of the brand, it will affect the formation of product choices to be purchased, which in turn will form a positive attitude which in turn will influence purchasing decisions. This is in line with the opinion of Sodik (2004) that the information obtained and processed by consumers will form a person's preference for an object. Preferences will shape consumer attitudes.
towards an object which in turn this attitude will often directly affect whether consumers will buy a product or not.

Consumer perceptions of product quality will shape preferences and attitudes which in turn will influence the decision to buy or not. This is in line with the opinion of Aaker (1997) in Sodik (2004) that the impression of quality provides value in several forms, one of which is a reason to buy. Intention to make a purchase can be formed from consumer attitudes towards the marketing mix, including through promotions. Promotional activities for Yamaha Nmax motorcycles include advertising, giving gifts, discounted prices, and personal selling. In line with the above, consumer decisions in purchasing Yamaha Nmax motorcycles can be influenced by marketing stimuli such as product quality, promotions through attractive advertisements, discounts, gifts. In addition, the design also influences purchasing decisions. Generally, consumers want innovative designs from time to time. A person's buying behavior can be said to be something unique, because everyone's preferences and attitudes towards objects are different. In addition, consumers come from several segments, so what they want and need are also different. There are still many factors that influence purchasing decisions. Manufacturers need to understand consumer behavior towards products or brands in the market, then various ways need to be done to make consumers interested in the products produced.

Assael (1995) in Sodik (2004) develops a model of consumer behavior by determining three factors that influence consumer behavior. The first factor that influences consumers is stimuli. Stimuli indicate the receipt of information by consumers and information processing occurs when consumers evaluate information from advertisements, friends or from their own experiences. The second influence comes from the personal characteristics of consumers including perceptions, attitudes, benefits and consumer characteristics (demography, personality, lifestyle). The third influence of consumer response is the final result of the consumer decision process and a thorough consideration of all the factors above. The results of research on the factors that influence the process or purchasing decisions have been widely carried out. Through this research will be analyzed about the factors that influence the decision to purchase a Yamaha Nmax motorcycle. The interest in choosing this brand is because Yamaha Nmax motorcycle products are increasingly in demand not only among Indonesian women but also among young people. Modern lifestyle is one of the individual factors that can influence a person's buying behavior, Yamaha Nmax motorcycle is one of the outometric motorcycles or also called scooters which was previously designed specifically for women, but is now in demand by all young people.

Scooter model motorbikes are getting faster. Its contribution is almost equivalent to the sale of Duck model motorcycles of 150cc and above which are the mainstay products. It can be seen that the sales volume in the first semester of 2019 was recorded as follows:

Table 1. Sales volume for the first half of 2019

<table>
<thead>
<tr>
<th>Position</th>
<th>Model / Type</th>
<th>Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yamaha Nmax</td>
<td>224,190</td>
</tr>
<tr>
<td>2</td>
<td>Honda Vario</td>
<td>179,196</td>
</tr>
<tr>
<td>3</td>
<td>Yamaha Vixio</td>
<td>15,809</td>
</tr>
<tr>
<td>4</td>
<td>Honda Cbr</td>
<td>11,500</td>
</tr>
<tr>
<td>5</td>
<td>Honda Scopy</td>
<td>27,000</td>
</tr>
</tbody>
</table>


A good achievement was achieved by the Honda Vario which was able to be in position 2 even though this was a scooter that had just arrived recently. Of course the Yamaha company is not
standing still. And to maintain the security of the number one position, then Yamaha released the Yamaha Vixion which looks more macho. It seems that Yamaha is aware that even though Yamaha Nmax is made for women, Nmax users are actually more in demand by men. While the Yamaha Vixion is quite in position 3 ahead of the Honda Scopy.

Based on the description above, the main problem is the extent to which product quality, promotion, and design affect the purchasing decision of Yamaha Nmax motorcycles in the community in the Medan City area.

Methodology

1.1. Thinking Framework

The framework of thinking in this study is the development of the Kotler and Assael consumer behavior model which can be described as follows:

![Diagram of Thinking Framework]

**Figure 1. Framework of thinking**

The consumer's decision process in purchasing Yamaha Nmax motorcycle products can be influenced by consumer perceptions (consumer assessment processes of stimuli) and stimuli (product quality, promotion, design). These two factors are interconnected so that they will form a choice of the selected product. This choice will affect attitudes which in turn will affect behavior, namely the intention to buy a product or not. The consumer's decision after the purchase will produce a positive or negative response which in turn will determine satisfaction or dissatisfaction.

Brand is related to product quality, because a successful brand that a person believes is generally balanced with quality. For this reason, the quality of the product in this study is thought to have a dominant influence on purchasing decisions.

1.2. Data source

This study uses data sourced from primary data, namely data obtained directly from respondents and secondary data from BPS regarding population data in the city of Medan.

1.3. Operational Definition and Method of Measurement

1) Product quality

The relative size of an item or service that can provide an overview of how far the level of excellence of a product is able to meet customer desires. This variable is measured using several dimensions of product quality developed by Aaker (1997), namely the impression of quality, reliability and durability.
2) Promotion
Promotion is a company's efforts to inform, influence, and persuade and remind customers about the company. This variable is measured using several dimensions of promotion developed by Dharmesta and Irawan (2001), namely advertising, sales promotion through discounted prices and personal selling.

3) Design
Design is one of the considerations by consumers which includes shape, model and color, the more attractive the design will make the consumer more interested in the product. This variable is measured by using color, striping, shape or model.

4) Buying decision
The decision taken by consumers to make a purchase of a product. This variable is measured based on the consumer's motivation to buy against the company's stimuli which can be reflected in the product or brand attributes, namely product quality, promotion and design. Schiffman and Kamik (1994).

1.4. Sampling technique
The population in this study were all consumers of Yamaha Nmax motorcycle users in Medan. The assumption in this study is that the population is not limited. In this study, 100 samples were taken with the consideration that this number had exceeded the minimum number of samples in the study (n = 30). The sampling technique uses the Accidental Quota Sampling method, which is a sampling technique that can be done at any time until the desired number of samples (quota) is met.

1.5. Research Instrument Test
a. Validation Test
Validity test is used to measure whether the research is valid or not. Validity test using Pearson correlation analysis, the decision to know whether the instrument item is valid or not. If at a significant level of 5% the value of \( r_{\text{count}} > r_{\text{variable}} \), it can be concluded that the item of the instrument is valid.

b. Reliability Test
Reliability test to determine whether the instrument has a good confidence index if tested repeatedly. The reliability test in this study uses the Cronbach alpha formula, to determine the level of instrument reliability from the four research variables if the results of the instrument reliability test of the four research variables if the reliability test results give an alpha value > 0.6 (Gozali, 2001).

1.6. Data analysis technique
1) Multiple Linear Regression Analysis
Multiple Linear Regression Analysis aims to determine the effect of product quality, promotion, and design on purchasing decisions. The expected regression equations in this study are:
\[
Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon
\]
Information:
\( Y \) = purchase decision
\( X_1 \) = product quality
X₂ = promotion
X₃ = design

constant

i = product quality variable regression coefficient
2 = promotion variable regression coefficient
3 = design variable regression coefficient
e = nuisance (error)

2) Classic assumption test

Classical Assumption Testing is done to find out whether the data has deviation or not. This test is carried out after analyzing the Regression and Coefficient of Determination. Classical Assumption Test consists of:

a. Normality test
The normality test aims to test whether in the regression model, the dependent and independent variables both have a normal distribution or not. The normality test uses the Kolmogorov-Smirnov test, with this test it can be seen that the data used is normally distributed or not. If Sign t_count > 0.05, then the data is normally distributed and vice versa (Santoso, 2001).

b. Multicollinearity Test
Multicollinearity test is used to determine whether there is multicollinearity between the independent variables or not. The test used is the product moment correlation technique. The interpretation is that if the intercorrelation price between independent variables is more than or equal to 0.800, it means that there is multicollinearity between these variables, and vice versa. There are several other methods besides the above method, namely by looking at the VIF (Variant Inflation Factor) and Tolerance values in the ordinary regression process, if both are close to 1 or the VIF value is less than 10 then the model is not affected by multicollinearity.

c. Heteroscedasticity Test
Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance or residuals from one observation to another observation. The model that can be used to test with glejser symptoms. To detect the symptoms of the heteroscedasticity test, a regression equation is made with the assumption that there is no heteroscedasticity and then determines the absolute value of the residual, then regresses the absolute value of the residual obtained as the dependent variable and regression of the independent variable is performed. The absolute value of t count lies between + t table with df (nk-1) and a significant level of 0.05 then heteroscedasticity occurs (Santoso, 2001).

3) Statistic test
a. t test
This test aims to determine the effect of each independent variable on the dependent variable. The test steps are as follows:
- Determine the null hypothesis and the alternative hypothesis
- Level of significance = 0.05
- Testing criteria and rules
- Calculation of t value
- Conclusion = comparing t_count with t_table, it can be determined that h₀ is rejected or accepted

b. f test
The F test aims to determine the joint effect of the independent variables on the dependent variable. Test steps:
- Determine the null hypothesis and the alternative hypothesis
Ho; _1 = _2 = _3 = 0, meaning that the variables of product quality, promotion, and design simultaneously have no significant effect on purchasing decisions.

Ha _1 _2 _3 > 0 means that the variables of product quality, promotion, and design simultaneously have a significant effect on purchasing decisions.

- Level of significance = 0.05
- Testing criteria and rules
- Calculation of F value
- The conclusion is; Comparing the calculated F with the F table, it can be determined if Ho is rejected or accepted.

c. Coefficient of Determination

The coefficient of determination (R²) aims to measure how far the model's ability to explain variations in the dependent variable is. In this study the calculation of the coefficient of determination to measure how far the ability of the independent variables (product quality, promotion, and design) in explaining the dependent variable (purchase decisions).

Research Results and Discussion

1. Yamaha Nmax Product Overview

PT Yamaha Indonesia Motor Manufacturing (YIMM) re-introduced its newest product in the premium scooter segment, aimed at middle and upper class consumers, or for those who want to switch from motorcycles to try the premium automatic motorcycle class which provides better comfort and safety. As reported by the official website, Yamaha NMAX was first launched in Yogyakarta in February 2015, has four philosophies in four letters. N stands for New Max Design, New Balance, Nimble Maneuver, and Neat Performance. New Max Design, because Yamaha NMAX is the newest variant after its brothers, TMAX to XMAX have been previously introduced in the European automotive market. No wonder NMAX is called the New Design of the MAX series.

Design

If we look closely, the design adopted in the Yamaha NMAX specification looks very similar to Yamaha's global premium scooter products, namely the Yamaha NMAX and Yamaha Majesty.
Starting from the side view of the latest premium scooter from Yamaha, it looks very modern, sporty and luxurious. By having several parts that don't look together because they have different colors on the side of the side body with the lower side of the body, this Yamaha NMAX looks futuristic and modern. An NMAX emblem on the back side of the body will give the identity that this scooter has maximum performance. Then on the front of this scooter, which has a typical motorcycle fairing design, makes the Yamaha NMAX look dashing.

2. **SPSS App**
   
   SPSS (originally, the Statistical Package for the Social Sciences) was released in its first version in 1968 after being developed by Norman H. Nie and C. Hadlai Hull. Norman Nie himself is a postgraduate political scientist at Stanford University, currently holding Professorial Research in the Department of Political Science at Stanford with Professor Emeritus of Political Science at the University of Chicago. SPSS is one of the most widely used application programs for statistical analysis in the social sciences. It is used by market researchers, survey companies, health researchers, governments, education researchers, marketing organizations and others. The original SPSS manual (Nie, Bent & Hull, 1970) has been described as one of the “most influential sociology books”.

   Apart from statistical analysis, data management (case selection, reshaping files, creating derived data) and data documentation (a meta data dictionary stored in a data file) are features of the basic software. SPSS is an application program that has the ability for high statistical analysis and data management systems in a graphical environment using descriptive menus and simple dialog boxes so that it is easy to understand how to operate. Some activities can be done easily, namely by using mouse pointing and clicking SPSS is widely used in various marketing research, quality control and improvement, as well as scientific research. SPSS first appeared with a PC version (can be used for desktop computers) under the name SPSS/PC+ (DOS version). However, with the popularity of the Windows operating system. SPSS started issuing windows version (starting from version 6.0 to latest version now).

   Initially, SPSS stands for Statistical Package for the Social Sciences, where at that time SPSS was created for the purposes of processing statistical data for the social sciences. Now SPSS capabilities are expanded to serve various types of users (users), such as for production processes in factories, scientific research and others. Thus, now stands for SPSS which stands for Statistical Product and Service Solutions. SPSS can read various types of data or enter data directly into the SPSS Data Editor.

   Whatever the structure of the raw data file, the data in the SPSS Data Editor must be in the form of rows (cases) and columns (variables). Case contains information for one unit of analysis, while variables are information collected from each case. SPSS software is created and developed by SPSS Inc. which was later acquired by IBM Corporation. This computer software has advantages in its ease of use in processing and analyzing statistical data. The features offered include IBM SPSS Data Collection for data collection, IBM SPSS Statistics for analyzing data, IBM SPSS Modeler for predicting trends, and IBM Analytical Decision Management for decision making. The SPSS program is widely applied and used by computer users in the fields of business, office, education, and research. SPSS is commercial software with a license price of $5,120 USD. SPSS can be run on Windows XP, Windows Vista, Windows 7, Mac OS, and Linux operating systems.

3. **Respondent Profile**
The population in this study were Yamaha Nmax motorcycle users. The number of respondents who were determined as a sample was 150 with the technique. *Accidental Quota Sampling* Each respondent is given a questionnaire sheet to provide answers to the questions that have been provided. Of the entire questionnaire, which amounted to 170 copies, 150 copies were returned intact which met the criteria and all the answers could be answered well by the respondents.

**Description of Respondents.**

To make it easier to identify respondents in this study, it is necessary to describe the characteristics of respondents in the city of Medan. The description of the characteristics of the respondents is as follows.

a. **Characteristics by gender**

Respondents in Medan City who use Yamaha Nmax motorcycles are respondents with male and female gender. The number of respondents in the city of Medan with male gender shows a larger number compared to female gender. Of all respondents who were selected as samples, the average use of Yamaha Nmax motorcycles with different color designs. For more details, see the following table:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Amount</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man</td>
<td>97</td>
<td>64%</td>
</tr>
<tr>
<td>Woman</td>
<td>53</td>
<td>36%</td>
</tr>
<tr>
<td>Amount</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: Primary Data that has been processed*

From the table above, it can be seen that respondents who use Yamaha Nmax motorbikes with male sex are 97 or 64% while for respondents with female sex are 53 or 36% of the total 150 respondents.

b. **Characteristics by age**

Based on the education level of respondents in the city of Medan who mostly use Yamaha Nmax motorbikes are respondents aged 17-19 years.

<table>
<thead>
<tr>
<th>No</th>
<th>Umur</th>
<th>Jumlah</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17 – 19 Tahun</td>
<td>54</td>
<td>36 %</td>
</tr>
<tr>
<td>2</td>
<td>20 – 24 Tahun</td>
<td>52</td>
<td>35 %</td>
</tr>
<tr>
<td>3</td>
<td>25 – 29 Tahun</td>
<td>17</td>
<td>11 %</td>
</tr>
<tr>
<td>4</td>
<td>30 – 39 Tahun</td>
<td>19</td>
<td>13 %</td>
</tr>
<tr>
<td>5</td>
<td>40 tahun keatas</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: Data primer yang sudah diolah.*

From the table above, it can be seen that respondents who use Yamaha Nmax motorbikes between the ages of 17-19 years are 54 or 36%, those aged 20-24 years are 52 or 36%, aged 25-29 are 17 or 11%, aged 30-39 is 19 or 13%, and age 40 years and over is 8 or 5% of the total 150 respondents.

c. **Characteristics by education**

Based on the education level of respondents in the city of Medan who mostly use Yamaha Nmax motorbikes are respondents with a high school education level. This means that the level of education affects the mindset of respondents in using a Yamaha Nmax motorcycle. For more details, see the following table:
From the table above, it can be seen that respondents who use Yamaha Nmax motorbikes with a college education level are 51 or 34%, senior high school is 60 or 40%, junior high school is 24 or 16%, and elementary school is 15 or 10%, of the total respondents who amounted to 150.

d. Characteristics by occupation

Table 5. Characteristics by type of work

<table>
<thead>
<tr>
<th>No</th>
<th>Pekerjaan</th>
<th>Jumlah</th>
<th>Persentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pelajar</td>
<td>92</td>
<td>61%</td>
</tr>
<tr>
<td>2</td>
<td>Pedagang</td>
<td>18</td>
<td>12%</td>
</tr>
<tr>
<td>3</td>
<td>PNS / ABRI</td>
<td>10</td>
<td>7%</td>
</tr>
<tr>
<td>4</td>
<td>PNS / ABRI</td>
<td>12</td>
<td>8%</td>
</tr>
<tr>
<td>5</td>
<td>Lain-lain</td>
<td>18</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the table above, it can be seen that respondents who use Yamaha Nmax motorbikes with work as students are 92 or 61%, traders are 18 or 12%, PNS / ABRI are 10 or 7%, entrepreneurs are 12 or 8%, and others is 18 or 12% of the total 150 respondents.

a. Data analysis

1) Instrument Test

a. Validity test

The validity test in this case aims to test the level of accuracy of the instrument in measuring the variables of product quality, promotion, design and purchasing decisions. Calculation of the validity of the instrument using Pearson correlation analysis with the help of SPSS computer program. Decisions regarding items that are declared valid by comparing the value of $r_{count}$ with the value of $r_{table}$, if $r_{count} > r_{table}$ then the item is declared valid. From the results of the validity test can be seen as in the table below.

Table 6. Test the validity of the instrument

<table>
<thead>
<tr>
<th>Butir nomor</th>
<th>$r$ hitung</th>
<th>$r$ tabel $\alpha = 0.05$</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1-1</td>
<td>0.594</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X1-2</td>
<td>0.720</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X1-3</td>
<td>0.606</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X1-4</td>
<td>0.710</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X1-5</td>
<td>0.684</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X2-1</td>
<td>0.650</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X2-2</td>
<td>0.620</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X2-3</td>
<td>0.599</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X2-4</td>
<td>0.649</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X2-5</td>
<td>0.610</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X3-1</td>
<td>0.582</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X3-2</td>
<td>0.751</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X3-3</td>
<td>0.621</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X3-4</td>
<td>0.599</td>
<td>0.159</td>
<td>Valid</td>
</tr>
<tr>
<td>X3-5</td>
<td>0.582</td>
<td>0.159</td>
<td>Valid</td>
</tr>
</tbody>
</table>
Based on the results of the instrument validity test of the four variables, namely product quality, promotion, design and purchasing decisions as in the table above, it shows that all items are valid, because the value of $r_{\text{count}}$ (correlation) is greater than $r_{\text{table}}$.

b. Reliability Test

The reliability test of the instrument aims to determine the magnitude of the instrument's confidence index from the variables of product quality, promotion, design and purchasing decisions. After testing the validity and obtaining valid statement items, then the reliability test is carried out using the *Cronbach Alpha formula*. The decision to find out that the instrument is reliable if the value of $r_{\text{Alpha}} > 0.6$. From the analysis with the SPSS program, the reliability test is obtained as shown in the table below:

<table>
<thead>
<tr>
<th>Variabel</th>
<th>r Alpha</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kualitas Produk</td>
<td>0.6832</td>
<td>Reliabel</td>
</tr>
<tr>
<td>Promosi</td>
<td>0.6108</td>
<td>Reliabel</td>
</tr>
<tr>
<td>desain</td>
<td>0.6099</td>
<td>Reliabel</td>
</tr>
<tr>
<td>Keputusan Pembelian</td>
<td>0.6073</td>
<td>Reliabel</td>
</tr>
</tbody>
</table>

*Sumber: Data primer yang diolah*

The results of the instrument reliability test show that the four variables, namely product quality, promotion, design and purchasing decisions, are reliable because the $r_{\text{Alpha}}$ value > 0.6.

2) Classic assumption test

a. Data Normality Test

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Kolmogorov Sminov-Test</th>
<th>Signifikansi</th>
<th>p-value</th>
<th>Interpretasi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstandardized Residual</td>
<td>0,583</td>
<td>0,886</td>
<td>p&gt;0.05</td>
<td>normal</td>
</tr>
</tbody>
</table>

*Sumber: data diolah*

b. Multicollinearity Test

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Tolerance</th>
<th>VIF</th>
<th>Kesimpulan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kualitas produk</td>
<td>0,749</td>
<td>1,334</td>
<td>Tidak ada masalah multikolinearitas</td>
</tr>
<tr>
<td>Promosi</td>
<td>0,839</td>
<td>1,191</td>
<td>Tidak ada masalah multikolinearitas</td>
</tr>
<tr>
<td>desain</td>
<td>0,720</td>
<td>1,989</td>
<td>Tidak ada masalah multikolinearitas</td>
</tr>
</tbody>
</table>

*Sumber: data diolah*

c. Heteroscedasticity Test

<table>
<thead>
<tr>
<th>Variabel</th>
<th>t hitung</th>
<th>p-value</th>
<th>Sign</th>
<th>Kesimpulan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kualitas produk</td>
<td>1,030</td>
<td>p&gt;0,05</td>
<td>0,212</td>
<td>Tidak ada masalah heteroskedastisitas</td>
</tr>
<tr>
<td>Promosi</td>
<td>1,302</td>
<td>p&gt;0,05</td>
<td>0,195</td>
<td>Tidak ada masalah heteroskedastisitas</td>
</tr>
<tr>
<td>desain</td>
<td>-0,628</td>
<td>p&lt;0,05</td>
<td>0,531</td>
<td>Tidak ada masalah heteroskedastisitas</td>
</tr>
</tbody>
</table>

*Sumber: data diolah*

3) Multiple Linear Regression Analysis

<table>
<thead>
<tr>
<th>Variabel Independen</th>
<th>Koefisien Regresi</th>
<th>t hitung</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kualitas Produk</td>
<td>0,368</td>
<td>4,713</td>
<td>0,000</td>
</tr>
<tr>
<td>Promosi</td>
<td>0,060</td>
<td>0,740</td>
<td>0,460</td>
</tr>
<tr>
<td>desain</td>
<td>0,163</td>
<td>1,814</td>
<td>0,072</td>
</tr>
<tr>
<td>Konstanta</td>
<td>7,552</td>
<td>4,135</td>
<td>0,000</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0,255</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F hitung</td>
<td>16,677</td>
<td></td>
<td>0,000</td>
</tr>
</tbody>
</table>

*Sumber: Out put program SPSS*
4) Statistic test
   a. $t$ test
      This test is used to determine the magnitude of the effect of each independent variable partially on the dependent variable.

   
   ![Coefficient Table]

   b. $F$ test
      The $F$ test is to find out whether the variables of product quality, promotion and design together have a significant influence on purchasing decisions for Yamaha Nmax motorcycle products.

   
   ![ANOVA Table]

      From the results of calculations using SPSS obtained $F_{\text{count}}$ of 16.677 > 2.667. The consequence is that $H_0$ is rejected and $H_a$ is accepted. Thus, it is proven that there is a significant effect of product quality, promotion and design on purchasing decisions for Yamaha Nmax motorcycle products in the people of Medan City.

   c. Coefficient of Determination
      Analysis of the coefficient of determination aims to determine how far the ability of the independent variables (product quality, promotion and design) together in explaining the dependent variable (purchase decisions). From the results of the analysis using the SPSS program, it is known that the value of $R$ (coefficient of determination) = 0.255 or 25.5% means the ability of the independent variables together, namely product quality, promotion and design in explaining purchasing decisions is 25.5% while the remaining 74.5% is explained by other variables outside the regression model.

   d. Regression Coefficient
      To find out the most dominant factor in purchasing decisions in this study by looking at the magnitude of the regression coefficient value, this is considering the number of questionnaire questions for each variable is the same. To see the dominant influence, it can be seen by looking at the largest regression coefficient $b$ resulting from the three independent variables. From the results of the regression analysis, it is known that the regression coefficient value of product quality ($\beta_1$) = 0.368 the value of the promotion regression...
coefficient \( \beta_2 = 0.060 \) and the design regression coefficient \( \beta_3 = 0.163 \). Seeing the magnitude of the regression coefficient value of the three independent variables, it is known that product quality variable has the most dominant influence on purchasing decisions that is equal to 0.368.

**Conclusion**

Based on the results of research and discussion, the authors can draw the conclusion that.

Product quality has a significant effect on purchasing decisions, namely; The regression coefficient of product quality \( (X_1) \) is 0.368 The \( t \) test which states \( t_{\text{count}} 4.713 > t_{\text{table}} 1.976 \) means that the effect of product quality on purchasing decisions is significant. Promotion has no significant effect on purchasing decisions. Promotion regression coefficient \( (X_2) \) is 0.060 The \( t \) test which states \( t_{\text{count}} 0.740 < t_{\text{table}} 1.976 \) means that the effect of promotion on purchasing decisions is not significant. Design has no significant effect on purchasing decisions. The design regression coefficient \( (X_3) \) is 0.163 The \( t \) test which states \( t_{\text{count}} 1.814 < t_{\text{table}} 1.976 \) means that the effect of design on purchasing decisions is not significant. Product quality, promotion, design together have a significant effect on purchasing decisions. This is supported by: The coefficient of determination \( R \) of 0.255 means that the variation of the purchasing decision variables can be explained by variations in product quality, promotion and design variables of 25.5% while the remaining 74.5% is explained by other variables outside the regression model.

\[ F \text{ test which states } F_{\text{count}} 16.677 > F_{\text{table}} (2,667) \] means that the effect of product quality, promotion and design together on purchasing decisions is significant. Product quality has a dominant influence on purchasing decisions. This is supported by a product quality regression coefficient of 0.368 which is the largest compared to a promotion regression coefficient of 0.060 and a design regression coefficient of 0.163.

**References**


