Factors Affecting Hydroponic Vegetable Purchase Decisions  
(Case Study at CV Hobata Farm Tobelo, North Halmahera, Maluku)

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Annotation: This study aims to assess the factors that influence the purchase decision of hydroponic vegetables at CV Hobata Farm Tobelo. This research is quantitative and uses associative research methods. The population in this study were hydroponic vegetable customers at CV Hobata Farm Tobelo. The sample used was 50 respondents. Methods of data collection using confirmatory factor analysis, multiple linear regression analysis, F test, t test, using the SPSS application program. The results showed that the factors of price perception, health awareness, brand image and quality simultaneously had a positive and significant effect on purchasing decisions for hydroponic vegetables at CV Hobata Farm Tobelo. Partially the price perception factor.

Key words: Purchase Decision, Price Perception, Health Awareness, Brand Image and Product Quality.

INTRODUCTION

The trend to maintain a healthy lifestyle is increasing worldwide. Maporina (2005) states that a healthy lifestyle is supported by the requirements of agricultural products in global trade regulations that are safe for consumption (food safety attributes), have high nutritional content (nutritional attributes) and are environmentally friendly (eco-labelling attributes). At first, people consumed vegetables without considering whether the vegetables they consumed contained harmful chemicals or not. Along with the growing trend of healthy living, people are starting to consider the value of Food Safety. Based on this, the community began to look for alternatives that are healthier and free of harmful chemicals. One alternative is hydroponic vegetables. CV. Hobata Farm is a business entity engaged in hydroponic agriculture in North Maluku Province, North Halmahera Regency, Central Tobelo District, Lina Ino Village, North Maluku. In addition to producing hydroponic plants, CV Hobata Farm also conducts training on hydroponic vegetable cultivation in villages in North Halmahera Regency. Hydroponic vegetables cultivated by CV Hobata Farm are pakcoy and lettuce. These hydroponic vegetable products from CV Hobata Farm are marketed to several traders in the Tobelo market, sent to Ternate to be sold at Minimarkets, and marketed directly at Hobata Farm. Hydroponic vegetables cultivated by CV Hobata Farm are pakcoy and lettuce. These hydroponic vegetable products from CV Hobata Farm are marketed to several traders in the Tobelo market, sent to Ternate to be sold at Minimarkets, and marketed directly at Hobata Farm.
The decision to purchase hydroponic products consists of several factors. Based on the author's observations, hydroponic vegetables are more expensive than conventional vegetables. This is due to the higher infrastructure and water investment costs for hydroponic vegetable cultivation, different cultivation methods, and better quality (crispy, clean and chemical-free). These factors make hydroponic vegetables have a more expensive price, but are still sought after by consumers.

Brand image factors also affect consumer purchasing decisions. Businesses that have a good brand image are more trusted by consumers. CV Hobata Farm is a business that has a brand image as a producer of vegetables and fruits that are free from chemicals. Therefore, consumers are convinced to shop at CV Hobata Farm because of its good brand image.

Hydroponic vegetable products from CV. Hobata Farm has good quality. This can be seen from the appearance of smooth leaves, large stalks, crunchy texture, good taste and longer freshness that causes consumers to believe in buying products from CV Hobata Farm.

Based on the description above, the author will conduct a study with the title "Factors that influence purchasing decisions for hydroponic vegetables (Case Study at CV Hobata Farm Tobelo, North Maluku)".

**RESEARCH METHODS**

**TYPES OF RESEARCH**

This research is associative using a quantitative approach. Sugiyono (2017) defines associative research as a type of research to determine the effect or relationship between two or more variables. This study uses a quantitative approach because the data used to analyze the relationship between variables will be expressed on a numerical scale or numbers.

**RESEARCH SITES**

The location of this research is CV Hobata Farm, a hydroponic vegetable producer in Linaino Village, Central Tobelo, North Halmahera, North Maluku.

**METHOD OF COLLECTING DATA**

The method of data collection in the study was carried out by questionnaires and observations.

**POPULATION AND SAMPLE**

In this study the population was 50 permanent consumers of hydroponic vegetables in CV. Hobata Farm. The sampling technique used is a saturated sample, where the samples taken are all consumers of hydroponic vegetables at CV Hobata Farm with a total of 50 respondents.

**DATA ANALYSIS TECHNIQUE**

1. **CLASSIC ASSUMPTION TEST**

The classical assumption test is used to determine whether the independent variable has an effect on the dependent variable so that the formulated regression model can be determined, it must meet several conditions.

2. **MULTIPLE REGRESSION Test**

In this study, it will be analyzed how the independent variables, namely Price Perception (X1), Health Concern (X2), brand image (X3), and product quality (X4) affect (positively or negatively) the dependent variable, namely the decision to purchase hydroponic vegetables (Y).
RESULTS AND DISCUSSION
CLASSIC ASSUMPTION TEST
The results of the classical assumption test were analyzed through the SPSS program based on 3 types of classical assumption tests as follows:

1. Normality test
Figure 5.1 Normal P-Plot of Regression Standardized Residual

![Normal P-Plot of Regression Standardized Residual](image)

Figure 5.1 shows that the coordinate points with the observed values follow a diagonal line, so it can be concluded that the data is normally distributed.

2. Multicollinearity TEST

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>t</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11,309</td>
<td>3,101</td>
<td></td>
<td></td>
<td>3.647</td>
</tr>
<tr>
<td>HARGA</td>
<td>.086</td>
<td>.158</td>
<td>.071</td>
<td>.546</td>
<td>.007</td>
</tr>
<tr>
<td>KESEHATAN</td>
<td>-.254</td>
<td>.190</td>
<td>-.186</td>
<td>-.337</td>
<td>.100</td>
</tr>
<tr>
<td>MERK</td>
<td>.181</td>
<td>.149</td>
<td>.163</td>
<td>1.212</td>
<td>.232</td>
</tr>
<tr>
<td>KUALITAS</td>
<td>.486</td>
<td>.130</td>
<td>.499</td>
<td>3.730</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table 5.4 Multicollinearity Test Results

Table 5.4 shows that there is no symptom of multicollinearity from these variables, because the VIF value of each variable is < 10, and the tolerance value is > 0.1.
3. Heteroscedasticity Test

Figure 5.2 Scatterplot

![Scatterplot](Source: Primary Data 2021)

The scatter plot in Figure 5.2 shows that the points are scattered randomly and no clear pattern is formed such as gathering in the middle, narrowing or widening, and the spread of the points is below and above the number 0 on the Y axis. This indicates that there is no symptom of heteroscedasticity in the regression model, so that the data is feasible to use.

**MULTIPLE LINEAR REGRESSION TEST**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
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<th>Sig.</th>
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<td>.546</td>
</tr>
<tr>
<td></td>
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<td>-.254</td>
<td>.190</td>
<td>-.186</td>
<td>-1,337</td>
</tr>
<tr>
<td></td>
<td>MEREK</td>
<td>.181</td>
<td>.149</td>
<td>.163</td>
<td>1,212</td>
</tr>
<tr>
<td></td>
<td>KUALITAS</td>
<td>.486</td>
<td>.130</td>
<td>.499</td>
<td>3,730</td>
</tr>
</tbody>
</table>

**Source: Primary Data, 2021**

Based on the analysis in table 5.5, the following equation is obtained:

\[ Y = 11,309 + 0.086X1 - 0.254X2 + 0.181X3 + 0.486X4 \]

The above equation shows that there are variables that have a significant influence on purchasing decisions (Y), namely product quality variables (X4), while price perception variables (X1), health awareness (X2) and brand image (X3) have no significant effect on decisions, purchase (Y). The interpretation of the equation is:

a. The constant value is 11.309. This states that if the independent variables are price perception, health awareness, brand image and product quality value (0) then the value of the purchase decision (Y) is 11.309.

b. The parameter value or regression coefficient b1 of 0.086 indicates that each increase in the price perception variable (X1) by 1%, will increase purchasing decisions (Y) by 0.086%.
c. The parameter value or regression coefficient $b_2$ is -0.254. This indicates that each increase in the health awareness variable ($X_2$) by 1%, will reduce purchasing decisions ($Y$) by 0.254%.

d. The parameter value or regression coefficient $b_3$ of 0.181 indicates that every increase in the brand image variable ($X_3$) by 1%, will increase purchasing decisions ($Y$) by 0.181%.

e. The parameter value or regression coefficient $b_4$ of 0.486 indicates that each increase in the product quality variable ($X_4$) by 1%, will increase purchasing decisions ($Y$) by 0.486%.

**F Uji test**

F Uji test is a simultaneous test to determine whether the variables of price perception ($X_1$), health awareness ($X_2$), brand image ($X_3$) and product quality ($X_4$) together have a significant influence on purchasing decisions ($Y$). F test is done by comparing $F_{count}$ and $F_{table}$. The results of the F test are stated as follows:

<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>16,941</td>
<td>4</td>
<td>4,235</td>
<td>3.976</td>
<td>.008b</td>
</tr>
<tr>
<td>Residual</td>
<td>47,939</td>
<td>45</td>
<td>1,065</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>64,880</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on table 5.6, the F test obtained from the processing using the SPSS version 21 program, obtained Sig $F > 0.000$ (5%) with $F_{count} = 3.976$ ($F_{count} > F_{table}$). This shows that the four independent variables simultaneously affect the dependent variable. Thus the first hypothesis is declared accepted (H1).

**T Uji test**

T Uji test to test the effect of the independent variable partially on the dependent variable. Testing through the T test is to compare $T_{count}$ with $T_{table}$ at the real level $\alpha = 0.05$. The t-test has a significant effect if the calculation result of $t_{count}$ is greater than $t_{table}$ ($t_{count} > t_{table}$) or the probability of error is less than 5% ($sig < 0.05$). In this study, the $T_{table}$ used is 2.2.

Based on table 5.5 of the multiple linear regression test, the t-test of each $X$ variable is as follows:

a. Influence of Price Perception ($X_1$) on Purchase Decision ($Y$)

The price perception variable ($X_1$) shows the $t_{count}$ value is smaller than $t_{table}$, $(0.546 < 2.2)$, or $sig > a (0.587 > 0.05)$, meaning that the price perception variable ($X_1$) has no significant effect on the purchasing decision variable ($Y$).

b. Effect of Health Awareness($X_2$) on Purchase Decision($Y$)

The health awareness variable ($X_2$) shows the $t_{count}$ value is smaller than $t_{table}$, $(1.546 < 2.2)$, or $sig > a (0.188 > 0.05)$, meaning that the health awareness variable ($X_2$) has no significant effect on the purchasing decision variable ($Y$).

c. Effect of Brand Image($X_3$) on Purchase Decision($Y$)
The brand image variable (X3) shows the t count value is smaller than t table, (1.212 < 2.2), or sig > a (0.232 > 0.05), meaning that the brand image variable (X3) has no significant effect on the purchasing decision variable (Y).

d. Effect of Product Quality (X4) on Purchase Decision (Y)

The product quality variable (X4) shows the value of t count is greater than t table, (3.730 > 2.2), or sig < a (0.001 > 0.05), meaning that the product quality variable (X4) has a significant positive effect on the purchasing decision variable (Y).

Multiple Correlation Test (R)

Test Multiple correlation was conducted to measure how strong the relationship is between the independent variable (purchase decision) and the dependent variable (price, health awareness, brand image and product quality).

Test results multiple correlation is expressed as follows:

**Table 5.7 Multiple Correlation Test**

<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>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.511*</td>
<td>.261</td>
<td>.195</td>
<td>1.032</td>
<td>1.852</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), KUALITAS, MEREK, HARGA, KESEHATAN
b. Dependent Variable: KPEMBELIAN

Source: Primary Data, 2021

Test results multiple correlation seen from the model summary section R which shows the number 0.511. This value indicates that the relationship between the price variable (X1), health awareness (X2), brand image (X3), product quality (X4) and the purchasing decision variable (Y) is 0.511 or 51.1%.

Number it explains the relationship between the independent and dependent variables classified as moderate or close to a close relationship.

**Coefficient of Determination Test (R2)**

Test The coefficient of determination is a test to measure the proportion of the independent variable to the dependent variable. Based on table 5.7, the value of R2 is 0.261 or 26.1%. This value indicates that the proportion of the contribution of price variables (X1), health awareness (X2), brand image (X3) and product quality (X4) to the purchasing decision variable (Y) is 26.1%.

Value 26.1%identified that there are 73.9% of other variables or factors that influence consumer purchasing decisions for hydroponic vegetables at CV Hobata Farm, but were not examined in this study.

**Discussion**

The Influence of Price Perception, Health Awareness, Brand Image and Product Quality on Purchase Decisions
From the results of hypothesis testing with the F (simultaneous) test show that Sig F > 0.000 (5%) with F count 3.976 (F count > F table) = 3.976> 2.2. This shows that the four independent variables simultaneously affect the dependent variable. The results of the F test simultaneously explain that if these four variables are increased, it will affect the purchasing decisions of consumers of hydroponic vegetables.

Decision Consumers to buy a product are motivated by various things, both internally and externally. According to Kotler and Keller (2016), consumer buying behavior is influenced by four factors, namely cultural, social, personal and psychological factors. Culture is the most basic determinant of desire and behavior. Dimensions of culture include culture, sub-culture and social class. Social factors are influenced by several dimensions, namely reference groups, family, and social roles and status. Setiadi (2013) defines personality as a psychological characteristic that is different from each person who views his response to the environment as being relatively consistent. Personality factors are also influenced by several dimensions, namely work, economic circumstances, age and stage of the life cycle, lifestyle.

In this study, the variables that are thought to influence consumer purchasing decisions are price perception, health awareness, brand image and product quality. According to the results of the calculation of the coefficient of determination, these four variables only affect 26% of consumers' purchasing decisions. This proportion that has not reached the majority illustrates that there are still many other variables that must be investigated.

The Influence of Price Perception on Purchase Decisions

Based on the partial test results, it is known that the price perception variable (X1) shows a count value smaller than t table, (0.546 < 2.2), or sig > a (0.587 > 0.05), meaning that the price perception variable (X1) has no effect. significant on the purchasing decision variable (Y) hydroponic vegetables at CV Hobata Farm Tobelo, North Maluku.

In general, price perception is the view or perception of customers about the price of certain goods (cheap, reasonable, expensive) where it has a strong influence on the desire to buy and customer satisfaction. Price perception is influenced by 2 dimensions, namely perceived quality and perceived costs incurred. Price is associated with quality, consumers tend to use price as an indicator of quality or potential satisfaction of a product. Consumers often give the perception that the more expensive the price of a product, the goods are seen as having good quality, and conversely, goods with low prices are seen as having poor quality. However, prices that are too high will affect the low consumer purchasing decisions.

Hydroponic vegetables at CV Hobata Farm Tobelo, North Maluku have competitive prices with conventional vegetables in traditional markets. Generally, hydroponic vegetables have a higher price than conventional vegetables, but CV Hobata Farm applies a more competitive pricing strategy to be able to compete at the lower middle level. This relatively competitive price makes consumers consider other things in purchasing decisions, such as product quality and service. Therefore, consumers choose other products that offer more value than other products at the same price. Research from Yazia (2015) and Mulyana (2021) also supports the results of this study which states that price has no effect on purchasing decisions.

Effect of Health Awareness on Purchase Decision

Based on the partial test results, it is known that the health awareness variable (X2) shows the t count value is smaller than t table, (1.546 < 2.2), or sig > a (0.188 > 0.05), meaning that the health awareness variable (X2) has no effect. significant on the purchasing decision variable (Y) hydroponic vegetables at CV Hobata Farm Tobelo, North Maluku.

Health awareness refers to consumers' awareness of their health problems when choosing daily foods such as: vegetables, fruits, meat, fish, and so on. (Hsu et al, 2016,). Awareness of health theoretically affects lifestyle and
people's consumption. Consumers who understand the importance of health will choose products that have better health values such as chemical free, recyclable, and safe for consumption in the long term. Research from Tran et al (2020) in The Roles of Health Consciousness and Service Quality toward Customer Purchase Decisions, shows that health awareness influences purchasing decisions. This study gave different results, Research from Kutresnaningdian (2012) also states that health awareness has no effect on healthy food purchasing decisions, where there are attitude and perception variables that have a significant effect on purchasing decisions.

The Influence of Brand Image on Purchase Decision

Based on the partial test results, it is known that the brand image variable (X3) shows the value of t count is smaller than t table, (1.212 < 2.2), or sig > a (0.232 > 0.05), meaning that the brand image variable (X3) has no effect. significant to the purchasing decision variable (Y) of consumers of hydroponic vegetables at CV Hobata Farm Tobelo, North Maluku. Richardson, et al (1994) in the journal Gilaninia and Mousavian (2012: 7549) stated that brand image is often used as an extrinsic requirement to make a purchase decision. If consumers do not have experience with a product, they tend to trust a preferred or well-known brand (Schiffman and Kanuk, 2008:173). A brand that has a positive or favorable image is considered to reduce purchase risk. This is what causes consumers to often use the brand image of a product as a reference in making a purchasing decision

Products that have a good brand image will have a good impression in the eyes of consumers. Consumers tend to choose products that have a good impression of them. CV Hobata Farm has an image as a company engaged in integrated organic farming. This makes consumers feel confident that the products produced by CV Hobata Farm are safe for consumption. In addition, CV Hobata Farm is also managed professionally by competent experts in their fields.

Based on the research results, consumers do not pay attention to aspects of brand image in buying hydroponic vegetables from CV Hobata Farm. This is because there are other things that are more important than the image of a brand, namely the quality of products and services. This is also supported by Rossi et al (2015) which states that brand image has no significant effect on purchasing decisions.

Effect of Product Quality on Purchase Decisions

Based on the partial test results, it is known that the product quality variable (X4) shows a t count value greater than t table, (3.730 > 2.2), or sig < a (0.001 > 0.05), meaning that the product quality variable (X4) has a positive effect. significant on the purchasing decision variable (Y) hydroponic vegetables at CV Hobata Farm Tobelo, North Maluku.

Product quality is an action taken by the company to win competition in the market by establishing a set of significant differences in the products or services offered to differentiate the company's products from competitors' products, so that it can be seen or perceived by consumers that the quality product has added value. expected by consumers. Products that have good quality will be preferred by consumers compared to products of poor quality.

Hydroponic vegetable products from CV Hobata Farm Tobelo have standardized quality, where the vegetables when delivered are fresh, there are no leaf defects, there are standard sizes at harvest, have a delicious taste and crunchy texture, and are more durable when stored. This is what makes consumers like hydroponic vegetables from CV Hobata Farm Tobelo. Research from Giardo Permadi Putra, Zainul Arifin and Sunarti (2017) also state that product quality influences purchasing decisions.
Conclusion

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

1. The variables of price perception, health awareness, brand image and product quality have a positive and significant effect on purchasing decisions simultaneously.
2. The price perception variable has no significant effect on purchasing decisions for hydroponic vegetables at CV Hobata Farm Tobelo.
3. Health awareness has no significant effect on purchasing decisions for hydroponic vegetables at CV Hobata Farm Tobelo.
4. Brand image has no significant effect on purchasing decisions for hydroponic vegetables at CV Hobata Farm Tobelo.
5. Product quality has a significant effect on purchasing decisions for hydroponic vegetables at CV Hobata Farm Tobelo.

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