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The Effect of Product Quality and Price on The Purchase Decision of Hydroponic Vegetable Products from Berkah Farm Hydroponic in Jember District

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ABSTRACT
Hydroponics is one of the modern agricultural systems. Hydroponic cultivation can be carried out even though it is not in rice fields, because this system is carried out in a greenhouse so that it can be carried out on empty land even though it is not rice fields. This hydroponic system can provide market demand for fresh vegetables. Hydroponics is one of the future agricultural methods because it can be planted in various locations, including large fields, cities, villages and even above apartments. The hydroponic system can overcome land shortages, problematic soil conditions, pests and diseases, limited irrigation supplies, unpredictable seasons and inconsistent quality. Berkah Farm Hydroponik located in Jember Regency pays great attention to the quality of the vegetables that will be marketed because consumers in buying a product, especially hydroponic vegetables, pay great attention to the cleanliness, size, color and freshness of hydroponic vegetables compared to conventional vegetables. Product quality greatly influences the decision to purchase products at Berkah Farm Hydroponik, so the quality marketed by Berkah Farm Hydroponik is quality vegetables so that it will affect the price of hydroponic vegetables. The price of hydroponic vegetables influences the decision to purchase hydroponic vegetables. The purchasing decision occurs when the quality and price of the vegetables are in accordance with consumer satisfaction.

***Keywords**: Hydroponics, Product Quality, Price, Purchasing Decision*

1. INTRODUCTION

Indonesia is known as an agricultural country, namely a country with an economy based on the agricultural sector, as an agricultural country the majority of its population works as farmers. Indonesia is an agricultural country because it has large natural resources so that by utilizing agricultural land which is fertile land, besides that Indonesia is in a tropical climate so that it gets enough sunlight and high rainfall intensity. In recent years there has been a reduction in agricultural land in Indonesia, the conversion of fertile rice fields into housing, industry, roads, thereby reducing fertile rice fields which have the potential to threaten national food production (Tudi et al., 2021; Werkneh & Gebru, 2023).

Many millennial farmers today use a modern agricultural system, namely the hydroponic system. Hydroponic cultivation can be carried out even though it is not in rice fields, because this system is carried out in a greenhouse so that it can be carried out on empty land even though it is not rice fields. This hydroponic system can provide market demand for fresh vegetables. According to Yuan et al., (2021) Hydroponics is one of the future agricultural methods because it can be planted in various locations, including large fields, cities, villages and even above apartments. Hydroponic systems can overcome land shortages, problematic soil conditions, pests and diseases, limited irrigation supplies, unpredictable seasons and inconsistent quality.

Public awareness of a healthy lifestyle is currently increasing so that they are starting to be selective in choosing vegetables to be consumed in order to provide maximum benefits to the body. Increasing vegetable selection indirectly increases the interest of buyers of hydroponic products which are known as organic vegetables because of minimal pesticide application. Based on the results of a summary of surveys through several articles regarding the demand for hydroponic vegetables, each year it increases by 10% -20% (Shahid & Singh, 2024). Product quality is related to purchasing decisions, where product quality is a purchasing value for consumers of a product. Product quality is one with the marketed price, price can help buyers decide how to allocate purchasing power to an item. Hydroponic vegetable products have a special market that is usually not affected by price and is even willing to accept premium prices as a consequence of the quality received by hydroponic vegetable buyers.

Berkah Hydroponic Farm located in Jember Regency is very concerned about the quality of vegetables that will be marketed because consumers in buying a product, especially hydroponic vegetables, are very concerned about the cleanliness, size, color and freshness of hydroponic vegetables compared to conventional vegetables. Vegetables that meet the needs and are also physically satisfying are more easily accepted by consumers who pay close attention to the quality of products (Ortega-Hernandez et al., 2024). Vegetables that are cultivated hydroponically do have their own market even though the price of hydroponic vegetables is more expensive than conventional vegetables.

2. RESEARCH METHODOLOGY

This study uses a descriptive research type with a quantitative approach. This study shows the position of independent variables, namely product quality (X1), price (X2), and dependent variables of purchasing decisions (Y). The population in this study were consumers who bought and individual consumers who came to buy hydroponic vegetable products in one month with an average of 75 consumers. This study uses a 5-point Likert scale data analysis method. The Likert scale is a tool used to measure the attitudes, opinions and perceptions of a person or group of people about social phenomena (Sugiyono, 2016). The data analysis methods used are the F test, T test and R2 test. The T test is used to determine each independent variable against the dependent variable, the F test is used to determine the significance or not of the independent variables simultaneously against the dependent variable (Fitriyani, 2021).

3. RESULTS AND DISCUSSIONS

3.1 Results of the Validity Test of Product Quality Variables (X1), Price (X2), and Purchase Decision (Y)

From the data processing results, the validity test results for all variables were declared valid because the results were more than >0.30, so they were declared valid (Koulath et al., 2023).

3.1.1 Reliability test

The reliability test aims to determine whether each respondent's answer can be said to be reliable if the respondent's answer to the question is consistent or stable over time. A variable is said to be reliable if it gives a Croncbach Alpha value > 0.10 in the reliability test for the product quality variable, product price and purchasing decision > 0.10, meaning that all items are reliable and have strong reliability so that they are worthy of being used as variables in this study.

Table 1. Reliability test

Variable	Item	Cronbach' Alpha	Information
Product Quality (X1)	21	0,881	Relible
Price (X2)	12	0,920	Relible
Purchase Decision (Y)	15	0,941	Relible

3.1.2 Normality Test

N = 64 so it can be seen that the Kolmogorov-Smirnov value is 0.224. The Sig. Kolmogorov-Smirnov value shows a value of <,010 so that it means it is smaller than 0.05, so the data above is not normally distributed.

Table 2. Normality Test

One-Sample Kolmogorov-Smirnov Test		Unstandadized Residual
N		64
Normal Parameters[a.b]	Mean	.0000000
	Std. Deviation	4.15409734
Most Extrame Differences	Absolute	.194
	Positive	.181
	Negative	-.194

Test Statistic		.224
Asymp. Sig.(2-tailed)		.204[0]

3.1.3 Multicollinearity Test

Based on the analysis of multicollinearity test data, it can be seen from the tolerance value and the variance inflation factor VIF value, which means that the tolerance value is 0.49 > 0.10. In addition to the tolerance value, it can also be seen from the VIF for both variables that meet the value of 4.012 <10, so it can be concluded that there are no symptoms of multicollinearity between independent variables for the regression equation.

Table 3. Multicollinearity Test

	Collinearity Statistics	
Model	Toleran cc	VIF
Constant		
X1	.249	4.012
X2	.249	4.012

3.1.4 Linear Regression Test

Table 4. Linear Regression Test

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. error	Beta	T	Sig.	Toleran c	VIF
Constant	-2.264	4.946		-.458	.649		
X1	.296	.111	.314	2.659	.010	.249	Z4.012
X2	.777	.153	.601	5.092	.000	.249	4.012

Based on table 4, the results of the statistical calculations above, the multiple linear regression equation is as follows:

Y = 0,2,264a + 0,296X1 + 0,777X2

Legend:
a = Constanta
X1 = Quality Product
X2 = Price
Y = Purchase Decision

Based on the results of the multiple linear equation above, it explains the meaning of the product quality variable (X1), product price (X2) which influences the purchasing decision (Y). The regression equation has the following meaning:

1. The regression coefficient of the product quality variable (X1) is 0.296, meaning that if the independent variable is significant at <0.10 which is positive, this shows that if the product quality increases, the purchasing decision will also increase.
2. The regression coefficient of the price variable (X2) is 0.777, meaning that if the independent variable is significant at <0.05 which is positive, this shows that if the price increases, the purchasing decision will also increase.

In conclusion, the price variable (X2) has the largest coefficient with a value of 0.777 compared to the product quality variable (X1). The quality variables (X1) and price (X2) have a positive influence on the decision to purchase hydroponic vegetables at the Berkah Hydroponic Farm in Jember Regency.

3.1.5 F Test

Aims to find out whether the independent variables simultaneously affect the dependent variable. The simultaneous test is carried out by comparing the F count and Ftbale values with a significance level = 0.05 with ftabel obtained from =FINV(0.05;2;61)= 3.147791. Based on table 5 the results of the f test so that the conclusion of the f test (simultaneous) can be seen that f count = 113.245> ftabel = 3.147791 with a significance level <,000b which means less than 0.05 this proves that the variables of product quality and price have a positive and significant effect on the decision to purchase hydroponic vegetables at the berkah hydroponic farm.

Table 5. F Test

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4036.573	2	2018.287	113.245	.000[b]
Residual	1087.161	61	17.822		
Total	5123.734	63			

3.1.6 T (Parsial) Test

The t-test aims to find out whether the independent variables simultaneously influence the dependent variable. The t-test

Table 6. T test

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. error	Beta	T	Sig.	Toleran c	VIF
Constant	-2.264	4.946		-.458	.649		
X1	.296	.111	.314	2.659	.010	.249	Z4.012
X2	.777	.153	.601	5.092	.000	.249	4.012

From table 5. The test obtained a regression model that shows acceptance and rejection as seen from the coefficient values. The test results are as follows:

1. The results of the X1 product quality test affect purchasing decisions, from the table above it is known that the t-value of the product quality variable (X1) is 2.659 <t table = 4.012 with a significance level of 0.280 which means it is small from the probability that has been set, namely 0.05 so that it can be concluded that the product quality variable (X1) has an influence and is not significant on the decision to purchase vegetables at the hydroponic blessing farm in Jember Regency.
2. The results of the X2 test of price influence on purchasing decisions, it is known that the t-count value is 5.092 < t table = 4.012 with a significance level of <,001 which means it is smaller than the probability that has been set, namely 0.05, so it can be concluded that the price variable (X2) has a positive and significant effect on purchasing decisions for hydroponic vegetables at the Berkah Farm Hydroponics, Jember Regency.

3.2 The influence of product quality on purchasing decisions

Based on the results of the study, it can be proven that the product quality variable has a significant effect on the decision to purchase hydroponic vegetables at the berkah farm hydroponics. The results of the data analysis in the t-test table state the significance of product quality of 0.021 which is smaller than 0.05, so it can be concluded that the better the product quality will affect the decision to purchase vegetables at berkah farm hydroponics. The results of this study are in accordance with previous research, according to Ika Septiasari et al 2024 the influence of product quality is very closely related to purchasing decisions. Consumers will have satisfaction with the product chosen if the product has good quality. The product quality variable is a more dominant variable than other variables. If the quality of vegetables at berkah farm hydroponics that are marketed with good product quality will increase purchasing decisions in purchasing hydroponic vegetables.

3.3 The Influence of Price on Purchasing Decisions at Berkah Farm Hydroponics in Jember Regency

Based on the results of the study, it can be proven that the product quality variable and the price variable at Berkah Farm Hydroponics have a simultaneous effect on the decision to purchase hydroponic vegetables at Berkah Farm Hydroponics. The results of the data analysis produced by the ANOVA table (F test) show that the significance value is 0.000 which is smaller than 0.05 so it can be concluded that the price variable greatly influences the decision to purchase hydroponic vegetables at Berkah Farm Hydroponics. The hydroponic vegetable price policy at Berkah Farm Hydroponics has an affordable price from the consumer's point of view, because in principle if the price of vegetables offered by Berkah Farm Hydroponics is affordable and has the appropriate product quality, it will increase the decision to purchase hydroponic vegetables at Berkah Farm Hydroponics.

4. CONCLUSION

Based on the data analysis that has been carried out in this study, it can be concluded:

1. The product quality variable has a significant influence on the decision to purchase products at the berkah farm hydroponics
2. The price variable has a significant influence on the decision to purchase hydroponic vegetable products at berkah farm hydroponics
3. Product quality and price have a significant influence simultaneously on the decision to purchase hydroponic vegetable products at berkah farm hydroponics

REFERENCES

Fitriyani, Z. A. (2021). Buying Decision: Ditinjau dari Store Atmosphere, Price, dan Word of Mouth Pada Toserba Duta Mojokerto. *Ekombis Sains: Jurnal Ekonomi, Keuangan Dan Bisnis*, *6*(1), 103–112. https://doi.org/10.24967/ekombis.v6i1.1147

Koulath, B., Lazarus, T. P., Thasnimol, F., Nilamudeen, M., & Gopinath, P. P. (2023). Consumer Willingness to Pay (WTP) for Pesticide-Free Vegetables in Palakkad District of Kerala, India. *Asian Journal of Agricultural Extension, Economics & Sociology*, *41*(4), 47–54. https://doi.org/10.9734/ajaees/2023/v41i41877

Ortega-Hernandez, J. M., Qiu, D., Pla-García, J., Yuanxun, Z., Martinez-Frias, J., Long, X., Sanchez-Rodriguez, E., Hernandez-Narvaez, J., Xie, G., & Alberquilla, F. (2024). Key factors in developing controlled closed ecosystems for lunar missions. In *Resources, Environment and Sustainability* (Vol. 16). Elsevier B.V. https://doi.org/10.1016/j.resenv.2024.100160

Shahid, M., & Singh, U. B. (2024). The ecological hazards of profenofos revealed by soil beneficial-bacteria, plant seedlings, and plasmid nicking assays: A short-term toxicity investigation. *Plant Stress*, *14*. https://doi.org/10.1016/j.stress.2024.100577

Tudi, M., Ruan, H. D., Wang, L., Lyu, J., Sadler, R., Connell, D., Chu, C., & Phung, D. T. (2021). Agriculture development, pesticide application and its impact on the environment. *International Journal of Environmental Research and Public Health*, *18*(3), 1–24. https://doi.org/10.3390/ijerph18031112

Werkneh, A. A., & Gebru, S. B. (2023). Development of ecological sanitation approaches for integrated recovery of biogas, nutrients and clean water from domestic wastewater. In *Resources, Environment and Sustainability* (Vol. 11). Elsevier B.V. https://doi.org/10.1016/j.resenv.2022.100095

Yuan, Z., Pang, Y., Gao, J., Liu, X., Sheng, H., & Zhuang, Y. (2021). Improving quantification of rainfall runoff pollutant loads with consideration of path curb and field ridge. *Resources, Environment and Sustainability*, *6*. https://doi.org/10.1016/j.resenv.2021.100042