
**THE EFFECT OF PRODUCT QUALITY, PRICE AFFORDABILITY, AND
BRAND EQUITY ON PORANG RICE PURCHASE DECISIONS THROUGH
HALAL AWARENESS AS A MODERATING VARIABLE**

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Abstract

This study aims to analyze the influence of product quality, price affordability, and brand equity on purchase decisions of porang rice through halal awareness in Central Jakarta. Porang rice is an alternative food product with high fiber and low-calorie content that has the potential to support food diversification in Indonesia. However, consumer acceptance of porang rice is still relatively varied and influenced by several marketing factors as well as halal considerations. This research used a quantitative approach with a survey method. Data were collected through questionnaires distributed to consumers who had knowledge of or experience purchasing porang rice in Central Jakarta using purposive sampling. The variables analyzed consisted of product quality, price affordability, and brand equity as independent variables, halal awareness as a moderating variable, and purchase decision as the dependent variable. Data analysis was conducted using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach through SmartPLS software. The results showed that product quality, price affordability, and brand equity have a significant effect on purchase decisions. These findings indicate that marketing factors combined with halal awareness play an important role in influencing consumer purchasing decisions for porang rice in urban areas.

Keywords: Product Quality, Price Affordability, Brand Equity, Halal Awareness, Purchase Decision

INTRODUCTION

Indonesia is one of the countries with the highest rice consumption in Southeast Asia (Yuda, 2024). The community's dependence on rice as a staple food poses challenges to food security, especially when domestic production faces various constraints such as climate change and limited agricultural land (Katuuk and Kairupan, 2025). This situation drives the need for food diversification through the use of more sustainable alternative food sources. One innovation that is starting to be developed is porang rice, a processed product from porang tubers (*Amorphophallus muelleri*), which is high in fiber, low in calories, and has the potential to be a functional food for people who live a healthy lifestyle (Mulyaningsih, 2022).

Despite its numerous advantages, consumer acceptance of porang rice remains variable. Several marketing factors, such as product quality, affordability, and brand equity, are known to influence consumer purchasing decisions. However, in the context of food products in a Muslim-majority country like Indonesia, halal certification is a crucial factor considered before consumers make a purchase. Halal awareness relates not only to the product's raw materials but also to the production and distribution processes, as well as halal certification guarantees, which can increase consumer trust in a food product (Azizi and Kurniawan, 2021). Certification by an authorized institution ensures that a product meets certain standards in terms of agricultural practices, the use of specific ingredients, and product processing. This provides consumers with confidence that the product comes from a reliable source and adheres to certain quality standards (Astuti and Syah, 2023).

In this context, halal awareness has the potential to act as a moderating variable, strengthening the relationship between marketing factors and consumer purchasing decisions. Consumers with high levels of halal awareness tend to be more selective in choosing the food products they consume. Therefore, it is important to understand how product quality, affordability, and brand equity influence porang rice purchasing decisions through halal awareness. Based on this description, this study aims to analyze the influence of product quality, affordability, and brand equity on porang rice purchasing decisions through halal awareness as a moderating variable.

REVIEW OF LITERATURE

Product quality is a crucial factor influencing consumer purchasing decisions. According to Kotler and Keller (2016), product quality is the ability of a product to meet consumer needs and expectations through performance, durability, reliability, and benefits. Good quality products will increase consumer satisfaction and trust, thus driving purchasing decisions. In the context of food products, product quality is not only assessed from its physical appearance but also from its safety, nutritional content, and health benefits. Research by Saragih and Ilvira (2025) shows that product quality significantly influences purchasing decisions for porang rice because consumers tend to choose products that offer health benefits and quality that meet expectations.

In addition to product quality, affordability is also an important factor influencing consumer purchasing decisions. Kotler and Keller (2012) state that affordability is a consumer's ability to purchase a product according to their purchasing power and perceived value. Consumers will consider the suitability of price to the quality and benefits of the

product before making a purchase. For alternative food products such as porang rice, which has a relatively higher price than regular rice, affordability is a key consideration for consumers. Research by Syah et al. (2025) explains that consumers still consider price as an important factor in making purchasing decisions, even though the product has high health benefits.

Brand equity is the added value a brand possesses based on consumers' perceptions and experiences with the product. Aaker (1991) states that brand equity consists of brand awareness, brand associations, perceived quality, and brand loyalty. Strong brand equity can increase consumer trust and create a positive image of a product. In the competitive modern food market, brand strength is an important factor in influencing purchasing decisions because consumers tend to choose brands that are already known and trusted. Research by Dermawan and Samudra (2024) shows that brands with a positive image and good reputation have a significant influence on consumer purchasing decisions.

Halal awareness is the level of consumer understanding and concern regarding the importance of the halal certification of a product. Ambali and Bakar (2021) explain that halal awareness relates not only to a product's raw materials but also to the production, distribution, and halal certification processes. Muslim consumers with a high level of halal awareness tend to be more selective in choosing food products and pay more attention to the presence of halal labels before making a purchase. Halal awareness can also strengthen the relationship between marketing factors and consumer purchasing decisions because products perceived as halal provide a greater sense of security and trust to consumers.

Purchasing decisions are the process by which consumers choose and purchase a product based on specific considerations. Tjiptono (2015) states that purchasing decisions are influenced by various factors, both internal and external, such as product quality, price, brand, and consumer perception of the product. In this study, halal awareness is positioned as a moderating variable that strengthens the relationship between product quality, affordability, and brand equity on the purchase decision for porang rice. Thus, this study seeks to provide a more comprehensive understanding of consumer behavior towards alternative food products in urban areas.

RESEARCH METHOD

This study used a quantitative approach with a survey method to analyze the influence of product quality, affordability, and brand equity on purchasing decisions for porang rice, using halal awareness as a moderating variable. The study was conducted in Central Jakarta, a purposively selected area with high food consumption and heterogeneous consumer characteristics.

The population in this study was consumers who knew about or had purchased porang rice products in Central Jakarta. The sample was determined using a purposive sampling technique, selecting respondents based on specific criteria. According to Saragih and Ilvira (2025), the criteria for selecting respondents in this study included: (1) consumers at least 17 years old, (2) familiar with porang rice products, and (3) having purchased or consumed porang rice. Primary data was obtained by distributing questionnaires to

respondents using a five-level Likert scale. The sample size in this study was determined using the Lameshow formula. The Lameshow formula is as follows:

$$\begin{aligned} n &= \frac{z^2 pq}{E^2} \\ n &= \frac{z^2 p(1-p)}{E^2} \\ n &= \frac{1,96^2 \times 0,5 (1-0,5)}{0,10^2} \\ n &= \frac{3,8416 \times (0,25)}{(0,01)} \\ n &= \frac{0,9604}{(0,01)} \\ n &= 96,04 \end{aligned}$$

Based on the calculations above, the sample size used in this study was 96 people, which was rounded up to 100 people to simplify the analysis (Mega et al., 2022).

The variables in this study consisted of product quality, affordability, and brand equity as independent variables, halal awareness as a moderating variable, and purchasing decisions as the dependent variable. Product quality indicators refer to the dimensions of performance, features, reliability, conformity to specifications, durability, ease of service, aesthetics, and perceived quality (Tjiptono, 2015). The affordability variable was measured using indicators of price affordability, price-to-quality ratio, price-to-benefit ratio, and price competitiveness (Kotler & Keller, 2012). Meanwhile, brand equity was measured through brand awareness, brand associations, perceived quality, and brand loyalty (Aaker, 1991).

Data analysis was conducted using the Structural Equation Modeling (SEM) method with a Partial Least Squares (PLS) approach using SmartPLS software. The analysis stages include testing the outer model to assess the validity and reliability of the construct and testing the inner model to analyze the relationship between variables and test the research hypothesis.

RESULTS AND DISCUSSION

1. Outer Model

a. Convergent Validity

Convergent validity is an indicator measured based on the correlation between component scores or item scores and their construct values, thus creating a loading factor value. A desirable value is considered high if the correlation is >0.70 (Abdillah and Hartono, 2021). Another convergent validity test can be seen through the Average Variance Extracted (AVE) value. Hair et al. (2019) stated that the minimum acceptable AVE value is 0.50. Below is a table of the results of the SEM PLS model calculations:

Table 1
Convergent Validity (Outer Loading)

Variabel	Indikator	<i>Outer Loading</i>	AVE
Kualitas Produk	X1.1.1	0.853	
(X1)	X1.2.1	0.808	

	X1.2.2	0.810	0.700
	X1.3.1	0.840	
	X1.3.2	0.869	
Keterjangkauan Harga (X2)	X2.1.1	0.778	
	X2.2.1	0.875	0.650
	X2.2.2	0.792	
	X2.3.1	0.775	
Ekuitas Merk (X3)	X3.1.1	0.755	
	X3.1.2	0.799	
	X3.2.2	0.810	0.616
	X3.3.1	0.750	
	X3.3.2	0.808	
Kesadaran Halal (Z)	Z1.1	0.820	
	Z2.1	0.854	
	Z2.2	0.764	0.677
	Z3.1	0.850	
	Z3.2	0.823	
Keputusan Pembelian (Y)	Y1.1	0.877	
	Y1.2	0.770	
	Y2.1	0.751	0.665
	Y2.2	0.798	
	Y3.1	0.877	
Kesadaran Halal (Z) >	Y3.2	0.809	
Kualitas Produk (X1) Z -> X1		1.000	
Kesadaran Halal (Z) >			
Keterjangkauan Harga (X2) Z -> X2		1.000	
Kesadaran Halal (Z) >			
Ekuitas Merk (X3) Z -> X3		1.000	

The table above shows that the variable indicators generally perform well for each exogenous and endogenous variable, with good loading factor values. High loading factor values for each indicator indicate a strong correlation between the indicator and the construct being measured. This means that each statement item consistently represents the latent variable and has a good level of convergent validity. The indicators in this study not only meet the statistical criteria (>0.70) but also substantively explain the concepts being measured. Therefore, the measurement model (outer model) is deemed appropriate and can be used for further analysis in the structural model.

Convergent validity is also strengthened by the Average Variance Extracted (AVE) values for each variable. The table shows that the AVE values for Product Quality are 0.700, Price Affordability is 0.650, Brand Equity is 0.616, Halal Awareness is 0.665, and Purchase Decision is 0.677, all of which are above the minimum threshold of 0.50. This indicates that each construct is able to explain more than 50% of the variance in its indicators, thus demonstrating good convergent validity. These results align with Ghozali's (2021) opinion, which states that an AVE value ≥ 0.50 indicates that the construct meets convergent validity criteria. The variables in this study optimally represent their indicators and are suitable for further analysis.

b. Discriminant Validity

Discriminant validity is part of construct validity testing that aims to ensure that each construct (latent variable) in the model is truly unique and does not measure the same thing as other constructs. Hirmawan (2022) stated that discriminant validity is met if the average variance extracted (AVE) from the average variance extracted must be higher than the correlation involving the latent variable. This validity indicates the extent to which a construct is truly different from other constructs in the model, so that each construct measures a unique and non-overlapping concept. There is a main approach used to test discriminant validity, namely the Fornell-Larcker Criterion.

Table 2
Discriminant Validity

	Kualitas Produk	Keterjangkauan Harga	Ekuitas Merk	Keputusan Pembelian	Kesadaran Halal
Kualitas Produk	0.836				
Keterjangkauan Harga	0.006	0.806			
Ekuitas Merk	0.153	0.006	0.785		
Keputusan Pembelian	0.340	0.338	0.258	0.815	
Kesadaran Halal	0.254	0.111	0.006	0.474	0.823

The data table above shows that this research model meets the requirements for discriminant validity, based on the Fornell-Larcker matrix analysis. The square root of the Average Variance Extracted ($\sqrt{\text{AVE}}$) for each construct is all greater than the correlation values between the relevant constructs. The $\sqrt{\text{AVE}}$ values for each variable—Product Quality (0.836), Price Affordability (0.806), Brand Equity (0.785), Purchase Decision (0.815), and Halal Awareness (0.823)—are all higher than their correlations with other variables in the model. This aligns with Ghozali's (2021) statement that discriminant validity is considered high if the square root of the AVE is greater than the correlation between the other constructs.

The correlation between product quality and other variables, such as affordability, brand equity, and halal awareness, was below the $\sqrt{\text{AVE}}$ value of 0.836. Similarly, affordability had an $\sqrt{\text{AVE}}$ of 0.806, higher than its correlation with other constructs, and brand equity had an $\sqrt{\text{AVE}}$ of 0.785, also higher than its correlation value. Similarly, the purchasing

decision variable had an $\sqrt{\text{AVE}}$ of 0.815 and halal awareness had an $\sqrt{\text{AVE}}$ of 0.823, with all correlation values between variables remaining below this value. This indicates that each construct has a better ability to explain its own variable than the other constructs. These results align with research by Rustika & Pambudi (2024), which states that a construct is said to have good discriminant validity if its $\sqrt{\text{AVE}}$ value is greater than the correlation between constructs, thus eliminating overlap between variables.

The final evaluation of the measurement model involves determining the Cronbach's alpha and composite reliability values. A composite reliability value >0.7 indicates high reliability for the construct, while a Cronbach's alpha value >0.6 indicates acceptable internal consistency (Hair, 2019). The data processing results show the Cronbach's alpha and composite reliability, as shown in the following table:

Table 3
Composite Reliability dan Cronbach's Alpha

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
X1	0.893	0.894	0.921
X2	0.821	0.846	0.881
X3	0.846	0.856	0.889
Z	0.898	0.901	0.922
Y	0.881	0.897	0.921

Based on the table above, it can be seen that all variables have a composite reliability value >0.7 , thus concluding that the construct is reliable. The composite reliability value for each latent variable is ≥ 0.7 , indicating high reliability for the model. The Cronbach's alpha values for Product Quality (X1) are 0.893, Price Affordability (X2) is 0.821, Brand Equity (X3) is 0.846, Halal Awareness (Z) is 0.898, and the Purchase Decision (Y) is 0.881. All variables have Cronbach's alpha values ≥ 0.6 , indicating reliability.

The high composite reliability and Cronbach's alpha values for all variables also reflect strong internal correlations between indicators within each construct. This indicates that each indicator has a consistent and mutually supportive relationship in measuring the same latent variable, resulting in stable measurements. This research instrument is not only statistically reliable but also has good internal consistency in representing the relationships between indicators, making it suitable for use in further analysis of structural models. These results align with Ghozali's (2021) research, which states that Cronbach's alpha and composite reliability values above the minimum threshold indicate good construct reliability.

2. Inner Model

Structural model testing is performed by examining the R^2 value of the relationship between constructs. The R^2 value indicates that the variation in the endogenous construct can be explained by the exogenous construct, which is identical to the magnitude of the

exogenous construct's contribution to the endogenous construct. From the data processing results, the R^2 value can be determined as shown in the following table:

Table 4
R-Square

	R-Square	R-Square Adjusted
Y	0.582	0.550

Based on the table above, the R-square value for the Purchase Decision (Y) variable is 0.582, indicating that the exogenous variables' ability to explain variable Y is 58.2%, thus categorizing it as having a moderate level of explanation. In line with the criteria stated by Ghozali (2021), an R^2 value of 0.19-0.32 is considered weak, 0.33-0.66 is considered moderate, and >0.67 is considered strong. This indicates that the variables Product Quality (X1), Price Affordability (X2), Brand Equity (X3), and Halal Awareness (Z) are able to explain 58.2% of the variation in Purchase Decision (Y). The adjusted R-square value of 0.550 indicates that after adjusting for the number of variables in the model, the model's explanatory power remains moderate and is still good enough for use in the analysis.

A moderate R-square value also indicates a fairly strong relationship or correlation between the independent variables and the dependent variable in this research model. This indicates that changes in Product Quality (X1), Price Affordability (X2), Brand Equity (X3), and Halal Awareness (Z) will be followed by changes in Purchasing Decisions (Y), although they do not fully explain all the variations that occur. These variables have a significant relationship in influencing purchasing decisions.

Table 5
Q-Square

	Q-Square
Y	0.460

Based on the test results in Table 4, the predictive relevance (Q^2) value obtained was 0.406. This value indicates that this research model has adequate predictive relevance (Q^2) and is able to explain variation in the constructs strongly. In line with the criteria stated by Yamin and Kurniawan (2021), a Q^2 value of 0.02 is considered low, 0.15 is considered moderate, and 0.35 is considered high.

A high Q-Square value also indicates a strong correlation between the variables in the model and the predictive ability of the endogenous constructs. This indicates that the variables Product Quality (X1), Price Affordability (X2), Brand Equity (X3), and Halal Awareness (Z) have a good correlation in predicting Purchase Decisions (Y). The developed model not only explains the relationships between variables theoretically but also has strong predictive ability in representing empirical conditions in the field.

Table 6
F-Square

	F-Square
Kesadaran Halal x Kualitas Produk > Keputusan Pembelian	0.119
Kesadaran Halal x Keterjangkauan Harga > Keputusan Pembelian	0.152
Kesadaran Halal x Ekuitas Merk > Keputusan Pembelian	0.160

Based on the F-square analysis, the moderating effect of the interaction between Z and X1 on Y was 0.119, Z and X2 was 0.152, and Z and X3 was 0.160, all of which were in the moderate category. Consistent with the criteria stated by Hair (2022), an F^2 value of 0.02 is considered weak, 0.15 is considered moderate, and 0.35 is considered strong.

Halal awareness can indirectly strengthen the relationship between the independent variables and purchasing decisions (Y). The influence of product quality, affordability, and brand equity on purchasing decisions will be stronger as consumers' halal awareness increases. This finding indicates that moderating variables not only act as additional factors but also as mechanisms that increase the strength of the relationship between variables, thus making a significant contribution to explaining consumer behavior in purchasing decision-making.

Table 7
Goodness of Fit

Goodness of Fit
0,620

Based on the Goodness of Fit (GoF) calculation, a value of 0.620 was obtained, calculated from the average Average Variance Extracted (AVE) of 0.662 and an R-squared value of 0.582. This GoF value falls into the large category (≥ 0.36), indicating that the research model has a good level of fit and is able to explain the relationships between variables robustly. In line with the criteria stated by Ghazali (2021), a Goodness of Fit value of <0.24 is considered weak, 0.25-0.35 is considered moderate, and >0.36 is considered strong.

A high Goodness of Fit (GoF) value also indicates a strong relationship or correlation between the measurement model (outer model) and the structural model (inner model) in this study. This indicates that the relationships between the latent variables constructed in the model are mutually supportive and form a good overall model fit. The variables of Product Quality, Price Affordability, Brand Equity, and Halal Awareness not only have an individual influence, but also have an integrated relationship in explaining Purchasing Decisions, so that this research model can be said to have a strong representation ability for the phenomenon being studied.

Table 8
Hypothesis Result

	T Statistics	P Values
Kesadaran Halal x Kualitas Produk > Keputusan Pembelian	2,776	0,006
Kesadaran Halal x Keterjangkauan Harga > Keputusan Pembelian	3,951	0,000
Kesadaran Halal x Ekuitas Merk > Keputusan Pembelian	4,335	0,000

Based on the results of the t-statistic and p-value tests, all variables in the model were shown to have a significant effect on Purchase Decisions (Y) with t-statistics > 1.96 and p-values < 0.05 , which aligns with Sugiyono's (2018) statement. The moderating variable Z, X1, X2, and X3, was also shown to be significant with t-values of 2.776 ($p = 0.006$), 4.335 ($p = 0.000$), and 3.951 ($p = 0.000$), respectively. This indicates that Halal Awareness moderates the relationship between the independent variables and purchase decisions, thus accepting the hypothesis in this study.

The results of the significance test indicate a positive and unidirectional relationship between the independent variables and Purchase Decisions (Y) through the moderating role of Halal Awareness (Z). The higher the level of consumer halal awareness, the stronger the relationship between Product Quality, Affordability, and Brand Equity on purchase decisions. Variable Z not only functions as an additional variable, but also plays a role in increasing the strength of the relationship between variables, thus providing a significant indirect influence in explaining consumer behavior in making purchasing decisions.

Discussion

The results of the study indicate that halal awareness moderates the influence of product quality, affordability, and brand equity on purchasing decisions for porang rice in Central Jakarta. Based on the results of the hypothesis test, all moderating relationships had t-statistics > 1.96 and p-values < 0.05 , thus the research hypothesis is accepted. These findings indicate that consumer purchasing decisions for porang rice are influenced not only by marketing factors but also by their level of halal awareness.

Regarding the moderating effect of halal awareness on product quality on purchasing decisions, the t-statistics were 2.776 and the p-value was 0.006. These results indicate that the higher a consumer's level of halal awareness, the stronger the influence of product quality on purchasing decisions. Consumers not only consider the physical qualities of a product, such as texture, taste, and health benefits, but also consider the product's halal assurance before making a purchase. This finding aligns with research by Lativia et al. (2022), which states that consumers with high levels of halal awareness tend to be more selective about the quality of the products they consume.

The relationship between halal awareness and affordability and purchasing decisions resulted in a T-statistic of 3.951 and a P-value of 0.000. These results indicate that consumers still consider price when purchasing porang rice, even though the product's price is relatively higher than conventional rice. However, consumers with high halal awareness tend to still make purchases if the product has a clear halal guarantee. This indicates that

halal awareness can strengthen the influence of affordability on purchasing decisions. This finding is supported by research by Syah et al. (2025), which states that consumers consider not only price but also the safety and halal aspects of the products they consume.

The relationship between halal awareness and brand equity and purchasing decisions resulted in a T-statistic of 4.335 and a P-value of 0.000. These results indicate that halal awareness significantly strengthens the influence of brand equity on purchasing decisions. Consumers tend to have more trust in brands that have a halal image, a good reputation, and are able to guarantee product quality. The higher a consumer's level of halal awareness, the greater the influence of brand strength on the purchasing decision for porang rice. This study aligns with the research of Dermawan and Samudra (2024), which states that brands with a strong halal image are more likely to gain consumer trust.

Overall, this study demonstrates that halal awareness plays a significant role in strengthening the relationship between marketing factors and consumer purchasing decisions. Product quality, affordability, and brand equity will have a greater influence on purchasing decisions when supported by a high level of consumer halal awareness. These findings confirm that halal aspects have become a crucial factor in consumer behavior toward food products, particularly alternative products like porang rice.

CONCLUSION

Based on the research results, it can be concluded that halal awareness moderates the influence of product quality, affordability, and brand equity on purchasing decisions for porang rice in Central Jakarta. Good product quality, affordable prices, and strong brand equity have been shown to improve consumer purchasing decisions, especially when supported by a high level of halal awareness. Halal awareness is a crucial factor in strengthening consumer confidence and trust in choosing food products.

The results of this study indicate that consumers consider not only quality, price, and brand when making purchases but also the product's halal assurance. Therefore, porang rice producers need to improve product quality, set prices that reflect the product's value and benefits, strengthen brand image, and ensure clear halal certification to increase consumer trust and purchasing decisions. Future research is expected to include other variables such as promotion, healthy lifestyle, and perceived health benefits to obtain more comprehensive research results.

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