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**THE EFFECT OF PRODUCTION COSTS AND CONSUMER DEMAND ON  
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**Abstract**

This study aims to analyze the influence of production costs and consumer demand on the pricing for Upiya Karanji produced by artisans in Batu Layar Village, Bongomeme Subdistrict, Gorontalo Regency. Field conditions suggest that some artisans do not maintain systematic cost records and continue to set prices based on customary practices, while consumer demand fluctuates in response to seasonal factors and traditional ceremonial needs. The study employs a quantitative method with an associative approach. Primary data were collected through questionnaires distributed to 35 artisans, who were selected using purposive sampling. Data analysis included validity and reliability tests, classical assumption tests, multiple linear regression, t-tests, F-test, and the coefficient of determination, using SPSS as the analytical tool. The findings indicate that production costs have a positive and significant influence on the pricing, whereas consumer demand does not have a significant influence. However, simultaneously, both variables significantly influence pricing, as indicated by an F-count value of  $19.541 > F\text{-table of } 3.28$  and a significance level of  $0.001 < 0.05$ .

**Keywords:** Production Costs, Consumer Demand, Pricing, Upiya Karanji



## INTRODUCTION

Management accounting serves as an important information system that assists business owners in planning, controlling, and evaluating financial and operational performance. Wisnu, (2023) states that an increase in the number of MSMEs is not automatically followed by an improvement in the quality of their financial management. Most MSME actors still face obstacles in managing finances due to a lack of understanding of accounting, cash flow management, and structured transaction recording. This condition leads to the low quality of the financial statements they produce (Ronald Soemitro Badu, Usman, 2025).

Istinasari, Ngago, & Aprillianti stated that MSMEs have a strategic role in strengthening the national economic structure because they contribute greatly to job creation, increasing community income, and economic equity (Wuryandini, 2025). Micro, Small, and Medium Enterprises (MSMEs) have a big role in driving Indonesia's economic recovery and growth. This sector is even considered one of the main engines of the national economy thanks to its toughness, dynamics, and efficiency (Mahdalena & Sinta Oktavia, 2024). One of the MSMEs that has this important role is also reflected at the regional level, one of which is in Gorontalo Province which is known for its distinctive handicrafts, namely Upiya Karanji. Upiya Karanji is a typical songkok of the Gorontalo people which has high cultural, religious, and economic values.

The main factor that plays a role in pricing is the cost of production. This component includes all expenses that occur during the product manufacturing process, ranging from raw material costs, direct labor, to factory overhead costs. However, most of Upiya Karanji's artisans have not implemented a systematic cost recording system. They often only estimate expenses without detailed calculations, which can lead to the selling price being too high or too low compared to the actual value (Zakia Harun et al., 2023).

Production costs include all costs inherent in a product, both direct and indirect costs. Production costs include raw materials, labor, and overhead, which must be calculated appropriately to keep the selling price competitive. Therefore, manufacturers need to balance costs with market demand. Miscalculations can make prices too high to lower demand, or too low to cause losses. Conversely, if costs are managed efficiently, selling prices can be set competitively and are able to maintain and even increase product demand (Putra et al., 2024).

However, pricing is not only influenced by the magnitude of the cost of production, but also by the level of consumer demand for the product. According to (Amaliah & Muzdalifah, 2024) Changes in public demand patterns for local



products are influenced by purchasing power, cultural trends, and the social function of the product. When demand increases, artisans tend to raise the selling price to maintain profit margins.

The phenomenon in the field shows that Upiya Karanji craftsmen in Batu Layar Village still face obstacles in determining a rational and sustainable selling price. Most have not calculated the cost of production in detail, while fluctuating consumer demand has led to price instability. This condition shows the need for a management accounting approach in helping craftsmen make data-driven and efficient pricing decisions.

Previous studies generally only examined the effect of production costs or consumer demand separately on the determination of selling prices in various types of MSMEs and other manufacturing businesses. Some previous studies have also supported the importance of both factors. Sari et al., (2021) found that production costs have a strong effect on the selling price with a contribution of 99%. Research by Nur'azizah Bungalo et al., (2024) also shows that the stability of consumer demand plays a role in determining optimal prices and sustainable sales volumes. However, these studies have not reviewed specific cultural contexts and have not combined the two variables in a single comprehensive analysis model. In contrast to previous research, this study specifically focuses on combining the variables of production costs and consumer demand simultaneously in a multiple linear regression model and linking the findings with utility theory and management accounting. Thus, this research provides novelty both in terms of objects, methodological approaches, and theoretical contributions. This novelty is even more relevant when it is associated with the condition of Upiya Karanji artisans in Gorontalo, especially in Batu Layar Village, where most of the community depends on the production and sale of Upiya Karanji as the main source of livelihood.

## **LITERATURE REVIEW**

Utility Theory was developed by Peter C. Fishburn (1968). Utility theory is a fundamental concept in accounting that explains how individuals and producers make decisions to maximize their satisfaction or benefit (utility) from each economic choice they make. In a managerial context, utility theory is not only concerned with consumer satisfaction, but also with how business actors set production and pricing strategies to achieve economic efficiency. Based on the above explanation of utility theory, it can be concluded that economic actors, including craftsman Upiya Karanji, will behave rationally in determining economic decisions to maximize satisfaction (utility). Therefore, production costs



and consumer demand are important factors that simultaneously affect the determination of selling prices as a form of achieving maximum utility in business activities.

Management accounting theory plays an important role in supporting rational economic decision-making, especially in terms of planning, control, and pricing of sales. Management accounting theory is aligned with utility theory because both focus on rational decision-making, emphasizing how businesses can optimize benefits and profits by efficiently managing costs and setting prices accordingly.

Price theory is one of the main pillars in accounting that explains the process of price formation through the interaction between demand and supply in the market (Samuelson & Nordhaus, 2023). Therefore, price theory not only addresses the relationship between supply and demand, but also reflects the rational interaction between the two parties in achieving market equilibrium.

According to Hansen & Mowen, (2021), production costs are all costs that occur during the product manufacturing process, including direct raw materials, direct labor, and factory overhead costs.

According to Sukirno, (2021), consumer demand is the amount of goods or services that consumers want and can afford to buy at various price levels within a certain period of time. Demand reflects the desire and ability of consumers to buy a product which is influenced by various economic and social factors.

## **RESEARCH METHOD**

This study uses a quantitative method with an associative approach. According to Rusiadi et al (2016:12), associative research is research that aims to find out the relationship between two or more variables. With this research, a theory will be built that can function to explain, predict and control a symptom (Iii et al., 2019). This study uses primary data collected directly from Upiya Karanji MSMEs in Gorontalo Regency. Primary data sources are data sources collected directly by researchers from direct experience or knowledge related to the subject being researched (Handayani, 2020). The total population in this study is 35 samples. Sampling in this study uses purposive sampling, a sampling method based on criteria relevant to the research objectives. The data collection techniques used in this study are observation, interview questionnaires. The data analysis technique in this study uses SPSS (Statistical Product and Service Solution). The variables studied in this study consist of independent variables,



namely: Production Cost (X1), Consumer Demand (X2), and dependent variables, namely: Selling Price Determination (Y).

RESULTS AND DISCUSSION

Data Quality Test

The validity test is used to determine the validity of the questions that have been prepared in the research questionnaire.

Table 1. Validity Test Results

Table with 5 columns: Variabel, Item, rhitung, rtabel, Validitas. Rows include Biaya Produksi (X1.1-X1.6), Permintaan Konsumen (X2.1-X2.10), and Penetapan Harga Jual (Y.1-Y.8).

Source: Data processed (2025)

The Reliability Test is used to measure a questionnaire which is an indicator of a variable.

Table 2. Results of Reality Test

Reliability Statistics table showing Cronbach's Alpha (.762) and N of Items (24).

Source: Data processed (2025)

## Classic Assumption Test Normality Test

The results of the normality test in this study can be seen in the following figure:

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		35
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.28340888
Most Extreme Differences	Absolute	.124
	Positive	.076
	Negative	-.124
Test Statistic		.124
Asymp. Sig. (2-tailed) <sup>c</sup>		.189
Monte Carlo Sig. (2-tailed) <sup>d</sup>	Sig.	.182
	99% Confidence Interval	Lower Bound
	Upper Bound	.192

a. Test distribution is Normal.  
b. Calculated from data.  
c. Lilliefors Significance Correction.  
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

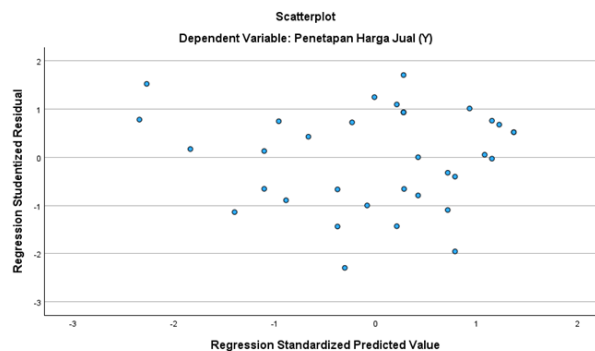
**Figure 1.**  
**Kolmogorov-Sminor Test**

Source: Data processed (2025)

Based on the graph above, it can be seen that the test value obtained is Asymp. Sig. (2-tailed) of 0.189, which means that the data used in this study is distributed normally so that it can meet the analysis requirements.

## Heteroscedasticity Test

The results of the multicollinearity test can be seen in the following table:



**Figure 2.**  
**Heteroscedasticity Test Results**

Source: Data processed (2025)

Based on the image above, it can be concluded that the dots are scattered and are above 0 and below 0 so that it can be concluded that heteroscedasticity does not occur.



### Multiple Linear Regression Test

The results of the Multiple Linear Regression test can be seen as follows:

Figure 3.

#### Multiple Linear Regression Test Results

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741 <sup>a</sup>	.550	.522	1.323

a. Predictors: (Constant), Permintaan Konsumen (X2), Biaya Produksi (X1)

Source: Processed Data (2025)

From the results of the analysis in the Unstandardized Coefficients (B) column, it is known that the constant value of B is 12,628, the production cost coefficient is 0.723, and the consumer demand coefficient is 0.102. Thus, it can be written that the equation of multiple linear regression analysis in this study is:

$$Y = 12.628 + 0.723 X_1 + 0.102 X_2 + e$$

Based on the results of the above equation, it can be described as follows:

1. The constant value of 12.628 indicates that if the variables of production cost (X<sub>1</sub>) and consumer demand (X<sub>2</sub>) are considered constant or zero, then the value of determining the selling price (Y) is 12.628. This illustrates that without the influence of the two independent variables, the selling price remains at this figure.
2. The variable regression coefficient of production cost (X<sub>1</sub>) of 0.723 is positive. This means that if the production cost increases by one unit, then the selling price will also increase by 0.723, assuming that other variables are considered fixed. In other words, the higher the cost of production, the higher the selling price will be set.
3. The regression coefficient of the consumer demand variable (X<sub>2</sub>) of 0.102 is also positive. This means that any increase in consumer demand by one unit will increase the selling price by 0.102, assuming the other variables are constant. This means that the greater the consumer demand, the higher the selling price that can be set by the manufacturer.

### Hypothesis Test

#### T-test

The results of the t-test can be seen in the following image:



**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	12.628	4.316		2.926	.006
	Biaya Produksi (X1)	.723	.134	.675	5.387	<.001
	Permintaan Konsumen (X2)	.102	.080	.160	1.278	.211

a. Dependent Variable: Penetapan Harga Jual (Y)

**Figure 4.**  
**T-test results**

Source: Processed Data (2025)

Based on the results of the t-test in the table above, it can be concluded:

1. In the variable Production Cost (X1), the value of sig. is  $0.001 < 0.05$ , so H0 is rejected and H1 is accepted, which means that the variable Production Cost (X1) has an effect on the Selling Price (Y).
2. In the Consumer Demand variable (X2), the value of sig. is  $0.211 > 0.05$ , so H1 is rejected and H0 is accepted, which means that the Consumer Demand (X2) variable has no effect on the Selling Price (Y) variable.

**F Test**

The results of the F test can be seen in the following figure:

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.397	2	34.199	19.541	<.001 <sup>b</sup>
	Residual	56.003	32	1.750		
	Total	124.400	34			

a. Dependent Variable: Penetapan Harga Jual (Y)  
b. Predictors: (Constant), Permintaan Konsumen (X2), Biaya Produksi (X1)

**Figure 4.**  
**T-test results**

Source: Processed Data (2025)

Based on the results above, the results of the F test obtained a Fcal value of 19.541, while the Ftable value was 3.28 with a significance value of  $0.001 < 0.05$ , it can be concluded that the variables of Production Cost (X1) and Consumer Demand (X2) simultaneously have a significant influence on the variable of Selling Price Determination (Y).

**Coefficient of Determination**

The results of the Determination Coefficient Test can be seen as follows:



**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741 <sup>a</sup>	.550	.522	1.323

a. Predictors: (Constant), Permintaan Konsumen (X<sub>2</sub>), Biaya Produksi (X<sub>1</sub>)

**Figure 4.**  
**Determination Coefficient Test Results**

Source: Processed Data (2025)

Based on the results above, the R Square value is 0.550 or 55.0%. This shows that the variables of Consumer Demand (X<sub>2</sub>) and Production Cost (X<sub>1</sub>) can simultaneously explain the variable of Selling Price (Y) of 55.0%, while the remaining 45.0% shows that, in addition to production costs and consumer demand, there are other factors that also play a role in determining the selling price of Upiya Karanji.

**The Effect of Production Costs on the Determination of the Selling Price of Upiya Karanji in Batulayar Village, Bongomeme District, Gorontalo Regency**

Based on the results of the partial test analysis (t-test), a tcal value of 5.387 was obtained which was greater than the ttable of 2.036, with a significance value of 0.001 < 0.05. This shows that production costs (X<sub>1</sub>) have a significant effect on the determination of selling prices (Y). Thus, it can be concluded that any increase in production costs will be followed by an increase in the selling price set by Upiya Karanji craftsmen in Batulayar Village, Bongomeme District, Gorontalo Regency. In management accounting theory, pricing is basically done by considering the total production cost and the level of profit that business actors want to achieve. Costs are seen as a basic component that must be covered in order for production activities to take place sustainably, so any change in costs will have a direct effect on the selling price decision.

Findings in the field show that Upiya Karanji craftsmen generally adopt a margin-based pricing strategy, where the selling price is derived from the total cost of production plus the profit margin deemed appropriate. Rising raw material costs, labor wages, and other supporting costs tend to result in higher selling prices set by artisans. These findings reinforce the understanding that production costs are a key consideration in their pricing decisions, and that leveraging a margin-based approach helps artisans sustain their businesses effectively.

Thus, the results of this study reinforce that production costs are the main factor that determines the selling price of Upiya Karanji products. Craftsmen need



to pay attention to the effective management of production costs in order to set a reasonable selling price, be able to compete in the market, and still provide adequate profits for business actors.

### **The Influence of Consumer Demand on the Determination of the Selling Price of Upiya Karanji in Batulayar Village, Bongomeme District, Gorontalo Regency**

Based on the results of the partial test analysis (t-test), a  $t_{cal}$  value of 1.278 was obtained which was smaller than the  $t_{table}$  of 2.036 with a significance value of  $0.211 > 0.05$ . This shows that consumer demand ( $X_2$ ) does not have a significant effect on the determination of the selling price ( $Y$ ) at Upiya Karanji artisans in Batulayar Village, Bongomeme District, Gorontalo Regency.

Such insignificance can be explained through utility theory, which asserts that the decision to buy a product is not only influenced by the level of demand, but especially by the use value or benefit that consumers perceive. In the context of Upiya Karanji, purchasing behavior is more influenced by cultural values, customary functions, and symbolic meanings attached to products, so that fluctuations in demand are not the main basis in pricing (Putri & Bharata, 2023).

Nevertheless, although the results of this study show a statistically insignificant influence, consumer demand still has a practically important role. Stable or increasing demand can drive an increase in production and sales volumes, which can indirectly affect price policy in the long run. Therefore, artisans need to keep an eye on market demand trends as a consideration in marketing strategies and production management.

### **The Effect of Production Costs and Consumer Demand on the Determination of the Selling Price of Upiya Karanji in Batulayar Village, Bongomeme District, Gorontalo Regency**

Based on the results of the simultaneous test analysis (F test), the  $F_{cal}$  value of 19.541 was obtained which was greater than the  $F_{table}$  of 3.28 with a significance value of  $0.001 < 0.05$ . These results show that production costs ( $X_1$ ) and consumer demand ( $X_2$ ) together have a significant effect on the determination of selling prices ( $Y$ ) at Upiya Karanji artisans in Batulayar Village, Bongomeme District, Gorontalo Regency.

From the perspective of the results of this research, it can be explained through the utility theory put forward by (Marshall, 2010), where price and purchase decisions are influenced by the level of satisfaction (utility) that consumers get from a product. In this context, the selling price of Upiya Karanji



is set not only based on production costs, but also considering the benefits (utility) felt by consumers of the product. Craftsmen strive to maintain a balance between a decent price and the use value received by consumers, so that satisfaction and demand remain stable even though prices change.

Thus, it can be concluded that production costs and consumer demand simultaneously have a significant effect on the determination of the selling price of Upiya Karanji, although only partially the production cost has a real effect. This condition emphasizes the importance of efficient cost management and understanding of consumer demand patterns in maintaining the competitiveness and sustainability of the business of Upiya Karanji artisans in Bongomeme District, Gorontalo Regency.

## CONCLUSION

Based on the results of the research that has been conducted on "The Influence of Production Costs and Consumer Demand on the Determination of the Selling Price of Upiya Karanji in Batulayar Village, Bongomeme District, Gorontalo Regency", several conclusions can be drawn as follows:

1. Production Cost ( $X_1$ ) has a significant effect on the Selling Price ( $Y$ ). The results of the partial test showed a  $t_{cal}$  value of  $5.387 > t_{table}$  of  $2.036$  with a significance value of  $0.001 < 0.05$ , which means that production costs have a significant effect on the determination of the selling price. This shows that the greater the production costs incurred, the higher the selling price of Upiya Karanji products set by the craftsmen. This influence illustrates that the selling price is highly dependent on the amount of raw materials, labor, and operational costs incurred during the production process.
2. Consumer Demand ( $X_2$ ) has no significant effect on the Selling Price ( $Y$ ). The results of the partial test showed a  $t_{cal}$  value of  $1.278 < t_{table}$  of  $2.036$  with a significance value of  $0.211 > 0.05$ , which means that consumer demand does not have a significant effect on the determination of the selling price. This shows that changes in demand do not necessarily affect the price policy of artisans. The selling price of Upiya Karanji is more influenced by the factor of production costs and a stable price policy to maintain customer loyalty.
3. Production Costs and Consumer Demand simultaneously have a significant effect on the Determination of Selling Prices. Based on the results of the simultaneous test (F test), the  $F_{cal}$  value of  $19.541 > F_{table}$   $3.28$  with a significance value of  $0.001 < 0.05$ , which means that the two independent variables together have a significant effect on the determination of the selling



price. The magnitude of this influence is indicated by the value of the determination coefficient ( $R^2$ ) of 0.550, meaning that 55% of the variation in selling price can be explained by production costs and consumer demand, while the remaining 45% is explained by other factors outside of this study.

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