

## Calculation of Production Cost in Determining the Selling Price in Bang Halim's Tofu Business

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### Abstract

*This study analyzes the calculation of the cost of goods manufactured (COGM) in determining the selling price of Bang Halim's tofu business and identifies the supporting and inhibiting factors affecting this calculation. Data were collected through observation, interviews, and document analysis. One production run produces one talang containing 300 pieces ( $1 \times 1.2$  meters), using 5 kg of soybeans costing Rp50,000 and five workers paid Rp50,000 each per production run. Based on Bang Halim's calculation, the COGM is Rp333.34 per piece, Rp100,002 per production run, and Rp45,000,900 per month. Using the full costing method, which includes raw material costs, direct labor costs, and factory overhead costs of Rp1,209,250, the calculated COGM is Rp4,030 per piece, Rp1,209,000 per production run, and Rp544,050,000 for November 2024. Bang Halim set the selling price at Rp500 per piece and Rp150,000 per talang, while the cost-plus pricing method with a 20% profit margin (Rp806) resulted in a selling price of Rp4,836 per piece, Rp1,450,800 per production run, and Rp652,860,000 per month with a profit margin of Rp108,810,000. The main supporting factor is the high quality of raw materials, while the inhibiting factor is limited knowledge of cost components, leading to inaccuracies in determining the cost of goods manufactured.*

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## 1. INTRODUCTION

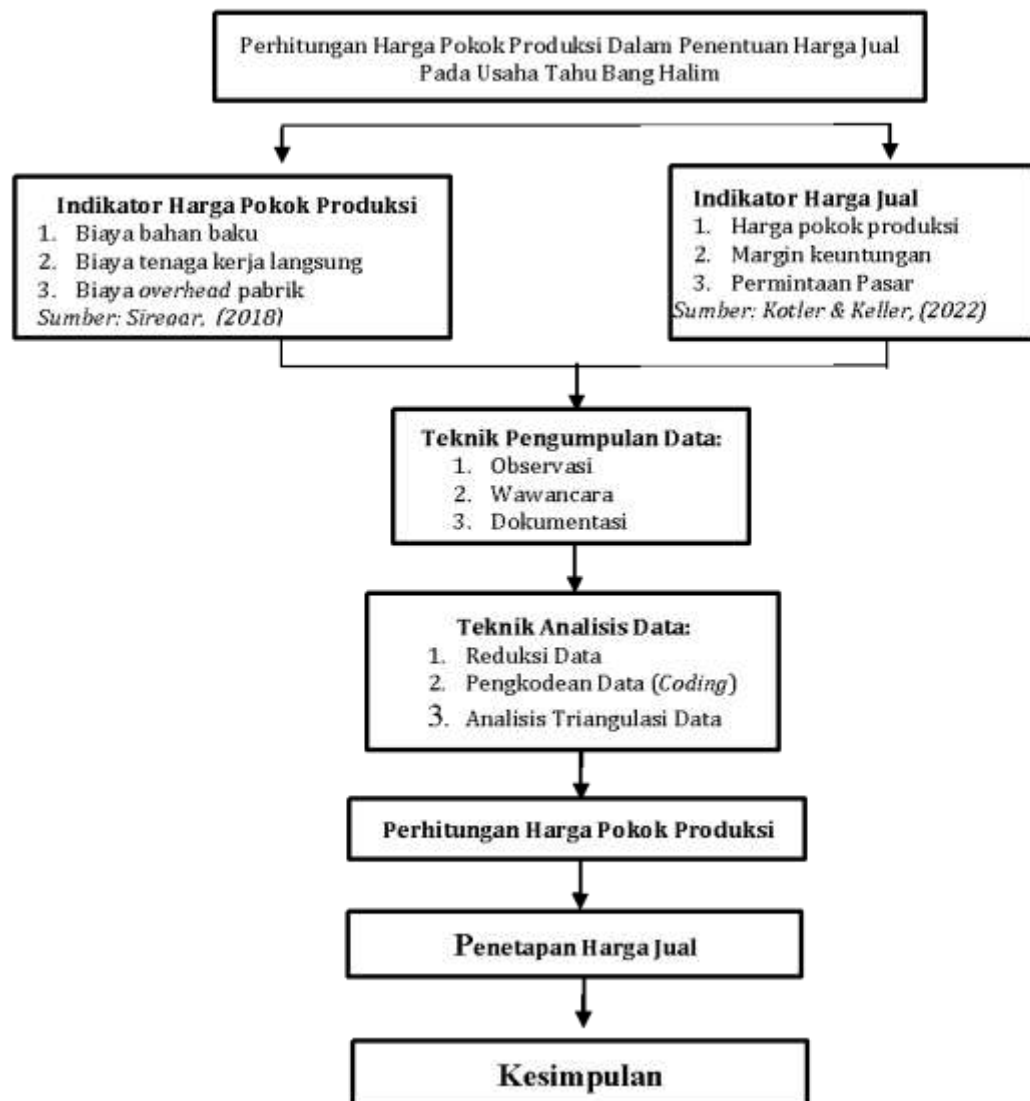
Calculating the cost of goods sold (COGS) and determining the selling price are crucial factors for business sustainability as they directly impact cost efficiency and competitiveness. COGS includes the costs of raw materials, direct labor, and factory overhead, which, if not calculated accurately, can lead to pricing errors and potentially losses. The selling price is set to cover production costs and generate profit, taking into account internal cost factors and market conditions. Previous studies have shown that micro-enterprises still face challenges in calculating COGS, particularly in allocating factory overhead costs and recording production costs that are not yet comprehensive. This situation is also experienced by the Bang Halim Tofu Business in Bangun Jaya Village, Tomoni District, East Luwu Regency, which is classified as a micro-enterprise under Law Number 11 of 2020 with maximum assets of IDR 50,000,000 and annual turnover of no more than IDR 300,000,000. Furthermore, the price of the main raw material, soybeans, in the Tomoni area has fluctuated according to 2020 data from the Central Statistics Agency (BPS) in Tomoni, thus affecting production costs.

The novelty of this research lies in the application of the full costing method to a micro-scale tofu business, which previously only calculated the costs of raw materials and labor without including factory overhead costs such as equipment depreciation and utility costs. The problem of this research is how the calculation of COGS using the full costing method can be used as a basis for determining a more accurate selling price. The purpose of this research is to calculate COGS comprehensively to determine the appropriate selling price and increase the competitiveness of Bang Halim's Tofu Business.

## **2. METHOD**

This study uses a qualitative method. The object of the study is the calculation of the cost of production and the selling price. To obtain the necessary information, the author researched Bang Halim's tofu business. The unit of analysis, determined based on the formulation of the problem or research question, is an important element in the study because it influences the process of data selection, collection, and analysis. The unit of analysis in this study is Bang Halim's tofu business. The research location is where the research variables are analyzed. This research was conducted on Jln. Sipon, Bangun Jaya Village, Tomoni District, East Luwu Regency, South Sulawesi. The data collection techniques used were observation, interviews, and documentation. The data analysis techniques used were data reduction, data coding, and data triangulation analysis.

analisis triangulasi data.



### 3. RESULTS AND DISCUSSION

This research was conducted at Bang Halim's Tofu Business, a tofu processing industry located in Bangun Jaya Village, Tomoni District, East Luwu Regency. Mr. Halim and his wife founded the business in 2014. The business began with the purchase of a tofu production tool belonging to Bang Halim's friend that was no longer in use. Supported by Bang Halim's expertise in making tofu, production began in 2014.

Access to the Bang Halim tofu factory is still inadequate due to poor road conditions and its distance from the main road. However, the business's proximity to residential areas makes it an efficient marketing opportunity for Bang Halim's tofu products. Organizationally, the business is managed simply, with a simple structure that involves the owner and five workers, most of whom are residents, who receive a daily wage of Rp 150,000.

The operational activities of the Bang Halim Tofu Business are divided into production and marketing. The production department handles all stages of tofu production, from processing the soybeans, washing, soaking, milling, cooking, sedimentation with the addition of a coagulant, pressing, and cutting the tofu ready for sale. Meanwhile, the

marketing department is responsible for marketing the product to markets and distributors both within and outside the region.

The production process is carried out continuously, paying attention to the quality of raw materials and systematic processing steps. Each stage plays a crucial role in determining the final quality of the tofu product. The research data presented revealed that the business owner purchases raw materials daily, and the cost of raw materials used for a single production run in November 2024 was a major component of the production costs of the Bang Halim Tofu Business.

### Data Presentation

#### a. Raw Material Costs

The following data was obtained from an interview with the owner of Bang Halim's Tofu Business, who purchases raw materials daily. The owner stated that the cost of raw materials used for one production run at Bang Halim's tofu business in November 2024 was:

**Table 3 Details of Raw Material Costs for Making Tofu**

Production Time	Production quantity	Total cost of raw materials
Per production	1 x (5 kg)	50.000
Per day	15 productions	750.000
Per week	105 productions	5.250.000
Per month	450 productions	22.500.000

Source: Processed data

Table 3 shows the cost of raw materials for making tofu for one production of IDR 50,000/production, IDR 750,000/day with 15 productions, IDR 5,250,000/week with 105 productions, and IDR 22,500,000/month with 450 productions.

#### b. Labor costs

**Table 4 Details of Direct Labor Costs**

Production Time	Production quantity	Total labor costs
Per production	1 production	50.000
Per day	15 productions	750.000
Per week	105 productions	5.250.000
Per month	450 productions	22.500.000

Source: processed data

Table 4 shows that there are 5 tofu workers, each being paid Rp. 10,000/production, resulting in 5 people being paid Rp. 50,000/production, in one day, reaching 15 times production, so that the salary earned is Rp. 750,000/day, Rp. 5,250,000/week with 105 times production, so the salary of the workers during November 2024 is Rp. 22,500,000/month for 450 times production.

#### c. Equipment depreciation expense

**Table 5 Depreciation Expenses for Equipment and Fixed Assets**

Unit	Information	Price/Unit (Rp)	Total (Rp)	Price	Economic Life (months)	Depreciation/Month (Rp)
2	Soybean Grinding Machine	10.000.000	20.000.000		60	333.333
2	Soaking Container	250.000	500.000		60	8.333
2	Furnace	2.550.000	5.100.000		60	85.000
2	Tofu molding tool	850.000	1.700.000		60	28.333
7	Plastic drum	250.000	1.750.000		60	29.167

20	Human	50.000	1.000.000	60	16.667
2	Big Pot	1.500.000	3.000.000	60	50.000
2	Screening	50.000	100.000	60	1.667
5	Tofu cutting knife	45.000	225.000	60	3.750
<b>Total</b>		<b>15.545.0000</b>	<b>33.375.000</b>	<b>60</b>	<b>555.250</b>

Source: *Data Processed*

Table 5 shows the nine types of equipment Mr. Halim uses to produce his tofu. The following table explains the monthly depreciation, with each piece of equipment having an economic life of 5 years, or 60 months. This results in equipment depreciation of Rp555,250 per month.

#### d. cost overhead factory

**Table 6 Cost Detail *soverhead* factory**

No	Information	Unit	Unit (Rp)	Price	Overhead Per (Rp)	Costs Production
1	<b>Cost Overhead Variable Factory</b>					
	Firewood Cost	10 pieces	3.000		30.000	
	Food Vinegar	2 liters	15.000		30.000	
	Plastic bags	1 pack	12.000		12.000	
2	<b>Cost Overhead Permanent Factory</b>					
	Electricity cost	1	150.000		150.000	
	Water Costs	1	100.000		100.000	
	Equipment depreciation costs	9	555.250		555.250	
<b>Total cost Overhead Per Production</b>					<b>877.250</b>	

Source: processed data

Table 7 shows the factory overhead costs for Bang Halim's tofu business in November 2024, amounting to IDR 877,250.

### 3. Data analysis

The following are the results of calculating the Cost of Production for Bang Halim's tofu business using the method of *full costing*.

**Table 9 Cost of Goods Sold**

<b>According to the Tofu Factory</b>	
<b>Information</b>	<b>Total Cost/Production (Rp)</b>
Raw Material Cost:	
Soya bean	50.000
Direct Labor Costs:	
Employee	50.000
<b>Amount</b>	<b>100.000</b>
<b>Number of pieces per production</b>	<b>300 Pieces</b>
<b>Cost of Goods Sold per Piece</b>	<b>333.34/piece</b>
<b>Cost of Goods Sold per production</b>	<b>100,002/production</b>
<b>Cost of Goods Sold per day</b>	<b>1,500,030/day</b>
<b>HPP per week</b>	<b>10,500,210/one week</b>

**Cost of Goods Sold per month****45,000,900/month**

<b>According to the Author (Full costing)</b>	
Raw Material Costs:	
Soya bean	50.000
Direct Labor Costs:	
Employee	50.000
Cost Overhead Factory:	
Cost Overhead Variable Factory:	
Firewood	30.000
Food Vinegar	30.000
Plastic bags	12.000
<b>Amount</b>	<b>72.000</b>
Cost Overhead Fixed Factory:	
Electricity	150.000
Air	100.000
Depreciation of equipment	887.250
<b>Amount</b>	<b>1.137.250</b>
<b>Total</b>	<b>1.209.250</b>
<b>Number of pieces per production</b>	<b>300 pieces</b>
<b>Cost of Goods Sold per Piece</b>	<b>4,030/piece</b>
<b>Cost of Goods Sold per production</b>	<b>1,209,000/production</b>
<b>Cost of Goods Sold per day</b>	<b>18,135,000/day</b>
<b>HPP per week</b>	<b>126,954,000/one week</b>
<b>Cost of Goods Sold per month</b>	<b>544,050,000/month</b>

Source: processed data

Based on table 9, it can be concluded that the cost of production for Bang Halim's tofu product is IDR 333.34/piece, IDR 100,002/production where in one production it produces 300 pieces, IDR 1,500,030/day where in one day production reaches 15 times which produces 4,500 pieces, IDR 10,500,210/week with 31,500 pieces, IDR 45,000,900/month (November) with 135,000 pieces. Meanwhile, according to the researcher (full costing), Rp4,030/piece, Rp1,209,000/production where in one production time it produces 300 pieces, Rp18,135,000/day in one day the production reaches 15 times the production which produces 4,500 pieces, Rp126,945,000/week with 31,500 pieces, and in November it produces 135,000 pieces with a production cost of Rp544,050,000/month.

**Table 10 Selling Prices According to Researchers**

<b>Information</b>	<b>Per piece</b>	<b>Per production</b>	<b>Per day</b>	<b>Per week</b>	<b>Per month</b>
Profit margin (20%)	806	241.800	3.627.000	25.389.000	108.810.000
Selling price	4.836	1.450.800	21.762.000	152.334.000	652.860.000

Source: processed data

Based on Table 10, using the method *cost plus pricing*, it can be concluded that the known cost of production is Rp. 4,030 with a profit margin of 20%, resulting in a profit

margin of Rp. 806. So, using the method *cost plus pricing*, namely adding the cost of production with the profit margin, produces a selling price of Rp4,836/piece. The selling price is Rp1,450,800/production with a profit margin of 241,800, the selling price is Rp21,762,000/day with a profit margin of Rp3,627,000, the selling price is Rp152,334,000/week with a profit margin of Rp25,389,000, and in November, it produces a selling price of Rp652,860,000/month with a profit margin of Rp108,810,000.

## Discussion

The research results show a significant difference between the calculation of the cost of goods manufactured (COGS) carried out by the owner of Tahu Bang Halim and the calculation of COGS using the full costing method. The main scientific finding of this study is that the COGS calculation that does not include all production cost components results in a lower COGS value and does not reflect the actual production costs.

Based on the business owner's calculations, COGS only includes raw material costs of Rp50,000 and direct labor costs of Rp50,000. From these calculations, COGS is obtained at Rp333.34 per piece, Rp100,002 per production with a yield of 300 pieces, Rp1,500,030 per day with 15 production times (4,500 pieces), Rp10,500,210 per week with 31,500 pieces, and Rp45,000,900 per month in November with a total production of 135,000 pieces. This relatively low COGS value occurs because factory overhead costs are not taken into account in the process of determining production costs.

In contrast, the researcher's calculation results using the full costing method include all components of production costs, namely raw material costs of Rp50,000, direct labor costs of Rp50,000, and factory overhead costs of Rp1,209,250. By including these costs, COGS increased to Rp4,030 per piece, Rp1,209,000 per production, Rp18,135,000 per day, Rp126,945,000 per week, and Rp544,050,000 per month in November with the same total production, namely 135,000 pieces. This increase in COGS indicates that factory overhead costs have a large contribution to total production costs.

The tendency for COGS to increase when all cost components are included reflects the cost accounting principle: the more comprehensive the production costs allocated, the more accurate the resulting COGS value. This pattern is common in small and medium-sized businesses with high production intensity and continuous equipment use, resulting in high overhead costs such as electricity, water, and equipment depreciation.

In determining the selling price, the business owner set the price at Rp500 per piece and Rp150,000 per gutter. Meanwhile, based on the researcher's calculations using the cost plus pricing method with a 20% profit margin, the selling price was Rp4,836 per piece, Rp1,450,800 per production with a profit margin of Rp241,800, Rp21,762,000 per day with a profit margin of Rp3,627,000, Rp152,334,000 per week with a profit margin of Rp25,389,000, and Rp652,860,000 per month with a profit margin of Rp108,810,000.

The results of this study are in line with previous studies, which stated that the use of the full costing method produces a more accurate COGS calculation than the simple method, making it more appropriate for use in determining selling prices. Thus, the findings of this study can answer the research hypothesis that the calculation of the cost of production that does not include all cost components causes the determination of selling prices to be less accurate, while the application of the full costing method can improve the accuracy of determining selling prices at Bang Halim's Tofu Business.

## 4. CONCLUSION

This study aims to analyze the calculation of production costs in determining selling prices at Bang Halim's Tofu Business. Based on the scientific findings obtained, it can be concluded that the calculation of production costs currently applied by the business owner

does not comprehensively reflect production costs because it does not include all cost components, particularly factory overhead costs. This condition results in a lower production cost and impacts the determination of selling prices that do not reflect actual costs.

The application of the full costing method in this study has been proven to produce more accurate production costs because all production cost elements are fully calculated. Furthermore, the use of the cost-plus pricing method in determining selling prices shows that selling prices set based on the correct production cost can provide a clear and more rational profit margin for business sustainability.

In addition to costing, the quality of raw materials is a key factor in driving sales because it impacts the quality and durability of tofu products, thus increasing consumer interest. However, business owners' limited knowledge of production cost components hinders them from calculating the cost of goods sold and determining the appropriate selling price.

Thus, the research objective was achieved, and the research hypothesis was accepted, namely that the incomplete calculation of production costs causes inaccuracy in determining selling prices, and the application of the full costing and cost-plus pricing methods is a more appropriate approach for Bang Halim's Tofu Business.

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