

## The Determination of the Main Production Cost of Jipang Cake Using the Full Costing Method

*Immas Nurhayati<sup>a,\*</sup>, M. Hariansyah<sup>b</sup>, Titing Suharti<sup>c</sup>*

*<sup>a,b,c</sup>University of Ibn Khaldun Bogor, Indonesia*

*\*Corresponding author e-mail: [immasnurhayati1@gmail.com](mailto:immasnurhayati1@gmail.com)*

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### ABSTRACT

The purpose of this study is to determine the main of production cost using the full costing method. The full costing method is one of the methods used in determining the cost of production by taking into account all components of production costs, both fixed and variable costs so that the calculation results are more precise and detailed. This quantitative research was conducted in a group of Jipang cake craftsmen in Antajaya Village, Tanjung Sari District, Bogor Regency. The data processed in this study are primary data obtained from the source directly based on real data recorded during the practice or simulation of making Jipang cake at the research location and community service. Based on the calculation, the results of the production cost of Jipang cake based on the full costing method is Rp. 472.15 or rounded to Rp. 500 per pcs. This research is consistent with previous studies that the results of the production cost of Jipang cake based on the full costing method is higher than if using the variable costing method. The benefit is that the company can maximize its profitability and avoid losses because it has taken into account all production costs.

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## 1. INTRODUCTION

Micro, small and medium enterprises (MSMEs) have an important role and their existence has a direct impact on people's lives as a means of alleviating poverty, reducing inequality and income distribution and being able to absorb a large workforce. MSMEs have the potential to develop into a strong business and can compete with large industries. The ability to manage finances is one of the factors that determines the success of MSME businesses.

Analysis of determining the main production cost is carried out at one of the MSMEs in the Village of Antajaya, Tanjung Sari, Bogor Regency, West Java, namely the Jipang cake craftsmen group as partner in community service activities (Nurhayati, Hariansyah, & Suharti, 2019). Determination of the main production cost of is a continuation from previous research about the analysis of traditional Jipang cake development strategies by considering the strengths, weaknesses, opportunities and obstacles faced using the Internal Factor Analysis Summary (IFAS) method, External Factor Analysis Summary (EFAS), Internal and External (IE), Strengths, Weaknesses, Opportunities, Threats (SWOT), SPACE matrices and articles about the innovating of jipang using hydraulic pon machine. This

machine can produce jipang of the same size at 2x4x2cm.

Before Jipang is marketed, one thing has to do is to determine the price of the product which is one of the important factors in the marketing mix besides other variables such as product, location and promotion that will affect the level of marketing (Mevita, 2013) and also can affect the amount of profit that will got in the future. The determination of selling prices should be made as much as possible to generate revenue and profits (Beutari & Laelisneni, 2017). The selling price should cover all fixed and variable costs. The company can set a price reduction strategy (discount) if the inventory exceeds capacity and tight business competition (Kotler & Keller, 2012). Mistakes in setting selling prices will cause company losses

Determination of the main cost of production is very important as a strategy and initial step when presenting new products to the consumer. Determination of the cost of the product greatly determines the level of competition, as a means and media of promotion. Mistakes in determining the price can affect the level of interest of the public to buy products. If the selling price too high, the product will not be able to compete with other products on the market. Therefore the determination of the main cost of production must be precise and reflect the actual cost of goods (Susilawati, Setiono, Si, & Dwihandoko, 2019).

Cost defined is sacrifices that must be incurred by the company to produce goods or services (Mulyadi, 2010). There are two approach in calculate the main production cost namely full costing and variable costing. Full costing is a method of determining the main cost of production that calculate all elements both fixed and variable cost. The cost of production consist of the cost of raw materials, direct labor costs, and factory overhead costs both variable and fixed behavior. Whereas variable costing is a method of determining the cost of production consisting of raw material costs, direct labor costs, and variable factory overhead costs (Mulyadi, 2010). Companies should calculate all elements of the factory overhead costs so that the calculation of the cost of production illustrates the actual total cost of production or costs that are more accurate and can be used as a basis for determining the right selling price (Pelealu, Manoppo, & Mangindaan, 2018).

Besides the cost element, another variable that affects the cost of the product is the amount to be produced. The more quantities produced, variable costs will increase but fixed costs will decrease, so overall, costs will decrease. The cost of production per unit is determined by dividing the entire total production cost by the volume of production produced.

The main purpose of this research is to determine the cost of production so that the selling price of traditional Jipang cake can determined.

Jipang is a traditional cake that tastes good, sweet, slightly sour and crispy. Jipang is hard to find in retail stores as snacks, so their presence is less familiar among children and teenagera. Jipang cakes are only produced if there are special moments such as holidays and celebrations (Sempati, 2017).

Determination of the cost of production can use the full costing and variable costing method. Determination of the cost of production in this study will use the full costing method. Based on several previous studies, Using full costing method in determining the cost of production of Jipang is preferred because although the full costing method sets the cost of production higher than the variable costing method, the full costing method reflects the real price because it includes all elements of factory overhead costs both fixed and variable, so the price calculation is more accurate and has the potential to provide profits for the company.

The previous research about the determination of the main production cost at Rizki's Pacet Snack shows that there is a price difference in the calculation of the cost of production using the full costing method and variable costing. The variable costing method has a value of the cost of goods manufactured which is smaller than the value of the cost of production using the full costing method. (Susilawati et al., 2019). Determination of the cost of production needs to

take into account the costs directly related to the production process, namely the cost of raw materials, direct labor costs and factory overhead costs. The calculation will affect the determination of selling prices and corporate earnings. as one of the studies on culinary industry Kertina's Home Industry as the and one of its flagship products is dabu-dabu roa fish. The results of his research show the calculation of the cost of production using the full costing method is higher than the calculations made by the company (Pelealu et al., 2018). Determination of the cost of production using the full costing is important and preferred because although the full costing method sets the cost of production higher than the variable costing method, the full costing method reflects the real price because it includes all elements of factory overhead costs both fixed and variable, so the price calculation is more accurate and has the potential to provide profits for the company.

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## **2. LITERATURE REVIEW**

Costs are sacrifices or expenses incurred in the production process to get higher benefits, expressed in units of money according to prevailing market prices. The amount of costs will affect the profit or loss of a business. The ability to understand the scope of financing is very important especially in helping the decision making process. Inaccuracy or misinterpretation

of costs will affect the quality of decision making, causing errors or inaccuracies in decision making. Costs can be defined as the sacrifice of economic resources to achieve certain goals that can provide benefits to the company both now and in the future (Mulyadi, 2010).

Costs can be grouped based on expenditures, the main functions in the company, direct and indirect costs, variable and fixed costs and costs based on the period of benefit (Supriyono, 1999). Direct costs such as the cost of purchasing raw materials, direct labor costs that are an inseparable part of the finished product. Manufacturing overhead costs include all production costs other than direct materials and direct labor such as inventory control wages are factory overhead such as indirect material costs, namely operating equipment, repairs, and cleaning used in factories, material costs small and insignificant compared to all other raw material costs, such as threads used in sewing clothes, indirect labor costs, ie factory supervisors and other trained and other untrained workers, such as janitors, repairs, and supervisors who do not actually work on the product and the results of their operations are not easily traced to the finished product and other costs beyond the indirect material costs and indirect labor costs, such as rental fees, taxes, insurance, depreciation of factory facilities and electricity used in a factory facility.

Costs incurred in the production process are called production costs (Mulyadi,2010). The production process can be done based on orders and mass production. The mass production products such as cement, soap etc, which are produced from general machines or general purpose machines. The process cost method is a method of collecting cost of production which costs are collected for each unit of time. The cost of goods order method is a method of collecting cost of goods manufactured whose costs are collected for each order. The production process will begin after there is an order from the subscription through a sales order document that contains the type and number of orders.

There are two methods used in determine the cost of production, namely the full costing method and variable costing. The costs calculated in determining the cost of production using the full costing method are raw materials, direct labor costs and factory overhead costs, both fixed and variable. In the variable costing method, the production costs calculated in determining the cost of production are only made up of variable costs, namely raw material costs, direct labor costs and variable factory overhead. Cost of production is the basis for company decision making regarding changes in sales prices, adjusting production processes, competitive strategies in the broad market and company expansion. Cost of production reflects the imposition of costs that support specific

managerial objectives. This means that determining the cost of a product depends on the managerial goals to be achieved (Hansen, 2013). Determining the selling price must be calculated with the correct calculation, always evaluated and adjusted to the conditions being faced by the company. setting a selling price that is too low will harm the company and will affect the company's business continuity such as continuous losses. If sales are too high will also result in consumers running away

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### **3. RESEARCH METHODS**

Some benefits of determining the cost of production using the variable costing method include good short-term profit planning, can be used to control costs, can be used as a reference for decision making for special orders that do not require many orders such as full costing. While the disadvantages of the costing method are also pretty much proportional to the benefits it provides. Separating discretionary fixed costs and committed fixed costs is difficult to do. In addition, many assume that this method is not in accordance with accounting principles and causes ups and downs of profits due to changes in sales. Variable costing is also not suitable to be applied to seasonal companies because it will present abnormal profit losses. In the fixed overhead variable method is not included so that the

inventory value becomes lower as well as working capital. Full cost accounting has been applied in many industrial settings that include the oil and gas, energy, chemical, waste management industries and also can be applied in an automotive industry context (Jasinski, Meredith, & Kirwan, 2015)

Previous research comparing the method of calculating cost of goods manufactured by a company with the calculation of cost of goods using the full costing method which includes all BOPs that are both fixed and variable concluded that determining the cost of production using full costing is higher than the calculation of cost of goods by the company. The advice given is that companies should increase the selling price of products per package so that the company can still get a percentage of profit (Pelealu et al 2018). Kotler dan Keller (Sujarweni, 2015:72) states that "Selling price is the amount of money charged for a product or service, or the amount of value that consumers exchange for benefits, due to owning or using the product or service". Mulyadi (Sujarweni, 2015: 72) states that in principle the selling price must be able to cover the full costs plus reasonable profits. The selling price is equal to the cost of production plus a mark-up. Factors that influence pricing according to Kotler and Keller in (V.Wiratna Sujarweni, 2015 : 74) Determination of a company's price is influenced by internal factors such as corporate objectives,

marketing mix cost strategy and organizational considerations and external factors such as market and demand prices, costs, prices, and competitors' supply and economic conditions. The full costing method or often called the conventional product cost is the method for determining the cost of production, by charging all fixed or variable production costs to the product produced. The full costing method is also called absorption or conventional costing, which is the concept of determining the full cost of goods, charging all elements of production costs, both fixed and variable costs, to the cost of the product" (Beutari & Laelisneni, 2017)

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#### **4. RESULTS**

##### **Calculation of Cost of Production Using the Full Costing Method**

Full costing is a method of determining the cost of production that calculates all elements of raw material costs, direct labor costs and overhead costs that behave both variable and fixed. In this case the company imposes all elements of production costs based on costs that actually occur. Before calculating the cost of production and setting the selling price of the whistle, a number of types of production costs will be calculated beforehand which will be included in the calculation of the cost of production using the full costing method.

The following is the calculation of production costs consisting of raw material costs, labor costs and factory overhead costs:

**a. Direct Material Costs.** Direct material costs for producing Jipang cake are not so many kinds and types. These costs consist of the costs of raw materials such as glutinous rice or ordinary rice, sugar and acids. Table 1 below shows the cost of raw materials based on the price and use of raw materials in producing 1000 units of Jipang cake.

**Table 1. Cost of Material**

Raw Material Costs	Unit	De-nomination	Unit Cost (Rp)	Total (Rp)
Glutinous rice	5	Liter	15.000	75.000
Sugar	2,5	Kg	14.000	35.000
Acid	2,5	Kg	20.000	50.000
Cooking Oil	2,5	Kg	12.500	31.250
Gas	3	Liter	18.000	54.000
Total				245.250

Source: *Field Data*.

**b. Direct labor costs.** Direct labor costs are the total amount of wages paid to employees who work in the production section starting from processing raw materials to becoming finished goods. The wage rate is determined based on company policy. To produce 1000 units of Jipang cake, only one worker is needed and worked on for 2 working days. Table 2 below shows the amount of direct labor costs.

**Table 2. Direct Labor Cost**

Type of Work	Unit	Denomination	Unit Cost	Total (Rp)
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Cooking and Drying	5	Liter	50.000	25.000
Frying and Processing	5	Liter	10.000	50.000
Total				75.000

Source : *Field Data*

Based on the calculation, the amount of labor costs to produce 1000 units of Jipang cookies that require 2 working days is Rp. 75,000

**c. Factory Overhead Costs.** Factory overhead costs are the costs of auxiliary materials such as paper costs, electricity, telephone, fuel, water costs, depreciation costs for equipment and plant equipment, factory maintenance. The following table 3 shows the factory overhead costs

**Tabel 3. Overhead Cost**

Types of Overhead Cost	Fixed Cost (Rp)	Variable Cost (Rp)	Total Cost (Rp)
Wrapping Costs	8212	50.000	50.000
Equipment Depreciation Costs	100.000		8212
Electricity, Telephone, and Water Costs	5.000		100.000
Equipment Maintenance Costs			5000
Total			73.212

Source : *Field Data*

So, the factory overhead for producing 1000 units of Jipang cookies in 2 days of production is Rp. 73,212. The following is the determination of production costs using the full costing method. Table 2 shows several types of operational costs for making Jipang cake, which will be taken into account in determining the cost of production to produce 1000 units of Jipang cake, which will be carried out for 2 working days.

Table 4. Cost of Production Using Full Costing Method

Type of production costs	The amount of costs (Rp)
Raw material costs	245.250
Direct labor costs	75.000
Factory overhead costs	73.212
Total	393.462
HPP per unit	393,462
Selling price per unit assuming a profit of 20% of HPP per unit + (20% x HPP) rounded to	472,1544 500

Source : Field Data

Based on the calculation results obtained value of the cost of production of Rp.393,462 with the HPP perunit of Rp. 393,462 obtained from COGS divided by 1,000 units. Based on the determination of the perunit's COGS, the company can set the selling price of the product by marking-up the per-unit HPP by adding a percentage of the desired profit of the company. If the determined profit is 20% of the HPP perunit, the perunit selling price will be Rp. 472.1544 or round up to 500 units.

## 5. CONCLUSION

Based on the calculation of the cost of production of Jipang cake using the full costing method, the results of the production cost of Rp. 393,462, the per-unit HPP is 393,462. If the company policy sets a profit of 20% of the HPP perunit, the selling price of Jipang is Rp. 472.15 or round up to Rp. 500 perunit. This research is consistent with previous studies that the results of the pro-

duction cost of Jipang cake based on the full costing method is higher than if using the variable costing method. Although the full costing method sets the cost of production higher than the variable costing method, the full costing method reflects the real price because it includes all elements of factory overhead costs both fixed and variable, so the price calculation is more accurate and has the potential to provide profits for the company.

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