

Cost of Goods Sold Analysis of Rengginang "Mak Lia" Based on the Full Costing Method

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Abstract

This research aims to analyze the determination of basic production prices for Rengginang products based on the Full Costing method, with a focus on the "Mak Lia" as a Micro, Small and Medium Enterprises (MSMEs). The Full Costing method is the main topic of discussion because it is able to provide a comprehensive view of all cost components involved in the production of Rengginang products. This research uses a qualitative approach with case studies as the research method. Data was collected through interviews with business owners, direct observation of the production process, and analysis of documents related to production costs. Historical data on sales, raw material costs, direct labor costs, and fixed overhead costs are also obtained to understand their impact on the cost of goods sold. The research results show that the Full Costing method provides a complete picture regarding all costs incurred by "Mak Lia" in the Rengginang production process, including fixed overhead costs. By using this method, "Mak Lia" can determine the cost of goods sold which includes all costs incurred, including fixed components which are often ignored in other methods.

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1. Introduction

The Rengginang "Mak Lia" business was founded in 2020 in Tanjung Glugur Village, Mangaran District, Situbondo Regency, East Java, based on the desire to preserve traditional culinary delights and make them into typical souvenirs from Tanjung Glugur Village. Since its inception, this business has grown rapidly thanks to the high interest of local people who enjoy the delicious Rengginang "Mak Lia" products. This product has a special appeal with its attractive savory taste and various flavors, such as shrimp paste, onion and brown sugar.

The challenges faced by the Rengginang "Mak Lia" product as a traditional product include inaccurate determination of the cost of goods sold as is the case with various MSMEs. The financial aspect requires special attention because it is related to financing and business costs, so it is very crucial and influences all business processes (Pamungkas et al., 2022; Widaninggar & Sari, 2018). Mulyadi (2015) states that determining the cost of goods sold must be presented and is of great benefit to management to determine the selling price of products, monitor the realization of production costs, calculate gross profit or loss in a certain period, and help determine the cost of inventory of finished products and products in stock. process. Therefore, this research determines the application of the Full Costing method as the main approach.

This method was chosen because it is able to provide a comprehensive understanding of all aspects of the costs involved in the Rengginang production process, including variable and fixed costs (Akbar, 2015; Eprilianta, 2011; Fatmawati, 2013; Fauzia, 2017; Lestari, 2013; Permatasari, 2013). By considering all these cost elements, it is hoped that this research can provide an accurate and comprehensive picture regarding determining the cost of goods sold.

It is hoped that an in-depth analysis of the process of determining the cost of goods sold at MSME "Mak Lia" can provide a good contribution. It is hoped that the results of this research will not only be useful for business owners, but also provide practical insight to similar MSMEs and related parties. In facing complex business dynamics, a deep understanding of production costs can be a strong basis for making strategic and sustainable decisions. Thus, this research is a positive step in supporting the development and success of "Mak Lia" MSMEs and the MSME sector in general

2. Methodology

This research will be carried out in December 2023, at the MSME "Mak Lia" managed by Yuliati. The location of this research activity is in Tanjung Glugur Village, Mangaran District, Situbondo Regency. The research method used in the analysis of determining the cost of goods sold of Rengginang products based on the Full Costing method for the "Mak Lia" UMKM is a case study with a qualitative approach.

Case study

Case studies were chosen as the main research method. This research focuses on the MSME "Mak Lia" as a concrete case to describe and analyze the process of determining the basic price of rengginang production.

Interview

Interviews were conducted with the business owner "Mak Lia" to obtain direct information regarding policies, strategies and factors considered in determining the cost of goods sold.

Direct Observation

Direct observation of the rengginang production process was carried out to understand in detail the production steps, use of raw materials, and workforce involvement.

Document Analysis

Document analysis involves reviewing documents related to production costs, sales records, and other historical data. This data is used to identify and analyze the cost components involved in determining the cost of goods sold.

3. Results and Discussion

"Mak Lia" Rengginang Production Equipment

In the culinary world, the deliciousness of a product depends not only on quality raw materials, but also on the production equipment used. In Tanjung Glugur Village, Mangaran District, Situbondo Regency, East Java, UMKM "Mak Lia" has succeeded in creating the delicious rengginang which is a favorite of the local community. Through this brief exploration of production equipment, we will understand how each step of the production process is carried out efficiently.

"...Biasanya kalo masalah peralatan peralatan kita belinya di toko-toko pecah belah gitu sih seperti di Pasar Mangaran, misal kalo ga ada biasanya saya belinya di Pasar Mimbaan di dalem pasar nya atau nyari di toko toko terdekat gitu sih. Dan kalau ada kerusakan-kerusakan kalo masih bisa diperbaiki ya kita perbaiki kalo misalnya sudah tidak layak untuk kita gunakan lagi ya kita langsung beli yang baru..." (Wawancara dengan pengelola UMKM "Mak Lia" Ibu Yuliati, 12 Desember 2023)

"...Usually when it comes to equipment, we buy it at glassware shops like Mangaran Market. For example, if there isn't any, I usually buy it at Mimbaan Market inside the market or look for it at the nearest shop. And if there is damage, if it can still be repaired, we will repair it. For example, if it is no longer suitable for us to use, we will immediately buy a new one..." (Interview with MSME manager "Mak Lia" Mrs. Yuliati, 12 December 2023)

By getting to know the Rengginang "Mak Lia" production equipment more closely, we can appreciate the hard work and dedication that goes into producing high quality products that are a source of local pride. The equipment used in the production of Rengginang "Mak Lia" can be seen in the following table.

Table 1

Rengginang "Mak Lia" Production Equipment Per Production

No	Description	Amount (Unit)	Cost (Rp)	Total (Rp)
1	Mitochiba Chopper	1	650.000,00	650.000,00
2	Steamed Soblok	1	185.000,00	185.000,00
3	Buckets	2	25.000,00	50.000,00
4	Baskets	1	30.000,00	30.000,00
5	Small Bowls	5	2.000,00	10.000,00
6	Rigen / Bedek	6	30.000,00	180.000,00
7	Ladles	1	50.000,00	50.000,00
8	Gas Stove + Gas Cylinder	1	500.000,00	500.000,00

Rengginang “Mak Lia” Production Process

Behind the delicious Rengginang "Mak Lia", there is a production process. From the raw material preparation stage, processing, to the final packaging stage, each step of the production process has its own role. Skill and precision in carrying out each of these stages is the key to the success of "Mak Lia" in creating rengginang that is not only delicious, but also has its own characteristics. The following are the steps for producing Rengginang “Mak Lia” as follows:

1. Prepare tools and materials. The materials needed when making rengginang shrimp paste include; sticky rice, garlic, shrimp paste, and flavorings.
2. Add enough water then blend the ingredients until they are really smooth.
3. Once the ingredients are smooth, pour the spices into a small container and add flavoring to taste.
4. Boil water until it boils.
5. Prepare 10 kg of sticky rice, then wash the sticky rice thoroughly.
6. Then, after washing the sticky rice until clean, add the sticky rice to the boiling water that has been prepared previously.
7. Then steam the sticky rice until half cooked.
8. After the sticky rice is half cooked, transfer the rice to a container and add the ground spices. Then stir until all the spices are evenly mixed.
9. Then steam the seasoned sticky rice until cooked
10. Then after it is cooked, transfer the sticky rice to a container
11. After that, print the cooked sticky rice using a rengginang printing tool.
12. Then dry in the sun until dry. If drying is done using sunlight, then dry it in the sun until dry, approximately 2 days. However, if you use a drying oven it only takes about 10 hours.
13. Then pack the dried rengginang.



Figure 1. Rengginang “Mak Lia” Products
Source: Figure Processed (2023)

Problems in the production process were discovered from the following interviews:

“...Tantangan yang sering terjadi pas produksi rengginang biasanya pas cuaca kurang mendukung, biasanya pas mendung atau pas lagi hujan, soalnya kita di sini belum mempunyai oven untuk pengering rengginang, jadi kalo pas cuaca kurang mendukung itu biasanya proses penjemuran nya 2 hari kalo pas mendung atau hujan itu bisa 3-4 harian...” (Interview with “Mak Lia” Ibu Yuliati, 15 Desember 2023)

“...The challenges that often occur when producing rengginang are usually when the weather is less favorable, usually when it's cloudy or when it's raining, because here we don't have an oven to dry rengginang, so if the weather is less favorable, the drying process usually takes 2 days if it's cloudy. or it could rain for 3-4 days...” (Interview with MSME manager "Mak Lia" Mrs. Yuliati, 15 December 2023)

In order to optimize product quality and availability, careful planning regarding raw material requirements and production processes is an important step.

“...Kalo masalah harga biasanya kita kalo masi dapat sedikit keuntungan dari hasil produk yang kita jual ya kita tetep seperti biasa harganya tetep segitu tapi lo sudah bahan bakunya mengalami kenaikan seperti sekarang ini ya kita tidak menutup kemungkinan juga akan menaikkan harga jual per bungkusnya...” (Interview with "Mak Lia" Ibu Yuliati, Tanggal 15 Desember 2023)

“...When it comes to price, if we still get a little profit from the products we sell, we will keep the price as usual, but if the raw materials have increased like now, we can't rule out the possibility that we

will also increase the selling price per pack... ." (Interview with MSME manager "Mak Lia" Mrs. Yuliati, December 15 2023)

Therefore, Table 2 below clearly details the raw material requirements for each "Mak Lia" rengginang production. The table contains information regarding the type of raw material, unit of measurement, quantity required per production, price per unit, and total costs per production. With the detailed explanation in Table 2, it is hoped that it can provide a more comprehensive picture regarding the raw material requirements for "Mak Lia" rengginang production and assist in efficient production planning.

Table 2
Raw Material Requirements for Rengginang "Mak Lia"
Production Per Production

No	Description	Unit	Quantity	Price (Rp)	Total Per Production (Rp)
1	Sticky rice	Kg	10 Kg	14.000,00	140.000,00
2	Garlic	Kg	1 Kg	27.000,00	27.000,00
3	Shrimp paste	Ons	2 Ons	5.000,00	10.000,00
4	Flavoring	Packs	12 Packs	500,00	6.000,00

Calculation of the Cost of goods sold of Rengginang "Mak Lia"

The calculation of the cost of goods sold (COGS) of Rengginang "Mak Lia" is done simply by identifying and collecting all costs related to production. Total production costs are obtained by adding up raw material costs and electricity costs. After knowing the production amount of Rengginang "Mak Lia" in relevant units, we can calculate the cost of goods sold per unit. The cost of goods sold is the result of dividing the total production costs by the amount of production.

Table 3
Calculation of the Cost of Production of Rengginang "Mak Lia" for November 2023

No	Description	Need Per Production	Cost Per Production (Rp)	Cost Per Month / 10 Times Production (Rp)
1	Sticky Rice	10 Kg	140.000,00	1.400.000,00
2	Garlic	1 Kg	27.000,00	270.000,00
3	Shrimp Paste	2 Onces	10.000,00	100.000,00
4	Flavoring	12 Packs	6.000,00	60.000,00
5	Workforce	5 People	50.000,00	500.000,00
6	LPG Gas	1,5 Kg	9.000,00	90.000,00
7	Electricity Cost	-	-	50.000,00
8	Total Cost			2.470.000,00
9	Production Quantity (Packs)			280
10	COGS Per Pack			8.821,00

For more clarity regarding the calculation of the cost of goods sold, see Table 3. This table provides a detailed description of the various cost components involved in the production of "Mak Lia" Rengginang, as well as providing information about the costs per unit and total costs to produce the rengginang. COGS per pack is an important basis for determining selling prices that can support business continuity and provide reasonable profits.

Calculation of the Cost of Goods Sold of Rengginang "Mak Lia" using the Full Costing Method

Calculation of the Cost of Goods Sold (COGS) for Rengginang "Mak Lia" using the Full Costing method involves several stages which include identifying costs, adding up costs, and determining the selling price. The Full Costing method provides a comprehensive picture of production costs and ensures that all costs, including overhead costs, are taken into account in setting prices. This helps the company in making strategic decisions regarding selling prices and ensures that the profits generated cover all costs involved in the Rengginang "Mak Lia" production process.

Raw Material Costs

Raw material costs are the costs used to make or produce a product. The raw materials needed to make Rengginang "Mak Lia" are sticky rice, garlic, shrimp paste and flavorings. The raw material costs

for the production of "Mak Lia" rengginang during November 2023, namely, first for 10 kilograms of sticky rice, the cost per production reaches 140,000 rupiah, with total costs per month reaching 1,400,000 rupiah if production is carried out 10 times. Furthermore, 1 kilogram of garlic has a production cost of 27,000 rupiah, with a total monthly cost of 270,000 rupiah. 2 ounces of shrimp paste has a production cost of 10,000 rupiah and a total monthly cost of 100,000 rupiah. Lastly, 12 packs of flavoring have a production cost of 6,000 rupiah, with a total monthly cost of 60,000 rupiah. The total amount of raw material costs for all types reached 1,830,000 rupiah. For more clarity regarding the calculation of raw material costs for Rengginang "Mak Lia" production in November 2023, see table 4.

Table 4
Expenditure of Raw Material Costs for Production of Rengginang
"Mak Lia" in November 2023

No	Description	Need Per Production	Cost Per Production (Rp)	Cost Per Month / 10 Times Production (Rp)
1	Sticky Rice	10 Kg	140.000,00	1.400.000,00
2	Garlic	1 Kg	27.000,00	270.000,00
3	Shrimp Paste	2 Ons	10.000,00	100.000,00
4	Flavoring	12 Packs	6.000,00	60.000,00
Amount				1.830.000,00

Plastic and Staples

Plastic in MSMEs is used to wrap rengginang, while staples are used to glue the plastic to wrap rengginang. The costs incurred by UKM Rengginang "Mak Lia" to purchase plastic and staples during November 2023 are IDR 70,000.00. For more details, see Table 7.

Table 7
Cost of Plastic and Staples for Production of
"Mak Lia" in November 2023

Use of Plastic and Staples	Cost Per Pack (Rp)	Total Cost (Rp)
1 Bundle	6.000,00	60.000,00
5 Packs	2.000,00	10.000,00
Amount		70.000,00

The trademark on the "Mak Lia"

MSME is used as an identification mark to consumers that the rengginang is produced by the "Mak Lia" Rengginang UKM. The costs incurred by MSME "Mak Lia" to create a trademark during November 2023 are IDR 140,000.00. More details can be seen in Table 8.

Table 8
Rengginang "Mak Lia" Production Trademark
Costs November 2023

Use of Trademarks	Day Cost (Rp)	Total Cost (Rp)
1 Bundle	14.000,00	140.000,00
Amount		140.000,00

So, the total cost of auxiliary materials during November 2023 can be seen in Table 9.

Table 9
Cost of Using Supporting Materials for Making
Rengginang "Mak Lia" in November 2023

Auxiliary Materials	Total Cost (Rp)	
LPG Gas 3Kg	90.000,00	
Plastic and Staples	70.000,00	
Trademark	140.000,00	
Amount		300.000,00

Use of Electricity Costs

Electricity is used by Rengginang MSME "Mak Lia" in November 2023 to provide light during the production process and blend spices. The electricity costs incurred by MSME Rengginang "Mak Lia" in November 2023 are IDR 50,000.00.

Table 10
Electricity Costs for Making Rengginang
“Mak Lia” In November 2023

Description	Total Cost (Rp)
Electricity Cost	50.000,00
Amount	50.000,00

Equipment Depreciation Costs

The use of equipment causes depreciation of the value of the equipment used. The depreciation that occurs causes a decrease or reduction in the value of the equipment. To calculate the depreciation value of equipment used by Rengginang "Mak Lia" MSMEs during November 2023, the economic life method or the straight line method is used. Calculations using the straight line method are carried out by:

$$\text{Depreciation Expense} = \frac{\text{Acquisition Price} - \text{Residual Value}}{\text{Economic Life}}$$

Table 11
Depreciation Expense for Rengginang “Mak Lia” Production Equipment in November 2023

Description	Amount (B) (unit)	Price Per Unit (A) (Rp)	Purchase Price (AxB) (Rp)	Residual Value (Rp)	Economic Age (Year)	Depreciation Expense (Rp/Year)
Mitochiba Chopper	1	650.000	650.000	390.000	5	52.000
Steamed Soblok	1	185.000	185.000	138.750	4	11.562
Bucket	2	25.000	50.000	37.500	4	3.125
Hamper	1	30.000	30.000	18.000	5	2.400
Small Bowl	5	2.000	10.000	0	3	3.333
Rigen/Bedek	6	30.000	180.000	90.000	6	15.000
Ladle	1	50.000	50.000	30.000	5	4.000
Gas Stove + Gas Cylinder	1	500.000	500.000	300.000	5	40.000
Total Production Depreciation Cost (Rp)			1.655.000			131.420

So, the total factory overhead costs used during November 2023 are the sum of the costs of auxiliary materials, electricity costs and equipment depreciation. For more details, see Table 12.

Table 12
Overhead Cost for the Rengginang “Mak Lia” Manufacturing Factory During November 2023

Description	Total Cost (Rp)
Cost of Auxiliary Materials	300.000,00
Electricity Cost	70.000,00
Equipment Depreciation Cost	131.420,00
Amount	501.420,00

Once the direct raw material costs, direct labor costs and factory overhead costs are known, the cost of goods sold per pack of rengginang can be considered. The process of calculating the cost of goods sold using the Full Costing method can be seen in Table 13.

Table 13
Calculation of Basic Production Prices using the Full Costing Method Per Packet of Rengginang “Mak Lia” in November 2023

Description	Total Cost (Rp)
Direct Raw Material Costs	1.830.000,00
Direct labor costs	500.000,00
Factory overhead costs	501.420,00
Total Amount (As of November 2023)	2.831.420,00
Production Amount	280 Pack
Cost Per Pack of “Mak Lia” Rengginang	10.112,21

Calculation of Selling Price

In determining the selling price of Rengginang "Mak Lia" products, the normal selling price determination method (normal pricing) is often referred to as cost-plus pricing, because the company policy wants a profit of 30%, so that the selling price is not too high and can compete in the market. The selling price calculation is as follows:

Production Cost	: Rp 2.831.420,00
Desired Profit 30%	: Rp 849.000,00 +
Amount	: Rp 3.680.846,00

Total production is 280 packs. Each pack contains 40 rengginang seeds, so the selling price per unit is:

Selling Price Per unit	: Rp 3.680.846,00
	280
	: Rp 13.145,87

Rounded up to Rp. 13,000.00. So, the selling price of Rengginang "Mak Lia" with a profit of 30% of the total cost is 13,000.00.

4. Conclusion

The advantage you will get when using the Full Costing method is that it is able to display the amount of overhead costs comprehensively because it has two types of costs, namely fixed and variable overhead costs. This method can delay overhead costs when the product has not yet been sold on the market. Rengginang MSME "Mak Lia" calculates the cost of goods sold by adding up the cost of raw materials and electricity costs. The calculation of the cost of goods sold according to the MSME "Mak Lia" calculation method is not accurate because it does not take into account factory overhead costs such as the cost of auxiliary raw materials and equipment depreciation costs. The result of calculating the cost of goods sold of rengginang products based on the company's method is IDR 8,821.00 per pack. Meanwhile, the selling price is 13,000.00 per pack because the owner wants a profit of 30%. The research recalculated the cost of goods sold based on the Full Costing method for the Rengginang "Mak Lia" UMKM. Researchers took into account all elements of production costs incurred in the rengginang production process, namely raw material costs, direct labor, factory overhead costs. The results from researchers at UMKM Rengginang "Mak Lia" are that the calculation of the cost of goods sold per pack of rengginang is IDR 10,112.21 based on the Full Costing method.

The implications that the authors can give to "Mak Lia" MSMEs are as follows: 1) MSME "Mak Lia" should calculate the cost of goods sold carefully and precisely, using the full costing method. This is because determining the cost price correctly can influence the determination of the selling price, while the selling price can affect the company's income, and income can also affect the profit the company will obtain. 2) To calculate the correct cost of goods sold, MSME "Mak Lia" should accurately identify the costs that occur in the production process. There are still several cost elements that have not been calculated for factory overhead costs, such as the cost of auxiliary raw materials and equipment depreciation costs. Apart from the overhead costs above that have not been taken into account in the cost of goods sold are the owner's salary costs. The owner's salary is calculated because the owner is also involved in the production process. 3) It is best to use a drying oven because it can handle drying during the rainy season. 4) "Mak Lia" MSMEs should add a variety of rengginang flavors that can develop their business. 5) "Mak Lia" MSMEs should use a vacuum device when packaging, with the aim that the rengginang will last longer.

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