

## Calculation of the Cost of Production of Candied Carica at the Exotic Umkm in Dieng, Wonosobo, Central Java

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### ABSTRACT

The purpose of holding this community service is to facilitate understanding and solving a little problem experienced by MSMEs in general and Exotic Dieng MSMEs in particular. The concern of this community service is the calculation of the Cost of Goods Manufactured for products that are quite popular with domestic and foreign tourists. The method used in accompanying the calculation of the cost of goods manufactured is the Full Costing method with the addition of the Joint cost allocation method, this is done because these MSMEs still combine production costs, cannot separate various types of costs, and have not understood the importance of allocation to joint costs incurred so that the cost of goods mentioned is only a range without a certainty. The results obtained about the cost of goods of candied Carica cup packaging and glass bottle packaging are Rp. 1,333.28 and Rp. 7,204.51, respectively. With the use of the full costing method in determining the cost of goods manufactured and the joint cost allocation method, it is clear the number of production costs obtained. Although the results obtained are smaller than the range stated by the owner of this MSME, we are of the view that there should still be a review of the calculations that have been obtained at least once a year, this is a form of vigilance or beware of inflation, especially in raw material.

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### INTRODUCTION

Carica is one of the typical souvenirs from Dieng, Wonosobo. Carica is a drink as well as a sweet that is currently popular in Indonesia. These sweets and drinks have a delicious taste, and the texture of carica is soft, nutritious, and of course fresh.

Candied carica is very suitable for drinking in cold conditions and when the weather is hot. Not only children, but young people to parents also like it, even though they have never tasted it.

Along with the industrial revolution 4.0. Currently, Carica products can be easily found in various souvenir shops in Dieng. This means that the production of candied carica is already that big and you can be sure that not all of the manufacturing processes are done manually. Even with advances in information technology, these products can be purchased online and are marketed directly by MSME owners or by resellers.

With so many market demands, MSMEs must start tidying up all administration, because fast capital turnover must be followed by good financial management. If the understanding of MSMEs is good enough in terms of financial management, then the next task is to strengthen the understanding of accounting.

Accounting is the art of recording in which there are a lot of discussions about bookkeeping, including the business of recording expenses that are often incurred every month. Specifically for this section, cost accounting is a suitable field to implement. Cost accounting is part of the science of accounting that discusses many things and is relevant for MSMEs such as cost classification, calculation of the cost of production, cost of orders, and so on. The cost of production is the cost of producing products in manufacturing companies. Determining the cost of goods is how to calculate the cost of a product or order or service, which can be done by including all production costs or only entering variable production costs.

According to Hansen and Mowen (Hansen, 2007), the cost of production represents the total cost of goods completed in a certain period. According to Setiadi (2014) (and Runtu, 2014) Calculation of the cost of production (HPP) is an important thing to consider in determining the selling price of a product. Correct and accurate calculation of COGS is something that must be done by every company because, without a precise and accurate COGS calculation, the manufacturing company concerned will experience problems in determining the selling price of a product. According to Samsul, the cost of production is the cost of producing a product for a manufacturing company. (Saamsul, 2013). In addition, Joint Products are several products that are produced in a series or series of products together by using materials, labor, and overhead costs together. These costs cannot be traced or separated for each product, and each product has a selling value or quantity that is relatively the same. (R.A, 2011)

Seeing the hectic market demand for Carica products, one of the MSMEs in Dieng, Wonosobo Exotic Carica tries to manage finances and make financial reports so that you can know how much profit you get either regularly or when you get a special order. What is also a problem is the lack of knowledge about cost accounting, including in terms of determining the cost of production. This UMKM only estimates how much the cost of the product is from each product it makes, this is also a question, is this estimate just to show that it is not making big profits?

From the description of the interview that has been described, we are interested in taking the title **"CALCULATING THE COST OF CARICA CANDY PRODUCTION IN EXOTIC DIENG SMEs, WONOSOBO, CENTRAL JAVA"**

## METHODOLOGY

The method used is descriptive quantitative, which is often called the naturalistic research method because the research is carried out in natural conditions. HPP calculations use full costing and joint costs.



**Figure 1. Raw Carica Papaya and Candied Carica**

### Methods of Data Collection

#### a. Observation

Observation is the basis of all science. The observation itself is divided into three types, namely participating observation, overt or covert observation, and unstructured observation.

#### b. Interview Data Collection

Structured interviews are used to collect data if the researcher already knows the problem information so that the questions will be expected to answer questions that arise for problem-solving. In qualitative research, participatory observation techniques are often combined with these interviews so that they become the right combination for problem-solving.

### c. Data Collection Using Documents

This technique collects past studies to look at the results of previous research and is used as a reference for solving problems, for example, diaries, life histories, biographies, stories, regulations, policies and document images, videos, and other works of art. In this study, the authors used previous studies to strengthen the theory as well as additional information that strengthens the research.

## RESULTS AND DISCUSSION

Carica Exotic is a beverage and sweets brand made from Carica Papaya Fruit. The fruit originally lived in the Andes mountains, and then was successfully planted and developed in the Dieng region, Wonosobo, Central Java during the Suharto era. The company, which was founded in August 2005, is still on an MSME scale. Nevertheless, the owner of this business registered his trademark about 10 years ago and also obtained a BPOM permit, so from a legal perspective and compliance with government regulations, the truth can be ascertained. So far, Exotic UMKM has only been used to estimate the cost of production of each product produced. For example, for the Manisa Carica Packaging Cup price, Sri stated that the basic price range is Rp. 2,050 to Rp. 2,100. Likewise, glass bottle packaging also uses a range of IDR 8,000 – 8,200. This is understandable because obtaining papaya carica fruit is not always easy. This MSME company produces 3 types of processed products. Among others are :

**Table 1. Products produced**

No	Product name
1	Carica Exotic
2	Exotic Pineapple
3	Exotic Dutch Eggplant

Source: Interview

Of these three products, Carica Exotic is the most popular among the public, especially tourists, both domestic and foreign. The comparison if calculated per week is as follows:

**Table 2. Total Production**

Within a week (Type)	Quantity
Carica Exotic	2,000
Exotic Pineapple	1,000
Exotic Dutch Eggplant	1,000
Total	4,000

Source: Interview

### Carica Candied Drink Recipe

Before starting to make the theme, first prepare the materials and equipment needed.

#### Ingredients for Carica (50 cups)

- a. 1 kg of ripe carica fruit
- b. 1 kg of white sugar
- c. 1/2 teaspoon salt
- d. 2 liters of water

#### Equipment :

1. Plastic container or basin
2. 4 gas cylinders 3kg

#### Equipment :

1. 2 burner gas stove = 4 units
2. Water Heater Machine
3. Press Machine For the cup lid

#### Direct Labor :

1. 2 people sorting or sorting carica fruit, peeling, cutting 2 parts, and removing seeds.
2. 3 people processing raw materials to packaging

Indirect Labor :

1. 1 general helper

#### How to Make Carica

1. First of all, peel the carica fruit first, split it into two parts and remove the seeds. Make sure there is no skin left on the meat.
2. After that, washed 1 time and cut, then washed again up to 8 times, the last washing process using salt water
3. Then boil the carica fruit seeds using 1 liter of water until it boils, then remove and cool.
4. After the cooking water for carica seeds is cold, strain while squeezing the seeds so that the juice comes out. Add water little by little until the seeds become clean.
5. Next, mix the remaining boiled water that has been filtered by the seeds with sugar, then boil again until it boils.
6. Add carica fruit flesh and cook until the fruit is cooked.
7. Then remove and leave to cool.
8. Candied carica is ready to be served.

The data obtained in the interviews conducted are as follows:

**Table 3. Raw Material Costs**

No	Material Name	Qty	Unit Price (Rp)	Amount (Rp)
1	Carica fruit	45 Kg	6,000	270,000
2	White Sugar	40 Kg	13,200	528,000
3	Clean water	20 liter	-	-
<b>Amount</b>				<b>798,000</b>

Source: Interview, processed (2022)

According to the owner of this business, the production and sales interval is 2,000 units per week. The packaging that can be made can be in the form of a 120-gram cup and or a 330-gram glass bottle, this packaging depends on market needs or interests. For ease of calculation, mode data is used for one year, namely 1500 cups and 500 glass bottles a week. As for the cost of supporting materials for this product, there are no additional types of materials, so only the packages that should be counted as production costs are counted. The auxiliary materials intended are as follows:

**Table 4. Auxiliary Raw Material Costs**

No	Material Name	Qty	Unit price (Rp)	Amount (Rp)
1	Plastic cups	1500	100	150,000
2	Plastic Lid cup sealer	2000	42	84,160
3	cardboard size 20 cups	100	400	40,000
4	cardboard size 6 glass bottles	100	400	40,000
5	duct tape	3	15,000	45,000
6	Glass bottles	500	4,000	2,000,000
				<b>2,359,160</b>

Source: Interview, processed (2022)

From the table above, it can be seen that the purchase of 3 pieces of plastic tape can be used for both types of cardboard for each size of Carica products, so the calculation of the tape uses the Join Cost. With the following details:

**Table 5. Joint Cost of Auxiliary Materials**

Type	The formula from Helper BB (Rp)	Proportionate share (Rp)	BB Helper Value (Rp)
plastic cups	$1+2+3 + ( 5*0,75)$	274,160	33,750
glass bottles	$4+ 6 ( 5*0.25)$	2,040,000	11,250

Source: Interview, processed (2022)

Regarding table 3 above, the formula for BB helpers is obtained from table 2 regarding what packaging aids are used in the two types of packaging added with duct tape that can be used together.

Joint costs are also calculated proportionally to Direct Labor Costs (BTKL). This joint cost was carried out because this Exotic MSME produces not only carica sweets but pineapple and Dutch eggplant toys. The portions that are generally carried out are as follows:

**Table 6. Products made in a week**

The number of products made in 1 week

Honey Pineapple	1000	0.25
Dutch eggplant	1000	0.25
Carica	2000	0.50
	4000	1

Source: Interview, processed (2022)

From table 4 above, it can be said that the use of direct labor also needs to be divided by the costs according to the number of products made. The calculations are as follows:

**Table 7. Amount of wages in 1 week (Rp)**

No	Part	Qty	Wage Rates	Amount	Rates in 1 week
1	Pra Produksi	2 People	80,000	160,000	1,120,000
2	Produksi	3 People	100,000	300,000	2,100,000
					3,220,000
	So BTKL specifically carica				1,610,000

Source: Interview, processed (2022)

To facilitate the calculation of BTKL, the average target quantity for 1 week is taken. For Carica, there are 2,000 packages consisting of 1,500 cups and 500 glass bottles. Distribution of packaging quantity depends on market conditions or demand.

**Table 8. Variable BOP (Rp)**

No	Type	Qty	Unit price	Amount
1	LPG gas	4 Tubes		20,000
2	Motor Fuel	10 liter		7,650
3	Electricity	1 month		150,000
			<b>the proportional calculation for 1 week</b>	<b>37,500</b>
4	Helper's Wages	1 people		50,000
			<b>the proportional calculation for 1 week</b>	<b>350,000</b>
5	Car fuel	20 liter		7,650
				697,000
	Carica special variable BOP			348,500

Source: Interview, processed (2022)

**Table 9. Fixed BOP (Rp)**

No.	Name	Acquisition cost (Rp)	Brand	Acquisition Year	UE	Depreciation expense/ year	Depreciation per week	fee
1	Gas stove 4 units	2,000,000	Rinnai	2010	10	200,000		
							load in weeks	3,846.15
2	Water Heater Machine	850,000	Krisbow	2010	10	85,000		
							load in weeks	1,634.62
3	Lid cup sealer machine	9,950,000	Albef Bff	2010	15	663,333		
							load in weeks	12,756.41
4	Motorcycle	12,000,000	Honda Supra X	2007	10	1,200,000		
							load in weeks	23,076.92
5	Car	95,000,000	Mitshubishi L300	2012	10	9,500,000		
							load in weeks	182,692.31
6	Building	265,000,000	-	2003	20	13,250,000		
							load in weeks	254,807.69
								478,814.10

Source: Interview, processed (2022)

Knowing the above information, that several production cost components are used together with two other products, namely Candied Pineapple and Dutch Eggplant Candied, in this PKM report, joint cost calculations can be presented as follows:

**Table 10. Split Point (Rp)**

Calculation	BBB	BTKL	Fixed BOPs	BOP Var	Split off
<b>CARICA</b>	798,000	1,610,000	486,506.41	348,500	3,243,006.41

Source: Interview, processed (2022)

In searching for the split point, it can be reported that auxiliary materials will be an addition to the cost of each product, and what is calculated in this report is only for carica products. The results of calculating the cost of carica by differentiating packaging can be explained in the following table:

**Table 11. Carica production cost (Rp)**

Packaging Type	Split off	Proportion	Auxiliary Material	Total Cost of Production	Basic Price/ unit
<b>Carica Cup</b>		1,692,003.34	307,910.00	1,999,913.34	1,333.28
<b>Carica Botol Kaca</b>	3,243,006.41	1,551,003.07	2,051,250	3,602,253.07	7,204.51

Source: Interview, processed (2022)

Table 9 above shows the basic price obtained after calculating the joint costs and additional costs in the form of packaging. For the carica cup, the basic price is Rp. 1,333.28 while for glass bottle carica is Rp. 7,204.51.

The illustration of the cost of production is shown in the following figure

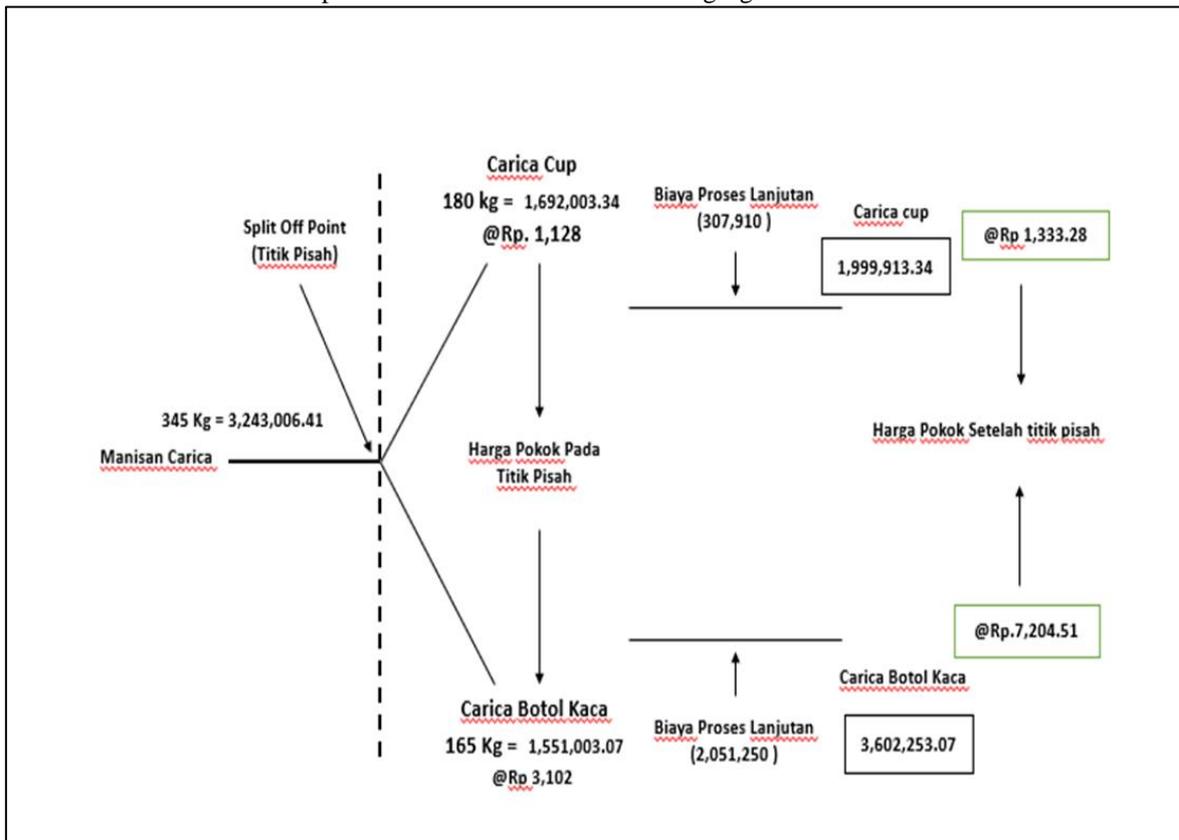


Figure 2. Split Off Point – Candied Carica

## CONCLUSION

The calculation of the Cost of Production was obtained from the results of the development of primary data materials above, which obtained the cost of production units for Candied Carica Cup packaging of Rp. 1,333.28 while for Candied carica in glass bottles of Rp. 7,204.51 This is still smaller than the traditional calculation or the estimation of this MSME owner, namely Candied Carica cup size of Rp. 2,050 – 2,100, while glass bottle carica is around IDR 8,000-8,200. By using the full costing method in determining the cost of production and this joint cost allocation method, the number of production costs obtained will become clear. Even though the results obtained are smaller than the range stated by these MSME owners, we are of the view that a review should be held on the calculations that have been obtained at least once a year, this is a form of precaution or to be aware of inflation, especially in the basic ingredients.

## Thank-you note

1. Thank you to Mrs. Sri, the leader of UKM Exotic Dieng, who took the time to interview and receive our suggestions regarding the calculation of the cost of production.
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