

Analysis Accounting Treatment Of The Main Product And By-Products And Its Implications For Profit (Case Study Of Mandar Coconut Oil Processing Business In Majene Regency)

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Abstract— This research aim to find: 1) the accounting treatment of the main products and by-products (Case Study of Mandar Coconut Oil Processing Business In Majene Regency), 2) the implications of main product Revenue and by-products to profit. The data used are primary data and secondary data. The data collection technique is interviews, observation and documentation. The analytical method used are qualitative descriptive analysis. The results showed that the company does not yet have adequate financial records of the main products and by-products resulting from Mandar coconut oil processing. For joint cost recognition of the main product the company can choose from the four existing methods, one of which is the market value method most widely used by the company while for the byproducts can also choose from the four existing methods such as treating the revenue of by-products as other income. The implications of main product revenues and by-products with the presence of by-products can increase the company's profitability if managed properly.

Keywords—accounting, main product, by product

I. INTRODUCTION

In general, the Company is established aiming to obtain profit, so that in operational activities are always expected can operate effectively and efficiently. The creation of this profit will be through the process of sales and production process.

The production process of a company will sometimes produce more than one type of product at the same time. Several types of products are joint products which are the main products of the company or by products that arise as a result of the main product production process. Therefore, in the production process of the joint product, it will be necessary the joint costs that have to be allocated to each product in order that the production cost can be known and inventory value to each for the importance of internal reporting. Meanwhile, it also necessary to assess and record toward the resulting by products and ensure that carefully calculations have been made of all these cost components. Besides, it is also required for the foresight of the company to be able to see the possibility of the future, especially regarding to the problem of resulting product.

Joint costs are the costs of the production processes that produce various products together, up to the cut-off point. The cut-off point is the point at which the joint product becomes identifiable separately. Joint Cost is the cost incurred from the early moment the raw material is processed until the time the various identity products can be separated[1]. The main problem faced in production process that contains the elements of cost together is to calculate the allocation of joint costs to each product produced and how it's accounting treatment. Joint cost should be allocated to participating division, no more or no less[2]. In other words that Joint costs should be allocated to divisions or parts that use proportionally no more and no less. There is a positive relationship between the main product with by products / complementary[3].

Coconut oil Mandar processing business is one of the typical products of Majene Regency which has a special flavor and it is generally produced traditionally with one of the main superiority that is free from preservatives. In general, coconut oil processing center produces the main products in the form of coconut oil and by products are quite varied form of coconut belt, shell, coconut pulp that can be used as animal feed. Some types of by products can be further processed so that its value can be increased economically. The selling price determined from the main product of this coconut oil Mandar Rp 15.000 / bottle while the by product of dry coconut pulp Rp 80.000 / sack, coconut oil dregs Rp 30.000 /sack, coconut shell Rp 3.000 / kg and stick to be used as a broom Rp 2,500 / bundle.

Based on the initial observation of the researcher who became the fundamental problem in the processing center of this coconut oil Mandar is the company has not done recording / accounting treatment well on the main products and by products. And sometimes there are also by products of company that can be used alone by the company but not calculated in production costs. If this is done then the negative impact that will arise can cause errors in the recording / financial reporting company. By-product, if it is managed properly, can increase the sales that will be related to profit.

In Majene Regency, small and medium enterprises, though still require an accounting record because with the recording it will be known how the performance of the

business run whether included in the category developing, stagnant or even decline. This case can be seen one of them through the achievement of the profit which is a plot that stems with the treatment on the main product and by-products. This is often neglected among small and medium-sized entrepreneurs because it considers that it is less important. But if this continues to be allowed to drag on then there will be no progress in terms of management / business management especially aspects of reporting / accounting, this is what will become one of the point problems in this research. Another problem in this company is that joint costs have not been allocated proportionally to the by-products that absorb the joint costs, therefore accounting treatment is needed for the main product and by-products.

From the result of research conducted on Jember agricultural business shows that the allocation of joint production cost and and by products treatment by company is still not exact[4]. While research on steel frame company Palembang showed that sales of by products on steel frame business is very profitable company[5]. While in the other research showed that the treatment of by products sales revenue generally can be done with four steps in the financial report of the Mulyo Jati Ponorogo wood and furniture company and has been done exactly [6]. The Research showed that the accounting treatment for the sale of by products in PT Nichindo Manado Suisan as a company engaged in fish processing shows that the method of recognizing income applied by the company is in accordance with the regulations of PSAK[7].

Based on the background that has been described then the purpose of this research is to find out how the accounting treatment of the main products and by products and their implications to profit (Case Study on Mandar Coconut Oil Processing Business in Majene Regency).

II. LITERATURE REVIEW

A. Product

Products include physical objects, services, persons, places, organizations, ideas, or mix of all. Products are something that can be offered to the market to get attention, purchased, used, or consumed that can satisfy the wants or needs⁸. The production process that is undertaken by a company can produce one type of finished product or several finished products simultaneously in one production process. A production process that can process multiple products at once can be called a joint production process. In the process, it will happen main product (*main product*) and by-product.

B. Main Product

The main products are: one or more products that the sale value (quantity multiplied with the price of unity) produced relatively higher along with other products that are relatively lower sale value¹. Meanwhile, one or more products whose value is relatively large[9].

Main Products have the following characteristics:

- The main product is the main purpose of production activity

- The selling price is relatively higher when compared with the produced by-products at the same time
- In processing the product together the manufacturer can not avoid to produce all kinds of products together[1].

four joint cost allocation methods such as sales value a split off point, physical measurement, net realizable value (NRV), constant gross margin percentage NRV[10]. states that the cost allocation method can use one of four methods as follows[9]:

- Method of market value / relative selling value

The formula that is used namely:

$$\text{Joint Cost Allocation} = \frac{\text{Sales value of each product}}{\text{Total sale value of all products}} \times \text{joint cost} \quad (1)$$

- The method of unity cost average

The formula that is used namely:

$$\text{Joint Cost Allocation} = \frac{\text{Unity joint cost average}}{\text{quantity of product unit}} \times \text{quantity of product unit} \quad (2)$$

- The weighted average method

The formula that is used namely:

$$\text{Joint Cost Allocation} = \frac{\text{Total weighted average of each product}}{\text{Total weight of all products}} \times \text{Joint cost} \quad (3)$$

- Quantitative unit or physical unit method

The formula that is used namely:

$$\text{Joint Cost Allocation} = \frac{\% \text{ the use of each product raw materials}}{\% \text{ the use of raw materials throughout the product}} \times \text{Joint cost} \quad (4)$$

C. By Product

By-product is one or more products that are relatively lower sale value, which is produced in simultaneously with other products that are relatively higher sale value[1]. By product can be used as a cost reduction from the main product[11]. Treatment of by-products there are 2 ways that are By-products not allocated to by-products (without allocation) and method of allocation[1].

D. Profit

a company is said to earn a profit if the total revenue exceeds the expense, otherwise the company suffered losses when the expense exceeds the amount of revenue[12].

III. RESEARCH METHOD

A. Types and Sources of Data

The type of data used in this research is the primary data, source of research data obtained directly from the original source (not through intermediary media) specifically collected by researchers.

B. Data Collection Techniques

Data collection techniques used in this research are interview, observation and documentation.

C. Data Analysis Techniques

Data analysis techniques used in this research that is analysis descriptive qualitative. Analysis of qualitative data, namely: Data collection, data reduction, data presentation, conclusions[13]. For the treatment accounting from main product could using 4 methods including: Method market value / relative selling value, average cost method unity, the weighted average method, Method of quantitative units or physical units. While for by product uses method recognition gross revenue (without allocation).

IV. RESULT

A. Accounting Treatment on Main Products and By Products (Case Study on Mandar Coconut Oil Processing Business in Majene Regency).

Coconut oil is one of the unique products from Majene Regency which has a distinctive flavor and is generally produced traditionally with one of the main superiority that is free from preservatives. At this coconut oil processing center is generally produce the main products in the form of coconut oil and by products are various product among them including coconut husk, Coconut shell / charcoal, Broom stick, Dry coconut pulp and cereal coconut oil in the local language is called "Tai Lomo". From the aspect of recording generally, the business actors of Mandar coconut oil processing have not done adequate accounting records, they only have a very simple record of finance until difficult to determine the cost of production per item so that the determination of overall business profit becomes inaccurate.

In order to produce Mandar Coconut Oil, it will incur costs that derive from various needs in running the joint production process. Costs incurred from joint production processes consisting of direct material costs, direct labor costs, and overhead cost. As for the coconut oil main cost production for every production (assuming 150 coconuts) is Rp 370.000 / day / every time the production. The main cost of this production will also be the sold main cost because the finished product in every time of production is always sold out. Following is presented the data of main cost product allocation that can use one of four methods exist

TABLE I. SUMMARY JOINT COST CALCULATION TOGETHER WITH MARKET VALUE METHOD, WEIGHTED AVERAGE AND QUANTITATIVE UNITS

<i>Joint Product</i>	<i>Method of Market Value</i>	<i>Method of The Weighted Average</i>	<i>Method of Quantitative Unit</i>
Mandar coconut oil	Rp 302,727.27	Rp 256,153.85	Rp 246,666.67
Coconut husk	Rp 33,636.36	Rp 35,576.92	Rp 49,333.33
Coconut shell/charcoal	Rp 10,090.91	Rp 28,461.54	Rp 49,333.33
Broom stick	Rp 3,363.64	Rp 8,538.46	Rp -
Dry coconut pulp	Rp 16,145.45	Rp 34,153.85	Rp 14,800.00
Cereal coconut oil (Tai Lomo)	Rp 4,036.36	Rp 7,115.38	Rp 9,866.67

<i>Joint Product</i>	<i>Method of Market Value</i>	<i>Method of The Weighted Average</i>	<i>Method of Quantitative Unit</i>
Total	Rp 370,000.00	Rp 370,000.00	Rp 370,000.00

Source: Data Processed, 2018

Based on the table above, it is seen that the allocation of the joint cost absorbed by the largest main product (Mandar Coconut Oil) on market value method while the smallest on quantitative unit method. While for Joint cost allocation absorbed by the largest by product on quantitative unit method.

a. Method of market value / relative selling value

Methods Market value is most widely used by company to allocate joint costs to joint products because the selling price of a product is a manifestation of the costs incurred in processing the product. The use of this method assumes that each product produced in a joint production process has a different sale value or market value.

b. Method of the unity average cost

This method using the assumption that the determination costing for each product is calculated in accordance with the quantitative proportion of each product produced. There is no calculation on the method of unity average cost because this method is only suitable for use only if the resulting joint product is measured in the same unit. Based on these assumptions the determination of the cost for each product is calculated in accordance with the quantity proportion of each product produced. While in the analysis of Mandar coconut oil products and by products using different units.

c. Method of the weighted average

The weighted average method is based on the assumption that each product produced in a joint process has different weighing factors.

d. Method of quantitative unit or physical unit

Quantitative method is based on the assumption that each product produced in joint production using a raw materials in accordance with the coefficient level of raw materials utilization contained in each product produced. Furthermore related with recognition of by product with the system of gross revenue recognition give the different impact.

1. Revenue of by product is treated as other income
In this method, the revenue that derived from the sale of by-products is recognized as others income and on finally could improve profit operation. If the previous operating profit Rp 75.000 then the treated results of the by-products sale as other income resulting profit reach to Rp 175.000
2. Revenue of by product is treated as an additional main product sales revenue
In this method, the revenue of by-products is presented as an addition to the sales revenue of the main product until the sales revenue will increase from the previous Rp 450.000 to Rp 550.000
3. Revenue of by product is treated as a reduction of sale main cost
In this method, the revenue that derived from selling by-product amount Rp 100.000 will be deducted from the sale

main cost amount Rp 370.000, thereby reducing the sale main cost to Rp 270.000, and increasing the gross profit before tax.

4. Revenue of by products is treated as reduction on the production cost of main product

In this method, the revenue that is obtained from the sale of by-products amount Rp 100.000,- is deducted from the total production cost of Rp 370.000, - with the result that the net production cost becomes Rp 270.000, -.

B. Implication of Main Product Revenues and By-Product to Profit

After the calculation of revenue on the main products and by products with various methods then the following is presented summary table calculation the implication of main product revenue and by products in the table below:

TABLE II. IMPLICATION OF MAIN PRODUCT REVENUE AND BY PRODUCTS TO PROFIT

Method	Gross Profit	Operating Profit	Profit Before Tax
Treated as other income	Rp 80,000	Rp 75,000	Rp 175,000
Treated as an additional main sales product revenue	Rp 180,000	Rp 175,000	Rp 175,000
Treated as reduction of sale main cost	Rp 180,000	Rp 175,000	Rp 175,000
Treated as reduction of main cost production	Rp 180,000	Rp 175,000	Rp 175,000

Based on the table above, it can be concluded that at the time by-products treated as others income of gross profit that is achieved amount Rp 80.000, operating profit Rp 75.000 and profit before tax Rp 175.000 while for other methods of gross profit, operating profit and profit before tax have the same rate of each Rp 180.000, Rp 175.000, and Rp 175.000.

Companies can choose one of the four alternative methods that can be used that have their respective advantages.

1. The sale revenue method of by products is treated as others income. The excess of this method is will increase operating profit of the company directly and easy in its arrangement.
2. The sale revenue method of by products is treated as an additional of main product income, the excess of this method is will increase the total of sales, moreover gross profit as well as operating profit will increase in accordance with the increase of income.
3. The sale revenue method of by products is treated as reduction of sale main cost, the excess of this method is sale main cost will decrease as well as gross profit and operating profit will increase
4. The sale revenue method of by products is treated as reduction of main cost production, the excess of this method is main cost production will decrease, can reduce the tax, as well as gross profit and operating profit will increase.

The sale revenue of by products at Mandar Coconut Oil Processing Business give contributions to the profit achievement of the company. The more main products produced the more the sale by products produced with the result that can provide additional revenue for the company.

V. NOVELTY

As for the element of novelty in this research is to combine between cost analysis of main product and by products then to interpret its implications to net profit. This research also takes object in Mandar coconut oil processing business that constitutes the traditional product of Mandar tribe of Majene Regency.

VI. CONCLUSION

For the joint cost recognition of the company main product can choose from the fourth available methods. one of them is the market value method most widely used by companies to allocate joint costs to joint products because the selling price of the product is an embodiment of the costs incurred in processing the product. Allocation of costs by this method is a way of allocating joint costs that are logical and rational. The impact of main product revenues and by-products is with the existence of by-products can increase the gross profit or net profit that is earned by the company.

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