

## **ANALYSIS OF COST STRUCTURE, REVENUE, AND PROFITABILITY OF TOFU PRODUCTION BUSINESS (THE CASE IN UKM WAHYU UTAMA, GUNUNG PUTRI, BOGOR REGENCY)**

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### **Abstract**

*Tofu is one of the popular processed soybean products for the people of Indonesia. UKM Wahyu Utama is one of the medium-scale tofu processing industries in Bogor Regency, with tofu products sold, namely white tofu which consists of small tofu products and large tofu products. Wahyu Utama UKM, which has been operating since 2018, unfortunately, does not have a systematic cost recording, does not know the income that has been obtained, has not calculated its business efficiency, and is also faced with sales of tofu products in 2021 which tend to decline.*

*The objectives of this study are (1) to Analyzing the cost structure of UKM Wahyu Utama in producing tofu; (2) to Analyze the income of the tofu production business in the Wahyu Utama UKM; (3) to Analyze the level of B/C Ratio, Break Even Point (BEP), and Payback Period (PP) in tofu production business in Wahyu Utama UKM; (4) Analyze the profitability of tofu production business in Wahyu Utama UKM. Types of quantitative research with descriptive analysis. The data source uses primary data and secondary data. The data analysis used is a descriptive analysis to determine the general description of the company, business cost structure, and business income analysis to measure receipts, and revenue, followed by business analysis with B/C Ratio, Break Even Point (BEP), and Payback Period (PP), as well as business profitability analysis with Margin of Safety (MOS) and Marginal Income Ratio (MIR).*

*The results showed that (1) The variable costs needed by UKM Wahyu Utama have a higher percentage compared to fixed costs. (2) Tofu product business revenue in UKM Wahyu Utama in 2021 amounted to Rp 1,234,274,167. (3) The B/C Ratio value in small tofu products is 0.19 and in large tofu products, which is 0.15 (4) The profitability obtained from small tofu products is 16.38 percent, and large tofu products are 13.08 percent.*

**Keywords:** *Tofu, Cost Structure, Revenue, Profitability*

### **INTRODUCTION**

The industrial sector is believed to be a sector that can lead other sectors in advancing a country's economy. This is because the industrial sector has a variety of products and can provide high benefits to its users. Bogor Regency is an area that has high potential in the industrial sector. According to the Central Statistics Agency of Bogor Regency (2021), the industrial sector is the largest contributor to GRDP, which is 53.16% and is a driver of other economic activities, such as agro-industry, where agro-industry contributes 5.31% to the GRDP of Bogor Regency.

One of the agricultural processing industries that are quite developed in Bogor Regency is the soybean processing industry. Tofu is one of the popular processed soybean products for the people of Indonesia. In addition to the delicious taste of tofu and its low price, tofu also has a high nutritional content. Tofu has a high content of vegetable protein, so it can be used as a substitute for animal protein to meet the needs of nutrition. Tofu has the highest average per capita consumption per week compared to other processed soybeans. This proves that people in Bogor Regency have a high consumer interest in tofu. The high average consumption of tofu in Bogor Regency makes the tofu production business a potential business opportunity to be run.

UKM Wahyu Utama is a medium-scale business engaged in the soybean processing industry, namely tofu. UKM Wahyu Utama uses imported soybeans from the United States as raw materials to produce tofu because of its large size and cheaper price compared to local soybeans. In a day, UKM Wahyu Utama needs as much as 1,450 kg of soybeans. White tofu produced by UKM Wahyu Utama is marketed in two sizes, namely small and large sizes with a selling price of Rp. 6,000 / kg. Tofu sales during 2021 at UKM Wahyu Utama have fluctuated and tend to decrease by 25.7%. Tofu yields small tofu and large tofu produced is 2.68 kg per day, meaning that 1 kg of soybeans can produce as much as 2-3 kg of small tofu and large tofu that can be sold per day.

Sales know UKM Wahyu Utama, which is not small, should be able to encourage companies to pay attention to things that can affect the level of the company's ability to make a profit. However, it is very unfortunate that UKM Wahyu Utama, which has been operating for 3 years, has not had a well-structured business cost structure, has not been analyzed for business income, has not calculated business efficiency, and is also faced with volatile tofu sales and tend to decline in 2021.

Based on the background and problem formulation, the objectives of this study are 1) Analyzing the cost structure of UKM Wahyu Utama in producing tofu. 2) Analyze the income of the tofu production business in the UKM Wahyu Utama. 3) Analyze the level of *B/C Ratio*, *Break Even Point* (BEP), and *Payback Period* (PP) in the tofu production business at UKM Wahyu Utama, and 4) Analyze the profitability of tofu production businesses in UKM Wahyu Utama.

## **RESEARCH METHODS**

### **Research Location and Time**

The research was conducted at UKM Wahyu Utama located in Bojongkulur Village, Gunung Putri District, Bogor Regency, West Java, 16969. The study was conducted for approximately 3 months, starting from March to May 2022.

### **Data Types and Sources**

The type of data used is quantitative data carried out with descriptive analysis including tofu production business activities at UKM Wahyu Utama. The data sources in this study are primary data and secondary data. Primary data were obtained from the results of observations and interviews. Secondary data were obtained from the relevant literature.

### **Data Analysis**

#### **Business Cost Structure Analysis**

Referring to Hernanto (1993: 184) mathematically, the total cost can be written as follows:

$$TC = TFC + TVC$$

Information:

TC = Total cost of tofu production business tofu Wahyu Utama (Rp)

TFC = Total fixed costs of tofu production business UKM Wahyu Utama (Rp)

TVC = Total Variable Costs of tofu production business UKM Wahyu Utama (Rp)

### **Business Income Analysis**

Mathematically, the calculation of acceptance can be written in the form of a formula as follows:

$$TR = P \times Q$$

Information:

TR = Total revenue of tofu production business UKM Wahyu Utama (Rp)

P = Selling price of UKM Wahyu Utama tofu products (Rp/Kg)

Q = Number of tofu production of Main Revelation UKM sold (Kg)

Referring to Suhardi (2016: 236) profit (profit) or loss can be determined if the concept of *revenue* relates to the concept of cost. In determining the amount of income, the following formula can be used:

$$\pi = TR - TC$$

Information:

$\pi$  = Tofu production business income of UKM Wahyu Utama (Rp)

TR = Total revenue of tofu production business UKM Wahyu Utama (Rp)

TC = Total cost of tofu production business tofu UKM Wahyu Utama (Rp)

### **Business Analysis Profit to Cost Ratio (B/C Ratio)**

Referring to Rahardi & Hartono (2003: 69) mathematically, the *B/C Ratio* formula can be written as follows:

$$B/C \text{ Ratio} = \frac{\pi}{TC}$$

Information:

B/C = B/C Ratio of tofu production business UKM Wahyu Utama

$\pi$  = Tofu production business income of UKM Wahyu Utama (Rp)

TC = Total cost of tofu production business tofu UKM Wahyu Utama (Rp)

### **Analysis Break Even Point (BEP)**

BEP can be calculated in two ways, namely:

BEP based on sales in units (Kg) indicates the number of tofu products that must be sold in production business activities so as not to suffer losses.

$$BEP \text{ (Unit)} = \frac{TFC}{P - AVC}$$

BEP based on sales in rupiah (Rp) indicates the amount of receipt of tofu products that must be obtained so as not to suffer losses.

$$BEP \text{ (Rupiah)} = \frac{TFC}{1 - \frac{AVC}{P}}$$

Information:

BEP = BEP based on sales of tofu products per Kg

- BEP (units) = BEP based on tofu product sales per Kg  
 BEP (price) = BEP based on the sales value of tofu products in rupiah  
 P = Selling price of UKM Wahyu Utama tofu products (Rp/Kg)  
 TVC = Total fixed costs of tofu production business UKM Wahyu Utama (Rp)  
 AVC = Average variable cost of tofu production business UKM Wahyu Utama (Rp/Kg)

### **Payback Period (PP) Analysis**

*Payback Period* (PP) calculation model, namely:

$$PP = \frac{I}{\pi} \times 1 \text{ tahun}$$

Information:

- PP = *Payback Period* of tofu production business tofu UKM Wahyu Utama  
 I = Investment in the production business of tofu UKM Wahyu Utama (Rp)  
 $\pi$  = Tofu production business income of UKM Wahyu Utama (Rp)

### **Business Profitability Analysis**

Referring to Mulyadi (2001: 254) the formula used to calculate profitability is as follows:

$$MOS (\%) = \frac{TR - BEP}{TR} \times 100\%$$

$$MIR (\%) = \frac{TR - TVC}{TR} \times 100\%$$

$$\pi (\%) = MOS \times MIR$$

Information:

- MOS = *Margin of Safety* (%)  
 MIR = *Marginal Income Ratio* (%)  
 TR = Total revenue of tofu production business UKM Wahyu Utama (Rp)  
 TVC = Total variable costs of tofu production business tofu UKM Wahyu Utama (Rp)  
 $\pi\%$  = Profitability of tofu production business UKM Wahyu Utama (%)

## **RESULTS AND DISCUSSION**

The tofu products produced by UKM Wahyu Utama are white tofu in small and large sizes. The classification of costs incurred by Wahyu Utama UKM in producing tofu is calculated by distinguishing the cost component into fixed costs and variable costs. The cost component that has the largest proportion in producing small tofu and large tofu in UKM Wahyu Utama is the cost of soybeans, which is 74.27 percent to produce small tofu, and 71.45 percent to produce large tofu, and the cost with the second largest proportion is labor costs, which is 15.36 percent to produce small tofu, and 18.61 percent to produce large tofu. This is because the need for soybeans and labor to produce both tofu products is quite a lot, which is 529,250 kg of soybeans per year with a total workforce of 23 people.

The income of the Tofu Business Wahyu Utama can be seen in the sales of each tofu product. Based on sales data, UKM Wahyu Utama can sell 1,417,261 kg of small tofu and big tofu or is able to sell 96% of the total production of small tofu and

big tofu in 2021. Based on sales data and production data, there are 4% or 59,130 kg of unsold tofu and big tofu left. The unsold tofu is due to the existence of tofu products that have been damaged, such as the texture of tofu that is too mushy, broken, or crushed tofu, tofu cutting errors, and the sour aroma of tofu. The total receipt of large tofu products is higher than the total receipt of small tofu products. The total receipt of large tofu products is Rp 4,336,146,000 per year. Furthermore, followed by the total receipt of small tofu products, which is Rp 4,167,420,000 per year.

To see the success of the tofu business run by UKM Wahyu Utama, it is still not enough when viewed from the value of the income obtained, therefore a business analysis is needed. Business analysis is carried out to determine the level of business efficiency carried out using the *B/C ratio*, *Break Even Point (BEP)*, and *Payback Period (PP)* analysis. By using this analysis, it can be found more in-depth about the tofu production business run by UKM Wahyu Utama.

The *B/C business ratio* of tofu products in UKM Wahyu Utama has a different value for each tofu product. The *B/C ratio* of small tofu products has a higher value compared to large tofu products, which is 0.19, meaning that every Rp. 1,000,000 for the total costs incurred, UKM Wahyu Utama will get a benefit (profit) of Rp. 190,000. Furthermore, followed by the *B/C ratio* value of large tofu products, which is 0.15, meaning that for every Rp. 1,000,000 of the total costs incurred, the UKM Wahyu Utama will get a benefit (profit) of Rp. 150,000.

The *Break-Even Point (BEP)* value of small tofu products indicates that UKM Wahyu Utama must sell small tofu at least 34,074 kg of tofu per year or with a total receipt of Rp. 204,446,815 per year so that UKM Wahyu Utama does not experience losses. Meanwhile, the value of *The Break-Even Point (BEP)* on large tofu products shows that UKM Wahyu Utama must sell large tofu of at least 43,734 kg of tofu per year or with a total receipt of Rp. 262,403,695 per year so that UKM Wahyu Utama does not experience losses. This can be seen from the actual ability of the business in selling small tofu products of 694,570 kg of tofu per year or obtaining a total receipt of Rp. 4,167,420,000 per year and selling large tofu products of 722,691 kg of tofu per year or obtaining a total receipt of Rp. 4,336,146,000 per year. The excess of total receipts above the total variable costs indicates that the business has been able to cover fixed costs and make a profit or profit.

The *Payback Period (PP)* analysis of the resulting *payback period* value shows that the UKM Wahyu Utama tofu product business experienced a return on capital within 9 months and 4 days. Profitability Analysis of Tofu Business UKM Wahyu Utama has a *Margin of Safety (MOS)*, *Marginal Income Ratio (MIR)*, and different profitability values for each tofu product. The *Margin of Safety (MOS)* value in small tofu products is 95.09 percent, meaning that the sales rate for small tofu products should not fall by more than 95.09 percent from the actual sales results that UKM Wahyu Utama does not experience losses. Meanwhile, the *Marginal Income Ratio (MIR)* value in small tofu products is 17.23 percent, meaning that every year the small tofu products of UKM Wahyu Utama can contribute 17.23 percent of the proceeds from their sales to cover fixed costs and net profit or profit. The percentage of *the Margin of Safety (MOS)* can be directly linked to the percentage of the *Marginal Income Ratio (MIR)*, to indicate the level of profitability of small tofu products. Small tofu products have a profitability value of 16.38 percent. This shows that if Wahyu Utama UKM can sell all small tofu products, then the profit obtained from the sales proceeds is 16.38 percent.

Furthermore, the *Margin of Safety* (MOS) value on large tofu products is 93.95 percent, meaning that the sales rate for large tofu products should not decrease by more than 93.95 percent of the actual sales results so that Wahyu Utama UKM does not experience losses. Meanwhile, the *Marginal Income Ratio* (MIR) value of large tofu products is 13.93 percent, meaning that every year the big tofu products of Wahyu Utama UKM can contribute 13.93 percent of the proceeds from their sales to cover fixed costs and get profits or profits. *The Margin of Safety* (MOS) can be directly linked to a percentage of the *Marginal Income Ratio* (MIR), to indicate the level of profitability of large tofu products. Large tofu products have a profitability value of 13.08 percent. This shows that if Wahyu Utama UKM can sell all large tofu products, then the profit obtained from the sales proceeds is 13.08 percent.

## CONCLUSIONS AND SUGGESTIONS

Based on the analysis of the cost structure for producing tofu, variable costs have a higher percentage compared to fixed costs. The percentage of variable costs in small tofu products is 98.79 percent and in large tofu products, which is 98.80 percent. Meanwhile, the percentage of fixed costs in small tofu products is 1.21 percent and in large tofu products, which is 1.20 percent. Analysis of the cost structure shows that the tofu production business is very dependent on variable costs. The business revenue of tofu products in UKM Wahyu Utama in 2021 was Rp 1,234,274,167 per year which came from the income of small tofu products of Rp 675,788,202 per year and large tofu products of Rp 558,485,965 per year.

The calculation results of the analysis of the *B/C Ratio*, *Break Even Point* (BEP), and *Payback Period* (PP): The *B / C ratio* value in small tofu products is 0.19 and in large tofu products, which is 0.15. The tofu production business in UKM Wahyu Utama is profitable or provides benefits. The BEP value of the sales and receipt volume of the two types of tofu products has different values and it is obtained that the sales and receipt volume of UKM Wahyu Utama tofu products is greater than the calculation of the BEP value, so it can be said that the tofu production business in UKM Wahyu Utama is profitable. *The Payback Period* (PP) of the UKM Wahyu Utama tofu production business is 0.76, which means that UKM Wahyu Utama experiences a return on capital within 9 months and 4 days. The profitability obtained from the small tofu product business, which is 16.38 percent, and large tofu products, which is 13.08 percent, shows that the UKM Wahyu Utama tofu product business has good prospects to be cultivated and developed because it generates a profit. In addition to the profitability value, it can also be known the value of *the Margin of Safety* (MOS) and *Marginal Income Ratio* (MIR) of the tofu product business. The MOS in small tofu products is 95.09 percent, and in large tofu products, it is 93.95 percent. This shows the maximum tolerance limit in the event of a decrease in sales so that the business does not experience losses. MIR in small tofu products is 17.23 percent, and in large tofu products, it is 13.93 percent. This shows how much the ability of The Main Revelation UKM to cover fixed costs and make a profit.

Advice for UKM Wahyu Utama is recommended to start compiling structured financial reports to make it easier for UKM Wahyu Utama to conduct financial evaluations. Increase the production volume and sales volume of small tofu products, because they have a higher income and profitability level compared to large tofu

products. UKM Wahyu Utama is expected to expand its markets such as restaurants, markets, and others to increase profits.

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