



Income Analysis of Tuna Fish Meatball Business (Case Study at CV Olahan Berkah Sadayana in Karangpawitan District, Garut Regency)

Novi Nurchotimah ^{a*}, Ine Maulina ^a,
Asep Agus Handaka Suryana ^a and Iwang Gumilar ^a

^a Faculty of Fishery and Marine Science, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang Km 21, Jatinangor 40600, Indonesia.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This research aims to analyze the income from the sales of tuna meatball products by CV Olahan Berkah Sadayana. This research was conducted from March 2023 to May 2023 at CV Olahan Berkah Sadayana which is located in Karangpawitan District, Garut Regency. The research method is using case study research and data was taken with people who work in production and marketing staff. Quantitative data processing was carried out using Excel tools and then the data was analyzed using descriptive statistics to describe the data. Analysis of the data used in the analysis of income which includes analysis of total production costs, revenue, and analysis of profit. Tuna meatball products by CV Olahan Berkah Sadayana are available in several packages, there are 350 grams, 450 grams, and 550 grams. The results of the income analysis show that the total cost of producing tuna meatballs per year is IDR 1,988,395,500 which includes the fixed costs

*Corresponding author: Email: novi19003@mail.unpad.ac.id;

is IDR 21,679,500 and the variable costs are IDR 1,966,716,000, annual revenue of tuna meatball products is IDR. 2,310,000,000/year and the profitability is IDR 321,604,500/year. The profit received by CV Olahan Berkah Sadayana shows that the tuna meatball business is feasible to continue.

Keywords: Income; profi; revenue; tuna meatballs.

1. INTRODUCTION

Indonesia is a country with lots of fishery resources, where there are lots of marine and aquaculture products. Fishery resources are a distinct opportunity for the existence of a fishery product processing business. Processed fish products have developed a lot over time because of the abundant fish's main raw materials. Fishery products become a variety of food diversification products, such as fish balls, fish crackers, pempek, otak-otak, nuggets, fish floss, and so on.

Fishes are a high source of protein that contains omega- 3 fatty acids which are good for increasing intelligence, improving memory, and healing heart disease [1]. Fishery products, especially fish that are still fresh, if not processed quickly will experience a decline in quality because fish contain omega 3 which can accelerate spoilage. Prevention of quality deterioration can be circumvented through proper processing. The manufacturing of the processing business plays an important role in processing fishery products.

CV Olahan Berkah Sadayana is a business entity sector in the processing of fishery products located in Karangpawitan District, Garut Regency. This company makes tuna as the main raw material in its production. The product of this company is tuna meatballs with the brand "Dulur Laut". Tuna has spines that are easily separated from the meat, so it is suitable for mash processed, such as fishball products.

Analysis of Income is one of the considerations for business development. The purpose of making a business is to gain a profit. Therefore, the calculation of income analysis is necessary to find out whether the business profit from its business or not. A business is profitable if the revenue is higher than the cost incurred.

2. METHODOLOGY

2.1 Time and Place

Research analysis revenue of tuna meatballs product at CV Olahan Berkah Sadayana is located in Karangpawitan District, Garut Regency. The research was conducted from March to May 2023.

2.2 Research Methods

The method used in this research is the case study method. The case study method is a method with a descriptive approach that is carried out intensively, in detail, and in-depth to an individual, group, agency, or institution with a narrow area or subject coverage [2].

The type of data used is quantitative data. The data used in this research are primary data and secondary data. Primary data is data obtained directly from activities in the manufactory such as interviews and observations with respondents. Respondents in this study were the head of production staff, marketing staff, and production staff. Primary data collected includes production costs, revenue, and profit. Secondary data were obtained from literature studies to support authorship.

2.3 Data Analysis Methods

The method of data analysis in this study is used to determine the costs incurred in the production of tuna fish balls, the revenue generated from product sales, and the profits earned by the company. Quantitative data is processed using Excel tools. The data that has been processed is then analyzed using a descriptive statistical approach. Statistics can be used in analyzing quantitative data by describing or describing data that has been accumulated [3].

2.4 Total Cost Analysis

Total production costs are all costs incurred by a company for creating goods/services [4]. Expenditure on production costs must consider the usefulness of materials in order to increase production efficiency and profits. Processed and analyzed production costs are the total costs incurred during the production process of tuna meatballs at CV Olan Berkah Sadayana. There are three basic costs that are used as a reference in calculating production costs:

2.4.1 Fixed cost

Fixed cost is costs that could not change, whether business activity increases or decreases. Fixed costs include rent, insurance costs, depreciation, bank interest, and taxes.

2.4.2 Variable cost

Variable cost is costs that can change because these costs are adjusted to production needs. Increased production will also increase variable costs, and decreased production will also reduce variable costs. In industrial manufacturing, variable costs include main raw material cost, additional material cost, packaging cost, labor salaries, and transportation cost.

2.4.3 Total cost

Total costs are the result of the sum of the fixed costs and the variable costs of production goods/services. Total costs can estimate what costs are required in producing a business, in this case, the total costs calculated are the costs incurred by CV Olan Berkah Sadayana when producing tuna meatballs. The total cost can be formulated as follows:

$$TC = FC + VC$$

Description:

TC = Total Cost
FC = Fixed Cost
VC = Variable Cost

2.5 Revenue Analysis

Revenue is one of the early indicators in financial analysis. The ultimate goal of the product output is to achieve the maximum possible profit. Total revenue is all income received from the sales of products by the company [5]. Revenue analysis is the product of the price of goods or services

multiplied by the number of production units (quantity) sold. The calculation of revenue analysis uses the formula [6], which is as follows:

$$TR = P \times Q$$

Description:

TR = Total Revenue
P = Price
Q = Quantity (Amount of production sold)

Indicators:

- If the TR value > TC, then the business is gain a profit.
- If the TR value < TC, then the business is going to a loss.
- And if the total revenue equals the total cost of production or TR = TC then the business is no longer gets any profit or loss.

2.6 Profit Analysis

A business earns a profit if the total revenue is higher than the total costs incurred and otherwise, if the total revenue is less than the total costs incurred then the business gets a loss. Analysis of profits can be calculated using the formula [6], which is as follows:

$$\pi = TR - TC$$

Description:

π = Profit
TR = Total revenue
TC = Total cost

Indicators:

Business would be profitable if the results of the calculations are positive.

3. RESULTS AND DISCUSSION

3.1 Fish Meatballs Product

Fish meatballs are processed fish meat that is mashed and then mixed with flour and seasonings and then shaped into balls and boiled. The part of fish that can be used to make meatballs is in the form of fillets and fish loin. The kind of raw fish meatballs are fish that does not have spreading spines and the spines are easily removed. Examples of species that would be

suitable for meatballs are mackerel, grouper, snapper, and tuna.

3.1.1 Main raw material and additional raw material

The raw materials used in the process of making meatballs consist are main raw materials and additional raw materials. The main raw material for making meatballs at CV Olan Berkah Sadayana is tuna loin. Raw materials tuna are supplied from Muara Baru, Jakarta. The price of tuna loin is IDR 35,000/kg. The characteristics of good fish swallows are bright color specific to the species, clean, free from scales, bones, and spines, and compact texture. In one production of meatballs, total tuna used around 120 kg, which means for one production of meatballs, the main raw material cost incurred IDR 4,200,000.

Additional raw materials used in the process of making tuna meatballs at CV Olan Berkah Sadayana include palm flour, tapioca flour, sodium phosphate, flavoring, salt, sugar, garlic powder, baking powder, and ice cubes. Palm flour and tapioca are used to bind fish meat with seasonings and make the meatball dough chewy. Meanwhile, flavoring, salt, sugar, and garlic powder act as seasonings so that the meatballs are more tasty and reduce the fishy taste of meat. The function of baking powder is to make the dough more chewy and elastic, but don't use too much baking powder because it will make the meatballs break when boiled. Additional raw materials used are purchased from the local market.

3.1.2 Steps to make tuna meatballs

The first step to making tuna meatballs is the preparation of the raw materials. Clean the tuna meat first, then weigh it according to the measure. Other ingredients such as palm flour, tapioca, flavoring, sugar, salt, garlic powder, baking powder, and sodium phosphate are also weighed according to the measure. After the ingredients are ready the next step is to mix all ingredients. Then shapes into balls and boiled the dough. After boiled, drain the meatballs so that the water is reduced. The final step is packing the meatballs and removing the air with a vacuum sealer.

3.2 Total Production Cost

Total production costs are the sum of costs or sacrificial costs incurred by a company

throughout supporting production activities to create goods or services [4]. Companies must determine what costs will be charged so that production activities can take place effectively and efficiently. The calculation of production costs in this research is grouped into two parts, there are fixed costs and variable costs at CV Olan Berkah Sadayana.

3.2.1 Fixed cost

Fixed costs are costs that do not change or are not affected by the volume of production of business increases or decreases [7]. Fixed costs include rent, insurance costs, depreciation, bank interest, and taxes. Depreciation is obtained from investment costs. Investment cost is costs incurred at the start of the business, investment cost in the manufactory industry includes the cost of tools and machines to support production activities. Details of investment cost at CV Olan Berkah Sadayana to produce tuna meatballs can be seen in Table 1.

Investment cost was collected by observations and interviews with the production head of CV Olan Berkah Sadayana. The total investment cost for processing tuna meatballs is IDR 289,060,000. The tools and machines listed are the tools and machines used to produce tuna meatballs. Investment costs are then becoming depreciation costs for production tools and machines. Depreciation is defined as the part of the investment (asset) that has decreased as a result of use in a certain period. The amount of depreciation will be entered as a fixed cost. The calculation of depreciation can be seen in Table 2.

The result of calculating the investment cost depreciation for one year is IDR 21,679,500. In this study, depreciation is a fixed cost. This means that in one production of tuna meatballs, the fixed cost incurred is IDR 72,265. The amount of depreciation cost is influenced by several factors such as the price of tools and machines, residual values, and the benefit period or technical age of the investment.

3.2.2 Variable cost

The calculated variable costs are all costs that contributed to the production of tuna meatballs at CV Olan Berkah Sadayana. The amount of output produced is influenced by the number of variable costs used. Variable costs can change every time because raw material prices are not

always constant. Variable costs used include the cost of main raw materials, additional raw material costs, packaging costs, electricity, water, gas, and labor salaries. Details of the variable costs of making tuna meatballs for one product can be seen in Table 3.

The total variable cost of producing tuna meatballs per processed production is IDR 6,555,720. In a month CV Olanhan Berkah Sadayana actively produces for 25 days, so the total variable cost for production for a month is IDR 163,893,000. These results are obtained from the multiplication of the one-time variable cost of production with 25 active working days. The estimated variable costs for a year to produce meatballs are around IDR 1,966,716,000. This variable cost can change in every period of time because it is influenced by production volume and price fluctuations.

3.2.3 Total cost

The total cost of production is the sum of the total fixed costs and total variable costs. The total fixed cost incurred by CV Olanhan Berkah Sadayana to produce tuna meatballs in a year is IDR 21,679,500 and the total variable cost in a year is IDR 1,966,716,000 so in a year the total cost incurred is IDR 1,988,395,500. The calculation of the total production costs can be seen in Table 4.

The data shows that the total cost incurred to produce tuna meatballs per one processed production is around IDR 6,627,985. The accumulated total cost for production in a year is around IDR 1,988,395,500. This total production cost is used to calculate the profit that will be obtained by CV Olanhan Berkah Sadayana. Analysis of total production costs is carried out to determine the extent to which benefits are obtained from the use of these costs. In a business feasibility study, benefits are defined as the probability of business failure risks consisting of opportunity cost, start-up cost, and cost of capital [8].

3.3 Revenue of Tuna Meatballs

Revenue is calculated using the formula the revenue is equal to the product selling price multiplied by total production within a certain period of time [6]. Estimated revenue to be obtained can be calculated in one production, a month, and a year. Revenue from the sale of tuna meatballs is described in Table 5.

The estimated revenue that CV Olanhan Berkah Sadayana will receive in one production of tuna meatballs for small sizes is around IDR 1,050,000, for medium sizes is around IDR 2,750,000, and for large sizes is around IDR 3,900,000. The total income that will be obtained from one production of tuna meatballs at CV Olanhan Berkah Sadayana is IDR 7,700,000. The estimated revenue for tuna meatballs for a year is around IDR 2,310,000,000. The amount of revenue earned is influenced by several factors such as the amount of production output, the prevailing price, the number of products sold, and production optimization [9].

Revenue becomes a component for calculating company profits. If total revenue is higher than total production costs or denoted by $TR > TC$, the product definitely earns profits. The result is CV Olanhan Berkah Sadayana got profit from the sales of tuna meatball products. To increase the revenue of the business there are several efforts that can be implemented in the company including upgrading work productivity, working hours, and capital, and using production factors efficiently and effectively [10].

3.4 Profitability

Profit is the difference between revenue and the total cost of production [11]. The main purpose of making a company is to gain a profit. The total income of CV Olanhan Berkah Sadayana from tuna meatball products per year is IDR 2,310,000,000 with a total annual production cost of IDR 1,988,395,500, so the profit earned is IDR 321,604,500. The calculation of profits from the sales of tuna meatballs is presented in Table 6.

The results of the calculations show a positive value, which means that CV Olanhan Berkah Sadayana gets a profit from selling tuna meatballs. The profit calculation results show that in one production, the company can earn a profit of IDR 1,072,015. And if it is accumulated over a year of producing tuna meatballs, the company will get a profit of IDR 321,604,500. Profits of the company can be used for business development such as expanding production areas, upgrading the variety of processed products, expanding the marketing branch, as well as improving infrastructure to support production.

Furthermore, to see how far the company is in earning profits, it can be represented by the percentage of profits received. The percentage of profits obtained is calculated by the profit formula

divided by total revenue and then multiplied by 100%. The percentage of profit generated by tuna meatball products is 13.92%. The profit received by CV Olahan Berkah Sadayana shows that the tuna meatball business is feasible to continue.

Table 1. Investment costs of tools and machines

No.	Investment	Qty	Price/unit	Total Price
1	Meat grinder	1	40.000.000	40.000.000
2	Mixer machine	2	70.000.000	140.000.000
3	Meatballs maker machine	1	23.000.000	23.000.000
4	Meatballs stew tools	2	15.000.000	30.000.000
5	Big industrial fan	4	6.000.000	24.000.000
6	Small industrial fan	1	800.000	800.000
7	Vacuum Sealer	2	1.500.000	3.000.000
8	Big freezer	1	12.000.000	12.000.000
9	Small freezer	5	3.000.000	15.000.000
10	Container	21	60.000	1.260.000
Total Investment cost				289.060.000

Table 2. Depreciation of investment cost

No.	Investment	Total price	Residual value	Technical age	Depreciation
1	Meat grinder	40.000.000	16.000.000	8	3.000.000
2	Mixer machine	140.000.000	56.000.000	8	10.500.000
3	Meatballs maker machine	23.000.000	9.200.000	8	1.725.000
4	Meatballs stew tools	30.000.000	12.000.000	8	2.250.000
5	Big industrial fan	24.000.000	9.600.000	8	1.800.000
6	Small industrial fan	800.000	320.000	8	60.000
7	Vacuum Sealer	3.000.000	1.200.000	8	225.000
8	Big freezer	12.000.000	4.800.000	8	900.000
9	Small freezer	15.000.000	6.000.000	8	1.125.000
10	Container	1.260.000	504.000	8	94.500
Depreciation/year				21.679.500	
Depreciation/month				1.806.625	
Depreciation/production				72.265	

Table 3. Variable cost for one production of tuna meatballs

No.	Variable cost	Unit	Qty	Price/Unit	Total price
1	Tuna loin	Kg	120	35.000	4.200.000
2	Palm flour	Kg	100	10.000	1.000.000
3	Tapioca flour	Kg	20	12.000	240.000
4	Flavoring	Kg	3	33.000	99.000
5	Salt	Kg	7	12.000	84.000
6	Sugar	Kg	5	13.500	67.500
7	Garlic powder	Kg	0.2	34.000	6.800
8	Baking powder	Kg	0.08	24.000	1.920
9	Sodium phosphate	Kg	0.02	125.000	2.500
10	Ice cube	Kg	70	200	14.000
11	Packaging	Pcs	700	100	70.000
12	Electricity	Day	1	80.000	80.000
13	Labor salary	Person	6	92.000	552.000
14	Gas cylinders	Pcs	6	23.000	138.000
Total variable cost					6.555.720

Table 4. Total cost to produce tuna meatballs

No.	Production cost	One processed	A month	A year
Fixed cost				
1	Depreciation	72.265	1.806.625	21.679.500
Variable cost				
1	Tuna loin	4.200.000	105.000.000	1.260.000.000
2	Palm flour	1.000.000	25.000.000	300.000.000
3	Tapioca flour	240.000	6.000.000	72.000.000
4	Flavoring	99.000	2.475.000	29.700.000
5	Salt	84.000	2.100.000	25.200.000
6	Sugar	67.500	1.687.500	20.250.000
7	Garlic powder	6.800	170.000	2.040.000
8	Baking powder	1.920	48.000	576.000
9	Sodium phosphate	2.500	62.500	750.000
10	Ice cube	14.000	350.000	4.200.000
11	Packaging	70.000	1.750.000	21.000.000
12	Electricity	80.000	2.000.000	24.000.000
13	Labor salary	552.000	13.800.000	165.600.000
14	Gas cylinders	138.000	3.450.000	41.400.000
Total		6.627.985	165.699.625	1.988.395.500

Table 5. Revenue of tuna meatballs

Size	Output (Pcs)	Selling price	Revenue		
			A day	A month	A year
Small	150	7.000	1.050.000	26.250.000	315.000.000
Medium	250	11.000	2.750.000	68.750.000	825.000.000
Big	300	13.000	3.900.000	97.500.000	1.170.000.000
Total			7.700.000	192.500.000	2.310.000.000

Table 6. Profit of tuna meatballs

No.	Information	A day	A month	A year
1	Total Revenue	7.700.000	192.500.000	2.310.000.000
2	Total Cost	6.627.985	165.699.625	1.988.395.500
	Profitability	1.072.015	26.800.375	321.604.500

4. CONCLUSION

Based on the results of the research it can be concluded the total cost for producing tuna meatballs in a year is IDR 1,988,395,500. Revenue obtained from product sales amounted to IDR 2,310,000,000. So that the profit from the sale of tuna fish balls obtained by CV Olanah Berkah Sadayana is IDR 321,604,500. The profit received by CV Olanah Berkah Sadayana shows that the tuna meatball product is feasible to be continued.

CONSENT

As per international standards or university standards, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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