

# Revenue Analysis on Shredded Spiced Fish Product

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## Abstract

Fish is one source of food that has high protein content. Diversification of processed fish products has been widely found. One of the innovations in the development of processed fish products is shredded spiced fish. Shredded spiced fish with contemporary packaging is expected to attract consumers to consume healthy and nutritious processed fish. Shredded spiced fish can also potentially be functional food. The content of fish and multi-spices in shredded meat have high protein and natural antioxidants so that it has the potential to become instant food by serving it very easily, quickly, can be consumed anytime and anywhere. With the many advantages of shredded spiced fish products, it is necessary to conduct a revenue analysis in order to find out whether the processing of shredded spiced fish is feasible to be developed and profitable. The business analysis design is reviewed from revenue analysis, break even point (BEP) analysis, and R/C analysis. The income generated from shredded spiced fish in a year is 3.135.645 IDR and in one production process amounted to 219.637 IDR. At the sales level of 561 packs (15 g) of shredded spiced fish at a price of 3.364 IDR business owners will gain break even.

**Keywords:** *Shredded spiced fish, Net Income, Break Even Point, Revenue Cost Ratio*

## 1. Introduction

Fish has become a source of food consumed and needed by humans because fish is a food with high nutritional content. The constituent components of fish meat consist of macronutrients and micronutrients that are important for humans, such as proteins, fats, carbohydrates, vitamins, and minerals. Protein is the largest component in fish, so fish is a potential source of animal protein. Protein in fish ranges from 18 - 20% as the second largest component, besides water content. Protein can also act as a source of energy and contains essential amino acids needed by the human body [1].

In this era of globalization, the way to consume fish has varied. People as consumers tend to live a 3F, Food, Fun, and Fashion lifestyle so that the food industry must follow the changes that exist by continuing to update, innovative, and competitive in following the development of food-related regulations [2]. The number of processed fish products on the market is an

indication that processed fish has been popular and easily accessible. Processed fish products are a form of product diversification that uses fish as a basic ingredient.

One of the innovations in product development with fish is shredded spiced fish. Where, this product have a lot of nutrient and to serve it is very easy, fast, can be consumed anytime and anywhere. Shredded spiced fish with contemporary packaging is expected to attract consumers to consume healthy and nutritious processed fish. The thing that distinguishes this product from other products is the multi-spice mixture, the way of processing without frying, and the use of ranau tilapia. Ranau tilapia is a fish cultivated in the Lake Ranau area, Lumbok Seminung District, the border of West Lampung Regency, Lampung Province, and South Ogan Komering Ulu Regency (OKU Selatan), South Sumatra Province. Ranau tilapia has organoleptic advantages compared to tilapia in general. The use of tilapia ranau with the addition of multi-spices is expected to be able to provide added value. Shredded spiced fish is also expected to be able to become a functional food.

A product is said to be functional food if it is able to provide benefits and affect physiological functions to improve body health so can prevent disease. Functional foods have sensory characteristics in terms of appearance, color, texture, taste presented, and can be accepted by people who consume them, and do not have harmful side effects to the body [3]. This is in accordance with research [4], that shredded spiced fish has sensory characteristics that are preferred by panelists and can provide health for the body. In addition to the high protein content of fish-based ingredients, the presence of multi spices (lemongrass, galangal, bay leaf, turmeric, ginger, onion, garlic, coriander, pepper, and orange leaves) in shredded spices fish can act as a natural antioxidant, antibacterial, and anti-inflammatory. Spices have long been known to be very efficacious, and this activity can be possessed by spices because they contain secondary metabolite compounds, such as phenolics, flavonoids, tannins, and anthocyanins. Therefore, with the many advantages of this product, it is necessary to conduct an income analysis in order to find out whether the processing of shredded spice fish is feasible to be developed and profitable.

## **2. Research Methods**

This research was conducted on shredded spiced fish products with respondents in this study carried out purposively, namely the owner (chairman) and one worker as respondents. This is a consideration that they really understand shredded spice fish products and will provide information related to the research carried out. Data collection is carried out to facilitate the calculation process in research. The required data sources are secondary data and primary data. Secondary data is obtained from information that is indirectly in the form of accounting documents that are recorded and stored. Primary data is obtained directly from the field with the owner (chairman). Data collection techniques are carried out with unstructured interviews as well as documentation. After finding the necessary data, quantitative data is processed and then transferred into the form of tables according to analysis needs, then for testing carried out with cost and revenue analysis.

### *2.1. Cost Analysis*

Cost is the most important part of running a business. Cost is also known as expenditure and the value of sacrifices to obtain goods or services that are useful for the future [5]. When a company wants to make a profit, it must be able to generate revenue that is greater than the amount of costs incurred (capital).

Cost analysis is carried out on the basis of the calculation of fixed costs and variable costs to obtain the total cost of production. Production cost is the sum of all costs associated with the production function or the processing of raw materials into finished products. Production costs can also be used as a determinant of the selling price of a product so as to affect the amount of profit obtained [6].

Stages in the analysis of costs and revenues are carried out with several stages. First, identify fixed costs and variable costs so that the total production cost of shredded spiced fish can found. Second, calculate revenue analysis with total production data and total production costs. Third, calculate the break-even analysis to find out whether the shredded spice fish business is said to be profitable or not. Fourth, calculate the cost of revenue ratio to find out whether the business is feasible or not to be developed.

#### *2.1.1. Net Income*

The net income of a business is the difference between revenue and total cost. Revenue obtained from sales which is reduced by the production costs that have been incurred by farmers in producing. Revenue analysis can be used to determine how successful the production of shredded spice fish and as a benchmark for future situation design. The information-based analysis formula [7].

$$\pi = TR - TC$$

Notes:

$\pi$  = Net Income (IDR)

TR = Total Revenue (IDR)

TC = Total Cost (IDR)

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

Break-even point is an analytical technique to study the relationship between total costs, expected profits and sales volume [8]. Costs in break even point analysis consist of fixed costs and variable costs. These costs can be used as a basis for knowing the break-even point of the company. Break even point analysis can also be used as a tool for business owners in planning for sales and profits. The BEP formula based on information [9].

$$\text{BEP (Production)} = \frac{\text{Total cost}}{\text{Sales Price}}$$

$$\text{BEP (Price)} = \frac{\text{Total cost}}{\text{Total Production}}$$

The result of the calculation of production BEP is expressed in units. Here are the criteria for production BEP (gramme): If BEP Production < Total Production, then the business is in a profitable position. If BEP Production = Total Production, then the business is at the break-even position or not profit/no loss. If BEP Production > Total Production then the business is at a unprofitable.

The result of the BEP calculation is expressed in rupiah units. Here are the BEP price (IDR/gramme) criteria: If BEP Price < Selling Price, then the business is in a profitable position. If BEP Price = Selling Price, then the business is at break-even or no profit/no loss. If BEP Price > Selling Price, then the business is at a unprofitable.

#### *2.1.3. R/C Ratio Analysis*

R/C is also known as revenue cost ratio, to find out whether or not a business is feasible by comparing the level of revenue obtained with the capital that must be spent. R/C is the ratio between total revenue and total cost. The R/C formula is based on information [7].

$$R/C = \frac{TR}{TC}$$

Notes:

R/C = The ratio between revenue and costs

TR = Total Revenue (IDR)

TC = Total Cost (IDR)

Criterion:

R/C > 1, indicates that business are profitabable

R/C = 1, indicates that business are break-even or no profit/no loss

R/C < 1, indicates that business unprofitable

### 3. Results and discussion

#### 3.1. Fixed Cost

Fixed costs are cost during the production period that amount is always fixed or does not change even though the volume of activities or sales changes. This fixed cost is affected by depreciation, where there will be an imposition on the cost of tangible assets, such as production equipment during its useful life [10]. The amount of depreciation cost of the tool is obtained from the calculation results with the formula: (Initial Investment Value – Final Investment Value) / Economic Life. After calculating the depreciation cost of the tool in the process of processing shredded spice fish, it was obtained at 104.355 IDR. The description of fixed costs can be seen on Table 1.

Table 1. Fixed Cost of Shredded Processing Spiced Fish.

Equipment	Total (unit)	Initial Value (IDR)	Final Value (IDR)	Economic Life (year)	Depreciation cost (IDR)
Digital scales	1	24.000	2.400	5	4.320
Bowl	2	24.000	2.400	5	4.320
Wok	2	100.000	10.000	5	18.000
Knife	2	20.000	2.000	5	3.600
Stove	1	300.000	30.000	8	33.750
Plate	5	20.000	2.000	5	3.600
Chopper	1	53.000	5.300	5	9.540
Spatula	2	24.000	2.400	5	4.320
Press tools	1	90.000	9.000	8	10.800
Measuring cup 500 ml	1	5.000	500	5	1.080
Saucepan	1	60.000	6.000	5	10.800
Spoon	3	6.000	600	5	1.080
<b>Total (IDR)</b>		<b>726.000</b>	<b>72.600</b>	<b>63</b>	<b>104.355</b>

#### 3.2. Variabel Cost

Variable costs are costs whose size depends on the least volume of activities. When the greater the volume of product sales, the greater the costs that must be incurred. Variable costs consist of raw material costs and labor costs in the manufacture of products [11]. Variable costs

consisting of the cost of main raw materials include the cost of purchasing tilapia ranau of 1.920.000 IDR per year with the price of tilapia ranau 32.000 IDR and the needs of tilapia ranau per year 60 kg, various spices of 252.000 IDR per year and the need for spices per year is 7 kg, santen of 216.000 IDR per year at a price of santen 18.000 IDR per kg. For more details about the average breakdown of variable costs used in making shredded spiced fish can be seen in the following table.

Table 2. Variable costs of processing shredded fish spices.

Item Name	Quantity/year	Price (IDR)
<b>Variabel Cost:</b>		
- Ranau tilapia	60 kg	1.920.000
- Spices	7 kg	252.000
- Coconut cream	12 kg	216.000
- Packaging	1000 pack	700.000
- Gas	4 tube	72.000
- Employee salaries	2 people	100.000
<b>Total Variabel Cost (IDR/tahun)</b>		<b>3.260.000</b>

### 3.3. Total Cost Production

The total cost of a business is the sum of the total costs, consisting of fixed costs and variable costs. Every business has different total costs, where the total cost of a business is determined by the amount of fixed costs and variable costs. In making shredded spiced fish, the fixed costs obtained are 104.355 IDR and variable costs are 3.260.000 IDR. The total cost obtained can be seen in the following table.

Table 3. The total cost of processing shredded spiced fish.

No.	Description	Price (IDR)
1	Fixed Cost	104.355
2	Variabel Cost	3.260.000
<b>Total Cost (IDR/year)</b>		<b>3.364.355</b>

### 3.4. Revenue Analysis

Revenue is the total value of products sold in a certain period of time multiplied by the selling price measured in rupiah (IDR). The revenue results and total costs can be used as a tool to find out whether the venture is profitable or not. In making shredded spice fish, on average it requires tilapia ranau as much as 60 kg and spices as much as 7 kg to produce 1000 pcs of shredded spiced fish per year. The use of tilapia ranau every 5 kg produces 100 pcs of shredded spiced fish with a net weight of 15 grams. That way, per year shredded spice fish produced as much as 15,000 grams or 15 kg. The results of the calculation of annual income received from the difference between the cost of receipt and the total cost of shredded spiced fish can be seen in the following table.

Table 4. Revenue on Shredded Processing of Spice Fish.

No.	Description	Quantity	Selling Price (IDR)	Price (IDR)
1	Production	1000 (15 g)	6.000	6.000.000
2	Total Cost			3.364.355
<b>Net Income (IDR/year)</b>				<b>2.635.645</b>

The income obtained in making shredded spiced fish is 2.635.645 IDR per year. If production is carried out 100pcs in 1 month, the monthly profit is 219.637 IDR during one production process.

### 3.5. Break Even Point (BEP)

BEP is a condition where the company does not get a profit and does not experience losses. The following is a calculation of the break even point of production on shredded spiced fish.

$$\text{BEP Production} = \frac{\text{Total Cost}}{\text{Sales Price}}$$
$$\text{BEP Production} = \frac{3.364.355}{6.000}$$

$$\text{BEP Production} = 561$$

This means that the break-even point occurs when the shredded spice fish product is 561 pcs. Furthermore, the calculation of BEP prices on shredded spiced fish products is

$$\text{BEP Price} = \frac{\text{Total cost}}{\text{Total production}} = \frac{3.364.355}{1000} = 3.364 \text{ IDR}$$

The value of the production break even point (BEP) shows how much the minimum price that must be achieved by the business to avoid losses. Based on the calculations that have been done, it means that the spice fish shredded business must sell 561 packs of spice fish shredded at a price of 3.364 IDR in order to break even (neither profit nor loss). The amount of product BEP and BEP price obtained is also smaller than the amount of production and selling price of the product so that this business can be said to be profitable. The value of the production break even point (BEP) shows how much the minimum price must be achieved by the business to avoid losses.

### 3.6. R/C Ratio Analysis

Revenue Cost Ratio is a feasibility analysis test with a comparison between total revenue and total costs incurred

$$R/C = \frac{TR}{TC}$$
$$R/C = \frac{6.000.000,00}{3.364.355}$$
$$R/C = 1,78$$

If the  $R/C > 1$ , then the business being run is profitable or worthy of development. The greater the R/C produced, the greater the benefits to business owners. With an R/C ratio of 1.93 means that the number is more than one, the spice fish shredded business is profitable for business owners. The R/C ratio figure shows that for every expenditure for the spice fish shredded business of 100 IDR, the business owner will get revenue at the end of the business of 178 IDR.

## 4. Conclusion

The conclusion obtained that the processing of shredded spice fish is feasible to be developed and profitable for business owners. This is based on the analysis of income found at 2.635.645 IDR. Then, based on the Break Even Point (BEP) analysis, the shredded spiced fish business must sell 561 packs in a year at a price of 3.364 IDR to gain break even. Furthermore, when the Revenue Cost Ratio (R/C) analysis was carried out, it was found that the number 1.78 which means that every expenditure for the shredded spice fish business is 100 IDR, the business owner will get revenue at the end of the business of 178 IDR.

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