

Value added and business feasibility analysis of chili sauce products in Banggae District, Majene Regency

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ABSTRACT

SMEs are expected to grow and compete in products development that have value added to encourage economic sustainability. The value added provided a value to maintaining and enhancing the quality of agricultural products can also add to its economic value by processing it into a product such as chili sauce products. This study aims to find out how much value added is given and the value of business feasibility. The research sample was determined deliberately with the consideration of choosing the entire chili sauce business unit as many as 7 SMEs in Banggae District, Majene Regency which processes chili sauce and has fresh chili mixture ingredients. The data analysis used is a value-added analysis of the estimated value added of the product, labor rewards, rewards for capital and management while the R /C ratio is to see the profit of a business to the costs used and to find out whether the business is feasible. The results showed that there is a value added provided from chili processing in one production is Rp. 356,776.7 / kg so that it can increase the difference between the input price and the selling price of the output which indicates that processing chili into a product can be of high value. The chili sauce business has been efficient because the R /C ratio value of more than one, which is 1.63, means that it can be concluded that this business feasible to be developed.

Keywords:

Value added, Hayami method, Chili, Business feasibility

1. Introduction

Agricultural development strategies that show the direction that agribusiness development is a very important effort to achieve several goals, namely attracting and encouraging the emergence of new industries in the agricultural sector, creating a resilient, efficient, and flexible economic structure, creating value added, increasing foreign exchange receipts, creating jobs, and improving income sharing.

Industrial development is seen as an effort to improve the quality of human resources (among others by increasing their productivity) and their ability to make optimal use of natural resources and other production resources. To each other it must be accompanied by an attempt to expand the scope of the field of human types of activity. The development of the industrial sector is directed at increasing the progress and independence of the national economy and improving the welfare of the people. Increasing efficiency and productivity as well as innovation in producing goods and services that are increasingly value-added and oriented to markets both domestically and abroad to strengthen the structure of the national economy.

The demand for red chili from year to year has increased along with the increase in population and the development of the food processing industry. Chili, whose economic value is high, can increase the income of farmers, and can absorb a variety of labor ranging from cultivation, marketing, breeding and even processing.



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Diversification of processed products is an effort to increase chili consumption by diversifying processed agricultural products. The value added provided in addition to maintaining and adding to the quality of agricultural products can also add to its economic value by processing it into a product. In chili commodities, it is known that it can be processed into chili sauce products. With this business, the value of chili, which was originally not so high, after being processed into chili sauce, provides value added to the chili to be higher when compared to without being processed before being processed into new products.

Andriani et al. [1] reported that chili has been known and cultivated by farmers, both in West Sulawesi, both in wetlands (such as in Mamuju and Polewali Mandar Regencies) or on dry land (such as in Majene and Central Mamuju Regencies). The introduction of various types of hybrid chilies that have high yield potential seems to further spur the attention of farmers to grow chili. However, there are still various obstacles in its management.

Red chili (*Capsicum annum* L.) is one of the horticultural commodities that is classified as an annual. The plant is in the form of a shrub Chili plants have many types of growth and fruit shapes. It is estimated that there are 20 species, most of which live in their home countries. People in general only know a few types, namely large chilies, curly chilies, cayenne peppers and peppers [2]. Besides, Capsaicin in fruit chili peppers is rated good for maintain health the heart also lowers risk of developing COVID-19. It relates to properties of chili fruit as antidiabetic, antihypertensive, and anti-obesity [3].

Businesses engaged in the food sector always direct their business to produce the best products with large profits. This venture can't just happen on its own. The development of competitiveness is important to help businesses/industries to survive in the competition. This chili sauce product aims to create high-quality products so that the profits obtained from this chili are even greater. Industrial activities in Banggae District are still in production because the main ingredients for making this product are quite easy to obtain. This chili product is processed from fresh and healthy chili, then this product also has added value which can be said to be of high value because more and more people are interested in it. This is what encourages researchers to find out more about the chili sauce product business in Banggae District on how value added obtained from chili sauce product in small scale business. This study also elucidates feasibility value gained from this chili sauce business.

2. Materials and Methods

This research was conducted for 3 months, from September to December 2020. The research site in one of the household industries as well as other chili sauce entrepreneurs and production sites are in several villages/neighborhoods in Banggae District. The research sample was determined deliberately with the consideration of choosing the entire chili sauce business unit as many as 7 SMEs in Banggae District which processes chili sauce and has fresh chili mixture ingredients.

The type of data used in this study is primary data, data obtained through direct observation by conducting interviews with managers/business owners and employees who have worked for a long time at the company. Secondary data, data

obtained from the internet, books, theses, journals, and other literature related to this research.

The data analysis used is a value-added analysis of the estimated value added of the product, labor rewards, rewards for capital and management while the R/C ratio is to see the profit of a business to the costs used and to find out whether the business is feasible.

Table 1. Value added analysis of Hayami method

Numb.	Variables	Value
I	Output, Input, and Price	
1	Output (kg)	(1)
2	Input (kg)	(2)
3	Labor input (HOK/hour)	(3)
4	Conversion factor	(1/2)
5	Labor coefficient (HOK/kg)	(3/2)
6	Output price (Rp)	(6)
7	Labor wages (Rp/HOK)	(7)
II	Revenue and Profit	
8	Raw material price (Rp/kg)	(8)
9	Other input donations (Rp/kg)	(9)
10	Output value (Rp/kg)	(10) = (4) × (6)
11	a. Value added (Rp/kg)	(11a) = (10) – (9) – (8)
	b. Value-added ratio (%)	(11b) = (11a)/10 × 100%
12	a. Labor reward (Rp)	(12a) = (5) × (7)
	b. Labor share (%)	(12b) = (12a)/(11a) × 100%
13	a. Profit (Rp)	(13a) = 11a – 12a
	b. Profit rate (%)	(13b) = (13a/11a) × 100%

The commodity value-added formulation is as follows:

$$VA = NP - IC \quad (1)$$

Information:

VA = Value added or value added to the processed products (Rp/kg of raw materials)

NP = Production value is the sale of production products (Rp/kg of raw materials)

IC = Intermediate costs, namely the cost of raw materials and other input costs that support the production process in addition to labor costs (Rp/kg of raw materials)

The data analysis methods used in this study are:

1. Analyzing the revenue can be calculated by using the following formula:

$$TR = Q \times P \quad (2)$$

Information:

TR = Total Revenue (Rp)

Q = Number of Products

P = Product Price

2. Analyzing the business profit of chili sauce

$$\pi = TR - TC \quad (3)$$

Information:

π = Profit (Rp)

TR = Total Revenue (Rp)

TC = Total Cost (Rp)

3. Analyzing Revenue Cost Ratio

$$R/C = \frac{TR}{TC} \quad (4)$$

Information:

R/C = Revenue Cost Ratio

TR = Total Revenue

TC = Total Cost

3. Results and Discussion

3.1. Production Cost

The total cost of production in this chili sauce business includes fixed costs and variable costs. The production costs incurred in the processing of chili sauce per month are Rp. 732,000. Details of production costs can be seen in Table 2.

Table 2. Total cost of chili sauce business for all SMEs

Numb.	Costs	Amount (Rp)
1	Fixed Cost	466,000
2	Variable Cost	1,127,000
Total		Rp. 1,593,000

Costs whose total amount will be the same and remain unchanged even though the quantity of goods produced and sold varies with normal capacity. Included in the fixed costs in the chili sauce business are labor costs and depreciation costs for tools such as pans, stoves, blenders, spatulas, knives, cutting boards. Variable costs include raw material costs, electricity costs, and auxiliary raw material costs.

Even though the fixed costs do not change with changes in production volumes, with significant fluctuations in this volume, they will still change. For example, additional management personnel will be required to control the finished products' quality if its quantity in physical terms significantly increases. Additional storage space may also be required to store that finished product, which will also affect the fixed costs [1].

A significant increase in production volumes will affect the variable costs, not only total costs, which is quite legal and justified, but also the unit costs, that is, the rate of variable costs per output unit. This can happen, for example, due to the strong skill development among the workers directly producing finished products or their elements, which will result in an increase in labor productivity. If these workers receive wages on a time-based basis, which is far from rare in domestic enterprises,

then the labor costs per output unit will be reduced both in time and in cost. For the same reason, the depreciation rate per output unit may also be reduced if depreciation is charged depending on time, and not on production volume. As a result, the rate of variable costs per unit of production will be reduced due to its labor and depreciation components [4].

Table 3. Details of variable cost and fixed cost of chili sauce business

Numb.	Cost Description	Amount (Rp)
Variable Cost		
1	Cost of raw materials	317,000
2	The cost of auxiliary materials	740,000
3	The cost of electricity	70,000
	Total	1,127,000
	Average	161,000
Fixed Cost		
1	Labor wages	68,000
2	Equipment depreciation costs	398,000
	Total	466,000
	Average	233,000

3.2. Revenue

Revenue is the amount of production multiplied by the selling price. Revenue are all costs of the amount of production in one production process of a product multiplied by the selling price of the production or the selling price per cup of packaged chili sauce in each business [5].

Table 4. Revenue of chili sauce production for a month

Numb.	SMEs	Production (kg)	Selling Price (Rp)	Total Revenue (Rp)
1	SME I	75	25,000	1,875,000
2	SME II	55	15,000	825,000
3	SME III	70	25,000	1,750,000
4	SME IV	65	25,000	1,625,000
5	SME V	50	25,000	1,250,000
6	SME VI	70	25,000	1,750,000
7	SME VII	55	25,000	1,375,000
Total		440		10,450,000
Average				1,492,857.14

The revenue of each SMEs is different based on the amount of production and selling price. The more products produced, the greater the revenue could be obtained. The revenue is earned by the company is determined based on changes that occur to the company's cash and debt obtained from various company transactions. So, income is the result of an organization or company selling goods or services to buyers within a certain period [6].

3.3. Profit

Profit is the revenue obtained minus all costs incurred, both variable and fixed costs. Net profit is the profit obtained by the company from various company activities within a certain period. Profit is the goal of a company when carrying out its activities. Which will later be used for various purposes, either by the company,

investors, or company owners. Profits will be used with the aim of improving company welfare and company performance [7].

Table 5. The profit of chili sauce business for a month

Numb.	Description	Amount (Rp)
1	Revenue	10,450,000
2	Total Cost	6,372,000
	Total	4,078,000

The profit received from the business of processing chili into chili sauce in one production process is the result of the calculation of the difference between revenue and total cost. The advantages of each chili sauce business are different, and each has its own advantages. The amount of revenue for each business is determined from the number of products sold in 1 month multiplied by the price of each product. The sum of each revenue from each product by each business is found to be the total revenue. The total revenue of each business under study varies depending on the number of products sold and the price given. The income of each business is in the range of Rp. 825,000,- to Rp. 1,750,000 for 1 month.

3.4. Value-Added Analysis of Hayami Method

The value-added analysis of the chili processing business into instant chili sauce is carried out to determine the amount of value added to the raw materials used in producing chili sauce. The calculation of the value-added analysis of chili commodities into chili sauce can be seen in Table 6.

Table 6. Value-added analysis of Hayami method

Numb.	Variables	Value
I	Output, Input, and Price	
1	Output (kg)	75
2	Input (kg)	4
3	Labor input (HOK/hour)	25
4	Conversion factor	18.75
5	Labor coefficient (HOK/kg)	6.25
6	Output price (Rp)	25,000
7	Labor wages (Rp/HOK)	40,000
II	Revenue and Profit	
8	Raw material price (Rp/kg)	104,000
9	Other input donations (Rp/kg)	7,973.3
10	Output value (Rp/kg)	468,750
11	a. Value added (Rp/kg)	356,776.7
	b. Value-added ratio (%)	76.11%
12	a. Labor reward (Rp)	250,000
	b. Labor share (%)	70.07%
13	a. Profit (Rp)	106,776.7
	b. Profit rate (%)	29.93%

The average production or output for one production process is 75 cups per production with the use of raw materials or inputs on average of 4 kg. The labor calculated in this study is all labor that plays a role in the process of processing chili sauce with a labor wage of 40,000 in a month. The conversion factor is calculated based on the division between the amount of output produced and the raw

materials used. The conversion result is 18.75. The labor coefficient is obtained from the ratio between the number of working days and the processed raw materials. Then the calculation results obtained by the labor coefficient are 6.25. The price of chili sauce in marketing is IDR 25,000 per cup. The input price of raw materials for production is Rp. 104,000 per kg. With the contribution of other inputs amounting to Rp 7,973.3 per kg obtained from auxiliary materials divided by the amount of output. In accordance with Julitasari et al. [8] finding's, one of the uses of calculating value added is to measure the number of services to the owner of the production factor. In essence, value added is the value of production with raw materials and supporting materials used in the production process.

3.5. Business Feasibility Analysis of Chili Sauce Products

The feasibility of processing fresh chili into instant chili sauce is analyzed using R/C Ratio calculation, namely by comparing the receipts with the total cost. The calculation of such efficiency analysis can be seen in Table 7.

Table 7. Feasibility analysis of chili sauce business for a month

Numb.	Description	Income (Rp)
1	Total Revenue	10,450,000
2	Total Cost	6,372,000
	R/C Total	1.63

Revenue Cost Ratio is a feasibility analysis test with a comparison between total revenue and total costs incurred. The criteria used in this analysis is that if the R/C value is >1 then the business is said to be profitable and feasible, because the amount of income is greater than the amount of costs incurred, and vice versa. The calculation of the results of income analysis at cost (R/C) can be seen as follows:

$$R/C = \frac{10,450,000}{6,372,000}$$

$$R/C = 1.63$$

So, the R/C in the business is 1.63 and it can be said to be profitable and feasible in the business because the value of R/C is greater than 1 and the income is greater than the costs incurred. It is also stated by Kusuma [9], that the development of the Nata de Coco SME business has a good economic potential and is worthy of development, as shown from the calculation of the financial feasibility analysis. In addition to providing benefits for SMEs, this business development can also increase production capacity to meet market demand.

4. Conclusion

The value added provided from chili processing in one production is Rp. 356,776.7 per kg to increase the difference between the input price and the selling price of the output. It can be said that from processing chili into a product per output can be of high value. The chili sauce business has been efficient because the R/C ratio value of more than one, which is 1.63, means that it can be concluded that this business is feasible.

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