



Analysis of Value Added Products of Tenggiri Fish Dried Batagor at PT Hade Bogatama Nusantara, Bandung City, Indonesia

Junianto ^a, M. Fachry Maula ^b, Alifia Ajmala Palsa ^{b*},
Mia Sonia ^b, Kartika Nurezka ^b, Wike Normalisa ^b
and Ezekiel Danovic Raming ^b

^a Lecturer Staff at the Department of Fisheries, Padjadjaran University, Indonesia.

^b Fisheries Study Program Student, Padjadjaran University, Jl. Raya Bandung-Sumedang KM 21, Jatinangor, Sumedang-45363, West Java, 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

Batagor is a typical food from Bandung, West Java - Indonesia. This research aims to 1) analyze the added value of mackerel fillets processed into dry batagor and 2) analyze the marketing of dried batagor by PT Hade Bogatama Nusantara which includes market segmentation, pricing, competitor identification, and promotion. The research method used is a case study. Data collection consists of primary data and secondary data. Primary data was collected using survey methods and direct interviews with the owner of PT Hade Bogatama Nusantara. The interview technique used, namely unstructured interviews, where the interviewer does not ask questions that have been arranged

*Corresponding author: Email: alifia19003@mail.unpad.ac.id;

systematically. Meanwhile, secondary data was obtained from several supporting pieces of literature, such as journals and books. Added value analysis was carried out based on the Hayami method and marketing analysis was carried out descriptively. Based on the Hayami method, the added value of mackerel fillets processed into dry batagor products is Rp. 114.698,19 per kg. The value-added ratio is 59, 74 percent. This dry batagor market segmentation is based on static methods on demographic and geographical groups with the main target being housewives and teenagers. Identifying competitors from the dry batagor product of PT Hade Bogatama Nusantara is very large, rival and substitute competitors. The competition that occurs is based on cost advantage competition and product differentiation. Pricing is based on cost plus pricing. Promotion through online media, namely Instagram, Tiktok, and Facebook.

Keywords: Fillet; competitors; product differentiation; cost advantage; promotion.

1. INTRODUCTION

The city of Bandung has a major attraction in the field of culinary tourism [1]. Some of the typical foods of the city of Bandung which is famous for its savory and delicious taste is batagor. Food made with the basic ingredients of mackerel can captivate all the tongues of its fans and has been available in several other cities in Indonesia.

Mackerel is one of Indonesia's economically important pelagic fish because it has a high protein content and is good for growth. Mackerel contains 76,5% water, 21,4% protein, 0,56% fat, 0,61% carbohydrates, and 0,93% ash content [2]. However, fish nutrition can change if it is not processed properly. One example of processing or diversifying fish products is the dried batagor of mackerel.

Bandung dry batagor is one type of snack that is popular in the city of Bandung. This food is certainly no stranger to society, not just in Bandung, but in various parts of Indonesia. Batagor stands for fried tofu meatballs. This dry batagor can be used as a complementary topping for seblak, meatball aci, and typical Bandung cuanki, by boiling it or dousing it with hot water until soft. One of Indonesia's biggest meatball topping aci and seblak centers is PT Hade Bogatama Nusantara.

PT Hade Bogatama Nusantara was founded in 2011, this PT sells various processed products typical of Bandung flour. Initially, this PT only produced 1 type of processed product, but over time until 2017, this PT expanded the production of processed products from typical Bandung

flour. PT Hade Bogatama Nusantara has expanded shipments to almost all parts of Indonesia.

The research aims to 1) analyze the added value of mackerel fillets processed into dry batagor and 2) analyze the marketing of dried batagor by PT Hade Bogatama Nusantara which includes market segmentation, pricing, competitor identification, on and promotion.

2. MATERIALS AND METHODS

This research was carried out at PT Hade Bogatama Nusantara, located at Jl. Sukamaju, Cipadung Kulon, Kec. Panyileukan, Bandung City, West Java 40614 (Arzela Ruko No. 12, next to Gondangdia Regency 1). The research method used is a case study. Data collection consists of primary data and secondary data. Primary data was collected using survey methods and direct interviews with the owner of PT Hade Bogatama Nusantara. The interview technique used, namely unstructured interviews, where the interviewer does not ask questions that have been arranged systematically. Meanwhile, secondary data was obtained from several supporting pieces of literature, such as journals and books. Added value analysis was carried out based on the method of [3] and marketing analysis is done descriptively.

2.1 Data Analysis

2.1.1 Added value analysis

Method [3] used as a tool for added value analysis as in Table 1.

Table 1. Procedure for Calculation of Value Added by the Hayami Method

No	Variable	Score
I. Output, Input, and Price		
1	Output (Kg)	1
2	Input(Kgs)	2
3	Labor (HOK)	3
4	conversion factor	$4 = \frac{1}{2}$
5	Labor coefficient (HOK/Kg)	$5 = \frac{3}{2}$
6	Output price (Rp)	6
7	Labor wages (Rp/day)	7
II. Acceptance and Profits		
8	Raw material prices (Rp/kg)	8
9	Contribution of other inputs (Rp/kg)	9
10	Output value (Rp/kg)	$10 = 4 \times 6$
11	a. Value added (Rp/kg)	$11a = 10 - 9 - 8$
	b. Value added ratio (%)	$11b = 11a/10 \times 100\%$
12	a. Labor income (Rp/kg)	$12a = 5 \times 7$
	b. Labor share (%)	$12b = 12a/10 \times 100\%$
13	a. Profit (IDR)	$13a = 11a - 12a$
	b. Profit rate (%)	$13b = 13a/11a \times 100\%$
III. Reply to Owners of Factors of Production		
14	Margin (Rp/Kg)	$14 = 10 - 8$
	a. Labor Income (%)	$14a = 12a/14$
	b. Contribution of Other Inputs (%)	$14b = 9/14$
	c. Company Profit (%)	$14c = 13a/14$

Source: Hayami et al. 1987 [3]

2.2 Qualitative Descriptive

According to [4] descriptive qualitative research method is a method used by researchers to find knowledge or theory of research at a certain time. The qualitative method is defined as a social science research method that collects and analyzes data in the form of words and human actions and the researcher does not attempt to calculate or quantify the qualitative data that has been obtained and thus does not analyze the numbers [5].

3. RESULTS AND DISCUSSION

3.1 Company Profiles

PT Hade Bogatama Nusantara is a company engaged in the field of flour processing food typical of Bandung which was pioneered by Mr. Ade Hidayat. PT Hade Bogatama Nusantara started as a home industry in 2011 and gradually expanded as a distributor of complementary raw materials for Bandung specialties. At the beginning of production around 2011, PT Hade Bogatama Nusantara only marketed its products in the Bandung area, but as demand and business growth increased, the company expanded its facilities and capacity in 2017. PT

Hade Bogatama Nusantara has been trusted as the distributor of choice by brands of popular food in Indonesia. Brands have established long-term partnerships with PT Hade Bogatama Nusantara.

The advantage of PT Hade Bogatama Nusantara, namely that there is a lot of demand for dry batagor products, even though there is a lot of competition between sellers, resellers, and even factories, dry batagor remains a snack that has a lot of demand because dry batagor can be used as a topping for seblak, aci meatballs, typical Bandung cuanki. is trending at the moment. In addition, PT Hade Bogatama Nusantara is collaborating with the KAI logistics expedition, this is so that it can provide more convenience to consumers and speed up the delivery process easier, and can provide discounts that are quite profitable for consumers.

3.2 Processing Steps for Tengiri Fish Dried Batagor

The following is a flowchart of the mackerel-dried batagor processing process based on the results of interviews with the company owner (Fig. 2).



Fig. 1. PT Hade Bogatama Nusantara Warehouse

Source: Taken by the writer

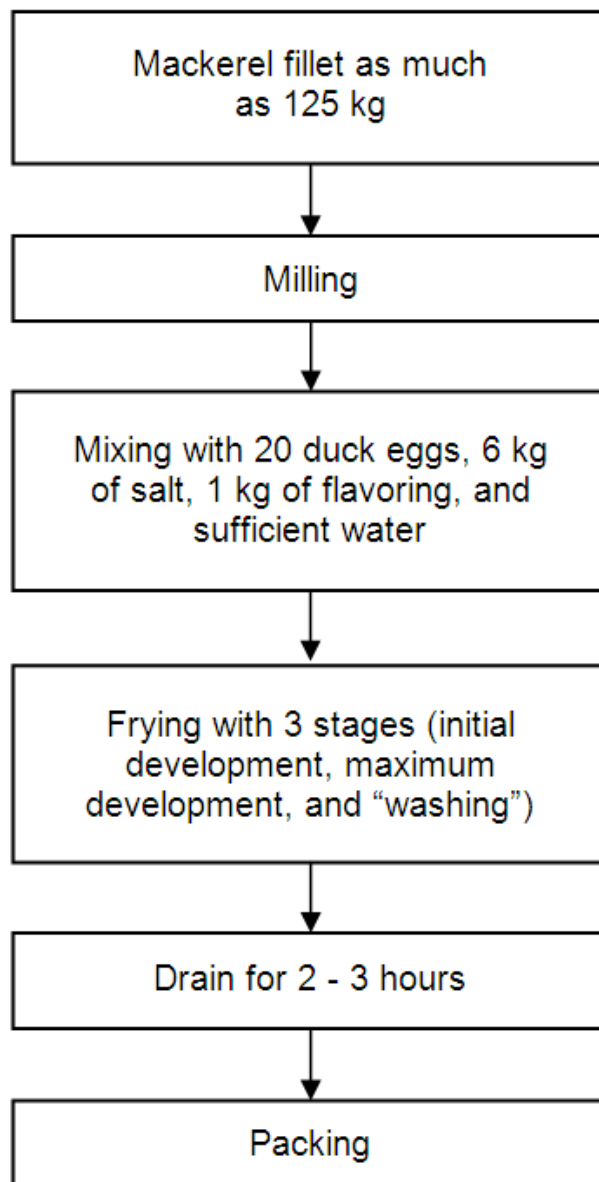


Fig. 2. The process of making mackerel dry batagor

3.3 Raw Material and Supporting Material

The raw material used to process mackerel dry batagor is mackerel fillets as much as 125 kg. The raw material for mackerel fillets is obtained from the Ciroyom Market for Rp. 60.000/kg. Mackerel fillets of 125 kg are used for one production. In one-time production costs incurred for raw materials amounting to Rp. 3.125.000. According to the owner of PT Hade Bogatama Nusantara, the quality of the mackerel fillets affects the texture and output produced from the mackerel-dried batagor.

The supporting materials needed in processing mackerel fish fillets into dry batagor consist of 250 kg of wheat flour, 100 kg of oil, 20 duck eggs, 6 kg of salt, 1 kg of flavoring, and enough water. The use of electricity in this industry requires a power of 352,08 kWh per day or equivalent to Rp. 374.542 per day. Apart from electricity, there is also a cost for packaging, namely 1.200 pieces of plastic with a unit price of Rp. 150. Thus, the total price required for supporting materials is Rp. 5.190.542,704.

3.4 Added Value Analysis

Fishery processing aims to increase the added value of domestic fishery products. In this case, an analysis of added value was carried out to see the addition obtained from processing mackerel into dried mackerel batagor at PT Hade Bogatama Nusantara. The calculation method for seeing the addition of this value uses the Hayami procedure. The results of calculating the added value of mackerel dry batagor products can be seen in Table 2.

The results of the added value analysis using the Hayami method in Table 2 explain that the dry batagor output from PT Hade Bogatama Nusantara in one production run is 300 kg. With the input used in one product that is equal to 125 kg. Judging from the value of the resulting conversion factor that is equal to 2,4. The number of workers at PT Hade Bogatama Nusantara is 12 people, namely 6 men and 6 women. Each worker has their tasks such as printing, frying, packing, etc. The wage system here is per day, the wages for men and women are differentiated according to the weight of the work. For male workers, PT Hade Bogatama Nusantara pays Rp. 100.000/day, women workers are given a wage of Rp. 75.000/day. The resulting labor is 10,8 with a labor coefficient of 0,0864, and the labor wage issued by PT Hade

Bogatama Nusantara for workers is Rp. 1.050.000/day. Based on calculations, it was also found that the output price of this dried batagor mackerel product was Rp. 80.000/kg. This price refers to the cost-plus pricing method.

PT. Hade Bogatama Nusantara uses Cost Plus Pricing in calculating the selling price. Garrison et al. [6] stated that cost-plus pricing is the process of determining the selling price by calculating the production cost per unit, deciding how much profit is desired, then determining the selling price. The steps used to determine the total cost of the product are then determined by fixed costs and variable costs. The total cost is then divided by the number of units to produce the total unit cost. The final step is to multiply the markup percentage to get the cost of sales and the company's profit margin.

The price of the main raw material, namely mackerel, is Rp. 60.000/kg, with other input contributions of 17.301,81/kg. The output value generated from the processing of this dry batagor is Rp. 192.000/kg. The added value obtained from PT Hade Bogatama Nusantara's dry batagor is Rp. 114.698,19 per kilogram where the value is obtained from the output value minus the price of raw materials and other input industries from the added value produced. It can be seen that this dry batagor gives a positive value according to the statement of [3] that if added value > 0 then the processing business provides positive added value (+). The resulting added value ratio is by calculating the added value divided by the output value multiplied by 100%, the value-added ratio is 59,74%. It is known that the business provides positive added value (+) and is classified as high. This is supported by the statement [7] that if the added value ratio is > 40%, then the processing business has high added value.

Labor income per kilogram, namely Rp. 90,720 with a workforce share of 47%. The profit in one production of dry batagor is Rp. 23.978,19 with a profit rate of 20,91%. PT Hade Bogatama Nusantara's dry batagor gets a margin of Rp. 132.000/kg resulting from the difference between the output value and the raw materials used in the production process. The resulting labor income is 68,73%, the value of the contribution of other inputs generated is 13,11% and the profit earned by PT Hade Bogatama Nusantara is 18,17% where the things that influence this profit are the price of raw materials, the contribution of other inputs and labor in the production process.

Table 2. The results of the analysis of added value to the tenggiri fish dried batagor product of PT Hade Bogatama Nusantara with the Hayami method

No	Variable		Score
I. Output, Input, and Price			
1	Output (Kg)	1	300
2	Input(Kgs)	2	125
3	Labor (HOK)	3	10,8
4	conversion factor	$4 = \frac{1}{2}$	2,4
5	Labor coefficient (HOK/Kg)	$5 = \frac{3}{2}$	0,0864
6	Output price (Rp)	6	80000
7	Labor wages (Rp/day)	7	1050000
II. Acceptance and Profits			
8	Raw material prices (Rp/kg)	8	60000
9	Contribution of other inputs (Rp/kg)	9	17301,81
10	Output value (Rp/kg)	$10 = 4 \times 6$	192000
11	a. Value added (Rp/kg)	$11a = 10 - 9 - 8$	114698,19
	b. Value added ratio (%)	$11b = 11a/10 \times 100\%$	59,74
12	a. Labor income (Rp/kg)	$12a = 5 \times 7$	90720
	b. Labor share (%)	$12b = 12a/10 \times 100\%$	47
13	a. Profit (IDR)	$13a = 11a - 12a$	23978,19
	b. Profit rate (%)	$13b = 13a/11a \times 100\%$	20,91
III. Reply to Owners of Factors of Production			
14	Margin (Rp/Kg)	$14 = 10 - 8$	132000
	a. Labor Income (%)	$14a = 12a/14$	68,73
	b. Contribution of Other Inputs (%)	$14b = 9/14$	13,11
	c. Company Profit (%)	$14c = 13a/14$	18,17

3.5 Market Segmentation

According to [8] market segmentation is a process of grouping the total market which is defined as heterogeneous into groups or segments that have something in common in terms of needs, wants, behaviors, and/or responses to the program marketing specific. The market segmentation for dried mackerel batagor products is static because it does not refer to dynamic community behavior. In this static market segmentation, there are two related variables, namely segmentation based on geography and demographics. This geographic segmentation refers to a particular area, be it a city, country, region, and so on. Meanwhile, demographic segmentation refers to grouping demographic units based on age, gender, income, occupation, and so on. The marketing of dried mackerel batagor products tends to focus on demographic segmentation because the targets are entrepreneurs who have baso aci products, outlets, developing UMKM,

and housewives. The types of market segmentation are based on objectives to provide convenience in determining segmentation [9].

3.6 Competition Basis

According to [10] in competition, we know the term "competitor" namely companies that produce or sell goods and services that are the same or similar to the products we offer. Competitors or companies can be categorized as strong competitors and weak competitors or some close competitors that have the same product or have sim products. The product of dried mackerel batagor at PT Hade Bogatama Nusantara refers to the basis of cost advantage competition and product differentiation. Excellence is the financial element of the process, which starts from producing the value offered at a low cost, so that it can provide greater revenue per unit for the same market price, while differentiation is the relative superiority of the value offered to the organization's customers, for one or more



a. Instagram



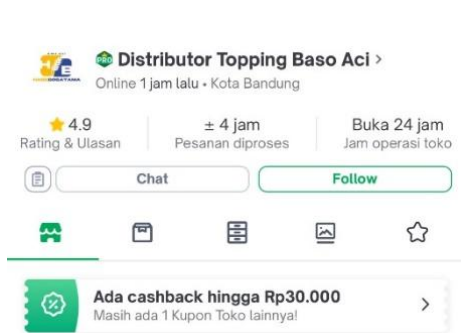
b. Tiktok



c. Whatsapp



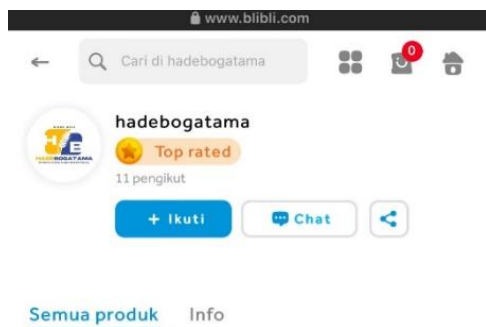
d. Shopee



e. Tokopedia



f. Lazada



g. Blibli



h. Bukalapak

Fig. 3. Online marketing place for mackerel dried batagor products

Source: Biolinky.co/hadebogatama

organizations several things when compared to those offered by competitors. This company is categorized based on cost advantage competition because this company has an advantage over other competitors by delivering greater value, lower prices, or by providing more appropriate benefits even at high prices. Likewise with the basis of product differentiation competition, because the products offered have differences from other competitors' offerings, thus making the products at PT Hade Bogatama Nusantara special. Because of this, several competitors choose to be affiliated with PT Hade Bogatama Nusantara.

3.7 Promotions

Promotion is what companies do to communicate the benefits of the product and as a tool to influence consumers in purchasing activities or using services on needs [11]. The mackerel dried batagor products at PT Hade Bogatama Nusantara are marketed through various social media, namely Instagram, Tiktok, Whatsapp, and marketplaces, such as Shopee, Tokopedia, Lazada, Blibli, and Bukalapak. In addition, you can also go offline by coming directly to the PT Hade Bogatama Nusantara office address. The purpose of promotion is for awareness, knowledge, likeability, motivation, belief, image, remembering, and loyalty.

4. CONCLUSION

Based on the Hayami method, the added value of mackerel fillets processed into dry batagor products is Rp. 114.698.19 per kg. The result of value added comes from the output value minus the contribution of other inputs minus the raw material prices. The value-added ratio is 59,74 percent. According to [3], PT Hade Bogatama Nusantara's processing business provides positive added value because the value-added ratio is > 0 . The value-added ratio at PT Hade Bogatama Nusantara is high because the percentage value is $> 40\%$. To produce batagor mackerel products, raw materials are needed, namely 125 kg of mackerel for Rp. 25.000/kg and other supporting raw materials, which are priced at Rp. 22.701,81/kg. The coefficient of labor required for the production of dry batagor processing is 10,8 with 6 male and female workers each.

This dry batagor market segmentation is based on static methods on demographic and geographical groups with the main target being

housewives and teenagers. Identifying competitors from the dry batagor product of PT Hade Bogatama Nusantara is very large, rival and substitute competitors. The competition that occurs is based on cost advantage competition and product differentiation. Pricing is based on cost plus pricing. Promotion through online media, namely Instagram, Tiktok, and Facebook.

COMPETING INTERESTS

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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