



# Value-added Analysis and Marketing of Fish Otak-Otak “Selaras”

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## Authors' contributions

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

## Article Information

DOI: 10.9734/AJEBA/2022/v22i24898

## Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/93548>

**Original Research Article**

**Received: 15/09/2022**  
**Accepted: 19/11/2022**  
**Published: 07/12/2022**

## ABSTRACT

The goal of this research is to study the added value of processing mackerel into otak-otak in “Otak-Otak Selaras” at Cicendo, Bandung and to analyze its market. This study is done at one of the producers processing mackerel fish in Cicendo, Bandung City, West Java Province. The method used in this research is the case study method. Primary data is used in this research. Location is chosen through the purposive method, where it is chosen on purpose beforehand. Respondents in this research are also determined through the purposive sampling method, where key informants are chosen on purpose beforehand and they are able to grant information that align with the goal of this research. The data collection methods used in this research are interviews, logging, and observation. Data analysis used in this research is the quantitative descriptive analysis method. This research has found that mackerel, if processed into a product, can give a positive value and added value that is bigger than 0, which means that this business is worth running. Otak-otak, the

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processed product, has an added value of Rp 100,749 / kg and an added value ratio of 55%. The added value and profit of the industry is determined largely by the production cost spent. The market segmentation of "Otak-Otak Selaras" is geographical. The competitors identified are rival and substitute competitors. Pricing by "Otak-Otak Selaras" is done by using the Cost-Plus Pricing. Promotion used by this business is done through placing commercials in e-commerce platforms and by placing a banner in front of the store.

*Keywords: Cost-plus pricing; promotion; e-Commerce; profit range; business; diversification.*

## 1. INTRODUCTION

Indonesia's fishery sector has very large potential that has not been utilized optimally. A large number of Indonesia's fishery commodities have high economic values, but in order to maximize its use, knowledge to utilize it correctly is needed [1]. Fish and fishery products are natural resources that can greatly benefit human life. Advantages of fishery products include high protein levels, unsaturated fatty acid content, and vitamin and mineral content (Rabiatul 2014 as cited [2]). Processing and preserving fish are important steps in the fishery industrial chain. Processing itself is done with the purpose of extending the durability, widening distribution, and diversifying fish products. Product diversification is defined as the development of a product in order to obtain a new form for it with a higher economic value and a higher value than its production cost. A variety of processed fish products need to be developed to become alternatives in improving consumption habits in Indonesia. Diversification is also expected to be a point of attraction in the community for people to consume more healthy, nutritious, and high quality products with a reasonable price [3].

Another goal of processing fish is to give added value to the finished product [2]. Added value is one of the most important indicators of a company's economic activity because it reflects the economic strength of that particular company (Sutopo, et al. 2014; Kusuma et al. 2016 as cited [4]). The benefit of a natural resource can also be determined through the value of the product it creates. The higher the value of the product it creates, the higher the economic benefit obtained [5]. One fishery commodity that has a large potential to be utilized is the mackerel fish. Mackerels (*Scomberomorus commerson*) are pelagic fishery resources with a high economic value and are often used to fulfill demands inside Indonesia or exported to other countries [6,7]. Mackerels are characterized by their white meat and high actin and myosin content. Mackerel contains 76.5% protein, 21.4% fat, 0.56%

carbohydrates, and 0,93% ash content. Mackerels are often processed into various products that can be marketed. One form of mackerel diversification is processing it into otak-otak.

Otak-otak is a form of fishery diversification product that is widely distributed in Indonesia. Otak-otak has a great taste and a relatively cheap price, which makes it a favorite among Indonesians. The main ingredient used to make otak-otak is fish although other ingredients are then also added to form the dough. To obtain otak-otak with good quality, a combination of the right products is needed. The most widely known otak-otak product is made from mackerel fish. Other ingredients used to make otak-otak include tapioca flour and seasoning such as salt, sugar, coconut milk, onion, and pepper. The preparation of otak-otak is commonly not different from other surimi based products, such as meatball, nugget, fish, and pempek [3,1]. Otak-otak production has been made at both an industrial and household scale [3]. One of the household scale productions of otak-otak in Bandung is done at "Otak-Otak Selaras" in the Cicendo district. The goal of this study is to find out the added value of processing mackerel fish into otak-otak in "Otak-Otak Selaras", Cicendo district, Bandung city, and to analyze its market.

## 2. MATERIALS AND METHODS

This research is done at one of the production sites of mackerel fish processing located at Cicendo, Bandung City, West Java Province. The method used in this study is the case study method. The data used in this study is primary data. Location is chosen through the purposive method, where location is chosen on purpose beforehand. Respondents in this study were determined through purposive sampling, where key informants were selected on purpose beforehand and were able to provide information that align with the goals of this research. Key informants that were chosen were selected based on their tasks and competences in this

mackerel processing business. Data collections in this research include interviews, logging, and observation. Data analysis. Data analysis used in this research is the quantitative descriptive analysis method.

### 3. RESULTS AND DISCUSSION

#### 3.1 Otak – Otak Selaras

Otak-Otak Selaras is one of the businesses in the field of processing fishery products which was founded in 1964. This business is located on Jalan Pesantren Wetan No.12, Pamoyanan, Cicendo district, Bandung City, West Java.

#### 3.2 Processing Otak - Otak Selaras

The processing process of otak-otak already uses technology with self-made equipment. The tools used already use a system that works

automatically and produces quality of otak-otak. The stages of the process of processing Mackerel into otak-otak can be seen in the following picture (Fig. 2)

The fish used is mackerel which is purchased from the market as much as 32 kg per day. After that, the mackerel is washed using clean water to remove dirt and remove blood and mucus until clean. Then the cleaned mackerel is ground using a self-made grinding machine. Grinding aims to smooth the fish meat so that when it is mixed with other ingredients it becomes easier. After grinding, mix the mackerel meat with other ingredients such as sago and spices until evenly distributed. Next, after the dough is finished, enter it into the printer and wrap it using banana leaves. The last stage is roasting the otak-otak that has been printed and wrapped in leaves until cooked. Packaged products that are ready to be marketed can be seen in Fig. 1.

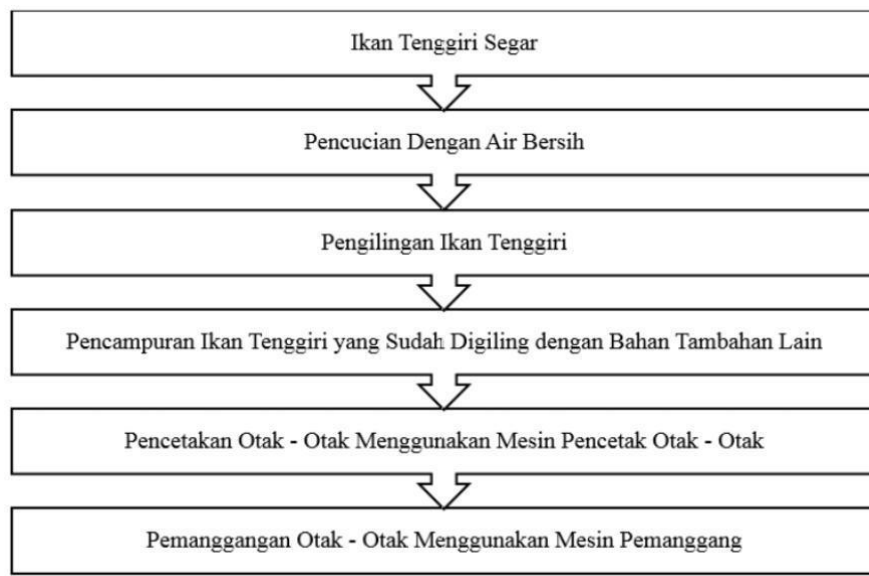


Fig. 1. Processing Otak - Otak Selaras



Fig. 2. Otak - Otak Selaras

### 3.3 Value Added Analysis

Value added analysis using the Hayami method has been widely carried out in research on fishery products, one of which is research conducted by Sa'dah (2021), regarding the Analysis of Added Value of Processing Mujair Fish into Salted Fish in Weduni Village, Deket District, Lamongan Regency. To find out the results of the added value analysis Otak - Otak Selaras can be seen in the following Table 1.

Output or production of otak-otak processing is 30,4 kg. Meanwhile, the amount of mackerel used during processing is 32 kg. There are three people working at Otak-Otak Selaras with a HOK value of 3. The price of raw mackerel fish used in each production is Rp 75.000 / kg. Other inputs for the production of otak-otak, such as tapioca flour and other seasoning, have a total price of Rp 225.000. That cost is then used to process 32 kg of mackerel fish, so that every kilogram of product processed has a cost of Rp 7.031.

The results of the value-added analysis in Otak-Otak Selaras show that the conversion factor of otak-otak products is 0.95, which means that every 1 kg of raw material produces 0.95 kg of

otak-otak. The magnitude of the labor coefficient is 0.09, which means that every 1 kg of raw materials used requires 0.09 HOK. The price of the brain's output is Rp. 3,700 where the product is packaged with a size of 19 grams. The output value of the otak-otak product is Rp. 3515 per 19 grams. The added value obtained is Rp. 100,749 with a value added ratio of 55%. The labor income given from every 1 kg of raw materials processed is Rp. 7,031 with a percentage share of the workforce of 7%. The advantage of processing mackerel into otak-otak in one production with 32 kg of mackerel as raw material is Rp. 93,718/kg with a profit rate of 93%.

Otak-otak product gets a margin of Rp 107,780/kg, the result is obtained from the difference in the value of output and raw materials or the contribution of the owner's production factors other than the raw materials used in the production process. The margin obtained can affect the percentage of labor income and company profits. The results obtained are 7% of labor income, 7% of other input contributions, and 87% of profits obtained by entrepreneurs.

**Table 1. Value added analysis**

No	Variable	Unit	Score
<b>I. Output, input, price</b>			
1	Output	kg	30,4
2	Input	kg	32
3	Labor	HOK	3
4	Conversion factor		0,95
5	Labor coefficient	HOK/kg	0,09
6	Output price	Rp/kg	192.400
7	Labor wages	Rp/HOK	75.000
<b>II. Revenue and profit</b>			
8	Raw material prices	Rp/Kg	75.000
9	Other Input Donations	Rp/Kg	7.031
10	Output value	Rp/Kg	182.780
11	a. Value added	Rp/kg	100.749
	b. Value added ratio	%	55
12	a. Labor Income	Rp/kg	7.031
	b. Labor Share	%	7
13	a. Profit	Rp/kg	93.718
	b. Profit Rate	%	93
<b>III. Reply to the owner of the factors of production</b>			
14	Margin	Rp/kg	107.780
	a. Labor Income	%	7
	b. Other input contributions	%	7
	c. Entrepreneur's profit	%	87

### 3.4 Market Analysis

#### 3.4.1 Market segmentation

In an effort to provide satisfaction to consumers with what consumers want, companies need to group these consumers or buyers according to their needs and desires. The grouped consumer groups are called market segments, while the grouping business is known as market segmentation [8]. Market segmentation of Otak-otak selaras is geographic market segmentation where geographical segmentation is a grouping of consumers according to the aspect of the consumer's residence.

#### 3.4.2 Competition

**Rivalry among existing firms:** Competition among similar businesses is often the greatest of the five competitive forces. The strategy that can be pursued by a company can only be successful if it provides a competitive advantage over the strategies pursued by competing companies [9]. Otak-Otak Selaras itself has similar product rivals such as Otak-Otak Alew, Otak-Otak Ikan Ny. Bong.

**Threat of substitute product:** In many industries, firms compete fiercely with substitute products in different industries. The existence of substitution creates the highest possible price limit that can be imposed before consumers switch to substitute products. Competitive pressures from substitute products increase when the relative price of substitute products decreases and consumer costs of switching to other products decrease. The way to measure the competitive strength of substitute products is by observing the market share obtained by these products, as well as observing the company's plans to increase capacity and market penetration [9]. For competition in the substitution section, there are products such as meatballs, nuggets, and pempek in the area.

**Threat of new entrance:** The threat of competitors does not only come from old competitors. As the business grows, new competitors emerge. The entry of new players in the industry will make competition tougher which in turn can lead to lower profits. This relates to how easy it is for new entrants to compete in similar business competition. There is a possibility of new entrants from similar businesses but seeing Otak-Otak Selaras This has been in business since 1964 so it will be difficult for newcomers to get consumers.

**Bargaining power of supplier:** Suppliers can use bargaining power against buyers in the industry by raising prices or lowering the quality of the products or services purchased. The company tries to get the lowest possible price with high quality. If the company gets such a supplier, then the company will get good competition compared to competitors. Otak-Otak Selaras in meeting the needs of raw materials of course have suppliers. Otak-Otak Selaras of course have more than one supplier so that if a supplier cannot meet the needs of Otak-Otak Selaras then there are other suppliers who can meet the needs of Otak-Otak Selaras.

**Bargaining power of buyers:** The bargaining power of buyers in the industry plays a role in pushing prices down, as well as providing offers in terms of improving quality or more services, and making competitors compete with each other. This relates to the ability of consumers to be able to influence the selling price of goods so that it becomes lower.

#### 3.4.3 Pricing

Price is one of the most critical elements of a company's marketing strategy. Price is important for marketers, because it is from the price that the company's income and profits are obtained so that the company's survival can be maintained. In determining the selling price of a product, it is necessary to do a market segmentation analysis first. Seeing the environment around the industry Otak-Otak Selaras where there are also several rivals, the method in determining the price uses the method Cost-Plus Pricing. Cost-Plus Pricing is a method in which the determination of the selling price of the product aims to make a profit.

#### 3.4.4 Promotion

Promotion has to be done by a business to ensure that the product that they market can be introduced to more people. If a product sold by a company becomes more well known, then its sale would also increase. In promoting a product, an effective and persuasive message is needed to draw the attention and interest of consumers [10]. Otak-Otak Selaras has two strategies in marketing, which are offline promotions by using banners installed at the front of the shop and online promotion through placing ads in e-commerce and social media platforms, such as Shopee, Tokopedia, and Instagram.

Banners used to promote business need to be able to draw consumer's interest. This is done by placing the banner at a strategic location to promote the business and introduce it to potential consumers. The quality of the banner also needs to be calculated and the material selected must be durable and not easily damaged. Aside from print media such as banners, Otak-Otak Selaras has also promoted their business through online media, such as social media and e-commerce platforms, like Shopee, Tokopedia, and Instagram. Promotion through media social can be done through uploading content that contains store product sales [11]. Aside from promoting products through online media, Otak-Otak Selaras also often sell packages or hampers that are only available on certain holidays, like Lunar New Year. Otak-Otak Selaras have also provided sales promotions, such as Rp 10,000 Cash Back or 15% Cash Back from product purchases. To raise consumer's interest, business owners can simplify requirements for sellers to obtain sales promotion [12].

#### 3.4.5 Efforts that can be done to increase added value

There are various efforts that can be made to increase the added value of Otak-Otak Selaras products, such as adding flavor variants as well as the shape of the otak-otak to make it more varied, in addition to roasting processed forms of otak-otak products, some are fried or boiled/steamed, making packaging and product labels that attract public attention to these otak-otak processed products and can increase sales value and income.

## 4. CONCLUSIONS

Mackerel when processed into a product can provide positive value and added value greater than 0 which means this business is feasible to run. The processed otak-otak product has an added value of IDR 100,749/kg and a value added ratio of 55%. The added value and profits of the fishery product processing industry are strongly influenced by the production costs incurred. The market segmentation of the product "Otak-Otak Selaras" is geographic segmentation. The identified competitors are rival competitors and substitutes. The method of determining the price of the product "Otak-Otak Selaras" is based on Cost-Plus Pricing. Promotions that are carried out are placing advertisements in e-commerce and using

banners or banners installed in front of business stores.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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