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Availability of Fresh Fish Stall Business to Meet Nutritional Needs for Health: A Case Study in Sebulu District, Kutai Kartanegara Regency, Indonesia

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ABSTRACT

Background: A profitability analysis is crucial for assessing a business's ability to generate profit hence, business actors need to respond and make the increase in managing their businesses. If their business is survived they may to meet nutritional needs of the community besides significantly contribute to increasing family income.

Aims: To analyze the profitability of a fresh fish stall business.

Methods: Data collection of research was in July-September 2025, in Sebulu District, Kutai Karatenagara Regency. Samples as respondents were obtained using the purposive sampling method, specifically four respondents, considering that they have the largest businesses with five and more than 5 years, and operate continuously. They are the fresh fish stall traders. To analyze profitability, calculations of Net Profit Margin (NPM), Return on Investment (RoI), Payback Period (PP), and business efficiency (RCR or Benefit Cost Ratio) were used.

Results: The findings reveal that the business achieved a profitability rate of 19.10% for NPM, 29.2% for ROI, and a payback period of 0.59 years.

Conclusion: The fresh fish stall business generates a relatively good profit and has the potential to sustain its operations to meet nutritional needs for health. Furthermore, the business efficiency analysis indicates an R/C ratio value of 1.24, signifying that the business is efficient, as an R/C ratio value greater than 1 denotes efficiency.

Keywords: *Business; Fresh fish; Profitability.*

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1. Introduction

Growth of the nutritious food sector, such as fisheries including its fisheries diversification (Haqiqianysah et al,. 2025), can reflect the state of a community's animal protein consumption. One indicator is the availability of fresh fish stalls in a given area. These stalls need to be proactive in service innovation to become agents of nutritional and health change, even when supportive resources in their region are limited.

Sebulu District in Kutai Kartanegara Regency, particularly Sumber Sari, Mekar Jaya, and Manunggal Daya Villages, is predominantly known for its food crop agriculture and livestock sectors. Aquaculture and capture fisheries are seldom practiced in this area. However, many residents have capitalized on the opportunity to engage in the fisheries sector by selling various types of fresh fish, including marine, freshwater, and brackish water species. The fresh fish sellers in Sebulu District are thus entrepreneurs in this field.

The development of the fresh fish business in Sebulu District encompasses the sale of various types of fresh fish sourced from marine and freshwater capture fisheries, as well as aquaculture. The fresh fish business in this district is quite well-developed and has the potential to become a primary livelihood in the future. This growth is supported by several factors, including relatively high selling prices and strong consumer demand. Despite this, the fisheries potential in Sebulu District remains limited, and the area is primarily known as an agricultural hub. People generally engage in occupations or livelihoods based on the potential of natural resources available in their region. However, natural resources in a given area can be developed into products with economic value precisely because they are not available in other regions.

In economics perspective, the activities of fish traders significantly contribute to increasing family income. This finding is supported by Kurniaty & Fidhiani, (2018), who reported that the income of settled retail traders amounts to IDR10,872,069 per month. Another study by Meidahani et al. (2021) found that the income of retail traders contributes 46.1% to family income, indicating the promising development prospects of the fish marketing business by retail traders, and to continuously support the availability of nutritious food for the local community.

Profitability is a company's ability to generate profit over a specific period (Munawir, 2002). Conducting a profitability analysis is essential to understand the sustainability of a business. The study by Surya & Intyas, (2022) found that the meaning of business is profitable, while the study by Firdaus & Nugroho, (2023) indicated that business profitability tends to be less favorable and inefficient. These indicators suggest that business actors need to respond and make improvements in managing their businesses. As well as, the marketing channels formed impact can also result in increased Cleary operational costs for retailers (Cao et al., 2016).

From a health perspective, fish can fulfill nutritional needs due to its content. This aligns with the findings of Oktawati & Boa (2024) stated that the majority of the population in East Kalimantan agrees that fish is high in protein and contains vitamins and minerals. The research also indicated that an individual's fish consumption depends 82% on the variables of age, income, ethnicity, education, and the availability of fish substitutes in the region.

According to data from the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia, fish consumption levels in East Kalimantan have fluctuated but have shown a relative increase over the last five years (2020–2024), rising from 53.39 to 59.75 kg/capita/year (KKP-RepublicIndonesia, 2025). This indicates that business opportunities in the fisheries sector remain wide open for development, such as marketing activities through easily accessible fresh fish stalls (Figure 1).

To make it easier for the community and ensure the continuous availability of fish for their nutritional needs, researchers are interested in doing the analysis on this initiative that related with profit of the business. Because this business opportunity is very promising in terms of profit predicted, particularly examining the net profit margin (NPM), return on investment (ROI), payback period, and business efficiency (R/C ratio). It is line with the research of Forero-Quintero et al. (2022) that cost-benefit analysis is needed in energy markets, pricing schemes and normative frameworks to maximize their positive impacts.

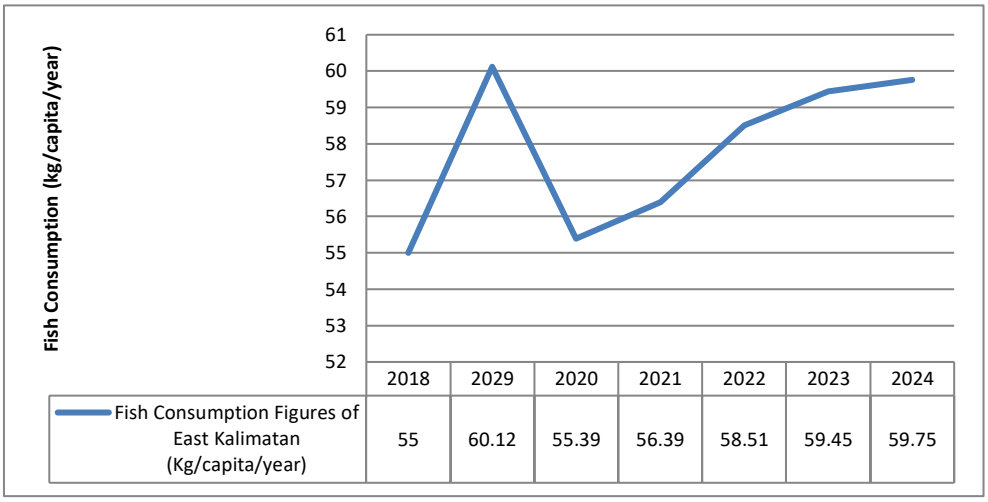

Figure 1. Fish Consumption of East Kalimantan, 2018-2024

To ensure that the fresh fish stall business can be sustained in the long term to serve consumer needs, the objective of the study is to analyze the profitability of a fresh fish stall business in Sebulu district, Kutai Kartanegara. Where, this study really investigates a promising fisheries business in Sebulu district for the livelihood in the future as well. For the increase of service to consumers, upgrading of the number of fresh fish stall has a good chance to be built. Because, according to Cleary et al., (2018) that the presence of an adjacent urban region determines the number of pre-existing stores. Based on observation, there is found several factors to affecting the profitability, namely fish price, fish quality, production cost, and environmental conditions therefore feasibility analysis is important applied at this study.

2. Methods

Study site and time

The study site was in Sebulu District, Kutai Kartanegara Regency, East Kalimantan, Indonesia. Where, Sebulu is the largest district in Kutai Kartanagera regency, amounting to 859.5 km². The research was conducted in July-September 2025.

Sampling technique

The employed sampling method was purposive sampling, where respondents were selected based on specific objectives. This technique is often chosen due to considerations such as time, labor, and budget constraints (Arikunto & Suharsimi, 2010). According to Nasution, (2003), purposive sampling involves selecting samples based on the researcher's judgment, namely as the biggest fish stall in this district and as the wholesale. The samples are fresh fish sellers operating in Sebulu. The research sample consists of 4 individuals out of the 10 other traders in the area. The selected samples are those with the largest businesses, who sell continuously—even daily—and whose businesses have been operating for the past five years.

Measurement and data collection

The data collected in this study consisted of primary data (main data) and secondary data (supporting data). Besides applying questionnaire to get the main data, data collection methods included observation and in-depth interviews as well. About secondary data were from the recent research, statistical report, books, and project report.

Analytical techniques

The data analysis involved examining cost components, calculating revenues from fresh fish sales, and assessing the feasibility of the fresh fish business using indicators such as business efficiency (R/C ratio), net profit margin (NPM), payback period (PP), and return on investment (ROI). Each formula is as follows:

$$\text{RCR} = \frac{Total\ Revenue}{Total\ Cost}$$

$$NPM = \frac{Net\ Profit}{Total\ Incomet} x\ 100\%$$

(Soekartawi, 2006)

$$RoI = \frac{Net\ Profit}{Total\ Investment} x\ 100\%$$

(Rahardi et al., 1999)

$$PP = \frac{Initial\ Investment}{Net\ Profit} x\ 1\ year$$

(Tajarin et al., 2017)

3. Results and Discussion

General condition of research location

Sebulu District is situated within Kutai Kartanegara Regency, covering an area of 859.5 km^2 and encompassing 14 villages. Geographically, it lies near the equator, positioned between 116°39' E - 115°45' E longitude and 0°3' S - 0°33' S latitude. Administratively, it borders as follows.

North : Marangkayu District
East : Tenggarong District
South : Kota Bangun District
West : Muara Kaman District

The population of Sebulu District is recorded at 43,663 people, with a population growth rate of 3.97%, compared to the average of 4.36% for Kutai Kartanegara Regency. Furthermore, the population density in Sebulu is 50.8 per km², while the average for the entire Kutai Kartanegara Regency is 28.97 per km² (BPS-Kukar, 2025). Given this demographic situation, employment opportunities in the fisheries sector, such as fresh fish stall businesses, can be more easily expanded to meet the needs of the population. According to Muliyani et al. (2025), a sufficiently large population can provide a larger workforce, which also needs to be balanced with improvements in workforce quality to achieve high labor productivity.

Livelihoods

Livelihoods play a crucial role in the community's ability to earn income, which significantly impacts their quality of life. Without income, individuals face challenges in meeting their basic needs. In Sebulu District, residents engage in diverse livelihoods, including civil service, private employment, entrepreneurship, farming, and other occupations. Based on field surveys, the dominant occupations among the population are in the private sector (employees in mining and palm oil companies), totaling 4,334 individuals (9.93%). In contrast, the fisheries sector is relatively small, with only 38 individuals (0.09%) engaged either as fishermen or in fisheries-related businesses.

Description of fresh fish stall business

The fresh fish stall businesses in Sebulu District have been established for an extended period, averaging over 5 years. Stall owners are drawn to this enterprise due to the scarcity of fish despite considerable demand. Moreover, the area is renowned as a food hub for rice and other crops, presenting a promising opportunity in the fisheries sector. To market their fish, vendors actively leverage social media platforms such as WhatsApp. According to Muninggar & Aulia, (2020), digital marketing of fisheries products positively influences fish sales.

The region is renowned for its burgeoning coal mining activities, driving up the demand for fish as a dietary staple. Consequently, traders leverage this demand to meet the local population's protein requirements through fish sales. Some traders collaborate with catering services within coal mining companies to distribute fish. The fish sold originate from the fish auction place in Selili (Samarinda Ilir, Samarinda) and local fish cages. Offerings encompass a variety of marine and freshwater species. Predominantly, marine species such as skipjack tuna, bonito, tuna, mackerel, flying fish, milkfish, and shrimp are sold, alongside freshwater varieties including carp, tilapia, and catfish. Monthly fish sales fluctuate based on availability. The average fish sales at the fish stalls in Sebulu District are as follows. This is in line with research by Alfian et al. (2020) that fish traders' stalls sell fresh fish of various sizes and types supplied from TPI (Fish Auction Place/Tempat Pelelangan Ikan).

The amount of fresh fish sold represents fish consumption in Sebulu at the time of the study, which was 4,390 kg/month (Table 1). However, this average sales figure cannot explain the average annual per capita fish consumption, as it was solely sourced from the sales of 4 businesses and did not account for other sources of fish supply or related data. At the very least, the availability of fresh fish stalls in locations accessible to consumers and for their nutritional needs has been met. Based on the survey, these fresh fish sellers' stalls were located along main roads and around densely populated residential areas. The location of these sellers' stalls is considered highly representative.

Table 1. Average Monthly Fish Sales at Fresh Fish Stalls in Sebulu District

No.	Fish Type (kg/month)		Total
	Marine Fish	Freshwater Fish	
1	790	630	1.325
2	395	430	825
3	415	200	615
4	1.070	460	1.530
	2.670	1.720	4.390

Graphically, it is evident that demand for marine fish exceeds that for freshwater fish. Approximately 60.82% of consumer demand originates from marine fish as shown in Figure 2.

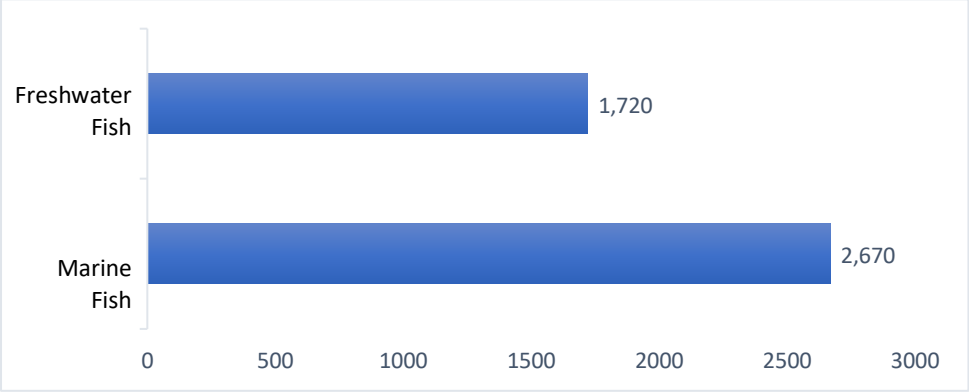

Figure 2. Total Sales of Fresh Fish in Sebulu District (kg/month)

Analysis of fresh fish stall business

A fresh fish stall business will only be sustainable if it is profitable. Kurniawan & Yun (2018) revealed that business can survive in the long term depending on the profit it generates, besides being influenced by market share and business expansion. The analysis of data obtained from 4 fresh fish stall businesses includes calculations of investment costs, fixed and variable expenses, revenue, and business profits. The study reveals that the average investment cost totals IDR.214,465,750. Monthly expenditures average IDR.269,725,285.5, with monthly revenues average of IDR.333,417,500. The average monthly profit generated by the fish stalls amounts to IDR.63,692,214.5. These findings corroborate previous research by Salsabilah, (2021), Zuraidah et al. (2022), and Nurmadina & Fahrati, (2023), underscoring the profitability of fish trading. The profitability of traders is notably influenced by the volume of fish marketed (Aldian & Agustia, 2022). Detailed results of the business analysis are presented in Table 2.

Table 2. Recapitulation of Fresh Fish Stall Business Analysis (IDR. 000 (in thousand) per Month)

No. Resp.	Investment	Cost		Sales (kg)	Revenue	Profit
		Variable	Fixed			
1	222,455	395,850	4,228.12	1,325	512,750	112,671.88
2	211,185	220,460	3,889.74	825	254,600	30,250.26
3	207,404	142,790	2,825.29	615	157,520	11,904.71
4	216,819	303,550	5,307.99	1,530	408,800	99,942
Mean	214,465.75	265,662.50	4,062.78		333,417.50	63,692.21

Business Efficiency Analysis

Based on in-depth interviews with respondents in the field, the current supply of fish in Sebulu is not solely sourced from local aquaculture and fishing activities within the area. It is also supplemented by supplies from nearby regions such as Tenggarong District, Kota Bangun, and Muara Kaman. However, this does not mean that all fish production in Sebulu is distributed solely within the region, as fish produced in Sebulu is also distributed to other areas. Regardless, the demand for fresh fish among the people of Sebulu highlights the importance of widely distributing this commodity to meet local needs, particularly through sales at local stalls. The 2024 fishery production data for Sebulu shows that aquaculture and capture fisheries yielded 1,072.29 tons and 1,196.3 tons, respectively, with freshwater sources (ponds and floating cages) dominating the production (Satudata-Kaltim, 2025).

The efficiency of fresh fish stall businesses is assessed using the total revenue-to-total production costs (total cost) ratio. The calculated ratio is 1.24, indicating that the R/C ratio is > 1, which signifies efficient business operations. In other words, for every IDR.1,000,000 invested in production costs in this business, it generates IDR.1,240,000 in sales revenue. This conclusion is corroborated by (Naoman, 2018), which highlights favorable outcomes from fish marketing endeavours.

1) Net Profit Margin (NPM)

Net profit margin (NPM) analysis assesses the ability of fresh fish stall businesses to generate net profit relative to their total sales revenue. It is a crucial metric in measuring business profitability. The net profit margin (NPM) for fresh fish stall businesses ranges from 7.56% to 24.45%, averaging at 19.10%. This finding is consistent with research by Ali & Pabendon (2019), which reported an average NPM of 12.25% among fish entrepreneurs. These NPM values indicate that for every IDR.1,000,000 in sales revenue from fresh fish, businesses achieve net profits ranging from IDR.75,600 to IDR.244,500, averaging IDR.191,000 per business operator. The NPM is notably influenced by the sales volume attained by fresh fish traders. Higher NPM values signify optimal profitability. Based on these NPM figures, fresh fish marketing businesses demonstrate favorable conditions for generating net profits and earnings for their operators.

2) Return on Investment (RoI)

This analysis evaluates the ability of investment capital in the fresh fish marketing business to generate net profit or returns for business operators. The RoI for the fresh fish marketing business ranges from 5.74% to 50.65%, with an average of 29.20%. This means that for every IDR.1,000,000 invested in this business, it can generate a net profit of IDR.57,400 to IDR.506,500 per month, with an average net profit of IDR290,200 per month. Comparatively, the interest rate on BRI bank deposits in September 2025, for a 1-month term with a deposit amount of IDR.215,000,000 is 2.25%. Consequently, the fresh fish marketing business operated by the four fish stalls is both feasible and profitable.

3) Payback Period (PP)

This analysis aims to measure the time required for the fresh fish marketing business to recover the total investment cost incurred in this venture. The fresh fish marketing business takes between 0.18 and 1.45 years to recoup the investment, with an average payback period of 0.59 years. According to a study by Wulandari et al., (2021), a shorter payback period indicates a strong business due to the relatively quick turnover of capital. The payback period is significantly influenced by the amount of investment cost incurred by the business operators and the net profit obtained. For example, Nita's fish stall invested a substantial amount of IDR.207,404,000, thus requiring a longer time to recover the investment. Additionally, the net profit generated by this stall is relatively small; resulting in a longer payback period compared to the other three fish stalls, which is 1.45 years.

4. Conclusion

The business efficiency value of fresh fish stall in Sebulu is 1.24. This fresh fish stall business provides a good livelihood because profitable and having the potential to sustain its operations. It reflected in a Net Profit Margin (NPM) of 19.10%, a Return on Investment (RoI) of 29.2%, and a Payback Period of 0.59 years. These fresh fish stall businesses are viable for the future, particularly in fulfilling the nutritional and health needs of the Sebulu community.

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Conflict of Interest

There is no conflict of interest to declare. The authors declare no conflict of interest for the results.

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