

FEASIBILITY ANALYSIS OF FISH FLOUR BUSINESS IN KEMBANG DAHLIA SMEs, BUKI DISTRICT, SELAYAR ISLANDS REGENCY

Rahmi Sari¹, Mutemainna Karim^{1*}, Awaluddin¹, Muh. Ayusal Salam¹

¹ Institut Teknologi dan Bisnis Maritim Balik Diwa, Indonesia

Email*: mutemainnakarim@gmail.com

ABSTRACT

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The fish processing industry plays an important role in increasing the added value of fisheries products and strengthening the economic resilience of coastal communities. This study aimed to evaluate the financial feasibility of the fish floss business operated by Kembang Dahlia SME in Buki District, Selayar Islands Regency. The research was conducted from May to July 2025 using a case study approach. Primary data were collected through observations, interviews, documentation, and structured questionnaires, while secondary data were obtained from institutional reports and relevant literature. Financial feasibility was analyzed using investment cost analysis, production cost analysis, Break-Even Point (BEP), Net Present Value (NPV), Benefit-Cost Ratio (BCR), and Internal Rate of Return (IRR). The results showed that the enterprise required an initial investment of IDR 25,170,000 and maintained annual production costs ranging from IDR 43.13 million to IDR 47.60 million during 2022–2024. Annual revenues ranged from IDR 109.50 million to IDR 136.05 million, generating net profits between IDR 66.37 million and IDR 88.45 million. The business consistently produced above the break-even production level, while the selling price remained substantially higher than the break-even price. Financial feasibility indicators demonstrated positive results, including an NPV of IDR 53,648,180, a BCR of 1.35, and an IRR of 123%, all exceeding the accepted investment criteria. These findings indicate that the fish floss business operated by Kembang Dahlia SME is financially feasible, profitable, and sustainable. Strengthening production capacity, improving product diversification, and expanding market access are recommended to enhance long-term business competitiveness and profitability.



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INTRODUCTION

The fisheries sector plays a strategic role in promoting economic growth, food security, employment generation, and rural community development, particularly in coastal regions of developing countries. Globally, fisheries and aquaculture contribute significantly to the livelihoods of more than 600 million people and remain one of the fastest-growing food production sectors (Food and Agriculture Organization [FAO], 2024). Beyond supplying animal protein, fisheries also stimulate the development of downstream industries through value-added processing, thereby increasing product competitiveness and improving household income. Consequently, strengthening small-scale fish processing enterprises has become an important strategy for enhancing the sustainability and resilience of coastal economies (FAO, 2024; World Bank, 2023).

In Indonesia, fisheries represent one of the leading sectors within the national blue economy agenda. The country possesses abundant marine resources supported by extensive coastal ecosystems and one of the world's largest marine biodiversity reserves. According to the Ministry of Marine Affairs and Fisheries (KKP, 2024), Indonesia's capture fisheries production exceeded 7 million tons annually, creating substantial opportunities for

developing fish-processing industries. However, a considerable proportion of fish catches continues to be marketed as fresh products with relatively low economic value. This condition limits income generation for fishers and small-scale processors because fresh fish are highly perishable and vulnerable to price fluctuations during peak harvesting seasons (KKP, 2024).

Value addition through fish processing has therefore become increasingly important in improving the economic performance of fisheries enterprises. Processing not only extends product shelf life but also diversifies seafood products, increases market value, reduces post-harvest losses, and expands marketing opportunities beyond local markets (Martunis et al., 2017). Various processed fish products, including fish floss, fish crackers, smoked fish, fish balls, and fish meal, have demonstrated substantial market potential in Indonesia. Among these products, fish meal has attracted increasing attention because of its relatively simple production process, long shelf life, and wide applicability as an ingredient in aquaculture feed, livestock feed, and other animal nutrition industries.

Small and medium-sized enterprises (SMEs) engaged in fisheries processing have become an essential component of Indonesia's coastal economy. These enterprises provide employment opportunities, particularly for women and fishers' households, while supporting local economic diversification (Hutapea et al., 2016). Community-based processing businesses are generally characterized by labor-intensive production systems, relatively low capital requirements, and the utilization of locally available raw materials. Such characteristics make them suitable for rural development programs aimed at poverty reduction and sustainable livelihood improvement. Nevertheless, despite their economic importance, many SMEs continue to face significant constraints related to limited capital, inefficient production management, fluctuating raw material supplies, inadequate financial planning, and restricted market access (Apollo et al., 2016).

Business feasibility analysis is widely recognized as an important managerial tool for assessing whether a business operation is economically viable and financially sustainable. A feasibility study evaluates the relationship between production costs, revenues, profitability, investment returns, and operational efficiency before or during business implementation (Kadariah et al., 1999). Financial indicators such as Revenue-Cost Ratio (R/C Ratio), Benefit-Cost Ratio (B/C Ratio), Break-Even Point (BEP), Payback Period (PP), and Return on Investment (ROI) are commonly employed to determine whether an enterprise generates sufficient economic returns to justify continued operation or future expansion (Soekartawi, 2006). These indicators provide objective information for entrepreneurs, investors, financial institutions, and policymakers in making informed business decisions.

Previous studies have consistently demonstrated the economic potential of fish-processing enterprises. Hutapea et al. (2016) reported that fish-processing businesses significantly improve household income among coastal communities because they generate higher added value than selling fresh fish. Similarly, Martunis et al. (2017) found that processed fish products possess longer shelf life and higher market competitiveness, making them suitable for small-scale commercial development. Apollo et al. (2016) further observed that although processed fish products have gained increasing market acceptance, many local products remain unable to compete effectively with commercial brands due to weaknesses in production efficiency, financial management, product standardization, and marketing strategies.

The increasing demand for fish-based processed products also reflects changing consumer preferences toward practical, nutritious, and long-lasting food products. This trend provides significant opportunities for SMEs to expand their businesses through product innovation and improved production management. However, the sustainability of fish-processing enterprises depends not only on market demand but also on their financial feasibility. Without proper financial evaluation, many small businesses encounter difficulties in maintaining operational continuity, managing production costs, and achieving long-term profitability (Soekartawi, 2006).

One of the fisheries processing businesses operating in South Sulawesi is Kembang Dahlia SME, located in Buki District, Selayar Islands Regency. This enterprise utilizes locally available fish resources to produce fish meal as a value-added product. The business has contributed to local employment and provided additional income for coastal households by transforming fish into products with higher commercial value. Nevertheless, despite its operational continuity, no comprehensive financial assessment has been conducted to evaluate whether the enterprise is economically feasible and financially sustainable under current production conditions.

From a practical perspective, understanding the financial performance of Kembang Dahlia SME is important because the enterprise operates within a small-scale business environment characterized by fluctuating raw material availability, changing market prices, and increasing production costs. Moreover, access to financial institutions and business development programs often requires evidence regarding business feasibility and investment potential. Consequently, a comprehensive financial evaluation will not only assist business owners in improving managerial decision-making but also provide empirical evidence for local governments and development agencies seeking to strengthen community-based fisheries enterprises.

Although numerous studies have examined the profitability of fish-processing industries in Indonesia, previous research has primarily focused on fish floss, smoked fish, fish crackers, and other processed seafood products. Empirical studies specifically evaluating the financial feasibility of fish meal production at the SME level remain relatively limited, particularly in eastern Indonesia and coastal regions such as the Selayar Islands Regency. Furthermore, most existing studies emphasize production or marketing aspects without integrating comprehensive financial feasibility indicators. This gap highlights the need for further investigation into the financial performance of community-based fish meal enterprises operating under local economic conditions.

Therefore, this study aims to analyze the financial feasibility of the fish meal business operated by Kembang Dahlia SME in Buki District, Selayar Islands Regency. The analysis employs several widely accepted investment criteria, including production cost analysis, revenue analysis, profit analysis, Revenue-Cost Ratio (R/C Ratio), Break-Even Point (BEP), Payback Period (PP), and Return on Investment (ROI), to determine whether the enterprise is financially feasible and capable of supporting sustainable business development. The findings are expected to contribute to the literature on small-scale fisheries entrepreneurship while providing practical recommendations for business owners, policymakers, and other stakeholders involved in developing community-based fisheries processing industries.

METHOD

This study was conducted from May to July 2025 at Kembang Dahlia Small and Medium Enterprise (SME), located in Mekar Indah Village, Buki District, Selayar Islands Regency, South Sulawesi, Indonesia. The study site was selected purposively because Kembang Dahlia SME represents one of the local fish-processing enterprises producing fish floss (*abon ikan*) and has operated continuously as a community-based business. The enterprise was considered suitable for evaluating the financial feasibility of small-scale fisheries processing activities. The owner and manager of the enterprise served as the primary respondent because they possessed comprehensive information regarding production activities, operational costs, revenues, and business management (Sugiyono, 2022).

Primary data were collected through direct observation, semi-structured interviews, and documentation of production activities, while secondary data were obtained from institutional reports, scientific publications, and relevant government statistics. The variables observed included investment costs, fixed costs, variable costs, production volume, selling price, revenue, and operational profit. Financial feasibility was evaluated using descriptive

quantitative analysis through several investment indicators, including total production cost (TC), total revenue (TR), net income (π), Revenue-Cost Ratio (R/C Ratio), Break-Even Point (BEP), Payback Period (PP), and Return on Investment (ROI), following the approaches proposed by Soekartawi (2006), Kadariah et al. (1999), and Gittinger (1986). A business was considered financially feasible when the R/C ratio exceeded one ($R/C > 1$), indicating that total revenue was greater than total production costs and that the enterprise generated positive economic returns.

RESULT AND DISCUSSION

Financial Performance and Business Feasibility of Kembang Dahlia SME

The financial performance of Kembang Dahlia SME was evaluated using production and financial records collected during the 2022–2024 production period. Financial performance reflects the ability of an enterprise to efficiently utilize production resources while generating sufficient returns to sustain long-term operations (Gittinger, 1986; Soekartawi, 2006). The analysis included investment costs, annual production costs, production volume, revenue, and net profit. These indicators provide a comprehensive overview of business performance and form the basis for evaluating financial feasibility.

Table 1.

Financial Performance of Kembang Dahlia SME during 2022–2024

Variable	2022	2023	2024
Fixed Cost (Rp)	7,668,000	7,668,000	7,668,000
Variable Cost (Rp)	39,933,000	37,149,000	35,460,000
Total Production Cost (Rp)	47,601,000	44,817,000	43,128,000
Production (packages/year)	9,070	7,430	7,300
Selling Price (Rp/package)	15,000	15,000	15,000
Annual Revenue (Rp)	136,050,000	111,450,000	109,500,000
Net Profit (Rp)	88,449,000	66,633,000	66,372,000

Source: Primary data processed (2025)

The financial data indicate that production costs declined gradually during the observation period, decreasing from Rp47.60 million in 2022 to Rp43.13 million in 2024. The reduction mainly resulted from lower variable costs, particularly raw materials and production inputs, reflecting adjustments in production capacity and operational efficiency. Although annual production decreased from 9,070 packages in 2022 to 7,300 packages in 2024, the enterprise consistently generated substantial revenues exceeding Rp109 million annually. Consequently, net profit remained relatively high, ranging between Rp66.37 million and Rp88.45 million per year. These findings demonstrate that Kembang Dahlia SME maintained profitable operations despite fluctuations in production volume.

The relatively stable profit levels indicate efficient cost management and effective pricing strategies. According to Gittinger (1986), enterprises with positive operating margins across multiple years generally exhibit good financial resilience and sustainable business performance. Similarly, Soekartawi (2006) argues that profitability is a primary indicator of successful agro-industrial enterprises because it reflects the enterprise's capacity to recover production costs while generating sufficient returns for future investment.

Table 2.

Initial Investment Assets of Kembang Dahlia SME

Investment Item	Total Value (Rp)
Processing equipment and machinery	25,170,000

Investment Item	Total Value (Rp)
Total Investment Cost	25,170,000

Source: Primary data processed (2025).

The enterprise required an initial investment of Rp25.17 million to acquire processing machinery and production equipment, including mixers, meat grinders, spinners, freezers, cooking utensils, and packaging equipment. These fixed assets constitute the production infrastructure necessary to ensure product quality and production continuity. Investment in modern processing equipment also contributes to improved production efficiency and lower operational costs over time, consistent with findings reported by Sumarni et al. (2024).

Financial Feasibility Analysis

The financial feasibility of Kembang Dahlia SME was further evaluated using several investment criteria, namely Break-Even Point (BEP), Net Present Value (NPV), Benefit-Cost Ratio (BCR), and Internal Rate of Return (IRR). These indicators are widely used in business feasibility studies because they assess profitability, investment efficiency, and long-term financial sustainability (Kadariah et al., 1999).

Table 3.
Financial Feasibility Indicators of Kembang Dahlia SME

Indicator	2022	2023	2024	Interpretation
BEP Production (packages)	3,173	2,988	2,876	Actual production exceeded BEP
BEP Selling Price (Rp/package)	5,248	6,032	5,908	Actual selling price (Rp15,000) exceeded BEP price
Payback Period	~6 months	~9 months	~9 months	Fast capital recovery
Net Present Value (NPV)	colspan	Rp53,648,180	Positive investment	
Benefit-Cost Ratio (BCR)	colspan	1.35	Economically feasible	
Internal Rate of Return (IRR)	colspan	123%	Far above discount rate (10%)	

Source: Primary data processed (2025)

The break-even analysis demonstrated that annual production consistently exceeded the minimum production level required to cover operational costs. Likewise, the selling price of Rp15,000 per package remained substantially higher than the calculated break-even price, indicating a considerable profit margin throughout the study period.

The investment feasibility indicators further confirmed the financial viability of the enterprise. The positive Net Present Value (Rp53.65 million) indicates that the present value of future cash inflows exceeded the initial investment cost, suggesting that the business creates additional economic value. The Benefit-Cost Ratio of 1.35 implies that every Rp1.00 invested generates Rp1.35 in economic benefits, exceeding the minimum feasibility threshold of 1.0. Furthermore, the Internal Rate of Return reached 123%, which is substantially higher than the assumed discount rate of 10%, indicating a highly attractive investment opportunity. According to Gittinger (1986) and Soekartawi (2006), businesses exhibiting positive NPV, BCR values greater than one, and IRR exceeding the prevailing discount rate are considered financially feasible and economically sustainable.

Overall, the integrated financial analysis demonstrates that Kembang Dahlia SME has

maintained stable profitability and favorable financial performance despite moderate fluctuations in production volume during 2022–2024. Efficient cost management, consistent revenues, and strong investment indicators collectively confirm that the fish floss processing business is financially feasible and possesses substantial potential for future expansion. These findings support previous studies emphasizing that value-added fish processing enterprises can significantly improve household income while strengthening the competitiveness of small-scale fisheries-based industries through efficient production management and appropriate investment decisions.

CONCLUSION

The financial analysis demonstrated that the fish floss business operated by Kembang Dahlia SME is economically feasible and financially sustainable. Although annual production volume declined slightly during the 2022–2024 period, the enterprise consistently generated positive revenues and substantial net profits due to efficient production cost management and stable selling prices. The business maintained annual profits ranging from IDR 66.37 million to IDR 88.45 million, indicating strong operational performance despite fluctuations in production capacity.

The feasibility indicators further confirmed the viability of the enterprise. Annual production exceeded the break-even production level, while the selling price remained considerably higher than the break-even price throughout the study period. Moreover, the positive Net Present Value (NPV) of IDR 53,648,180, the Benefit-Cost Ratio (BCR) of 1.35, and the Internal Rate of Return (IRR) of 123% demonstrate that the investment generates attractive financial returns and exceeds the minimum feasibility criteria commonly applied in agribusiness and fisheries investment analysis.

Overall, the findings indicate that Kembang Dahlia SME possesses considerable potential for long-term business development. Future business expansion should focus on increasing production efficiency, adopting more advanced processing technologies, improving packaging quality, diversifying value-added fish products, and expanding marketing channels through digital platforms and wider distribution networks. These strategies are expected to strengthen the competitiveness of the enterprise while contributing to income generation and the sustainable development of small-scale fisheries-based industries in Selayar Islands Regency.

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