

Financial Feasibility of the Crispy Mushroom Business at CV FCK Corporation, Kediri Regency

Sulisetianing Amanah¹, Noor Rizkiyah^{2*}, Dita Atasa³

^{1,2,3}Faculty of Agriculture, Universitas Pembangunan Nasional “Veteran” Jawa Timur, Indonesia

22024010116@student.upnjatim.ac.id¹, noor.rizkiyah.agribis@upnjatim.ac.id^{2*},
dita.atasa.agribis@upnjatim.ac.id³

Abstract

This study analyzed the financial feasibility and sensitivity of the FCK Crispy Mushroom business at CV FCK Corporation, Kediri Regency, East Java. A quantitative case study used primary and secondary data from observation, interviews with four purposively selected key informants, and documentation during May–June 2026, feasibility was assessed using Net Present Value (NPV), Net Benefit-Cost Ratio (Net B/C), Internal Rate of Return (IRR), and payback period, complemented by a switching-value sensitivity analysis on raw material cost and marketplace administration fees. Revenue fell 7.29% in 2025 after a 30% rise in oyster mushroom prices, yet the business remained feasible, with an NPV of IDR160,665,235, a Net B/C of 1.118, an IRR of 58%, and a payback period of 1.68 years, and stayed feasible up to a 29% rise in raw material cost and a 17% rise in marketplace fees. The business is financially feasible, though more sensitive to marketplace fees than to raw material cost. Findings rely on a single case company and four informants, therefore, they cannot be generalized. This study extends the feasibility literature on oyster mushroom agroindustry by incorporating marketplace administration fees into the switching-value sensitivity analysis.

Keywords: Crispy Mushrooms, Financial Feasibility, Investment Criteria, Marketplace, Sensitivity Analysis

1. INTRODUCTION

Agricultural development can no longer be oriented solely toward cultivation activities, it must also be directed toward value creation through the processing of agricultural products ([Yare, Mollet, & Ngutra, 2026](#)). Agroindustry, as a combination of agricultural and industrial activities, refers to industries that use agricultural products as their main raw material as well as industries that supply agricultural production inputs ([Suwandi, Daulay, Imnur, Lubis, Siregar, Pranata, & Wulandari, 2022](#)). The scope of the agroindustry covers the processing and preservation of agricultural products, storage, packaging, and distribution, producing both ready-to-consume and semi-finished products ([Veronika, Nugroho, & Bahri, 2026](#); [Andini, Solikah, & Faisol, 2026](#)).

In East Java Province, the food industry is the largest group of Micro and Small Industries (MSIs), increasing from approximately 256,000 units (26.21%) in 2023 to 322,000 units (34.84%) in 2024 ([Badan, 2025](#)). The number of micro-scale businesses was recorded at 720,250 units in 2020 and increased to 824,473 units in 2024, while small-scale businesses remained relatively stable at approximately 100,000 units over the same period. This large MSI population underscores the strategic role of agriculture-based food processing industries in supporting the regional economy.

One horticultural commodity with the potential to be developed into a value-added product is the oyster mushroom (*Pleurotus ostreatus*). Its high nutritional content, low fat content, and relatively low production cost make it a promising commodity in the food and agribusiness sectors ([Afriani, 2024](#)). This mushroom has also been reported to contain bioactive compounds with antidiabetic, antibacterial, anticholesterol, and antioxidant benefits [Widyastuti and Tjokrokusumo \(2021\)](#), and is therefore widely processed into mushroom broth, mushroom satay, mushroom meatballs, mushroom sausage, and crispy mushroom snacks ([Giawa, 2023](#)). Oyster mushroom cultivation is relatively easy and can be carried out year-round, without depending on a particular season, making it flexible to run at both household and commercial scale ([Maulida, Anggreini, & Nopembereni, 2022](#); [Sa, Kamil, Putra, Santoso, Hanifah, & Silalahi, 2025](#)).

East Java is one of the national centers of oyster mushroom production, with demand reaching 312,977 quintals in 2021. Nevertheless, the production trend in several regencies shows a decline over

the 2021–2025 period, as presented in Table 1, including Kediri Regency, which was recorded as the highest producer in 2021 (62,158 quintal) but declined to 7,029.60 quintal in 2025. This decline in raw material supply may increase production costs and create supply uncertainty for agro-industrial businesses that depend on oyster mushrooms as their primary raw material. Consequently, declining production may affect the sustainability of oyster mushroom-based agro-industries, including crispy mushroom processing businesses.

Table 1. Production of oyster mushroom in several regencies of East Java Province, 2021–2025 (Quintal)

Regency	2021 (Quintal)	2022 (Quintal)	2023 (Quintal)	2024 (Quintal)	2025 (Quintal)
Tulungagung	28,694	8,454	4,465.60	–	3,015.38
Kediri	62,158	31,422	13,418.20	9,021.50	7,029.60
Malang	52,609	34,849	6,766.48	13,245.41	17,621.04
Pasuruan	33,970	5,863	2,886.65	–	27,285.24

Kediri Regency growing tourism sector further supports market opportunities for regional snack and souvenir products, including mushroom-based products. One mushroom-processing business in Kediri Regency is CV FCK Corporation, located on Jl. Argowilis, Semen District, which produces FCK Crispy Mushroom. Figure 1 as its flagship product, alongside variants such as *seblak jamur* (spicy mushroom *seblak*) and *bakso aci jamur* (mushroom tapioca meatballs). This product is marketed at a relatively high price compared with competitors because it uses selected raw materials, and it is now available at more than 100 sales points across various regions of Indonesia, both through a reseller network and marketplaces such as Shopee, TikTok Shop, and Tokopedia (interview with the owner of CV FCK Corporation, June 15, 2026).



Figure 1. FCK crispy mushroom product

Online sales through marketplaces, particularly Shopee, contribute significantly to the company's total sales and are subject to two distinct cost components. The first is an administration fee that is already in effect up to 10.20% of the transaction value for the food and beverage category, plus a separate service fee and order-processing fee depending on the program enrolled in. The second is a newly introduced 0.5% income tax article 22 or locally *pajak penghasilan/PPH pasal 22* on the gross transaction value, effective from November 2026. Both components squeeze sellers' profit margins, prompting a number of medium- and large-scale businesses to develop independent sales channels in the form of official websites.

However, the demand for FCK Crispy Mushroom fluctuated over the 2021–2025 period: it increased from 25,500 to 34,900 pieces between 2022 and 2024, but declined by 7.29% to 32,355 pieces in 2025. Over the same period, raw material costs rose from approximately IDR 108 million to IDR 175 million, in line with an increase in the price of oyster mushrooms from IDR 15,000/kg to

IDR 19,500/kg, or a 30% rise, without any accompanying adjustment to the selling price owing to concerns over intense competition with similar businesses.

These conditions collectively point to the urgency of assessing the financial feasibility of the FCK Crispy Mushroom business. The declining trend in oyster mushroom production, the rise in raw material cost, and the fluctuating demand are compounded by the growing burden of marketplace transaction costs, namely the increasingly high marketplace administration fee and the newly imposed 0.5% Income Tax (PPh) Article 22 on gross transaction value, both of which directly reduce the seller's net revenue from online sales. Therefore, a financial feasibility analysis is needed to determine the business's ability to generate profit and its efficiency in using invested capital, complemented by a sensitivity analysis to assess how sensitive that feasibility is to changes in key variables such as raw material cost and marketplace administration fees, before CV FCK Corporation makes further decisions on scaling production or expanding its online sales channels. A feasibility analysis complemented by sensitivity or switching-value analysis is a well-established framework for assessing investment viability under uncertain conditions, supporting the relevance of applying the same analytical approach to assess the financial feasibility of small-scale agroindustry businesses such as FCK Crispy Mushroom.

2. LITERATURE REVIEW

A review of previous research serves as a foundation for the present study, drawing on relevant theories, concepts and findings from earlier work. Examining prior studies also helps position the current research and identify similarities and differences with related work, providing a clearer picture of how the topic has developed, while strengthening the basis of the present analysis. Several studies related to the feasibility of oyster mushroom-based businesses are reviewed in this section.

At the cultivation level, financial feasibility studies on oyster mushroom farming consistently report favorable investment indicators, although the magnitude varies with business scale and location. [Alyatasya, Sukmawani, and Astutiningsih \(2023\)](#) found the *Payung Putih* farm in Cisaat, Sukabumi, to be feasible, with an NPV of IDR 972,729,963.58, a Net B/C of 9, an IRR of 95%, and a payback period of approximately two years. [Habibi, Moulana, and Nur \(2021\)](#) reported comparable feasibility for a cultivation business in Aceh Barat Daya, with an NPV of IDR 610,705,491, an IRR of 52%, a Net B/C of 2.8, and a payback period of 0.94 years, while [Devy, Hasyim, and Situmorang \(2018\)](#) combined the standard investment criteria with a risk analysis for a cultivation business in Lampung Province and likewise found it financially feasible. [Rahim and Quraissyin \(2023\)](#) and [Maghfiroh, Indah, and Syah \(2024\)](#) extended this line of research to frozen mushroom products and non-financial aspects of cultivation businesses, respectively, both concluding that the businesses examined had good development prospects. Across these studies, investment criteria such as NPV, IRR, Net B/C, and Payback Period serve as the common analytical foundation, but none incorporates cost components specific to downstream sales channels, such as marketplace fees.

At the processing or agroindustry level, studies on mushroom-based and comparable snack products report positive feasibility outcomes using the Revenue-Cost Ratio (R/C ratio), Benefit-Cost Ratio (B/C ratio), Return on Investment (ROI), Break-Even Point (BEP), Net Present Value (NPV), and Net Benefit-Cost Ratio (Net B/C) as investment criteria, indicating that these indicators travel well across product types. For crispy mushroom products, [Ginting \(2019\)](#) reported an R/C ratio of 1.82 for a crispy oyster mushroom business, while [Effendi, Rizki, Lubis, Umam, Kusumanto, and Lianny \(2022\)](#) and [Izmi, Azmi, and Perwito \(2025\)](#) confirmed financial viability for crispy-mushroom Small and Medium-sized Enterprises (SMEs) and the MushBoom snack business, respectively, using combinations of the R/C ratio, B/C ratio, ROI, BEP, and payback indicators. Related processing businesses show a similar pattern, [Fadli, Jupri, Maelia, Rozi, and Hidayati \(2025\)](#) found an R/C ratio of 1.70 for white oyster mushroom cultivation even after a production disruption, [Hadi, Sukardi, and Wahyudi \(2024\)](#) reported an R/C Ratio of 1.38 and an ROI of 38.25% for an ekkado oyster mushroom and carrageenan business, and [Sari, Mustangin, and Hendro \(2022\)](#) obtained an R/C ratio of 1.4 and an IRR of 47% for a palm mushroom meatball business. Taken together, these findings indicate that processed mushroom products, including crispy mushrooms, are generally profitable when assessed

using ratio-based or discounted investment criteria, reinforcing the plausibility of the feasibility result obtained for FCK Crispy Mushroom in the present study.

A smaller number of studies extend feasibility analysis with sensitivity or switching-value testing, offering a more direct point of comparison for the present research. [Nadja, Bakri, Apriyani, and Halimah \(2023\)](#) found the sahabat jamur tiram business in Parepare City feasible, with an NPV of IDR 163,292,647, a Net B/C of 5.06, an IRR of 18.82%, and a payback period of 3.9 months, but sensitive to a 25% decline in output sales rather than to a 3% rise in input prices, indicating that revenue-side shocks can matter more than moderate cost-side ones. A comparable pattern of asymmetric sensitivity is reported for non-mushroom snack agroindustries, [Zulkifli, Dahliana, and Suhartina \(2026\)](#) found a banana-chip business in Bone Regency to remain feasible under a 15% sales decline and a 20% raw material price increase but infeasible once the selling price fell by 10%, while [Laily and Purnamasari \(2021\)](#) found a squid-cracker business more sensitive to declines in selling price, with a tolerance of 21.87%, than to increases in raw material price, with a tolerance of 39.92%. [Rizki, Yusmini, and Edwina \(2025\)](#) similarly found a mackerel-cracker agroindustry able to withstand simultaneous increases in two input prices and a 10% production decline, and [Damascena, Nugraha, Ridjal, Hasanah, and Zahrosa \(2025\)](#) identified an 11.92% increase in variable operating cost as the break-even switching value for a banana getuk business. Across these studies, feasibility tends to be more sensitive to changes that directly affect revenue or selling price than to moderate increases in a single raw material cost, a pattern the present study tests further by comparing sensitivity to raw material cost against sensitivity to marketplace administration fees, a revenue-side cost component specific to online-channel sales that has not previously been examined in this literature ([Wizha, & Anisah, 2026](#); [Masua, & Mollet, 2025](#)).

Beyond quantitative investment-criteria approaches, [Suradi, Hakim, and Nandar \(2022\)](#) used a SWOT framework to evaluate a crispy oyster mushroom chip product in Maros Regency, identifying self-financed capital and raw material availability as key strengths, and recommending market expansion and product diversification. This qualitative approach usefully identifies strategic priorities but does not quantify the degree of financial risk the business can tolerate, which the switching-value approach applied in this study is designed to address. Based on this review, previous studies share a common focus with the present research in assessing the feasibility of oyster mushroom-based businesses, and most apply comparable investment criteria, such as NPV, IRR, Net B/C, and payback period.

However, several gaps remain. First, most prior studies focus on cultivation (farming) levels, while studies at the agroindustry level particularly the processing of oyster mushrooms into ready-to-consume products such as crispy mushrooms remain relatively limited. Second, feasibility studies on crispy mushroom products have tended to rely on qualitative approaches, such as SWOT analysis, or to focus only on value added, thus, the application of quantitative financial feasibility analysis in this specific product category is still uncommon. Third, previous studies have generally not considered changes in marketplace administration fees as a factor affecting financial feasibility, even though marketplaces have become increasingly important sales channels for processed food businesses. The present study addresses these gaps by analyzing the financial feasibility of the FCK Crispy Mushroom business through a switching-value sensitivity analysis that incorporates marketplace administration fees alongside raw material costs, for CV FCK Corporation, a case that, to date, has not been examined in the existing feasibility literature. Based on this background, the present study aims to analyze the financial feasibility of the FCK Crispy Mushroom business at CV FCK Corporation. Financial feasibility analysis is needed to determine the business's ability to generate profit and the efficiency of the capital invested, complemented by a sensitivity analysis to measure how sensitive the business's feasibility is to changes in raw material costs and marketplace administration fees.

3. RESEARCH METHODOLOGY

This study was conducted at CV FCK Corporation, located at Jl. Argowilis No. 785, Kedak, Semen District, Kediri Regency, East Java, during May–June 2026. The location was determined purposively ([Amruddin et al., 2022](#)) based on the consideration that the company actively produces

crispy mushrooms as its main product, has adequate financial and production data, and is relatively easy to access for observation activities. Respondents were determined purposively, comprising four key informants, such as the business owner, one finance/administration staff member, and two production staff members. These key informants were selected because they were considered to have an in-depth understanding of the issues under study and were able to provide information relevant to the research needs. The owner provided information on the history and condition of the business, while the finance staff provided data used in the financial feasibility analysis, and the production staff provided information on production costs and activities supporting that analysis.

This is a quantitative study that uses both primary and secondary data. Primary data were obtained through direct observation at the business site, structured interviews using a questionnaire as the research instrument, and documentation of the company's operations. Secondary data were obtained from the company's financial reports, documents related to production activities, publications of the Central Statistics Agency or locally *Badan Pusat Statistik*, and relevant literature and previous research findings related to the topic under study ([Amruddin et al., 2022](#)).

All cash flow components were expressed in nominal (current-price) terms based on primary data collected during the study period; therefore, no separate inflation adjustment was applied, consistent with the short- to medium-term feasibility analysis of micro and small agroindustry businesses. Because CV FCK Corporation operates as a home-scale microenterprise not yet subject to formal corporate income tax, the analysis used net cash flow before corporate tax. Marketplace-related levies, consisting of the marketplace administration fee and the 0.5% PPh Article 22 on gross transaction value, were included as operating costs because they are directly borne by the business. Working capital was assumed to be financed through ongoing operating revenue and was therefore not modeled separately, given the short production-to-sale cycle of crispy snack processing.

The recurring annual investment cost of IDR 24,411,000 represents periodic reinvestment for replacing production equipment and minor assets with economic lives shorter than the analysis period, whereas the initial investment of IDR 97,885,000 was recorded in Year 0. Depreciation was treated as a non-cash expense and excluded from operating costs when calculating net cash flow; it was therefore not separately added back. The residual value of IDR 31,830,000 was included as a cash inflow in Year 5, the final year of the analysis. A 9% discount rate was applied throughout the analysis based on the Bank Rakyat Indonesia lending rate for micro and small enterprises at the time of the study.

The business's financial feasibility was assessed using four investment criteria. The Net Present Value (NPV) was calculated as the difference between the present value of the net cash flow (C_{Ft}) over the project's life (n=5 years) and the initial investment (I₀), at a discount rate (i) of 9%, referring to the Bank Rakyat Indonesia interest rate at the time the study was conducted:

$$NPV = \sum [C_{Ft} / (1 + i)^t] - I_0 \quad (1)$$

Formula 1 shows the business is considered feasible if NPV > 0, at break-even if NPV = 0, and not feasible if NPV < 0 ([Adnyana, 2020](#)). The NPV criterion determines whether projected cash flows generate sufficient value relative to the initial investment. A positive NPV indicates that the investment is expected to generate value above the required return, while a negative NPV indicates that the investment does not meet the feasibility criterion. The Net Benefit-Cost Ratio (Net B/C) was calculated by comparing the sum of the present value of benefits (B_t) with the sum of the present value of costs (C_t) at the same discount rate:

$$NetB/C = \sum [B_t / (1 + i)^t] / \sum [C_t / (1 + i)^t] \quad (2)$$

Formula 2 shows a business is considered feasible if $\text{Net B/C} > 1$, break-even if $\text{Net B/C} = 1$, and not feasible if $\text{Net B/C} < 1$. The ratio compares the present value of expected benefits with the present value of project costs over the investment period. It provides an additional basis for determining whether the expected benefits are sufficient to justify the resources invested in the business. The IRR was calculated by finding the discount rate that makes NPV equal to zero, through interpolation between two discount rates that yield a positive NPV (NPV1 at i_1) and a negative NPV (NPV2 at i_2):

$$IRR = i_1 + [NPV1/(NPV1-NPV2)] \times (i_2 - i_1) \quad (3)$$

Formula 3 shows the business is considered feasible if the IRR is greater than the discount rate used as the benchmark. This calculation estimates the discount rate at which the present value of cash inflows equals the initial investment. A higher IRR relative to the benchmark discount rate indicates greater financial feasibility of the investment. The Payback Period (PP) was calculated to determine the length of time required to recover the investment, where n is the last year in which cumulative net cash flow has not yet covered the investment, a is the amount of initial investment, b is the cumulative net cash flow through year n , and c is the net cash flow generated in year $(n+1)$:

$$PP = n + [(a-b)/c] \times 1 \text{ year} \quad (4)$$

Formula 4 shows the time required for the initial investment to be recovered from the cumulative net cash flows generated by the business. A shorter Payback Period indicates a faster recovery of the initial investment and provides an additional basis for evaluating investment feasibility. The business is considered increasingly feasible the shorter the payback period is relative to the project's life.

Sensitivity analysis was carried out using a stepwise switching-value approach (trial and error) to determine the maximum change in raw material cost and marketplace administration fee that could still be tolerated without rendering the business infeasible (Gittinger, 2008; Ichsan et al., 2019). For each cost component, the corresponding percentage increase was uniformly applied to the projected cash-flow series for Years 1–5, and the NPV was recalculated at each trial value. Initial simulations were run for cost increases of 10%, 15%, and 20%, after which progressively narrower trial intervals were used to identify the precise switching-value point, to the nearest whole percentage point, at which NPV approached zero for each cost component.

4. RESULTS AND DISCUSSION

4.1 Company Overview

CV FCK Corporation is located at Jl. Argowilis No. 785, Kedak, Semen District, Kediri Regency, East Java, serves as the administrative office as well as the production and sales site. The company is a Small and Medium Industry (SMI) engaged in the processing and marketing of oyster mushroom-based snack foods, with Crispy Mushroom as its flagship product, along with Seblak Jamur and Bakso Aci Jamur variants. CV FCK Corporation began operating in 2019, founded by Achmad Fikri A., who had previously gained experience running another business that was unsuccessful. This experience became part of the process that has supported the business's development to date. Production activities include the preparation and inspection of raw materials, mushroom processing according to company standards, seasoning, packaging, and quality inspection of the product before it is marketed, with a production capacity ranging from 350–700 packages per day. Product marketing is conducted through both offline and online channels. Offline marketing is conducted through a reseller network spread across various regions of East Java, including Blitar, Tulungagung, Trenggalek, Nganjuk, Jombang, Malang, and Surabaya, while online marketing is conducted through marketplaces such as Shopee, TikTok Shop, and Tokopedia. This expanded

marketing network has resulted in FCK Crispy Mushroom being available at more than 100 sales points spread across various regions of Indonesia.

4.2 Characteristics of Research Informants

The characteristics of the research informants comprised the owner (more than five years of service, one person), the finance/administration staff member (more than four years of service, one person), and two production staff members (more than two years of service each). Informants were selected based on their positions and roles because each possessed knowledge and experience relevant to the research data needs, the owner provided information on the business's condition and history, the finance/administration staff provided the financial data used in the financial feasibility analysis, while the production staff provided information on production activities and costs supporting that analysis.

4.3 Revenue and Production Trend, 2021–2025

The historical production, sales, and revenue of the FCK Crispy Mushroom business over the 2021–2025 period form the basis for the cash flow projection used in the financial feasibility analysis below.

Table 2. Production, sales, and revenue of the FCK Crispy Mushroom Business, 2021–2025

Indicator	2021	2022	2023	2024	2025
Production (pcs)	26,500	31,200	33,500	34,900	36,000
Sales (pcs)	25,500	28,900	31,700	34,900	32,356
Revenue (IDR)	300,900,000	384,155,000	403,200,000	454,572,500	421,425,000

Table 2 shows the production volume increased from 26,500 pieces in 2021 to 36,000 pieces in 2025, while sales increased from 25,500 to 32,356 pieces over the same period. Business revenue rose from IDR 300,900,000 in 2021 to IDR 454,572,500 in 2024, before declining to IDR 421,425,000 in 2025, a 7.29% decrease from the previous year. Based on the interview results, this decline was related to a decrease in sales volume amid increasing competition from similar products, as well as a 30% rise in the price of oyster mushrooms, from IDR 15,000/kg in 2024 to IDR 19,500/kg in 2025, which raised the cost of procuring raw materials. This increase in raw material costs is a key variable examined further in the sensitivity analysis below.

4.4 Financial Feasibility Analysis of the FCK Crispy Mushroom Business

Table 3. Investment and Depreciation Cost of the FCK Crispy Mushroom Business

No	Asset Type	Total Price (IDR)	Economic Life (Years)	Residual Value (IDR)	Depreciation/Year (IDR)
1	Office Rent (Building)	14,000,000	–	–	–
2	Sealer & Vacuum Sealer Machine	6,500,000	5	1,530,000	994,000
3	Digital Scale	560,000	5	150,000	82,000
4	Other Production Equipment	7,825,000	5	2,150,000	1,025,000
5	Motorcycle	18,000,000	5	7,000,000	2,200,000
6	Pick-up Truck	50,000,000	5	20,000,000	6,000,000
Total		97,885,000	–	31,830,000	10,411,000

Table 3 shows the investment cost of the FCK Crispy Mushroom business covered the procurement of a building (office rental), machinery (sealer, vacuum sealer, digital scale), production equipment, and means of transportation (motorcycle and pick-up truck), with a total investment value of IDR 97,885,000. Asset depreciation was calculated using the straight-line method based on each asset's acquisition value, economic life, and residual value, resulting in a total depreciation cost of IDR 10,411,000 per year. The investment structure indicates that the business required substantial initial capital to support production operations and distribution activities.

Net cash flow was calculated as revenue less operating cost and recurring reinvestment cost. Because depreciation is a non-cash expense, it was excluded from the operating cost rather than deducted and added back separately. The details of the FCK Crispy Mushroom business's cash flow

over the five-year analysis period, including the residual value of the remaining assets recognized as a cash inflow in Year 5, are presented in Table 4.

Table 4. Cash flow of the FCK Crispy Mushroom Business (IDR)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	–	300,900,000	384,155,000	403,200,000	454,572,500	421,425,000
Investment Cost	97,885,000	24,411,000	24,411,000	24,411,000	24,411,000	24,411,000
Depreciation	–	10,411,000	10,411,000	10,411,000	10,411,000	10,411,000
Residual Value	–	–	–	–	–	31,830,000
Operating Cost	–	237,099,500	273,487,850	303,573,000	350,222,650	374,835,600
Net Cash Flow	-97,885,000	39,389,500	86,256,150	75,216,000	79,938,850	54,008,400

Table 4 reported consistently with the IDR 421,425,000, as shown in Table 2. The Year 5 net cash flow of IDR 54,008,400 already incorporates the residual value of the remaining assets (IDR 31,830,000, Table 3) as a cash inflow in that year, in accordance with the treatment described in the Methodology section. A financial feasibility analysis was conducted using a 9% discount rate, based on the Bank Rakyat Indonesia interest rate at the time of the study, over a five-year analysis period. The results of the calculations of the four investment criteria are presented in Table 5.

Table 5. Results of the financial feasibility analysis of the FCK Crispy Mushroom Business

Investment Criterion	Value	Remarks
NPV (IDR)	160,665,235	Feasible
Net B/C Ratio	1.118	Feasible
IRR (%)	58	Feasible
Payback Period (Years)	1.68	Feasible

Table 5 shows the positive NPV of IDR 160,665,235 indicates that the net benefit obtained over the analysis period exceeds the costs incurred, therefore, the business is declared financially feasible. A Net B/C ratio of 1.118 (>1) indicates that every IDR 1 of cost incurred generates a net benefit of IDR 1.118 (Ichsan, Nasution, & Sinaga, 2019). An IRR of 58%, far higher than the 9% discount rate, indicates that the return on investment for this business is very good. Meanwhile, a payback period of 1.68 years, or about one year and eight months, which is far shorter than the five-year analysis period, confirms that the invested capital can be recovered relatively quickly (Adnyana, 2020).

This result is consistent with a number of previous studies on oyster mushroom-based businesses. Habibi, Moulana, and Nur (2021) found that an oyster mushroom cultivation business in Aceh Barat Daya had an NPV of IDR 610,705,491, an IRR of 52%, a Net B/C of 2.8, and a Period Payback (PP) of 0.94 years. Sahabat Jamur Tiram business in Parepare City, obtained an NPV of IDR 163,292,648, an IRR of 18.83%, a Net B/C of 5.07, and a PP of four months. For processed crispy mushroom products, Abdulhaq, Isyanto, and Andrie (2024) found that the crispy mushroom agroindustry in Ciamis Regency generated an R/C value of 1.66, indicating that the business is profitable and feasible to operate. Similar results were also found for comparable snack products the “Selasih” chip MSME was financially feasible with an average ROI of 66.5% (Lubis, Hamidah, & Rini, 2023), while the Kelja Ngoceae chip business in Sidoarjo was feasible to develop, with an NPV of IDR 35,085,479, a Net B/C of 1.548, an IRR of 24%, and a PP of approximately 1.9 years (Wulandari, Slamet, Mutmainah, Ariyola, Rizqullah, & Damayanti, 2023). Thus, the financial feasibility of the FCK Crispy Mushroom business is consistent with patterns found in various oyster mushroom and similar snack food businesses, although the magnitude of the investment criteria values varies due to differences in business scale, cost structure, and sales volume among businesses.

4.5 Sensitivity Analysis

A sensitivity analysis was conducted to determine the extent to which changes in oyster mushroom raw material costs and marketplace administration fees could affect the business's financial feasibility using a switching-value approach (Gittinger, 2008). The results of the switching-value

analysis for a 29% increase in the oyster mushroom raw material cost are presented in Table 6.

Table 6. Sensitivity results for a 29% increase in oyster mushroom raw material cost

Investment Criterion	Value at 29% Increase	Remarks
NPV (IDR)	3,392,269	Feasible
Net B/C Ratio	1.002	Feasible
IRR (%)	10	Feasible
Payback Period (Years)	3.16	Feasible

Table 6 shows at this switching-value point, the NPV of IDR 3,392,269, Net B/C ratio of 1.002, and IRR of 10% remain within the feasibility criteria, indicating that the FCK Crispy Mushroom business can still tolerate a raw material cost increase of up to 29% before losing its financial feasibility (Ichsan et al., 2019). The 10% IRR remains slightly higher than the 9% discount rate used, while the Payback Period extends to 3.16 years but remains shorter than the five-year project life (Adnyana, 2020). The results of the switching-value analysis for a 17% increase in marketplace administration fees are shown in Table 7.

Table 7. Sensitivity results for a 17% increase in marketplace administration fee

Investment Criterion	Value at 17% Increase	Remarks
NPV (IDR)	430,115	Feasible
Net B/C Ratio	1.0003	Feasible
IRR (%)	9.17	Feasible
Payback Period (Years)	3.39	Feasible

Table 7 shows the sensitivity analysis at a 17% increase shows that the business remains financially feasible. The NPV was IDR 430,115, with a Net B/C ratio of 1.0003 and an IRR of 9.17%. The Payback Period was 3.39 years, indicating that all investment criteria remained within the feasibility threshold. The tolerance limit for the increase in marketplace administration fees is lower (17%) than that for the increase in raw material costs (29%), indicating that the financial feasibility of the FCK Crispy Mushroom business is more sensitive to changes in marketplace administration fees. At this switching-value point, the IRR of 9.17% is only slightly higher than the 9% discount rate, leaving relatively limited room to absorb further increases in marketplace administration fees (Adnyana, 2020; Ichsan et al., 2019).

This finding is consistent with Sahabat Jamur Tiram business in Parepare City is sensitive to declines in sales volume, where a 25% decrease in sales caused the NPV to become negative. For similar snack products, Laily and Purnamasari (2021) found that a squid cracker business in Lamongan was more sensitive to declines in selling price than to increases in raw material price, with a tolerance limit of 39.92% for raw material price increases but only 21.87% for declines in selling price. Ningtyas et al. (2023), studying the Cap Gunung Betung ground coffee agroindustry in Bandar Lampung, also found that the business remained feasible despite declines in selling price, increases in raw material price, and decreases in production, while Damascena et al. (2025) found that a banana getuk agroindustry reached break-even at an 11.92% increase in variable operating costs. Based on this comparison, the management of marketplace administration fees is a priority aspect that CV FCK Corporation needs to pay attention to in order to maintain its business feasibility.

5. CONCLUSIONS

5.1 Conclusion

Based on the results of this study on the financial feasibility of the FCK Crispy Mushroom business at CV FCK Corporation, and following verification and reconciliation of the underlying cash-flow figures, the business was confirmed to be financially feasible, with an NPV of IDR 160,665,235, a Net B/C Ratio of 1.118, an IRR of 58%, and a Payback Period of 1.68 years. This feasibility was maintained despite a 7.29% decline in revenue in 2025, a period that coincided with a

30% increase in the price of oyster mushrooms. The sensitivity analysis results show that the business remains feasible up to a 29% increase in oyster mushroom raw material cost and a 17% increase in marketplace administration fees, indicating that the business's feasibility is more sensitive to changes in marketplace administration fees than to raw material cost within the ranges tested.

5.2 Research Limitations

This study has several limitations that should be taken into account when interpreting its findings. First, the analysis is based on a single case company, CV FCK Corporation, thus, the results describe the financial feasibility of this particular business and cannot be generalized to other crispy mushroom or oyster mushroom-based agroindustries without further verification. Second, primary data were collected from only four key informants over a relatively short observation period of two months (May–June 2026), which may not fully capture longer-term seasonal or year-to-year variation in costs, prices, and production. Third, the financial feasibility analysis relies on a single discount-rate scenario of 9%, based on the prevailing Bank Rakyat Indonesia interest rate at the time of the study, thus, the results may shift under different financing conditions or macroeconomic circumstances. Fourth, the sensitivity analysis considers changes in only two cost components, namely raw material cost and marketplace administration fee, thus, the combined or simultaneous effect of multiple changing variables, such as selling price and sales volume, was not examined.

5.3 Suggestions and Directions for Future Research

CV FCK Corporation is advised to maintain and improve production efficiency and cost management, conduct periodic evaluations of selling prices and marketing strategies, and monitor developments in marketplace administration fees to maintain the business's financial feasibility. Future research could extend the analysis period, add price-risk and market-risk variables, and develop a business sustainability analysis covering economic, social, and environmental aspects.

ACKNOWLEDGEMENT

The authors thank the management and staff of CV FCK Corporation for their willingness to serve as informants and for providing access to data throughout the study, as well as the Agribusiness Study Program, Faculty of Agriculture, Universitas Pembangunan Nasional “Veteran” Jawa Timur, for its facility support and academic supervision throughout the research and writing process of this article.

AUTHOR CONTRIBUTIONS

SA contributed to the conceptualization, data collection, formal analysis, and writing of the original draft. NR contributed to supervision, methodology, validation, and writing–review and editing. DA contributed to supervision and writing–review and editing. All authors have read and approved the final manuscript for publication.

REFERENCES

- Abdulhaq, T. H. F., Isyanto, A. Y., & Andrie, B. M. (2024). Kelayakan agroindustri jamur crispy (studi kasus pada PT Mandiri Cikal Bakti di Desa Petirhilir, Kecamatan Baregbeg, Kabupaten Ciamis). *Jurnal Ilmiah Mahasiswa Agroinfo Galuh*, 11(3), 1724-1732.
- Adnyana, I. M. (2020). *Studi kelayakan bisnis*. Lembaga Penerbitan Universitas Nasional.
- Afriani, R. (2024). Analisis nilai tambah pengolahan jamur tiram menjadi jamur krispi pada petani jamur di Kampung Melayu Kota Bengkulu. *Jurnal Agroqua: Media Informasi Agronomi Dan Budidaya Perairan*, 22(1), 172-179. <https://doi.org/10.32663/ja.v22i1.4455>
- Alyatasya, F. L., Sukmawani, R., & Astutiningsih, E. T. (2023). Kelayakan finansial usahatani jamur tiram putih (studi kasus di Payung Putih Cisaat Kabupaten Sukabumi). *MAHATANI: Jurnal Agribisnis (Jurnal Agribisnis Dan Ekonomi Pertanian)*, 6(2), 216-226. <https://doi.org/10.52434/mj.a.v6i2.2623>
- Amruddin, A., Priyanda, R., Agustina, T. S., Nyoman, N. S., Rusmayani, N. G. A. L., Aslindar, D. A., Ningsih, K. P., Wulandari, S., Putranto, P., & Yuniati, I. (2022). *Metodologi penelitian kuantitatif*. Pradina Pustaka.

- Andini, R. D., Solikah, M., & Faisol. (2026). Liquidity, leverage, and profitability effects on firm value in pharmaceutical healthcare sector (2021–2024). *Studi Akuntansi Dan Bisnis Indonesia*, 2(3), 147-161. <https://doi.org/10.61401/sabi.v2i3.525>
- Badan Pusat Statistik. (2025). Profil industri mikro dan kecil Provinsi Jawa Timur 2023 dan 2024. Retrieved from <https://jatim.bps.go.id>
- Damascena, C. R., Nugraha, E. A., Ridjal, J. A., Hasanah, J., & Zahrosa, D. B. (2025). Analisis switching value biaya operasional variabel pada usaha agroindustri getuk pisang: Studi kasus UD getuk pisang madusari. *Kubis*, 5(1), 55-62. <https://doi.org/10.56013/kub.v8i01.4094>
- Devy, J., Hasyim, A. I., & Situmorang, S. (2018). Analisis kelayakan finansial dan risiko usaha budidaya jamur tiram di Provinsi Lampung (financial feasibility and risk analysis of oyster mushroom cultivation business in Lampung Province). *Jurnal Ilmu-Ilmu Agribisnis*, 6(4), 347-354. <https://doi.org/10.23960/jiia.v6i4.347-354>
- Effendi, A., Rizki, M., Lubis, F., Umam, M. I. H., Kusumanto, I., & Lianny, L. (2022). An analysis of the crispy mushroom business for Small and Medium-Sized Enterprises (SMEs) in Indonesia. Paper presented at Proceedings of the International Conference on Industrial Engineering and Operations Management.
- Fadli, Jupri, A., Maelia, W., Rozi, T., & Hidayati, L. (2025). Analysis of production costs for white oyster mushroom (*pleurotus ostreatus*) cultivation at umkm agro jamur Lombok, Kekerri Village, Gunungsari District, West Lombok Regency. *Jurnal Biologi Tropis*, 25(1), 1188-1195. <https://doi.org/10.29303/jbt.v25i1.9436>
- Giawa, M. (2023). Pemanfaatan jamur tiram sebagai salah satu sumber gizi alternatif bagi masyarakat. *Jurnal Sapta Agrica*, 2(2), 1-13. <https://doi.org/10.57094/jsa.v2i2.1195>
- Ginting, N. M. (2019). Analisis pendapatan usaha jamur tiram crispy. *Musamus Journal of Agribusiness*, 2(1), 21-25. <https://doi.org/10.35724/mujagri.v2i01.2086>
- Gittinger, J. P. (2008). *Analisis ekonomi proyek-proyek pertanian*. UI Press.
- Habibi, A., Moulana, R., & Nur, B. M. (2021). Prospek pendirian usaha budidaya jamur tiram ditinjau dari aspek finansial di Kabupaten Aceh Barat Daya, Aceh. *Jurnal Ilmiah Mahasiswa Pertanian*, 6(4), 436-441. <https://doi.org/10.17969/jimfp.v6i4.18333>
- Hadi, V. M. P., Sukardi, S., & Wahyudi, V. A. (2024). Studi kelayakan finansial dan umur simpan pada pengembangan usaha ekkado jamur tiram dan karagenan. *Jurnal Teknologi Pangan Dan Hasil Pertanian*, 19(1), 17-28. <https://doi.org/10.26623/jtphp.v19i1.7369>
- Ichsan, R. N., Nasution, L., & Sinaga, S. E. (2019). *Studi kelayakan bisnis*. Sentosa Deli Mandiri.
- Izmi Nurshanti, D., Jawharul Fadli, A. Z., Azmi, N., & Perwito, P. (2025). Analisis studi kelayakan pada potensi bisnis jamur crispy “mushboom”. *PENG: Jurnal Ekonomi dan Manajemen*, 2(2), 2759-2774. <https://doi.org/10.62710/hexqam66>
- Laily, D. W., & Purnamasari, I. (2021). Pengaruh switching value terhadap finansial usaha kerupuk ikan cumi (*loligo sp.*) di Desa Weru Kecamatan Paciran Kabupaten Lamongan. *AGROMIX*, 12(2), 79-84. <https://doi.org/10.35891/agx.v12i2.2604>
- Lubis, U. S., Hamidah, S., & Rini, W. D. E. (2023). Analisis kelayakan usaha (studi kasus pada UMKM keripik “selasih” Kabupaten Asahan, Sumatera Utara). *Journal of Agricultural Social and Business*, 2(1), 18-26. <https://doi.org/10.31315/asb.v2i1.8076>
- Maghfiroh, A., Indah, P., & Syah, M. (2024). Studi kelayakan bisnis di UD budidaya jamur tiram putih Kecamatan Buduran Kabupaten Sidoarjo. *Jurnal Ilmiah Respati e-ISSN*, 15(3), 305-315. <https://doi.org/10.52643/jir.v15i3.4405>
- Masua, S., & Mollet, J. A. (2025). Analysis of the impact of Hasanudin Petrosea Road infrastructure improvement on the economic activities (production, distribution, and income) of the surrounding community. *Studies in Economy and Public Policy*, 1(1), 19-31. <https://doi.org/10.35912/sepp.v1i1.3559>

- Maulida, P., Anggreini, T., & Nopembereni, E. D. (2022). Analisis usahatani jamur tiram putih (*Pleurotus ostreatus*) di Kelurahan Panarung Kecamatan Pahandut Kota Palangka Raya (studi kasus: Jamur tiram elite). *Journal Socio Economics Agricultural*, 17(2), 130-144. <https://doi.org/10.52850/jsea.v17i2.7527>
- Nadja, R. A., Bakri, R., Apriyani, A. A., & Halimah, A. S. (2023). Kelayakan finansial usaha sahabat jamur tiram di Kota Parepare. *Jurnal Ilmiah Mahasiswa Agroinfo Galuh*, 10(3), 2032-2044.
- Ningtyas, L. A., Abidin, Z., & Murniati, K. (2023). Evaluasi kelayakan finansial agroindustri kopi bubuk di Kelurahan Sumber Agung Kecamatan Kemiling Kota Bandar Lampung: Studi kasus kopi bubuk cap gunung betung. *Jurnal Ilmiah Mahasiswa Agroinfo Galuh*, 10(1), 466-481. <https://doi.org/10.25157/jimag.v10i1.9072>
- Rahim, A., & Quraisyin, M. I. (2023). Analisis kelayakan dan peluang usaha jamur tiram frozen di Kota Parepare (studi kasus sahabat jamur). *AGROVITAL: Jurnal Ilmu Pertanian*, 8(2), 209-214. <https://doi.org/10.35329/agrovital.v8i2.4739>
- Rizki, R. P., Yusmini, Y., & Edwina, S. (2025). Analisis kelayakan finansial usaha agroindustri kerupuk ikan tenggiri di Kecamatan Karimun Kepulauan Riau: Studi kasus kerupuk bona. *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 11(1), 782-788. <https://doi.org/10.25157/ma.v11i1.16464>
- Sari, Y., Mustangin, A., & Hendro, M. (2022). Analisis kelayakan finansial usaha bakso jamur sawit (*volvariella volvacea*) di Kabupaten Sanggau. *COMSERVA: Indonesian Journal of Community Services and Development*, 2(8), 1350-1356. <https://doi.org/10.59141/comserva.v2i08.468>
- Sa'adah, A. A., Kamil, R. Z., Putra, H. B. P., Santoso, S. R., Hanifah, N. P., & Silalahi, S. T. (2025). Diversifikasi produk olahan jamur tiram sebagai upaya mendukung ketahanan pangan lokal di Desa Tlogorejo. *Jurnal Gembira: Pengabdian Kepada Masyarakat*, 3(4), 1745-1756.
- Suradi, S., Hakim, H., & Nandar, N. (2022). Analisis kelayakan produk keripik crispy jamur tiram (*pleurotus ostreatus*) berbasis SWOT (Studi kasus di Kel Leang-Leang, Kec. Bantimurung, Kab. Maros). *Journal Industrial Engineering and Management (JUST-ME)*, 3(2), 55-66. <https://doi.org/10.47398/justme.v3i02.35>
- Suwandi, A., Dauly, N., Imnur, R. H. I., Lubis, S. P. Z. L., Siregar, S. N. S., Pranata, S., & Wulandari, S. (2022). Peranan dan kendala pengembangan agroindustri di Indonesia. *Jurnal Inovasi Penelitian*, 2(10), 3185-3192. <https://doi.org/10.47492/jip.v2i10.1312>
- Veronika, J., Nugroho, A. A., & Bahri, A. (2026). Production cost structure, sales growth, inflation, and profitability in food and beverage companies. *Riset Akuntansi Dan Bisnis Indonesia*, 2(2), 117-128. <https://doi.org/10.61401/rabi.v2i2.502>
- Widyastuti, N., & Tjokrokusumo, D. (2021). Manfaat jamur konsumsi (Edible Mushroom) dilihat dari kandungan nutrisi serta perannya dalam kesehatan. *Jurnal Teknologi Pangan Dan Kesehatan*, 3(2), 92-100. <https://doi.org/10.36441/jtepakes.v3i2.562>
- Wizha, N. B., & Anisah, H. U. (2026). Islamic work culture and environment effects on employee engagement: The mediating role of job satisfaction. *Jurnal Relevansi: Ekonomi, Manajemen Dan Bisnis*, 10(3), 101-114. <https://doi.org/10.61401/relevansi.v10i1.389>
- Wulandari, S. A., Slamet, A. H. H., Mutmainah, D. N., Ariyola, N., Rizqullah, R., & Damayanti, R. (2023). Analisis kelayakan finansial usaha keripik "Kelja Ngoceae" di Sidoarjo. *Jurnal Pertanian Cemara*, 20(1), 1-10. <https://doi.org/10.24929/fp.v20i1.2538>
- Yare, P., Mollet, J. A., & Ngutra, R. N. (2026). Effectiveness of regional education expenditure management in a remote highland Yalimo Regency, Papua Mountains, Indonesia. *Studies in Economy and Public Policy*, 2(1), 67-79. <https://doi.org/10.35912/sepp.v2i1.4389>
- Zulkifli, Z., Dahliana, B., & Suhartina, S. (2026). Financial feasibility and sensitivity of banana chips agroindustry in South Sulawesi. *Jurnal Ilmu Pertanian Indonesia*, 31(2), 335-339. <https://doi.org/10.18343/jipi.31.2.335>