# Financial Feasibility Analysis of The Robusta Coffee Beans Selling Using the Fermentation Method with Kefir Starter at CV. Asmak Kopi

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## ABSTRACT

**Aims:** This study aims to assess the financial feasibility of Kefir fermentation for raw robusta coffee.
**Study design:** The research design employed data collection methods.
**Place and Duration of Study:** The study was conducted at CV. Asmak Kopi from August to December 2022.
**Methodology:** The study utilized data as the subject of investigation. The data used in this research consisted of primary and secondary data. Primary data was sourced from the coffee business entity CV. Asmak Kopi, including labor data, production costs, production types, and coffee prices. Secondary data used in the study was obtained from various government institutions, organizations, research studies, survey results, and other sources. The obtained data was quantitative and analyzed to determine financial feasibility, including analysis of production costs, break-even analysis, Internal Rate of Return (IRR) analysis, Benefit Cost Ratio (B/C Ratio) analysis, Payback Period (PP) analysis, Return on Investment (ROI) analysis, and Net Present Value (NPV) analysis. This quantitative analysis was presented in tabulated form, grouping and classifying the data to facilitate data analysis. Data processing was performed using calculators and Microsoft Excel software.
**Results:** Based on the research findings, the business of improving the quality of raw robusta coffee through kefir fermentation at CV. Asmak Kopi is financially feasible. This is supported by the results of the financial feasibility test, indicating an IRR of 82.88%, B/C Ratio of 3.08, Gross B/C Ratio of 1.8, positive NPV, and a payback period shorter than the production lifespan. The sensitivity analysis also showed that a 50% increase in raw material prices had no significant impact, indicating that the business is still viable. However, a 20% decrease in selling prices has a significant impact, and the product should not experience a price decrease of more than 20%. At a price decrease of 30%, the business is not feasible as it would result in losses.
**Conclusion:** The business of improving the quality of raw robusta coffee through kefir fermentation at CV. Asmak Kopi is feasible.



*Keywords: Inferior Robusta Coffee, Fermentation, Market Value, Financial Feasibility*


## 1. INTRODUCTION

Indonesia, a tropical country with great potential in the coffee processing industry, aims to empower its people economically, particularly farmers who manage coffee plantations. The Central Statistics Agency (BPS) [1] noted that coffee production in Indonesia will reach 774.6 thousand tons in 2021. This value is up 2.75% from the previous year which was 753.9 thousand tons.

Based on data from the director general of plantations [2], Robusta coffee is the most cultivated type in Indonesia, with a production volume of 465,614 tons. It is mainly grown in smallholder plantations (94.7%) and state-owned plantations (5.3%). Robusta coffee is known for its lower taste, aroma, acidity levels, and tendency to be more bitter compared to arabica coffee. These taste differences are attributed to different processing methods. Robusta coffee is typically processed using the dry method without fermentation, while arabica coffee undergoes fermentation after harvesting.

In the wet processing method, which involves fermentation, improving the quality of raw robusta coffee beans can be achieved by applying fermentation treatment with kefir starter as an inoculant. Kefir is chosen for its accessibility and diverse microorganisms it contains. Longer fermentation times lead to the identification of more compounds, enhancing aroma value and creating new aroma attributes in fermented raw robusta coffee beans with kefir starter.

Enhancing the quality of raw robusta coffee beans will increase its market value, but the complex processing involved can result in higher production costs due to additional raw materials and processing methods. Production costs significantly affect the financial feasibility of the product, which is assessed through investment calculations, financial reports, performance measurement, and sensitivity analysis. Previous financial feasibility studies have been conducted, including one on the feasibility of civet coffee business in Bali, which showed positive results.

The research conducted by Made et al. [3] serves as a basis for evaluating the financial feasibility of selling fermented raw robusta coffee beans with kefir treatment due to its relatively high selling price. Further research is necessary to analyze the financial feasibility specifically of selling fermented raw robusta coffee beans with kefir treatment conducted at CV. Asmak Kopi.

## 2. REVIEW OF LITERATURE AND METHODOLOGY

Coffee is a tree plant from the Rubiaceae family and Coffea genus. There are two main types of coffee, namely arabica (Coffea arabica) and robusta (Coffea canephora). Robusta coffee has a taproot and is more resistant to diseases, although its taste and quality are inferior to arabica coffee. Robusta coffee has a chocolatey flavor, more bitterness, and slight acidity. Robusta coffee plants can start producing at the age of 2.5 years and have an economic lifespan of up to 15 years. Prastowo [4] said, coffee beans contain complex chemical compounds influenced by factors such as species, harvesting methods, fertilization, climate, and storage conditions. Inferior coffee refers to coffee beans produced using simple methods and often mixed with other substances. Inferior robusta coffee often exceeds the maximum allowable limit of impurities set by national standards. The quality of inferior robusta coffee varies depending on its source, but it often has a low cuptest score.

### 2.1 Coffee Processing Technology

Coffee processing can be carried out using two methods, namely dry and wet. The difference between them lies in the timing of fruit flesh, parchment, and silver skin removal.

#### 2.1.1 Dry Method

In the dry method, the removal occurs after the coffee fruit is dried, while in the wet method, the fruit skin is removed when it is still wet. Additionally, the wet method involves a fermentation stage. In the dry method, processing begins with fruit sorting, drying, coffee

bean removal, sorting of dry beans, and packaging. The coffee fruit is dried using sunlight or drying equipment, and then husked to obtain ready-to-roast coffee beans.

#### 2.1.2 Wet Method

Acording to Mayrowani [5], in the wet method, processing starts with the removal of the fruit skin using a pulper machine to obtain coffee beans still covered by the parchment.

Fermentation is carried out to remove the mucilage from the parchment, reduce bitterness, and create a mild taste in the coffee's flavor. Fermentation can be done by soaking the coffee beans in water or by dry fermentation with closed storage. Afterward, the coffee beans are washed, dried, and roasted. Najiyati [6] said, the drying process aims to reduce the moisture content in the coffee beans and can be done through natural sun drying, artificial drying, or a combination of both. Proper drying is essential to maintain coffee quality. Lastly, roasting is a crucial stage in coffee processing that involves applying heat to develop the distinctive aroma and flavor of coffee through the Maillard reaction.

### 2.2 Kefir

According to the study by Otes and Cagindi [7] kefir is a popular traditional beverage in the Middle East that is produced through fermentation using kefir grains. Kefir grains consist of a mixture of bacteria (Lactobacillus, Lactococcus, and Acetobacter) and yeast, which resemble small coral-like clusters or cauliflower. Leite et al. [8] identified microorganisms present in kefir, including Leuconostoc mesenteroides, Lactococcus lactis spp., Acetobacter lovaniensis, and Saccharomyces cerevisiae. Kefir can be made from various types of milk, including cow's milk, goat's milk, sheep's milk, coconut milk, rice milk, and soy milk.

### 2.3 Previous Research

In a study conducted by Pratiwi [9], the fermentation of raw robusta coffee beans using kefir was carried out at a temperature of 37°C for 12 hours, resulting in a cuptest score of 79.92. The duration of the fermentation process led to an increase in volatile compounds in the raw robusta coffee beans. Before fermentation, 17 volatile compounds were identified, such as acetic acid, methyl pyrazine, furfural, and others. After 18 hours of fermentation, the number of volatile compounds increased to 23, with the addition of compounds such as acetic acid, nonanal, and pentanoic acid. This increase in compounds resulted in an enhancement of aroma and the emergence of new aroma characteristics in the fermented robusta coffee using kefir as a starter.

### 2.3 METHODS

This research was conducted at CV. Asmak Coffee, Jember, East Java Indonesia in August 2022. The research subjects used both primary and secondary data. Primary data was obtained through direct observation and interviews with the management of CV. Asmak Coffee. Secondary data was obtained through the process of reading, previous research, studying books, lecture materials, and other relevant data sources.

#### 2.3.1 Business Viability Analysis

The quantitative data obtained were analyzed to assess financial feasibility, including various analyses such as production costs, break-even analysis, IRR analysis, B/C Ratio analysis,

PP analysis, ROI analysis, and NPV analysis. The data were organized in tables to facilitate analysis, and calculations were performed using calculators and Microsoft Excel. Furthermore, project evaluation involved calculating the benefits and costs over the project's lifespan to determine its profitability.
There are also, some methods used to conduct this research:

### *2.3.1.1 Net Present Value (NPV)*

According to Umar [10], to calculate the present value, a relevant interest rate needs to be determined. The formula used in NPV calculation is as follows:

$$NPV = \sum_{t=1}^{n} \frac{CFt}{(1+K)^t} - Io$$

Explanation:
CFt = Cash flow per year in period t
Io = Initial investment in year 0
K = Discount rate
Financial feasibility assessment based on NPV is as follows:
a. If NPV > 0, the project proposal is accepted.
b. If NPV = 0, the company's value remains the same whether the project proposal is accepted or rejected.
c. If NPV < 0, the project proposal is rejected.

### *2.3.1.2 Internal Rate of Return (IRR)*

According to Ibrahim [11], the formula for IRR can be formulated as follows:

$$IRR = i_1 \quad \text{NPV} \quad x\ (i_2 - (NPV_1 -$$

Explanation:
i1 = the discount rate that results in NPV1
i2 = the discount rate that results in NPV2
Financial feasibility assessment based on IRR is as follows:
- If IRR > the interest rate, the project proposal is accepted.
- If IRR < the interest rate, the project proposal is rejected.

### *2.3.1.3 Payback Period (PP)*

According to Kasmir and Jakfar [12], the Payback Period (PP) method is a technique for assessing the time period required to recover the investment in a project or business. This calculation can be determined by examining the net cash inflows (proceeds) obtained each year.

### *2.3.1.4 Net B/C Ratio*

$$\text{Net B/C Ratio} = \frac{\sum_{t=n} \frac{B_t - C_t}{(1+i)^t}}{-\sum_{t=n} \frac{B_t - C_t}{(1+i)^t}} = \frac{\text{NPV Positif}}{\text{NPV Negatif}}$$

Explanation:
Positive NPV = Sum of the present value of positive net cash flows.
Negative NPV = Sum of the present value of negative net cash flows.
Financial feasibility assessment based on Net B/C Ratio is as follows:
- If Net B/C Ratio > 1, then the project is feasible or can be implemented.
- If Net B/C Ratio = 1, then the project breaks even between costs and benefits, so it is up to the decision-maker whether to implement it or not.
- If Net B/C Ratio < 1, then it is not feasible or cannot be implemented.

#### *2.3.1.5 Break Event Point (BEP)*

Break-even point (BEP) is the breakeven point of a business. From the BEP value, it can be determined at what level of production and price a business does not generate profit nor incur losses (Rahardi and Hartono) [13].

#### *2.3.1.6 Return of Investment (ROI)*

The method to determine a company's profit through ROI can be done by dividing the net profit after tax by the total assets, and then multiplying it by 100% to obtain the percentage (Kasmir and Jakfar) [14].

#### *2.3.1.7 Sensitivity Analysis*

In sensitivity analysis, every possibility must be tested, which means that each time an analysis needs to be conducted again. This is necessary because project analysis is based on projections that involve a lot of uncertainty about what will happen in the future. The observed changes are how NPV, IRR, Net B/C Ratio, and Payback period values are affected when there are changes in the variables used in the analysis.

## 3. RESULTS AND DISCUSSION

Financial feasibility analysis is an important aspect in assessing the establishment of a processing industry. The financial aspect plays a crucial role in determining the feasibility of a business. In the case of selling raw robusta coffee beans using the fermentation method with Kefir at CV. Asmak Kopi, several analyses were conducted, including cost of production analysis, break-even analysis, Internal Rate of Return (IRR) analysis, Benefit Cost Ratio (B/C Ratio) analysis, Payback Period (PP) analysis, Return on Investment (ROI) analysis, and Net Present Value (NPV) analysis. These analyses were conducted to avoid excessive investment. Some assumptions are needed as the basis for calculations, including:

1. Prices are based on the price level from July to November 2022.
2. The loan interest rate applicable to KUR Mikro (Kredit Usaha Rakyat Mikro) based on Bank Rakyat Indonesia's interest rate was 12.30% when it was first implemented in Indonesia. This is a reference if the business is carried out at this time with a lower interest rate, the business being run is more feasible to continue.
3. Value Added Tax (VAT) on product sales per year is 10%.
4. Individual income tax (IIT) of 10% for profits of IDR 25,000,000, 15% for profits between IDR 25,000,000 and IDR 50,000,000, and 30% for profits of more than IDR 50,000,000 (based on Law no. 10 article 17 of 1994).
5. Land and building and vehicle tax is 0.50% of the taxable selling value (NJKP).
6. Employee salary expenditure as a fixed cost is rounded up between basic salary and percentage fee with a total amount of Rp. 800,000 per person within 1 month. Employee salaries are issued during the production and sales process.

Table 1 shows the coffee production capacity and the corresponding benefits based on the production quantity. The maximum processing capacity for coffee production used at CV. Asmak Kopi is 480kg per year, resulting in a total product output of 384kg.

**Tabel 1. Coffee Production Capacity and Benefits**

| Production Capacity | Maximal Capacity | Total Product | | Benefits |
|---|---|---|---|---|
| 60% | 384 | 230.4 | Rp | 69,120,000.00 |
| 70% | 384 | 268.8 | Rp | 80,640,000.00 |
| 80% | 384 | 307.2 | Rp | 92,160,000.00 |
| 90% | 384 | 345.6 | Rp | 103,680,000.00 |
| 100% | 384 | 384 | Rp | 115,200,000.00 |

Before determining the financial feasibility analysis, there are several factors that need to be taken into account, including:

1. Investment Costs

Investment costs refer to the expenses incurred to acquire fixed assets that will be used by the company to carry out its business activities. The variable costs incurred at CV. Asmak Kopi can be seen in Table 2.

**Table 2. Investment Costs**

| No. | Description | Unit | Quantity | Unit Price | | Total Price | |
|---|---|---|---|---|---|---|---|
| 1 | Production House | Unit | 1 | Rp | 40,000,000.00 | Rp | 40,000,000.00 |
| 2 | Electrical Instalation | Unit | 1 | Rp | 1,000,000.00 | Rp | 1,000,000.00 |
| 3 | Roasting Machine | Unit | 1 | Rp | 7,500,000.00 | Rp | 7,500,000.00 |
| 4 | Scale | Unit | 2 | Rp | 100,000.00 | Rp | 200,000.00 |
| 5 | Plastic Press | Unit | 2 | Rp | 75,000.00 | Rp | 150,000.00 |
| 6 | Plastic Bucket | Unit | 4 | Rp | 50,000.00 | Rp | 200,000.00 |
| 7 | Trade Business Permit | Unit | 1 | Rp | 5,000,000.00 | Rp | 5,000,000.00 |
| | Sub Total | | | | | Rp | 54,050,000.00 |

2. Variable Costs

Variable costs are production costs that vary proportionally with changes in production volume. Components of variable costs include raw material costs, auxiliary material costs, packaging material costs, utility costs, and labor wages. The variable costs incurred at CV. Asmak Kopi can be seen in table 3.

**Table 3. Variable Costs**

| No. | Description | Unit | Quantity | Unit Price | | Total Price | |
|---|---|---|---|---|---|---|---|
| 1 | Beans | kg | 480 | Rp | 20,000.00 | Rp | 9,600,000.00 |
| 2 | Kefir Starter | liter | 4.8 | Rp | 20,000.00 | Rp | 96,000.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Lactose | kg | 4.8 | Rp | 80,000.00 | Rp | 384,000.00 |
| 4 | Water | liter | 24 | Rp | 500.00 | Rp | 12,000.00 |
| 5 | Transportation | | 12 | Rp | 75,000.00 | Rp | 900,000.00 |
| 6 | LPG | | 36 | Rp | 20,000.00 | Rp | 720,000.00 |
| 7 | Packaging | | 12 | Rp | 50,000.00 | Rp | 600,000.00 |
| 8 | Electricity | | 12 | Rp | 50,000.00 | Rp | 600,000.00 |
| 9 | Administration | | 12 | Rp | 50,000.00 | Rp | 600,000.00 |
| | Sub Total | | | | | Rp | 13,512,000.00 |

3. Fixed Costs

Fixed costs are production costs that remain constant regardless of changes in production volume. Components of fixed costs include labor costs and building taxes. The fixed costs incurred by CV. Asmak Kopi within a one-year period can be seen in Table 4.

**Table 4. Fixed Costs**

| No. | Description | Unit | | Costs | | Total |
|---|---|---|---|---|---|---|
| 1 | Labor Costs | 3 | Rp | 9,600,000.00 | Rp | 28,800,000.00 |
| 2 | Building Taxes | 1 | Rp | 60,000.00 | Rp | 60,000.00 |
| | Sub total | | | | Rp | 28,860,000.00 |

## 3.1 The Cost Of Production

The cost of goods serves as the basis for determining the selling price. The cost of goods is the price before adding profit, while the selling price is the cost of goods manufactured plus the expected profit and Value Added Tax (VAT).

Cost of Goods Manufactured = (Variable Costs + Fixed Costs) / Total Production
= (Rp 13,512,000.00 + Rp 28,860,000.00) / 384
= Rp 42,372,000 / 384
= Rp 110,343.75

Selling Price = Rp 300,000.00

The cost of goods manufactured includes variable costs (raw materials, fuel, administration, and others) and fixed costs (labor and building taxes). The selling price set for 1 kg of coffee is Rp 300,000. The determination of the selling price is done using the status quo pricing approach with a price lower than that of competing products such as wine coffee and Luwak coffee, which have similar distinctive flavors. Additionally, the determination of the selling price is also based on calculations made by the business owner, taking into account the capital invested.

## 3.2 Break Even Point

By knowing the break even point, a company can determine the production volume that needs to be maintained to avoid losses. However, every company should aim to produce above this volume by planning additional capital requirements related to production volume. The breakeven point that needs to be achieved by this coffee bean processing business is 153 kg.

Break even Point = Fixed Costs / (Selling Price - Cost of Goods)
= Rp 28,860,000.00 / (300,000 - 110,343.75) = 152.17 units (per unit of 1 kg)

### 3.3 Internal Rate Of Return (IRR)

The project is considered feasible if the Internal Rate of Return (IRR) is greater than the cost of capital (interest rate on the loan) or meets the investor's desired profit percentage. The IRR obtained in this design is 82.88%, indicating that the investment is viable to pursue as the IRR is higher than the prevailing bank interest rate of 12.30%.
IRR = 50% + ((PV1 : 50% / (PV1 : 50% - PV1 : 85%)) x (85% - 50%)
= 50% + (Rp 128,474,715.05 / Rp 128,474,715.05 - (-Rp 8,628,409.94)) x 35%
= 50% + 32.88%
= 82.88%

Based on the above results, it means that the invested capital of Rp 128,474,715.05, when compared to the cost of capital or the indicated interest rate of 50%, yields a higher IRR of 82.88%. Therefore, the coffee business is viable for further development.

### 3.4 Net B/C Ratio

The Benefit-Cost (B/C) Ratio is one of the analysis techniques used to determine the value of a project by comparing the benefits to the investment capital used. Therefore, the criterion taken for both fixed input and fixed output is to achieve a maximum B/C ratio. This analysis is done in two ways, namely by calculating the Net B/C and Gross B/C.

Net B/C = (NPV benefit + Investment Cost) / Investment Cost
= (Rp 112,668,340.16 + Rp 54,050,000.00) / Rp 54,050,000.00
= Rp 166,718,340.16 / Rp 54,050,000.00
= 3.08

Gross B/C = NPV cost / NPV benefit
= Rp 529,928,514.34 / Rp 295,328,294.28
= 1.8

Based on the calculation results, the Net B/C and Gross B/C ratios are greater than 1, indicating that the business is viable to pursue.

### 3.5 Payback Period (PP)

In decision-making, the maximum payback period is compared with the payback period of the investment to be implemented. If the payback period of the investment is shorter than the required maximum payback period, the investment will be executed (Gitosudarmo and Basri, 1989).

PP = 1 / (Net Profit / (Investment Cost + Fixed Cost) x 100%)
= 1 / (Rp 39,571,000.00 / Rp 82,910,000.00 x 100%)
= 1 / 45.07%
= 2.22

The time required for the return of both investment capital and working capital is 2 years, 2 months, and 19 days. Based on the calculation, this business is feasible to pursue because the payback period is shorter than the maximum payback period.

### 3.6 Return of Investmen (ROI)

If the Return on Investment (ROI) increases, it means that the profitability ratio also increases, which can affect the increase in profitability obtained by shareholders.

ROI = Benefits / Total costs (investment + variable + fixed)
= Rp 312,802,000.00 / Rp 96,422,000.00
= 2.62

### 3.7 Net Present Value (NPV)

Based on the calculation of financial feasibility analysis of the coffee bean processing business, all feasibility criteria indicate that this coffee bean processing business is financially viable. The NPV obtained is greater than 0, the B/C ratio is greater than 1, and the IRR is higher than the prevailing bank interest rate. Therefore, it can be concluded that the coffee bean processing business is viable to be implemented. The NPV calculation can be seen in Table 5.

**Table 5. The NPV Calculation**

| Tahun ke | Arus Kas Bersih | DF (12,3%) | PV (i=12,3%) | DF(50%) | PV(i=50%) | DF (85%) | PV (i=85%) | 0,123 |
|---|---|---|---|---|---|---|---|---|
| 0 | -Rp28.860.000 | Rp1 | -Rp28.860.000 | Rp1 | -Rp28.860.000 | Rp1 | -Rp28.860.000 | 0,5 |
| 1 | Rp13.353.120 | Rp1 | Rp10.588.227 | Rp1 | Rp7.927.053 | Rp1 | Rp3.901.569 | 0,85 |
| 2 | Rp19.907.640 | Rp1 | Rp10.523.713 | Rp0 | Rp8.532.740 | Rp0 | Rp5.816.695 | |
| 3 | Rp24.992.040 | Rp1 | Rp9.538.733 | Rp0 | Rp17.646.657 | Rp0 | Rp3.947.176 | |
| 4 | Rp31.182.420 | Rp1 | Rp19.606.081 | Rp0 | Rp19.606.081 | Rp0 | Rp2.662.091 | |
| 5 | Rp37.372.800 | Rp1 | Rp20.924.585 | Rp0 | Rp20.924.585 | Rp0 | Rp1.724.634 | |
| 6 | Rp37.372.800 | Rp0 | Rp18.632.756 | Rp0 | Rp18.632.756 | Rp0 | Rp932.235 | |
| 7 | Rp37.372.800 | Rp0 | Rp16.591.947 | Rp0 | Rp16.591.947 | Rp0 | Rp503.911 | |
| 8 | Rp37.372.800 | Rp0 | Rp14.774.663 | Rp0 | Rp14.774.663 | Rp0 | Rp272.384 | |
| 9 | Rp37.372.800 | Rp0 | Rp13.156.423 | Rp0 | Rp13.156.423 | Rp0 | Rp147.235 | |
| 10 | Rp37.372.800 | Rp0 | Rp11.715.426 | Rp0 | Rp11.715.426 | Rp0 | Rp79.586 | |
| | | | | | Rp120.648.330 | | -Rp8.872.484 | |

### 3.6 Sensitivity Analysis

The business of selling raw robusta coffee beans using the fermentation method with Kefir is influenced by uncertainty, hence sensitivity analysis needs to be conducted to reassess the financial feasibility of the business due to potential changes in variable costs and coffee prices. The variables used in the sensitivity test in this study include an increase in raw material costs and a decrease in product selling prices. Several assumptions were made, namely a 10% and 50% increase in raw material costs, and a 10% and 20% decrease in selling prices. The calculations in Table 6 show that a 50% increase in raw material costs does not have a significant impact, and the coffee business is still viable. However, a 20% decrease in selling prices shows a significant impact on the Payback Period, although it is still considered viable. If the decrease in coffee selling prices reaches 30%, then the business is no longer considered viable.

**Table 6. Sensitivity Analysis of Financial Feasibility of Fermented Raw Robusta Coffee**

| No. | Komponen | NPV | B/C Rasio | | IRR | PP |
|---|---|---|---|---|---|---|
| | | | Net B/C | Gross B/C | | |
| 1 | 10% increase in raw material prices | 304.162.000 | 3 | 1,7 | 82,39 | 2 years 3 months 7 days |
| 2 | 10% decrease in selling prices | 209.122.000 | 2,1 | 1,6 | 79,10 | 3 years |
| 3 | 10% increase in raw material prices and 10% decrease in selling prices | 200.482.000 | 2,1 | 1,5 | 78,68 | 3 years 8 months 4 days |
| 4 | 50% increase in raw material prices | 92.228.803 | 2,7 | 1,6 | 81,41 | 2 years 6 months |
| 5 | 20% decrease in selling prices | 14.558.562 | 1,2 | 1,4 | 71,18 | 4 years 7 months |

## 4. CONCLUSION

Based on the description above, it can be concluded that the business of fermented raw robusta coffee in CV. Asmak Kopi is feasible. This is supported by the results of the financial feasibility analysis, which showed an IRR of 82.88%, a B/C ratio of 3.08, a Gross B/C of 1.8, a positive NPV, and a payback period shorter than the production lifespan. The sensitivity analysis also indicates that a 50% increase in raw material prices does not have a significant impact, and the business is still viable. However, a 20% decrease in selling prices has a significant impact, and the product should not experience a price decrease of more than 20%. At a 30% decrease in selling prices, the business is not viable as it would result in losses.

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