

## Financial Feasibility Analysis of Coffee Roasting Business (Case Study in Coffee Misconception Shop)

**Muhammad Choiril Anam<sup>1</sup> Muhammad Juwanda<sup>2</sup> Suci Nur Utami<sup>3</sup>**

Agribusiness Study Program, Faculty of Science and Technology, Universitas Muhadi  
Setiabudi, Brebes Regency, Central Java Province, Indonesia<sup>1,2,3</sup>

Email: [anamyooman@gmail.com](mailto:anamyooman@gmail.com)<sup>1</sup>

### Abstract

The coffee roasting business at the Kelirumologi Kopi shop has a very big opportunity to run because there are no competitors in the Kersana District area. But on the other hand, is this business financially viable or not? Therefore, this study aims to determine the feasibility of financial analysis in coffee roasting businesses in Kelirumologi Coffee. The method used in this study is a quantitative method that is used to analyze the calculation of financial aspects such as Payback Period, Net Present Value and Profitability Index. The results of the study show that the calculation results from financial analysis are declared feasible to run because the Payback Period value is smaller than the investment age, namely 1 year 8.7 months with an investment age of 3 years, the NPV is more than 0 and has a positive value of Rp. 65,922,388 and PI is accepted because the calculation results show more than 1, namely 1.8.

**Keywords:** Roasting, Coffee, Results, Analysis, Feasibility



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### INTRODUCTION

The agricultural sector has a very important role in economic activity in Indonesia, especially the plantation sector. One of the plantation products that has a significant impact on Indonesia's economic activities, including the country's exports, is coffee. One of the commodities in Indonesia that has the potential to be developed into a major export product is coffee. Indonesia is known as the second largest coffee producer and exporter after Vietnam. The tropical climate and favorable geographical conditions and temperatures make Indonesia a potentially good place for coffee cultivation (Hafezd As'ad and Aji, 2020).

Coffee has grown to become one of the most well-known drinks and continues to be a classic drink today. Not only the elderly who regularly drink coffee these days, even young people like the drink (Sudiartini et al, 2020). The amount of coffee consumed in Indonesia always increases every year. The average annual increase in coffee consumption in Indonesia is 3.4%, making it possible to capitalize on this trend in an effort to improve the lives of coffee farmers and coffee producers.

The increase in coffee consumption in Indonesia will affect the increase in the number of businesses in coffee processing as seen in the rise of the coffee shop or cafe business and the coffee roasting business. The increase in coffee consumption in Indonesia will also affect coffee production in Indonesia, which always increases every year. The increase in the number of requests for coffee beans will be an opportunity for business people in the coffee processing business, one of which is in the coffee roasting business. This coffee roasting business has a direct relationship with the coffee shop or cafe business to supply the needs of coffee beans.

Kelirumologi coffee is one of the businesses engaged in the coffee commodity sector having its address in Ciampel Village, Kersana District, Brebes Regency, which was established in 2016 and is managed by individuals. Previously, Kelirumologi Kopi was only limited to the business of a coffee shop or cafe, but with the passage of time and technological developments, now Kelirumologi Kopi has a coffee business branch that is engaged in coffee roasting or the

process of roasting raw coffee beans. Coffee roasting is the roasting process of green bean coffee or raw coffee beans. This coffee roasting business is always increasing every year and is very promising because there are no competitors in the Kersana District area. But in this case it cannot be used as a reference that the Kelirumologi Coffee roasting business is feasible to run and develop financially. Therefore this study aims to determine the feasibility of financial analysis in coffee roasting businesses at Kelirumologi Kopi Coffee.

## RESEARCH METHODS

This research was conducted at the Kelirumologi Kopi coffee roasting business which is located at Jalan Pemuda No.34 Ciampel Village, Kersana District, Brebes Regency. Kelirumologi Coffee is a business entity engaged in the coffee commodity sector. Previously, Kelirumologi Kopi was only limited to a coffee shop or cafe. However, over time and with increasingly advanced technological advances, Kelirumologi Kopi has added a new line of business, namely coffee roasting. Coffee roasting is the process of roasting unprocessed coffee beans (green bean coffee). into ripe coffee beans ready to be dissolved in the coffee brewing process.

Primary data and secondary data are used as sources and types of data in this study. Primary data is information collected directly from the research location. Primary data was collected through direct interviews with respondents or informants and direct field observations. According to the research discussion, the respondents in this study were coffee roaster business owners, and secondary data was information collected through information from other sources such as the internet, previous research journals, and various related literature.

This research data analysis approach uses quantitative techniques. Quantitative data analysis was carried out to examine financial factors such as Payback Period, Net Present Value and Profitability Index.

1. Payback Period. According to Kasmir and Jakfar (2012), the formula used to calculate the Payback Period is as follows.

$$PP = \frac{\text{Investment} \times 12 \text{ Month}}{\text{Net Cash/Year}}$$

2. Net Present Value. According to Kasmir and Jakfar (2012), the formula used to calculate the NPV is as follows.

$$NPV = \frac{\text{Net Cash 1}}{(1+r)} + \frac{\text{Net Cash 2}}{(1+r)^2} + \dots + \frac{\text{Net Cash N}}{(1+r)^n} - \text{Investment}$$

Information:

NPV : Net Present Value

Net cash 1 to.d. N : Net cash for the 1st year to.d. specified year

r : interest rate of return

<sup>1</sup> to. <sup>n</sup> : Year 1 s.d. specified year

3. Profitability Index. According to Purwana and Hidayat (2016), the formula used to calculate PI is as follows.

$$PI = \frac{\sum PV \text{ Net Cash} \times 100\%}{\sum PV \text{ Investment}}$$

**Information:**

If the PI is greater ( $>$ ) than 1 then it is accepted (business is feasible to run).

If the PI is smaller ( $<$ ) than 1 then it is rejected (the business is not feasible to run).

**RESEARCH RESULTS AND DISCUSSION**

**Coffee Roasting Business Profile Kelirumologi Coffee**

Business Name : Kelirumologi Coffee

Business Owner : Cecep Dewantara

Products produced : Processed Coffee (Robusta, Arabica, Blend)

Established Year : December 25, 2016

Address : Jl. Youth No.34, Ciampel Village, Kec. Kersana, Brebes Regency, Java Central, 52264

**Vision Mission Business**

**Vision:** Prosper Together. This means that all parties involved, from coffee farmers to coffee entrepreneurs (roasting and coffee shops) are always prosperous together, no one suffers losses and so on.

**Mission:**

1. Create a fair and healthy market mechanism from farmers to cafes or coffee shops.
2. Improving the quality and quality of local Brebes coffee.
3. Introducing Brebes coffee outside the region.

**Financial Analysis**

Processed coffee products from Kelirumologi Coffee consist of three coffee variants, namely Robusta coffee, Arabica coffee and blend coffee. The prices for each processed coffee product can be seen in the table below.

**Table 1. Prices of Processed Coffee Products, Coffee Rumology**

Product	Weigh	Price
Robusta	1 kg	Rp. 120.000
Arabika	1 kg	Rp. 250.000
Blend	1 kg	Rp. 160.000

Source: Primary Data, 2022

The costs required in a coffee roasting business with the wrong terminology of coffee consist of investment costs, fixed costs and variable costs.

**Investment Cost**

Investment costs are substantial initial costs incurred by companies and cannot be included in one production cycle (Khotimah & Sutiono, 2014). Included in the investment costs are production houses, electrical installations, grinder machines, roasting machines, cupping bowls, plastic presses, scales, LPG gas cylinders, plastic boxes, packing tables, equipment racks, raw material racks and product racks. The following are the investment cost components which can be seen in the table below.

**Table 2. Investment Cost Components**

Description	Price	Economic age	Depreciation
Manufacture of Production Houses	20.000.000	30	666.666,6667
Electrical installation	1.300.000	10	130.000

Grinder Machine	4.000.000	15	266.666,6667
Roasted Machine Capacity 1.2 kg	26.000.000	20	1.300.000
Cupping Bowls	2.400.000	20	120.000
Plastic Press	500.000	15	33.333,33333
Scales	500.000	15	33.333,33333
LPG Gas Cylinder 5 Kg	280.000	10	28.000
Plastic Box	1.000.000	8	125.000
Packing table	1.500.000	15	100.000
Equipment Rack	1.600.000	15	106.666,6667
Raw Material Shelf	1.600.000	15	106.666,6667
Product Rack	1.600.000	15	106.666,6667
<b>Total</b>	<b>62.280.000</b>		<b>3.123.000</b>

Source: Primary Data, 2022

### Fixed cost

Fixed costs are costs that remain constant over time, regardless of changes in the amount of work done to produce output or goods (Umar, 2003). In the Kelirumology Coffee roasting industry, fixed labor costs, depreciation costs for equipment and machinery, and building tax costs are all included in fixed costs. The table below shows the elements of fixed costs, which are as follows.

**Table 3. Fixed Cost Components**

Description	Total (IDR)
Permanent Workforce	3.000.000
Equipment and Machinery Depreciation Cost	3.123.000
Building Tax	40.000
<b>Total</b>	<b>6.163.000</b>

Source: Primary Data, 2022

### Variable Cost

Variable costs are costs that vary according to changes in production levels (Umar, 2003). Included in the variable costs in the coffee roasting business at Kelirumologi Kopi are raw material costs for raw coffee beans, electricity, gas, plastic packaging, packaging stickers and markers. The following are the variable cost components which can be seen in the table below.

**Table 4. Variable Cost Components**

Description	Total (IDR)
Raw Materials (Raw Coffee Beans)	14.400.000
Electricity	200.000
Gas	85.000
Packaging Plastic	94.000
Packaging Sticker	100.000
Whiteboard marker	5.000
<b>Total</b>	<b>14.884.000</b>

Source: Primary Data, 2022

The coffee roasting business at the Kelirumologi Kopi shop costs a total investment cost of Rp. 83,327,000 while the net cash obtained each year always increases. The net cash from 2019-2021 can be seen in the table below.

**Table 5. Net Cash for 2019-2021**

Year	Net Cash
2019	Rp. 28.236.000
2020	Rp. 76.716.000
2021	Rp. 125.196.000

Source: Primary Data, 2022

The assessment criteria for financial analysis use calculations using the Payback Period, Net Present Value and Profitability Index methods.

### Payback Period

The payback period calculation for the coffee roasting business at the Kelirumologi Coffee shop is as follows:

$$\begin{aligned}\text{Investment} &= \text{Rp. } 83.327.000 \\ \text{Year 1 net cash} &= \frac{\text{Rp. } 28.236.000}{\text{Rp. } 55.091.000}\end{aligned}$$

Because the remainder of the calculation for year 1 cannot be reduced for year 2, the remainder for year 1 is divided by year 2.

$$\text{PP} = \frac{\text{Rp. } 55.091.000 \times 12 \text{ Month}}{\text{Rp. } 76.716.000} = 8,7 \text{ Month}$$

Based on the calculation results, the payback period is 1 year 8.7 months, thus meaning that the initial investment in the coffee roasting business at the Kelirumologi Coffee shop will be returned within 1 year 8.7 months. According to Zainul Fuad et.al (2021), the results of his research show that the calculated Payback Period method is smaller than the economic life of the business, so that the business can be said to be feasible to run.

When viewed from the Payback Period calculation results obtained, it is stated that the coffee roasting business at the Kelirumologi Coffee shop can be achieved to operate or grow. According to Kasmir and Jakfar (2012) explained that a business is said to be feasible to run based on the calculation of the Payback Period, that is, if the Payback Period is now smaller than the investment age of the business being run.

### Net Present Value

The assessment criterion for the Net Present Value is that if the NPV is positive, then the coffee roasting business at the wrong-mology coffee shop is declared economically feasible to run, but conversely if the NPV is negative, the coffee roasting business at the wrong-mology coffee shop is declared not feasible to run. This is also conveyed in the opinion of Purwana and Hidayat (2016), namely an investment project is said to be economically feasible if the NPV value is positive (greater than zero) and vice versa if the NPV value is negative, the investment project is rejected because it is less than zero and is considered unprofitable.

In the coffee roasting business at the Kelirumologi Kopi shop, it assumes that the desired rate of return is 20%. So the calculation of the Discount Factor (DF) is as follows.

$$\begin{aligned}\text{Year 1} &= \frac{1}{(1+0,2)} = 0,833 \\ \text{Year 2} &= \frac{1}{(1+0,2)^2} = 0,694 \\ \text{Year 3} &= \frac{1}{(1+0,2)^3} = 0,579\end{aligned}$$

Next, after knowing the DF, the next step is to complete the NPV calculation. The following is a table for calculating the NPV for the coffee roasting business in Kelirumology Coffee from 2019-2021.

Table 6. Calculation of NPV

Year	Net Cash	DF 20%	Net Cash PV
2019	Rp. 28.236.000	0,833	Rp. 23.520.000

2020	Rp. 76.716.000	0,694	Rp. 53.240.904
2021	Rp. 125.196.000	0,579	Rp. 72.488.484
<b>Total Net Cash PV</b>			<b>Rp. 149.249.388</b>

Source: Primary Data, 2022

Total Net Cash PV = Rp. 149.249.388

Total Investment PV = Rp. 83.327.000 -

NPV = Rp. 65.922.388

Based on the calculation results obtained using the Net Present Value method, the NPV results are Rp. 65,922,388 with these results, the coffee roasting business at the Kelirumologi Kopi shop is economically viable because the NPV is positive. This is also in accordance with the research of Maria Nabut et al. (2021), who argued that when calculations using the Net Present Value approach provide findings (>) greater than 0 and a positive value, the company can be considered operationally practical and feasible to run.

### Profitability Index

Profitability Index is the activity ratio of the sum of the present value of net income with the present value of investment expenses over the life of the investment (Kasmir and Jakfar, 2012). The scoring criteria for the Profitability Index are if the PI is greater (>) than 1 then the roasting business at the wrong-mology coffee shop is declared feasible, whereas if the PI is smaller (<) than 1 then the roasting business at the wrong-mology coffee shop is declared infeasible. The following is the Profitability Index calculation for the coffee roasting business in coffee malology.

$$PI = \frac{\sum PV \text{ Net Cash}}{\sum PV \text{ Investment}} \times 100\%$$

$$PI = \frac{Rp.149.249.388}{Rp.83.327.000} \times 100\%$$

= 1,8 kali (> 1) worth running.

Based on calculations using the Profitability Index (PI) method, the result is 1.8 times, meaning that the coffee roasting business at the Kelirumologi Coffee shop is feasible to run and develop because the PI is more than (>) 1. These results are also the same as the research study from Rohmah et al (2020), namely the PI obtained (>) is more than 1, which means that the business is feasible to run.

### CONCLUSION

The results of financial analysis calculations on the coffee roasting business at the Kelirumologi Kopi Shop are declared feasible to run because they see the Payback Period value is smaller, namely 1 year 8.7 months from the investment age for 3 years, the Net Present Value is more than 0 and has a positive value of Rp. 65,922,388 and the Profitability Index is accepted because the calculation results show more than 1, namely 1.8.

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## **BIBLIOGRAPHY**

- As'ad, M. H dan Aji, J.M.M. 2020. Faktor Yang Mempengaruhi Preferensi Konsumen Kedai Kopi Modern di Bondowoso. *JSEP. Jurnal Sosial Ekoomi Pertanian*. 13 (2) : 182 – 199.
- Badan Pusat Statistik, 2022. *Konsumsi Kopi di Indonesia 2017-2021*. BPS : Indonesia.
- Fuad, M.A.Z. *et.al*. 2021. Pendampingan dan Analisis Kelayakan Usaha Kerupuk Ikan “Abizar” di Desa Pangkahkulon. *International Journal Of Community Service Learning*. 5 (3) : 199-211.
- Kasmir dan Jakfar. 2012. *Studi Kelayakan Bisnis*. Jakarta : Kencana Prenada Media Group.
- Khotimah, Husnul dan Sutiono. 2014. *Analisis Kelayakan Finansial Usaha Budidaya Bambu*. Jurnal Ilmu Kehutanan Volume 8 No.1 14-24. Kementerian Lingkungan Hidup dan Kehutanan.
- Nabut, Y.M dkk. 2021. *Analisis Kelayakan Usaha Pengolahan Kopi pada Koperasi Serba Usaha Asosiasi Petani Kopi Manggarai (KSU Asnikom) di Kota Ruteng Kabupaten Manggarai*. Buletin Ilmiah IMPAS Volume 22 No.3. Program Studi Agribisnis, Fakultas Pertanian. Universitas Nusa Cendana dan Universitas Jember.
- Purwana, D dan Hidayat, N. 2016. *Studi Kelayakan Bisnis*. Jakarta : PT. Raja Grafindo Persada.
- Rohmah, S, Miftah, H, Yusdiarti, A. 2020. *Analisis Kelayakan Usaha Pengolahan Kopi Robusta (Coffea canephora) pada Kelompok Tani Hutan (KTH) Cibulao Hijau*. Jurnal Agribisains ISSN 2442-2541 Vol.6, No.1 29-34. Fakultas Pertanian. Universitas Djuanda Bogor. Bogor
- Sudiartini, N. W. A., Astari, A. A. E., Kardini, N. L., & Dhani, Y. R. 2020. *The feasibility study of coffee house business opportunity in COVID-19 pandemic: a case study at kulo coffee shop pemogan*. International Research Journal of Management, IT and Social Sciences, 7(5), 38-45.
- Umar, Husein. 2003. *Studi Kelayakan Bisnis (Teknik Menganalisis Kelayakan Rencana Bisnis secara Komprehensif)*. Penerbit PT. Gramedia Pustaka Utama : Jakarta.