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BUSINESS FEASIBILITY OF IJEN WINE ARABICA GROUND COFFEE IN BONDOWOSO REGENCY

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ABSTRACT

Ijen Wine Arabica coffee is a processed coffee product originating from Bondowoso Regency, produced through a fermentation process that results in a distinctive wine-like flavor and aroma. This product has the potential to generate added economic value for local coffee enterprises. This study aims to examine the production process, analyze business feasibility, and identify marketing channels for Ijen Wine Arabica ground coffee in Dabasah Village, Bondowoso District, Bondowoso Regency. A descriptive method was employed using both primary and secondary data. Business feasibility was analyzed using Break Even Point (BEP), Revenue-Cost Ratio (R/C Ratio), and Return on Investment (ROI). The results show that one production cycle yields 40 packages of ground coffee, each weighing 100 grams, with a selling price of IDR 85,000 per package. The total production cost is IDR 1,940,088, while total revenue reaches IDR 3,400,000, resulting in a net profit of IDR 1,459,912. The BEP production is 23 packages, and the BEP price is IDR 48,502.2 per package. The R/C ratio is 1.75, and the ROI is 76.42%, indicating that the Ijen Wine Arabica ground coffee business is feasible and profitable.

Keywords: BEP; Arabica coffee; business feasibility; R/C ratio; ROI

INTRODUCTION

Coffee is one of the plantation commodities with high economic value and plays an important role in the Indonesian economy. Coffee cultivation in Indonesia is largely carried out by smallholder farmers as well as plantation enterprises. According to Fiqhry et al. (2024), coffee is also one of the most important export commodities in the world after petroleum. In Indonesia, coffee is generally classified into two main types: Robusta and Arabica. Arabica coffee grows well at altitudes of 1,000–1,750 meters above sea level and is characterized by a distinctive flavor profile with slight acidity and superior aroma, making it highly preferred by consumers.

Bondowoso Regency is one of the major coffee-producing regions in East Java, particularly known for its Arabica coffee. Arabica coffee from Bondowoso is recognized as one of the best in Indonesia (Tapaningsih, 2020). The region has approximately 18,885.38 hectares of coffee plantation area, cultivating both Arabica and Robusta varieties (BPS, 2026). Due to its strong potential in Arabica coffee development, Bondowoso is widely known as the “Coffee Republic.” Coffee production in the region reached 8,439.23 tons in 2025 (BPS, 2025). However, production trends over the past five years indicate a gradual decline, decreasing from 10.1 tons in 2020 to 8.4 tons in 2024, as illustrated in Figure 1. This declining trend highlights the need for value-added strategies to sustain and enhance the economic contribution of the coffee sector.

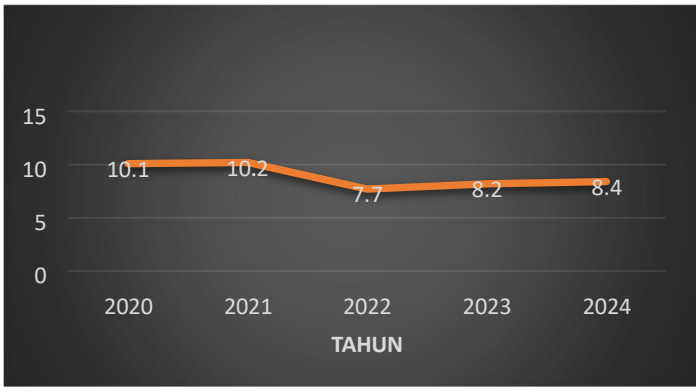

Figure 1. Coffee Production (Ton) in Bondowoso during 2020-2024 (BPS, 2025)

Java Ijen-Raung Arabica coffee is one of the flagship varieties grown at an altitude of approximately 1,200 meters above sea level, known for its unique flavor and aroma characteristics. One of the emerging innovations in coffee processing in this region is Ijen Wine Arabica coffee, which undergoes a specific fermentation process to produce a distinctive fruity (wine-like) aroma and characteristic acidity. According to Zahara et al. (2025), wine coffee represents a form of product diversification resulting from fermentation, producing flavor and aroma resembling wine. Unlike conventional processing methods, coffee cherries are fermented prior to becoming green beans, resulting in unique sensory properties. The duration of fermentation significantly affects moisture content, yield, and organoleptic characteristics such as taste, aroma, and color (Nurhidayah, 2022).

In recent years, local entrepreneurs in Dabasah Village, Bondowoso District, have increasingly engaged in the production and marketing of Ijen Wine Arabica coffee, targeting both local and broader markets. The product is distributed through various channels, including cafés, coffee shops, and online platforms. This development not only enhances the added value of local coffee products but also creates new economic opportunities, particularly for younger generations involved in the creative coffee industry. However, despite its growing potential, studies examining the economic feasibility of this business remain limited. Therefore, this study aims to analyze the feasibility of the Ijen Wine Arabica ground coffee business developed in Dabasah Village, Bondowoso Regency. The findings are expected to provide insights and practical recommendations for entrepreneurs, government, and other stakeholders in supporting the sustainable development of the coffee-based industry in the region.

METHODS

This study was conducted over a four-month period, from July 3 to October 30, 2025, in Dabasah Village, Bondowoso District, Bondowoso Regency, Indonesia. The research employed a descriptive quantitative approach to analyze the feasibility of the Ijen Wine Arabica ground coffee business. Data used in this study consisted of both primary and secondary data. Primary data were obtained through direct observation and participation in the production process, including data on raw materials, labor, production output, costs, and marketing activities. Secondary data were collected from relevant institutions, literature, books, and scientific journals. Business feasibility was analyzed using Break Even Point (BEP), Revenue-Cost Ratio (R/C Ratio), and Return on Investment (ROI).

Break Even Point (BEP)

Break Even Point (BEP) represents the level of production or sales at which total revenue equals total cost, indicating that the business neither makes a profit nor incurs a loss (Rukmana & Yudirachman, 2021). BEP analysis consists of two components:

1. BEP Production

$$BEP_Q = \frac{TC}{P}$$

where:
BEP_Q = break-even production (units)
TC = total cost (IDR)
P = selling price per unit (IDR)
This analysis determines the minimum number of units that must be produced to reach the break-even point.

2. BEP Price

$$BEP_P = \frac{TC}{Q}$$

where:
BEP_P = break-even price (IDR/unit)
TC = total cost (IDR)
Q = total production (units)
This analysis determines the minimum selling price required to achieve break-even conditions.

Revenue-Cost Ratio (R/C Ratio)

The Revenue-Cost Ratio (R/C Ratio) is used to measure the profitability of a business by comparing total revenue with total cost.

$$R/C = \frac{TR}{TC}$$

where:
TR = total revenue (IDR)
TC = total cost (IDR)
The decision criteria are as follows:

- R/C > 1: the business is profitable
- R/C = 1: the business breaks even
- R/C < 1: the business is not profitable

Return on Investment (ROI)

Return on Investment (ROI) measures the efficiency of investment in generating profit and reflects the effectiveness of overall business operations.

$$ROI = \frac{\text{Net Profit}}{\text{Total Cost}} \times 100\%$$

where:
Net Profit = total revenue minus total cost (IDR)
Total Cost = total production cost (IDR)
A higher ROI indicates better financial performance and more efficient use of capital.

RESULTS AND DISCUSSION

The production of Ijen Wine Arabica ground coffee utilizes 40 kg of raw coffee cherries per production cycle, resulting in 40 packages of ground coffee, each weighing 100 grams. The product is characterized by a distinctive fruity aroma derived from the wine fermentation process, along with a balanced flavor profile. The selling price is set at IDR 85,000 per package. In addition, the packaging is designed to preserve product quality and aroma, while providing complete product information, including product name, composition, roasting level, processing method, coffee variety, net weight, and production origin (Figure 2).

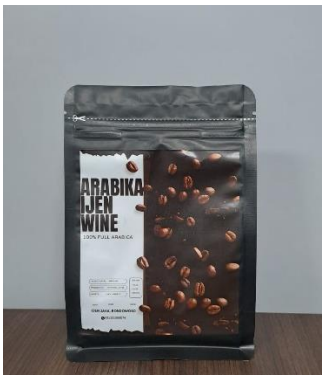

Figure 2. Ijen Wine Arabica Ground Coffee

From a financial perspective, the total variable cost per production cycle amounts to IDR 1,936,915.50, while fixed costs (depreciation) are relatively small at IDR 3,172.50. Therefore, the total production cost is IDR 1,940,088. With total revenue reaching IDR 3,400,000, the business generates a net profit of IDR 1,459,912 per production cycle. This indicates that the business is capable of generating a substantial margin relative to its production cost. The detailed components of variable costs are presented in Table 1, while fixed costs are shown in Table 2.

Table 1. Variable Cost Components of Arabica Ground Coffee Production (Ijen Wine)

No.	Cost Component	Quantity	Unit	Unit Cost (IDR)	Total Cost (IDR)
1.	Arabica coffee cherries	40	kg	15,000.00	600,000.00
2.	Stand-up pouches	40	pcs	320.00	12,800.00
3.	Product labels (stickers)	40	pcs	225.00	9,000.00
4.	Labor	30	Days	30,000.00	900,000.00
5.	Water	30	Liter	3.85	115.50
6.	Pertalite (Transportation cost)	1	Liter	10,000.00	10,000.00
7.	Coffee hulling service	40	kg	7,000.00	280,000.00
8.	Coffee roasting service	7	kg	15,000.00	105,000.00
9.	Coffee grinding service	4	kg	5,000.00	20,000.00
	Total Variable Cost				**1,936,915.50**

The relatively low proportion of fixed costs compared to variable costs suggests that the business operates with a flexible cost structure, which is advantageous for small-scale agroindustry. This condition allows producers to adjust production levels according to market demand with minimal financial risk.

Table 2. Fixed Costs (Equipment Depreciation) of Arabica Ground Coffee Production

No.	Equipment/Item	Quantity (unit)	Unit Cost (IDR)	Acquisition Cost (IDR)	Economic Life (years)	Depreciation (per 2 weeks, IDR)
1	Drying tray	2	20,000	40,000	5	300
2	Screen Grader	1	132,000	138,000	5	1,035
3	Weighing scale	1	40,000	24,000	3	300
4	Plastic basin	2	15,000	30,000	2	562.5
5	Drum	1	130,000	130,000	5	975
	Total Acquisition Cost			362,000		
	Total Depreciation Cost					3,172.50

Based on the cost and revenue structure, the feasibility of the business was further analyzed using Break Even Point (BEP), Revenue-Cost Ratio (R/C Ratio), and Return on Investment (ROI), as follows:

Break Even Point (BEP)

The BEP production was calculated at 22.82 packages, rounded up to 23 packages. This value is lower than the actual production output of 40 packages per production cycle, indicating that the business has exceeded its break-even point. Therefore, the business can be considered profitable and feasible to operate. Furthermore, the BEP price was calculated at IDR 48,502.2 per package, meaning that the business will reach the break-even point at this price level. Since the actual selling price (IDR 85,000 per package) is higher than the BEP price, the business is considered profitable.

Revenue-Cost Ratio (R/C Ratio)

The R/C ratio was calculated at 1.75, indicating that every IDR 1.00 spent on production generates IDR 1.75 in revenue, resulting in a profit of IDR 0.75. An R/C ratio greater than 1 (R/C > 1) signifies that the business is economically efficient and feasible to operate.

Return on Investment (ROI)

The ROI value of the Ijen Wine Arabica ground coffee business was 76.42%. This indicates that the return on investment generated in a single production cycle reaches 76.42% of the total assets used. The business feasibility is reflected by an ROI greater than 0%, indicating that the business is profitable and viable. A higher ROI value reflects more effective use of assets in generating profit. These results demonstrate that the business has a high level of investment efficiency per production cycle. Based on the ROI value of 76.42%, full capital recovery (100%) can be achieved within approximately 1.31 production cycles, or effectively by the second production cycle.

These findings are consistent with previous studies. Wibowo et al. (2021) reported that the agroindustry of Java Ijen-Raung Arabica coffee in Bondowoso is financially feasible to develop, with recommended strategies including market expansion, product standardization, and collaboration with stakeholders. Similarly, Maharani et al. (2025) found that Arabica coffee agroindustry businesses are financially viable, emphasizing the importance of post-harvest training for farmers to improve product quality and competitiveness.

In addition, innovation in processing techniques plays a crucial role in enhancing product value. Previous research shows that the application of carbonic maceration fermentation significantly improves the sensory characteristics of Ijen-Raung Arabica coffee, including aroma, flavor, and color ($\alpha = 0.05$), which are particularly appealing to younger consumers such as Generation Z (Nur et al., 2025). This indicates that product innovation, such as wine fermentation, not only increases economic value but also strengthens market competitiveness.

CONCLUSION

The Ijen Wine Arabica ground coffee business in Dabasah Village, Bondowoso Regency, demonstrates strong development potential and financial viability. The feasibility analysis indicates that the business operates above the break-even point, achieves a favorable cost–revenue structure (R/C > 1), and generates a high return on investment, enabling relatively rapid capital recovery within approximately two production cycles. These results suggest that the business is economically sustainable and has promising prospects for further development.

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