

Analysis of Factors Influencing The Feasibility of The Home Tofu Industry Business in Rambah Muda Village

Siti Aisyah Sabri^{a*}, Andi Afrizal^b, Arrafiqur Rahman^c

^{a*} Universitas Pasir Pengaraian, Indonesia. sitiaisyahsabri2@gmail.com

^b Universitas Pasir Pengaraian, Indonesia. andiafrizal07@gmail.com

^c Universitas Pasir Pengaraian, Indonesia. arrafiqurrahman@upp.ac.id

Article History	Submitted	Revised	Accepted
	2025-03-05	2025-04-15 & 2025-05-14	2025-05-19

Abstract

The tofu industry in Rambah Muda Village is a home based business that processes soybeans into tofu products. Despite its potential, the industry faces several operational challenges, including rising raw material prices, production failures, limited market reach, and high competition. This study aims to analyze the feasibility of tofu businesses in Rambah Muda Village from technical production and financial perspectives. A qualitative descriptive method was employed, using data collected through field observations, interviews, and documentation. The technical production analysis focused on aspects such as business location, equipment, raw materials, labor, and production layout. Financial feasibility was assessed using Payback Period (PP), Net Present Value (NPV), and Break Even Point (BEP) indicators. The findings indicate that (1) from a technical and production standpoint, the tofu businesses operated by Mbah Warijan and Mama Gibran are feasible and have the necessary infrastructure to continue operations and (2) from a financial perspective, both businesses demonstrate positive results across all indicators, suggesting long term viability. The study recommends further development through marketing strategies and technological improvement to enhance competitiveness.

Keywords: Feasibility Study, Technical Aspect, Financial Aspect, MSMEs



© The Author(s) 2024. Published by CV. Strata Persada Academia.

This is an Open Access article distributed under the terms of the [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

INTRODUCTION

A business feasibility study serves as a crucial preliminary step in evaluating the potential success of a business venture, particularly within the micro, small, and medium enterprises (MSMEs) sector. This study focuses on two key dimensions, namely the technical and production aspects as well as the financial aspects, which are used as indicators of the feasibility of tofu home industry businesses in Rambah Muda Village. The technical and production aspect includes assessments of operational readiness, encompassing location, facility layout, and the condition of production equipment, as discussed by (Barletta et al., 2021). These evaluations are essential for ensuring production efficiency and the sustainability of business operations.

In alignment with the technical aspect, the financial aspect also plays a strategic role in assessing the economic viability of a business. Mansouri & Momtaz (2022) emphasizes that financial evaluation involves analyzing investment costs, operational expenses, cash flow projections, and profit estimations. Accurate assessments of financial indicators such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period serve as essential tools in making investment decisions, particularly in household-scale industries. These financial evaluations enable entrepreneurs to minimize financial risks while maximizing potential profits, thereby contributing to the sustainability of their business activities (Apriani et al., 2024).

The tofu industry, which is part of the soybean processing sector, has demonstrated strong potential for development. Tofu is widely favored by consumers from all socioeconomic levels due to its nutritional value and affordability. The broad market penetration of tofu, which extends from traditional markets to modern retail outlets, indicates that consumer demand for tofu remains high. Recent studies also highlight a growing trend in plant-based diets, which has further boosted demand for tofu products even in rural areas (Tjahyo et al., 2024). Therefore, the development of tofu home industries can significantly contribute to food security and the empowerment of local economies.

However, MSME actors, including tofu producers in Rambah Muda Village, face several complex challenges in their operations. According to an interview with Mbah Warijan, a local tofu producer, one of the main problems is the rising cost of soybean raw materials, most of which are imported. This situation restricts the producer's ability to raise selling prices due to the limited purchasing power of local consumers. In addition to this, technical difficulties in the production process sometimes result in defective tofu that cannot be sold. These challenges indicate the urgent need to enhance managerial and technical skills among MSME operators through training programs and the adoption of appropriate technologies (Anatan & Nur, 2023).

Apart from issues related to production and cost, marketing limitations are also a major obstacle. The market reach for tofu in Rambah Muda is primarily limited to the surrounding local community. Traditional marketing strategies such as door-to-door sales and word-of-mouth promotion are still widely used. Based on tofu production data from 2019 to 2023, there was a significant decline in production volume, particularly in early 2023. This downward trend has a direct impact on business income and long-term sustainability. Handoyo et al., (2023) stated that the main objectives of business operations are to generate profits, minimize costs, maximize sales, and enhance efficiency. These conditions underscore the necessity for market diversification and

innovation in digital marketing to remain competitive in an increasingly dynamic business environment (Kanellos et al., 2024).

Considering the issues and conditions mentioned above, this research is highly relevant and urgently needed in order to comprehensively assess the feasibility of tofu home industry businesses in Rambah Muda Village, particularly from technical and financial perspectives. This study is also expected to serve as a practical reference for similar MSMEs in conducting systematic and sustainable business evaluations. Therefore, the primary objective of this research is to analyze the factors that influence the business feasibility of tofu production and to provide strategic recommendations for the development of this home industry in the future.

LITERATURE REVIEW

Home Industry

The term home industry refers to a small-scale business activity operated within or around a household setting. This type of enterprise is typically family-based, utilizing domestic space and resources to produce goods or services on a limited scale. According to Susana (2012), a home industry is defined as a small enterprise because the production and business activities are centralized within a household environment. Leach et al., (2020) further elaborates that a home industry constitutes a productive and consumptive family activity, generally involving at least two family members who share responsibilities for labor, food, and shelter.

Home industries play a vital role in local economies by offering employment opportunities, reducing poverty, and encouraging entrepreneurship, especially in rural areas (Dong et al., 2021). These businesses are often informal in nature and depend heavily on manual labor, traditional methods, and local resources, which distinguish them from larger industrial operations.

Business Feasibility Study

A business feasibility study is a crucial preliminary analysis conducted to assess the viability of a proposed business idea. Ibrahim (2003) defines a feasibility study as a basis for decision-making in accepting or rejecting a proposed business idea, where the concept of feasibility refers to the potential of the business to generate both financial and social benefits. Siagian (2019) describes the feasibility study as a formal evaluation of an investment plan aimed at determining whether the anticipated benefits outweigh the costs. The analysis serves as a decision-support tool to determine whether a business project should be pursued or terminated.

In this study, the business feasibility analysis is examined from two key perspectives: technical and production aspects, and financial aspects.

Technical and Production Aspects

The technical and production dimension includes an evaluation of operational components such as business location, machinery and equipment, availability of raw materials, labor force, and plant layout. These factors are essential to determine the efficiency, productivity, and sustainability of the production process (Utama & Abirfatin, 2023). A favorable location, for

example, can reduce transportation costs and ensure access to markets and inputs, while modern and efficient equipment enhances output quality and quantity.

Financial Aspects

The financial feasibility of a business is evaluated using several investment appraisal tools, namely the Payback Period (PP), Net Present Value (NPV), and Break-Even Point (BEP). These three indicators serve as essential instruments in assessing whether a project or business venture can generate sufficient returns relative to its incurred costs.

The Payback Period (PP) is a method used to determine the length of time required to recover the initial investment from the net cash inflows generated by the business. This indicator is particularly useful in evaluating liquidity risk, as it provides insight into how quickly the invested capital can be regained (Kristiana & Karnasi, 2024). A shorter payback period indicates a quicker return of capital, thereby reducing financial uncertainty for investors.

The Net Present Value (NPV), on the other hand, measures the present value of all expected future cash inflows from an investment, discounted at a specific rate, and compares this value to the initial investment cost. A positive NPV signifies that the investment is expected to generate value for the business, whereas a negative NPV indicates a potential loss. Accurate NPV calculation requires detailed cash flow projections over the investment's lifespan and the application of an appropriate discount rate (Arjunan, 2022).

Meanwhile, the Break-Even Point (BEP) analysis aims to identify the point at which total revenue equals total costs, resulting in neither profit nor loss. This analysis is crucial for determining the minimum level of production or sales required to avoid financial losses. BEP is derived by identifying and calculating three key components: fixed costs (e.g., wages, depreciation), variable costs (e.g., raw materials, electricity), and the selling price per unit of product (Garrison, Noreen, & Brewer, 2021).

Understanding these financial indicators is critical for entrepreneurs, especially in small-scale industries, to ensure the economic sustainability and risk resilience of their ventures (Astuty et al., 2024).

METHOD

This study employs a qualitative descriptive approach aimed at analyzing the feasibility and prospects of the home tofu industry in Rambah Muda Village. The research focuses on a feasibility study analysis based on two primary aspects: technical-production and financial aspects. The object of this research is the home tofu industry operating within Rambah Muda Village, with the scope of analysis limited to business location, production technology (machinery and equipment), raw materials, labor, and layout in the technical aspect; as well as Payback Period (PP), Net Present Value (NPV), and Break-Even Point (BEP) in the financial aspect.

Primary data were obtained through field observations, in-depth interviews, and documentation. Key informants included the business owner and the financial manager of the tofu home industry. Secondary data were collected from relevant literature, previous studies, and records

from the local government or industry-related institutions to support the financial analysis. The data analysis method applied for the technical-production aspect used qualitative interpretation based on field data, while the financial aspect was analyzed using investment appraisal methods such as PP, NPV, and BEP (Kasmir, 2020). The combination of these analytical tools helps determine whether the tofu home industry in Rambah Muda Village is financially and operationally feasible.

ANALYSIS AND DISCUSSION

Business Location

Based on the observation results, the tofu production facilities owned by Mbah Warijan and Mama Gibran are both situated in Rambah Muda Village, Rokan Hulu Regency. The locations of both businesses are considered strategically advantageous due to their proximity to main roads with relatively good infrastructure, as well as easy and accessible transportation. This facilitates the marketing and distribution processes and enables efficient access to raw materials and distribution channels. Moreover, the strategic location enhances logistical efficiency and minimizes distribution delays, which are critical for maintaining product freshness and customer satisfaction.

Technology (Machinery and Equipment)

As revealed in the interviews, the tofu-making equipment used by Mbah Warijan and Mama Gibran frequently experiences breakdowns due to daily usage. The machinery is semi-traditional; although soybean grinding is done with machines, the subsequent stages still rely on manual tools. For instance, the filtering process is performed using cloth, tofu molding utilizes wooden molds, and the cutting is conducted with kitchen knives. Packaging is also carried out manually. The remaining equipment, such as molds, buckets, and dippers, are relatively durable and less prone to damage. This semi-traditional production process, while cost-effective, may limit production scalability and product uniformity, which are essential for long-term business growth and competitiveness.

Raw Materials

According to interview findings, the tofu producers in Rambah Muda Village use imported soybeans due to their superior quality, despite their higher cost compared to local soybeans. Both Mbah Warijan and Mama Gibran prioritize the quality of their raw materials, indicating a conscientious selection process to ensure high product standards. Sourcing these imported soybeans poses no significant difficulty, as suppliers deliver directly to the production sites upon request. The emphasis on raw material quality underscores the producers' commitment to customer satisfaction and product differentiation in a competitive local market.

Labor

Based on an interview with Mama Gibran, it was emphasized that diligent workers capable of operating under pressure are essential for meeting production targets and ensuring customer

satisfaction. The labor structure includes four employees for frying, four for molding, two for soybean grinding, and two for cutting, making a total of 12 employees. The facilities provided include designated rest areas and lunch for the workers. The division of labor based on production stages reflects an organized workflow that contributes to operational efficiency and timely fulfillment of customer orders. Furthermore, the provision of worker welfare facilities could enhance employee retention and productivity.

Facility Layout

Observation indicates that the tofu production facilities of Mbah Warijan and Mama Gibran are located behind the owners' residences. Mbah Warijan's facility measures approximately 10 x 5 meters and includes a bathroom, a storage area for firewood, and a cooking stove space. Mama Gibran's facility is slightly larger, at 12 x 8 meters, encompassing all machinery and equipment rooms. The layout of machinery and equipment follows the sequential stages of tofu production, thereby streamlining the production process.

Investment Cost

Table 1. Investment Cost Details for Tahu Mbah Warijan

No	Description	Quantity	Unit Price	Sub Total	Depreciation
1.	Building	1	Rp. 12.000.000	Rp. 12.000.000	Rp. 8.000.000
2.	Grinding machine	1	Rp. 3.000.000	Rp. 3.000.000	Rp. 1.500.000
3.	Water pump	1	Rp. 380.000	Rp. 380.000	Rp. 150.000
4.	Drum	2	Rp. 100.000	Rp. 200.000	Rp. 100.000
5.	Large bucket	10	Rp. 35.000	Rp. 350.000	Rp. 100.000
6.	Small bucket	10	Rp. 10.000	Rp. 100.000	Rp. 50.000
7.	Wok	1	Rp. 1.500.000	Rp. 1.500.000	Rp. 700.000
8.	Ladle	3	Rp. 10.000	Rp. 30.000	Rp. 10.000
9.	Filter cloth	2 meters	Rp. 15.000	Rp. 30.000	Rp. 10.000
10.	Molding wood set	1 sets	Rp. 500.000	Rp. 500.000	Rp. 250.000
11.	Ruler	1	Rp. 10.000	Rp. 10.000	Rp. 5.000
12.	Metal strainer	1	Rp. 500.000	Rp. 500.000	Rp. 250.000
13.	Stirring stick	1	Rp. 150.000	Rp. 150.000	Rp. 75.000
14.	New stove	1	Rp. 2.000.000	Rp. 2.000.000	Rp. 1.000.000
15.	Knife	2	Rp. 10.000	Rp. 20.000	Rp. 5.000
16.	Hose	3 meters	Rp. 8.000	Rp. 24.000	Rp. 10.000
17.	Used pedicab	1	Rp. 1.500.000	Rp. 1.500.000	Rp. 1.000.000
Total Investment				Rp. 22.290.000	Rp.13.215.000

Source: Primary data (Processed, 2025)

Based on Table 1, the total investment cost for the Tahu Mbah Warijan business is Rp. 22,290,000, with an estimated depreciation of Rp. 13,215,000. The capital allocation includes both movable and immovable assets necessary for the operation of the tofu production process.

This investment structure reflects a moderate initial capital requirement typical for micro-scale tofu producers in rural settings. The relatively high depreciation suggests that many assets, particularly machinery and infrastructure, will require regular replacement or maintenance, emphasizing the importance of financial planning and asset management in maintaining long-term business viability.

Table 2. Investment Cost Details for Tahu Mama Gibran

No	Description	Quantity	Unit Price	Sub Total	Depreciation
1.	Building	1	Rp.14.000.000	Rp.14.000.000	Rp.10.000.000
2.	Grinding machine	1	Rp. 6.500.000	Rp. 6.500.000	Rp. 2.500.000
3.	New grinder	1	Rp. 8.500.000	Rp. 8.500.000	Rp. 4.000.000
4.	Water machine	1	Rp. 550.000	Rp. 550.000	Rp. 150.000
5.	Tofu mold set	2 sets	Rp. 550.000	Rp. 1.100.000	Rp. 700.000
6.	Drum	6	Rp. 160.000	Rp. 960.000	Rp. 480.000
7.	Large bucket	12	Rp. 30.000	Rp. 360.000	Rp. 100.000
8.	Small bucket	12	Rp. 10.000	Rp. 120.000	Rp. 50.000
9.	Ladle	5	Rp. 8.000	Rp. 40.000	Rp. 10.000
10.	Hose	10 meters	Rp. 5.000	Rp. 50.000	Rp. 10.000
11.	Ruler	2	Rp. 150.000	Rp. 300.000	Rp. 100.000
12.	Strainer	4	Rp. 15.000	Rp. 60.000	Rp. 20.000
13.	Basket	8	Rp. 40.000	Rp. 320.000	Rp. 200.000
14.	Filter cloth	6	Rp. 17.500	Rp. 105.000	Rp. 50.000
15.	Stove	1	Rp. 800.000	Rp. 800.000	Rp. 400.000
16.	Knife	2	Rp. 25.000	Rp. 50.000	Rp. 10.000
17.	Pedicab	1	Rp. 2.500.000	Rp. 2.500.000	Rp. 1.500.000
Total Investment				Rp.36.315.000	Rp.20.280.000

Source: Primary data (Processed, 2025)

Based on Table 2, the total investment for the Tahu Mama Gibran business is Rp. 36,315,000, with an estimated depreciation of Rp. 20,280,000. The capital is allocated to both fixed and current assets essential for sustaining production activities.

Compared to Tahu Mbah Warijan, Tahu Mama Gibran has a higher investment, especially in upgraded processing equipment and infrastructure. This indicates an effort to increase production capacity and adopt semi-mechanized processes, which may enhance efficiency and reduce reliance on manual labor. Such improvements suggest a forward-looking business model focused on operational sustainability and competitive positioning within the local tofu industry.

Operational Costs

Table 3. Production Costs of Mbah Warijan’s Tofu Business

No	Description	Qty/Day	Unit Price (Rp)	Production Days	Annual Cost (Rp)
1.	Soybeans	100 kg	10.000	264	264.000.000
2.	Firewood	70 pcs	800	264	14.784.000
3.	Diesel Fuel	4 liters	6.800	264	7.180.800
4.	Electricity	-	284.000	12 month	3.408.000
5.	Transportation	3 liters	10.000	264	7.920.000
6.	Vehicle Maintenance	-	200.000	6 month	400.000
7.	Machinery Maintenance	-	50.000	3 month	200.000
8.	Labor	6 people	34.000	264	53.856.000
9.	Depreciation	-	6.015.000	12 month	13.215.000
Total Cost					364.963.800

Source: Primary Data (Processed, 2025)

Based on Table 3, the total annual production cost for Mbah Warijan’s tofu business is Rp 364.963.800, with the largest portion allocated to soybean procurement, totaling Rp 264.000.000 per year. This is followed by firewood expenses of Rp 14.784.000 annually, diesel fuel at Rp 7.180.800, electricity at Rp 3.408.000, and transportation fuel at Rp 7.920.000. Additional costs include vehicle and machinery maintenance amounting to Rp 400.000 and Rp 200.000, respectively.

Labor expenses are also significant, totaling Rp 53.856.000 annually for six workers, while depreciation costs reach Rp 13.215.000. These data emphasize that raw materials, especially soybeans, constitute the dominant cost component. This highlights the importance of optimizing raw material procurement and implementing effective inventory management strategies to enhance cost efficiency and ensure business sustainability.

Table 4. Production Costs of Mama Gibran’s Tofu Business

No	Uraian	Jlh/Hari	Harga satuan (Rp)	Hari Produksi	Total biaya pertahun (Rp)
1.	Kacang Kedelai	450 kg	10.000	264	1.188.000.000
2.	Kayu bakar	225 potong	800	264	47.520.000
3.	solar	10 liter	6.800	264	17.952.000
4.	Listrik	-	560.000	12 bulan	6.720.000
5.	Transportasi	8 liter	10.000	264	21.120.000
6.	Perawatan kendaraan	-	200.000	6 bulan	400.000
7.	Perawatan mesin	-	50.000	3 bulan	200.000
8.	Tenaga kerja	10 orang	70.000	264	184.800.000
9.	Beban penyusutan	-	20.280.000	12 bulan	20.280.000
Total Biaya					1.486.992.000

Source: Primary Data (Processed, 2025)

As shown in Table 2, the annual production costs for Mama Gibran's tofu business reach Rp 1,486,992,000, substantially higher than Mbah Warijan's. The primary cost component is soybean procurement, totaling Rp 1,188,000,000 per year. This is due to a significantly higher daily soybean requirement of 450 kg.

Firewood usage is also proportionally higher, with 225 pieces required daily, amounting to Rp 47,520,000 annually. Diesel fuel expenses reach Rp 17,952,000, while electricity costs total Rp 6,720,000 over a 12-month period. The transportation cost, which involves 8 liters of fuel daily, adds Rp 21,120,000 to the annual expense.

Routine maintenance costs for vehicles and machinery remain at Rp 400.000 and Rp 200.000, respectively. Labor costs are significantly higher due to the employment of 10 workers at Rp 70.000 per day, amounting to Rp 184.800.000 annually. Depreciation is also a major expense, recorded at Rp 20.280.000. The large-scale operations of Mama Gibran's tofu production, compared to Mbah Warijan's, reflect a higher reliance on capital and labor inputs, which suggests potential for cost optimization through automation and energy efficiency improvements.

Furthermore, a comparison between the two businesses indicates the influence of economies of scale. Mama Gibran's enterprise, while incurring higher absolute costs due to larger production volumes, may achieve lower per-unit costs through bulk purchasing and more efficient resource allocation. This underscores the strategic advantage of scaling up operations to maximize efficiency and profitability in tofu production.

Cash Flow

Table 5. Income Statement Analysis of Tofu Business Mbah Warijan

No	Description	Mbah Warijan's Income	Mama Gibran's Income
A.	Revenue		
	Sales	Rp. 538.560.000	Rp. 2.356.200.000
	Total Revenue	Rp. 538.560.000	Rp. 2.356.200.000
B.	COGS (Cost of Goods Sold)		
1.	Soybean purchases	Rp. 264.000.000	Rp. 1.188.000.000
2.	Firewood	Rp. 14.784.000	Rp. 47.520.000
3.	Diesel fuel	Rp. 7.180.800	Rp. 17.952.000
4.	Electricity	Rp. 3.408.000	Rp. 6.720.000
5.	Transportation	Rp. 7.920.000	Rp. 21.120.000
6.	Vehicle maintenance	Rp. 400.000	Rp. 400.000
7.	Perawatan mesin	Rp. 200.000	Rp. 200.000
8.	Perawatan mesin	Rp. 53.856.000	Rp. 184.800.000
	Total COGS (Cost of Goods Sold)	Rp. 351.784.000	Rp. 1.466.712.000
	Gross Profit	Rp. 186.776.000	Rp. 889.488.000
	Depreciation	Rp. 13.215.000	Rp. 20.280.000
	Net Cash	Rp. 151.793.000	Rp. 869.208.000

Source: Primary Data (Processed, 2025)

Based on Table 5, the income statements of the tofu businesses operated by Mbah Warijan and Mama Gibran illustrate the financial feasibility of small and medium scale tofu production in Rambah Muda Village. Mbah Warijan's business generated a total revenue of Rp. 538,560,000 from tofu sales. The calculation of Cost of Goods Sold (COGS) included expenditures for raw materials such as soybeans (Rp. 264,000,000), firewood (Rp. 14,784,000), diesel fuel (Rp. 7,180,800), electricity (Rp. 3,408,000), transportation (Rp. 7,920,000), maintenance of vehicles and machinery (Rp. 400,000 and Rp. 200,000 respectively), and labor wages (Rp. 53,856,000). These operating costs resulted in a total COGS of Rp. 351,784,800, yielding a gross profit of Rp. 186,776,000. After deducting depreciation expenses of Rp. 13,215,000, the net cash flow amounted to Rp. 151,793,000, indicating a healthy level of profitability for a small scale operation.

In contrast, Mama Gibran's tofu business reported significantly higher sales revenue, amounting to Rp. 2,356,200,000. The associated COGS, which included similar cost components such as soybean procurement (Rp. 1,188,000,000), energy and utilities, transportation, maintenance, and labor (Rp. 184,800,000), totaled Rp. 1,466,712,000. This resulted in a gross profit of Rp. 889,488,000. After accounting for depreciation (Rp. 20,280,000), the net cash flow reached Rp. 869,208,000, reflecting strong financial performance and operational scalability.

These findings suggest that while both enterprises are financially viable, scale and operational capacity greatly influence profit margins. Mama Gibran's larger production volume benefits from economies of scale, allowing for more efficient cost distribution and greater profitability. Moreover, the relatively low maintenance costs in both businesses point to effective equipment usage and minimal mechanical downtime, which enhances overall operational efficiency.

From a feasibility perspective, both businesses exhibit positive net cash flows, affirming their sustainability. However, Mama Gibran's operation demonstrates greater potential for long term growth due to its stronger revenue base and financial resilience, making it a more scalable model for similar tofu industry ventures.

Net Present Value (NPV) Analysis of Mbah Warijan's Tofu Business

Table 6. NPV Analysis of Mbah Warijan's Tofu Business

Year	Net Cash Flow	DF (16%)	PV of Net Cash Flow
1	Rp. 151.793.000	0,86	Rp. 130.541.980
2	Rp. 151.793.000	0,74	Rp. 112.326.820
3	Rp. 151.793.000	0,64	Rp. 97.147.520
4	Rp. 151.793.000	0,55	Rp. 83.486.150
5	Rp. 151.793.000	0,48	Rp. 72.860.640
Total PV of Net Cash Flow			Rp. 496.363.110

Source: Primary Data (Processed, 2025)

Based on Table 6, to evaluate the investment feasibility of Mbah Warijan's tofu business, the Net Present Value (NPV) is determined by subtracting the present value (PV) of the investment from

the total PV of future net cash flows. If the resulting NPV is positive, the business is considered financially viable for further development.

Total PV of Net Cash Flows	: Rp. 496.363.110
Total PV of Investment	: Rp. 22.290.000
Net Present Value (NPV)	: Rp. 494.134.110

The resulting NPV of Rp. 494,134,110 is clearly positive ($NPV > 0$), indicating that Mbah Warijan's tofu enterprise is financially feasible and worth expanding from the perspective of NPV analysis. This calculation assumes a five-year cash flow projection and an initial investment of Rp. 22,290,000, discounted at a rate of 16%.

The discount factor (DF) of 16% is adopted in accordance with the Ministry of Finance Regulation No. 10/PMK.05/2009, which amends Regulation No. 135/PMK.05/2008 on the People's Business Credit Guarantee Facility. Article 5 Paragraph 2(b) of the regulation stipulates that for credit amounts exceeding Rp. 5,000,000 and up to Rp. 500,000,000, the maximum effective interest rate is 16% annually.

This regulatory alignment ensures that the applied discount rate reflects a realistic borrowing cost, enhancing the credibility of the investment analysis. Assuming a loan is taken from a financial institution at an annual interest rate of 16% for an investment amount of Rp. 22,290,000, the tofu business is projected to generate a net profit of Rp. 494,134,110 over five years, excluding the repayment of the principal.

Payback Period (PP) Analysis of the Mbah Warijan Tofu Business

The Payback Period (PP) method is utilized to determine the length of time required to recover an initial investment based on the business's net profit. A shorter payback period indicates a more favorable return on investment, which is advantageous for investors. The PP calculation for the tofu business operated by Mbah Warijan is as follows:

$$PP = \frac{\text{Investment}}{\text{Net Cash/Year}} \times 1 \text{ year}$$

$$PP = \frac{22.290.000}{151.793.000} \times 1 \text{ year} = 1,4 \text{ year}$$

Based on this analysis, it can be concluded that the Mbah Warijan tofu business has a payback period of 1.4 years. This implies that the business will recover its initial investment within the first 1.4 years of operation, or in other words, the business needs to operate for approximately 1.4 years to recoup its capital expenditure.

Analisis Metode Break Event Poin (BEP) Usaha Tahu Mbah Warijan

The Break-Even Point (BEP) analysis aims to identify the point at which total revenues are equal to total costs, meaning the business neither earns a profit nor incurs a loss. This is a critical threshold for assessing operational sustainability.

The BEP formula is as follows:

$$\text{BEP Unit} = \frac{\text{Fixed Costs}}{(\text{Selling Price per Unit} - \text{Variable Cost per Unit})}$$

$$\text{BEP (Rupiah)} = \text{Selling Price per Unit} \times \text{BEP Unit}$$

$$\text{BEP Unit} = \frac{\text{Rp.13.815.000}}{(\text{Rp. 255.000} - \text{Rp. 10.000})}$$

$$\text{BEP Unit} = \frac{\text{Rp.13.815.000}}{(\text{Rp. 245.000})} = 56,38$$

$$\text{BEP Rupiah} = 255.000 \times 56,38 = \text{Rp. 14.376.900}$$

The calculation reveals that the business must sell approximately 56.38 pans of tofu to reach the break-even point. With a unit selling price of Rp. 255,000 and a variable cost of Rp. 10,000 per unit, the BEP in units is derived after accounting for fixed costs totaling Rp. 13,815,000. Consequently, the break-even point in monetary terms is calculated by multiplying the selling price per unit by the number of units needed to break even, resulting in a figure of Rp. 14,376,900.

Net Present Value (NPV) Analysis of the Mama Gibran Tofu Business

Net Present Value (NPV) represents the difference between the total present value of benefits and the total present value of costs. The NPV calculation for the Mama Gibran tofu business is presented in the following table:

Table 7. NPV Analysis of the Mama Gibran Tofu Business

Year	Net Cash Flow	DF (16%)	PV of Net Cash Flow
1	Rp. 869.208.000	0,86	Rp. 747.518.880
2	Rp. 869.208.000	0,74	Rp. 643.213.920
3	Rp. 869.208.000	0,64	Rp. 556.293.120
4	Rp. 869.208.000	0,55	Rp. 478.064.400
5	Rp. 869.208.000	0,48	Rp. 417.219.840
Total PV of Net Cash Flow			Rp.2.842.310.080

Source: Primary Data (Processed, 2025)

Based on Table 7, to assess the feasibility of the investment, the net present value of cash inflows is subtracted by the present value of the investment. If the result is positive, the investment is considered viable. The NPV calculation is as follows:

$$\begin{aligned} \text{Total PV of Net Cash Flows} & : \text{Rp. 2.842.310.080} \\ \text{Total PV of Investment} & : \text{Rp. 36.315.000} \\ \text{Net Present Value (NPV)} & : \text{Rp. 2.805.995.080} \end{aligned}$$

The resulting NPV of Rp. 2,805,995,080 indicates a positive value greater than zero. Therefore, from the NPV perspective, the Mama Gibran tofu business is highly feasible for development. This NPV estimation is based on a five-year analysis period, with an initial investment value of

Rp. 36,315,000 and a discount factor (DF) of 16%. The interest rate used refers to the Ministry of Finance Regulation No. 10/PMK.05/2009, which amends Regulation No. 135/PMK.05/2008 concerning People's Business Credit Guarantee Facilities. Article 5 paragraph 2 (b) states that for credit amounts between Rp. 5,000,000 and Rp. 500,000,000, the maximum effective interest rate applied is 16% per annum.

This positive NPV ($NPV > 0$) confirms that the project will generate net gains above the cost of capital over the specified period, thus reflecting economic profitability. The assumption of a 16% discount factor simulates a condition where a financial institution provides a loan at a 16% annual interest rate. Under this assumption, for an investment of Rp. 36,315,000, the Mama Gibran tofu business is projected to generate a net benefit of Rp. 2,805,995,080 over five years, excluding the return of the initial capital.

Payback Period (PP) Analysis of Mama Gibran's Tofu Business

The Payback Period (PP) method is applied to assess the time required for the invested capital to be recovered from the net profits of the business. The shorter the payback period, the more favorable it is for the investor, as it indicates a quicker return on investment. The calculation of the PP method for the tofu business at Mama Gibran is presented as follows:

$$PP = \frac{\text{Investment}}{\text{Net Cash/Year}} \times 1 \text{ year}$$

$$PP = \frac{36.315.000}{869.208.000} \times 1 \text{ year} = 0,042 \text{ year or approximately 4 months and 2 days}$$

It can be concluded that the payback period for Mama Gibran's tofu business is approximately 4 months and 2 days, indicating that the initial investment can be fully recovered within the first year of operation. This result demonstrates that the business only needs to operate for slightly over four months to cover its production costs.

This quick return reflects a high level of operational efficiency and low financial risk, making the business attractive to both current and potential investors. Moreover, the short payback period signifies that the capital employed in the tofu production process is effectively utilized to generate consistent profits within a relatively short timeframe.

Break-Even Point (BEP) Analysis of Mama Gibran's Tofu Business

The Break-Even Point (BEP) represents the sales volume at which total revenues are equal to total costs, implying that the business neither makes a profit nor incurs a loss. It serves as a critical tool for assessing the financial feasibility and operational threshold of a business venture.

The BEP can be calculated using the following formulas:

$$\text{BEP Unit} = \frac{\text{Fixed Costs}}{(\text{Selling Price per Unit} - \text{Variable Cost per Unit})}$$

$$\text{BEP (Rupiah)} = \text{Selling Price per Unit} \times \text{BEP Unit}$$

$$\text{BEP Unit} = \frac{\text{Rp. } 20.880.000}{(\text{Rp. } 255.000 - \text{Rp. } 10.000)}$$

$$\text{BEP Unit} = \frac{\text{Rp. } 20.880.000}{(\text{Rp. } 245.000)} = 85,22$$

$$\text{BEP Rupiah} = 255.000 \times 85,22 = \text{Rp. } 21.731.100$$

Based on the BEP calculations, Mama Gibran's home tofu production business must sell approximately 85.22 cooking units of tofu to break even. With a selling price of Rp. 255,000 per unit and a variable cost per unit of Rp. 10,000, the business must achieve a minimum revenue of Rp. 21,731,100 to cover all fixed and variable expenses.

This result implies that any production and sales volume beyond 85.22 units will start generating a profit, making it a crucial benchmark for operational planning. The relatively low variable cost compared to the selling price reflects a potentially high contribution margin, indicating a favorable cost structure for business scalability.

CONCLUSION

Based on the results of the analysis from both technical production and financial aspects, it can be concluded that the tofu home industry businesses operated by Mbah Warijan and Mama Gibran in Rambah Muda Village are feasible to run. From the technical and production standpoint, both enterprises possess several strengths, including strategic location near the market, adequate availability of raw materials, sufficient access to electricity and water, and disciplined, skilled labor. The technology and equipment used are relatively adequate, although there are still some limitations such as suboptimal workspace layout and inadequate lighting. Nevertheless, these issues do not significantly hinder the overall business feasibility.

From a financial perspective, the three methods used, namely Payback Period (PP), Net Present Value (NPV), and Break Even Point (BEP), indicate that the tofu businesses of Mbah Warijan and Mama Gibran are financially viable and have the potential to generate long-term profits. Therefore, it is recommended that these businesses continue to be developed. For future research, it is suggested to conduct a more in-depth analysis of marketing strategies and industrial waste management, as well as an evaluation of long-term sustainability, to gain a more comprehensive understanding of the overall feasibility of home-based tofu industries.

REFERENCES

- Anatan, L., & Nur. (2023). Micro, Small, and Medium Enterprises' Readiness for Digital Transformation in Indonesia. *Economies*, 11(6), 156. <https://doi.org/10.3390/economies11060156>
- Apriani, I., Delwina, D., & Fitriana, L. (2024). Analisis Keuntungan dan Efisiensi Usaha Tempe Daun di Kecamatan Rambah Hilir Kabupaten Rokan Hulu. *SUNGKAI*, 12(2), 71-83. <https://doi.org/10.30606/sungkai.v12i2.2555>

- Arjunan, K. (2022). A New Method to Estimate NPV and IRR from the Capital Amortization Schedule and the Advantages of the New Method. *Australasian Business, Accounting and Finance Journal*, 16(6), 23–44. <https://doi.org/10.14453/aabfj.v16i6.03>
- Astuty, E., Sudirman, I. D., & Aryanto, R. (2024). Sustainable resilience strategy: unleash the micro-businesses's potential in the digitalization and sustainability era. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2313672>
- Barletta, I., Despeisse, M., Hoffenson, S., & Johansson, B. (2021). Organisational sustainability readiness: A model and assessment tool for manufacturing companies. *Journal of Cleaner Production*, 284, 125404. <https://doi.org/10.1016/j.jclepro.2020.125404>
- Dong, J., Xu, W., & Cha, J. (2021). Rural entrepreneurship and job creation: the hybrid identity of village-cadre-entrepreneurs. *China Economic Review*, 70, 101704. <https://doi.org/10.1016/j.chieco.2021.101704>
- Handoyo, S., Suharman, H., Ghani, E. K., & Soedarsono, S. (2023). A business strategy, operational efficiency, ownership structure, and manufacturing performance: The moderating role of market uncertainty and competition intensity and its implication on open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100039. <https://doi.org/10.1016/j.joitmc.2023.100039>
- Ibrahim, Y. (2003). *Studi kelayakan bisnis*. Jakarta: PT Rineka Cipta.
- Kanellos, N., Karountzos, P., Giannakopoulos, N. T., Terzi, M. C., & Sakas, D. P. (2024). Digital Marketing Strategies and Profitability in the Agri-Food Industry: Resource Efficiency and Value Chains. *Sustainability*, 16(14), 5889. <https://doi.org/10.3390/su16145889>
- Kasmir. (2020). *Analisis Laporan Keuangan. (Cetakan ke 5 ed.)*. Jakarta: Rajawali Pers.
- Kristiana, D., & Karnasi, R. (2024). The Effect of Working Capital Management on Profitability in Manufacturing Companies Listed on the Indonesia Stock Exchange. *Journal of Applied Business, Taxation and Economics Research*, 3(3), 232–239. <https://doi.org/10.54408/jabter.v3i3.255>
- Leach, M., Nisbett, N., Cabral, L., Harris, J., Hossain, N., & Thompson, J. (2020). Food politics and development. *World Development*, 134, 105024. <https://doi.org/10.1016/j.worlddev.2020.105024>
- Mansouri, S., & Momtaz, P. P. (2022). Financing sustainable entrepreneurship: ESG measurement, valuation, and performance. *Journal of Business Venturing*, 37(6), 106258. <https://doi.org/10.1016/j.jbusvent.2022.106258>
- Siagian, S. (2019). *Manajemen Sumber Daya Manusia*. Jakarta; Penerbit PT Bumi Aksara.
- Susana, S. (2012). *PERANAN HOME INDUSTRI DALAM MENINGKATKAN KESEJAHTERAAN MASYARAKAT MENURUT PERSPEKTIF EKONOMI ISLAM (STUDI KASUS DESA MENGKIRAU KECAMATAN MERBAU)*. Universitas Islam Negeri Sultan Syarif Kasim Riau.

- Tjahyo, A. S., Wu, J. Y., Smith, G., Acuin, C., Maier, A. B., Sim, S. Y. J., Taneja, R., Haldar, S., & Henry, C. J. (2024). Shifting Trend of Protein Consumption in Southeast Asia: Toward Health, Innovation, and Sustainability. *Current Developments in Nutrition*, 8(10), 104443. <https://doi.org/10.1016/j.cdnut.2024.104443>
- Utama, D. M., & Abirfatin, M. (2023). Sustainable Lean Six-sigma: A new framework for improve sustainable manufacturing performance. *Cleaner Engineering and Technology*, 17, 100700. <https://doi.org/10.1016/j.clet.2023.100700>