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Feasibility Analysis of Establishing a Gudeg Jogja Business Using the Net Present Value (NPV) Method in the City of Jakarta

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Abstract

This research aims to analyze the feasibility of establishing a Jogja gudeg business in the city of Jakarta using the Net Present Value (NPV) method. Gudeg, as a typical Yogyakarta culinary specialty, has quite large market potential in Jakarta considering the high public interest in traditional and unique foods. This research will examine various aspects, including technical analysis, financial analysis, and sensitivity analysis. Financial analysis will focus on NPV calculations to measure the added value of investments in the long term. It is hoped that the results of the research will provide a clear picture of the potential success of the Jogja gudeg business in Jakarta and become a reference for prospective entrepreneurs who are interested in the culinary business.

Keywords: Financial analysis, sensitivity, Net Present Value

1. Introduction

Culinary is one of the business sectors that continues to grow in Indonesia. Along with increasing public awareness of the importance of culinary as part of a lifestyle, demand for a variety of foods and drinks is increasing. One of the culinary delights that has great potential is gudeg. The city of Jakarta, as the center of business and culture in Indonesia, has a heterogeneous population with a high level of purchasing power. This makes Jakarta a very potential market for various types of businesses. This large market potential is supported by the increasing public interest in traditional and unique food, as well as the increasing number of shopping centers and culinary areas emerging in Jakarta.

Seeing this promising market potential, many entrepreneurs are interested in opening culinary businesses, including gudeg businesses. However, before deciding to invest, it is necessary to carry out a thorough feasibility analysis to ensure that the business has good prospects. One method that is often used in feasibility analysis is Net Present Value (NPV). NPV is a method used to calculate the present value of the net cash flow of an investment project. Thus, NPV can be used to measure the level of profit from an investment.

2. Literature Review

The Indonesian food industry has emerged as a field that continues to develop rapidly in line with changes in people's lifestyles. The increasing demand for various foods and drinks is caused by increasing public awareness of the importance of cooking in everyday life, especially in big cities. This is influenced by urbanization factors, increasing purchasing power and consumer preferences which are increasingly focused on culinary experiences that not only fulfill basic needs but also recreational and social aspects (Kumar et al., 2022).

The city of Jakarta, the economic and cultural center of Indonesia, is one of the fastest growing areas in the culinary sector. Wijaya (2019) points out that Jakarta has a diverse population with very different culinary tastes, making it a potential market for various types of businesses, including traditional cuisine. According to research by

Fibri & Frøst (2019), traditional foods such as gudeg are increasingly popular among urban communities who are increasingly interested in the uniqueness and cultural value of local food.

Gudeg, one of Yogyakarta's culinary icons, has a big opportunity to develop further in Jakarta. Liberato et al. (2020) stated that lifestyle trends that emphasize culinary exploration have increased interest in regional specialties. Another factor that supports the growth of Jakarta's culinary business is infrastructure development, including more and more malls and eating places appearing, making it easier for consumers to enjoy various types of food (Arciniegas, 2021).

To ensure the success of a culinary business, especially in the face of intense competition, a business feasibility analysis is required. The method that is widely used to evaluate business potential is Net Present Value (NPV). NPV is an effective approach to evaluate the return prospects of an investment because it takes into account the time value of money and future cash flows Abdelhady, (2021). Dhirasasna & Sahin, (2021) research shows that the use of NPV in the hotel industry helps entrepreneurs make better investment decisions by providing a clearer picture of potential profitability.

Overall, research in the Indonesian culinary sector shows great potential, especially considering the development of traditional culinary trends in big cities. However, making the right investment decisions requires careful analysis. One way is to use the NPV technique to evaluate business feasibility.

3. Materials and Methods

3.1. Materials

The research was conducted at Warung Makan Gudeg Jogja Bu Harno in Cakung, Jakarta. The object of this research is the plan to establish a Gudeg Jogja culinary business in the city of Jakarta which focuses on analyzing the feasibility of the business. Data is taken and calculated for the next 5 year period. The time for conducting the research is from August to October 2024. The method used in this research is a case study. Collect information regarding investment costs, production costs, variable costs, fixed costs, labor costs and other data related to this study. Information and identification of problems were obtained through interviews with the owner of Warung Makan Gudeg Jogja, Bu Harno, as well as through reviewing the financial notebooks in the food stall. To compile an annual cash flow projection table and calculate NPV using Microsoft Excel software.

3.2. Methods

The data processing method is carried out through tabulation form, then analyzed mathematically by referring to aspects of financial feasibility analysis. Aspects used include Break Even Point (BEP), Net Present Value (NPV), Internal Rate of Return (IRR). Data that includes variable costs and fixed costs is used to calculate total production costs or total costs, using the appropriate formula.

3.2.1. Formula/Equation

NPV *(Net Present Value)*

Net Present Value is the current value of money obtained from a sum of money in the future, which is calculated back to the current value using a determined interest rate (Suryani, 2012).

$$NPV = \sum_{t=1}^{n} \frac{CF_t}{(1+r)^2} - PV\ cost \quad (1)$$

Information:

CF_t : Cash flow in year – t

r : Discount Rate (15%)

a. NPV > 0, then the investment is financially feasible
b. NPV < 0, then the investment is not financially feasible
c. NPV = 0, then the investment is at the breakeven point (Break Event Point)

IRR (Internal Rate of Retrun)

IRR (Internal Rate of Return) is the discount rate that makes the net present value (NPV) of the project's cash flows equal to zero. The IRR formula is mathematically expressed as:

$$IRR = i_1 + \frac{NPV\ 1}{NPV1-NPV2} + (i_2 - i_1) \quad (2)$$

Information:

i_1 : Interest rate 1 (Discount rate NPV 1)
i_2 : Interest rate 1 (Discount rate NPV 1)
$NPV\ 1$: Net Present Value 1
$NPV\ 2$: Net Present Value 2

BEP (Break Event Point)

BEP (Break Event Point) is a point in the amount of production or sales made so that the costs incurred can be covered again or the value at which the profit received by SMEs is zero.

$$Bep\ Unit = \frac{FC}{P-VC} \quad (3)$$

$$Bep\ Rupiah = \frac{FC}{1-VC/P} \quad (4)$$

Information:

FC : Fixed Costs
P : Selling Price/Unit
VC : Variable Cost/Unit

3.2.2. Tables

Cost recapitulation aims to provide an overview of the total costs related to production, both fixed costs and variable costs, as well as the selling price per unit. This data will be used to calculate the break even point and evaluate the feasibility of the business

Table 1. Cost recapitulation

Description	Unit	Total
Production Capacity	Portion/Year	10,000
Total fixed cost	IDR	28,340,334
Variable cost per unit	IDR	6,612.74
HPP	IDR/Portion	5,553
Selling price	IDR/Portion	15,000

Break Event Point (BEP) is the point at which total revenue equals total costs, so that the company does not experience losses or profits. In other words, BEP shows the minimum sales volume that must be achieved so that the company does not lose money. After calculating it using equations 3 and 4, the following results are obtained.

To measure the feasibility of this MSME business, several financial indicators are used, namely NPV and IRR. Net Present Value (NPV) is the difference between the present value of cash inflows and cash outflows of a project. If the NPV is positive, then the project is considered feasible because it provides profits for the company. Apart from NPV, another indicator is the Internal Rate of Return (IRR). IRR is the internal rate of return that describes the interest rate at which NPV is equal to zero. If the IRR is higher than MARR (Minimum Attractive Rate of Return), then the project can be accepted. After calculating with equations 1 and 2, the following results were obtained.

Table 2. BEP

Description	Unit	Total
Selling/year	Portion	10.000
Selling	IDR	150.000.000
Net Profit	IDR	55.532.220
BEP Unit	Portion	3379
BEP Rupiah	IDR	50.685.000

4. Results and Discussion

Based on Table 2. BEP, it is known that the break-even point occurs at a production of 3,379 portions, with a rupiah value of IDR 50,685,000. Meanwhile, actual production reaches 10,000 portions in one year with total income of IDR 150,000,000. This shows that the company succeeded in exceeding the break-even point and generated a net profit of IDR 55,532,220. In this way, the determined production capacity is optimal and supports the achievement of profits.

Table 3. Project Feasibility Conclusion

Measuring instrument	Measurement results	Industry Average	Information
NPV	76,492151	NPV = Positive (+) The project can be accepted	Good
IRR	20%	IRR (%)>MARR (%)	Good
MARR	15%	15%	

Based on the analysis results, the NPV of this project is 76.492151, which means the project provides profits and is feasible to run. Furthermore, based on the calculation results, the IRR value for this project is 20%, which is greater than the MARR of 15%. With an IRR that exceeds MARR, the project delivers profitable returns and exceeds minimum expectations.

5. Conclusion

The results of the business feasibility analysis show that based on these results, the Warung Gudeg culinary business in Jakarta is declared to have promising economic potential. This business is not only able to provide profits, but also has the opportunity to increase production capacity to meet market demand. Therefore, the establishment and development of this business is worthy of realization and expansion. In terms of technology, the gudeg production process is carried out using simple equipment. The company's annual production capacity reaches 10,000 portions, with an average of 30 working days per month.

In the human resources (HR) aspect, UMKM Gudeg Jogja is managed by one leader with the assistance of one worker in the production section. From a financial perspective, with an initial investment of IDR 111,160,000 and a production capacity of 10,000 portions per year, the selling price is set at IDR 15,000 per portion, resulting in an annual profit of IDR 55,532,220. Financial analysis shows that the NPV is positive (NPV > 0), the IRR is 20% (higher than MARR 15%), and the break-even point (BEP) is achieved on a volume of 3,379 portions with revenue of IDR 50,685,000.-.

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