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ANALYSIS OF BUSINESS FEASIBILITY IN EKSPANSION ABILITY PT. MEKARSARI WARNA PERKASA

Dea Gita Permatasari¹⁾, Reswanda²⁾

1) Narotama University, Surabaya, Indonesia
E-mail: Indarti1106@gmail.com

2) Narotama University, Surabaya, Indonesia
E-mail: reswanda@gmail.com

Abstract

In the world of the plastic industry, currently it is experiencing a fairly rapid development. In its efforts to develop the company carries out investment activities. PT. Mekarsari Warna Perkasa is one of the business actors engaged in plastic dye trading which will expand by building a color matching laboratory. This type of research is qualitative descriptive using investment criteria analysis techniques to see whether the project is feasible or not. The results showed that the NPV value was Rp. 165,168,085.69, NET B / C of 1.26, IRR value of 19.86%, then the payback period for 3 years 7 months and BEP of 85.49%, namely the turnover of Rp. 1,231,094,004. So it can be concluded overall that this expansion plan is feasible to run with a cash flow that is always positive using the assumption of sales of 1,440,000,000 per year, with 100% of own capital, and a discount factor of 10%. The benefits of this research for business owners in carrying out expansion plans are expected to use 100% of their own capital so that there are no additional bank loan interest costs, and it is hoped that future researchers will become a reference for analysis using the external capital component.

Keywords: *Plactic Colour Company, Expansion Project, Business Feasibility Analysis, Investment Criteria.*

Introduction

The Indonesian economy is currently experiencing a fairly rapid development. This is indicated by the number of new businesses that have sprung up, ranging from small, medium to large-scale businesses. Every company in carrying out business activities must have goals, both short and long term goals. The short-term goal that the company wants to achieve is the achievement of profit or profit so that sustainable funds are available to be able to operate the company on a day-to-day basis. Meanwhile, the long-term goal to be achieved is to ensure the continuity of the company and future developments by means of investment.

There are various forms of investment activity. According to Gunawan (2007: 41), there are 6 (six) types of investment, including: establishing new businesses, expanding business or expanding finances, rehabilitating machines that have decreased in efficiency, rebuilding machines (rebuilding), changing distribution channels, from distribution through intermediaries to distribution through agents / branches owned by the company itself,

conducting research to find more efficient processes, creating new products, and improving management information systems. One thing that can be done is the establishment of a new business / project by analyzing the feasibility of the business to be carried out.

As with PT. Mekarsari Warna Perkasa is a business that was started in 2012 engaged in trading with the concept of being a supplier of plastic dye seeds. Plastic itself is one of the most common materials we see and use. Plastic is gradually starting to replace glass, wood and metal. As time goes by, consumer demand has expanded and the company is trying to provide, among other things, additives or process aids such as: plasticizers, stabilizers, lubricants, fillers, colorants, antistatic agent, blowing agent, flame retardant etc. For dye itself, currently there are many requests for custom or commonly called (matching color) which are usually available in powder form instead of seeds like pre-existing colors. Seeing this phenomenon, the company wants to expand its business by opening a color matching laboratory. This is done by the company in order to increase revenue and expand market share.

Based on this background, the researcher is interested in examining the feasibility of opening a color matching laboratory which can be seen from the financial aspect through an analysis of investment criteria consisting of Net Present Value (NPV), Internal Rate of Return (IRR), Break Event Point (BEP), Payback Period (PP), and Net Benefit Cost Ratio (Net B / C) with the title "Business Feasibility Analysis in Expansion Capabilities at PT. Mekarsari Warna Perkasa".

Literature Review

Products such as plastic were first made in 1862 by Alexander Parkes which made from cellulose. The material found by Parkes is called Parkesine. In 1907, a chemist from New York named Leo Baekland succeeded in making the first synthetic material. He developed Bakelite which is a liquid resin. This material does not burn, does not melt, and does not melt in an acidic vinegar solution. This causes the material when it is formed can no longer change. Plastic is a new material, widely used and developed since 1975 which was introduced by Ward, Jodan Marsh, J.C Penny, Sears and other large retail stores (Marpaung, 2009). This polymer material has grown widely in use from only a few hundred tons in the 1930s to 150 million tons / year in the 1990s and 220 million tons / year in 2005 (Putra & Yuriandala, 2010).

1. Business Feasibility Study

According to (Kasmir & Jakfar, 2012: 6) the definition of feasibility is research conducted in depth to determine whether the business to be carried out will provide greater benefits than the costs to be incurred, while the definition of business is a business that is carried out with the main objective of obtaining profit so it can be concluded that the meaning of a Business Feasibility Study (SKB) is an activity that studies in depth about a business or business to be carried out, in order to determine whether the business is feasible or not.

A Feasibility Study is a material for consideration in making a decision, whether to accept or reject a business idea or a planned project (Ibrahim, 2003: 1) Preparing a business feasibility study has many things related to calculating interest and value for money, such as interest expense, interest rate, time value money, loan value and installments (credit), as well as the calculation of depreciation of the assets used (Ibrahim, 2003: 7).

To find out the feasibility of a business, financial and non-financial analysis is needed. According to (Johan, 2011: 9) There are several aspects that need to be examined in a

feasibility study, namely industrial aspects, market aspects, marketing aspects, financial aspects, management aspects, engineering and production aspects, aspects of human resources, environmental aspects, legal and juridical aspects.

2. Payback Period

The payback period is a method for calculating the length of time required to return the invested money from the annual cash inflows (proceeds) generated by the investment project. There are two methods to calculate it, namely the cumulative net benefit method and the average net benefit each year. If the cash flow is not the same every year, then PP can be calculated by subtracting the cash inflow from investment (Jumingan, 2009: 179). The eligibility criteria for investment acceptance using the PP method is that an investment is declared feasible if the PP is shorter than the maximum payback period and if there are several investment alternatives, then the best alternative is to choose the shortest PP investment (Suliyanto, 2010: 199).

The formula for finding a Payback Period is as follows:

$$PP = \frac{\text{Cost of project / Investment}}{\text{Annual cash inflow}}$$

3. Average Rate of Return (ARR)

Is a way to measure the average interest taking by comparing the average profit before tax (EAT) with the average investment (Kasmir and Jakfar, 2012: 102)

If the profit after tax of an investment is not the same amount from year to year, then the average profit after tax each year must be calculated first to be able to calculate using the Average Rate of Return method.

The formula for finding a Average Rate of Return is as follows:

$$ARR = \frac{\text{Average Net Profit}}{\text{Average Investment}}$$

4. Net Present Value (NPV)

Net Present Value (NPV) is a method used by comparing the present value of net cash inflows with the present value of investment, the difference between the present value of the two is called Net Present Value (NPV) (Kasmir and Jakfar, 2012: 103). The value generated in the NPV calculation is the unit of currency.

The formula for finding NPV is as follows:

$$NPV = \sum_{i=1}^n \frac{\text{Cash Flow}_i}{(1+r)^i} - \text{Initial Investment}$$

5. Internal Rate of Return (IRR)

Is a tool for measuring the level of internal result retrieval. If the IRR is greater than the loan interest, it is accepted but if the IRR is less than the loan interest, it is rejected. (Kasmir and Jakfar, 2012: 107). According to Suliyanto (2010: 208) IRR is a method for calculating the interest rate which can equalize the present value of all cash inflows with cash outflows from a project investment

The formula for finding IRR is as follows:

$$IRR = i_1 + \frac{NPV_1}{NPV_1 - NPV_2} \times (i_2 - i_1)$$

6. Profitability Index (PI)

Profitability Index (PI) or benefit and cost ratio (B / C ratio) is the ratio of activities from the total present value of net income to the present value of investment expedited during the investment life (Kasmir and Jakfar, 2012: 208)

The formula for finding PI is as follows:

$$PI = \frac{PV_{CASH\ INFLOWS}}{PV_{CASH\ OUTFLOWS}}$$

7. Break Event Point (BEP)

It is a condition or sale of a business where the amount of benefits (income) is the same as the expenses in other words, a situation where the company does not get a profit and does not suffer a loss (Fatah, 1994: 45). The

following is the BEP calculation formula:

$$\text{Breakeven point (\$)} = \frac{\text{fixed operating expenses (\$)}}{\text{gross profit margin (\%)}}$$

8. Net B/C Ratio

Is a method used to see how many benefits received by the project for one rupiah project expenditure. According to Sofyan (2004: 177), Net B / C Ratio is a ratio that compares the benefits or receipts of a business with the costs incurred to realize the plan to establish or operate the business.

following is the BEP calculation formula:

$$NETB / C = \frac{\sum_{t=1}^n \frac{B_t - C_t}{(1+i)^t}}{\sum_{t=1}^n \frac{C_t - B_t}{(1+i)^t}}$$

9. Theoretical Framework

This research was conducted at a company engaged in the trading of plastic dye seeds, PT. Mekarsari Warna Perkasa, which plans to expand its business by building a color matching laboratory. This research was conducted to determine whether or not the expansion of the business was feasible, so first identified the characteristics of the business by assessing various aspects. Aspects that need to be studied include non-financial aspects including: market and marketing aspects, technical and production aspects, management and human resources aspects, legal aspects, social aspects, environmental impact aspects, and financial aspects. In this study, to determine whether it is feasible or not, it is only determined in the financial aspect. To determine this, several measurements were made with investment eligibility criteria including: NPV, IRR, PP, BEP and Net B / C Ratio.

After knowing the results of the feasibility study on the company, it can be concluded whether the expansion plan is feasible or not. If it is feasible, the business will be continued, but if the result is not feasible, the company must evaluate the management and efficiency of the costs incurred.

The flow of thought above can be described in the form of a framework as in Figure 1.

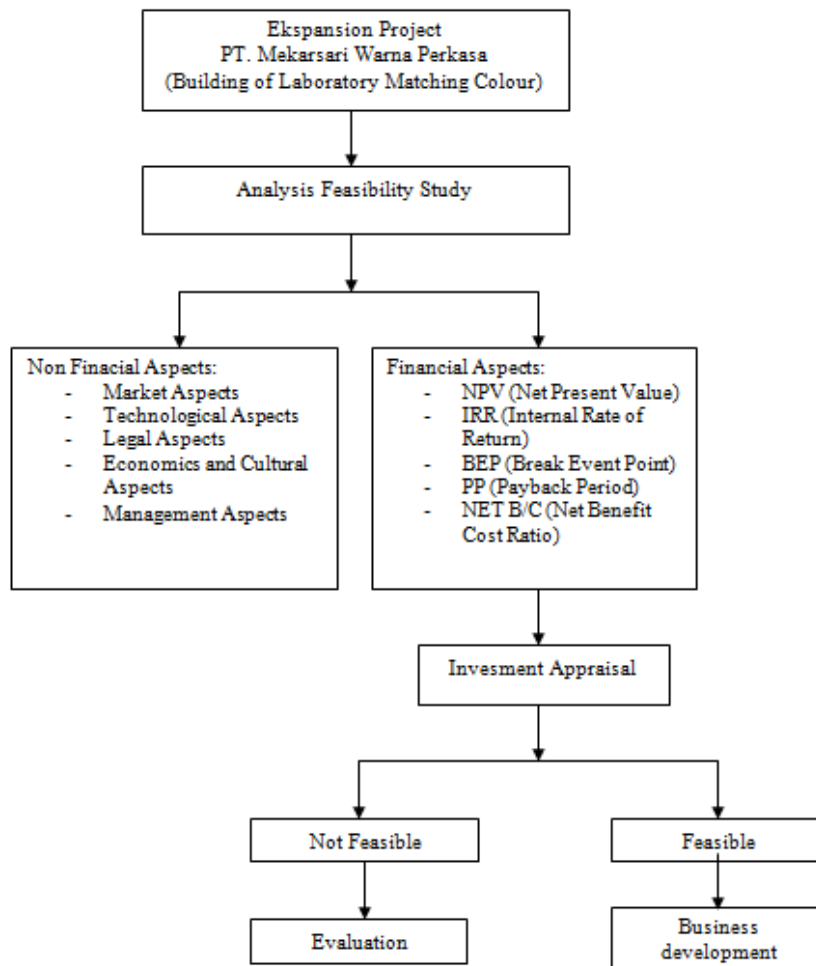


Fig 1. Conceptual Framework

Research Method

Types of research

This type of research is descriptive research, which contains a description of the company's location and business feasibility in terms of certain aspects. This research uses a qualitative case study approach, where research focuses on a particular case for analysis, by making direct observations in the field, seeking information from informants, employers and employees of PT. Mekarsari the Mighty Color. It is testing where the researcher tries to conduct systematic research and in this study the researcher will analyze the business feasibility of the company in the ability to expand.

Research Object

This research was conducted at PT. Mekarsari Warna Perkasa having its address at Ruko Darmo Park 1 Blok IV B No. 15 Jalan Mayjen Sungkono, Pakis Village, Sawahan Subdistrict, Surabaya City, and has a warehouse for storing goods which is located at the Margomulyo Permai Warehouse Blok C-21, Surabaya City. The company is engaged in trading suppliers of plastic dye seeds and some of their additives. The location of this research was chosen on the basis that this company has been operating for a long time and has good development potential in the future as well as the transparency of data that can make it easier for researchers to collect the required data.

Data Type

The type of data used in this study is quantitative data, namely data presented in the form of numerals that indicate the results of variable measurements. The quantitative data in this study are:

- 1) Financial reports of PT. Mekarsari Warna Perkasa period 2017, 2018, 2019
- 2) The profit comparison report of PT. Mekarsari Warna Perkasa period 2017, 2018, 2019
- 3) Details of PT. Mekarsari the Mighty Color.

Data Source

Based on the types of data above, the data sources used in this study are primary data and secondary data: a. Primary data, namely data obtained or collected by researchers directly from the data source, can also be referred to as original data and data that describes the situation at that time. In this study, primary data were obtained through an interview process with the owner, employees at PT. Mekarsari Warna Perkasa, as well as documentation techniques and direct observation in the field regarding the description of the data needed in this study. b. Secondary data is data obtained or collected by researchers from various existing sources such as the Central Bureau of Statistics (BPS), books, reports, journals and the Internet. In this study, the secondary data used are in the form of: Details of costs for opening a color matching laboratory, and other costs, sales reports of PT. Mekarsari Warna Perkasa, financial reports, managerial information about the number of customers, transactions per day, records of accounts payable and receivable, and so on in the 2017, 2018, 2019 period.

Data Analysis Technique

The researcher analyzed the data using two methods, namely qualitative methods and quantitative methods. Qualitative methods are used to obtain a company description such as a general description of the company to analyze the non-financial aspects of the company. The quantitative method is obtained by calculating the data that has been obtained and then processed by using quantitative numbers. The use of quantitative numbers in this

feasibility study is to determine the feasibility of the financial aspect by calculating NPV (Net Present Value), PP (Payback Period), IRR (Internal Rate of Return), BEP (Break Event Point), NET B / C (Net Benefit). Cost Ratio).

Result and Discussion

To analyze the feasibility of the business, it is also necessary to specify the estimated costs that will be incurred on this investment. Investment costs, incurred for the cost of buying buildings, leasing and building, purchasing equipment, and making permits, to prepare for the physical needs of the project takes about 6 months. Operational costs, which are incurred are carried out and calculated every month, as for the detailed cost data as follows:

1. Detail Cost

The costs incurred include fixed costs, variable costs, operational costs, and depreciation costs. The laboratory establishment plan is calculated based on the need in its opening readiness, for fixed assets it is assumed for 5 years. The cost details are as follows:

a. Variable Cost

Table 1. Variable Cost

No.	Description	Total Unit	Total	Total per month
1	Salary Cost (laboratory)	3	4,200,000	12,600,000
2	Salary Cost (warehouse)	1	3,600,000	3,600,000
3	Materials		50,000,000	50,000,000
4	Support Materials		20,000,000	20,000,000
Total		4		86,200,000

b. Fix Operational Cost

Table 2. Fix Operational Cost

No.	Cost	Total per month	Total per year
1	Electricity	5,000,000	60,000,000
2	Water	300,000	3,600,000
3	phone and wifi	420,000	5,040,000
4	Safety levies	450,000	5,400,000
Total		6,170,000	74,040,000

c. Depreciation Cost

Table 3. Depreciation Cost

No.	Description	Cost	Term of Depreciation	Cost per month
1	Renovation cost (5 year)	250,000,000	60	4,166,667
2	Fix Assets	376,750,000	60	6,279,167
Total		626,750,000		10,445,833

Table 4. Depreciation Cost

No.	Description	Cost	Term of Depreciation	Cost per month
1	Renovation cost (5 year)	250,000,000	60	4,166,667
2	Fix Assets	376,750,000	60	6,279,167
Total		626,750,000		10,445,833

d. Cost Investment

Table 5. Cost Investment

No.	Description	Acquicition cost	Total unit	Total Cost	Term of depreciation	Despreication cost per month
1	Injection machine	126,000,000	1	126,000,000	60	2,100,000
2	Mixing 10 L	31,000,000	1	31,000,000	60	516,667
3	Mixing 25 L	40,000,000	1	40,000,000	60	666,667
4	Chiller (tentatif) 5HP	35,000,000	1	35,000,000	60	583,333
5	Vacum cleaner	1,500,000	1	1,500,000	60	25,000
6	Compressor 2HP	8,000,000	1	8,000,000	60	133,333
7	Precision scales	7,400,000	1	7,400,000	60	123,333
8	Add power (electric)	50,000,000		50,000,000	60	833,333
9	Pull wires	20,000,000		20,000,000	60	333,333
10	AC	3,300,000	4	13,200,000	60	220,000
11	Laptop	5,250,000	1	5,250,000	60	87,500
12	Printer	1,400,000	1	1,400,000	60	23,333
13	Exhaust fan	1,050,000	8	8,400,000	60	140,000
14	Rack	750,000	3	2,250,000	60	37,500
15	Table	550,000	2	1,100,000	60	18,333
16	Chair	330,000	4	1,320,000	60	22,000
17	CCTV	362,500	4	1,450,000	60	24,167
18	etc	10,000,000		10,000,000	60	166,667
Total		341,892,500		363,270,000		6,054,500

2. Sales Assumtion

In determining the sales projection for each month in the laboratory, it is assumed that it uses a reference from total sales which was previously around 25% because the sales data consists of ready-made dyes, additives and some color matching products. Based on the data, it is assumed that the company will earn Rp. 1,440,000,000 in the first year with a sales quantity of 20 tons / 20,000 kg.

a. Anaylisis Financial Aspect

The feasibility analysis of this color matching laboratory uses several investment criteria, namely NPV (Net Present Value), PP (Payback Period), IRR (Internal Rate of Return), BEP (Break Event Point), NET B / C (Net Benefit Cost Ratio) . All results of this business feasibility analysis come from own capital (parent company). Following are the results of the feasibility analysis at PT. Mekarsari the Mighty Color:

3. Break Event Point

In making the BEP analysis previously determined assumptions on income, cost of goods sold (COGS), sales margins, and overhead costs. Average monthly sales of Rp. 120,000,000 and the average annual sales of Rp. 1,440,000,000. The assumption of COGS is 85%, then the average COGS is Rp. 102,000,000 per month and Rp. 1,224,000,000 per year.

based on the calculation, the sales margin is obtained 17,64%. Based on the assumptions and calculations above, the BEP for the establishment of the laboratory 85,49%. The BEP for the establishment of this laboratory is 85.49% of the company's total sales projection, namely a turnover of Rp. 1,231,094,004.

4. Payback Period

The projection net profit is Rp. 208,905,996 per year, while the total investment in this expansion project is Rp. 626,750,000 for 5 years, then the payback analysis for the investment expansion in this laboratory development is:

Table 6 Payback Period Calculation Results:

Year	Operating Cash inflow	
	Initial investment	(626,750,000)
Year 1	189,914,542	(436,835,458)
Year 2	172,649,583	(264,185,875)
Year 3	156,954,167	(107,231,708)
Year 4	142,685,606	35,453,898
Year 5	129,714,187	165,168,086

From the calculation of the table above, the payback period results are 3 years 7 months. From these results it can be concluded that this project is feasible because the payback period value is less than the project life, namely 5 years.

5. Net Present Value

In evaluating using NPV, the interest rate used is in accordance with the interest rate at Bank Indonesia in 2020 of 10%. The results of the NPV calculation can be seen in the following table:

Table 7 Net Present Value Calculation Results:

Year	Operating cash inflow	Present value	Total operating cash inflow present value
	initial invesment	(626,750,000)	
Year 1	208,905,996	189,914,542	791,918,086
Year 2	208,905,996	172,649,583	
Year 3	208,905,996	156,954,167	
Year 4	208,905,996	142,685,606	
Year 5	208,905,996	129,714,187	
Net Present Value		165,168,086	

Then the NPV value obtained in this project with an interest rate of 10% is Rp. 165,168,086 value > 0 then this investment is declared feasible.

Internal Rate of Return

In calculating IRR, 2 calculations were made with 2 different interest rates. The first interest rate, namely (K1) = 10% and the second interest rate (K2) = 20%, the following calculations can be obtained. Based on the above calculations, the value of the Internal Rate of Return (IRR) in this project is 19.8%, this investment is considered feasible because the IRR value is greater than the applied interest rate.

NET B/C Ratio

This net B / C is a comparison between the amount of positive PV and the amount of negative PV, which will later show an illustration of how many times the benefits obtained from the costs incurred. The calculation result is 1.26 or > 1 then the project is declared feasible.

Conclusion

Based on the description and discussion of the previous chapter, conclusions can be drawn regarding the management of accounts receivable at PT Sarana Metal Indah in Surabaya, namely:

1. The company's operational activities arise from credit sales, resulting in company receivables. With certain policies such as the policy of providing credit to customers by setting credit standards. Credit sales have its own advantages for companies because they have a special attraction for customers who do not have sufficient funds to make cash purchases.
2. Most of the operating costs used use debt and use their own capital .
3. In order for receivables to be collected more quickly, management is expected to be able to provide discounts on credit sales that have been given by customers. By providing a discount if the customer pays installments earlier than the predetermined date or due date.
4. Judging from the collection of accounts receivable PT Sarana Metal Indah has been effective, although some customers still have late payments.

Suggestions

Based on the analysis that has been done, the suggestions that can be given by researchers regarding the management of accounts receivable at PT Sarana Metal Indah in Surabaya are:

1. In order for trade or credit receivables to be collected more quickly, management is expected to focus more on collection.
2. Companies must be more active in collecting accounts receivable from customers by providing warnings. This is done in order to avoid the risk of uncollectible trade receivables or bad debt. Because the results of the uncollectible accounts receivable, the company cannot play the funds it has obtained for the company's operations.

3. Companies need to re-evaluate credit policies from year to year whether it is necessary to make improvements or not to maintain the condition of the company related to trade receivables so that the turnover of accounts receivable is faster so that it can meet the company's liquidity.

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