



Bamba's cold & creamery business feasibility study using capital budgeting

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received March 02, 2021 Revised March 15, 2021 Accepted March 30, 2021</p> <hr/> <p>Keywords:</p> <p>Capital budgeting; Earnings management.</p>	<p>Basically, a business or project was born from an idea or ideas from business owners or managers. Ideas or ideas can not be directly implemented in the form of investment. Investment to a business idea is done by sacrificing some money at the moment, so we need an assurance that these investments can provide benefits in the future. Therefore, a study needs to be done to assess the feasibility of a business idea. Business feasibility study aims to assess to what extent the feasibility of a business idea. Study the feasibility of the implementation of business ideas will minimize the risk faced by capital owners. Business feasibility study is carried out in depth to obtain various information related to the respective business activities. Implementation of a business feasibility study covers several aspects related to business functions, namely the market and marketing aspects, technical aspects of production and technology, aspects of management and human resources, legal aspects, and financial and economic aspects. From several aspects, research and decision making focused on the financial aspects by utilizing the Net Present Value method, Internal Rate of Return method, Payback Period Method, and Profitability Index method. Based on those four methods of calculations that have been performed, the results obtained are that Bamba's Cold & Creamery business idea is feasible for acceptance. Internal Rate of Return method, Payback Period Method, and Profitability Index method. Based on those four methods of calculations that have been performed, the results obtained are that Bamba's Cold & Creamery business idea is feasible for acceptance. Internal Rate of Return method, Payback Period Method, and Profitability Index method. Based on those four methods of calculations that have been performed, the results obtained are that Bamba's Cold & Creamery business idea is feasible for acceptance.</p> <p style="text-align: right;"><i>This is an open access article under the CC BY-NC license.</i></p>



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1. INTRODUCTION

Often times, a manager or business owner will be faced with several choices whether to make an investment or not. The investment that will be chosen is of course an investment that is worth financing, namely one that can provide benefits in the future and provide returns in a relatively short time. On the other hand, the company does not have sufficient funds to finance all of these investments. On the basis of limited funds owned by the company or investor, the investment implementation plan needs to be initiated with a feasibility study of the intended business.

A feasibility study is an in-depth study of a business idea about whether or not the idea is feasible to implement. Studies need to be carried out to see how far the investment is feasible. Business feasibility studies aim to assess the feasibility of an investment plan. By carrying out an appropriate business feasibility study, any risk of loss that may occur can be minimized as small as possible.

Implementation of a business feasibility study will cover several aspects related to business functions. The aspects studied in the feasibility study of a business are (1) Market and Marketing Aspects, (2) Production and Technology Technical Aspects, (3) Management and Human Resources Aspects, (4) Legal and Licensing Aspects, and (5) Financial Aspect.

By conducting studies on market and marketing aspects, it is done to obtain an overview of the level of supply and demand for the product in question. Analysis of market and marketing aspects is carried out to obtain information on whether the products they offer will be well received by the public. Information relating to market aspects includes comparison of product quality with competitors' products, demographic profiles of potential customers, and geographic characteristics of the intended market.

The formulation of the problem used in this research is: How is the feasibility of the Bamba's Cold & Creamery business idea if it is assessed based on the Net Present Value criteria? How is the feasibility of Bamba's Cold & Creamery's business idea if it is assessed based on the Internal Rate of Return criteria? How is the feasibility of the Bamba's Cold & Creamery business idea if it is assessed based on the Discounted Payback Period criteria? How is the feasibility of Bamba's Cold & Creamery's business idea when assessed based on the Profitability Index criteria?

2. RESEARCH METHOD

In this research, case study analysis will be used to conduct an in-depth analysis of the situation experienced at the time the research was carried out. Research using case study analysis requires the use of data, some of which are obtained using observational media. The use of interview media to obtain authentic case studies is sometimes difficult to achieve because many companies choose not to answer and protect it as confidential data belonging to the company. All the required data is collected at one time, so the researcher uses a cross-sectional method in collecting data.

Determining the feasibility of a business idea is done by analyzing aspects related to business activities, especially analysis of financial aspects. Analysis of financial aspects involves an analysis of Net Present Value, Internal Rate of Return, Discounted Payback Period, and Profitability Index. The analysis carried out provides feasibility justification values to see the feasibility of a business. Table 1 provides the criteria and justification for determining the feasibility of a proposed business idea:

Table 1 Bamba's Cold & Creamery Eligibility Criteria

No	Criteria	Eligibility Justification
1	<i>Net Present Value</i>	> IDR 0.00
2	<i>Internal Rate of Return</i>	>10%
3	<i>Discounted Payback Period</i>	< 5 years
4	<i>Profitability Index</i>	≥ 1.0

3. RESULTS AND DISCUSSION

Marketing Market Aspects

Opportunities for developing an ice cream business in Indonesia are still very broad. Ice cream is not only liked by children but also adults. This can be seen from the large consumption value of ready-to-eat food and beverages, which has always increased from 2001 to 2008. In 2001, according to data in table 4.1 obtained by researchers through the Jakarta Central Bureau of Statistics, the average monthly household expenditure on prepared food and beverages of IDR 31,522. This consumption value relatively continued to increase until 2008, except for the period 2002-2003 and the period 2005-2006 which decreased by -15.27% and -2.85%, respectively. Through observations that researchers made of several ice cream outlets in several shopping centers in the South Jakarta and Central Jakarta areas alone, on weekdays there can be sales of up to 50 cups of ice cream. Meanwhile, on weekends, up to 100 cups of ice cream can be sold. One cup of ice cream is equivalent to one serving of ice cream, so that per day there can be up to 50 servings of demand on weekdays and 100 scoops of ice cream on weekends. This number indicates that people tend to be willing to spend money for consumption of food and beverages other than their basic food needs. Based on market analysis, Bamba's Cold & Creamery targets sales of 16 cups of ice cream per day or 480 cups of ice cream per month. so that per day there could be a demand of up to 50 servings on weekdays and 100 scoops of ice cream on weekends. This number indicates that people tend to be willing to spend money for consumption of food and beverages other than their basic food needs. Based on market analysis, Bamba's Cold & Creamery targets sales of 16 cups of ice cream per day or 480 cups of ice cream per month. so that per day there could be a demand of up to 50 servings on weekdays and 100 scoops of ice cream on weekends. This number indicates that people tend to be willing to spend money for food and beverage consumption other than their basic food needs. Based on market analysis, Bamba's Cold & Creamery targets sales of 16 cups of ice cream per day or 480 cups of ice cream per month.

Table 2. Average monthly per capita household spending 2001-2008

Type	Rupiah							
	2001	2002	2003	2004	2005	2006	2007	2008
Food	137,586	195,169	209,007	200,044	239,268	248,270	266,191	380,349
Grains	17,392	21,139	32,422	27,033	21,236	30,037	31,068	37,249
tubers	1,754	1,856	2,525	1,926	1,956	1,670	1,505	2,104
Fish	10,015	14,351	15,179	13,077	17,314	17,229	17,416	19,902
Meat	9,971	14,005	14,992	13,030	15,573	15,288	15,028	17,751
Eggs and Milk	11,562	13,679	14,482	15,629	19,455	20,857	23,797	29,499
Vegetables	8,834	13,758	12,515	10,868	13,847	12,632	14,520	19,039
Nuts	5,306	4,894	6,718	5,689	6,000	7,054	7,540	8,876
Fruits	7,400	11,339	12,612	10,810	11,469	11,702	10,970	14,903
Oil And Fat	4,780	5,969	7,109	6,701	6,754	6,977	8,102	10,664
Beverage	5,605	6,945	7,837	7,441	8,210	7,965	8,329	9,707
Ingredients								
spices	2,874	4,742	4,634	4,426	4,763	4,284	4,411	5,335
consumption								
Other	3,431	5,164	4,667	4,502	7,998	8,459	8,328	11,281
Mom So	31,522	57,643	48,843	56,612	80,629	78,334	84,780	160,738
Drink								
Alcohol	267	402	416	377	692	336	396	150
Tobacco & Betel	16,873	19,283	24,056	21,923	23,372	25,446	30,001	33,151
Not Food	139,696	286,416	244,640	299,940	380,961	433,505	403,454	684,461
Housing area	76,670	150,762	133,711	177,973	235,422	267,646	236,429	388,994

Goods & Services	40,096	90,760	72,569	81,836	86,523	83,513	86,375	93,366
Education	0	0	0	0	31,744	28,278	24,345	37,431
Health	0	0	0	0	11,351	12,506	13,452	35,245
Clothes	10,736	19,941	17,887	17,450	1,191	16,812	17,242	30,452
Hold Goods								
Long	4,706	14,111	9,604	9,487	1,285	10,006	8,584	57,985
Tax and Insurance	3,317	6,455	4,865	7,371	13,099	10,894	12,837	21,704
Parties and Ceremonies	4,171	4,387	6,004	5,823	346	3,850	4,189	19,284
Total Consumption	277,282	481,585	453,647	499,984	620,229	681,775	669,645	1,064,810

Source: <http://jakarta.bps.go.id/>

The level of competition faced by Bamba's Cold & Creamery when it entered the market was intense. In the middle or premium ice cream segment, Campina, Wall's, Indoeskrim, and Diamond have filled it. These brands are well known to the public and already have a strong position in the market. As for the super premium ice cream segment, the large number of franchised ice cream brands from abroad will also complicate Bamba's Cold & Creamery's ability to enter the market. Bamba's Cold & Creamery must be able to make products that are more varied, innovative, and have lower prices, to be able to compete with the premium segment. Franchise brands have the disadvantage of being expensive because raw materials must still be supplied from abroad in order to maintain their quality. Meanwhile, Bamba's Cold & Creamery utilizes local raw materials,

Products from Bamba's Cold & Creamery have begun to be marketed in the Jakarta area. Jakarta has a large population, reaching up to 9.1 million people in 2008. With a population of nearly 10 million people, Bamba's Cold & Creamery's opportunities to sell will be even wider. Jakarta itself has a tropical climate with hot air. Jakarta's geographical conditions which tend to be hot provide broad potential for Bamba's Cold & Creamery in offering frozen food products.

Ice cream products are divided into three classes, namely super premium, premium and standard. The three classes are divided based on the fat content of the milk ingredients used. The super premium class contains the highest fat content, which is around 17%. Meanwhile, the premium and standard classes contain fat content of around 15% and 11%. For every product produced by Bamba's Cold & Creamery uses milk with a fat content of up to 14%, Bamba's Cold & Creamery ice cream products are included in the premium class.

Product Development Strategy

- a. Product branding (branding)
- b. Product packaging
- c. Determination of product labels (labeling)

Location/Distributor Determination Strategy

A location that is the center of the crowd is a suitable place to set up an ice cream shop. Ice cream shops are usually not the main destination for activities. Therefore, ice cream parlors that are established in places that are the center of the crowd are important. Another consideration that can be used is in accordance with the opinion of Subagyo (2008) that there are several factors that influence the decision to determine the location, namely:

- a. Labor
- b. Income per capita
- c. Government policy
- d. Interest Rates

Promotion Strategy

In promoting the products offered, Bamba's Cold & Creamery can utilize four components in its strategy, namely:

a. Who

Throughout the observation process carried out by researchers, consumers who buy ice cream products are not limited to certain segments. Of all the purchases that occurred during the observation process, both from teenagers to adults consumed ice cream. Consumers who are most dominant in consumption are teenagers to young people ranging from 15-25 years of age. The wide segment of consumers who buy ice cream will make it easier for Bamba's Cold & Creamery to carry out promotional activities. However, because of this wide segment, Bamba's Cold & Creamery will find it difficult to focus its promotional activities. So, it is better for Bamba's Cold & Creamery to focus on promotional activities for the majority segment, namely the age range of 15-25 years.

b. What

Consumers need information about the products offered by manufacturers, including the variations owned by the brand in question, and the price they pay to obtain the product. Bamba's Cold & Creamery not only offers ice cream products, but also a variety of other frozen foods, such as frozen yogurt and sorbets. Bamba's Cold & Creamery needs to explain each product to provide consumers with an understanding of the characteristics of each product. Product explanation needs to be done to avoid misunderstandings or misperceptions by consumers of the products offered.

c. When

Promotion is an important activity to introduce and attract consumers' attention to the products offered. Promotional activities should be carried out at the right time, such as promoting during the holiday season when people tend to be more consumptive or during the dry season when people are trying to find ways to reduce the heat they feel.

d. Where

Utilizing the internet as a medium for promotion is able to meet these needs. With access reaching millions of people and free of charge, the internet can help promote Bamba's Cold & Creamery. In addition to internet media, promotions can also be carried out in places that are recreation centers or crowd centers during the holidays.

Technical Aspects of Production and Technology

Production process

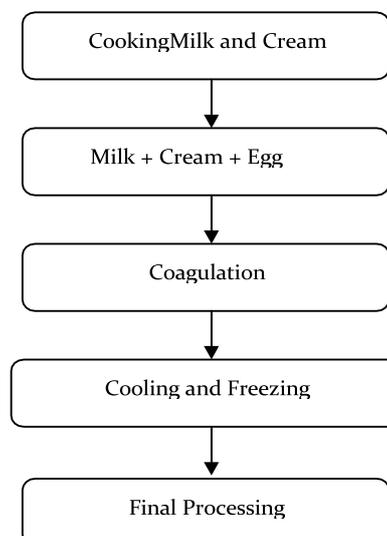


Figure 1 Production process flow

Location Determination

For a newly established business, especially with limited capital such as Bamba's Cold & Creamery, it will be difficult to determine a place as a business location. Choosing a strategic location for business needs requires a lot of money, because the more strategic a business location is, the more expensive the rent will be. In addition, to determine the location of the business can adjust to the distribution strategy used.

Raw material

The materials used in the process of making ice cream include raw materials and auxiliary materials. The raw materials needed in making ice cream are:

Table 3 List of raw material prices

Material	Unit	Price
Milk	250 ml	IDR 3,400.00
Cream	200 ml	IDR 17,000.00
Sugar	1 kg	IDR 12,000.00
Egg	10 grains	IDR 18,000.00
Salt	500 grams	IDR 3,400.00

Source: Bamba's cold & creamer

As for the auxiliary materials in the process of making ice cream, it is usually for the needs of flavor and aroma for ice cream. The use of auxiliary materials may vary according to the needs and tastes of consumers. Table 3 contains some of the auxiliary materials in question, namely in the form of:

Table 4 List of supporting materials prices

Material	Unit	Size/Fill	Production Unit	Price
Vanilla (extract)	1 bottle	60 ml	30 cups	IDR 5,400.00
Chocolate syrup	1 bottle	350 grams	30 cups	IDR 16,000.00
Strawberry syrup	1 bottle	350 grams	30 cups	IDR 16,000.00
Blueberry syrup	1 bottle	350 grams	30 cups	IDR 18,200.00
Biscuits	1 pack	12 pieces	12 cups	IDR 6,100.00

Source: Bamba's Cold & Creamery

Management Aspect

- a. Planning
- b. Organizing
- c. Direction/leadership (directing)
- d. Controlling

Aspects of Human Resources

In setting up its business, Bamba's Cold & Creamery requires a number of employees to operate. The number of employees required is determined as follows: consideration of the marketing strategy that will be used by Bamba's Cold & Creamery. The number of employees needed to open

a shop requires at least two people besides the manager. Each employee holds a function as part of marketing and part of production.

Table 5 The need for human resource costs per month

Position	Amount	Wages
Manager	1 person	IDR 2,000,000.00
Marketing	1 person	IDR 1,118,009.00
Production	1 person	IDR 1,118,009.00
Total Human Resource Needs per Month		IDR 4,236,018.00

Source: Bamba's Cold & Creamery

Legal and Legal Aspects

Business Legality

With individual ownership, Bamba's Cold & Creamery takes the form of a Sole Proprietorship. Because Bamba's Cold & Creamery is in the form of a sole proprietorship company, the owner is entitled to all profits derived from its business activities and is also responsible for all risks and losses that may arise from its business activities.

Table 6 The need for business legal fees

Type	Information	Cost
Company Registration Certificate (TDP)	Individual Business	IDR 100,000.00
Trade Business License (SIUP)	Small company	IDR 0
Nuisance Act Permit	0 – 50 m ²	IDR 50,000.00
Domicile of business	RT, RW, Lurah, Camat	IDR 300,000.00
Total Business Legality Cost Needs		IDR 450,000.00

Source: Bamba's Cold & Creamery

Some of the permits that Bamba's Cold & Creamery needs to have are as follows:

- 1) Company Registration Certificate (TDP)
- 2) Trade Business License (SIUP)
- 3) Nuisance Act Permit
- 4) Domicile of business

Investment needs

The table details all the fixed assets needed by Bamba's Cold & Creamery in its operational activities. Meanwhile, the need for shophouses is in the investment requirement table which is different from the need for other fixed assets due to the nature of the contract per year, so that Bamba's Cold & Creamery has to pay routine investment costs every year.

Table 7 Investment requirements and overhead costs

Tool	Information	Price	Age	depr/yr
Shophouse	5 year contract	IDR 90,000,000.00	5	IDR 18,000,000.00
Gas stove	1 burner stove.	IDR 150,000.00	5	IDR 30,000.00
Freezer	6 shelf capacity.	IDR 2,200,000.00	5	IDR 440,000.00
Ice Cream Maker	1.5 liters/production.	IDR 400,000.00	5	IDR 80,000.00
Furniture	4 sets.	IDR 2,000,000.00	5	IDR 400,000.00
Cooking ware	Pot and straw.	IDR 45,000.00	5	IDR 9,000.00
Plastic box	Freezer container.	IDR 35,000.00	5	IDR 7,000.00
Licensing fee	1. TDP	IDR 450,000.00	5	IDR 90,000.00
	2. SIUP	IDR 0.00	5	IDR 0.00
	3. UUG	IDR 50,000.00	5	IDR 10,000.00
	4. SKDU	IDR 300,000.00	5	IDR 60,000.00

5. Brand license	IDR 600,000.00	10	IDR 60,000.00
Total investment needs	IDR 96,230,000.00	dept	IDR 19,186,000.00
	Overheads per Month (/12)		IDR 1,598,833.33

Source: Bamba's Cold & Creamery

Working Capital Needs

All cost components included in working capital are needed to carry out operational activities every day within a period of one year.

Table 8 Working capital requirements

Type	Cost
Raw material	IDR 1,588,200.00
Adjuvant	IDR 1,151,800.00
cup	IDR 217,600.00
Gas	IDR 14,000.00
Labor	IDR 4,236,018.00
Shop Maintenance	IDR 300,000.00
Electricity & Water	IDR 1,000,000.00
Total Working Capital per Month	IDR 8,507,618.00
Total Working Capital per Year	IDR 102,091,416.00

Source: Bamba's Cold & Creamery

The Need for Raw and Auxiliary Materials

Bamba's Cold & Creamery requires supporting materials in each of its production activities, namely in the form of vanilla extract, chocolate syrup, strawberry syrup, blueberry syrup and biscuits. Table 4.11 shows the total value of the supporting materials required by Bamba's Cold & Creamery in its production activities every month or for the need for 480 cups, amounting to Rp. 1,151,800.00.

Table 9 The need for raw materials per month

Ice cream needs per month: 8 cups x 2 times production/day x 30 days = 480 cups of ice cream.

Material	Unit	Price	Per month	Cost
Milk	1 box 250 ml	IDR 3,400.00	60 boxes	IDR 204,000.00
Cream	1 box 200 ml	IDR 17,000.00	60 boxes	IDR 1,020,000.00
Egg	3 items	IDR 5,100.00	X 60 180 grains	IDR 306,000.00
Sugar	75 grams	IDR 900.00	4500 grams	IDR 54,000.00
Salt	10 grams	IDR 70.00	600 grams	IDR 4,200.00
Total = 8 cups of ice cream		IDR 26,470.00	Total = 480 cups of ice cream	IDR 1,588,200.00

Source: Bamba's Cold & Creamery

Table 10 The need for auxiliary materials per month

Material	Unit	Unit price	Per month	Cost
Vanilla (extract)	60 ml	IDR 3,400.00	X 16 960 ml	IDR 54,400.00
Syrup chocolate	350 grams	IDR 16,000.00	X 17 5,760 grams	IDR 272,000.00
Syrup strawberries	350 grams	IDR 16,000.00	5,760 grams	IDR 272,000.00
Syrup blueberries	350 grams	IDR 18,200.00	5,760 grams	IDR 309,400.00
Biscuits	12 pieces	IDR 6,100.00	X 40 40 pieces	IDR 244,000.00
Total Auxiliary Material Needs per Month				IDR 1,151,800.00

Source: Bamba's Cold & Creamery

Production cost

Each variable cost is then added up to obtain the total variable cost value and each fixed cost is then added up to obtain the total fixed cost value.

Table 11 Production costs per month

Variable Cost	
Raw material	IDR 1,588,200.00
Adjuvant	IDR 1,151,800.00
Cardboard cups	IDR 217,600.00
Gas	IDR 14,000.00
Total Variables	IDR 2,971,600.00
Fixed cost	
Overheads	IDR 98,833.00
Labor	IDR 4,236,018.00
Shop maintenance	IDR 300,000.00
Electricity and water	IDR 1,000,000.00
Total Fixed Costs	IDR 5,634,851.00
Total Cost per Month	IDR 8,606,451.00
Total Cost per Cup (/480)	IDR 17,930.00
Price per Cup	IDR 19,800.00

Source: Bamba's Cold & Creamery

The total cost per cup is obtained by adding up the total variable costs and the total fixed costs. So, the total cost value obtained is IDR 17,930.00 per cup. To determine the price of ice cream per cup, the total cost value is added with a profit of 10% of the total cost value, so the selling price per cup is IDR 19,800.00.

Calculation of tax payable based on cash flow projections. In the 1st year, tax calculations are not carried out because they are included in Non-Taxable Income (PTKP), which is IDR 15,840,000.00. Tax calculation is done by multiplying the various applicable rates with the value of operating income before tax.

Table 12 Tax payable

Rates	Year 1	Year 2	Year 3	Year 4	Year 5
5% x IDR 0 - IDR 50,000,000	IDR -	Rp.864,832	Rp.1,238,136	Rp.1,663,936	Rp.2,148,325
15% x IDR 50,000,001 - IDR 250,000,000	IDR -	IDR -	IDR -	IDR -	Rp. 204,151
25% x IDR 250,000,001 - IDR 500,000,000	IDR -	IDR -	IDR -	IDR -	IDR -
35% x ≥ IDR 500,000,001	IDR -	IDR -	IDR -	IDR -	IDR -
Taxes Payable	IDR -	IDR 864,832	Rp.1,238,136	Rp.1,663,936	Rp.2,148,325

Source: Bamba's Cold & Creamery

Sources of financing

Funding is divided through two sources, namely through the issuance of shares with an ownership portion of 45% and through private capital.

Table 13 Sources of Funding

Sources of financing	%	Working capital	Investment	Amount	After-Tax Cost of Capital(ATC C)	% x ATCC
Share	45%	Rp.45,941,137	Rp 43,303,500	Rp89,244,637	15%	6.75%
Personal	55%	Rp ...56,150,279	Rp 52,926,500	Rp109,076,779	15%	8.25%

Total	100%	Rp.....102,091,416	Rp 96,230,000	Rp198,321,416	(WACC (RRR)	15%
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Source: Bamba's Cold & Creamery

The calculation results produce a weighted average cost of capital (WACC) value of 15%. The WACC value serves as the RRR value in the calculation of the cash flow valuation process using NPV.

Net Present Value Assessment

The Net Present Value is IDR 43,712,470.00. Based on the NPV criteria that have been determined by management, the business investment proposal for Bamba's Cold & Creamery is acceptable because it has a positive NPV. This means that Rp. 96,230,000.00 invested in the business can generate a cash flow present value of Rp. 43,712,470.00.

Table 14 Assessment of Net Present Value

Net Initial Investment		IDR 96,230,000.00			
Useful life		5 years			
Required Rate of Return		15%			
		Present Value of Cash Flow	PV of IDR 1 Discounted @ 10%	Cash Flow Each Year	
Investments	Rp	(96,230,000)	1,000	Rp	(96,230,000)
	Rp	26,049,207	0.870	Rp	29,956,588
Annual Cash	Rp	26,932,178	0.756	Rp	35,617,806
	Rp	28,082,896	0.658	Rp	42,710,575
Inflow	Rp	29,045,510	0.572	Rp	50,800,778
	Rp	29,832,679	0.497	Rp	60,004,174
NPV	Rp	43,712,470	> 0		

Source: Bamba's Cold & Creamery

Assessment of Internal Rate of Return

The IRR value is obtained equal to 31%. So based on predetermined criteria, the business idea of Bamba's Cold & Creamery is acceptable because the IRR level obtained is greater than the RRR level, namely 31% > 15%.

Table 15 Assessment of the internal rate of return

Internal Rate of Return Bamba's Cold & Creamery						
Net Initial Investment		IDR 96,230,000.00				
Useful life		5 years				
Annual Rate of Return		31% > RRR 10%				
		Present Value of Cash Flow	PV of IDR 1 Discounted @ 31%	Cash Flow Each Year		
						year
Initial Investments	Rp	(96,230,000)	1.00000	Rp	(96,230,000)	0
	Rp	22,936,058	0.76564	Rp	29,956,588	1
Annual Cash Inflow	Rp	20,879,497	0.58621	Rp	35,617,806	2
	Rp	19,169,674	0.44883	Rp	42,710,575	3
	Rp	17,457,261	0.34364	Rp	50,800,778	4
	Rp	15,787,510	0.26311	Rp	60,004,174	5
NPV	Rp	(0)				

Source: Bamba's Cold & Creamery

Discounted Payback Period Assessment

Table 16 Assessment of the calculated payback period

year	Cash Flows	PV	Discounted FCF	Running Total
0	Rp (96,230,000)	1,000	Rp (96,230,000)	Rp (96,230,000)
1	Rp 29,956,588	0.870	26,049,207	Rp (70,180,793)
2	Rp 35,617,806	0.756	26,932,178	Rp (43,248,615)
3	Rp 42,710,575	0.658	28,082,896	Rp (15,165,719)
4	Rp 50,800,778	0.572	29,045,510	Rp 13,879,791
5	Rp 60,004,174	0.497	29,832,679	Rp 43,712,470

Source: Bamba's Cold & Creamery

To find out more specific estimates can be calculated with the following formula:

When the break even=

$$\text{When the break even} = \frac{\text{Negative Balance}}{\text{Cash Flow from The Break-Even Year}}$$

$$\text{When the break even} = \frac{\text{Rp 15.165.719,00}}{\text{Rp 29.045.510,00}}$$

$$\text{When the break even} = 0.52 \times 12$$

$$= 6 \text{ months}$$

Based on the calculation results in the formula above, the return on investment occurs in the 6th month. So, based on table 4.19 and the formula above, Bamba's Cold & Creamery management will get a return in the 4th year in the 6th month.

Profitability Index Assessment

From the following profitability index calculation results, a value of 1.454 is obtained, which means that it meets the criteria and also means that Bamba's Cold & Creamery's business idea is acceptable. From this value, it can be concluded that for every Rp. 1 invested in Bamba's Cold & Creamery business, a return of Rp. 1,454 will be obtained.

$$\text{PI} = 1 + \frac{\text{NPV}}{\text{Initial Investment}}$$

$$\text{PI} = 1 + \frac{\text{Rp 43.712.470,00}}{\text{Rp 30.083.253,00}}$$

$$\text{PI} = 1.454 \geq 1$$

Sensitivity Analysis

Sensitivity analysis was performed using four variables, namely the number of sales, price per cup, variable costs and fixed costs.

Table 17 Assessment of NPV sensitivity

NPV	20%	Normal	-20%	Difference
qty	Rp 187,393,746	Rp 43,712,470	IDR (121,441,507)	Rp 308,835,253
Price	Rp 187,393,746		IDR (121,441,507)	Rp 308,835,253
VC	Rp 4,912,718		Rp 88,748,371	Rp 83,835,653
FC	Rp (5,171,757)		Rp 112,974,370	Rp 107,802,613

Source: Bamba's Cold & Creamery

Table 21 shows that the value of the difference in the highest NPV is the component of total sales and price, which is Rp. 308,835,253.00. This value indicates that the net present value of Bamba's Cold & Creamery is sensitive to changes in the number of sales and prices, so it will require attention from management.

Table 18 Assessment of IRR sensitivity

IRR	20%	Normal	-20%	Difference
qty	60%		-	-

Price	60%	31%	-	-
VC	17%		43%	26%
FC	13%		49%	36%

Source: Bamba's Cold & Creamery

Calculation of sensitivity analysis that affects the internal rate of return of Bambas' Cold & Creamery. The table shows that the highest IRR difference is in the fixed cost component, which is 36%. This value indicates that Bamba's Cold & Creamery's internal rate of return is sensitive to changes in fixed cost components, so it will require special attention from management.

Table 19 Assessment of Profitability Index Sensitivity

P/I	20%	Normal	-20%	Difference
qty	2.95		-0.26	3,21
Price	2.95	1,454	-0.26	3,21
VC	1.05		1.92	2.97
FC	0.95		2,17	3,12

Source: Bamba's Cold & Creamery

The table shows that the highest P/I difference is in the sales volume and price component, which is 3.21. This value indicates that the profitability index of Bamba's Cold & Creamery is sensitive to changes in the component volume of sales and prices, so it will require special attention from management.

Business Decisions

Table 20 Assessment of feasibility

No	Criteria	Mark	Eligibility Justification	Eligible/No
1	<i>Net Present Value</i>	IDR 43,712,470.00	> IDR 0.00	Worthy
2	<i>Internal Rate of Return</i>	31%	>15%	Worthy
3	<i>Discounted Payback Period</i>	4 Years 6 Months	< 5 years	Worthy
4	<i>Profitability Index</i>	1,454	≥ 1.0	Worthy

Source: Bamba's Cold & Creamery

Based on the calculation results of Net Present Value, Internal Rate of Return, Discounted Payback Period, and Profitability Index, the value obtained has met the eligibility criteria and justification determined by management. By therefore, it can be concluded that the business idea of Bamba's Cold & Creamery deserves to be accepted and implemented.

Managerial Implications

In order to survive, the management of Bamba's Cold & Creamery should be able to create innovations so that the products offered are differentiated or unique from competitors' products. The uniqueness of a product will be able to attract consumers to choose the products offered by Bamba's Cold & Creamery. In the analysis of financial aspects, researchers have carried out a sensitivity analysis of several variables, including the number of sales, prices, variable costs, and fixed costs, to calculate NPV, IRR, and P/I. The results obtained are the Net Present Value and Profitability Index are sensitive to changes in the variable number of sales and prices. As for the Internal Rate of Return, it is more sensitive to changes in fixed cost variables. Based on the results of the sensitivity analysis, Bamba's Cold & Creamery management should pay more attention to the variables of sales volume, price and fixed costs. Changes that occur in these three variables, both increases and decreases, will provide changes to the NPV, IRR, and P/I calculations.

4. CONCLUSION

Based on the discussion and research results described in the previous chapter, a business idea cannot be applied directly without conducting an in-depth study first. The capital requirements that need to be provided as well as the limited funds needed for capital needs, makes a study of the feasibility of business ideas important to carry out. There is a risk of failure and loss of funds used as capital, making a business feasibility study an important thing to do. Carrying out a study on the

feasibility of a business idea assessing all aspects related to business activities. The feasibility study in this study involves several aspects, including market and marketing aspects, production and technology technical aspects, management and human resource aspects, legal and legal aspects, and financial aspects. The results of studies on these various aspects provide information regarding the feasibility of the business idea to be implemented. Based on the calculation of the Net Present Value, positive results are obtained that are able to meet the predetermined eligibility criteria. Hence the idea of Bamba's Cold & Creamery deserves to be embraced. Based on the calculation of the Internal Rate of Return, the return results are obtained which are able to meet the predetermined eligibility criteria. Hence the idea of Bamba's Cold & Creamery deserves to be embraced. Based on the calculation of the Discounted Payback Period, results are obtained that are able to meet the eligibility criteria that have been determined. Hence the idea of Bamba's Cold & Creamery deserves to be embraced. Based on the Profitability Index calculation, results are obtained that are able to meet the eligibility criteria that have been determined. Hence the idea of Bamba's Cold & Creamery deserves to be embraced.

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