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**COMPREHENSIVE FEASIBILITY STUDY FOR BUSINESS
DEVELOPMENT (STUDY CASE FOR PT. INDO MITRA NIAGA)**

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Abstract:

In the last several years, the global community is starting to realize the importance of environmental sustainability. It is accordance with the "go green" concept and it has been initiated by several environmental activists. Environmental problems are very complex, from forest damage, environmental damage, to the litter issues. Littering issues are often found in big cities. This study aims to test the feasibility of the PT Indo Mitra Niaga business development in developing business in waste management. Feasibility testing is conducted based on marketing, operations, human resources, and finance aspects. This study uses business plan development methodology. The results of this study indicate that the feasibility study on PT Indo Mitra Niaga business development is eligible based on marketing, operational, human resources, and finance aspects.

Keywords: business feasibility study, business development, entrepreneurship

1. Introduction

In the last several years, the global community is starting to realize the importance of environmental sustainability. It is accordance with the "go green" concept and it has been initiated by several environmental activists. Environmental problems are very complex, from forest damage, environmental damage, to the litter issues. Littering issues are often found in big cities and it is often times becomes the main cause of floods. During floods, the economy of the affected area will be paralyzed. This will cause severe harm for so many business owners. Therefore, overcoming the problem of litter which causes flooding should be a serious attention. One of the factors that cause the flood is the lack of public awareness to dispose of waste garbage in proper places. The view of garbage scattered throughout the streets and roadsides is still easily found in major cities in Indonesia. Throwing litters and garbage into trash bin is not enough. It needs a proper sorting before the trash is disposed. Moreover, there are several kinds of waste that can be further processed into a product that can be useful for the community needs. Thus, we need a solid integrated waste management in order to ensure that a waste can be managed well.

As a form of business that provide solutions, PT. Indo Mitra Niaga provide answers to several common known problems. Since its establishment in 2013, PT. Indo Mitra Niaga focused on janitorial or cleaning service outsourcing services. It has dozens of clients in Surabaya. PT. Indo Mitra Niaga is committed to make cleanliness and environmental sustainability, especially to the negative impact of improper garbage disposal, as a top priority in carrying out all of the operational activities. PT. Indo Mitra Niaga became a trusted partner in terms of waste management. PT. Indo Mitra Niaga conduct its business in a wider scope. One of the examples is sorting of waste into four categories, namely plastic waste, paper waste, metal waste, and organic waste. The garbage that has been sorted is transported to a processing site that had been prepared by the company. Then the company will be processing the garbage. PT. Indo Mitra Niaga also provides consulting services for each client regarding garbage disposal issues. Each client PT. Indo Mitra Niaga will not only be served a waste management solution, but will also be invited to discuss in how to reduce the amount of excessive clients' waste.

Each client in PT. Indo Mitra Niaga will also receive a report containing the number of waste produced by each clients every months. PT. Indo Mitra Niaga viewed its clients as partners who work together in protecting the environment. Based on the opportunity to increase performance through a business development plan that will be carried out by PT. Indo Mitra Niaga is the main reason why the writer is interested in studying the plan, whether it is feasible or not to be conducted.

2. Literature Review

Based on Morison (2011), the purpose is to test the feasibility of the investment in the robotic use in the hospital for physical therapy patients due to financial issues. The method used is the break-even point analysis for the use of two robots and one nonrobotic locomotor training. The results of these studies is the time to break even for nonrobotic device is around 1,6 years and for the robotic device is 2,36 years. The conclusion of this study is based on the financial aspects of the investment is feasible.

Based on Susanti (2012), the research's aim is to test the feasibility of production facilities improvement, which is replacing the traditional cutting blades with new cutting machines to increase production. Seing from the marketing aspect, the investment is considered feasible because the data shows that today's demand tend to increase significantly. Seing from the technical aspects, this investment is considered feasible because the output generated from the new cutting machines is much higher than the conventional cutting knives. While the financial aspect, this investment is considered feasible because it produces NPV 514,604,751; IRR of 65,88%; DPP 2 years and 11 months; and ROI 1,44. This can be concluded that the production tool replacement is eligible to be conducted. This research becomes the basis for the author in terms of analyzing marketing aspects. This research is also the basis for the financial aspect calculation, namely NPV, IRR, and the DPP.

According to Recker's research (1969) it can be concluded that if the income levels of the community are so low and the construction costs are so high, so none of the amount of

calculation can make the project feasible. But, the company can identify several marginal situations that may actually be feasible and might otherwise be written off by investors, simply because they have overlooked the true potential.

2.1. Business Feasibility Study

According to Suliyanto (2010), the feasibility study is a research that aims to determine whether a business idea is feasible or not to be conducted. A business is said to fulfil the required eligibility to be conducted, if the positive impacts created would outweigh the negative impacts.

According to Kashmir and Jafar (2010), there are some studies the role of business development, among others:

1. Earn profits.
2. Creating jobs.
3. The economic benefit: increase the number of goods and services, enhance the product qualities, and increase the foreign exchange earnings.
4. The availability of facilities and infrastructures.

According to Umar (2009), there are six aspects that must be considered in the feasibility study, namely, the Market aspects which includes consumer and producer market; internal aspects of the company, covering the marketing aspects; and technical aspects, management aspects, aspects of human resources, and financial aspects

2.2. Marketing Aspects

According to Kertajaya (2009), marketing is the soul which drives a company. The marketing aspects that will be discussed in this research is SWOT analysis, STP, and Marketing Mix. According to Kashmir and Jafar (2009: 46), a market group is divided into four types. Namely, consumer markets, industrial markets, reseller markets and government markets. According to Suliyanto (2010), there are four variables in the marketing mix, namely:

1. Product

Product is something that can be offered to the market to meet customer needs.

2. Price

Price is the sum of money it takes to get a product or service.

There are three ways to set the product's price:

- a. Based on cost.
- b. Based on the value.
- c. Based on competition.

3. Promotion

Promotion is the company's activities to communicate the product's value to the targeted market.

4. Place

Distribution is the activity conducted to distribute the product so that it reaches the consumers

2.3. Technical Aspects

According to Suliyanto (2010), the discussion of the technical and technologies aspects include:

1. Volume of production.

The amount of goods that will be produced by the company during the period should be well planned. To calculate the volume of production per period, things that should be considered include:

- a. Limited market demand for the product.
- b. Limited availability of raw materials that can be obtained.
- c. The limited number and ability of labor to production.
- d. Limited production capacity of the production machine.
- e. Limited capital to undertake production activities.
- f. Limited factors - other factors of production.

2. Selection of technology and the use of the machine.

Selection of a less precise machine will have an impact on productivity and production quality is not good. Some important factors in choosing a production machine include:

- a. Technology.
- b. Price.
- c. Production capacity.
- d. Their engine supplier.
- e. Spare parts.
- f. Quality.
- g. Economic age.

2.4. Human Resource Aspects

According to Suliyanto (2010), there are several things that needed to be analyzed in reviewing the management and human resource aspects, namely:

1. Job analysis.

Before starting a business, it is necessary to identify what activities are currently being worked on and also how many position to run the required activities.

2. Job description.

A job description describes the functions of certain position, tasks that need to be carried out, rights, obligations, and responsibilities of the position.

3. Job Specification.

Job specification is a list of requirements needed to be fulfilled and this can be used to find a suitable candidate to fill that position. Job specification may include age, gender, education, work experience, skills, competencies, and etc.

4. Projected manpower requirements.

The required labor can be determined after the company learned the projected sales per period.

5. Recruitment.

Recruitment is the activities of the company to look and sort several people who meet the requirements to fill the available positions.

2.5.Financial Aspects

In this research, there are three calculation methods in reviewing the investment feasibility. Namely:

1. Payback period (PP)

According to Suliyanto (2010), the payback period is the method used to calculate how long it takes to return the initial investment through annual cash inflows.

According to Frensidy (2010), the formula for calculating the payback period is:

$$PP = \frac{\text{Beginning Investment}}{\text{Annual Cash Inflow}}$$

Payback period is feasible if the time period needed to restore the initial investment is shorter than the number of years of assessment methods

2. Net Present Value (NPV)

According to Frensidy (2010), the net present value is the difference between the present value of a certain cash amount generated from investment projects and the present value of the needed investment.

The formula for calculating NPV is:

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+k)^t} - I_0$$

Description: CF_t = Cash Flow Year to i

I_0 = Initial Investment

k = Expected Discount Rate

According to Suliyanto (2010), NPV investment feasibility criteria would be possible if the NPV result are positive, then the investment is worth doing or feasible. If the NPV result is negative, the investment should not be executed or not feasible. If the NPV calculation results is less than zero, it indicates that all revenues received by the businesses will not be able to cover all the costs incurred.

3. Internal Rate of Return (IRR)

According to Suliyanto (2010), the IRR method, as an analytical tool in business development study has advantages in finding out the level of profits generated from investments made.

According to Frensidy (2010) formula to calculate the IRR is as follows:

$$I_0 = \frac{CF_1}{(1 + IRR)^1} + \frac{CF_2}{(1 + IRR)^2} + \frac{CF_3}{(1 + IRR)^3} + \dots + \frac{CF_n}{(1 + IRR)^n}$$

Description

n = n year

CF_N = Cash Flow Year-to-n

I₀ = Initial Investment

CF_T = Net Cash Flow

IRR = Internal Return Rate

According to Suliyanto (2010), the feasibility criteria for IRR is = an investment will be considered worth doing and feasible if the IRR calculation result is greater than the expected profit rate. Vice versa, if the IRR calculation result is less than the profit rate, the investment is not feasible to be conducted.

3. Research Methods

The methodology used on this research relies on the business plan development methodology, which include marketing analysis, operational analysis, human resources analysis, and financial analysis. The data processing for the marketing aspect will be done by determining the SWOT analysis quadrant. The qualitative analysis will also be conducted to describe the operational aspects of the marketing data. The data processing for operational aspect will be conducted by observation that will be used to search proper production equipment and production location. This will be formulated into a correct and proper production process. The data processing for financial aspects will be done by calculating formulas.

4.Result and Discussion

4.1.Marketing Aspects

PT. Indo Mitra Niaga focused on industrial and government markets as the target market segment. In order to support the determination of both the target segments, then the targeting clients who were targeted by PT. Indo Mitra Niaga, namely:

- Based on geographic segmentation, target market PT. Indo Mitra Niaga is the region is a regency (kabupaten) as minimum area. For the first year, PT. Indo Mitra Niaga only placed the city of Surabaya as a single target market to be served, but as the current period, PT. Indo Mitra Niaga market will expand to the rest of Indonesia through service to other cities in Indonesia
- Based on demographic segmentation, the target market PT. Indo Mitra Niaga is in the education industries, hotels, and shopping centers. The targeted education industry is the formal educational institutions such as schools and universities as well as non-formal educational institutions such as institutes, and private courses institutions. The targeted hospitality industries are all, ranging from budget hotels to five star hotels. The targeted shopping center are the traditional markets, modern markets, malls, and shopping centers.
- Based on psychographic segmentation, the targeted market of PT. Indo Mitra Niaga is the organization or management in the organization that has a culture or lifestyle that has concerns for environmental cleanliness.
- Based on behavioral segmentation, the targeted market from PT. Indo Mitra Niaga is a client who wants a long-term contract, such as minimum contract for 1 year.

Based on the segmentation and targeting of PT. Indo Mitra Niaga, PT. Indo Mitra Niaga itself as "Your Trusted Partner in Waste Management." It also becomes the tagline for PT. Indo Mitra Niaga. PT. Indo Mitra Niaga positions itself as a true partner - completely trustworthy in terms of waste management. When a potential client requires waste management services, then only PT. Indo Mitra Niaga with whom that can be trusted to provide solutions.

Marketing mix analysis conducted as follows:

- Product

The products offered from PT. Indo Mitra Niaga is an integrated waste management service. This starts from garbage collection process, waste sorting, waste transporting, to waste processing. More detailed explanation, PT. Indo Mitra Niaga products can be divided into the following:

- Core product, namely, clients' environmental cleanliness

- Actual product, which is environment oriented waste management service and also uphold the customer needs and satisfactions.
- Augment product, which is waste activities report, consultation, and also recommendation to the clients. Thus, PT Indo Mitra Niaga also provide environment cleanliness warranty. If there is still garbage found, PT. Indo Mitra Niaga will come and re-clean the area, free of charge. PT. Indo Mitra Niaga also sell services to clients in the form of set points. Each points comprises four garbage disposal bins and it is arranged by a survey team from PT. Indo Mitra Niaga.

- Price

PT. Indo Mitra Niaga will set the price with the following criterias

1. The main purpose of PT. Indo Mitra Niaga is to provide premium quality, maximize profit to reach the break even point and also increase the number of long term contracts. Thus, there will be price differences for several clients in different time periods. Longer contract periods will let the clients get lower prices.
2. Based on a short survey on 20 clients, there were eighteen clients who are interested in the services provided by PT. Indo Mitra Niaga.
3. Based on the calculation, the variable cost needed to provide services to the clients would need around IDR 200,000 to IDR 500,000 for each waste point. This price range is based on the clients' location and the amount of the clients' waste.
4. There is no competitor for PT. Indo Mitra Niaga in Surabaya. There is no price comparison to be compared with.
5. The pricing method chosen by PT. Indo Mitra Niaga is a value-based pricing because PT. Indo Mitra Niaga offers more value than just managing the waste, but until the end process.
6. Based on the stated steps, PT. Indo Mitra Niaga decided to set the price based on the units of waste point where a single waste point consists of four bins are placed at one place in the client's location. The more waste point used, the price per waste point will be lower. In addition, the longer duration of the contract, the price will be more affordable. To ease the process of determining the number of waste points, the sales team will conduct a survey to determine how many waste points are required.

- Place

The marketing area for PT Indo Mitra Niaga is the entire area of the city of Surabaya. This will be broadened and widened over time

- Promotion

The promotion strategies that will be conducted by PT. Indo Mitra Niaga are as

follows:

- Advertising.
- Sales promotion.

PT. Indo Mitra Niaga will conduct discount service programs and they will be held during 1st year opening at 50%.

- Event.

PT. Indo Mitra Niaga will participate the exhibition on environmental and cleanliness topic. The number of targeted exhibition participated is around 4 times a year.

Based on the market analysis, the development of PT. Indo Mitra Niaga has a clear market potential and feasible to be conducted.

4.2.Operational Aspects

PT. Indo Mitra Niaga needs two business locations, namely locations for a main office and another location for the waste treatment facility. Factors to be considered by PT. Indo Mitra Niaga in choosing office locations are:

- Ease of access for clients.
The office location of PT Indo Mitra Niaga should be easily accessible to clients from all around of Surabaya, so the main office should be prioritized in Surabaya Center City.
- Corporate Reputation.
PT. Indo Mitra Niaga should maintain the company's image by choosing a premium office location.

Based on stated considerations, the main office of PT Indo Mitra Niaga will be located in Surabaya Center, which is in Bumi Mandiri Surabaya Building Tower 1, located at Jl Basuki Rahmat No. 129-137 Surabaya 60271. PT. Indo Mitra Niaga will rent a six meter long and three meter wide office space. The monthly rent per month for one square meter is IDR 285,000 (including service charge and VAT), or IDR 5,130,000per month.

In addition to an office need, PT. Indo Mitra Niaga also need a location for waste processing facility. Factors to be considered in choosing the location of waste management facility are:

- Ease of access for the garbage trucks.
Waste processing locations should have a road access that can be easily accessed by garbage trucks. In addition, the strategic location will ease the trucks to save the traveling distance. This wil mimized additional avoidable costs.
- Close to landfills.
The location of the waste treatment facility should be close to landfills.
- Distance to population centers.
Because the wasate treatment process usually cause very bad odor, then it should be away from residential areas, or that are in the sparsely populated region.

Based on these considerations, the chosen location is in West Surabaya, namely Jaya Bulu Raya, Puncak Sambisari, lakarsantri with an area of 1,550 m². The access road to

those locations has a width of 12 meter wide. The location is close to the Benowo landfill, which is only three kilometers away. The rental price offered is IDR 80,000,000 per year and will be leased for 10 years. PT. Indo Mitra Niaga will build a semi-permanent waste processing building, and after 10 years of completion of the building, it will be given to the land owner. PT. Indo Mitra Niaga has consulted with a contractor who will build the facility and agreed that the estimated value of the contract to build a semi-permanent processing center is valued at USD 400,000,000 with CV. Oase as the appointed contractor.

The operational capacity of PT. Indo Mitra Niaga is divided into two, namely the capacity of transporting waste and the capacity of waste treatment. During the early stage of opening the business, PT Indo Mitra Niaga used only two garbage trucks. The garbage trucks were modified to accomodate a maximum of six cubic meter worth of waste. With two fleets of garbage trucks, the transport capacity of waste that can be taken is equal to tweleve cubic meter per trip. In a single day, the garbage trucks can drive around for 4 times so that the total capacity of transporting waste PT. Indo Mitra Niaga in one day is equal to forty eight cubic meter of waste.

The waste processing capacity of PT. Indo Mitra Niaga varies depending on the engine's capacity and the waste management system for each waste category. The details are as follows:

- The plastic waste processing capacity is around twenty cubic meter per day.
- The organic waste processing capacity is around fourteen cubic meter per day.
- The processing capacity metal bins is around six cubic meter per day.
- The Waste paper processing capacity is around eighteen cubic meter per day.

When combined, the total capacity of waste treatment as a whole is around fifty eight cubic meter per day. The processing capacity exceeds the transportation capacity, which is around forty eight cubic meter per day. During the operational process, there should not be any bottleneck in waste treatment process.

The process of waste sorting operations are presented in the following flowchart.

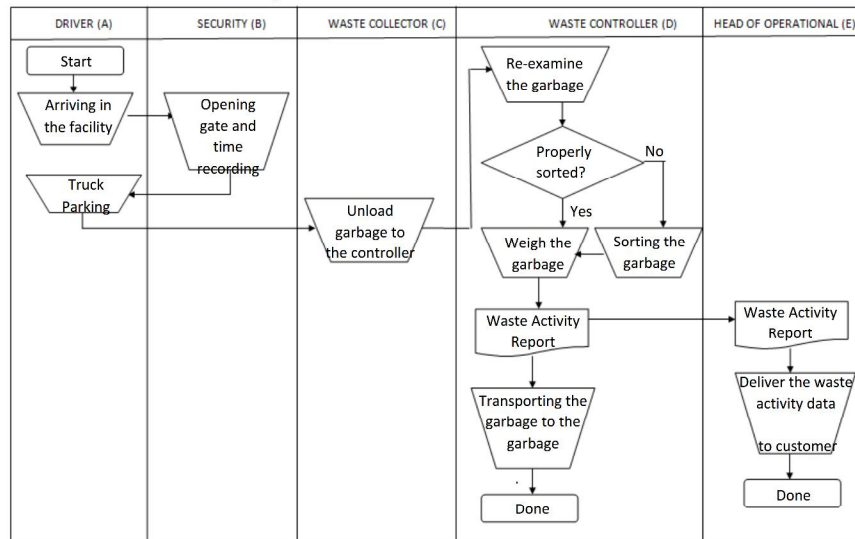


Figure 1. Waste sorting operational process

Based on the operational analysis, it is concluded that the development of PT. Indo Mitra Niaga is eligible to be conducted because it has a clear operational procedures.

4.3.Human Resources Aspects

The organizational form of PT. Indo Mitra Niaga is a functional organization in which the organization of PT. Indo Mitra Niaga is divided into three functions that execute specific tasks in accordance with each duties and expertise. The decision making process is done in a decentralized manner, which each decision can be directly taken by every head of division without reporting directly to the director. The director then assess the performance of the subordinates based on the targets and key performance indicators. The staffing needs of the PT. Indo Mitra Niaga is as follows:

- The need for division of financial and accounting are:
 - One financial staff.
 - One accounting staff.
- The need for marketing divisions are:
 - Two sales persons.
 - One customer support.
- The need for operational divisions are:
 - Two drivers.
 - Four waste collectors.
 - Two waste controllers.
 - Four waste processing staff.
 - One security person.

Below is the organizational structure of PT Indo Mitra Niaga

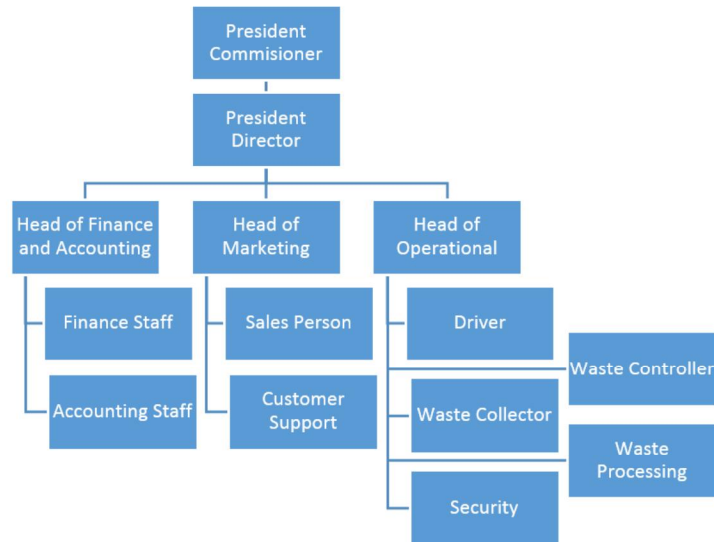


Figure 2. Organization Structure of PT. Indo Mitra Niaga

4.4. Financial Aspect

The assumptions used in creating the sales projections, are as follows:

- Every year, the company managed to achieve the target in getting more new contracts.
- Over the past five years, the company did not raise the price of the service.
- The average deal value of the new contracts per year was IDR 166,700,000 million or IDR 14 million per month. (In accordance with the objectives of the company) or a minimum of four waste points per client.
- The average age of the contract obtained for the period 2018 - 2022 is the second year in which the payments will be made ahead for a period of 1 year and subsequent annual payments will be paid at the end of the first month of next year.

Other assumptions used in making cost projections include:

- The inflation rate used is the average rate for the past three years, which is six percent.
- The price of waste bins and plastic bags which become the vital products of this company is assumed stable for the past three years. The fourth year will increase ten percent and the fifth will stable.

- The employees' salaries are projected to rise in accordance with the average increase of minimum wage in Surabaya, averaging fifteen percent per year.
- The price of diesel fuel, which is an overhead cost for the company, is assumed to rise by ten percent per year.
- Projected cost for office rental is increased by ten percent per year, while the rent for the waste processing facility remained the same because of the ten year contract.
- The cost of utilities is assumed to rise with inflation of six percent.
- The salary for the marketing team, including head of marketing department, increased by 15% per year. (Holiday allowance is included in the salary)
- A bonus is given if the marketing team managed to achieve the sales target, which is around 1% of total company sales.
- The cost of the exhibition and website are assumed to rise by 10% per year.
- The cost of marketing kit will be doubled each year.
- The Corporate Social Responsibility and media coverage cost will be doubled each year.
- The price of maintenance is assumed to be stable for the next five years.
- The calculation of depreciation expense is using the straight-line method.

The projected sales of PT. Indo Mitra Niaga is created once in every five years. The sales of PT. Indo Mitra Niaga is assumed to reach the target set by the company. The projected sales of PT. Indo Mitra Niaga is as follows.

Tabel 1. Sales Projection of PT. Indo Mitra Niaga for 2016 - 2020

	2018*	2019**	2020***	2021****	2022*****
Sales Value	IDR 2,000,000,000	IDR 6,000,000,000	IDR 13,000,000,000	IDR 26,200,000,000	IDR 44,600,000,000

* In 2018, PT. Indo Mitra Niaga will organize 50% promotional discounts throughout the year of 2018. The value for the targeted contract is IDR 2,000,000,000 after discount. This means the actual contract value (before discounts) to be obtained is IDR 4,000,000,000. The contract duration average assumption is around two years.

** In 2019, the company will get recurring income from clients' contracts in 2018 amounting to IDR 2,000,000,000 (Contracts' average duration is two 2 years). In 2019, the target of the new contracts obtained is IDR 4,000,000,000 per year for two years. From both revenue, the total sales of PT. Indo Mitra Niaga in 2019 is around IDR 6,000,000,000. In this year PT. Indo Mitra Niaga will attempt to expand the market in Surabaya so that the composition of the sale is 100% from Surabaya.

*** In 2020, the company will have received recurring income of client contracts in 2019 amounting to IDR 4,000,000,000. Client contracts in 2018 had expired. Projected percentage of clients that extend the life of the contract for one year following the year 2018 is 50%, so the company will receive additional recurring income amounting to IDR 1,000,000,000. The new contracts obtained in 2020 is projected to be IDR 8,000,000,000 so that the total value of sales in 2020 amounted to IDR 13,000,000,000. The value of sales will be helped by the expansion of the new marketing areas in Sidoarjo. The composition of sales in 2020 is projected to 90% contributed from Surabaya and 10% from Sidoarjo.

**** In 2021, the company will receive recurring income of client contracts in 2020 amounting to IDR 8,000,000,000. Client contracts in 2019 had expired. Projected percentage of clients that extend the life of the contract for 1 year following the year 2019 is 50%, so the company will receive additional recurring income amounting to IDR 2,000,000,000. Clients in 2018 who extend the contract in 2020 has also been out of contract this year. Loyal clients are the ones who continuously renew the contracts for several years, and it is projected at 10% of the total number of clients. The company still receives recurring income from these types of clients amounting to IDR 200,000,000. The new contract in 2021, successfully obtained is IDR 16,000,000,000 so that the overall value of the company's sales is $\text{IDR } 2,000,000,000 + 8,000,000,000 + \text{IDR } 200,000,000 + \text{IDR } 16,000,000,000 = \text{IDR } 26,200,000,000$. The sale will be helped by the expansion of the new markets to Malang.

***** In 2022, the company will get recurring income of client contracts in 2018, 2019, 2020, and 2021 for the year 2022, the company will enter into Denpasar so it will be easier to achieve the sales target in Bali's market area is very large and potential.

Projected gross profit of PT. Indo Mitra Niaga is as follows.

Table 2. Gross Profit Calculation of PT. Indo Mitra Niaga

	2018	2019	2020	2021	2022
Sales Value	IDR 2,000,000,000	IDR 6,000,000,000	IDR 13,000,000,000	IDR 26,200,000,000	IDR 44,600,000,000
Cost of Goods Sold	(IDR 603,672,000)	(IDR 1,125,026,000)	(IDR 2,457,171,000)	(IDR 5,407,895,400)	(IDR 9,582,287,400)
Gross Profit	IDR 1,396,328,000	IDR 4,874,974,000	IDR 10,542,829,000	IDR 20,792,104,600	IDR 35,017,712,600

Rental Cost Projection for PT. Indo Mitra Niaga is as follows

Tabel 3. Rental Cost Projection for PT. Indo Mitra Niaga

	2018*	2019**	2020***	2021****	2022*****
Rental Costs	IDR 141,560,000	IDR 147,720,000	IDR 154,500,000	IDR 161,950,000	IDR 420,150,000

* The cost of office rent (including service charge) of 12 x IDR 5,130,000 = IDR 61,560,000, the cost of renting a waste processing facility = \$ 80,000,000

** The cost of office rents rose 10% to IDR 67,720,000, the cost of renting a waste processing center = IDR 80,000,000

*** The cost of office rents rose 10% to IDR 74,500,000, the cost of renting a waste processing center = IDR 80,000,000

**** The cost of office rents rose 10% to IDR 81,950,000, the cost of renting a waste processing center = IDR 80,000,000

***** The cost of office rents rose 10% to IDR 90,150,000, the cost of renting a waste processing center = IDR 80,000,000. Companies opening a branch in Singapore by opening a rented shophouse in Denpasar with a rental fee of £ 100 million per year and a waste processing center with a ground rent of £ 150 million per year for 10 years.

Some of the utility costs include the cost of electricity, telephone and water from the office and a waste processing center. Utility costs are projected to rise by 6% per year. Below is the projected cost of utility PT. Indo Mitra Niaga

Tabel 4. Projected Utility Costs of PT. Indo Mitra Niaga

	2018	2019	2020*	2021	2022**
Utility Costs	IDR 20,000,000	IDR 21,200,000	IDR 31,800,000	IDR 33,708,000	IDR 67,416,000

*In 2020, 50% increase due to additional machine purchases.

**In 2022, 100% increase due to a new branch and a new waste processing facility will be opened.

Projected marketing costs are as follows.

Table 5. Projected Cost Marketing

	2018	2019	2020	2021	2022
Marketing Team Salary	IDR 179,140,000	IDR 334,282,000	IDR 679,447,000	IDR 1,459,918,000	IDR 3,239,579,000
Marketing Team Bonus	IDR 20,000,000	IDR 40,000,000	IDR 80,000,000	IDR 160,000,000	IDR 240,000,000
Exhibitions costs	IDR 20,000,000	IDR 22,000,000	IDR 24,200,000	IDR 26,700,000	IDR 29,370,000
Website	IDR 2,500,000	IDR 2,750,000	IDR 3,025,000	IDR 3,328,000	IDR 3,660,000
Marketing kit	IDR 5,000,000	IDR 10,000,000	IDR 20,000,000	IDR 40,000,000	IDR 80,000,000
CSR and Media Coverage Funds	IDR 10,000,000	IDR 20,000,000	IDR 40,000,000	IDR 80,000,000	IDR 160,000,000
Total Marketing Costs	IDR 236,640,000	IDR 429,032,000	IDR 846,672,000	IDR 1,769,946,000	IDR 3,752,609,000

Description:

- The number of recruited sales person and customer support are doubled each year.
- The salary of the marketing team, including the head of marketing department, rose 15% per year. (Holiday Allowance is included in the salary costs)

- A bonus is given if the marketing team managed to achieve the sales target, which amounted to 1% of total company sales.
- The cost of the exhibition and website are assumed to rise by 10% per year.
- The cost of the marketing kit has doubled each year.
- Corporate Social Responsibility and Media Coverage funding is more than doubled each year.

Depreciation is imposed on the company's fixed assets, which includes waste treatment facility building and company's equipments. The following is the depreciation cost calculation for each company's equipment.

Tabel 6. PT. Indo Mitra Niaga Depreciation Calculation.

No	Equipment	Acquisition Cost	Lifespan	Residual Value	Depreciation Cost
1	Waste treatment building facility	IDR 400,000,000	10 years	IDR 0	IDR 40,000,000
2	Garbage Trucks (Mitsubishi FE 74HD 125PS)	IDR 170,000,000	8 years	IDR 50,000,000	IDR 15,000,000
3	Waste containers	IDR 40,000,000	8 years	IDR 10,000,000	IDR 3,750,000
4	Plastic schredder machine	IDR 70,000,000	6 years	IDR 10,000,000	IDR 10,000,000
5	Plastic injection molding machine	IDR 90,000,000	6 years	IDR 15,000,000	IDR 12,500,000
6	Mixing and blending paper machine	IDR 55,000,000	6 years	IDR 10,000,000	IDR 7,500,000
7	Decomposition compost machine	IDR 20,000,000	6 years	IDR 2,000,000	IDR 3,000,000
8	Metal injection machine	IDR 95,000,000	6 years	IDR 20,000,000	IDR 12,500,000
9	Waste carts	IDR 2,000,000	3 years	IDR 200,000	IDR 600,000

Description:

- Depreciation expense is calculated using the straight-line method.
- The price of the residual value calculated according to the fair market price.

Taxes imposed on PT. Indo Mitra Niaga is the income tax income tax Article 21 of the business entity. Basic tax rules used are:

- Constitution no. 7 Year 1983 on Income Tax.

- Constitution no. 36 Year 2008 regarding Fourth Amendment Act No. 7 of 1983 on Income Tax.
 - Government Regulation No. 46 Year 2013 regarding Income Tax from Business Income Received by taxpayers who have specific or certain gross circulation.
- Under the stated regulation, there are three classifications of tariff.

Tabel 7. Income Tax Tarif for Enterprises

Gross Income (Gross Circulation)	Tax Rate
Less than IDR 4,800,000,000	50% x 25% x Taxable Employers
More than IDR 4,800,000,000 up to IDR 50,000,000,000	(50% x 25% x Taxable Employers from the gross circulation that received facilities) + (25% x Taxable Employers from the gross circulation that did not receive facilities)
More than IDR 50,000,000,000	25% x Taxable Employers

Based on the regulations and the tariff rate, the projected tax burden for PT. Indo Mitra Niaga is as follows

Tabel 8. Tax Burden Projection of PT. Indo Mitra Niaga.

	2018*	2019**	2020***	2021****	2022*****
Tax Burden	IDR 40,713,500	IDR 525,035,850	IDR 1,743,467,000	IDR 4,006,688,500	IDR 6,917,545,000

* The gross distribution in 2018 is under IDR 4,800,000 so the tariff rate is: 50% x 25% x Taxable Employers.

Taxable Employers 2018 = IDR 325,708,000. Income tax article 21 in 2018 = 50% x 25% x IDR 325,708,000 = IDR 40,713,500

** Taxable Employer 2019 = IDR 3,500,239,000. Taxable Employer from the gross income that received facilities = IDR 4,800,000,000 / IDR 6,000,000 x IDR 3,500,239,000 = IDR 2,800,191,200

Taxable Employer from the gross income that is not facilitated: IDR 3,500,239,000 - IDR 2,800,191,200 = IDR 700,047,800. Income tax article 21 in 2019 = (50% x 25% x IDR 2,800,191,200) + (25% x IDR 700,047,800) = IDR 525,035,850.

*** Taxable Employer in 2020 = IDR 8,552,871,000. Taxable Employer from the gross income that received facilities: IDR 4,800,000,000 / IDR 13,000,000,000 x IDR 8,552,871,000 = IDR 3,157,983,000

Taxable Employer from the gross income that is not facilitated: IDR 8,552,871,000 - IDR 3,157,983,000 = IDR 5,394,888,000. Income tax article 21 in 2020 = (50% x 25% x IDR 3,157,983,000) + (25% x IDR 5,394,888,000) = IDR 1,743,467,000

**** Taxable Employers in 2021 = IDR 17,642,901,600. Taxable Employer from the gross income that received facilities: IDR 4,800,000,000 / IDR 26,200,000,000 x IDR 17,642,901,600 = IDR 3,232,287,000. Taxable Employer from the gross income that is not facilitated: IDR 17,642,901,600 - IDR 3,232,287,000 = IDR 14,410,614,600
Income tax in 2021 = 21 (50% x 25% x IDR 3,232,287,000) + (25% x IDR 14,410,614,600) = IDR 4,006,688,500

***** Taxable Employer in 2022 = IDR 29,243,837,600. Taxable Employer from the gross income that received facilities: IDR 4,800,000 / IDR 44,600,000 x IDR 29,243,837,600 = IDR 3,147,319,000. Taxable Employer from the gross income that is not facilitated: IDR 29,243,837,600 - IDR 3,147,319,000 = IDR 26,096,518,600.
Income tax article 21 in 2022 = (50% x 25% x IDR 3,147,319,000) + (25% x IDR 26,096,518,600) = IDR 6,917,545,000

A full source of the company's funding derived from their own capital. It is obtained from paid-in capital by shareholders. The early source of PT. Indo Mitra Niaga's funding was really needed to meet the needs of the initial investment of PT. Indo Mitra Niaga. The initial investment requirements of PT. Indo Mitra Niaga is as follows.

Tabel 9. The Funding Needs of PT. Indo Mitra Niaga.

No.	Requirements	Investment Value
1	Machinery and equipment investment	IDR 783,500,000
2	Waste processing center construction	IDR 400,000,000
3	Working capital	IDR 300,000,000
Total Funding Needs		IDR 1,483,500,000

The financial feasibility analysis for PT. Indo Mitra Niaga under normal conditions is conducted using NPV indicators, payback period and IRR. The following is the net cash flow calculation table from the PT. Indo Mitra Niaga business with a five year projection.

Tabel 10. Operating Activities PV Net Cash Flows Calculation

Year	Operating Activities Net Cash Flows	Discount Factor (7,5%)	Operating Activities PV Net Cash Flows
2018	IDR 204,958,500	0,93	IDR 190,611,400
2019	IDR 2,891,661,150	0,87	IDR 2,515,745,200
2020	IDR 6,517,546,800	0,81	IDR 5,279,213,000
2021	IDR 13,292,967,100	0,75	IDR 9,969,725,300
2022	IDR 21,403,004,600	0,70	IDR 14,982,103,200
Total PV Arus Kas Bersih Aktivitas Operasional Operating Activities Total PV Net Cash Flows			IDR 32,937,398,100

$$\begin{aligned}
 \text{NPV} &= \text{Total PV net cash flow} - \text{Total PV investment} \\
 &= \text{IDR } 32,937,398,100 - \text{IDR } 1,500,000,000 \\
 &= \text{IDR } 31,437,398,100
 \end{aligned}$$

Based on the calculations, the NPV is positive or greater than zero (> 0) means business PT. Indo Mitra Niaga business is feasible.

Below is the the calculation table of the payback period under normal conditions.

Tabel 11. Payback period calculation

Tahun	Net cash flow Operating Activities	Residual value of investment that have not been returned
2018	IDR 204,958,500	IDR 1,295,041,500
2019	IDR 2,891,661,150	(IDR 1,596,619,650)
2020	IDR 6,517,546,800	
2021	IDR 13,292,967,100	
2022	IDR 21,403,004,600	

$$\begin{aligned} \text{Payback period} &= 1 + \left(\frac{1.500.000.000 - 1.295.041.500}{2.891.661.150 - 1.295.041.500} \right) \times 1 \text{ year} \\ &= 1 + 0,13 \text{ year} \\ &= 1,13 \text{ year or 13 months and 17 days.} \end{aligned}$$

The payback period calculation is 1,13 years, which means the capital investment will be returned within 1,13 year period. Payback period feasibility indicators is <5 years, so PT. Indo Mitra Niaga business is feasible.

The following is the estimated IRR calculation table of PT. Indo Mitra Niaga under normal conditions.

Tabel 12. IRR Calculation Table

Year	Net Cash Flows Operating Activities	DF (150%)	Net Cash Flow PV	DF (155%)	PV Net Cash flow
2018	(IDR 1,500,000,000)	1	(IDR 1,500,000,000)	1	(IDR 1,500,000,000)
2019	IDR 204,958,500	0,4	IDR 81,983,400	0,3921	IDR 80,375,882
2020	IDR 2,891,661,150	0,16	IDR 462,665,784	0,1538	IDR 444,699,908
2021	IDR 6,517,546,800	0,064	IDR 417,122,995	0,0603	IDR 393,064,315
2022	IDR 13,292,967,100	0,0256	IDR 340,299,958	0,0236	IDR 314,384,559
2023	IDR 21,403,004,600	0,01024	IDR 219,166,767	0,0093	IDR 198,506,094
	Total Net Cash Flow PV		IDR 21,238,904		(IDR 68,969,242)

According on the table, the IRR value lies between 150% - 155%, then the interrelation showed the following results:

$$\begin{aligned} \text{IRR} &= 150\% + \left(\frac{\text{IDR } 21.238.904}{\text{IDR } 21.238.904 - (\text{IDR } 68.969.242)} \right) \times (155\% - 150\%) \\ &= 150\% + 1,18\% \end{aligned}$$

= 151,18%

The IRR result is greater than the BI Rate at 7,5%. So the project PT. Indo Mitra Niaga feasible and should be conducted.

5. Conclusion and Implications

The conclusion of this study is based on the assessment of the marketing analysis, operational analysis, human resources analysis, and financial analysis. It also can be concluded that the PT. Indo Mitra Niaga development project is feasible. It is suggested that the company should immediately conduct the business development project because the potential development of this business has a strong prospect in terms of the market aspects and yield benefits. Through the development of this business, it is expected to not only positively impact the company's financial performance, but also provide a wider multiplier effect to a cleaner and healthier environment. Cooperation and support by the government is expected in this business development project to be realized.

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