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Feasibility Study for Investment as Agent (Case Study: PT. Tirta Chemoil)

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ABSTRACT: After the financial sector underwent a dramatic transformation in 2020, primarily brought on by the COVID-19 Pandemic, certain areas of the market have recovered while others are still struggling to recover from the financial losses brought on by the pandemic. Despite the drop of sales, and the growth trend was declining. PT. Tirta Chemoil show a good trend of oil sales that shows it is gradually increasing from 2018 which means that oil industry is generating a good revenue to the company. Thus, being told that there is an opportunity to be an agent of brand R, the stakeholder asked me to do the financial feasibility study to see whether their investment are worth it and able to generate a return in 10 years ahead. The research objectives on this study mainly about the feasibility of the company invest in being an agent for the lubricants oil brand. The feasibility study mainly use the indicator on discounted cash flow (DCF) such as net present value (NPV), internal rate of return (IRR), Profitability Index (PI), and payback period. This feasibility study use sensitivity analysis to see the effect on the change of price and quantity to the generated NPV, also use monte carlo analysis to complete with the simulation analysis. Lubricants industry in Indonesia is growing year to year and projected to generate a constant growth on the next few years. The segmentation is all of the industrial oil, targeting West Java market especially industry that use lubricants as the main component for their machinery, and positioning in a premium grade oil. The generated NPV is Rp 5,394,761,715.48, IRR 46%, PI 5,94, and payback period in 4 years. The conclusion is PT. Tirta Chemoil should take the chance to invest in the new product with lowering the initial investment and Capital expenditure so that the payback period can be faster and it can generate more revenue

KEYWORDS: Agent Distribution, Discounted Cash Flow, Feasibility study, Internal Rate of Return, Lubricants, Net Present Value.

INTRODUCTION

After the financial sector underwent a transformation in 2020, primarily brought on by the COVID-19 Pandemic, certain areas of the market have recovered while others are still struggling to recover from the financial losses brought on by the pandemic.

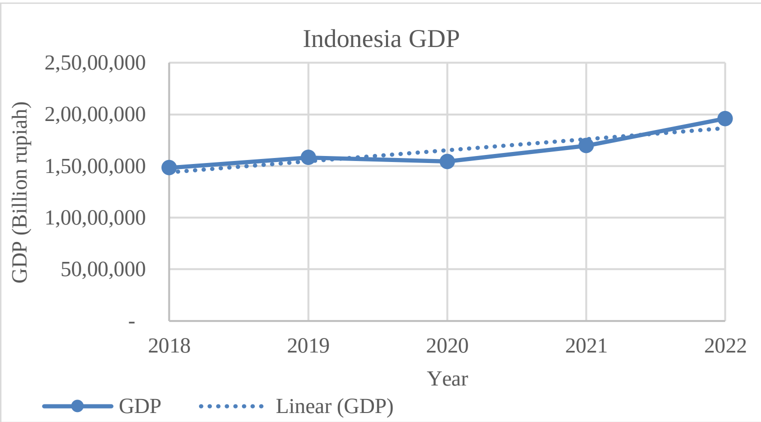

Figure I. Indonesia GDP 2018-2022[1]

Figure above show that the gross domestic product (GDP) growth indicates that Indonesia's economy has been expanding since 2018. Even with the setback in 2020, Indonesia's GDP doesn't appear to be shrinking. The attractiveness of the growth of GDP with other industry growth such as petroleum and oil industry, car accessories industry, automobile spare parts, and many others. The requirement for oil in Indonesia is predicted to be higher and higher due to the growth of GDP. In the midst of the positive growth of the lubricant oil industry due to the growth of GDP.

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Every business purpose is to make profits, so that the expansion and growth plans are more likely to make higher profits. The growth and expansion of the company is very dependence on the opportunities given to the company through any means. As The sales of PT. Tirta Chemoil that shown by Figure II. has been up and down since 2011. Especially in pandemics of COVID-19 from 2020 and 2022 it was difficult to maintain an excellent business performance.

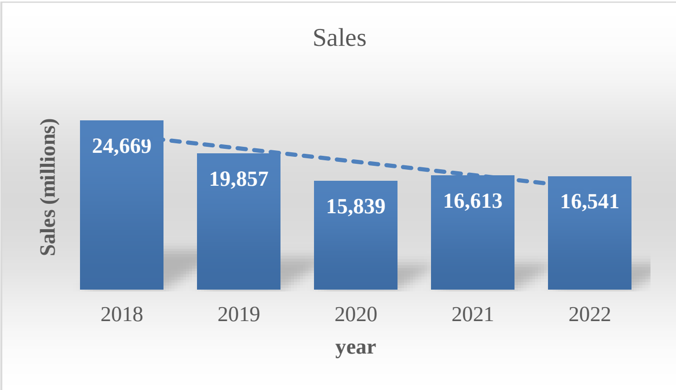

Figure II. Sales on PT. Tirta Chemoil[1]

Despite the drop of sales, and the growth trend was declining. Figure 5. Shows a good trend of oil sales that shows it is gradually increasing from 2018 which means that oil industry is generating a good revenue to the company. Thus, being told that there is an opportunity that the stakeholder on PT. Tirta Chemoil has been offered to invest as agent for "R" lubricants brand, the stakeholder asked me to do the financial feasibility study to see whether their investment is worth it and able to generate a return in the range of 10 years ahead. The purpose of this research is to identify and analyze whether the investment is financially feasible and what is the recommendation for the company. This research will focus on financial feasibility analysis using net present value (NPV), internal rate of return (IRR), profitability index (PI), and payback period. The aim is to be able to give recommendation to the stakeholder of PT. Tirta Chemoil.

CONCEPTUAL FRAMEWORK

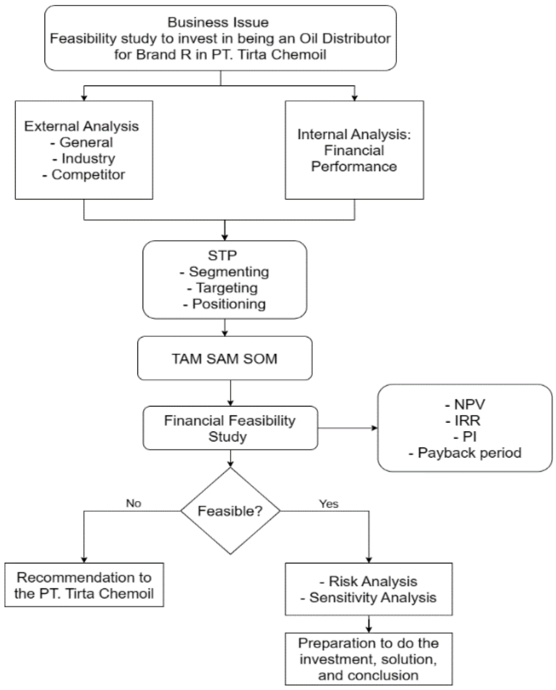

Figure III. Conceptual Framework

The conceptual framework of this research will focus on the external analysis (general, industry, and competitor analysis), and internal analysis (company financial performance). After analyzing the external and internal analysis, then segmenting, targeting, and positioning of the brand will be analyzed to be able to see the market size. After that do the total addressable market (TAM), serviceable available market (SAM), and serviceable obtainable market (SOM). Then, the financial feasibility will be done using several benchmark factors that are: NPV, IRR, PI, and payback period. If it is feasible, then proceed to sensitivity analysis, and then monte carlo simulation. The result of the financial feasibility study then will be concluded.

METHODOLOGY

The data collection method in this research consists of a quantitative method using secondary data. The data collected uses various secondary sources that consist of: Company's financial statement: The financial statement is a written document to show the company's financial performance and its activities during a given time period. This research will use their financial statements from 2018 to 2022 (5 years of data); Company's database: The company database consists of sales, inventory, assets, channels, employment, and many other data points that will be needed in this research; Literature review: a literature review will be conducted and review several articles and statistical data to support more about this research; Market research is market research that has been done by a third party, an analysis company, journal papers, research, and other sources.

The data will be analyzed using the quantitative methods that were obtained from the data collection above. The data that was given will then be processed using Excel and other tools. This data analysis will be focused on numerical and quantitative data analysis. Before analysis, the data will then be processed using Excel in order to analyze the data easily. This task involved identifying, classifying, and projecting the forecast on company performance after investments and projected company capabilities after being a distribution agent. After analysis, the data will be processed using Excel to do sensitivity analysis and scenario analysis to measure the risk of the financial feasibility analysis of this research.

RESULT

A. External Analysis

From PESTLE analysis, the current demographic of the growth on the citizen of West Java is increasing and the shows the positive growth, the industries from 2018 is growing in number but decreased due to the effect of the pandemic. The inflation rates of Indonesia are gradually declining and fluctuating around 2-5% that means the purchasing power is normal and the economic is stable. The latest regulation that regulates the lubricants oil said that every lubricants oil need API, standardization, and if they are being manufactured in Indonesia they need to have Indonesia National Standard (SNI). The sociocultural factor that is important is the consumers wants to get the lubricants as cheap as they can without knowing the quality of their oil or getting the lubricants at a fair price but with quality oils where the price can be fought against each other. Current technological system needs to be strengthen for internal strength of the company and strengthen the system of the company. The company should take into account for sustainability issue, green business, environment, social, and governance (ESG), and the way to minimizing environmental footprint.

Using Porter five forces analysis, the threat of new entrants is low because of the economies of scale in distribution channel is low, the bargaining power on suppliers are high due to they are the one who manufacture the lubricants. The bargaining power on buyers is medium depends on the scale of the buyers and the specification needed by them. The threat of substitute product is low due to there is less change of needs for lubricants oil for machinery, fleet, marine, and many others. The rivalry of competing firms is high and intense due to the numerous or equally balanced competitors, high fixed cost and storage cost due to the needs to store the lubricants drum and pail every month before the delivery, and the lack of differentiation and low switching costs to other products.

The current distribution on lubricants oil in West java is targeting the same market on the industrial oil segment. Such as manufacturing, fleet, industrial, marine, and many other. The different between each of the competitor is their price, base oil, and additives that is being used to combine to be a lubricant. Every agent on lubricants distribution oil in Bandung have the price of the oil around Rp 4,000,000 – Rp 7,000,000 per drum depends on the quantity bought by the consumer. The lubricants oil company nowadays are all aware of sustainability issue, thus they are making the lubricants to be in linear view with the sustainability issue, corporate social governance, and ESG Index. They are trying to add more value into sustainability issue.

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B. Internal Analysis

The internal analysis will see the indicator on the company from 2018 – 2022. From the table below the crash on pandemic hit the company hard in 2020 shown by their RoE and RoA indicator. The company condition has it peaked at 2018, and tend to be stable from 2019 – 2022. In 2018, the company sold many chemicals product rather than lubricants oil product. Shown by the Figure IV. that the lubricants sales are generating higher percentage of sales from year to year on 2019 – 2022. Based on the company indicator shown at Table 1. all of the indicators show a gradually declining factor for the company and the lubricants investment is interesting to be taken into account.

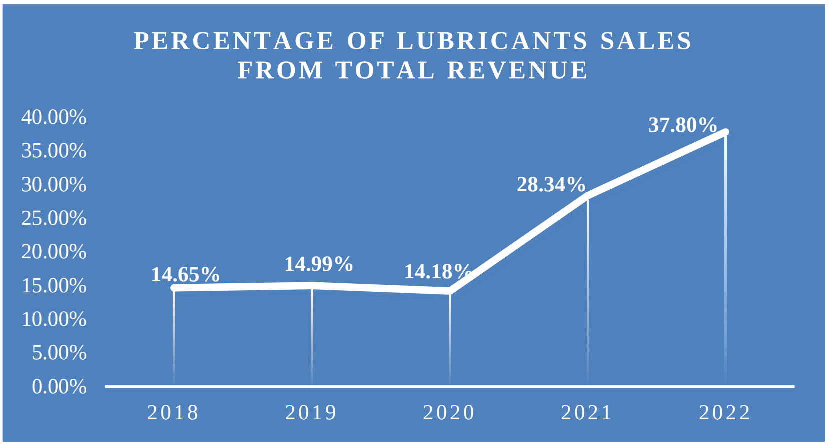

Figure IV. Percentage of oil sales from total revenue

Table 1. Indicator on Company Performance

	2018	2019	2020	2021	2022
GPM	32,71%	22,96%	20,67%	22,17%	24,33%
OPM	14,89%	4,29%	-3,73%	0,37%	3,50%
NPM	14,40%	3,46%	-3,73%	0,30%	2,84%
RoE	3,94	0,50	- 0,62	0,05	0,36
RoA	0,66	0,13	- 0,10	0,01	0,09

C. Segmenting, Targeting, Positioning

The segmentation on the lubricants oil will be divided into industry segmentation, product segmentation, and customer segmentation. The industry segmentation are fleet and heavy equipment, automotive, manufacturing. The product segmentation are diesel machine lubricants, transmission and gear oil, hydraulic oils, industrial gear oil, compressor oils, heat transfer oils, circulating oils, turbine oils, special application oil, and technical assistance service.

The targeting on the new lubricants oil industry will be more focused on fleet and heavy equipment industry, manufacturing, and agriculture. This targeting is chosen due to most of the sales is within West Java landscape that most of the industries are fleet and heavy equipment for construction development, construction repairment, manufacturing industry such as steel plants, heavy equipment that needs a hydraulics oil, and a lot of agriculture such as tea plantation. The targeting will target the industry that needs a premium quality lubricants oil that meet their machine specification and meet the qualification of the standard of lubricants qualification. The new lubricants oil will target a high segmentation with more expensive price rather than the one that have been distributed. So, the target will be in different segmentation with the current oil.The brand positioning will be based on the needs of some industries that needs premium, qualified, and trusted lubricants oil. The positioning will be based on that with higher prices than the current lubricants oil being distributed by PT. Tirta Chemoil, and the quality will be above that products.

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D. TAM, SAM, and SOM

The forecasting on total addressable market (TAM) in West Java in 2024 is Rp 29,676,003,051,218. The targeted industry is 80% of total industries so that the serviceable available market (SAM) is Rp 23,740,802,440,975. To calculate serviceable obtainable market, SOM consists of last year market share times this year serviceable available market. The SOM in 2024 is 5,869,989,858. By dividing with average estimate cost on the product the obtainable market for next year is 840/year and it is 70 drum/month. This will be optimism quantity sold. Meanwhile for our normal target, it will be starting from 40 drum/month.

E. Investment Project Calculation

The information on Table II. show the forecasted operating cashflow within the company with the initial investment of Rp 1,308,000,000.

Table II. Operating Cash Flow of the company (forecasted)

Year	Operating Cash Flow
1	91.057.298
2	214.832.331
3	383.114.437
4	643.159.344
5	1.077.784.859
6	1.639.488.688
7	2.330.333.334
8	3.150.740.605
9	4.056.871.869
10	4.996.956.264

Table III. Give the information on the current company capital structure with the weight of the company debt and equity. The WACC is 12, 77%.

Table III. WACC

Capital Structure	Weight	Cost	Weighted cost
Debt	74,69%	11,70%	8,74%
Equity	25,31%	15,92%	4,03%
[redacted]		**WACC**	12,77%

Table IV. show that the investment fully paid back in year 5, with the other indicator such as NPV is greater than zero, IRR greater Weighted average cost of capital (12,77%), and profitability index (PI) greater than 1. This is an attractive investment

Table IV. Result for the investment project calculation

NPV	5.394.761.715
IRR	46,31%
PI	5,94
Payback Period	4+ years

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The sensitivity analysis calculation is tested on the effect of price and quantity changes sold per year to NPV. With the swing of -10%, -5%, 5%, and 10% the NPV still generate a positive value (NPV greater than zero).

[redacted]		Quantity sold/year				
	5.394.761.715	432	456	480	504	528
price per unit	6.055.020	5.123.871.811	5.132.337.133	5.140.802.454	5.149.267.775	5.157.733.096
	6.391.410	5.238.153.554	5.252.967.861	5.267.782.168	5.282.596.474	5.297.410.781
	6.727.800	5.352.435.296	5.373.598.589	5.394.761.881	5.415.925.174	5.437.088.467
	7.064.190	5.466.717.039	5.493.551.103	5.518.037.031	5.542.522.959	5.567.008.886
	7.400.580	5.570.775.927	5.600.912.451	5.631.048.976	5.661.185.501	5.691.322.026

Figure V. Sensitivity Analysis on price and quantity that affect NPV.

The monte carlo simulation data shown by Table III. The monte carlo simulation use the best case scenario where the company able to sell 840 quantity of lubricants drum in the first year. Figure VI. Show the monte carlo simulation graph that shows the normal distribution on the range of the NPV. The monte carlo analysis show that the mean is the most event that have the highest probability.

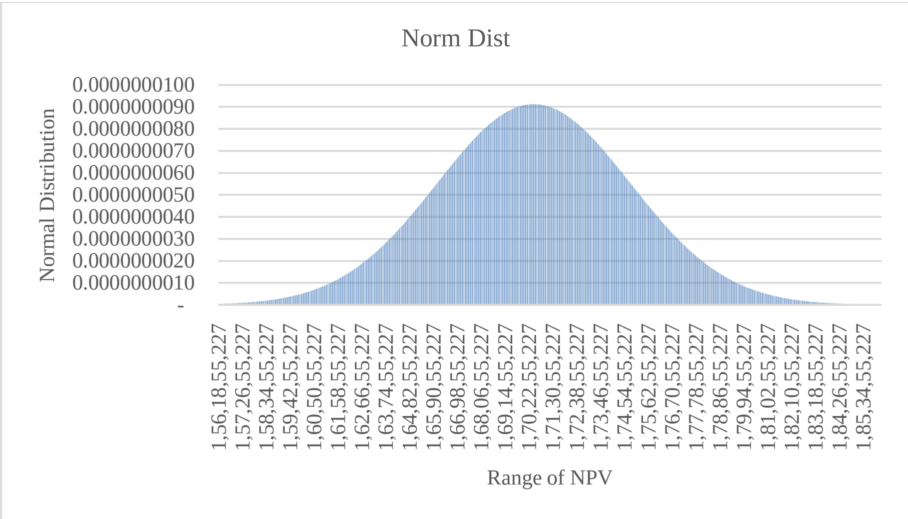

Figure VI. Normal Distribution on Monte Carlo Simulation

Table IV. Monte Carlo Analysis

Number of samples	1.000
NPV Mean	1.705.445.234
NPV stdev	43.909.984
Minimum	1.548.952.756
maximum	1.841.489.432
5% percentile	1.633.343.269
Skewness	0,078
Kurtosis	0,052

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CONCLUSION

Based on the top-down analysis that had been done, the market segment on west java industries that use lubricants oil is high. This means that the industry still growing, and the growth of the industry is positively affecting the growth of sales in lubricants oil and the decreasing industry will lead to the negative growth on the lubricants oil. Lubricants oil industry really depends on its mutual exclusive industry in terms of the growth on sales. Because the competition is high on the distribution of the lubricants oil in West Java, and each competitor want to penetrate the market, the price on lubricants oil being pressured.

This investment project was calculated in using current company capital with the WACC based on the current company financial statement (the latest on 2022). Then, the investment project that will be done have a great effect on the NPV, IRR, Profitability Index (PI), and the payback period. Although the initial investment is high for the company, the investment will more likely generate the payback period in 4 years, with IRR > WACC (46%), NPV Rp 5,394,761,715, and profitability index > 1 (5,94). Also, with the risk calculation using monte carlo and sensitivity analysis the net present value will be higher than zero. Thus, the choice is to invest in this project.

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