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Assessing The Financial Feasibility Study of QRS Company New Branch

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ABSTRACT

The automotive industry in Indonesia, especially motorcycles, grows every year. This creates a bright future for Indonesia's motorcycle sector in particular. Established in 2000, QRS Company is a business engaged in the motorcycle spare parts industry in Tasikmalaya. After seeing the rapid growth of motorcycle users in Indonesia and the significant increase of their revenue, QRS Company wants to expand their business by creating a new branch. Feasibility study is a study that is conducted to assess whether the project is profitable or not. This research begins by conducting projections from financial statements to estimate the QRS Company financial condition in the future. This research was made using capital budgeting analysis. This study aims to assess the financial feasibility and also the risk in capital budgeting by using sensitivity analysis and simulation analysis. Expansion project carried out by QRS Company can be categorized as feasible. The calculation shows that the NPV of the project is positive valued. The payback period of the QRS Company expansion project is faster than the maximum return period of 5 years. The IRR is smaller than the WACC. In addition, the risk analysis shows that the expansion project of QRS Company has a low risk.

Keywords : Motorcycle Spare Parts; Capital Budgeting Analysis; Risk in Capital Budgeting.

1. INTRODUCTION

According to data from The World Bank, Indonesia is the 4th most populous country in the world with over 273 million people by the end of 2021. This makes a promising growth for every business in Indonesia, one of them is the automotive industry. The automotive industry in Indonesia grows every year. This is part of the positive impact of the growth in the number of Indonesia's middle class over the past decade. For the car market in Indonesia, from data from the Association of Indonesian Automotive Industries (Gaikindo), Indonesia has produced more than 1.4 million cars in 2022. The growth in car production has increased quite high, from 2009 to 2019 it experienced an increase of more than 270%. As for the motorcycle market, data from the Association of Indonesia Motorcycle Industry (AISI) in 2023, Indonesia has produced more than 5.22 million units of motorcycles in 2022. This number increased by 3.24% compared to the previous year which amounted to around 5.06 million units. The number of motorized vehicles in Indonesia surpassed 148 million units in 2022, based on data from Statistics Indonesian (BPS). In 2022, the number of vehicles increased by 6,216,033 units or an increase of 4.4% to 148,212,865 units from 2021 of 141,996,832 units. The number of passenger cars reached 17,175,632 units or 11.6% of total vehicles in Indonesia by 2022. This number is increasing from 2021 of 16,413,522 units. Motorcycles are the most common vehicles in Indonesia. In fact, the number continues to grow every year. Until 2022, the number of motorcycles in Indonesia reached 125,267,349 units. In 2021, the number of motorcycles was recorded at 120,045,878 units.

The suppliers of the parts required to make the motorcycle are directly impacted by the rise in vehicle production in Indonesia, which will also result in a rise in production of the necessary parts. Certain parts, such as oil, oil filters, spark plugs, and others, are required not only for the production of new vehicles but also for periodic maintenance or routine servicing of the vehicle. As a result, this sector is highly promising and has a bright future. On the other hand, this bright future threatens established firms and boosts rivalry in the market. So, there are numerous options available to end users or motorcycle owners for their spare components.

QRS Company is a business engaged in the spare parts industry. Currently, QRS Company is located in Tasikmalaya and does not have any branch. This main business has made a profit. Because of this, QRS Company wants to expand its business by opening a new branch. The main product offered by QRS Company is motorcycle spare parts.

QRS Company wants to take advantage of the opportunity found in Ciamis by expanding its business in Ciamis and will open in early 2024. To make the branch, QRS Company prepared an initial investment of IDR 750,000,000 for rent and buying equipment that supports business activities. All costs that will be incurred will be borne 100% by the owner of the business.

2. LITERATURE REVIEW

The purpose of the company is to maximize the value of the company. The company's competitive advantages and how well it has the prospect can be used to determine the value of the business. Companies with strong values have a greater opportunity to dominate the market (Koller et al., 2020).

2.1 Feasibility Study

A feasibility study refers to an analysis that takes every relevant factor of a project into account (legal, economic, technical, and scheduling considerations) to determine the possibility of completing the project successfully (Gordon, 2022). Financial feasibility describes whether or not your project is fiscally viable. An evaluation of the project's costs and benefits is part of a financial feasibility report. It also identifies any financial risks and projects an estimated return on investment (ROI). The goal at the end of the financial feasibility study is to understand the economic benefits the project will drive and a recommendation to the company whether the company needs to take this project or not (Peterson & Fabozzi, 2004). The financial section of this study covers the scope of investment, including net working capital, production, and marketing costs, sales revenue and return on investment (Hawranek, 1995).

2.2 Capital Budgeting

Capital budgeting is the method of estimating the financial viability of a capital investment over the life of the investment (Wright, 2013). Capital budgeting is used to evaluate productive asset investments made by companies. Companies make investments in factories, real estate, and machinery, among other productive assets. These assets are expected to support and provide benefits to the company in the long run (Zutter & Gitman, 2012).

Capital budgeting is a method for projecting productive asset investments that will be carried out by the company. There are several factors that must be considered when using the capital budgeting method, future cash flow, degree of uncertainty (Peterson & Fabozzi, 2004).

2.2.1 Net Present Value (NPV)

Net present value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. NPV is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project (Zutter & Gitman, 2012). The calculation of NPV is the outcome of selecting the appropriate discount rate to determine the current value of a stream of future payments. In real life, it's a way to figure out your return on investment (ROI) for a project or expense. Looking at all of the money you anticipate making from the investment and converting those returns to today's money will allow the decision-maker to determine whether the project is worthwhile. In general, projects with a positive NPV are worth undertaking while those with a negative NPV are not.

2.2.2 Initial Rate of Return (IRR)

The internal rate of return (IRR) is a metric used in financial analysis to estimate the profitability of potential investments. IRR is a discount rate that makes the net present value (NPV) of all cash flows equal to zero in a discounted cash flow analysis (Peterson & Fabozzi, 2004). The same formula is used for NPV calculations and IRR calculations. Keep in mind that IRR does not equal the project's actual financial value. The annual return is what brings the NPV to a negative value.

2.2.3 Payback Period

The payback period is a method for calculating the time needed by cash inflows from the project's operation to have the same amount equal to initial cash flow expenditure (Weetman, 2006). The payback period is crucial since people and businesses invest money primarily to be reimbursed. The payback period helps in determining how long it will take to recover the initial expenditures of an investment. This statistic can be useful before making any decisions, particularly if the investor needs to evaluate a potential investment rapidly. Everyone may benefit from knowing the payback period, which can be calculated by dividing the initial investment by the typical cash flows. In principle, an investment becomes more appealing and desirable the shorter its return period is.

2.3 Cash Flow

Cash flow refers to the net balance of cash moving into and out of a business at a specific point in time. A corporation with positive cash flow has more money coming in than going out. Positive cash flow is a sign that a company's liquid assets are growing, allowing it to meet commitments, reinvest in its operations, distribute profits to shareholders, cover costs, and act as a safety net against upcoming financial difficulties. A corporation with negative cash flow has more money leaving than entering it. Cash outflows are caused by investment-related costs. Strong financial flexibility enables businesses to benefit from profitable investments. They also perform better during recessions since they don't incur the price of financial distress

2.3.1 Initial Investment

The relevant cash outflow for a purpose project at time zero (Zutter & Gitman, 2012). Initial investment used to finance investment from the beginning and happen in zero year. The initial investment of the project includes installation cost for new asset, construction, proceeds (if exist) from the old asset and tax (if exist).

2.3.2 Discounted Cash Flow

Discounted cash flow (DCF) refers to a valuation method that estimates the value of an investment using its expected future cash flows. DCF analysis attempts to determine the value of an investment today, based on projections of how much money that investment will generate in the future. It may help those who are trying to decide whether to purchase

securities or a firm. Business owners and managers can use discounted cash flow analysis to help them make decisions about operational and capital budgets. Discounted Cash Flow also considers risk and cut-off rates (Wachowicz & Van Horne, 2008).

2.4 Weighted Average Cost of Capital (WACC)

Weighted average cost of capital (WACC) represents a firm's average after-tax cost of capital from all sources, including common stock, preferred stock, bonds, and other forms of debt. WACC expresses the return that both bondholders and shareholders require in order to provide the company with capital, making it a frequent method for calculating necessary rate of return (RRR). WACC of a company generally speaking required return for the whole firm (Zutter & Gitman, 2012). A firm's WACC is likely to be higher if its stock is relatively volatile or if its debt is seen as risky because investors will require greater returns.

2.4.1 Cost of Equity

The cost of equity measures the rate of return that investors require before investing in a business (Damodaran, 2010). In other terms, the cost of equity is the rate of return needed by a business to determine if an investment meets capital return standards. Firms often use it as a capital budgeting threshold for the required rate of return. A firm's cost of equity represents the compensation that the market demands in exchange for owning the asset and bearing the risk of ownership. The conventional formula for the cost of equity is the dividend capitalization model and the capital asset pricing model (CAPM). The required rate of return on a certain project or investment is determined by the cost of equity from the viewpoint of a corporation.

2.4.2 Cost of Debt

The cost of debt is assessed by several factors such as paid to bondholders, interest rate, or yields (Block et al., 2019). The cost of debt is the effective interest rate that a company pays on its debts, such as bonds and loans. The cost of debt may be expressed as either the before-tax cost of debt, which is the amount owed by the business before taxes, or the after-tax cost of debt. The fact that interest expenses are tax deductible accounts for the majority of the difference between the cost of debt before and after taxes. The cost of debt measure is helpful in understanding the overall rate being paid by a company to use these types of debt financing. Due to the fact that riskier businesses typically have higher loan costs, the metric can also provide investors with a sense of how risky the company is in comparison to others.

2.5 Liquidation Value

Liquidation value is the total worth of a company's physical assets if it were to go out of business and its assets sold (Damodaran, 2010). The assets of a corporation, such as its real estate, furniture, equipment, and inventory, influence its liquidation value. The liquidation value of a corporation does not include intangible assets. Intangibles like a company's intellectual property, goodwill, and brand recognition are not included in the liquidation value. However, if a company is sold rather than liquidated, both the liquidation value and intangible assets determine the company's going-concern value. To decide whether a company's stock is currently a smart investment, value investors compare a company's market capitalization to its going-concern value.

2.6 Capital Budgeting Risk Assessment

2.6.1 Sensitivity Analysis

Sensitivity analysis determines how different values of an independent variable affect a particular dependent variable under a given set of assumptions. Sensitivity analysis is a financial model that determines how target variables are affected based on changes in other variables known as input variables. It is a technique for forecasting a decision's outcome given a set of relevant factors. An analyst can determine how changes in one variable affect the result by generating a specific set of variables. When performing a sensitivity analysis, both the target and input, or independent and dependent variables, are thoroughly examined. The analyst looks at how the variables change as well as how the input variable affects the target. Numerous aspects, including economic conditions, customer preferences, taxes, and other potential factors, must be taken into account in the sensitivity analysis. In this case, managers must consider how sensitive they are to these assumptions (Zutter & Gitman, 2012).

3. RESEARCH METHODOLOGY

3.1 Research Framework

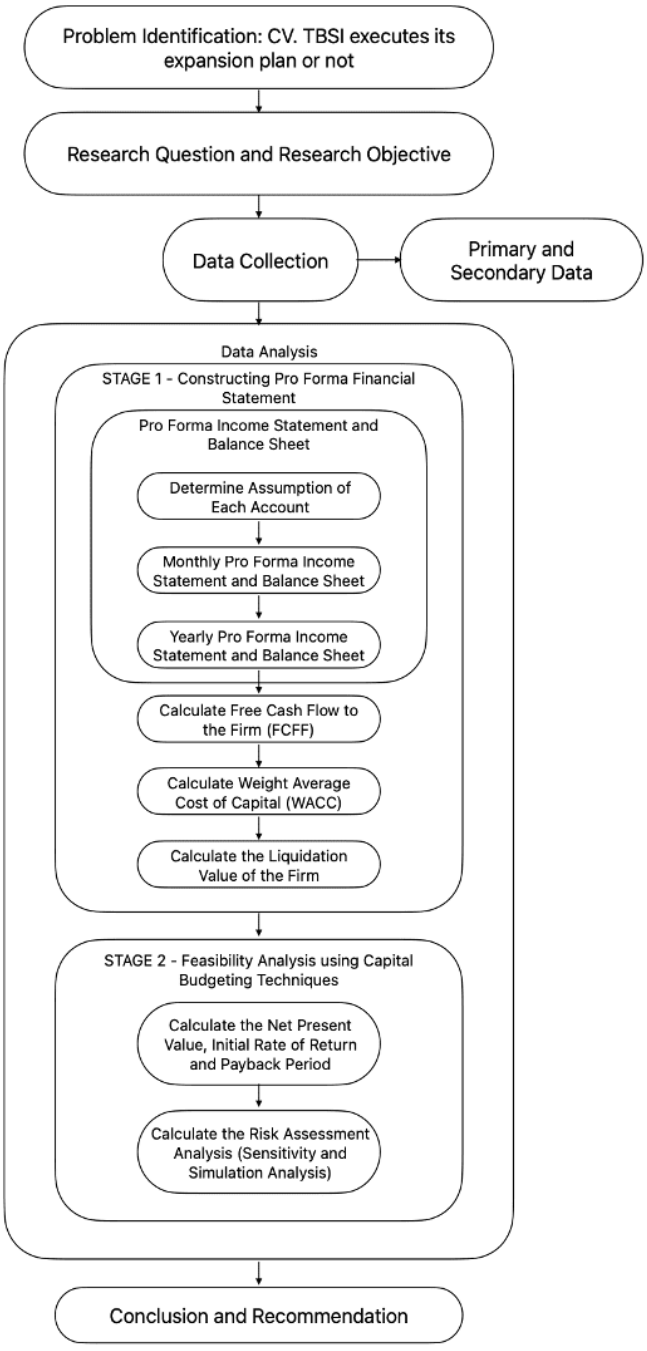

Figure 1. Research Framework

3.2 Data Collection

Thomas Pyzdek (2009) proposed the use of Project Charter and Pareto Chart Analysis to identify the problem statement, Both primary and secondary sources of data were used to collect the information for this study. To develop assumptions regarding the projection of income statements and balance sheets, primary data is used. To assess the internal state of the business, QRS Company's owners provided this main data during interviews. The primary data consist of the cost of investment, sales forecast, expenditures, operating and maintenance costs, and the economic assumptions such as exchange currency rate and inflation. The secondary data is used to become a company benchmark and mostly about

the academic theory of feasibility study. This secondary data was acquired from literature research that is pertinent to the feasibility study's theoretical foundations.

4. RESULT/FINDING

4.1 Financinng Requirement

Table 1. Financing Requirement

Financing Requirement (in rupiah)	
Buying house	2.300.000.000
Computer	20.000.000
Iron Rack	20.000.000
CCTV	3.000.000
Office Supplies	3.600.000
Table & Chair	15.000.000
Mobile Phone	3.500.000
Wood Rack	10.000.000
Inventory – Oil	125.000.000
Inventory – Tire	125.000.000
Inventory – Spare Parts	150.000.000
Total	**2,775,100,000.00**

4.2 Stage 1 – Constructing Pro Forma Financial Statement

4.2.1 Determine the Assumption in Pro Forma Financial Statement

In making a pro forma financial statement, an assumption is needed. To make this research more accurate, the researcher uses the owner's assumption. The assumption are as follows:

Table 2. Yearly Assumption for Income Statement

Account	Amount		Assumption
	Ratio	%	
Total Sales	Historical Growth	12%	The increase in total sales is based on historical information from QRS Company
Total Payment to Supplier	Historical Growth	12%	The increase in total sales is based on historical information from QRS Company
Operational Expense			

Salaries	Minimum Salaries Growth in Tasikmalaya City	7.42%	Minimum salaries growth is the factor that affect the most of employee salaries
Office Supplies	Inflation rate	2.89%	Office supplies are fixed costs that must be issued by the company each year. Inflation is the factor that affects office supplies the most.
Maintenance	Inflation rate	2.89%	Maintenance cost allocated to repair/repaint the properties that were allocated by the company each year. This cost will be influenced by inflation.
Electricity	Inflation rate	2.89%	Electricity tariffs are fixed costs that must be paid by the company. In this study, tariffs are projected to increase using the inflation rate of water and electricity.
Telecommunication	Inflation rate	2.89%	Telephone usage is used for calling customers and suppliers. This cost increases following the inflation rate.
Transportation	Inflation rate	2.89%	Transportation tariffs are fixed costs that must be paid by the company. In this study, tariffs are projected to increase using the inflation rate of fuel.
Rent Expense			
Land and Warehouse	-	-	There is no increase in rental fee because the land and warehouse owned by the owner
Depreciation	Assume to be zero	-	
Interest Expense	-	-	There is no interest expense because the company does not have long term debt
Tax		10%	Based on the result of the interviews with the company owners. This increase includes the payment of tax consultant service.

Table 3. Yearly Assumption for Balance Sheet

Account	Amount		Assumption
	Ratio	%	
Assets			
Current Assets			
Cash			Cash is the sum of excess cash and required cash. The increase in cash is based on historical information from QRS Company

Required Cash	Historical data	30%	The percentage of required cash is based on the owner level of confidence to provide the cash needed for company business activities. Based on the historical data, the required cash increased 30% per year.
Excess Cash	-	-	Excess cash obtained from cash is reduced by the required cash.
Account Receivable	-	-	Since QRS Company only receives direct payments for each product sold, the amount of account receivable at the end of each month will be zero.
Inventory	Historical Growth	3.5%	Inventory consists of products that are not sold yet. Based on the historical growth, the inventory will increase 3.5% per year.
Office Supplies	Historical Growth	7%	Office supplies consist of stationary and bill notes. Office supplies will be purchased every month. Based on the historical growth, the office supplies will increase 7% per year.
Payment in Advance	-	-	
Fixed Assets			
Iron Rack	Assume to be zero	-	Fixed assets are obtained from reducing the initial value in a monthly depreciation expense. The value of the depreciation expense will depend on the initial value of the assets.
Mobile phone			
Table			
Wood Rack			
Liability and Equity			
Short term Liabilities			
Account Payable	Historical data	70% from inventory	The account is payable containing the QRS Company's debt to the supplier. The account payable at the end of the year will only contain debt in the 12th month which will be diluted at the beginning of the new month. The owners assume that the account payable is 70% from the total inventories.
Tax Payable		10%	Tax payable is a tax debt collected by the company but has not been deposited to the government. Based on the interview with the owner, he assumes that the tax payable will grow 10% per year.
Long term Liabilities			
Long term Liabilities			Since QRS Company uses 100% equity from company owners, QRS Company does not have long-term debt.

Equity			
Retained Earnings	-	-	Retained earnings are profits earned by the company and then reinvested for the purpose of the business growth.
Owner's Equity	-	-	Owner equity shows the investment value that must be prepared by the company to meet the needs of the company.

4.2.2 Yearly Pro Forma Income Statement and Balance Sheet

The monthly assumptions from the income statement and balance sheet are used to create the yearly pro forma income statement and balance sheet. Following that, the data is created utilizing the presumptions about the factors influencing each account.

4.2.3 Free Cash Flow to the Firm (FCFF)

Data from the income statement and balance sheet can be used to calculate the firm's free cash flow. The firm's free cash flow will be calculated from the initial year to the 5th year.

4.2.4 Cost of Capital using WACC

4.2.4.1 Cost of Debt

QRS Company does not have debt because of QRS Company chooses to fund 100% of its business using capital owned by the owner.

4.2.4.2 Cost of Equity

The feasibility analysis of QRS Company's proposal to open a new branch uses the Hurdle Rate to calculate the cost of capital. The Hurdle Rate technique was selected for this study because it takes into account the company's size and is appropriate for businesses that cannot be compared to publicly traded corporations or are classified as small to medium enterprises.

Table 4. Assumption for Cost of Equity Calculation

	Value	Assumption
Risk free rate	6.16%	Obtained from IBPA rate for 5 years.
Beta	1.12	Obtained from the IPO company engaged in the similar industry
Market return	14.82%	Using Compound Annual Growth Rate of JCI return

Table 5. Cost of Equity Calculation

R_e =6.16% + 1.12(14.82% - 6.16%) = 15.86%

Table 6. WACC Calculation

		Weight
Equity	1,557,215,354.00	60%
Retained Earnings (RE)	1,023,503,937.40	40%
Total	**2,580,719,291.40**	**100%**

As shown in the table, the weight of equity is 60%. This value will be used to calculate the cost of equity using the WACC formula. The calculation is shown below:

$$\text{WACC} = 0 + [60\% \times 15.86\}$$

$$\text{WACC} = 9.52\%$$

Figure 2. Yearly Pro Forma Income Statement

ACCOUNT	1	2	3	4	5
Net Sales					
Total Sales	21,642,093,700.00	24,239,144,944.00	27,147,842,337.28	30,405,583,417.75	34,054,253,427.88
Total Payment to Supplier	20,105,103,600.00	22,517,716,032.00	25,219,841,955.84	28,246,222,990.54	31,635,769,749.41
Gross Profit	1,536,990,100.00	1,721,428,912.00	1,928,000,381.44	2,159,360,427.21	2,418,483,678.48
Operational Expense					
Salaries	112,800,000.00	121,169,760.00	130,160,556.19	139,818,469.46	150,192,999.90
Office Supplies	3,600,000.00	3,704,040.00	3,811,086.76	3,921,227.16	4,034,550.63
Maintenance	6,000,000.00	6,173,400.00	6,351,811.26	6,535,378.61	6,724,251.05
Electricity	4,800,000.00	4,938,720.00	5,081,449.01	5,228,302.88	5,379,400.84
Telecommunication	3,600,000.00	3,704,040.00	3,811,086.76	3,921,227.16	4,034,550.63
Transportation	4,800,000.00	4,938,720.00	5,081,449.01	5,228,302.88	5,379,400.84
Rent Expense					
Land and Warehouse	0	0	0	0	0
Depreciation Expense	5,000,004.00	5,000,004.00	5,000,004.00	5,000,004.00	5,000,004.00
Total Operating Expense	140,600,004.00	149,628,684.00	159,297,442.98	169,652,912.16	180,745,157.87
Total Operating Profit (loss)	1,396,390,096.00	1,571,800,228.00	1,768,702,938.46	1,989,707,515.05	2,237,738,520.60
Interest Expense	0	0	0	0	0
Tax	52,500,000.00	57,750,000.00	63,525,000.00	69,877,500.00	76,865,250.00
Net Profit	1,343,890,096.00	1,514,050,228.00	1,705,177,938.46	1,919,830,015.05	2,160,873,270.60

Figure 3. Yearly Pro Forma Balance Sheet

	0	1	2	3	4	5
ASSETS						
Current Assets						
Cash						
Excess Cash		79,512,209.40	152,587,985.58	282,041,973.97	508,906,473.77	903,406,658.83
Required Cash		43,543,074.00	56,605,996.20	73,587,795.06	95,664,133.58	124,363,373.65
Account Receivable						
Inventory	400,000,000.00	414,000,000.00	428,490,000.00	443,487,150.00	459,009,200.25	475,074,522.26
Offlice Supplies	3,600,000.00	3,852,000.00	4,121,640.00	4,410,154.80	4,718,865.64	0.00
Payment in Advance	0.00	0.00	0.00	0.00	0.00	0.00
Total Current Assets	403,600,000.00	540,907,283.40	641,805,621.78	803,527,073.83	1,068,298,673.23	1,502,844,554.74
Land	1,500,000,000.00	1,500,000,000.00	1,500,000,000.00	1,500,000,000.00	1,500,000,000.00	1,500,000,000.00
Buildings	800,000,000.00	770,912,000.00	742,881,639.68	715,870,463.26	689,841,413.22	664,758,779.43
Iron Rack	20,000,000.00	18,666,668.00	17,333,336.00	16,000,004.00	14,666,672.00	13,333,340.00
Mobile phone	3,500,000.00	2,333,336.00	1,166,672.00	3,500,000.00	2,333,336.00	1,166,672.00
Table	15,000,000.00	13,500,000.00	12,000,000.00	10,500,000.00	9,000,000.00	7,500,000.00
Computer	20,000,000.00	18,000,000.00	16,000,000.00	14,000,000.00	12,000,000.00	10,000,000.00
CCTV	3,000,000.00	2,700,000.00	2,400,000.00	2,100,000.00	1,800,000.00	1,500,000.00
Wood Rack	10,000,000.00	9,000,004.00	7,000,008.00	5,000,012.00	3,000,016.00	1,000,020.00
Total Fixed Assets	2,371,500,000.00	2,335,112,008.00	2,298,781,655.68	2,266,970,479.26	2,232,641,437.22	2,199,258,811.43
Total Assets	2,775,100,000.00	2,876,019,291.40	2,940,587,277.46	3,070,497,553.09	3,300,940,110.45	3,702,103,366.18
LIABILITIES AND EQUITY						
Short-Time Liabilities						
Account Payable	0.00	289,800,000.00	299,943,000.00	310,441,005.00	321,306,440.18	332,552,165.58
Tax Payable	0.00	5,500,000.00	6,050,000.00	6,655,000.00	7,320,500.00	8,052,550.00
Total Short-Term Liabilities	0.00	295,300,000.00	305,993,000.00	317,096,005.00	328,626,940.18	340,604,715.58
Long-Term Liabilities						
Long-Term Debt	0.00	0.00	0.00	0.00	0.00	0.00
Total Long-Term Liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Total Liabilities	0.00	295,300,000.00	305,993,000.00	317,096,005.00	328,626,940.18	340,604,715.58
Equity						
Owner's Equity	2,775,100,000.00	1,557,215,354.00	1,557,215,354.00	1,557,215,354.00	1,557,215,354.00	1,557,215,354.00
Retained Earnings	0.00	1,023,503,937.40	1,077,378,923.46	1,196,186,194.09	1,415,097,816.27	1,804,283,296.60
Total Equity	2,775,100,000.00	2,580,719,291.40	2,634,594,277.46	2,753,401,548.09	2,972,313,170.27	3,361,498,650.60
Total Liabilities and Equity	2,775,100,000.00	2,876,019,291.40	2,940,587,277.46	3,070,497,553.09	3,300,940,110.45	3,702,103,366.18

Figure 4. FCFF Calculatio

FREE CASH FLOW TO THE FIRM	0	1	2	3	4	5
Operating Cash Flow						
EBIT	0.00	1,396,390,096.00	1,571,800,228.00	1,768,702,938.46	1,989,707,515.05	2,237,738,520.60
Tax	0.00	52,500,000.00	57,750,000.00	63,525,000.00	69,877,500.00	76,865,250.00
Depreciation	0.00	5,000,004.00	5,000,004.00	5,000,004.00	5,000,004.00	5,000,004.00
Total Operating Cash Flow	0.00	1,348,890,100.00	1,519,050,232.00	1,710,177,942.46	1,924,830,019.05	2,165,873,274.60
Net Fixed Asset Investment (Change in CapEx)						
Investment of Assets	2,371,500,000.00					
Total Net Fixed Asset Investment	2,371,500,000.00					
Net Current Asset Investment (Change NWC)						
Change in Current Asset	403,600,000.00	540,907,283.40	641,805,621.78	803,527,073.83	1,068,298,673.23	1,502,844,554.74
Change in Current Liabilities		295,300,000.00	10,693,000.00	11,103,005.00	11,530,935.18	11,977,775.41
Total Net Current Asset Investment	403,600,000.00	245,607,283.40	631,112,621.78	792,424,068.83	1,056,767,738.06	1,490,866,779.34
Free Cash Flow to the Firm (FCFF)	-2,775,100,000.00	1,594,497,383.40	887,937,610.22	917,753,873.63	868,062,281.00	675,006,495.27
Terminal Cash Flow						1,668,418,089.39
Total Cash Flow	-2,775,100,000.00	1,594,497,383.40	887,937,610.22	917,753,873.63	868,062,281.00	2,343,424,584.66

4.2.5.3 Liquidation Value

The net value of a company's tangible assets, if it were to go out of business and sell its assets, is known as the liquidation value. The worth of the company's real estate, furnishings, equipment, and inventory is the liquidation value. The liquidation value of a corporation does not include intangible assets. This study uses liquidation value assuming the owner of the company will sell all assets in the 5th year.

Table 7. Liquidation Value

Asset	Value	Discount	Value Before Tax	Tax	Value After Tax
Cash	124,363,373.65	0%	124,363,373.65	0%	124,363,373.65
Inventories	475,074,522.26	50%	237,537,261.13	10%	213,783,535.02
Plan & Equipment, Net	2,199,258,811.43	50%	1,099,629,405.72	10%	989,666,465.14
Liabilities	340,604,715.58	0%	340,604,715.58	0%	340,604,715.58
Total					**1,668,418,089.39**

4.3 Stage 2 – Feasibility Analysis using Capital Budgeting Technique

Table 8. Result of Financial Feasibility Study

	Result	Decision Criteria	Decision
Net Present Value	2,210,313,516.63	More than 0 (has positive value)	Feasible
Internal Rate of Return	23.13%	Higher than the Cost of Capital	Feasible
Payback Period	2.83 years	Less than 5 years	Feasible
Profitability Index	1.8	Greater than 1	Feasible

According to the table above, the project will be executed by QRS Company can be categorized as feasible because the project has a positive Net Present Value of 2,210,313,516.63 and the payback term is in line with the owner's estimate of a payback period of less than five years because the payback period for this expansion project is 2 year 303 days. In addition, the Internal Rate of Return (IRR) of QRS Company expansion plan is 23.13%, this value is greater than the Weighted Average Cost of Capital (WACC) and has profitability index 1.8. This value is considered acceptable because the value is exceeding the lowest acceptable value (greater than 1).

4.4 Sensitivity Analysis

The author performs a sensitivity analysis to take into account the risk of unpredictability in future situations after performing a financial feasibility analysis. To identify factors that are sensitive to the Net Present Value (NPV), sensitivity analysis was employed.

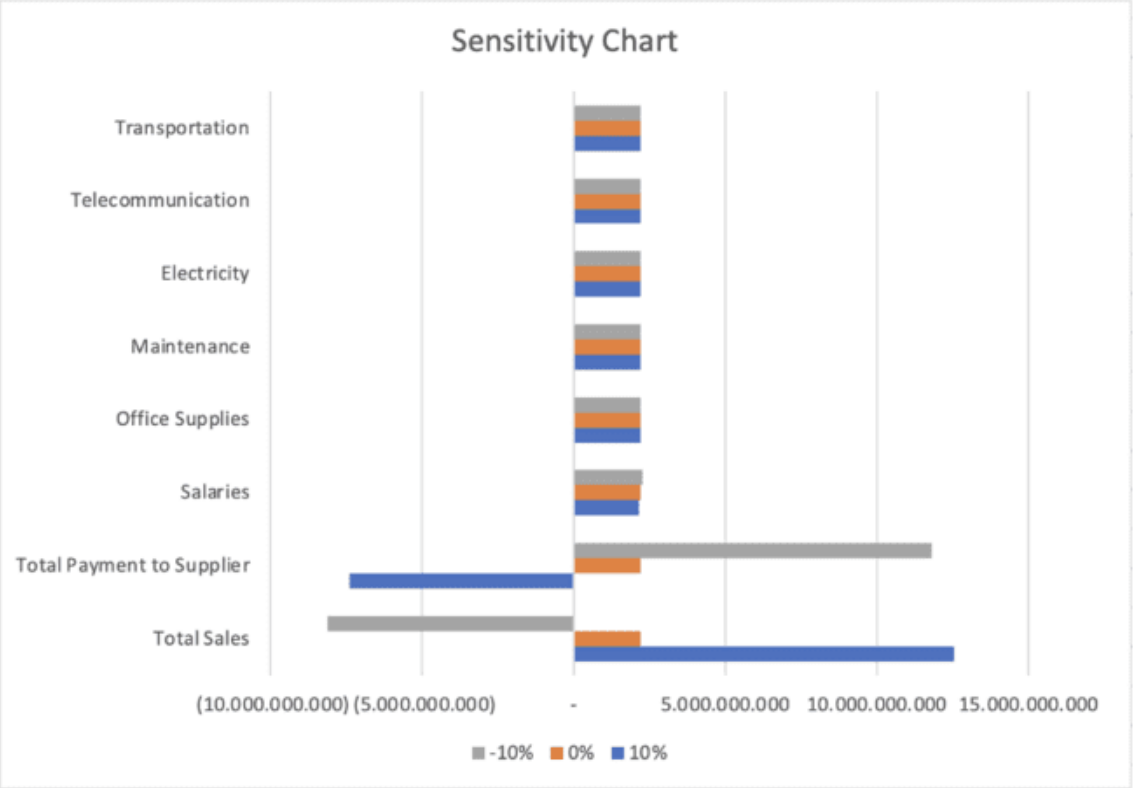

Figure 2. Sensitivity Chart

Based on the sensitivity chart above, we can conclude that:

- Total sales and total payment to suppliers are the variables that have the highest effect on the net present value.
- For every increase of 10% in the total sales variable, the NPV will increase 82.39%.
- For every increase of 10% in total payment to supplier variable, the NPV will decrease 129.89%.
- For every decrease of 10% in the total sales variable, the NPV will decrease 127.19%.
- For every decrease of 10% in total payment to supplier variable, the NPV will increase 81.29%.
- The other variables (salaries, office supplies, maintenance, electricity, telecommunication, and transportation) are not giving a significant effect on the net present value because every increase or decrease of 10% in those variables, the increase or decrease of NPV will lower than the input variables swing (10%).

5. CONCLUSION AND RECOMMENDATION

The financial feasibility analysis of QRS Company 's expansion plan can be classed as viable based on the calculations in chapter 4. The capital budgeting study, which uses NPV, IRR, and Payback Period, shows the feasibility. The project's initial rate of return is 23.13% or higher than the WACC of 9.52%, and its Net Present Value is 2,210,313,516.63. Additionally, the payback period for this expansion plan is 2 year, 303 days. The time required is in line with owners' expectations who want a payback period of less than five years. Based on the result of the financial feasibility study conducted, QRS Company should execute the expansion plan. This is because according to the financial feasibility, the result of executing the expansion plan will generate profits for the company

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