



Financial Analysis and Risk Management Plan for the Development PT Sangyo Jaya Abadi (Subsidiary PT Kuroshio Jaya Abadi)

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ABSTRACT

PT Sangyo Jaya Abadi (PT SJA) is a subsidiary of PT Kuroshio Jaya Abadi that uses Computer Numerical Control (CNC) machines and Digital Tracking of Production as its business development. The establishment of PT SJA to make it more focused, facilitate proper planning, and creates efficiency in controlling future operational activities, as well as create a brand image by expanding market share and improvement in the face of the Industrial Revolution 4.0. Therefore, PT SJA conducts financial and risk analysis by performing financial calculations and analysis as well as looking at the risks that will occur. The method used is financial planning contained in the framework and risk management using the ISO 31000:2018 approach. From a financial perspective, the analysis carried out includes an investment feasibility analysis and financial performance analysis as a basis for knowing the prospects of the investment plan that underlies decision making for investors, to determine whether the investment can be accepted or rejected. In terms of risk, the analysis carried out includes identification, evaluation, and risk management. The results of the financial analysis show that PT SJA's investment can be made. The results of investment analysis can assist management in making strategic decisions, and the results of risk management analysis can reduce or prevent risks that will occur so that the business can run well.

Keywords: Computer Numerical Control (CNC), Financial Analysis, Risk Management Plan, Business Plan

1. INTRODUCTION

In Indonesia, the manufacturing industry is growing rapidly, especially the automotive industry, as well as the oil and gas industry. FDI investment data in the manufacturing sector, January-June 2021, the motor vehicle industry reached (USD 839.7 million, 10.1%). With the increasing growth of the automotive industry sector, it will affect the increasing demand for industrial parts & tools. The obstacle in finding parts & tools is that they are not sold in the market so they have to buy directly from the machine manufacturer or machining company. Parts & tools ordered to machine manufacturers usually take a long time to produce and have high costs. Consumers complain that the prices issued do not match the results of the desired parts & tools such as the results made by machining companies.

PT. Kuroshio Jaya Abadi has long been engaged in machining, but still uses conventional machines: lathe, milling, cylindrical grinding, surface grinding. In facing future challenges where customers require punctuality and quality with high standards, PT Kuroshio Jaya Abadi innovates to develop its business by creating PT Sangyo Jaya Abadi.

PT SJA comes with a Computer Numerical Control (CNC) machine, answering the needs of the manufacturing industry in the future. Added value for customers with the Digital Tracking of Production. Web-based technology information, to monitor the production process that can be accessed by customers. PT SJA also works on maintenance of production machines from several companies, and also works on repair parts. As a supporting company for the manufacturing industry, PT. By relying on SJA's Computer Numerical Control (CNC) machine, investment analysis and risk analysis are needed that are useful for management in making short, medium and long term strategic decisions. Meanwhile, financial planning and risk are important aspects in the machining business. Which analysis can be ascertained to be used in making decisions whether this business plan can run as expected or not. For investors, this is no less important, because it can be the basis for investors' considerations to invest their funds or not.

2. MATERIALS AND METHODS

FINANCIAL PLAN

PT Sangyo jaya Abadi as a newly established company has challenges to create superior value for customers as well as improve financial performance(Chakim et al., 2021), besides that it is important for investors to know the extent of the feasibility of investing in the company(Harinugroho et al., 2021).

Financial Feasibility Analysis

An investment feasibility analysis should be carried out with the aim of knowing that investing in the company will result in a high rate of return in the future. This analysis can be understood as an action taken to find out the prospects of an investment project that underlies the decision for investors whether this investment can be accepted or rejected. Investment has a broad scope, for example investors can invest in real assets such as land, buildings or buildings, vehicles. Work equipment, besides that it can also be in the form of securities such as stocks, bonds and deposits. Investments can be divided into short-term investments, medium-term investments and long-term investments.

1. Net Present Value (NPV)

NPV is used to determine the present value of the flow of payments in the future, in investment planning it is often used to determine the profitability of an investment. In PT SJA's financial plan, NPV has a role to help implement efficient budget management, while NPV can be calculated using the following formula:

NET PRESENT VALUE

$$NPV = C_0 + \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \dots + \frac{C_t}{(1+r)^t}$$

Where:

- C_t = cash flow per year in a certain period
 C₀ = initial investment value in year zero
 r = interest rate as a percentage

2. Payback Period (PP)

Often referred to as the time required for capital from investors to return through the profits earned within a certain time. PP is widely used by investors and potential investors in making investment decisions, while the most commonly used payback period formula is as follows:

$$\text{Payback Period} = \frac{\text{Cost of the investment}}{\text{Annual net cash flow}}$$

3. Internal Rate of Return (IRR)

The main function of the IRR is to measure whether the company's assets have increased or decreased, besides that it is also useful for calculating the rate of return on investment so that operational activities can be evaluated accurately at the rate of return, while the IRR formula is as follows:

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

Where:

- IRR = Internal Rate of Return
 CF_n = Cash flow
 i₁ = Discount Rate that yields NPV+
 i₂ = Discount Rate that yields NPV-

NPV 1 = Positive Net Present Value

NPV 2 = Negative Net Present Value

RISK PLAN

Risk Management Objectives

The establishment of a company begins with the vision and mission that has been established. So that the risk management planned by PT Sangyo Jaya Abadi has goals and objectives that are based on the company's vision and mission. The purpose of risk management is to ensure that the company's vision and mission can be achieved on target (Dewantoro et al., 2022). The scope of risk management should refer to the objectives of the company's risk management (Saputra et al., 2021). PT SJA's framework is based on ISO 31000: 2018, aiming to align risk management objectives with organizational needs (Almeida et al., inDewantoro et al. 2022).

Risk Management Principles

PT SJA's risk management principles are the basis for managing the company by establishing a risk management framework and process. The risk management principles planned by the company include: integrated, structured and comprehensive, customized, inclusive, dynamic, availability of the best information, human and cultural factors, continuous improvement,

Risk Management Framework

In carrying out risk management, it is necessary to carry out the steps of planning, implementing, evaluating, improving, and of course it must be integrated into all parts of the company. Always involve commitment from all parties, and supported by leadership who is aware of the importance of risk management. Dewantoro et al., 2022, said the effectiveness of risk management depends on its integration into the organization's management, including the decision-making process. Thus it requires support from stakeholders, especially from top management. The formulation of the framework includes: leadership and commitment, integration, design, implementation, evaluation and continuous improvement of risk management (ISO 31000:2018).

Risk Management Process

The risk management process implemented by PT SJA is based on ISO 31000 in 2018 with the following explanation:

A. Scope, Context, Criteria

The purpose of determining the scope, context and criteria is to make adjustments to the risk management process. The context of the application of risk management includes the internal context and the external context (Larasati et al., 2020). The internal and external context at PT SJA is focused on the areas of marketing, operations, human resources, and finance

B. Risk Assessment

PT SJA's risk assessment is carried out in three stages, namely risk identification, risk analysis, and risk evaluation. In this case, the company carries out risk identification through the experience of the parent company, internal history, consulting with experts and also from the experience of similar companies. Risk identification not only benefits the company's management but can also be used as a guideline that can be followed and studied by the entire team (Larasati et al., 2020). After risk identification, the next step is risk analysis. The purpose of risk analysis is to understand the nature of the risk and its characteristics including, where appropriate, the level of risk. Risk analysis includes consideration of uncertainty, risk sources, consequences, possibilities, events, scenarios, controls and their effectiveness.

C. Risk Management

Risk management includes the risk treatment assessment stage by deciding the level of risk. This risk assessment is included in the inherent risk map. According to Irham Fahmi (2016), in managing or handling risk, several things can be done depending on the nature of each risk, namely, risk avoidance, risk sharing, risk transfer, and risk prevention or reduction. After the risk is given treatment, the risk of change can be concluded on the residual risk map.

D. Communication and Consultation

Communication seeks to increase awareness and understanding of risk, whereas consultation involves obtaining feedback and information to support decision making. It aims to: bring together different areas of expertise for each step of the risk management process; ensure that different views are properly considered when determining risk criteria and when evaluating risks; provide sufficient information to facilitate risk monitoring and decision making; build a sense of inclusivity and ownership among those affected by risk.

E. Monitoring and Review

Monitoring and review is part of the risk management process plan that involves inspection and supervision. Useful for ensuring and improving the quality and effectiveness of the process design, implementation, and results of risk management. Monitoring and Review are then recorded and reported and used as input for the review of the risk management framework.

F. Recording and Reporting

Recording and reporting aims to: communicate risk management activities and results throughout the organization; provide information for decision making; improve risk management activities; assisting interaction with stakeholders, including those with responsibility and accountability for risk management activities.

3. RESULT AND DISCUSSION

FINANCIAL PLAN

Goals and Targets Financial

Setting Financial Goals and Targets is needed in accelerating business development, including maximizing the use of assets in achieving profits, while also preparing the capital structure to be used and to maintain the company's cash flow. PT SJA applies 3 frameworks of goals and objectives in the financial plan as follows:

Table 1. Goals and Targets Financial

Short Term Goals	Short Term Targets
Looking for venture capital to meet the company's operational needs by looking for investors.	<ul style="list-style-type: none"> - Cooperating with external investors so that the availability of 70% capital for founders and 30% investors can be met before the company is established. - Perform financial efficiency in order to achieve a payback period of 2 years to convince investors - Achieve ROI above 30%
Medium Term Goals	Medium Term Targets
Optimization of financial governance so that the line manufacture runs smoothly without any financial disturbances	<ul style="list-style-type: none"> - Manage a good term of payment agreement - Achieve IRR above 25%
Long Term Goals	Long Term Targets
Preparing a new capital structure for more advanced company development	<ul style="list-style-type: none"> - Increased total revenue above 25% from the previous year

Source: Author, 2022.

Elements of Financial Planning

In accordance with the company's conceptual framework, the things that must be done are Income Planning, Related Cost Planning, Investment Planning, Capital Needs Planning, Financial Planning. This financial planning will later become the basis for the company's financial strength so that the company's goals to profit and develop can be achieved.

Capital Planning

Planning for capital requirements is needed to find out how much initial capital needs are. The following is a plan for the company's capital needs of PT Sangyo Jaya Abadi consisting of capital expenditure and Operating Expenditure:

Table 2. PT Sangyo Jaya Abadi Capital Needs Planning

Capital Requirements		Description
Pre Operation	-	Provided by Parent Company
Capital Expenditure	5.205.060.000	
Operating Expenditure	3.836.421.737	
Amount	9.041.481.737	

Source: Author, 2022.

Financial Projection

Financial statements provide an overview of the condition of the assets, liabilities and capital of a company. The balance sheet is the company's financial statement at the end of the period, which consists of assets, liabilities and equity. Assets are assets owned by the company, liability is the company's obligations to other parties, while equity is the owner's or stakeholder's ownership of the company consisting of capital and retained earnings.

Table 3. PT Sangyo Jaya Abadi Projected Income Statement

INCOME STATEMENT (IDR)	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
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Sales	10.712.562.470	11.998.069.966	13.557.819.062	15.455.913.731	17.774.300.790
COGM	4.512.420.536	4.823.031.321	5.565.210.452	5.908.067.017	6.654.149.577
Gross Profit	6.200.141.934	7.175.038.646	7.992.608.610	9.547.846.714	11.120.151.213
Marketing Cost	613.617.536	687.251.641	776.594.354	885.317.564	1.018.115.198
Human Resources Cost	1.856.985.000	1.948.330.680	2.494.592.098	2.616.821.703	3.112.607.691
Operational Cost	1.330.000.000	1.459.500.000	1.532.475.000	1.609.098.750	1.689.553.688
Risk Management Cost	71.818.000	55.949.000	55.949.000	55.949.000	55.949.000
Income from Operations	2.327.721.397	3.024.007.325	3.132.998.158	4.380.659.698	5.243.925.636
EBITDA	2.327.721.397	3.024.007.325	3.132.998.158	4.380.659.698	5.243.925.636
Interest Expense	433.294.127	390.717.099	296.484.408	192.384.323	77.383.599
Depreciation	667.490.000	667.490.000	667.490.000	667.490.000	636.850.000
Other Income	1.559.788.258	1.746.962.849	1.974.068.020	2.250.437.543	2.588.003.174
Maintenance	629.345.589	704.867.060	796.499.778	908.009.747	1.044.211.209
Repair	930.442.669	1.042.095.789	1.177.568.242	1.342.427.796	1.543.791.965
EBIT	2.786.725.528	3.712.763.075	4.143.091.770	5.771.222.917	7.117.695.211
Tax Expense	292.606.180	389.840.123	435.024.636	605.978.406	747.357.997
Net Income	2.494.119.348	3.322.922.952	3.708.067.134	5.165.244.511	6.370.337.214
Dividen	-	996.876.886	1.112.420.140	1.549.573.353	1.911.101.164
Retained Earning	2.494.119.348	2.326.046.067	2.595.646.994	3.615.671.158	4.459.236.050

Source: Author, 2022.

Table 4. PT Sangyo Jaya Abadi Financial Balance Projection

Balance Sheet	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Total Current Assets	6.248.247.269	9.338.746.836	12.720.157.894	17.454.646.244	23.248.586.573
Total Fixed Assets	4.537.570.000	3.870.080.000	3.202.590.000	2.535.100.000	1.898.250.000
Total Assets	10.785.817.269	13.208.826.836	15.922.747.894	19.989.746.244	25.146.836.573
Total Liabilities	4.312.216.184	3.412.302.799	2.418.156.723	1.319.910.562	106.663.676
Total Equity	6.473.601.085	9.796.524.037	13.504.591.171	18.669.835.682	25.040.172.896
Total Liabilities and Equity	10.785.817.269	13.208.826.836	15.922.747.894	19.989.746.244	25.146.836.573

Source: Author, 2022.

Tabel 5. PT Sangyo Jaya Abadi Cash Report Projection

Activity	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Operation Activity					
Reception					
Sales/Sales Projection	10.712.562,47	11.998.069,97	13.557.819,06	15.455.913,73	17.774.300,79
Others Income	1.559.788,26	1.746.962,85	1.974.068,02	2.250.437,54	2.588.003,17
Amount of Receipts	12.272.350,73	13.745.032,82	15.531.887,08	17.706.351,27	20.362.303,96
Expenditure					
Purchase/Plan Purchase	4.512.420,54	4.823.031,32	5.565.210,45	5.908.067,02	6.654.149,58
Marketing Cost	613.617,54	687.251,64	776.594,35	885.317,56	1.018.115,20
Human Resources Cost	1.856.985,00	1.948.330,68	2.494.592,10	2.616.821,70	3.112.607,69
Operational Cost	654.000,00	1.459.500,00	1.532.475,00	1.609.098,75	1.689.553,69
Supplies	676.000,00	37.800,00	39.690,00	41.674,50	43.758,23
Management Risk Cost	71.818,00	55.949,00	55.949,00	55.949,00	55.949,00
Tax Cost	433.294,13	389.840,12	435.024,64	605.978,41	747.358,00
Depreciation	667.490,00	667.490,00	667.490,00	667.490,00	636.850,00
Expenditure Amount	9.485.625	10.069.193	11.567.026	12.390.397	13.958.341

Net Cash Flow received Overall Operating Activities	2.786.725,53	3.675.840,05	3.964.861,54	5.315.954,33	6.403.962,59
Investment Activities	-	-	-	-	-
Reception	-	-	-	-	-
Bank Debt	-	-	-	-	-
Purchase of Company Assets	-	-	-	-	-
Expenditure					
Purchase of Company Assets	5.205.060,00	-	-	-	-
Net Cash Flow received Overall Investing Activities	(5.205.060,00)	-	-	-	-
Funding Activities					
Reception					
Paid-up capital	3.979.481,74	-	-	-	-
Bank Debt	5.062.000,00	-	-	-	-
Amount of Receipts	9.041.481,74	-	-	-	-
Expenditure					
Bank installment	749.783,82	899.913,38	994.146,08	1.098.246,16	1.213.246,89
Bank Interest Fee	433.294,13	390.717,10	296.484,41	192.384,32	77.383,60
Amount of Expenditure	1.183.077,94	1.290.630,48	1.290.630,48	1.290.630,48	1.290.630,48
Net Cash Flow received Overall Funding Activities	7.858.404	(1.290.630)	(1.290.630)	(1.290.630)	(1.290.630)
Cash Net Increase	133.381,73	4.966.470,54	5.255.492,03	6.606.584,82	7.694.593,07
Cash Beginning Balance	3.979.481,74	4.112.863,47	9.079.334,01	14.334.826,03	20.941.410,85
Cash End Balance	4.112.863,47	9.079.334,01	14.334.826,03	20.941.410,85	28.636.003,92

Source: Author, 2022.

Investment Feasibility Analysis

Return on Investment (ROI)

Based on the calculation of the ROI of PT Sangyo Jaya Abadi in the first year, an ROI value of 55% was obtained. The projected ROI in the 2nd year is 86% because the company has started to grow, in the 3rd year it is 116%, and in the 4th year it is 204%, in the 5th year it has a very significant increase of 336%. From this increase, the ROI of PT Sangyo Jaya Abadi is quite high, so it can be concluded that PT Sangyo Jaya Abadi has a fairly high rate of return on investment.

Net Present Value (NPV)

From the results of the calculation of the NPV of PT Sangyo Jaya Abadi for a period of 2 years, namely Rp2.201.066.879 this indicates that the investment made provides benefits for the company so that business can be carried out.

Payback Period (PP)

This payback period was often done by investors to determine the return on investment decisions or decisions that will be used to invest in a company or not. Investors are generally more interested in investments with fast PP. Based on our calculations, PT Sangyo Jaya Abadi has a PP or investment return period of 1 year and 6 months.

IRR

PT Sangyo Jaya Abadi has a positive IRR with an estimated average return on investment value of 25%, from this it can be concluded that PT Sangyo Jaya Abadi has a rate of return and profit that is greater than the cost of paid-in capital.

Financial Performance Analysis

Financial performance analysis is needed to get a better understanding of how the company is performing. The results of this analysis can later be used to improve the company's operational activities which are expected to grow better and also be able to compete with other companies. There are three

types of ratios that will be used in measuring company performance, namely Liquidity Ratios, Solvency Ratios and Profitability Ratios, as for the three ratios, among others:

Table 6. PT Sangyo Jaya Abadi Liquidity Ratio

Liquidity Ratio	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Current Ratio	1,45	2,74	5,26	13,22	217,96
Quick Ratio	1,29	2,53	4,95	12,63	210,26
Cash Ratio	1,29	2,53	4,95	12,63	210,26

Source: Author, 2022

Table 7. PT Sangyo Jaya Abadi Solvency Ratio

Solvency Ratio	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Debt to Asset Ratio	40%	26%	15%	7%	0,42%
Debt to Equity Ratio	67%	35%	18%	7%	0,43%

Source: Author, 2022

Table 8. PT Sangyo Jaya Abadi Profitability Ratio

Profitability Ratio	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Gross Profit Margin	58%	60%	59%	62%	63%
Net Profit Margin	23%	28%	27%	33%	36%
Operating Profit Margin	26%	31%	31%	37%	40%
Return on Asset/ ROA	23%	25%	23%	26%	25%
Return on Equity/ ROE	39%	34%	27%	28%	25%

Source: Author, 2022

RISK MANAGEMENT PLAN

The following are the results obtained, the things that will be applied, such as the previous explanation of risk management.

Risk Management Goals and Targets

PT SJA sets its risk management objectives into 3 time frames. The following are the goals and targets of risk management.

Table 9. PT SJA Risk Management Goals and Targets

<p>Short Term Goals</p> <ul style="list-style-type: none"> • Creating a safe working environment • Improve communication between departments, in order to create a productive work environment 	<p>Short Term Targets</p> <ul style="list-style-type: none"> • Creating a work environment capable of making workers/employees comfortable, safe, obedient to safety, and facilitating the completeness of PPE (personal protective equipment), to support safety at work. • Manage and take an inventory of all potentially significant risks that will affect efforts to achieve performance targets and can be managed properly, all of these potential risks.
<p>Medium Term Goals</p> <ul style="list-style-type: none"> • Creating a systematic and integrated risk management organizational structure in the company's business processes 	<p>Medium Term Targets</p> <ul style="list-style-type: none"> • Fostering human resources who understand and have an insight into risk culture, with a planned and continuous development pattern
<p>Long Term Goals</p> <ul style="list-style-type: none"> • Achieving risk maturity level 3 • Already have strategies and policies related to risk management and have been communicated • The company has formal and written standard procedures regarding risk management that have been socialized to all levels of management and employees to be obeyed and carried out in daily activities 	<p>Long Term Targets</p> <ul style="list-style-type: none"> • Conduct risk management process 4 times a year • Ensure the implementation of SOPs from risk management consistently and risk management is carried out with the principles of effectiveness and efficiency. • Equalize perceptions of the company's risk management concept for all levels of management, and standardize the risk management application framework so that its implementation can be carried out in a coordinated manner.

Source: Author, 2022.

Risk Management Principles

PT SJA applies the principles of effective risk management, so several elements are needed and can be explained further as follows:

Table 10. PT SJA Risk Management Principles

Principle	Description
Integrated	Realizing that risk management activities are an inseparable part of PT SJA's business processes
Structured and Comprehensive	All of PT SJA's risk management activities are comprehensive, systemic, structured, and on target and on time.
Customized	Risk management activities must be adapted to the conditions and culture of the company as well as its external developments.
Inclusive	Risk management activities involve all company personnel and stakeholders.
Dynamic	Risk management activities must be dynamic and responsive to changes that occur.
Best Information Availability	Risk management always uses valid and updated information, also derived from experience, observations, estimates, expert judgments and data from valid sources.
Human and Cultural Factors	Corporate culture and HR capabilities within the company are ensured to be in line with the goals and objectives of risk management, with full awareness in their implementation.
Continuous Improvement	Risk management is carried out continuously and sustainably based on the development of the risks to be faced.
Creating and Protecting Value	Risk management activities must be able to create, maintain and protect added value for PT SJA.

Source : Author, 2022.

Risk Management Framework

PT SJA in carrying out risk management takes steps, planning, implementing, evaluating, improving, and of course it must be integrated into all parts of the company and in risk management PT SJA will always involve commitment from all parties, and is supported by leadership who was aware of the importance of risk management



Figure 1. Risk Management Plan Framework ISO 31000:2018

Source : ISO 31000:2018

Risk Management Process

PT SJA's risk management process begins with determining criteria. The following criteria are used in risk management.

Table 11. Criteria of the Value of the Frequency of Risk Events

Occurance Frequency		
Score	Description	Frequency
1	Rare	< 2 times per year
2	Unlikely	2-5 times per year
3	Possible	6-12 times per year un
4	Likely	1-7 times per year
5	Certain	7-12 times per year

Source: Author, 2022

Table 12. Risk Impact Criteria

Impact Caused		Impact			
Score	Description	Marketing	Operational	Human Capital	Finance
1	Insignificant/ very	Don't disturb sale	No impact on	Does not threaten	No financial loss

	small		operations	internal company	
2	Minor/small	Disturbed sale	Enough to interfere with operations	Affect employee performance	Small financial loss
3	Moderate/ normal	Reduce amount sale	The company's operations are hampered	Threatening company reputation	Enough financial loss
4	Major/big	Enough to reduce the number of sales	Resulting in product shortage	Damaging the reputation of a national scale company	Big financial loss
5	Catastrophic/ very big	No sales	Resulting in product failure, not quality	Damaging the reputation of an international scale company	Very big financial loss

Source : Author, 2022

After that PT SJA identified risks, in the fields of marketing, operations, human resources, and finance, and identified these risks from internal or external, which can be seen in Table 13.

Table 13. Risk Identification

Code	Risk	Risk Factor
Marketing		
R001	PO Target not achieved	Internal risk
R002	Conflicts with business partners	External risk
R003	Miscalculated the price	Internal risk
R004	Damage to Digital Tracking	Internal risk
Operational		
R005	Inaccurate Quality Control	Internal risk
R006	Work accident	Internal risk
R007	Supply delay	External risk
R008	Revocation of business license due to regulatory changes	External risk
R009	Natural disasters	External risk
R010	Website and Digital Tracking Hacked	External risk
R011	Electricity Power outage	External risk
R012	CNC machine problem	Internal risk
Human Resources		
R013	Lack of skills to operate CNC machines	Internal risk
R014	Fatigue, and human error	Internal risk
R015	Low employee attendance	Internal risk
R016	Employee productivity below target	Internal risk
Finance		
R017	Rupiah Exchange Rate against US Dollar	External risk
R018	Old Term of Payment	External risk
R019	Increase in tax rates	External risk
R020	Theft of company inventory/assets	External risk
R021	Lack of working capital	Internal risk
R022	Increase in minimum wage for employees	External risk

Source : Author, 2022.

Table 14. Risk Analysis

Code	Risk	Impact
Marketing		
R001	PO Target not achieved	The company's profit target was not achieved
R002	Conflicts with business partners	Disruption of business relationships causing a decrease in demand
R003	Miscalculated the price	Impact on income, and lost in the tender process
R004	Damage to Digital Tracking	Reduced customer convenience in terms of monitoring the production process of their orders
Operational		
R005	Inaccurate Quality Control	Rejection of the product by the customer
R006	Work accident	The company bears the cost of work accidents on employees

Code	Risk	Impact
R007	Supply delay	The production process will be late
R008	Revocation of business license due to regulatory changes	Bankrupt
R009	Natural disasters	Production activities have stopped
R010	Website and Digital TrackingHacked	Loss of production information and customers will complain
R011	Electricity Power outage	All production activities have stopped
R012	CNC machine problem	Production process is hampered/interrupted
Human Resources		
R013	Lack of skills to operate CNC machines	Improper production error
R014	Fatigue, human error	Wrong production and more fatal accidents can occur.
R015	Low employee attendance	Impact on the production targets that have been set
R016	Employee productivity below target	Production target delay
Finance		
R017	Rupiah Exchange Rate to US Dollar	Cost of production swells
R018	Old Term of Payment	Disrupt the company's cash flow
R019	Increase in tax rates	Net profit is not in line with the target
R020	Theft of company inventory/assets	Reduce company inventory/assets
R021	Lack of working capital	The company cannot run as it should
R022	Increase in minimum wage for employees	Increase in salary expenses and decrease company profits.

Source : Author, 2022

Furthermore, PT SJA conducts an evaluation using a map (mapping) graph (x,y) which describes the relationship between the probability (probability) of the event and its impact. The chart is divided into five risk levels, namely very low, low, medium, high, and very high. PT SAJ in evaluating risk sets the parameters, matrix, magnitude and risk appetite as shown in Tables 15 and 16 below.

Table 15. Risk Evaluation Matrix

Risk Analysis Matrix			Impact Level				
			1	2	3	4	5
			Insignificant	Minor	Moderate	Major	Catastrophic
Probability Level	5	Certain	5	10	15	20	25
	4	Likely	4	8	12	16	20
	3	Possible	3	6	9	12	15
	2	Unlikely	2	4	6	8	10
	1	Rare	1	2	3	4	5

Source : Author, 2022

Table 16. Amount of Risk

Risk Level	Amount of Risk	Color Symbol
Very high	15 - 25	Red
High	10 - 14	Orange
Medium	5 - 9	Yellow
Low	3 - 4	Green
Very low	1 - 2	Blue

Source : Author, 2022

Then after knowing the impact of each risk, as shown in the table 14, the next step is to conduct a risk assessment (evaluation) based on the parameters and matrix, as shown in table 17.

Table 17. Risk Matrix Likelihood, Impact and Risk Level Prior to Risk Treatment

Code	Risk	Probability	Impact	Risk Priority Number (RPN)	Level
Marketing					
R001	PO Target not achieved	2	5	10	High
R002	Conflicts with business partners	1	4	4	Low
R003	Miscalculated the price	1	4	4	Low
R004	Damage to Digital Tracking	2	3	6	Medium

Code	Risk	Probability	Impact	Risk Priority Number (RPN)	Level
Operational					
R005	Inaccurate Quality Control	3	5	15	Very high
R006	Work accident	1	4	4	Low
R007	Supply delay	2	4	8	Medium
R008	Revocation of business license due to regulatory changes	1	5	5	Medium
R009	Natural disasters	1	3	3	Very low
R010	Website and Digital Tracking Hacked	4	2	8	Medium
R011	Electricity Power outage	2	5	10	High
R012	CNC machine problem	2	4	8	Medium
Human Resources					
R013	Lack of skills to operate CNC machines	1	4	4	Low
R014	Fatigue, human error	2	4	8	Medium
R015	Low employee attendance	3	3	9	Medium
R016	Employee productivity below target	2	2	4	Low
Finance					
R017	Rupiah Exchange Rate to US Dollar	4	4	16	Very high
R018	Old Term of Payment	3	2	6	Medium
R019	Increase in tax rates	1	3	3	Very low
R020	Theft of company inventory/assets	1	4	4	Low
R021	Lack of working capital	2	5	10	High
R022	Increase in minimum wage for employees	2	3	6	Medium

Source : Author, 2022

Table 18. Risk Inherent Map

		Impact				
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Cathastrophic (5)
Probability	Certain (5)					
	Likely (4)		R010		R017	
	Possible (3)		R018	R015		R005
	Unlikely (2)		R016	R004R022	R007 R012 R014	R001 R011 R021
	Rare (1)			R009 R019	R002 R003 R006 R013R020	R008

Source: Author, 2022

After seeing the results of the risk evaluation, the next step is to take risk management steps to reduce the impact of company risk as much as possible. Where risk management is carried out on low, medium, high, and very high risk things.

Table 19. Risk Management

Code	Risk	Risk Management	
		Mitigation Plan	Category
Marketing			
R001	PO Target not achieved	<ul style="list-style-type: none"> Performing a more massive marketing penetration to customers Innovation the ability of product types. 	Risk Reduction Risk Reduction
R002	Conflicts with business partners	<ul style="list-style-type: none"> Fulfill the obligations stated in the contract Evaluate and implement good SOPs in marketing 	Risk Reduction Risk Reduction
R003	Miscalculated the price	<ul style="list-style-type: none"> Evaluating and updating raw material prices, prices by looking at the movement of the US dollar exchange rate Create a standard price estimate 	Risk Retention Risk Reduction

Code	Risk	Risk Management	
		Mitigation Plan	Category
R004	Damage to Digital Tracking	<ul style="list-style-type: none"> Improve network and server capabilities. Always update software and antivirus Exploring cooperation with outsourcing IT companies 	Risk Reduction Risk Reduction Risk Sharing
Operational			
R005	Inaccurate Quality Control	<ul style="list-style-type: none"> Improve Quality Control skills and abilities Create a quality control check list 	Risk Reduction Risk Reduction
R006	Work accident	<ul style="list-style-type: none"> Implement OSH programs (socialize, control and evaluate) Minimizing all hazards in the field. 	Risk Reduction Risk Avoidance
R007	Supply delay	<ul style="list-style-type: none"> Looking for/collaborating with several alternative suppliers Create an appropriate procurement system just in time 	Risk Sharing Risk Reduction
R008	Revocation of business license due to regulatory changes	<ul style="list-style-type: none"> Ensure that all government regulations are implemented properly. Conduct internal audits in order to align with existing regulations 	Risk Retention Risk Reduction
R010	Website and Digital Tracking Hacked	<ul style="list-style-type: none"> Improve system security with a system that is always updated 	Risk Reduction
R011	Electricity Power outage	<ul style="list-style-type: none"> Provide generators as backup power Make a production priority scale on the use of electricity 	Risk Reduction Risk Reduction
R012	CNC machine problem	<ul style="list-style-type: none"> Perform routine and periodic inspections, to ensure all components are working properly. Establishing relationships with machine manufacturers in the context of the availability of CNC spare parts when needed. Insuring CNC Machines 	Risk Reduction Risk Sharing Risk Transfer
Human Resources			
R013	Lack of skills to operate CNC machines	<ul style="list-style-type: none"> Conducting training for new workers, and refreshing senior employees to refresh their skills. Ensure all workers understand and follow proper procedures 	Risk Reduction Risk Reduction
R014	Fatigue, human error	<ul style="list-style-type: none"> Arrangement of working hours and rest hours in accordance with labor regulations. Hold a family gathering within a certain period 	Risk Reduction Risk Reduction
R015	Low employee attendance	<ul style="list-style-type: none"> Implementation of discipline that refers to regulations Instill a sense of responsibility towards work, by socializing with motivators and scholars 	Risk Reduction Risk Reduction
R016	Employee productivity below target	<ul style="list-style-type: none"> Build a good work environment Efficient working hours Rewards & periodic evaluation 	Risk Reduction Risk Reduction Risk Reduction
Finance			
R017	Rupiah Exchange Rate to US Dollar	<ul style="list-style-type: none"> Maintain the company's cash flow in the form of reserves, in order to anticipate the increase in the value of the dollar Cooperating with suppliers regarding the certainty of raw materials 	Risk Retention Risk Sharing
R018	Old Term of Payment	<ul style="list-style-type: none"> Make long-term contracts on terms of payment with customers Approaching customers 	Risk Sharing Risk Sharing
R020	Increase in tax rates	<ul style="list-style-type: none"> Strengthening workshop security and cooperating with TNI and Police Provide integrated CCTV 	Risk Sharing Risk Reduction
R021	Theft of company inventory/ assets	<ul style="list-style-type: none"> Ensure that the existing revenue is sufficient to run the company's operations. In the long term, there is a discourse to get investors in order to strengthen business capital. 	Risk Reduction Risk Sharing
R022	Lack of working capital	<ul style="list-style-type: none"> Ensure that employee rights are fulfilled, and the wage system is based on employee performance and years of service. Maintain a reserve fund for employee salaries in collaboration with banks. 	Risk Reduction Risk Sharing

Source: Author, 2022

Table 20. Risk Evaluation Based on Probability, Impact, and Risk Level after Treatment

Code	Risk	Frequency	Impact	Risk Priority Number (RPN)	Level
Marketing					
R001	PO Target not achieved	1	2	2	Very low
R002	Conflicts with business partners	1	3	3	Very low
R003	Miscalculated the price	1	2	2	Very low
R004	Damage to Digital Tracking	1	3	3	Very low
Operational					
R005	Inaccurate Quality Control	2	3	6	Medium
R006	Work accident	1	3	3	Very low
R007	Supply delay	1	4	4	Low
R008	Revocation of business license due to regulatory changes	1	3	3	Very low
R010	Natural disasters	2	2	4	Low
R011	Website Hacking and Digital Tracking	3	1	3	Very low
R012	Power outage	2	2	4	Low
Human Resources					
R013	Lack of skills to operate CNC machines	1	3	3	Very low
R014	Fatigue, human error	3	1	3	Very low
R015	Low employee attendance	1	2	2	Very low
R016	Employee productivity below target	1	2	2	Very low
Finance					
R017	Rupiah Exchange Rate to US Dollar	3	3	9	Medium
R018	Old Term of Payment	1	2	2	Very low
R020	Increase in tax rates	1	2	2	Very low
R021	Theft of company inventory/ assets	2	3	6	Medium
R022	Lack of working capital	2	1	2	Very low

Source: Author, 2022.

So the Risk Residual Map is as shown in table 21.

Table 21. Risk Residual Map, After Performing Risk Treatment

		Impact				
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Cathastrophic (5)
Probability	Certain (5)					
	Likely (4)					
	Possible (3)	R011 R014		R017		
	Unlikely (2)	R022	R010 R012	R005 R021		
	Rare(1)		R001 R003 R015 R016 R020 R018	R002 R004 R006R008 R013	R007	

Source : Author, 2022.

4. CONCLUSION

Based on the Investment Feasibility Analysis where the Return on Investment (ROI) is high enough so that it has a fairly high rate of return on investment as well. Net Present Value (NPV) for a period of 2 years is IDR 2,201,066,879, then has a Payback Period (PP) or a period of return of investment for 1 year 6 months, and has a positive IRR with an estimated average value of return the average investment is 25%. Then from the Financial Performance Analysis with three types of ratios that will be used in measuring company performance, namely Liquidity Ratios, Solvency Ratios and Profitability Ratios as in table 6, table 7, and table 8 above, it can be concluded that PT SJA can be a worthy company for considered and made an investment choice.

Risk Management that has been implemented by PT SJA based on the description above, there are several risks, namely 9 moderate risks, 3 high risks and 2 very high risks, which need to be handled or mitigated so as not to interfere with the company's business. Risk is determined based on the context of marketing, operations, human resources, and finance, each of which has a different level of risk. The following are the risks that need attention to be carried out in risk management by means of risk avoidance, risk retention, risk sharing, risk transfer, and risk reduction. The following are some of the risks that are the main focus, namely inaccurate quality control due to the lack of skilled machine operators, fluctuating dollar exchange rates due to national or international conditions for various reasons such as domestic political conditions and the current war. Then there are still frequent electricity

power outages which are a resource to operate production machines, and the need for business capital to facilitate the company's operations. In addition, there are also risks that are moderate in nature, but they must be watched out for and handled properly. The moderate risks include supply, business licenses, website hacking, problematic CNC machines, fatigue and human error, employee attendance, term payments, and increases in regional minimum wages.

Risk management carried out by the company in a planned manner, and continuously improving the system in terms of marketing, operations, human resources, and finance, can reduce risks to lower levels. So that after the management and risk mitigation are carried out, there is no longer a high and very high level of risk. There are only three risks that need to be considered at a moderate level, namely the dollar exchange rate, quality control that needs to be continuously improved and monitored, and the lack of working capital which will continue to be sought by seeking more investors. Thus, the company can implement risk management very well, so that this business is certain to have great potential in its business.

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