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CORPORATE RESCUE STRATEGY FOR PT BN THROUGH LEVERAGED BUYOUT AND PRODUCT DIVERSIFICATION

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Abstract— *A high humidity level in Indonesia makes rust or corrosion occurs easily. Rust or corrosion on building construction materials may result in disadvantages both financially and security. Therefore, it appeared iron and steel constructions tool that is coated by zinc and alumunium or galvanized, it aims to extend the life of iron and steel construction. The problem faced by PT BN, as one of the coated steel companies is the running capacity which only reaches 30%. This makes the company must be strive to remain viable. PT BN is in the danger zone when carried an analysis of the company health conditions using the Altman Z Score, and threatened with bankruptcy. The company owners can not afford to sustain the company and facing the choice of whether the company will be liquidated, sold its assets, or sold to another party. After conducted the sell company to the management alternative, the profit is much greater for the owners than two others alternative. After buying PT BN through LBO, the new owner will develop the company by producing galvalum with longer age resistance than galvanized. Financial analysis conducted to determine the feasibility of the proposed investment by looking NPV, Payback Period, IRR and ROI. The results showed a feasible value. Scenario analysis, optimistic, most likely, and pessimistic conducted and the results optimistic and most likely scenarios generated a feasible value. Therefore, PT BN chose to sell the company to the management.*

Keywords : Altman Z Score, Leveraged Buyout, Feasibility Study Analysis, Scenario Analysis, Monte Carlo Simulation

I. INTRODUCTION

Indonesia has a high humidity level, it makes corrosion occur easily, a damage or degradation of metal due to a redox reaction between a metal with a variety of substances in the environment that produce compounds that are not desired. Generally, it is called rust / corrosion. Rust or corrosion that attacks iron and steel in building constructions is a serious problem that must be addressed immediately because it can cause disadvantages, both finance and safety.

For example, corrosion that occurs in a pipe filled with water can cause the pipe to be leaked and water is wasted in vain. If the pipe contains hazardous liquid, toxic and explosive, surely it will be able to threaten the safety of living things around it. There are two types of terms in the final coating layer or layers on steel, they are galvanized and galvalum. Galvanized is a term for a mild steels given layer of zinc. For the galvanized's finishing coating, it consists of 98% zinc elements and 2% aluminum elements. Meanwhile, galvalum's finishing coating consists of 55% aluminum elements, 43.5% zinc elements, and 1.5% silicon elements. In the presence of this coating, the galvanized and galvalum will have anti rust, so it can survive for a long time.

A. Business Issue

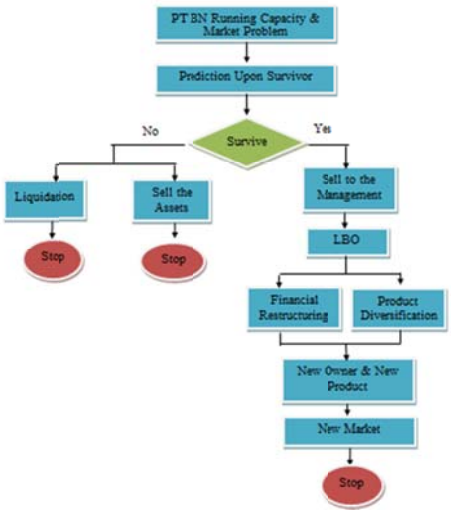
PT BN running capacity has only reached 30% this value is very small at only 160.000 MT per year from the maximum capacity of 534.000 MT per year. The company also has a low demand market problems due to the galvanized product, which is corrosion resistance level quite low due to it simple layers. This makes the company impossible to survive and they could not meet its obligations to the bank. Encountered by this problem, PT BN faced the threat of bankruptcy. In addition, there is a problem about market for galvanized products that continue to decline. This product then is replaced by galvalum, that has a higher corrosion resistance. Meanwhile, demand for coated steel in Indonesia now even reach more than 2.5 million MT per year. PT BN then facing the choice of whether the company will be liquidated or be sold.

A. Research Objective

Perform the best alternative for PT BN whether the company will be liquidated or be sold. The selected alternative also consider the benefits to the old shareholders. If the company be sold to the management it must also be profitable for the new company owners, and need to maintain their ability to survive and able to run the running capacity as expected and find a new strategy that is right for the development of the company.

II. BUSINESS ISSUE EXPLORATION

Here is a Conceptual Framework of this final project :



A. Business Situation Analysis

External Analysis

Using Porter's 5 forces analysis showed that the condition of coated iron and steel industry have a high level of industrial rivalry, bargaining power of buyer, bargaining buyer of suplier, and potential entrants, but have a medium level of threats of substitutes.

Galavanized market in Indonesia

The data from Ministry of Commerce, Dit. Export Iron and Metal showed that the galvanized production declines from 2005 until 2011, it is not only due to the difficulty in running the company expected capacity but also caused by the decrease in public demand for these products.

Galvalum market in Indonesia

The increasing of the number of galvalum production in Indonesia is a result of the increasing public demand for this product, especially demand of metallic coated steel and color coating steel. The Metallic Coating Line and Color Coating Line market is continued increasing annually especially in 2005 until 2010.

Internal Analysis

Analysis of Corporate Health Conditions Using Altman Z Score

Bankruptcy prediction equations for privat companies are :

: Size comparison of net working capital to total assets

: The size of retained earnings relative to total assets

: The size of the actual productivity of the company's assets, excluding taxes and interest factor

: Which shows how the size of the company's asset value which can be dropped before the debts exceed the assets and the company becomes insolvent

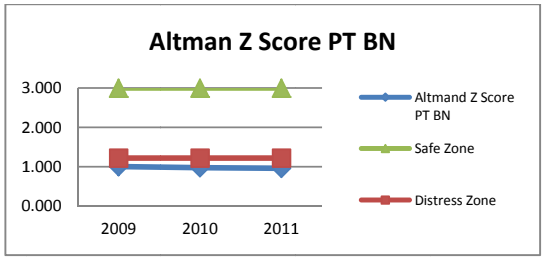
: The size of the company's assets that demonstrate the ability to create sales, which demonstrated the ability to confront management in competitive conditions.

The limit value of Z to determine the possibility of bankruptcy was changed as follows :

1. "Safe" Zone, the range of values >2,99

2. "Grey" Zone, the range of values between 1,23 – 2,99
3. "Distress" Zone, the range of values <1,23. On these zones the possibility of companies will be insolvent.

The results of the calculation of the ratio of each variable that affects the health of PT BN :



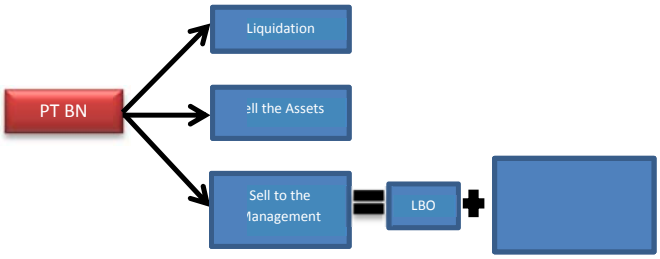
Can be seen from the Z Score graph that PT BN was in bad condition. This can be known through the Z score under the threshold of bankruptcy.

B. Root of the Problem

The root of the problem is currently PT BN has suffered the market problem and facing their running capacity of only 30%, this value is very low and it makes it impossible for the company to survive. Therefore, PT BN is confronted by the problem of bankruptcy, and PT BN current owners have even given up to keep running the company. PT BN then facing the choice of whether the company will be liquidated or be sold. The selected alternative also consider the benefits to the old shareholders, and the new owner if it will be sold to other parties.

III. BUSINESS SOLUTION

Due to it low running capacity, PT BN is currently suffered a crisis and the company is threatened to be insolvent and will be liquidated. Instead of company liquidation, PT BN explore other company alternative, ie sells the assets and sell the company to the management. So the company then facing the following alternative:



Alternative A. Liquidation of the Company

Calculation of liquidation includes three steps :

1. Selling the Assets

Fixed assets are assets that are sold to add. The following table is a list of depreciate and amortize assets that are saleable to conduct the liquidation :

	31-Des-11			
	Beginning Balance	Additions	Deductions	Ending Balance
Acquisition Cost				
Land	6.596.006.962	0	0	7.052.912904
Buildings	855.150.266	0	0	855.150266
Vehicles and Heavy Equipment	8.206.092.190	558.939.122	0	8.765.031312
Mechine and Equipment	5.241.384.733	85.463.083	0	5.326.847816
Inventory	2.466.271.710	31.245.000	0	2.497.516710
Total	**23.364.905.861**	**675.647.205**	**0**	**24.497.459008**
Accumulated Depreciation				
Buildings	(256.545.080)	(7.757.513)	0	(264.302.593)
Vehicles and Heavy Equipment	(4.841.594.392)	(620.397.691)	0	(5.461.992.083)
Mechine and Equipment	(2.145.272.673)	(221.866.616)	0	(2.367.139289)
Inventory	(1.800.378.348)	(31.825.667)	0	(1.832.204.015)
Total Accum Depreciation	**(9.043.790.493)**	**(881.847.487)**	**0**	**(9.925.637.980)**
Book Value	**14.321.115.368**			**14.571.821.028**

While the numer of non-cash assets which have not depreciate and amortize amounted to USD. 1.324.821. Non-cash assets assumed to be worth 10% less than the book value, and depreciate assets worth 80% of the book value. Here is a table comparisons between the actual price and after liquidated price :

Description	Actual Price	Liquidation Price
Sold Assets	14.571.821.028	11.657.456822
Undepreciate and Unamortize Assets	13.248.205.185	10.598.564148
Total Non Cash Assets	27.820.026.213	22.256.020970
Cash	695.053.530	695.053.530
Total Asset	28.515.079.743	22.951.074500

The owner of the company plans to sell the approximately USD.2.782.003 assets. The assets price after liquidated judged by USD.2.225.602, paid in cash to the owner of the company. This value is lower about USD.556.401 from the actual book value. The value of the assets that will be given to shareholders will be combined with the company last cash amount USD.69.505, so the balance before obligation payment is equal to USD. 2.295.107.

2. Settle the loan and obligation

The owners have to pay off their obligations for USD. 2.178.346. The sale of assets after liquidated is amount USD.2.225.602, added by last cash of USD.69.505, then reduced by USD.2.178.346 cash payment for its liabilities, therefore the remain balance is amount USD.116.761. The final balance is

then to be distributed to the company's shareholders.

Description	Actual Price	Liquidation Price
Sold Assets	14.571.821.028	11.657.456.822
Undepreciate and Unamortize Assets	13.248.205.185	10.598.564.148
Total Non Cash Assets	27.820.026.213	22.256.020.970
Cash	695.053.530	695.053.530
Total Asset	28.515.079.743	22.951.074.500
Total Liabilities		21.783.460.323
Shareholders Gain/Loss		1.167.614.177

3. Distribute the remaining cash to shareholders

The shareholders will obtained the total profit amountUSD.116.761.

Alternative B. Sale the Assets

In this alternate corporate owners intend to sell the company's assets for the purpose of this company will then be closed. Therefore the assessment done in judgement regarding the assets owned by the company. Assets that are saleable same as in liquidation, ie assets other than cash.

Fixed Assets	Book Value	Price Change	Market Price
Land	7.052.912.904	+20%	8.463.495.485
Buildings	590.847.673	-5%	561.305.290
Vehicles and Heavy Equipment	3.303.039.229	-5%	3.137.887.267
Machines and Equipment	2.959.708.527	-5%	2.811.723.101
Inventory	665.312.695	0%	665.312.695
Total	14.571.821.028		15.639.723.837

The difference between sell assets price and liquidation price is the price for selling price assets adapted to market prices. Here is a table comparisons between the actual price and market price (selling assets price) :

Description	Actual Price	Market Price
Sold Assets	14.571.821.028	**15.639.723.837**
Undepreciate and Unamortize Assets	13.248.205.185	11.923.384.666
Total Assets	**27.820.026.213**	**27.563.108.503**

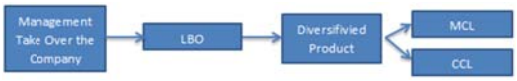
Shareholder's end balance after sells the assets are :

Description	Actual Price	Market Price
Sold Assets	14.571.821.028	15.639.723.837
Undepreciate and Unamortize Assets	13.248.205.185	11.923.384.666
Total Non Cash Assets	27.820.026.213	27.563.108.503
Cash	695.053.530	695.053.530
Total Asset	28.515.079.743	28.258.162.034
Total Liabilities		21.783.460.323
Shareholders Gain/Loss		**6.474.701.711**

The shareholders will obtained the total profit amount USD.647.470.

Alternative C. LBO by Management

The third alternative is shareholders will sell the company, it was well received by company's management that want to buy the company in a Leveraged Buyout (LBO). The method of PT BN's rescue strategy can be conducted by Leveraged Buyout, through completely debt funding. Besides conducted financial rescue through LBO, the management will also conduct the product diversification from galvanize into galvalum. Here is a rescue strategy for PT BN using LBO and product diversification :



Based on the analysis of the company's health condition using the Altman Z Score before, management is not possible to simply take over the company without any development. Therefore, PT BN must do diversifies products to develop businesses and generate higher returns by producing galvalums, namely metallic coating line (MCL) and color coating line (CCL) which now has an increase in demand. Then performed a feasibility analysis about company rescue strategy plan after the LBO and product diversification.

Similarly, this alternative is first do the non-cash asset sales then add it value to the company last total cash, and then settled the obligations of the company.

Assets that are saleable same as in two previous, ie assets other than cash.

Fixed Assets	Book Value	Price Change	Market Price
Land	7.052.912.904	+20%	8.463.495.485
Buildings	590.847.673	-5%	561.305.290
Vehicles and Heavy Equipment	3.303.039.229	-5%	3.137.887.267
Machines and Equipment	2.959.708.527	-5%	2.811.723.101
Inventory	665.312.695	0%	665.312.695
Total	14.571.821.028		15.639.723.837

Based on an agreement with the owner of the company, the management was asked to pay an additional 10% of the market price as a premium. Here is a table comparisons between the actual price, market price (selling assets price) and LBO price :

Description	Actual Price	Market Price	LBO Price
Sold Assets	14.571.821.028	15.639.723.837	17.203.696.221
Undepreciate and Unamortize Assets	13.248.205.185	11.923.384.666	13.115.723.133
Total Assets	**27.820.026.213**	**28.248.468.046**	**31.014.472.884**

Shareholder's end balance after sells the company to the management are :

Description	Market Price	LBO Price
Sold Assets	16.325.083.380	17.203.696.221
Undepreciate and Unamortize Assets	11.923.384.666	13.115.723.133
Total Non Cash Assets	28.248.468.046	31.014.472.884
Cash	695.053.530	695.053.530
Total Asset	28.943.521.577	31.014.472.884
Total Liabilities		21.783.460.323
Shareholders Gain/Loss		9.231.012.561

The shareholders will obtained the total profit amount USD.923.101.

After seeing the benefits for shareholders, these alternatives must also consider whether profitable for the new managements.

Diversification Product

The diversified product strategy planning for PT BN will be conducted through producing galvalum, ie Metallic Coating Line and Color Coating Line. This due to the increasing demand of galvalum product annually.

Cash Flow Projection Analysis After Refinancing and Product Diversification

Management group which currently stands at PT BN will conduct the acquisition of PT BN with 100% capitalization comes from third-party debt. The third party is a bank lending, it is supported by the bank to provide loans.. The new management will then take over the company and develop new products and enter new markets. Total interest payable 10% is paid in the first year.

Net After Tax and Free Cash FLow Projection of PT BN After Product Diversification (in '000 USD) :

Description	Period				
	2	3	4	5	6
	Operation				
	1	2	3	4	5
Sales	88.284	166.856	175.199	183.959	193.157
COGS	76.595	144.765	152.003	159.603	167.583
Gross Profit	**11.689**	**22.092**	**23.196**	**24.356**	**25.574**
Overhead	7.946	15.017	15.768	16.556	17.384
Depreciation	1.129	1.129	1.129	1.129	1.129
EBIT	**2.614**	**5.945**	**6.299**	**6.670**	**7.060**
Interest exp	1.200	1.125	1.042	951	851
EBT	**1.414**	**4.820**	**5.257**	**5.719**	**6.210**
Tax	353	1.205	1.314	1.430	1.552
NAT	**1.060**	**3.615**	**3.943**	**4.290**	**4.657**
R/G	106	362	394	429	466
FCF	**2.084**	**4.383**	**4.678**	**4.990**	**5.321**

Assumption :

- Capacity production for the first year is 50% from maximum theoretically capacity 100.000 tons per year of Metallic Coating Line that is, and 50.000 tons per year of Color Coating Line.
- Capacity production after the first year production would be 90% for each product.
- Other cost such as those described previously is assumed 9% of sales.
- Total sales is ammount 80%.
- Depreciation calculated on a straight line for 10 years.
- Government tax obtained under the government regulations on the corporate tax 25%.
- Interest rate USD is ammount 10%

Feasibility Analysis

Net Present Value and other Investment Indicators :

Year	FCF	Disc Factor 7,50%	Disc CF	Cumm Disc CF	Cumm CF
0	(10.650)	1,0000	(10.650)	(10.650)	(10.650)
1	(1.350)	0,9302	(1.256)	(11.906)	(12.000)
2	2.084	0,8653	1.803	(10.103)	(9.916)
3	4.383	0,8050	3.528	(6.574)	(5.533)
4	4.678	0,7488	3.503	(3.072)	(855)
5	4.990	0,6966	3.476	404	4.135
6	5.321	0,6480	3.448	3.852	9.456

The table shown that the NPV of the project was USD.3.852.000 with 4 years and 7 months payback period. By using functions in Microsoft Excel, can also be shown that the IRR of the project is 15,22% and the Return on Investment for this project is 21,31%.

Investment Feasibility Conclusion :

Investment Indicators	Value	Conclusion
Net Present Value	USD.3.852.000	Projects feasible to run
Payback Period	4 years 7 months	The investment return in a relatively short
IRR	15,22%	IRR is greater than the cost of capital, meaning the project can be executed
ROI	21,31%	21,31% investment return rate is acceptable

The calculations show that the management's (new owner) strategy in take over PT BN by using the techniques of leveraged buyout with product diversification is feasible to be implemented.

Scenario Analysis

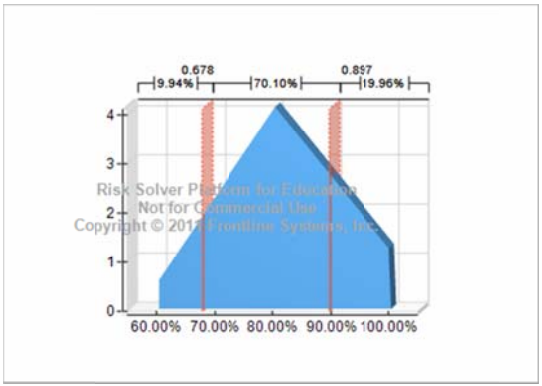
1. Optimistic Scenario, reflects the optimism of the company's growth. In this scenario it is assumed that the condition optimistic revenue growth per year by 5% can be achieved fully or 100.

2. Most Likely Scenario, reflecting a reasonable condition that occurs. This condition reflects the income growth of 5% per year PT BN can only be achieved 80%.

3. Pessimistic scenario, reflecting the pessimistic of the company's growth. In this scenario it is assumed that the condition optimistic revenue growth per year by 5% can be achieved 60%.

The probability of each scenario :

1. Optimistic Scenario : 20%
2. Most Likely Scenario : 70%
3. Pessimistic Scenario : 10%



Scenario Analysis Distribution

Optimistic Scenario Analysis

This scenario reflects revenue growth of 5% can be achieved in full or 100%. Some of the analysis above can be summed up the project feasibility indicators as follows :

Investment Indicators	Value	Conclusion
Net Present Value	USD. 8.386.000	Projects feasible to run
Payback Period	3 years 10 months	The investment return in a relatively short
IRR	25,95%	IRR is greater than the cost of capital, meaning the project can be executed
ROI	31,31%	31,31% investment return rate is acceptable

From above conclusion, the scenario is feasible, because the project has met all the eligibility requirements to run.

Most Likely Scenario Analysis

This scenario reflects revenue growth of 5% can be achieved in 80%. Some of the analysis above can be summed up the project feasibility indicators as follows:

Investment Indicators	Value	Conclusion
Net Present Value	USD. 3.852.000	Projects feasible to run
Payback Period	4 years 7 months	The investment return in a relatively short
IRR	15,22%	IRR is greater than the cost of capital, meaning the project can be executed
ROI	21,31%	21,31% investment return rate is acceptable

From above conclusion, the scenario is feasible, because the project has met all the eligibility requirements to run.

Pessimistic Scenario Analysis

This scenario reflects revenue growth of 5% can be achieved in 60%. Some of the analysis above can be summed up the project feasibility indicators as follows:

Investment Indicators	Value	Conclusion
Net Present Value	(USD.4.249.000)	Projects not feasible to run
Payback Period	>5years	The investment return in a relatively long
IRR	-2,96%.	IRR is lower than the cost of capital, meaning the project can't be executed
ROI	7,91%.	7,91% investment return rate is acceptable

From above conclusion, the scenario is not feasible, because it does not met all the eligibility requirements to run project.

The value of indicator feasibility and weights probability :

Scenario	Probability	NPV x Probability ('000 USD)	PBP x Probability (Month)	IRR x Probability	ROI x Probability
Optimistic	20%	1.677	9,2	4,59%	6,26%
Most Likely	70%	2.696	38,5	10,65%	14,92%
Pessimistic	10%	-425	6	-0,30%	0,79%
Total		**3.949**	**54**	**14,95%**	**21,97%**

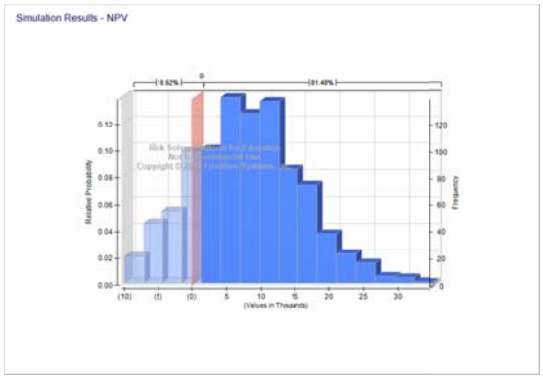
The calculation of each feasibility indicator and the possibility of weighting generates positive NPV of USD.3.949.000, 52 months or 5 years and 7 months payback period, 14,95% IRR, and 21,97% ROI, it mean that this project is eligible to run by the management.

Monte Carlo Simulation

Monte Carlo simulation, or probability simulation, is a technique used to understand the impact of risk and uncertainty in financial, project management, cost, and other forecasting models. Using Monte Carlo Simulation can be seen the probability of NPV value is less than zero or negative, the probability of IRR value is smaller than the WACC and some probability value of ROI. To create a model in a Monte Carlo simulation, it will create three estimates for each part of the project. The tables below are some input variables used in this simulation :

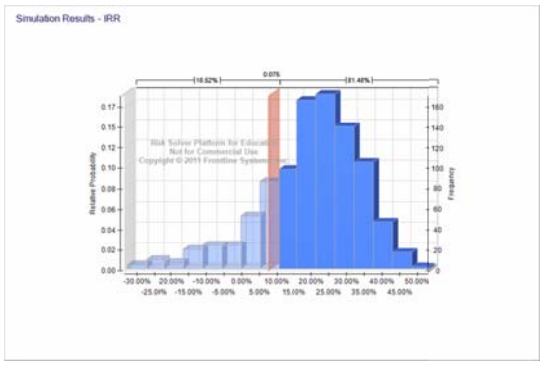
Variable	Pessimistic	Most Likely	Optimistic
Sales	60%	80%	100%
Sales Price Growth	4%	5%	6%
COGS Growth	6%	5%	4%

Here is a graph the results of the monte carlo simulation use some of the input variable:



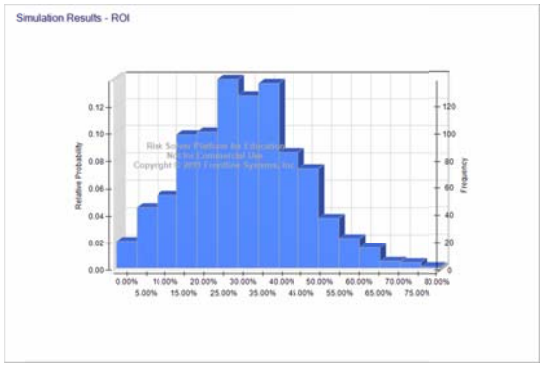
Simulation Result of NPV

Results using Monte Carlo simulation for the value of NPV can be seen that the probability of NPV projects value less than zero or negative is amount 81,48% .



Simulation Result of IRR

Results using Monte Carlo simulation for the value of IRR can be seen that the probability of IRR value is greater than WACC is amount 81,48% .



Simulation Result of ROI

From the graph can be seen the probability value of ROI in some input variable using Monte Carlo Simualtion.

IV. IMPLEMENTATION PLAN

The best alternative is sale the company to the management, produce the higher profit to the owner than the two other alternative. The profits is much greater than two others alternative to the owner which is amount USD. 923.101. Hence, the owner then choose the perform of sale the company to the management alternative.

Management party who want to take over the company will also conduct the feasiblity analysis if the company was take over through leveraged buyout and product diversification by produce new higher demand product with higher rust or corossion resistance than galvanized, called galvalum or zink, aluminium, and silicon coated steel and iron. This feasibility analysis will looking the NPV, payback period, IRR and ROI. The result showed the good value of USD.3.949.000 NPV, 5 years and 7 months payback period, 14,95% IRR and 21,97% ROI, then this project is feasible to run by the third parties source of financing, ie bank. Bank will provide the management loan due to its high potential project with high rate of return that can be seen from the feasibility analysis.

The implementation timeline of the project the exercise of the new PT BN :

No	Program	Month				
		1-2	3-4	5-10	11-34	>35
1	Preparation Step - Meeting of the owners and management - Explanation of corporate takeovers					
2	Negotiation Step - Negotiation of mangement changes and company payments to former owners					
3	Preparation of Construction Step - Formating the initial implementation team - Preparation of licensing - Analysis of new business concepts for the company					
4	Construction Step - Construction of new plants - Establishment of a new organizational structure					
5	Operational Implementation Step					

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