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# FEASIBILITY STUDY OF BELITUNG HOTEL PROJECT (CASE STUDY PT XYZ)

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Abstract This research will focus on tourism and hospitality business. For example is the hotel project of PT XYZ in Belitung. The purpose of this study is to gain feasibility of Belitung hotel project and determine whether the project is a good foundation for PT XYZ by knowing the return of the project of 10 years and after, required payback period in economic lifetime of 10 years, profitability index and internal rate of return as a decision rule for consideration in decision making management. To define the return of the project, author will be using the cash flow of the project. This project also assumed that the project will be continued and growing forever that's why to determine terminal value of the project is a must. After calculating the cash flow and terminal value of the project the study found that the Net Present Value of the project generates a positive value of Rp 1,362,042,391,704 if PT XYZ continuing to operate the business forever. The profitability index of the project shows result of 9.5 with project Internal Rate of Return of 43.7% and the Modified Internal Rate of Return of this project is 55.5%. The Payback Period of the project is 5 years and 2 months and Discounted Payback Period this project is 5 years and 5 month. The safety number on occupancy rate can be a minimum standard and indicate the situation of the hotel operation. Net Present Value of the project using safety occupancy rate generates a positive value of Rp 2,512,004,324,803 with the profitability index of the project showing result of 21.5. The Internal Rate of Return of the project is 101.4% and Modified Internal Rate of Return of this project using safety occupancy rate is 103.5%. The Payback Period of the project is 1 years and 7 months and the result of Discounted Payback Period is 1 years and 8 month. Based on the conclusion obtained from the analysis of the data author conclude that implementing Belitung hotel project is feasible and recommended for PT XYZ so they can increase firm wealth.

Keywords: Belitung, Tourism, Hotel, Feasibility Study, Cash flow, terminal value

Category: Finance, Business Plan

## Introduction

Indonesia has a vision to become a tourism destination country as its slogan "Wonderful Indonesia 2008" and began to introduce beautiful island to come to visit to international. One of the examples is the Island of Bangka Belitung that became famous through the film 'LaskarPelangi' in a national and international scale on 2008. It captures the interest of PT XYZ to accommodate tourist hospitality needs in Belitung Island. PT XYZ will be the main focused on this final project. PT XYZ is a company establish at Tanjungpandan, Belitung Island on 2012. The business main focused on hotel and restaurant. The hotel project look promising in line with the increase on tourist visitor, but there is another consideration from the economic view and risk from other factor such as market strategy, financial and legal. PT XYZ doesn't have any experience and since Belitung hotel is the first project there will be opportunity of company growth or failed. That's why calculating the feasibility study of Belitung hotel is crucial for the future of the company. The purpose of this study is to gain feasibility Belitung hotel project and determine whether the project is a good foundation for PT. XYZ by knowing the return of the project, required payback period and net present value with economic life of 10 years. The scope of study will be from financial feasibility by using decision criteria of net present value,

internal rate of return and payback period with a brief explanation of market feasibility and legal feasibility.

#### Literature Review

Feasibility study is a tool to control, analyze and evaluate the proposed project to identify the opportunities, costs and benefits and hopefully can provide some solutions to support business decision making with the goal for the project will succeed basis on owner's assumptions of how the project will run. (Alan Thompson, 2005). Hospitality is a businesses that sell service and intangible value to the customer. Starting from the initiation of investor from Belitung, PT XYZ saw an opportunity and wanted to capture the middle class market. They initiated to build a 3 star hotel, and cooperate with Milestone Pacific Group that serves as a hotel operator or hotel management of the project. They begin the project since 2013.

# Cost of Capital

A business can be funded from investors and loans depending on the amount of capital required to run the business. Therefore, cost of capital can be derived from the combination of debt and equity. To calculate the overall cost of capital is derived from a weighted average of all capital sources called WACC (Weight Average Cost of Capital). The cost of capital would be used to discount future cash flows from the potential project, estimate the NPV and ability to generate value.

Weight Average Cost of Capital is used to measure cost of capital of a firm by approach its proportion of finance in debt and equity must equal 1 or 100%. It also reflects the expected average future cost of capital. The formula to find weighted average cost of capital is:

$$Ra = (wi \times ri) + (wp \times rp) + (ws \times rs)$$

# Cost of debt

According to Damodaranto estimate the cost of debt if the firm is not rated the firm can use the interest rate of recent long-term loan or estimate a synthetic rating for the company to arrive at a default spread and a cost of debt. Cost of debt also associated with funds raised through long-term borrowing. When companies borrow funds from outside or take debt the interest paid in that amount it called cost of debt. The interest from company debt is a deductible expense and discounted by the tax rate. The formula to find cost of debt using coupon rate is:

$$CoD = R(1-t)$$

# Cost of Equity

To determine the cost of equity author will be using capital asset pricing model approach. According to Welch, Damodaran and Gittman, to calculate NPV, a company need to use a formula that links risk (market beta) and return (expected rate of return) so can determine the appropriate cost of capital, and Capital Asset Pricing Model or CAPM is a formula to estimate project return while compensate investor risk by using variance and beta to measures the non-diversifiable risk. The formula to find capital asset pricing model:

$$rs = Rf + \beta(rm)$$

# Beta coefficient

According to Damodaran and Ross beta is an index of degree of movement that shows the security returns covariance. It indicates the sensitivity of security returns against market risk by showing changes in the asset and market returns. To estimate cost of equity need to use levered beta. Beta can be obtained from comparable companies. To get levered beta or unlevered beta from compared company use the equation shown below.

$$\label{eq:Unlevered} \begin{split} & \textit{Unlevered } \beta = \frac{\textit{levered } \beta}{\left(1 + \left((1 - t) \times \frac{D}{E}\right)\right)} \\ & \textit{Levered } \beta = \textit{unlevered } \beta \left(1 + \left((1 + t) \times \frac{D}{E}\right)\right) \end{split}$$

#### **Growth Rate**

Growth rate is an estimate of the number of variables derived from the sale of a good company or assets of a company to examine developments within a specified time.

#### Stable Growth

Stable growth means the business will be estimated that will go constant forever. But there is a limit on how high it can be since a firm cannot grow higher than the overall growth rate of the economy.

$$Value = \frac{Cash Flow Next Period}{(r - g)}$$

#### Gordon Growth Rate

Gordon growth rate is a formula to determining the value of a companies that expected will grow at a constant rate with its assumption that value is equal to the sum of its future dividends. Because of the simplicity it is used for companies with low to moderate growth rates. The formula to find Gordon growth rate is

$$Value = \frac{D(1+h)}{(r-h)}$$

## Terminal Value

According to Damodaran*in a project with an infinite or very long life, we need to compute cash flows* for a reasonable period and then compute a terminal value for this project, which is the present value of all cash flows that occur after the estimation period ends. It is used in cash flow valuation to study cash flow projection beyond the year-time period while expecting stable growth rate.

#### Depreciation and Amortization

When a business owner buy an asset, the asset will loses its value over time and the current value must be accounted for the company's balance sheet. Depreciation is a method of allocating the cost of a tangible asset over its useful life as for amortization is allocating cost of intangible assets over its useful life. In a real time depreciation and amortization are not cash expenses and didn't reduce cash flows but it reduce taxable income and taxes paid by a business. To determine cash flows project, depreciation and amortization need to be added back to net income. The formula to determine current asset value is

 $book\ value = original\ cost - accumulated\ depreciation$ 

Straight-line method will be used in this paper. This method will charge the company with the same amount each year over period until the value of the asset has reduced from the original cost to the salvage value. The salvage value is an estimate value of the asset by the company. Formula:

$$Depreciation \ Cost = \frac{Cost \ of \ fixed \ asset - residual \ value}{useful \ life \ of \ asset \ (years)}$$

#### Cash Flow

Cash flow is a projection of company's revenue stream either cash in or out of the company and shows changes in a specific time period. Determining company's cash flow is an important factor because the value of investment made by a firm depends on the timing of cash flow. Also it can be used as information about the situation of the companies and company financial strengthOperating cash flow is the revenue stream that generated by company business operations. It indicates whether the company is able to generate positive cash flow and maintain grow of its operations. Formula:

$$OCF = (EBIT \times (1 - t)) + Depreciation$$

Free cash flow is a number of cash that company had and used in capital investment to repair or replace, pay dividends and debt or for the company's expansion project to increase growth. It also reflects as company ability to generate cash, which is fundamental basis for stock pricing. Formula:

$$FCF = OCF - Capital Expenditures$$
  
 $FCF = OCF - NFAI - NCAI$ 

or

# Time Weighted Cash Flow

According to Damodaran the value of cash flows now are worth more than in later years because of the inflation making the value of money decreases over time called time value of money. The firm needs to value cash flow through time called discounting and compounding. The purpose of time-weighted cash flow is to compare and aggregate cash flow from different points in time and brought in to the same point in time. Compounding is a calculating process of when present cash flow is taken to the future. Discounting means a calculating process of bring the future cash flow to the present value.

Present Value = 
$$\frac{Cash Flow_n}{(1+r)^n}$$

Future Value = 
$$Cash flow_0 (1+r)^n$$

#### Net Present Value

Time will decrease the value of the money which makes the value amount of money now is different with the value in the future. To avoid the time value of money, the future amount of money has to be discounted to reflect as if its current value today which called present value. Thus NPV is a tool in discounted cash flow analysis because not only to measure the changes in cash flow it also can show of how much value an investment or project adds to the firm by subtracting a project initial investment of its cash flows discounted at a rate equal to the firm cost of capital. Formula:

$$NPV = \frac{CF_n}{(1+k)^n} - I$$

The decision criteria if NPV of the project greater than o increase stockholders return and accept the project and if NPV of project below o decrease stockholders return and reject the project.

## **Profitability Index**

According to Gitman, 2012 profitability index is a variation of the NPV, profitability index is total of present value of cash inflow divided by the initial investment. The decision rule to invest in the project is when the profitability index greater than 1.0 because it implies that the present value of cash inflow is greater than the initial investment. The NPV and PI methods will always come to the same conclusion. Formula:

$$PI = \frac{\sum_{n=1}^{n} \frac{CF_n}{(1+k)^n}}{I}$$

# Internal Rate of Return and Modified Internal Rate of Return

According to Gitman, Internal rate of return or IRR of the project will be compared with minimal standard rate of return or hurdle rate of the company. IRR is the rate of return that the firm will earn if

they invest in the project. The IRR obtained when the projects NPV equals Zero or project's cash flows are equal to the project's costs.

Formula:

$$0 = \sum_{n=1}^{n} \frac{CF_n}{(1 + IRR)^n} - I$$

Decision rule,

If the IRR > firm cost of capital then accept the project If the IRR < firm cost of capital then reject the project

While the internal rate of return (IRR) assumes the cash flows from a project are reinvested at the IRR, the modified IRR assumes that positive cash flows are reinvested at the firm's cost of capital, and the initial outlays are financed at the firm's financing cost. Therefore, MIRR more accurately reflects the cost and profitability of a project. The formula to find MIRR is:

$$MIRR = \sqrt[n]{\frac{Future\,Value\,of\,Cash\,Flow}{Present\,Value}} - 1$$

# Payback Period

Payback period is the time in which the initial cash outflow of investment is expected to be recovers from the cash inflows generated by the investment. Payback period or PP is a simple calculation that shows the time required for the cash inflow surpass the initial investment of the project and when the firm began to generate profits. The formula must be adjusted depends on the cash flow of the project per period whether even or uneven. Formula:

$$Payback \ Period = \frac{Initial \ Investment}{Cash \ Inflow \ per \ period}$$

When cash inflows are uneven, we need to calculate the cumulative net cash flow for each period and use the following formula:

Payback Period = negative cum.casf flow + 
$$\frac{cum.cash flow at the end of period}{total cash flow during the period}$$

The disadvantage of simple payback period calculation is not considering the time value of money. An alternative procedure called discounted payback period which accounts the time value of money by discounting the cash inflows of the projects. In discounted payback period we have to calculate the present value of each cash inflow taking the start of the first period as zero point. Formula:

$$Discounted\ Cash\ Inflow = \frac{Actual\ cash\ inflow}{(1+i)^n}$$

## Methodology

To answer the research objective author use systematical methodology steps of problem identification, literature review, data collection, data analysis and conclusion. Each step will be correlated to one of another to determine the conclusion of the project. Before conducting a research first we must identify a problem incurred within the company. After to be able to identify the problem of the researcher will develop the problem found to create the goal of the research. The theme of this study is hospitality.

The problem of the project is to establishing Belitung Hotel in Tanjungpandan. The purpose of this research project is to analyze whether the business is profitable and feasible or not.

# **Analysis**

The tax rate used is 25% derived from the income tax provisions applicable in Indonesia. Risk Free Rate of 8.18% refers to average rate of Government Securities (SUN) issued updated April 2014 taken from site of Bl.go.id, these options are taken because SUN is one of the long-term investments that have no risk. The risk premium obtained from Damodaran sites is 8.30%. As for interest rate applicable is 9% and the levered beta of 1.22 obtained from comparable companies since PT XYZ doesn't have beta yet. From the data taken the weighted average cost of capital is 10.33%.

The asset of value investment will be depreciated over time so the depreciation expense of tangible asset assumed of 1.9 billion rupiah and for the intangible asset will be using amortization expense of 194.6 million rupiah. After findingoperating cash flow bysubtract revenue with operation expense and the terminal value is the value of the business after economic lifetime obtained from projecting cash flow at the end of period, the accumulated present value of free cash flow from year o to the terminal value is the NPV of this project of Rp1,362,042,381,704 as shown in table 2 and the profitability index obtained by divide the total present value with initial investment so the profitability index of this project is 9.5. The IRR can be achieved by using trial and error to find when net present value equal to o. The calculation on table 3 shows the NPV of the project will be equal to 0 when the discount rate is equal to 43.7%. Unlike the IRR to get MIRR we need to compound the free cash flow of the project. MIRR projecting returns when the project requires a minimum reinvestment rate of 10.33% is at MIRR 55.5% as shown in the table 3. The payback period calculation need to find when the project start to generate positive profit. The positive value of this project attained in year 6 with a profit of Rp 59,924,018,707 and negative values are in year 5 of (Rp 14,929,317,948). By knowing negative and positive year, known the payback period of this project is 5 years and 2 month. The results of the calculation of discounted payback period by discounting operating cash flow obtained positive value in year 6 at Rp 21,798,282,944 and negative value at year 5 at (Rp 19,696,521,040). From the calculation below the discounted payback period of this project is 5 year and 5 months.

$$Payback\ Period = 5 + \left(\frac{14,929,317,948}{14,929,317,948 + 59,924,018,707}\right) = 5.2$$
 
$$Discounted\ Payback\ Period = 5 + \left(\frac{19,696,521,040}{19,696,521,040 + 21,798,282,944}\right) = 5.5$$

After all the data is collected and processed to obtain the output, the last step is to analyze the output to get a financial feasibility conclusions. The comparison will be in accordance to the standard financial provision to determine whether PT XYZ should have to accept the hotel project investment or not. The Net Present Value of the project generates a positive value of Rp 1,362,042,391,704 and it's greater than o then the investment of this project was acceptable. The profitability index of the project shows result of 9.5 and greater than 1 so the project was acceptable. The project IRR is 43.7% and currently above the minimum acceptable rate of return of 10.33% then the investment of this project should be accepted. While the MIRR is the IRR when the reinvestment rate is equal to hurdle rate. The MIRR of this project is 55.5%. If the project has MIRR greater than required rate of return of 43.7% then this project should be accepted. As from the calculation the payback period of the project is 5 years and 2 months and its still in desired economic lifetime and indicates that the project was acceptable. Consider the time value of money the result of discounted payback period of the project is 5 years and 5 month. The discounted payback period is still in desired economic lifetime then the project should be accepted. Although the return in conservative assumption is acceptable, PT XYZ need to know the realistic number to maintain the hotel operator. Using safety occupancy rate assumption of 65% the result for the analysis is Net Present Value for safety rate is Rp 2,512,004,324,803. It's a positive value and bigger than o than the project is acceptable. The Profitability Index for safety rate is 21.5 and its greater than 1 # shows the project is acceptable. Internal Rate of Return of the project was 101.4% and higher than hurdle rate of 10.33% which means the project was acceptable. Modified Internal Rate of Return of the project when reinvestment rate equal as rate of return is 103.5% and its bigger than IRR which means the project is acceptable. Payback Period of this project is 1 years and 7 month using safety rate occupancy assumption and still in desired economic value so the project is acceptable. Discounted Payback Period of the project is 1 years and 8 month using safety rate occupancy assumption and still in the desired economic value so the project is acceptable.

$$Payback\ Period = 1 + \frac{16,631,745,007}{16,631,745,007 + 11,174,049,147} = 1.6$$
 
$$Discounted\ Payback\ Period = 1 + \frac{17,035,676,633}{17,035,676,633 + 5,807,232,673} = 1.75$$

## Conclusion

From statistic data 2010 obtained from BPS Indonesia total population of Bangka Belitung is 1.223.296 lives divided by male population for 635.094 lives and women for 588.202 lives. As for data local and international visitors who visits and stay at hotel in 2012 amounted to 0.9% for international visitors and 99.1% for domestic visitors. The international visitors most of them prefer to stay at 4 & 5 star hotels as for the domestic tourist most of them prefer to stay at 3-star hotel. Thus from the data can be assumed that domestic visitors are more dominant than international visitors and domestic visitors prefer to spend the night in a 3 star hotel. Then there is potential market for 3 star hotel. Based government regulation there's no laws and regulation that prohibit hospitality business in the area of construction. Based on the city planning department regulations, the current construction area is the location for trade & service business and the maximum height of the building is 4 floors. Then the conclusions are no prohibition to get hotel licensing development and operations. From the result of financial analysis of Net Present Value, Profitability Index, Internal Rate of Return and Payback Period all conclude the project was acceptable. The occupancy rate can indicate the situation of the hotel operation. The safety number of occupancy rate can be using as an indicator of minimum rate agreement with hotel operator, so the hotel operator need to provide promotion and marketing strategies to ensure that the safety number wont be reached. From the conclusion the safety number of 65% will give PT XYZ high return and increase firm wealth in 2 years with estimate return 101.4%. Based on the conclusion the investment project of Belitung hotel is feasible to implement and could be a good foundation for PT XYZ as the project generates positive NPV that can increase firm wealth and value of the company if they continue their project all the way in the future and has attractive profitability index.

## Recommendation

Based on the conclusion obtained from the analysis of the data author conclude that implementing Belitung hotel project is recommended for PT XYZ so they can increase firm wealth. But to increase firm wealth author suggest for PT XYZ to not only depend on one project as they need to spread the risk and not taking the risk on one basket.Belitung is famous for its beautiful scenery and the government intended Bangka Belitung Island as an tourism object, author suggest that PT XYZ should do further research on market analysis to determine appropriate business target market and strategy.Author suggest to PT XYZ to determine the safety numbers and negotiate with hotel operator. This number will be the minimum rate for PT XYZ to maintain and control the operation of hotel project.

# **Table and Figures**

Table 1 Weighted Cost of Capital

Cost of Capital Calculation			
Interest Rate	9%		
Tax Rate	25%		
Debt Ratio	69%		
Beta	1.22		
Cost Of Equity	18.31%		
Cost Of Debt	6.75%		
Cost Of Capital	10.33%		

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Table 2 Net Present Value

Year         Rp)         Rp)           0         (20,946,000,000)         (20,946,000,000)         (20,946,000,000)           1         (20,478,526,631)         (18,560,761,893)         (39,506,761,893)           2         9,366,491,382         7,694,335,556         (31,812,426,338)           3         10,318,178,567         7,682,354,013         (24,130,072,325)           4         4,241,663,146         2,862,361,914         (21,267,710,411)           5         2,568,875,587         1,571,189,371         (19,696,521,040)           6         74,853,336,656         41,494,803,984         21,798,282,944           7         80,397,300,132         40,394,395,200         62,192,678,144           8         86,786,639,516         39,521,153,324         101,713,831,468	Table 2 Net Fleselit Value				
0       (20,946,000,000)       (20,946,000,000)       (20,946,000,000)         1       (20,478,526,631)       (18,560,761,893)       (39,506,761,893)         2       9,366,491,382       7,694,335,556       (31,812,426,338)         3       10,318,178,567       7,682,354,013       (24,130,072,325)         4       4,241,663,146       2,862,361,914       (21,267,710,411)         5       2,568,875,587       1,571,189,371       (19,696,521,040)         6       74,853,336,656       41,494,803,984       21,798,282,944         7       80,397,300,132       40,394,395,200       62,192,678,144         8       86,786,639,516       39,521,153,324       101,713,831,468		Free Cash Flow (in	Discounted FCF (in	Cumulative DFCF (in	
1       (20,478,526,631)       (18,560,761,893)       (39,506,761,893)         2       9,366,491,382       7,694,335,556       (31,812,426,338)         3       10,318,178,567       7,682,354,013       (24,130,072,325)         4       4,241,663,146       2,862,361,914       (21,267,710,411)         5       2,568,875,587       1,571,189,371       (19,696,521,040)         6       74,853,336,656       41,494,803,984       21,798,282,944         7       80,397,300,132       40,394,395,200       62,192,678,144         8       86,786,639,516       39,521,153,324       101,713,831,468	Year	r Rp)	Rp)	Rp)	
2 9,366,491,382 7,694,335,556 (31,812,426,338 3 10,318,178,567 7,682,354,013 (24,130,072,325 4 4,241,663,146 2,862,361,914 (21,267,710,411 5 2,568,875,587 1,571,189,371 (19,696,521,040 6 74,853,336,656 41,494,803,984 21,798,282,944 7 80,397,300,132 40,394,395,200 62,192,678,144 8 86,786,639,516 39,521,153,324 101,713,831,468	0	0 (20,946,000,000)	(20,946,000,000)	(20,946,000,000)	
3 10,318,178,567 7,682,354,013 (24,130,072,325 4 4,241,663,146 2,862,361,914 (21,267,710,411 5 2,568,875,587 1,571,189,371 (19,696,521,040 6 74,853,336,656 41,494,803,984 21,798,282,944 7 80,397,300,132 40,394,395,200 62,192,678,144 8 86,786,639,516 39,521,153,324 101,713,831,468	1	1 (20,478,526,631)	(18,560,761,893)	(39,506,761,893)	
4       4,241,663,146       2,862,361,914       (21,267,710,411         5       2,568,875,587       1,571,189,371       (19,696,521,040         6       74,853,336,656       41,494,803,984       21,798,282,944         7       80,397,300,132       40,394,395,200       62,192,678,144         8       86,786,639,516       39,521,153,324       101,713,831,468	2	2 9,366,491,382	7,694,335,556	(31,812,426,338)	
5 2,568,875,587 1,571,189,371 (19,696,521,040 6 74,853,336,656 41,494,803,984 21,798,282,944 7 80,397,300,132 40,394,395,200 62,192,678,144 8 86,786,639,516 39,521,153,324 101,713,831,468	3	3 10,318,178,567	7,682,354,013	(24,130,072,325)	
6 74,853,336,656 41,494,803,984 21,798,282,944 7 80,397,300,132 40,394,395,200 62,192,678,144 8 86,786,639,516 39,521,153,324 101,713,831,468	4	4 4,241,663,146	2,862,361,914	(21,267,710,411)	
7 80,397,300,132 40,394,395,200 62,192,678,144 8 86,786,639,516 39,521,153,324 101,713,831,468	5	5 2,568,875,587	1,571,189,371	(19,696,521,040)	
8 86,786,639,516 39,521,153,324 101,713,831,468	6	6 74,853,336,656	41,494,803,984	21,798,282,944	
	7	7 80,397,300,132	40,394,395,200	62,192,678,144	
	8	8 86,786,639,516	39,521,153,324	101,713,831,468	
9 92,240,989,568 38,071,306,712 139,785,138,179	9	9 92,240,989,568	38,071,306,712	139,785,138,179	
10 99,694,419,488 37,294,240,818 177,079,378,99	10	10 99,694,419,488	37,294,240,818	177,079,378,997	
Terminal	Terminal	al			
Year 3,167,625,780,244 1,184,963,002,706 1,362,042,381,70	Year	3,167,625,780,244	1,184,963,002,706	1,362,042,381,704	
Total 3,586,669,147,656 1,362,042,381,704	Total	3,586,669,147,656	1,362,042,381,704		
Discount rate 10.33%			Discount rate	10.33%	
NPV 1,362,042,381,70			NPV	1,362,042,381,704	
PI 9.4;			PI	9.45	

Table 3 Internal Rate of Return

	Table 3 Internal Rate of Return			
	Free Cash Flow	Cumulative FCF	Discounted FCF	Cumulative
Year	(inRp)	(inRp)	(inRp)	DFCF (in Rp)
	(20,946,000,00	(20,946,000,00	(20,946,000,00	(20,946,000,00
0	o)	o)	0.00)	0.00)
	(20,478,526,631	(41,424,526,631	(14,247,815,999	(35,193,815,999.
1	)	)	.49)	49)
		(32,058,035,249	4,533,943,660.2	(30,659,872,339.
2	9,366,491,382	)	2	27)
		(21,739,856,681	3,474,976,016.1	(27,184,896,323
3	10,318,178,567	)	6	.11)
				(26,191,014,979
4	4,241,663,146	(17,498,193,535)	993,881,343.53	.57)
		(14,929,317,948		(25,772,230,069
5	2,568,875,587	)	418,784,910.34	.23)
			8 <b>,</b> 490 <b>,</b> 019 <b>,</b> 897.6	(17,282,210,171.
6	74,853,336,656	59,924,018,708	5	58)

	•	•	J	
			6,344,371,408.1	(10,937,838,763.
7	80,397,300,132	140,321,318,839	4	45)
			4,764,853,994.8	(6,172,984,768.
8	86,786,639,516	227,107,958,356	2	62)
			3,523,467,494.4	(2,649,517,274.1
9	92,240,989,568	319,348,947,924	9	3)
			2,649,517,274.1	
10	99,694,419,488	419,043,367,412	3	(0.00)
Terminal	3,167,625,780,2	3,586,669,147,6		
Year	44	55		
	3,586,669,147,6			
Total	55		(0.00)	
			IRR	43.7%
			MIRR	55.5%

Table 4 Net Present Value of Safety Rate

		Free Cash Flow (in	Discounted FCF (in	Cumulative DFCF (in
Year		Rp)	Rp)	Rp)
	0	(20,946,000,000)	(20,946,000,000)	(20,946,000,000)
	1	4,314,243,993	3,910,323,367	(17,035,676,633)
	2	27,805,805,154	22,842,909,306	5,807,232,673
	3	33,620,613,656	25,033,959,571	30,841,192,244
	4	40,147,166,956	27,094,852,096	57,936,044,340
	5	46,907,146,896	28,693,192,285	86,629,236,624
	6	129,475,976,415	71,785,547,280	158,414,783,904
	7	139,360,433,453	70,031,798,465	228,446,582,369
	8	150,435,678,150	68,519,566,914	296,966,149,283
	9	162,031,036,105	66,891,346,834	363,857,496,117
:	10	175,032,075,080	65,493,370,775	429,350,866,892
Terminal				
Year		5,565,924,491,273	2,082,653,457,911	2,512,004,324,803
Total		6,454,108,667,131	2,512,004,324,803	
			Discount rate	10.33%
			NPV	2,512,004,324,803
			PI	21.5

Table 5 Rate of Return of Safety Rate

		J Mate of Meterin o		
Year / (in Rp)	Free Cash Flow	Cumulative FCF	Discounted FCF	Cumulative FCF
			(20,946,000,00	(20,946,000,00
0	(20,946,000,000)	(20,946,000,000)	o)	o)
				(18,804,225,115
1	4,314,243,993	(16,631,756,007)	2,141,774,885	)
2	27,805,805,154	11,174,049,147	6,852,889,233	(11,951,335,882)
3	33,620,613,656	44,794,662,803	4,113,514,112	(7,837,821,771)
4	40,147,166,956	84,941,829,760	2,438,548,390	(5,399,273,381)
5	46,907,146,896	131,848,976,655	1,414,440,263	(3,984,833,118)
6	129,475,976,415	261,324,953,070	1,938,223,727	(2,046,609,391)
7	139,360,433,453	400,685,386,523	1,035,674,582	(1,010,934,809)
8	150,435,678,150	551,121,064,673	555,013,818	(455,920,991)
9	162,031,036,105	713,152,100,778	296,770,190	(159,150,800)
10	175,032,075,080	888 <b>,</b> 184 <b>,</b> 175 <b>,</b> 859	159,150,800	(o)

# Terminal Year	5,565,924,491,27 3	6,454,108,667,131			
	6,454,108,667,13				
Total	1			0	
			IRR		101.4%
			MIRR		103.5%

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