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ASSESSMENT OF INVESTMENT PLAN AND FINANCING STRATEGY FOR HOBBYIST-BASED MARKETPLACE AS A NEW BUSINESS FROM PT XYZ

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Abstract

PT XYZ is a successful technology enterprise, intends to open a new business line in e-commerce with unique selling propositions as a hobbyist-based marketplace. The marketplace, ABC, has built website and application generating event registration, communities, and articles. ABC still needs to reduce bugs and acquiring sellers to sell their products on. ABC needs to seek investments to fulfill the required financing at IDR 245,000,000 since PT XYZ needs to reallocate the money to another business. It firstly needs to determine the financial feasibility study of ABC with the capital budgeting method of NPV, IRR, and Payback Period. The amount of NPV at IDR 500,722,291.51, IRR at 13.32%, and PP at 4 years 2 months and 19 days are acceptable. The risk assessment with sensitivity analysis and Monte Carlo simulation determine the accounts that are risked by the assumption from the owners, the high risk are on Bike Selling quantity and COGS also Salary (Full-Time) with the probability of positive IRR at 97.80%. ABC wants to have financing schemes of 65%, 45%, and 25% equity where PT XYZ will give IDR 25,000,000 and intangible asset of IDR 61.600.000, this makes the 25% equity cannot be used, therefore it will be changed to 35.35% equity. With total share outstanding of 10.000 shares, the sales price of A, B, and C are IDR 46,199.55, IDR 43,803.40, and IDR 42,771.43 respectively. Capital structure analysis is needed to get the best value of ownership, yet, all alternatives can be used for attracting investors.

Keywords:
Capital Budgeting; Financing Strategy; Hobbyist-Based Marketplace; Investment Plan; Risk Assessment; Valuation

1. Introduction

The rapid growth of technology in Indonesia has driven its citizens to adapt to an online platform as a primary market. This condition makes Indonesia the world's fourth-largest mobile market where Indonesia has a growing middle class of 74 million in 2019 and has improved its infrastructure to support technology and mobile growth (Cekindo, 2019). This change is an opportunity to establish a business that utilizes technology as the main platform of the business, not only for the large business but also for a small business. One of the most

promising industries in technology that can easily align with the customer is e-commerce. E-commerce is a marketplace that acts as an online intermediary designed to build relationships and facilitate transactions between buyers and sellers. The buyers have increased and are projected to keep increasing. Between 2014 and 2017, the average annual growth of online sales in Indonesia is 38% (eshopworld, 2018).

To grab the opportunities of building up e-commerce in Indonesia, PT XYZ as one of the technology enterprises in Bandung tries to expand its business to a new business line, e-commerce. PT XYZ is known for its ability toward technology advancement in several products, such as RFID systems and manufacturing systems, that have been partnered with national and multinational companies. In January 2020, they tried to establish e-commerce named ABC. ABC is considered as hobbyist-based e-commerce with specialized products since its target is to attract the cyclist community in Indonesia, not only a personal bicycle hobbyist but also its community. They found the hobbyist-based e-commerce is interesting since the company owners are the bicycle hobbyist and have joined several biking communities. Those members found difficulties in buying the right bikes and searching for accessories for their bikes. This also happens for other community members, where some of them need to buy their bicycle goods in other cities since each bike seller usually has a different model and stock.

To reach its target of the development, the ABC team has accelerated its software processability. They aimed to have both the website and the application available in the Playstore. The application is created to ease people in getting their products, read some news, and register events from ABC with a one-click-away process. The software development phase of ABC was funded by PT XYZ. Up to this time, the website and application have been established but it has not been fully operated yet since they still need to reduce bugs for the operating system and to develop further for each part of the website and application. ABC's website and the application consist of 3 main parts which are the event registration, communities, and articles. After the launch of the application at the end of February, they already have more than 1000 registered users. The current revenue stream of ABC is still based on the event registration commission from each event registered on their site. But up to this moment, their revenue stream is not enough to fulfill their operational cost, making the platform-dependent on its holding, PT XYZ. They have not reached the sellers to reach their goal as a marketplace and sells imported bike as another revenue stream.

To reach the target of becoming one of the hobbyist-based e-commerce in Indonesia, ABC needs to enhance the seller acquisition process as well as attract more customers by ensuring a fully operating website and application for product sales from bike stores or sellers as the main activity in e-commerce. Here, ABC tends to seek investment from investors amounted to IDR 245.000.000, since PT XYZ needs to relocate some of its budget for ABC that was given every month to ABC for another business line, to enhance the website and application to be fully operated in the daily operation and reduce the bugs that still exists. For the investment, ABC still wants to maintain its ownership with equity financing proportion alternatives of 25%, 45%, or 65% while PT XYZ will help them by giving IDR 25,000,000 and has intangible assets amounting to IDR 61,600,000. ABC aims to have 10.000 shares for its equity. They hope that gaining capital from other investors will escalate the business to be fully developed and reach their target in the future.

The research objective are to determine the financial feasibility study then assessing the risk of ABC’s investment plan and to determine share price alternatives for ABC financing strategy. The

research will be limited to focusing on ABC's condition and the assumptions determined by the owners and to get three financing scheme alternatives

2. Literature Review

Financial Feasibility Study

To generate a financial feasibility study of a project, commonly, the capital budgeting method is used. Capital budgeting is a control tool for a long-term planning decision that can also be used for evaluation in acquiring investment plans and making viable decisions for investing in the project as it also impacted on risks (Oki, 2018). This tool helps the decision to have an acceptable investment, then can be used to maximize the value of the investment. Several techniques can be used to evaluate the projects' planning profitability as the feasibility study. This research will use Discounted Cash Flow (DCF) techniques, Net Present Value (NPV) and Internal Rate of Return (IRR), that has become the most prevailing method for a new project and widely been used throughout the world (Lunkes, et. al, 2014) and will also use Non-Discounted Cash Flow technique, Payback Period (PP), due to its popularity for a smaller company (Gitman, 2012).

Free Cash Flow to The Firm (FCFF)

The free cash flow is associated with capital budgeting since it is counted with the approach that seeks for the best income of the company. FCFF is an approach to know the expected value the whole firm generates. This makes FCFF more friendly to be used for calculating an early-stage startup. The calculation of FCFF and can be generated as follows;

$$FCFF = OCF - NAPEX - \Delta NWC$$

Where;
OCF = Operating Cash Flow = profit/loss from the firm's operating activity
NAPEX = Net Capital Expenditure = investment made on acquiring a new asset
ΔNWC = Change in Net Working Capital = capability to utilize asset efficiently

Weighted Average Cost of Capital (WACC)

The calculation of the WACC is important to both the company for having the calculation of the investment decision and the investor for knowing the value of the company (Bajcinca, 2018).

$$WACC = CE \times \frac{E}{E+D} + CD \times \frac{D}{E+D} \times (1-T)$$

Means,
E = Total Value of Equity CE = Cost of Equity (in percentage)
D = Total Value of Debt CD = Cost of Debt (in percentage)
T = Corporate Tax

Capital Budgeting Risk Assessment

The calculation of the financial feasibility study with capital budgeting faces the uncertainty of cash flows and managerial flexibility which may lead to ambiguity of the decision-makers' assumption and undervaluing the project (Liao, 2010). This becomes a risk that needs to be encountered. Risk Management is aimed to take a range of project and organizational benefits, including the enhancement of corporate control, to have a more effective resource of allocation, improving succession chances as well as reducing the uncertainty and unexpected events (Etherton, 2007). This research will only use Sensitivity Analysis and Simulation Analysis since

Sensitivity Analysis is commonly used for companies in Asia Pacific countries, with the rate of 79% of the businesses, followed using Simulation Analysis in around 9% (Haddad, et. al, 2010).

Valuation

The valuation tool is needed to generate the right worth of the company. This also can help the company to know the proportion of the return on the investment (Miloud, 2012). With the advantages and disadvantages of the financing sources, ABC needs to combine both debt and equity financing. This means that the company will go through an investment process with investors. The prospectus investors usually seek a valuable company to put their money on. The most commonly used valuation method is through Discounted Cash Flow since it becomes the foundation of other categories. The discounted cash flow refers to the movement of the money, inflow - outflow, of the project. The discounted cash flow is integrated with the time value to have an association with the present value of the future value (Herbohn et. al, 2008).

$$Discounted\ Cash\ Flow\ = \sum_{t=1}^{t=n} \frac{FCF_t}{(1+r)^t} + \frac{Terminal\ Value}{(1+r)^t}$$

Where,

FCF = cash flow of each period r = discount rate t = time (in a year)

3. Research Methodology

Data Collection

The process of data collection for this research is generated by both primary data and secondary data with high emphasis upon the primary data. The primary data is obtained by having interviews with the owners of ABC as a reliable factor to get some assumptions. The data can be used for generating the pro forma financial statement, analyzing the risk factors, and constructing the financing schemes upon the desired condition. On the other hand, the secondary data will only be used as the benchmark for ABC owners for making assumptions throughout the accounts for financial feasibility.

Data Analysis

There are three steps of analyzing the data to achieve the objective of this research. Some of those three steps should be done repeatedly to get the right value and price per share of three alternative schemes as demanded by ABC.

Constructing a Pro Forma Financial Statement

Pro forma financial statement is a method to generate a financial statement for a company that helps to forecast the future financial condition of the company since the company has never created any financial statement before. This will use assumptions gained from the owners of the business as the baseline information included in the financial statement. After generating assumptions, the monthly pro forma can be generated along with secondary data for the rates that make an impact for each account then multiplied into the yearly pro forma financial statement. The yearly pro forma financial statement will be created for five years long since it is still reliable for the business growth process of the company and its plan upon the investment. The pro forma financial statement consists of the Income Statement, Balance Sheets, and Cash Flow Statement since all the financial statements are needed for a start-up e-commerce. After the pro forma financial statements are generated, the free cash flow of the firm (FCFF) can be calculated through several steps to generate the feasibility study. After knowing the free cash

flow of the firm that can be used in every year, there will be calculation in the weighted average cost of capital (WACC) to know the cost of capital from both debt and equity in their weight with several steps including Cost of Debt, Cost of Equity, Weight of Debt, Weight of Equity. The weight of debt and weight of equity will have its sums as 100%, The cost of debt indicating the percentage of interests with the liability in the bank loan with its effective tax from corporate tax, while The cost of equity is determined by the Capital Asset Pricing Model which having the equation as follows:

$$R = Rf + \beta \times (Rm - Rf)$$

Where,
Rf = Risk-Free Rate Rm = Market return β= Beta Coefficient

Conducting Financial Feasibility Study Analysis
The result of pro forma financial statements can be used for obtaining the financial feasibility of the company toward their investment plan in their project along with its risk assessment. Feasibility analysis will use the capital budgeting techniques such as NPV, IRR, and Payback Period and is going to be analyzed from each of the techniques. The risk assessment helps the company preparing to face the cash flow uncertainty and considering the deviation due to the assumption. Risk assessment is helped by sensitivity analysis with excel Data Table of NPV and Monte Carlo simulation with 1000 trials.

Assessing Financing Strategy
The company has stated that they want to share ownership ranging on 65%, 45%, and 25% equity shares of the financing requirement deducted by PT XYZ capital is given. It firstly needs to know the value of the company using a valuation technique of discounted cash flow of total value. The free cash flow of the firm and cost of capital needs to be recalculated into each of the scheme alternatives, thus this can change the net present value of the investment plan. The result can calculate the terminal value that helps in calculating the firm value during its steady state. The calculation of terminal value will be different for each scheme since the terminal value depends on WACC, which will be different, for financing scheme alternatives.

$$Terminal\ Value = \frac{FCFFn \times (1+g)}{(WACC - g)}$$

Where,
FCFFn = Free Cash Flow to the Firm at n years g = growth rate at perpetuity
WACC = Weighted Average Cost of Capital

The terminal value can help to generate a total value which then the price per share of the company will be calculated based on the proportion of debt and equity from each scheme alternatives that have been chosen before. The number of shares that will be issued also has determined by ABC. Therefore the calculation of price per share will be formulated as follows:

$$Price\ Per\ Share = \frac{New\ Financing\ Required}{Shares\ Issued}$$

The external financing required is the result of the initial investment subtracted by the contribution of the current shareholder, PT. ABC gives an amount of capital to ABC and the constructed debt that is used by the company. To get the number of new shares issued to investors, it can be determined from:

$$New\ Share\ Issued = \frac{Equity\ Value}{Price\ per\ Share}$$

Where,
Equity Value = Total Value of The Firm – Long Term Debt – Existing Value

4. Result and Discussion

Business Overview

At first, ABC only tried operating by becoming the media partner that gave information regarding the bicycle and helped to promote business. Then they found it becoming their opportunity when they help make the registration form for events on their website. They are developing their website along with an application. On their website and application, there have been 3 main parts, which are the event registration, communities, and articles. Now they want to move forward, without leaving the current parts, to the e-commerce part on fulfilling their target of meeting the sellers and the hobbyist to buy bicycle products and accessories easily. In this business, they aimed to get a source of profit from the event registration and transaction fee commission. On the other hand, they want to sell their exclusive bike with a pre-order system in which the bikes are imported and provide advertisements from the website and application.

To be fully operated as a single business line, ABC needs financing for their capital. Unluckily, PT XYZ will relocate their money for another business line and will not give much money to ABC afterward. The financing requirement will be based on working capital, inventory, and fixed assets. The cash, as its working capital, is needed for their safety cash in several first months. Inventory is the existing value of ABC that has been made on the development process with PT XYZ since the first establishment of ABC in January 2020 that consists of the website and application development as well as the Registration Fee on google developer as it has built-in ABC's application on play store. The financing requirement is IDR 245,000,000 in total with IDR 55,000,000 of working capital, IDR 124,900,000 of tangible asset, and IDR 65,100,000 of intangible asset. The financing requirement is needed to have its financing strategy as it will be capitalized using both debt and equity. ABC wishes to have 3 financing scheme alternatives that will use equity for 65%, 45%, and 25%. PT XYZ will still give them money for its capital amounting to IDR 25.000.000 in a wish for having the equity of ABC.

Constructing a Pro Forma Financial Statement

The assumption of accounts in the pro forma financial statement will be based on the opinion of the company owners that have been generated in the interview and the rate of the increasing number in the financial statement will be based on secondary data of the Indonesian market. In this research, the assumption will only be accounted for in the Income Statement and Balance Sheet since the Cash Flow Statement can be generated afterward. After generating the assumptions and the financial statement, the pro forma financial statement is generated. The free cash flow to the firm is calculated based on the yearly income statement and balance sheet to see the free cash flow from year 0 until year 5. The calculation of free cash flow to the firm is used for acknowledging the money that later is used for the feasibility study with FCFF on year 5 amounted to IDR 235,030,613.

The cost of capital will use the weighted average cost of capital (WACC) method. The cost of debt generated by the interest rate from Bank DBS Indonesia has amounted to 7.07% with the

tenor of 5 years while the corporate tax rate will be 0%. The cost of equity uses the risk-free rate is used from Bank Indonesia investment risk-free IBPA rate for 10 years amounted to 8.14%. The market return is calculated with compound annual growth rate with the value from the IHSG return of 10.48% then the cost of equity will be 9.81%. therefore, the WACC of 100% equity, based on the generated pro forma financial statement will be 9.81%. the terminal value will use growth rate is calculated as 3.5% based on the calculation using the compound annual growth rate of bicycle and its component market. With the value of WACC given, the terminal value is IDR 365,396,246.37.37.

Conducting Feasibility Analysis

Based on the calculation of feasibility, the NPV of ABC is IDR 500,722,291.51 while IRR is 13.32%, and the payback period is 4 years 2 months and 19 days. This makes the investment plan for ABC is considered feasible since NPV is more than zero, the IRR is higher than the WACC, and the payback period is less than 4,5 years since it is the maximum expected return from the interview with owners. Sensitivity analysis will increase and decrease the variable of income and expenses from income statements by 10% to see the swings of the net present value. The NPV swings are also seen on the tornado chart below which shows three accounts changing more the NPV the account's change, the Bike Selling Sales Price, Bike Selling COGS, and Salary – Full Time. Monte Carlo Simulation will use the three most sensitive to carry out 1000 times of the probability to see the occurrence of the NPV from the probability distribution. The probability of NPV is higher than 0 is counted as 97.40% with the base case of NPV of IDR 500,722,291.5 This shows that the investment project of ABC is having minimum NPV is on IDR (467,345,679.4) and the maximum NPV will be IDR 1,666,882,746. The changes are affected a lot in the bike selling, to reduce the risk, ABC can reconsider and determine the time on giving discount and negotiate the discount price to its supplier. On the other hand, the salary (full-time) is higher than the average of PT XYZ giving salary to its employees.

Assessing Financing Strategy

There are several steps to assessing the financing strategy of ABC. ABC wants to have several financing strategies, divided into 3 alternative schemes, that use both long-term debt and equity. From generated scheme alternatives, the amount of equity and debt that will be used can be determined from the financing requirement with a total amount of IDR 245,000,000. This shows scheme A has equity of 65%, 35% debt, and IDR 159,250,000 equity required, while scheme B has equity of 45%, 55% debt, and IDR 110,250,000 equity required, and scheme C has equity of 25%, 75% debt, and IDR 61,250,000 equity required. Based on data, the scheme C cannot be used since the equity required is lower than the equity value has by PT XYZ with the intangible asset amounted to IDR 61,600,000 and cash of IDR 25,000,000. Here, the equity value of PT XYZ that has been on ABC is IDR 86,600,000. Thus, the alternative form of scheme C will be having equity required as much as PT XYZ's on ABC, with the percentage of equity of 35.35% and debt of 64.65%. The value of the company is needed to know since it becomes the reason investors put the money on the company. To know the price per share, it first needs to see the terminal value and total value. The terminal value will get bigger since the WACC gets lower or the more debt used. The same goes for total value where the more debt used, the more total value will be obtained, in which the scheme C gets the highest total value on IDR 586,114,285 while scheme A gets IDR 547,745,524. The calculation of price per share can be determined from the total equity value. The total equity value is the total value minus debt value and preferred stock value. Since there is no preferred stock available, the total equity value will neglect preferred stock. After knowing the equity value, the calculation of price

per share can be obtained. ABC wishes to have the overall of 10.000 shares. Therefore, the price per share will be equity value divided total shares of scheme A at IDR 46,199.55, scheme B at IDR 43,803.40, and scheme C at IDR 42,771.43. PT XYZ will give funds at IDR 25.000.000 as cash and PT XYZ has helped to make the website and application and making an account to Google Developer valuing to IDR 61,600,000. The total equity that PT XYZ has on ABC will amount to IDR 86,600,000. Therefore, not all the shares will be no new equity required. After getting the value of new equity required and the price per share has been calculated, the amount of new share issuance to investors can be determined from new equity required divided with the price per share will be 1572.53 shares on scheme A and 529.91 shares on scheme B.

5. Conclusion

The new business line of PT XYZ, named ABC, has shown its financial feasibility using the analysis of Net Present Value, Internal Rate of Return, and Payback Period. Based on the first assumption with 100% of the equity, the calculation of NPV is IDR 500,722,291.51while the internal rate of return (IRR) is 13.315%and payback period (PP) is 4 years 2 months and 19 days. The calculation of NPV higher than 0, IRR higher than WACC, and Payback Period lower than maximum expectation means to be feasible. The calculation above says it all where the WACC is 9.81% and the maximum expected payback period is 4.5 years. Since the calculation is based on the assumptions of the owners, there will be deviations of the assumption and the risk that will occur. The risk is calculated using Sensitivity Analysis and Monte Carlo Simulation Analysis shows that the two most sensitive factors for ABC are bike selling on the revenue, bike selling COGS, and salary (full-time) for the expense.

The financing scheme that is demanded by the ABC team is to have a combination of debt and equity. PT XYZ is intended to give equity as fresh money for IDR 25,000,000 and has given intangible assets amounted to IDR 86,600,000. From the debt financing, ABC wants to have a total of 10.000 shares with the combination of shares that PT XYZ has and new issuance to investors. In this research, three alternative schemes are assessed, the first scheme (A) is having 65% equity and 35% debt, the second scheme (B) is having 45% equity and 55% debt, and the third scheme (C) is 25% equity and 75% debt, but since the equity that has given by PT XYZ is counted higher than 25%, the calculation of third scheme (C) is changed to 35.45% equity and 64.65% debt. This condition shows that the more the debt is used, the lower WACC, the higher NPV, and the higher the total value calculated to ABC. From each scheme, the sales price of A is IDR 46,199.55 B is IDR 43,803.40, and C is IDR 42,771.43 with the total share outstanding at 10.000. From each scheme, PT XYZ can get 10,000 shares if using scheme C, 9,470.09 on scheme B, and 8,427.47 on scheme A while the new investors will get 5.40% on scheme A and 15.73%. These financing schemes with the share price can be used by ABC in determining their needs for investment in the future. To improve the result of this research, to get to know the total ownership, ABC is needed to make the capital structure analysis in determining the financing scheme that is the best to use for the company itself and attracting investors at most).

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