

Investment Feasibility Analysis of Seedbed Tray Investment in Tobacco Nursery for Sumberkalong Farmers - Kalisat, Jember

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Abstract : *The development and establishment of a business consists of many activities, one of them is investment. The investment activity in this research is basically a project. The company's total business consists of businesses that are already running and new projects. This research is more devoted to examining financial aspects with investment estimation: Net Present Value (NPV), Discounted Payback Period (DPP), Internal Rate of Return (IRR). Many studies have been conducted on financial feasibility. However, some things have not shown success and there are research gaps. The results of this study have a major influence on the feasibility of investing in seedbed trays in tobacco nurseries in Sumber Kalong Village - Kalisat, Jember. This decision making is based on existing theories. Even the role of the feasibility of investing in a seedbed tray, which is expected to be able to make a seedbed tray in a tobacco nursery in Sumber Kalong Village - Kalisat, Jember will be better than other areas that have achieved their goals.*

Keywords: *Discounted Payback Period, Internal Rate of Return, Monte Carlo Simulation, Net Present Value.*

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I. Introduction

Investment activities will always face risks and uncertainties, the bigger of the difference, will make the greater of the risk of the project. The risk of investing in a project may fluctuate or even change frequently from one period to another over the course of the investment cash flow of a project. The possible risk and uncertainty that must be fully understood. Based on field studies, it shows that there are still many investment actors who make fault in making decisions that cause a fail project or go bankrupt.

The empirical phenomenon in this study is that the research location is in Sumber Kalong Village, Kalisat Jember District with the respondent or resource person being farmers from the village. As seen from the statistical data table 1.2, Sumber Kalong Village is one of the villages with the lowest tobacco production, but for other commodities such as rice production, Sumber Kalong Village is one of the villages with the highest production. With the brand mark as one of the villages with the lowest tobacco production, it is necessary to know the feasibility of investing a seedbed tray in a tobacco nursery in Sumber Kalong Village - Kalisat, Jember. Another tobacco nursery uses the seedbed tray method. The seedbed tray or what is commonly referred to as the seed tray is a container for seeds or seeds to be sown or grown for a certain time before being transferred or planted in the field. Seed trays are made of PVC plastic which consists of several variations of the number of holes as seed containers, including 12 holes, 32 holes, 50 holes, 72 holes, 105 holes, 128 holes and 200 holes. Tobacco nurseries using the seedbed tray method as a substitute for conventional nurseries for farmers in Sumber Kalong Village - Kalisat, Jember have an average investment value of IDR 12,500 per 1 tray. The main purpose of replacing this nursery method is to increase the effectiveness work and carry out cost efficiency in order to maximize farmer profits. With the application of this method, the seeds are expected to be able to grow with the same planting age, reduce the risk of death of the seedlings, have stronger and healthier roots, provide fertilizers and irrigate on time in order to protect from harmful pests. The application of this latest method is able to increase better harvest so that they can maximize profits from farmers' crops.

II. Literatur Review

Tandelilin (2010: 8) investment is a commitment to amount of funds or other resources that are carried out at this time, the purpose is to make profits in the future. Kasmir and Jakfar (2012: 6) investment is make assets in an activity that has a relatively long period of time in various business midwives. Investments that are invested in a narrow sense are in the form of certain projects, both physical and non-physical, such as projects for establishing factories, roads, bridges, building construction and research and development projects. Based on the definitions of investment above, it can be concluded that investment is a project activity carried out by a

company to obtain future benefits. Every business actor that carries out investment activities has certain objectives.

Prihadi (2013: 184) stated that the Net Present Value (NPV) method is the difference between the present value of investment costs and the present value of net cash flows. The Net Present Value (NPV) method is carried out by discounting cash flows during the economic life using a discount rate / discount factor in accordance with the interest rate required by investors or business actors. The project is feasible to run, if the Net Present Value (NPV) is positive or greater than the initial investment cost, which means that the intrinsic value of the project is greater than the investment. If the Net Present Value (NPV) is positive or greater than the initial investment cost, it showed that the project cash flow is sufficient to pay back the invested capital and provides the required level of return on the cost of capital (cost of project capital).

Sartono (2012: 195) stated that the Discounted Payback Period (DPP) method is basically the same as the payback period method, which is to analyze when an investment will return. The determine of the payback period does not use net cash flow but uses discounted net cash flow. The Discounted Payback Period (DPP) method is carried out by discounting cash flows during the economic life with a discount rate / discount factor in accordance with the interest rate that is required by investors or business actors. The criteria for determining project worthiness are if the Discounted Payback Period (DPP) is faster than the break-even point or break event point is required by the investor or business actor, the project is reasonable to run and if the Discounted Payback Period (DPP) is longer than the point time, break event or return on capital Break Event Point (BEP) is required by investors or business actors, the project is not reasonable to run.

Sartono (2012: 198) states that the Internal Rate of Return (IRR) is a discount rate (discount rate) that equates the present value of incoming cash with the present value of cash out. In other words, the Internal Rate of Return (IRR) is a discount rate that makes Net Present Value (NPV) equal to zero. Internal Rate of Return (IRR) is also defined as "the rate of profit expected to be generated by the project" or "expected of return". The criteria determine the feasibility of a project, if the Internal Rate of Return (IRR) is greater than the required interest rate, the project is feasible to run. If the Internal Rate of Return (IRR) is less than the required interest rate, the project is not feasible to run.

Monte Carlo simulation is defined as all statistical sampling techniques used to estimate solutions to quantitative problems (Monte Carlo Method, 2008). In a Monte Carlo simulation a model is built based on the actual system. Each variable in the model has a value that has a different probability, which is indicated by the probability distribution or commonly known as the probability distribution function (pdf) of each variable. The Monte Carlo method simulates the system repeatedly, hundreds or even thousands of times depending on the system being studied, by selecting a random value for each variable from its probability distribution. The result from the simulation is a probability distribution of the value of all system.

III. Conceptual Model

The conceptual framework in this research had the purpose to analyze and describe the main problems easier in the research. The conceptual framework below shown how the mechanism in determining the feasibility of a High-Tech Warehouse developing for Farmers in Kalisat District, Jember - East Java.

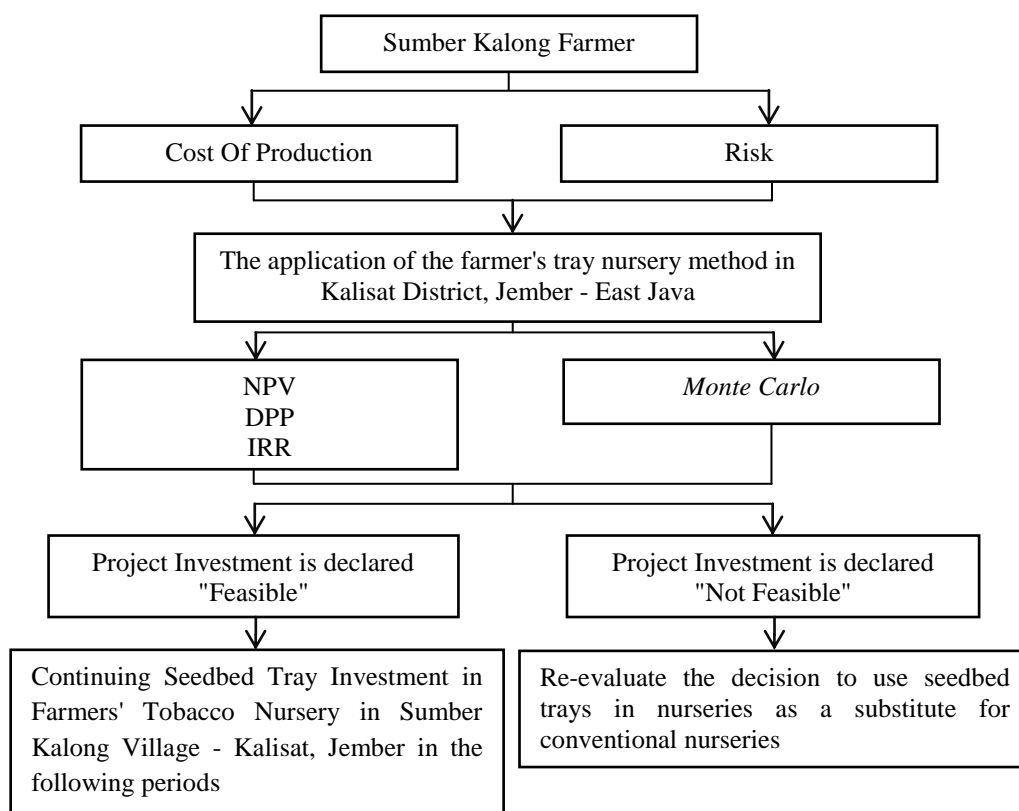


Image.1 Conceptual Model Research

IV. Conclusion

NPV is the cash flow that is estimated in the future after being discounted by using the discount factor to the present value. Based on the calculation of 40 simulations or 40 experiments for each financing plan, the NPV that is resulted has all positive results with different values. A positive NPV value explained that the cash flow generated from investing in the replacement of the Seedbed Tray seedling method during the economic life of 5 years if it is deducted from the purchase value of a new production machine, there is still a residual or more. If the farmer partners group of Sumber Kalong village runs out investment activities to replace the Seedbed Tray nursery method, it can be estimated that the investment activity of replacing the Seedbed Tray nursery method will provide benefits for the farmer partners Group of Sumber Kalong Village with any funding.

IRR is the interest rate where the net present value of the cash flow of the investment or project is equal to 0, the meaning is the calculation of the rate of return or WACC is a benchmark or standard which states that with the WACC value, the investment will be equal. Based on the calculation of 40 IRR simulations for each financing plan, the overall results are above or greater than the WACC value, where the IRR value has different values. Based on the results of the IRR calculation, the investment plan for replacing the Seedbed Tray seedling method is feasible, because for 5 years of economic life, the farmer partner Group of Sumber Kalong Village will get a fairly large rate of return.

DPP is a method for calculating the time period that is needed for the capital to be used to runs out the investment plan for replacing the Seedbed Tray nursery method. Based on calculations with 40 DPP simulations or 40 DPP trials, the payback period for financing 60% of their own capital and 40% of bank loans produces a payback period that matches with the payback period as willing by the farmer partners Group of Sumber Kalong village, that is around the longest is 3 years. It can be concluded that if the farmer partners Group of Sumber Kalong village used 60% of their own capital and 40% of the bank loan, the investment plan for replacing the Seedbed Tray nursery method is reasonable.

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