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Analysis of Investment Decision Assessment Using the Net Present Value (NVP) Method at PT Bank Mandiri (Persero) Tbk

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Abstract

This paper explores the fundamental elements of a robust business management strategy, essential for sustained success in the dynamic business landscape. It delves into crucial components such as investment decision-making, comprehensive planning, business development, and judicious risk-taking. These strategic decisions not only influence immediate financial performance but also contribute to long-term benefits such as market growth and heightened competitiveness. Focusing on the banking sector, the paper acknowledges the potential for substantial returns juxtaposed with inherent risks. Emphasizing that these risks are manageable, particularly in the stock market, it advocates for a meticulous approach to investment decision analysis. The strategic choices made in this process play a pivotal role in maximizing returns while minimizing the impact of stock market risks. With a preference for the Net Present Value (NPV) method highlighted in the literature review, the paper underlines the significance of comprehensive investment decision analysis.

Keywords: business management, investment decision-making, Net Present Value (NPV), financial analysis, investment feasibility

1. Introduction

In the dynamic landscape of business, a well-crafted business management strategy serves as the linchpin for fostering growth and ensuring the sustained success of any enterprise. Key components of this strategy encompass pivotal facets such as investment decision-making, comprehensive investment planning, astute business development, and judicious risk-taking in the realm of investments. The ramifications of these decisions are far-reaching, capable of ushering in long-term benefits that span improved financial performance, expanded market growth, and heightened competitiveness.

Within the realm of lucrative opportunities, investments in the banking sector stand out as exemplars of potentially substantial returns. Yet, this realm is not without its inherent risks. It is crucial, however, to recognize that the risks associated with investments, particularly in the stock market, are not insurmountable challenges. Rather, they can be effectively calculated and managed. The nuanced interplay between risk and reward necessitates a meticulous approach to investment decision analysis. Making informed and judicious choices in this regard holds the key to not only maximizing returns but also minimizing the impact of stock market risks.

Navigating the intricacies of the banking sector, for instance, demands a discerning eye toward investment decision analysis. Beyond the allure of promising returns, the astute investor must confront the inherent uncertainties and fluctuations within the stock market. However, the apparent volatility need not deter strategic endeavors. Instead, it underscores the importance of strategic decision-making in mitigating potential risks and optimizing outcomes. The symbiotic relationship between prudent investment decisions and overall business viability becomes increasingly apparent as stakeholders weigh the prospects of initiating, delaying, or reevaluating their business ventures.

In this intricate dance of risk and reward, the onus falls on business actors to engage in comprehensive investment risk assessment. Strategic decision-making, anchored in thorough analysis and foresight, becomes the compass guiding businesses through the complexities of the market. Whether it involves embracing the opportunities in the

banking sector or other domains, the significance of investment decision analysis cannot be overstated. As companies grapple with the pivotal question of pursuing, delaying, or revisiting a business initiative, the impact of investment decisions resonates profoundly, shaping the trajectory of their success in the ever-evolving landscape of commerce.

2. Literature Review

According to Damodaran (2012), analysis of investment decision assessment, a crucial aspect in the business realm, involves the evaluation of investments to predict their future performance, estimate profitability, and examine associated risks. This intricate process is commonly known as capital budgeting.

According to Juhász (2011), two primary approaches dominate this field of analysis: the internal rate of return (IRR) method and the net present value (NPV) method.

According to John (2019), in the IRR method, investors embark on the calculation of the investment's yield rate by assessing NPV(i)=0. The derived yield rate is then juxtaposed with the investor's preferred interest rate. Consequently, if the IRR falls short of the preferred interest rate, the investment faces rejection. However, it's imperative to acknowledge several shortcomings inherent in the IRR method, including issues of delayed investments, multiple IRRs, and the potential for nonexistent IRR.

According to Espinoza & Morris (2013), conversely, the NPV method entails computing the total present value of future returns, offset by the contribution for the investment. Here, investors discard investments with negative NPV and favor those with the highest positive NPV. Decision-making in this method hinges on the selection of the cost of capital or interest rate.

According to Shahriar (2021), successful application of the NPV method necessitates an initial forecast of the investment's returns. Universally regarded as the best and most accurate method for investment decisions, particularly when juxtaposed with the IRR method (Johnson, 2022), this paper unequivocally adopts the NPV method as the preferred approach for guiding investment decisions.

3. Materials and Methods

3.1. Materials

Research in this scientific paper use data from PT Bank Mandiri (Persero) Tbk which collected from the company's annual financial statement from 2013 until 2017. The data used in this research is the free cash flow and investment value (capital expenditure).

3.2. Methods

This research was carried out with quantitative analysis based on historical data from PT Bank Mandiri (Persero) Tbk which was collected from the company's annual financial statements from 2013 to 2017 using the net present value method of the difference between free cash flow and total investments of the company in a year (capital expenditure). The net present value calculated is net present value for investment at 2012.

3.2.1. Net Present Value

To calculate net present value (NPV) of the investment, first we must know the formula for calculate present value of one cashflow on the future:

$$PV = FV \times v^n$$
$$PV = \frac{FV}{(1+i)^n}$$

Where
PV :present value
FV :future value
v :discount factor
n :time of investment
i :effective interest rate (cost of capital) for n periods

From this formula, we can get net present value formula for cashflows from different time:

$$NPV = C_0 + \frac{C_1}{(1+i)} + \frac{C_2}{(1+i)^2} + \cdots + \frac{C_n}{(1+i)^n}$$
$$= C_0 + C_1 v + C_2 v^2 + \cdots + C_n v^n$$

Where
NPV :net present value
C_t : cash flow at time t

3.2.2. Internal Rate of Return

$$\text{IRR} = \frac{\text{Present Value}}{\text{Present Vale Net Cash Flow}} \times 100\%$$

4. Results and Discussion

NPV = total present value net cash flow - total present value investment

$$2013 = \frac{111{,}503{,}789}{(1+0.05)^1}$$
$$= 106{,}194{,}084.8$$

$$2014 = \frac{121{,}023{,}158}{(1+0.05)^2}$$
$$= 118{,}071{,}373.67$$

$$2015 = \frac{138{,}804{,}383}{(1+0.05)^3}$$
$$= 119{,}904{,}444.9$$

$$2016 = \frac{125{,}667{,}407}{(1+0.05)^4}$$
$$= 103{,}386{,}567.8$$

$$2017 = \frac{157{,}560{,}107}{(1+0.05)^5}$$
$$= 123{,}093{,}833.6$$

NPV = total present value net cash flow-total present investment

$$\text{NPV} = (106{,}194{,}084.8 + 118{,}071{,}373.67 + 119{,}904{,}444.9 + 103{,}386{,}567.8 + 123{,}093{,}833.6) - 56{,}304{,}152$$

$$\text{NPV} = 570{,}650{,}304.77 - 56{,}304{,}152 = 514{,}346{,}152.77$$

Based on the Net Present Value (NPV) calculations, it can be determined that the investment feasibility level of PT Bank Mandiri (Persero) Tbk for the five years from 2013 to 2017 is acceptable because the Net Present Value (NPV) is greater than 0.

This research employed a quantitative analysis based on historical data obtained from PT Bank Mandiri (Persero) Tbk. The data, extracted from the company's annual financial statements spanning from 2013 to 2017, was utilized in conjunction with the Net Present Value (NPV) method. The NPV was calculated as the difference between free cash flow and total investments (capital expenditure) for each respective year.

By incorporating the Internal Rate of Return (IRR) for comparison, the translation would be:

$$\text{IRR} = \frac{\text{Present Value}}{\text{Present Vale Net Cash Flow}} \times 100\%$$

$$2013 = \frac{327{,}680}{5508449} \times 100\% = 6\%$$

$$2014 = \frac{612{,}154}{6{,}525{,}974} \times 100\% = 9\%$$

$$2015 = \frac{766{,}524}{3{,}496{,}231} \times 100\% = 22\%$$

$$2016 = \frac{598{,}359}{778{,}320} \times 100\% = 77\%$$

$$2017 = \frac{829{,}945}{1{,}974{,}522} \times 100\% = 42\%$$

Based on the results of the Internal Rate of Return (IRR) calculation, the feasibility level of the investment in PT Bank Mandiri (Persero) Tbk for five years from 2013 to 2017 indicates that the project was accepted.

5. Conclusion

Based on the Net Present Value (NPV) calculations, the investment feasibility assessment for PT Bank Mandiri (Persero) Tbk over the period from 2013 to 2017 is positive, as the NPV is greater than zero. The total NPV for the five-year period is IDR 514,346,152.77.

Furthermore, incorporating the Internal Rate of Return (IRR) into the analysis provides additional insight. The IRR percentages for each year (ranging from 6% to 77%) demonstrate the return on investment for PT Bank Mandiri (Persero) Tbk. These IRR values, when compared to the cost of capital or other relevant benchmarks, can offer a comprehensive evaluation of the project's financial viability.

In summary, both NPV and IRR analyses suggest that the investment made by PT Bank Mandiri (Persero) Tbk during the specified period is acceptable and potentially lucrative. These findings provide valuable insights for decision-makers and stakeholders, supporting the positive impact of the investment over the five-year duration.

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