

Evaluating Educational Infrastructure Projects Using Capital Budgeting and Monte Carlo Simulation: A Case of PPNI Foundation

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ABSTRACT

This study evaluates the financial feasibility of constructing a new Madrasah Tsanawiyah building at PPNI Foundation in East Lampung, Indonesia, using capital budgeting methods and Monte Carlo simulation. The research applies Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period (PBP), and Profitability Index (PI) to assess project viability. Sensitivity analysis identifies the most influential variables, while Monte Carlo simulation measures probabilistic risks. Findings indicate an NPV of IDR 18.57 billion, an IRR of 19.89%, a PI of 1.288, and a PBP of 5.23 years, confirming project feasibility. Sensitivity analysis highlights WACC, donation fee growth, and enrollment fee changes as key factors. The results guide strategic decisions and risk mitigation in educational infrastructure investments.

INTRODUCTION

Education is essential in a country's socio-economic development (Nowmax, 2023). As Indonesia progresses, the need for quality education infrastructure becomes increasingly apparent. The country's commitment to improving its educational landscape is enshrined in the 1945 Constitution (UUD 1945), which affirms that every Indonesian citizen has the right to education in line with the objectives of the Unitary State of the Republic of Indonesia. This drives demand for education, which the government often needs more funds to meet. The private sector is present as a solution to meet this demand. Private schools help meet educational needs and become a choice for the community. In Indonesia, the role of private schools is increasingly visible, especially at the high school level. In the 2018/2019 academic year, the ratio between public and private high schools almost reached 1:1 (Ulfa, 2020).

As outlined in the National Education System Law No. 20 of 2003, the education system in Indonesia is categorized into primary, secondary, and higher education levels. The system is further elaborated in Government Regulation No. 19 of 2005 on National Education Standards, which describes the criteria and benchmarks for education facilities and services. Despite the government's initiative to make twelve years of education compulsory under the "National Medium-Term Development Plan (RPJMN) 2015-2019," challenges remain, especially in accommodating the growing student population. According to the Ministry of Education and Culture (MoEC), the number of students significantly increased from 2019 to 2024, putting a strain on existing educational facilities.

Madrasah tsanawiyah education is one level of formal education in Indonesia that has a vital role in producing a young generation of believers and noble characters. Currently, the need for new classrooms in Tsanawiyah madrasas is increasing along with the increasing number of students. Research shows that classroom space can positively impact the quality of learning. According to Baticados and Payongayong (2019), a lack of classroom space can cause overcrowding in the classroom, which can disrupt students' concentration and reduce the quality of learning. In Indonesia, educational infrastructure still needs to be improved, especially in remote areas. According to Smith and Jones (2017), many Tsanawiyah madrasas in remote areas still need more classrooms. This is a big challenge for the government and related parties to improve the quality of Islamic boarding school education in Indonesia.

In East Lampung, the PPNI Foundation realizes the educational aspirations of the region as a private educational foundation that houses eight institutions: Kindergarten, Madrasah Ibtida'iyah, Junior High School, Madrasah Tsanawiyah, Vocational High School, Madrasah Aliyah, and DU Sharia College. With a current enrollment of 1257 students and to welcome the upcoming school year 2024/2025, the foundation is facing a critical problem, especially at Madrasah Tsanawiyah, where the shortage of classrooms is a pressing issue for 470 students from grade 7 to grade 9. The foundation needs to build a new building to meet the increasing demand of students. Limited classroom space affects students' learning comfort and concentration and curbs schools' potential to adopt innovative and inclusive teaching methods.

In response to the escalating demand for educational spaces that align with the growing student population, the proposed construction of a new building, Madrasah Tsanawiyah, emerges as a critical development project. This initiative, while pivotal, presents a multifaceted business issue encompassing the strategic, financial, and operational dimensions of such an expansion.

At the strategic level, the project underscores the foundation's commitment to fostering educational excellence and accommodating a larger student body. The new building represents a tangible step towards achieving this goal, requiring a meticulous analysis of its alignment with long-term educational objectives and regional development plans. The strategic plan involves a significant expansion, and this study will evaluate how this aligns with the foundation's vision and mission.

By considering these aspects, feasibility studies provide valuable insights for decision-makers. The study helps determine whether the PPNI foundation's financially sound project fits within the company's risk tolerance and has a reasonable chance of success. A well-conducted feasibility study will ultimately increase the likelihood of achieving the PPNI Foundation's objectives and maximizing the return on investment. This study aims to analyze the feasibility of investment in constructing a new classroom building for Madrasah Tsanawiyah so that the foundation can see how feasible this project is as a reference for decision-making from the project analysis results.

LITERATURE REVIEW

Capital budgeting is a financial management process for evaluating and selecting long-term investments that are consistent with the firm's goal of maximizing owner wealth (Gitman & Zutter, 2015). Common tools include Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period (PBP), and Profitability Index (PI). NPV calculates the present value of future cash flows minus initial investment; IRR identifies the discount rate at which NPV equals zero; PBP measures the time required to recover the investment; and PI indicates value creation per unit of investment. Previous research (e.g., Brigham & Ehrhardt, 2017) supports that projects with positive NPV, IRR exceeding the cost of capital, $PI > 1$, and acceptable PBP are considered financially feasible. H1: The proposed educational infrastructure project will demonstrate financial feasibility through positive NPV, IRR above WACC, PI greater than 1, and PBP within acceptable limits.

Risk analysis in capital budgeting involves identifying variables that could significantly influence project outcomes. Sensitivity analysis examines the impact of changes in key assumptions, while Monte Carlo simulation models uncertainty by running numerous iterations with varying input variables to generate probability distributions of outcomes (Glasserman, 2004; Allen et al., 2017). These methods help decision-makers understand risk exposure and make informed investment choices. Prior studies (e.g., Baticados & Payongayong, 2019) have shown that integrating sensitivity analysis and Monte Carlo simulation improves the robustness of feasibility assessments for infrastructure projects. Variations in key financial and operational variables, such as WACC, enrollment

fees, and committee donations, significantly affect the project's financial feasibility.

The framework of this study integrates capital budgeting metrics with risk analysis tools. The process begins with projecting cash flows, followed by calculating NPV, IRR, PI, and PBP. Sensitivity analysis then tests the impact of individual variable changes, and Monte Carlo simulation evaluates the combined effect of uncertainties on project viability.

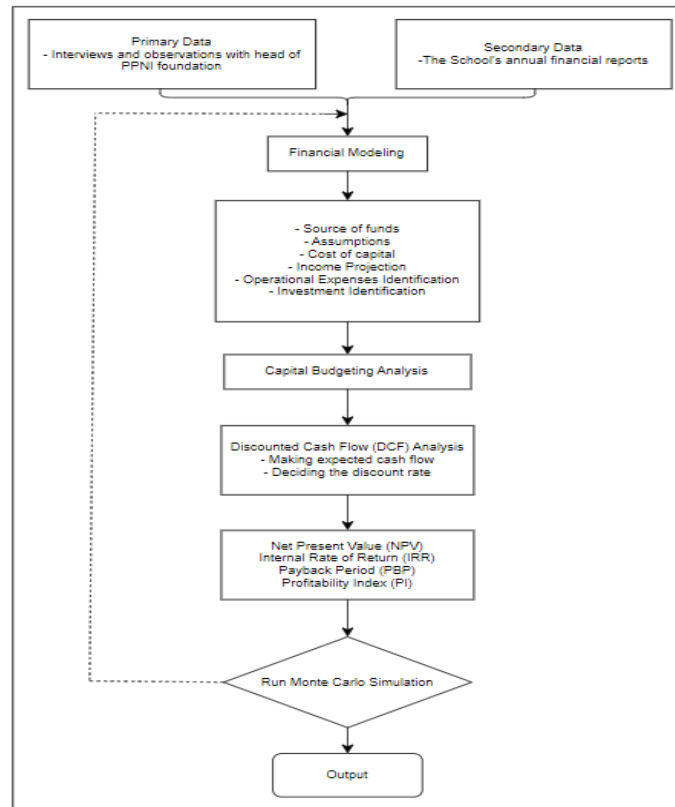


Figure 1. Conceptual Framework

METHODOLOGY

The research methodology is a systematic plan to guide the analysis of a study, from choosing the right approach to data collection and analysis. This research uses quantitative methods to analyze data from the PPNI Foundation and other sources such as financial reports, books, journals, and articles. The data obtained will be used to analyze the formulas needed to achieve the objectives of this research. The aim is to get information about the needs and conditions of the PPNI Foundation, assess the feasibility of building a new junior high school building, and provide appropriate recommendations. Primary data is obtained from interviews with relevant parties, while secondary data is obtained from various written sources such as financial reports, articles, journals, and books. From the results of the analysis in the form of recommendations on the topic of business problems, we will make a project plan related to this research. At the end of the study, the author will report the results and suggestions regarding the project.

This research is divided into five structured chapters. The first chapter discusses the background and identification of research problems. Then, the research objectives were formulated and converted into research questions. The second chapter focuses on the theoretical and conceptual framework, followed by selecting research methods. The research method used is quantitative, with primary data obtained through interviews with experts and management at the PPNI foundation and secondary data obtained from internal company data. These data are analyzed in the fourth chapter to generate business solutions and recommendations, as well as conclusions and a research implementation plan in the last chapter.

2.1 Capital Budgeting Techniques

1. Capital Budgeting

Financial feasibility studies, as outlined by Gitman & Zutter (2015), rely on various parameters to assess the feasibility of a project below:

Net Present Value (NPV)

In investment planning, Net Present Value (NPV) helps assess the projected profitability of an investment. NPV calculates the difference between the present value of future cash inflows and outflows over a specified period. Taking into account the discount rate, NPV determines the value of future payments. A positive NPV indicates the discounted future income from the project exceeds the anticipated costs, making it profitable. Conversely, a negative NPV indicates a potential loss. Therefore, NPV serves as a critical decision-making tool, guiding investors towards projects with a positive NPV, ensuring they only invest in potentially profitable ventures. The NPV formula below:

$$NPV = \sum_{t=0}^n \frac{CF}{(1+r)^t} - CF_0 \dots\dots\dots (1)$$

Internal Rate of Return (IRR)

Internal Rate of Return (IRR) simplifies investment analysis by showing the annual growth rate that makes an investment's future cash inflows exactly equal to the initial investment cost. In other words, it is the discount rate that makes the Net Present Value (NPV) of the project zero. This rate reflects the actual return that companies can expect if they execute the project and receive the projected cash flows.

The Formula is,

$$\$0 = NPV = \sum_{t=1}^n \frac{CF}{(1+IRR)^t} - CF_0 \dots\dots\dots (2)$$

Payback Period (PBP)

The Payback Period (PP) tells a company how long it takes to recoup its initial investment in a project. It's calculated by looking at the cash inflows generated by the project, essentially determining the timeframe required to "break even" on the initial cost.

Profitability Index (PI)

To evaluate projects with an initial investment followed by future returns, the Profitability Index (PI) offers a simple measure. It calculates the present value of all future cash inflows and divides it by the initial cash outflow. This ratio indicates a project's profitability. PI more significant than 1 suggests a positive return, while a value less than one signals a potential loss.

The Formula is,

$$PI = \frac{\sum_{t=1}^n \frac{CF_t}{(1+r)^t}}{CF_0} \dots\dots\dots (3)$$

2. Risk Analysis

Sensitivity Analysis

According to Allen et al. (2017), this analysis helps reveal the connection between each key project variable and its impact on cash flow. To achieve this, optimistic and pessimistic estimates are required for all underlying variables. This allows the analysis to consider various assumptions driving cash flow and recalculate the Net Present Value (NPV) using both optimistic and pessimistic variable values. A sensitivity analysis assesses how much a project's outcome might be affected by variables performing worse than expected.

Scenario Analysis

Scenario analysis tackles project risk by considering a range of potential outcomes. As described by Gitman and Zutter (2015), it's a behavioural approach that explores various scenarios to understand how much the project's Net Present Value (NPV) and cash inflows might fluctuate. This technique helps assess how sensitive the project's overall return is to changes in critical factors.

RESEARCH RESULT

In a nutshell, business situation analysis, as defined by Hoskisson et al. (2017), is a method for dissecting both internal and external factors impacting a company. This analysis helps them grasp their capabilities, understand their customer base and potential for expansion, and assess the competitive landscape they operate in – ultimately providing a clear picture of how these elements influence the company's success.

1. External Analysis

Companies face external environmental influences as they strive to achieve strategic advantage and above-average profitability. To understand these conditions, companies need to analyze the external environment. The results of this analysis are then integrated with the organization's internal knowledge to form the company's vision, mission, and strategy.

PESTEL Analysis

PESTEL analysis is used to analyze the external general environment, including six factors: political, economic, socio-cultural, technological, environmental, and legal, contributing to determining the business situation. The

PESTEL model categorizes and analyses the critical external forces that may impact a company. These factors are embedded in the global environment and can create opportunities and threats (Rothaermel, 2013).

Political Factor

The Indonesian government also has various programmes to support education equity and provide assistance, especially for remote and less developed areas, such as the Education Special Allocation Fund (DAK), the Smart Indonesia Programme (PIP) and School Operational Assistance (BOS). All of this shows that the project aligns with the government's efforts to improve access and quality of education in Indonesia. Considering these political factors is essential in planning and implementing the PPNI Foundation's new building project. These political factors can be done by collaborating with various stakeholders and complying with all applicable regulations.

Economic Factor

The construction of the PPNI Foundation's new building is a crucial step in improving the quality of education. The new building will provide more conducive classrooms, well-equipped laboratories, and other supporting facilities. This not only increases the attractiveness of the school but also ensures an optimal learning environment for students.

Sociocultural Factor

The Indonesian government is committed to supporting Islamic education, which aligns with regulations and policies that encourage the development of Islamic schools. BPS data (2019) shows that more than 90% of Lampung's population is Muslim, making Islamic schools readily accepted and supported by the community. The PPNI Foundation's new building project has bright prospects in the Muslim-majority Lampung community. By combining the needs of moral education, local culture, and government support, the PPDNI Foundation can contribute to building a young generation with character and noble character in Lampung.

Technological Factor

According to research by Pratama (2021), more than 70% of students in urban areas are used to using technology in their daily lives. Schools should utilize this familiarity to introduce interactive and engaging educational technology. Integrating technology into the learning environment can create a more dynamic and exciting learning atmosphere. Technology can be used to improve teaching effectiveness through digital learning aids, simulations and educational software.

Ecological Factor

Every construction project, including school buildings, impacts the surrounding environment. The construction of the PPNI Foundation's new

building had to consider these impacts, such as green space reduction, air and water pollution during construction, and construction waste management.

Legal Factor

Referring to Law No. 20/2003 on the National Education System, the right to education is guaranteed to every citizen, and the new building should ensure equal educational opportunities without discrimination. The law also encourages reforms in the education system to improve education management's quality, relevance and efficiency. The established National Education Standards cover various aspects, including content, process, graduate competencies, education personnel, facilities and infrastructure, management, financing, and evaluation.

2. Internal Analysis

Building on Hoskisson et al.'s theory (2017), a company's internal analysis focuses on resources, capabilities, and core competencies – the building blocks of a competitive edge. Resources, the foundation, need careful identification and management to develop organizational capabilities.

Resources

Resources are the fundamental building blocks of an organization and can be categorized into tangible and intangible assets. Tangible resources include physical assets such as land, buildings, machinery, and financial resources. Intangible resources consist of non-physical assets such as brand reputation, intellectual property, organizational culture, and human capital.

Capabilities

Capabilities are inherently intangible and manifest themselves through the company's organizational structure, its established routines, and its culture. Capabilities refer to the organization's ability to deploy resources effectively and efficiently. They are the processes and routines that organizations develop over time, enabling them to perform specific tasks. Capabilities are often seen in operational processes, such as supply chain management, marketing, and R&D. Resources are combined to form capabilities. The Foundation combines tangible and intangible resources to develop abilities. Furthermore, capabilities are used to accomplish the organizational tasks necessary to produce, distribute, and service the goods or services that the school provides for students to create value for them.

Core Competency Analysis

Core competencies are the unique strengths that allow an organization to achieve superior performance. They stem from the integration of resources and capabilities, leading to distinctive proficiency in certain activities. Core competencies provide significant customer value, are difficult for competitors to imitate, and can be leveraged widely across products and markets. Core competencies emerge over time through the organization, accumulating and learning to use various resources and capabilities. The Foundation's core competencies lie in operating the school unit in line with its vision, mission, and values as a private Islamic school with a trusted reputation. The school is able to appeal to the value of being an Islamic school, which is the religion practiced by

the majority of the population, but it does not lag behind in displaying an impression of superior and innovative teaching and learning.

DISCUSSION

1. Project Outlook

In addition to the classroom building, the Project will also involve the construction of an administrative office building, a laboratory, a multipurpose hall, a library, and an open space area. Construction of all these facilities is scheduled for completion in 2025. The new building will accommodate 290 more students from now buildings. This will alleviate the current overcapacity issue and allow for future enrollment growth, ensuring the Madrasah Tsanawiyah can cater to the growing demand for Junior High Schools in Lampung.

Table 1. Capital Expenditure of the Project

No	Description	Total Cost	
1	Capital Expenditure		
-	Tanah	Rp 700,000,000.00	7%
-	Classroom and Administration Building	Rp 7,134,000,000.00	76%
-	Additional Financing	Rp 305,000,000.00	3%
2	Capital Expenditure for Equipment		
-	Classroom & Administration Equipment	Rp1,214,441,579	13%
Total Investment		Rp9,353,441,579	100%

The old and new buildings will accommodate 30 classes, each consisting of 10 courses with a maximum capacity of 32 students each. In addition to facilitating teachers' rooms and meeting rooms, the administration office building has a hall, art room, science laboratory, library, and open space garden. The foundation entirely finances the capital expenditure used for this project. Details of the capital expenditure required can be seen in Table 4.5. Table 4.5 also includes capital expenditure for classroom and administration equipment. The result of this project's capital expenditure is IDR 9,353,441,579.

Table 2. Tabel SWOT

Strengths (S)	Weaknesses (W)
<ul style="list-style-type: none"> - Great reputation over 30 years - High-quality teaching staff - Innovative curriculum - Emphasis on science and technology - Profitable operations 	<ul style="list-style-type: none"> - High initial investment - Facilities that need improvement - Financial reliance on donations - Project management Capacity needs improvement
Opportunities (O)	Threats (T)

<ul style="list-style-type: none"> - Growing student population - Government support for education - Technological advancements - Increasing public awareness of the importance of education - Strong demand for Islamic education - Potential for program and facility expansion 	<ul style="list-style-type: none"> - Increasing competition - Fluctuating construction costs - Regulatory changes - Economic fluctuations - Environment impact regulations - Demographic changes
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2. Revenue Projection and Expenses Projection

This project assumes that the school's revenue projection is an increase in revenue sources based on historical data and the foundation's stipulations. The foundation stipulates that each year, there will be an increase in sources of income by 5%-6%, depending on the source of income.

The operational cost projections for the school are based on historical company data and then applied to future projections. The school expenses are divided into several main categories as outlined on the National Education Standards Board (BNSP) website. Detailed as follows:

- Content Standard: The costs allocated to this standard are assumed to be 4.68% of the school's total revenue.
- Process Standards: The costs assumed for the process standards are 7.74% of revenue.
- Graduate Competency Standards: The costs allocated to this standard are assumed to be 2.69% of revenue.
- Educator and Educational Staff Standards: The costs assumed for this category are significant, amounting to 44.86% of revenue.
- Facilities and Infrastructure Standards: The costs allocated to this standard are assumed to be 6.78% of revenue.
- Educational Assessment Standards: The costs assumed for this standard are 0.85% of revenue.
- Management Standards: The costs allocated to this standard are estimated at 1.67% of revenue.
- Financing Standards: The costs assumed for this standard are 5.08% of revenue.

3. Cashflow

Table 3. Cashflow

Year	Net Cash Flow	Discounted Cash Flow	Free Cash Flow	Accumulated of FCF
0	(9,353,441,579)	(9,353,441,579)	(9,353,441,579)	(9,353,441,579)
1	1,299,404,034	1,167,164,317	1,167,164,317	(8,186,277,262)
2	1,447,751,027	1,168,071,597	1,168,071,597	(7,018,205,666)

3	1,607,186,523	1,164,741,782	1,164,741,782	(5,853,463,884)
4	1,778,496,869	1,157,721,953	1,157,721,953	(4,695,741,931)
5	1,962,520,453	1,147,501,195	1,147,501,195	(3,548,240,736)
6	2,160,151,024	1,134,516,616	1,134,516,616	(2,413,724,120)
7	2,261,563,454	1,066,899,015	1,066,899,015	(1,346,825,105)
8	2,368,415,370	1,003,598,950	1,003,598,950	(343,226,155)
9	2,481,002,428	944,315,912	944,315,912	601,089,757
10	2,599,636,582	888,772,379	14,015,159,903	14,616,249,659

From the results of the above calculations, the analysis whether this project is feasible or not will be discussed based on the results below:

Table 4. NPV, IRR, Value, Threshold Result

Parameters	Value	Threshold
NPV	14,616,249,659	> Rp. 0
IRR	14.57%	>11.33%
PBP	5.75	< 10 years
PI	1.159	> 1

The financial analysis shows a positive NPV of 14,615,248,661, which means the project is projected to generate significant added value. This indicates that the investment in this project is financially viable. The positive NPV also shows that the project is expected to provide substantial economic benefits to the PPNI Foundation. With this positive NPV, the PPNI Foundation can be more confident in continuing this project. It also allows the foundation to plan for further expansion or improvement in the quality of educational facilities in the future. In summary, this project has a positive financial outlook and is worth investing in.

The results of the IRR calculation show that the PPNI Foundation's new building construction project has a very positive outlook. With an IRR of 14.57%, higher than the discount rate of 11.33%, the project is projected to provide a return higher than the minimum expectation. This signifies that the project is financially viable and attractive to investors. PPNI Foundation can proceed with this project confidently while still implementing effective risk management strategies to ensure the success and sustainability of the project in the future.

Based on the payback period analysis results, which show 5.75 years and the foundation's criteria, which consider projects with a payback period of less than 10 years profitable, this new classroom building construction project can be regarded as feasible and profitable.

The Profitability Index (PI) calculation results show that the PPNI Foundation's new building construction project has excellent financial prospects. With a PI of 1.159, the project is projected to generate more value than it costs, signaling that it is efficient and profitable. A PI more significant than 1 strongly indicates the project is worth pursuing. Therefore, PPNI Foundation can

confidently proceed with this project, knowing their investment will generate considerable added value.

4. Sensitivity Analysis

This sensitivity analysis uses a tornado chart that can help identify which input variables strongly influence NPV results. This sensitivity uses the assumption of changes in input variables of -20% and +20%, showing the analysis results in the figure below. Sensitivity analysis can show how much the NPV varies if the input variables are changed. This analysis helps see which variables affect the NPV value the most. The test parameters used are increase in donation, increase in new student fee, increase in student monthly fee, growth, increase in Iraq and increase in student admission fee. Assuming a 20% change from the initial condition (base case). The tornado that results can be seen as follows:

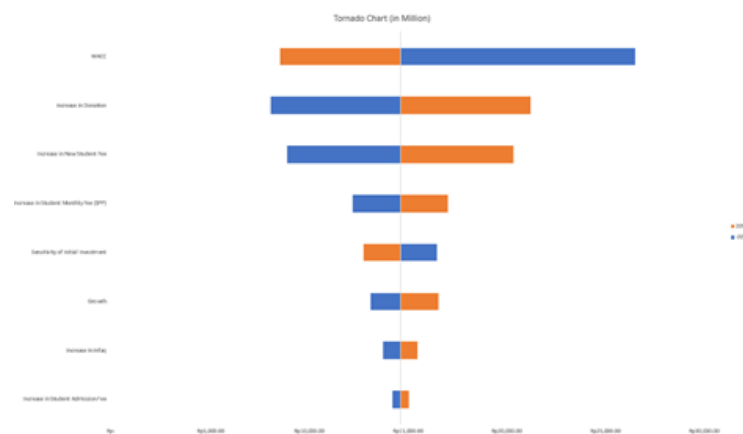


Figure 2. Tornado Chart

The tornado results show that the input variables that most influence and are sensitive to the NPV of this project are WACC, Increase in Donation Fee, Increase in New Student Fee, Increase in Student Monthly Fee (SPP) and Initial Investment.

4.5 Implementation Plan & Justification

The PPNI Foundation believes that the construction of this new building will increase the quantity and quality of the foundation in serving the needs of the surrounding community. Of course, the foundation wants this project to run smoothly, quickly, effectively, and efficiently from all aspects, especially cost. Therefore, figure 4.1 can be used as a reference for the project plan timeline to facilitate the implementation process. The foundation has held a meeting with the founders, advisors, and administrators of the PPNI foundation to discuss the sustainability of this plan. Preparation is done by examining the results of the feasibility study of this project and appointing who is responsible for this project; in this case, the foundation ensures the readiness of financing for this project.

After that, the design and planning of the new building are carried out, and the contractor who will be responsible for this project is appointed.

Once everything is approved, the foundation can immediately carry out the construction of the planned new building. During the construction process, the foundation needs to prepare facility construction and installation equipment so that after the building is completed within one year, starting in 2024, the building and its facilities are ready to welcome new students for the 2025/2025 academic year. After the building is 100% finished, management and staff training need to carry out quality checks. Once all the plans are finalized, the classroom and administration buildings can start operating in the new student intake. Finally, evaluation needs to be done in the form of performance review, feedback, and adjustment because, of course, the foundation wants this Madrasah Tsanawiyah to continue to grow.

CONCLUSIONS AND RECOMMENDATIONS

Referring to the results of the business situation analysis, to ensure that this project runs smoothly and can provide economic profit, the foundation needs to pay attention to how external and internal factors in the form of PESTEL, VRIO, and SWOT analysis, which will be summarised political, economic, sociocultural, technological, ecological, legal.

The analysis shows that the project to build a new Madrasah Tsanawiyah building for Yayasan PPNI in Lampung is financially feasible. The main indicators that support this conclusion are, the project's Net Present Value (NPV) is positive, at IDR 14,616,249,659, which indicates that the project will generate added value and significant economic benefits for the PPNI Foundation. The IRR percentage of 14.57%, which is higher than the discount rate of 11.33%, indicates that the project is expected to provide a return greater than the minimum expected rate, making it attractive to investors. The payback period of 5.75 years is within the acceptable range, as the foundation considers projects with a payback period of fewer than ten years as favorable. The Profitability Index (PI) value of 1.159 indicates that the project will generate more value than its costs, confirming its efficiency and profitability.

The feasibility of this project is affected by several key variables, Weighted Average Cost of Capital (WACC) Changes in interest rates, debt levels, or the cost of equity capital can significantly affect the WACC, affecting the project's NPV. Increase in Committee Donation Fee, Variations in the amount or rate of student committee donations can affect the project's revenue and financial stability. Increase in New Student Enrolment Fee: Adjustments to the new student enrolment fee may affect the school's appeal to prospective students and their parents. Increase in Student Monthly Fees (SPP): Changes in the monthly tuition fees may affect the school's revenue and parents' ability or willingness to pay. Initial Investment: Accurate estimation and control of initial investment costs are critical to the project's financial success.

The SWOT analysis in Table 2 is obtained from the results of external and internal analyses. The analysis results show that the PPNI Foundation's new classroom building construction project has several strengths, weaknesses,

opportunities, and threats that must be considered. The strengths of this project include strong support from the government and existing regulations, as well as the growth of the middle class, which increases the demand for quality education. In addition, the focus on Islamic education by local values in Lampung provides a significant competitive advantage. However, the project also has some areas for improvement, such as reliance on committee donations, student fees that fluctuate, and significant initial investment costs that require careful financial management. On the other hand, there are great opportunities to capitalize on, such as support from various government programs aimed at improving access and quality of education and potential growth in student numbers due to increased awareness of the importance of education. However, the project also faces some threats, such as changes in government policies that could affect funding and economic instability that could impact parents' ability to pay school fees. Thus, while the project has a strong foundation and promising opportunities, the PPNI Foundation needs to manage the weaknesses and threats with appropriate strategies so that the new classroom-building project can be successful and contribute positively to improving the quality of education in Lampung.

ADVANCED RESEARCH

This study has several limitations. First, it focuses on a single case, which may limit generalizability to other educational institutions or regions. Second, the projections are based on current economic conditions and historical financial data, which may change over time. Third, qualitative factors such as community acceptance and policy changes were not included in the analysis.

Future research could expand the scope to multiple institutions, integrate socio-economic impact assessments, or compare financing models (public-private partnerships, grants, etc.) in similar educational infrastructure projects. Additionally, incorporating qualitative approaches could provide a more holistic understanding of feasibility.

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