



Feasibility Study of Sudut Group's Hotel and Restaurant Business at Pantai Indah Kapuk 2

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ABSTRACT: The hospitality sector significantly impacts Indonesia's economy, particularly in Jakarta, Bandung, and Surabaya. Sudut Group, known for its successful ventures in Bandung, aims to expand into Pantai Indah Kapuk 2 (PIK 2) in Jakarta. This study evaluates the economic feasibility of this new hotel and restaurant project using capital budgeting techniques such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period. The financial analysis shows promising results, with an NPV of IDR 54,881,243,591, an IRR of 19.33%, and a payback period of 6.56 years. Sensitivity analysis and Monte Carlo simulations, involving 1,000 trials, further assessed the project's risks, showing an average NPV of IDR 44,318,599,606. The research concludes that Sudut Group's project in PIK 2 is economically viable, offering substantial profitability and growth potential. Comprehensive financial analysis and risk assessments support informed decision-making by stakeholders, emphasizing both opportunities and challenges.

KEYWORDS: Capital Budgeting, Feasibility Study, Hotel, Monte Carlo, Restaurant.

I. INTRODUCTION

The hospitality industry in Indonesia, particularly in major cities like Jakarta, Bandung, and Surabaya, has experienced notable growth over recent years. This sector, encompassing services for lodging, dining, and tourism, is integral to Indonesia's economy. Hotels and restaurants are key components, providing accommodation and dining experiences that cater to both domestic and international tourists. The hospitality industry is defined by its focus on customer satisfaction, aiming to offer a comfortable and enjoyable environment for guests. Hotels are business establishments that provide lodging to the public and often include additional amenities such as restaurants, conference spaces, shops, and entertainment venues. Restaurants, on the other hand, are establishments where customers can purchase food and beverages [1].

To evaluate the success of hotels and restaurants, it is essential to consider both financial and non-financial indicators [2]. Financial indicators are related to the investments made and the returns to shareholders, while non-financial indicators involve operational and marketing metrics. The global hospitality and tourism industries, including hotels and restaurants, are among the fastest-growing sectors, contributing significantly to global GDP and employment [3]. As a developing nation, Indonesia is actively participating in this expansion. In 2020, Indonesia ranked fourth among Asian nations in terms of hotel and restaurant consumption. The travel and tourism sector, which includes hotels and restaurants, is crucial to Indonesia's economy, expected to generate USD 8,971 million in revenue by 2024, with a projected compound annual growth rate (CAGR) of 5.04% between 2024 and 2028, reaching a market volume of USD 10,920 million by that time [4].

The COVID-19 pandemic has significantly impacted consumer confidence in purchasing hotel and restaurant services in the Jabodetabek area, which includes Jakarta. Despite these challenges, there remains a relatively strong level of consumer confidence, with a determination coefficient of 76.6%, indicating that consumers continue to purchase these services for work, travel, and leisure purposes, albeit with heightened health protocols [5]. Based on this data, investment in hotels and restaurants in Indonesia is considered viable and promising. The feasibility of investments in companies within these sub-sectors listed on the Indonesian Stock Exchange from 2011 to 2015 are potential for growth and profitability [6].

Given the promising return potential in the hotel and restaurant sub-sector, substantial investments are being made by both local and foreign investors. The Minister of Tourism and Creative Economy, Sandiaga Uno, has emphasized that the tourism recovery and government support have created a unique momentum for investors in the hospitality sector. Uno stated, "It's time to invest now because there are so many opportunities in the tourism and creative economy sector." In July 2023, Julien Naouri, Senior Vice President and Investment Sales at Jones Lang LaSalle (JLL) Hotels and Hospitality Group Asia Pacific, expressed continued



confidence in the hotel market in Indonesia. By the end of 2024, six new hotels are expected to begin operations in Bali, and two in Jakarta.

However, despite the significant investment potential, the execution of such projects faces challenges related to financial management and investment risks. The financial aspects of managing hotel and restaurant operations are complex and involve high investment risks, particularly during economic or health crises. Effective risk management is essential to ensure sustainable investment returns and operational success [7].

Sudut Group is one of the firms focusing its portfolio on the hospitality sector. Established in Bandung, the company has experienced growth across several business ventures under its banner. Sudut Group primarily focuses on hotels, restaurants, cafes, and other tourism destinations. Its significant assets include Kollektiv Hotel, Hara Cafe, Sudut Pandang, Nomadic Cafe, Westhoff Restaurant, and Bornga Restaurant, among others in the food and beverage industry. Most entities under Sudut Group have achieved financial sustainability and consistently generate profits.

At the beginning of 2024, Sudut Group identified an opportunity to expand its business to increase shareholders' wealth. The group is strategizing an expansion into Pantai Indah Kapuk 2 (PIK 2), Penjaringan, in North Jakarta. This project aligns with Sudut Group's previous ventures in Bandung. The planned expansion includes building a hotel with 63 rooms, a restaurant with a capacity of 250 people, a leisure area, and various other facilities. The project requires an initial investment of IDR 41.6 billion for construction and operational costs. The strategic location in the Thamrin Center Business District further enhances the project's potential benefits, as the area is undergoing numerous developments expected to attract significant foot traffic, increasing the project's visibility and accessibility.

Additionally, Jakarta's PIK 2 project is recognized as one of the 14 National Strategic Projects (Proyek Strategis Nasional, PSN) for 2024. Spearheaded by Minister of Tourism and Creative Economy Sandiaga Salahuddin Uno, this project anticipates creating 10 million new jobs and attracting 20 million visitors, with over 1,000 hectares under development. Property developer Pantai Indah Kapuk Dua (PANI) aims for an IDR 40 trillion investment in the PIK 2 area, collaborating with Agung Sedayu Group and Salim Group [8]. This development is expected to significantly impact various industries, including hotels and restaurants.

Sudut Group's main plan is to expand their businesses by building new infrastructure in PIK 2. The site plan outlines a plot in Thamrin Center Avenue - 2 at PIK 2, with precise dimensions of 2,046 square meters, ensuring meticulous planning and execution of the project. With the promising opportunity in the new area, the favorable outlook of the industry, and Sudut Group's proven capability, the group is now seeking investors for this project. The investment plan includes financial projections, risk analysis, and potential returns for future shareholders. Although two investors have shown interest, a detailed feasibility study is necessary to evaluate the project's viability and ensure its success.

Sudut Group, a prominent player in Indonesia's hospitality and restaurant sectors, faces significant challenges as it plans to expand into the Pantai Indah Kapuk (PIK) 2 area. Despite the region's promising growth prospects and its designation as a National Strategic Project aimed at transforming it into a major tourist and business hub, the project presents multiple complexities and uncertainties.

Firstly, the financial scale of the project is considerable, requiring an investment of approximately IDR 46.6 billion. Sudut Group has opted to fund this project entirely through equity investments, avoiding debt financing. While this decision may reduce the financial risk associated with debt, it increases the pressure to ensure that the project delivers sufficient returns to meet investor expectations and justify the substantial resource allocation.

Moreover, the project's success hinges on accurately forecasting demand in a highly competitive market. The PIK 2 area is rapidly expanding, attracting about 1 million visitors per day. This influx is favorable for prospective customer growth but also intensifies competition as more firms vie for market share. Currently, the area has only three hotels, with room prices ranging from IDR 1,600,000 to IDR 3,000,000, and the increasing number of visitors indicates that demand will soon outstrip supply.

Research questions are specific inquiries that a study seeks to answer, guiding the direction and purpose of the investigation. They help focus the research by defining what the study aims to discover or understand. This study will address two main questions relevant to its goals: Is the new project by Sudut Group at Pantai Indah Kapuk feasible from a financial perspective? What risks might Sudut Group encounter in this new project?

In conducting this study, it is essential to clearly outline the primary goals that will guide the investigation. This research aims to provide a comprehensive financial evaluation of the new project, ensuring its viability and potential profitability. The objectives of

this study are twofold: to identify the feasibility of the new project from a financial perspective and to identify the risks that Sudut Group might encounter with this new investment.

II. METHODOLOGY

In creating this research, the author needs details on how to collect, measure, and analyze data for a study. The diagram below will be discussed to explain how this research is done.

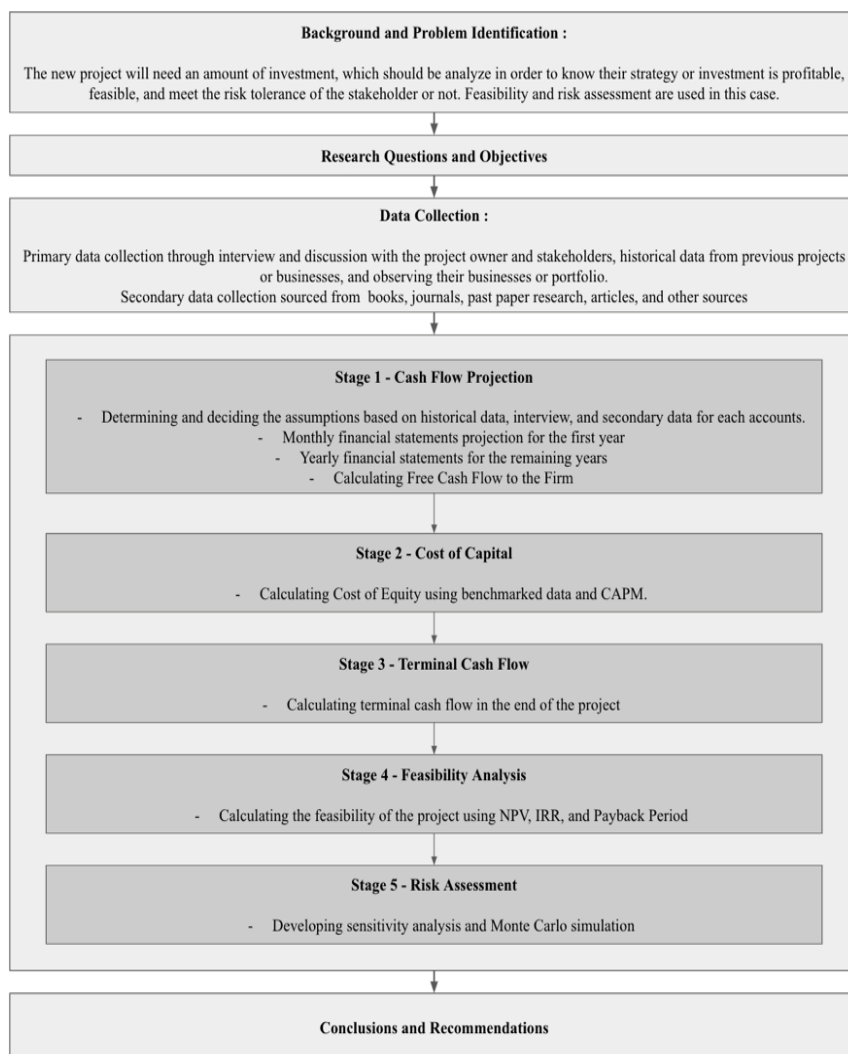


Figure 1. Research Framework

First, the data-gathering stage is crucial for compiling all necessary information to support the study. This involves collecting historical data, current market trends, and input from relevant stakeholders through meetings and interviews. The data are categorized into two types: primary and secondary.

Primary data is collected directly from sources such as observations and interviews with the project owner, covering key statistics like hotel occupancy rates, customer turnover, salvage values, initial investment plans, ticket sizes, and pricing strategies. Secondary data, gathered from books, academic journals, previous research papers, and articles, provide broader insights into industry growth rates, risk-free rates, taxation policies, inflation rates, unleveraged beta values, and debt-to-equity ratios.

After collecting the necessary data, it is rigorously analyzed in Excel to address the core research questions. This analysis is divided into five stages, each aimed at uncovering specific financial insights.



In the first stage, assumptions for revenue and costs are determined based on historical data, interviews, and secondary sources. This step establishes the financial groundwork by generating monthly financial statements for the first year and annual projections for subsequent years. A key component is calculating the Free Cash Flow to the Firm (FCFF), which serves as the basis for further financial analyses and projections. The analysis of the income statement, cash flow statement, and balance sheet integrates primary and secondary data to discern trends and make projections. This comprehensive approach ensures that the financial projections are robust and reflective of current market conditions and future expectations.

The second stage focuses on calculating the cost of capital using the Capital Asset Pricing Model (CAPM) from comparable projects or companies. Since the project is financed entirely with equity, the CAPM and Weighted Average Cost of Capital (WACC) values are the same. This calculation is vital as it determines the project's discount rate, reflecting the expected returns required by investors [15]. Secondary data from comparable firms within the hotel sector are used to estimate the cost of equity, grounding the financial analysis in realistic and relevant market data.

The third stage involves calculating the terminal cash flow, representing the project's residual value at the end of its operational life. This includes estimating the terminal value to influence NPV and IRR, reflecting long-term financial performance and ongoing value creation potential. By incorporating the terminal cash flow, the financial model offers a comprehensive and optimistic outlook on the project's future profitability and sustainability.

In the fourth stage, a comprehensive feasibility analysis is conducted using financial metrics such as NPV, IRR, and Payback Period. These metrics assess the project's potential returns against its costs, ensuring investments align with strategic financial goals [14]. The analysis determines whether the project meets the desired financial criteria, supporting informed decision-making [16].

The final stage extends the feasibility analysis by conducting a comprehensive risk assessment using techniques like Monte Carlo simulation and sensitivity analysis. This stage evaluates how various risk factors might impact the project's financial outcomes, providing stakeholders with a deeper understanding of potential risks and variabilities. Sensitivity analysis identifies key variables that significantly affect the project's financial stability, while Monte Carlo simulations offer a statistical distribution of possible outcomes, helping stakeholders assess risk-adjusted returns effectively.

By following these stages, the study ensures a comprehensive and robust analysis of the project's financial feasibility, providing valuable insights for stakeholders and potential investors.

III. RESULTS AND DISCUSSION

The proposed project entails the construction of a hotel on a 2,046 square meter site in Pantai Indah Kapuk 2. This hotel will feature a variety of facilities to cater to a diverse clientele. The accommodations include 63 rooms, available for daily rental, ensuring ample lodging options for guests. Additionally, the hotel will offer a restaurant with a total seating capacity of 250, providing a spacious dining area for customers. For families, a dedicated kids' play area will be available, enhancing the hotel's appeal to those with young children. Recreational amenities will include a swimming pool and a gym, promoting health and wellness for guests. Lastly, a parking area will be provided to accommodate the vehicles of both guests and staff, ensuring convenience and accessibility.

The hotel project will generate revenue from four primary sources. The foremost source of income will be the rental and service fees from the 63 hotel rooms, providing consistent daily revenue. Additionally, the on-site restaurant will contribute significantly to the hotel's earnings through the sale of food and beverages. Another revenue stream will come from the kids' playground, where tickets will be sold for access to the play area, appealing to families with young children. Finally, the parking area will also generate income by charging fees for vehicle parking. These diverse revenue streams will collectively support the financial sustainability of the hotel.

The hotel boasts a capacity of 63 rooms, each designed to accommodate two guests. With 30 days in a month, this results in 1,890 room-nights available for rental each month. Drawing from data of similar hotel projects in Bandung, which share comparable concepts and pricing structures, we can estimate an average occupancy rate of 79% per month. This translates to approximately 1,493 occupied room-nights monthly. Notably, occupancy rates tend to rise during specific periods, such as public holidays, semester breaks, and other peak times, reflecting heightened demand during these intervals. These fluctuations are crucial for maximizing revenue, as they indicate potential for strategic pricing adjustments and promotional efforts during high-demand periods.



The restaurant has a capacity of 250 seats and operates during three main times of the day: breakfast, lunch, and dinner. Assuming the restaurant is open for 30 days each month and all seats are filled during each meal period, this results in a total of 22,500 seat occupancies per month. The restaurant is open to both the public and hotel visitors. In the context of restaurants, the turnover ratio is a critical metric that measures how often a seat is occupied by different customers within a given period. This ratio is vital for understanding the restaurant's efficiency in serving customers and maximizing revenue. For the proposed restaurant, the average turnover ratio is projected to be 0.53, based on data from similar establishments with comparable menus and pricing. This means that on average, each seat will be occupied by 0.53 customers per meal period, highlighting the restaurant's ability to attract and serve a steady stream of patrons throughout the day.

For the kids' playground and parking lot, the capacities are 3,000 tickets per month and 1,500 vehicles per month, respectively. The kids' playground is expected to have an occupancy rate of approximately 51%, based on research and the assumption that the hotel targets families with children. This occupancy rate indicates that about 1,530 tickets will be sold monthly, ensuring the playground is a popular feature for guests. For the parking lot, the turnover rate is projected to be 0.75. In this context, the turnover rate refers to the average number of times each parking space is used by different vehicles within a given period. A turnover rate of 0.75 means that each parking space will be used by 0.75 different vehicles each day, reflecting efficient utilization of the parking facility and ensuring adequate parking availability for hotel guests and visitors. Table 1 shows the details of capacity and occupancy per year for all business line.

Table 1. Capacity and Occupancy

Account	Details	Number
Capacity	Number of rooms in hotel	63
	Number of customers per month	1,890
	Number of seats in restaurant	250
	Number of slots (breakfast, lunch, dinner)	3
	Number of visitors of restaurant per month	22,500
	Number of available tickets per day	100
	Number of kids per month	3,000
	Number of available parking spot	50
	Number of vehicles per month	1,500
	Number of days per month	30
Occupancy (yearly average)	Hotel	79%
	Restaurant	53%
	Kids' playground	51%
	Parking spot	75%

The initial investment for the proposed hotel project has been carefully detailed to ensure a comprehensive understanding of the financial requirements. The total investment is projected to be IDR 41,600,000,000, distributed across various key components, each contributing to the overall infrastructure and operational readiness of the hotel.

The largest portion of the investment is allocated to the building, which includes preparation and structural tasks such as concrete and steel work, door and window installations, flooring, painting, ceiling and roof installations, electrical and plumbing installations, and basement or parking construction. Covering an area of 2,200 square meters at a cost of IDR 8,000,000 per square meter, this category totals IDR 17,600,000,000, representing 42.3% of the total investment.

Another significant portion of the budget is dedicated to the building container, which involves the interior development of various spaces including the lobby, restaurant, toilets, offices, prayer room, and merchandise store. This aspect of the project spans 1,800 square meters at IDR 4,000,000 per square meter, amounting to IDR 7,200,000,000, or 17.3% of the total investment.

The landscaping of the hotel, which involves the planting and installation of trees and plants, covers an area of 200 square meters at IDR 1,000,000 per square meter. This aspect totals IDR 200,000,000, accounting for 0.5% of the total budget. The interior design



of the hotel, including thematic corners, video mapping, and related equipment over an area of 1,800 square meters, is estimated at IDR 7,200,000,000, which also represents 17.3% of the total investment.

The projection pool, which includes thematic content and equipment, is planned over an area of 200 square meters at IDR 6,000,000 per square meter. This brings the total cost for this component to IDR 1,200,000,000, or 2.9% of the total investment. Similarly, the interior of the restaurant, encompassing the lobby, restaurant, toilet, office, prayer room, and merchandise store interiors, is budgeted at IDR 2,000,000,000 for an 800 square meter area, making up 4.8% of the overall budget.

The kitchen and bar installation, covering 150 square meters at IDR 10,000,000 per square meter, totals IDR 1,500,000,000, which is 3.6% of the total investment. The landscaping of the restaurant area, involving the installation of trees and plants over 100 square meters, is estimated at IDR 100,000,000, or 0.2% of the budget.

The playground, including thematic content, installation, video mapping, and equipment, covers an area of 150 square meters at IDR 4,000,000 per square meter, resulting in a total of IDR 600,000,000, or 1.4% of the total investment. Finally, other expenses, including service fees, initial operational costs, service areas, and reserves, amount to IDR 4,000,000,000, representing 9.6% of the total budget.

These allocations reflect a comprehensive and strategic approach to the initial investment, ensuring that each aspect of the hotel is adequately funded to support its successful development and operation.

Table 2. Investment Allocation

Item	Total Amount	Percentage
Building	IDR 17,600,000,000	42.3%
Building container	IDR 7,200,000,000	17.3%
Landscape hotel	IDR 200,000,000	0.5%
Interior hotel	IDR 7,200,000,000	17.3%
Projection pool	IDR 1,200,000,000	2.9%
Interior restaurant	IDR 2,000,000,000	4.8%
Kitchen & bar	IDR 1,500,000,000	3.6%
Landscape restaurant	IDR 100,000,000	0.2%
Playground	IDR 600,000,000	1.4%
Beginning & reserve fund	IDR 2,080,000,000	5%
Beginning inventory	IDR 1,920,000,000	4.6%

Stage 1 - Cash Flow Projection

Determining Assumptions

Before constructing pro forma financial statements, it is crucial to establish a set of assumptions to forecast both revenue and costs accurately. These assumptions are derived from primary and secondary data sources, including interviews, discussions, and validated information gathered from various online resources. Industry experts are also consulted to ensure the reliability and accuracy of the data, making the assumptions credible and trustworthy.

The process of determining these assumptions involves a thorough analysis of data from previous and comparable projects. The project itself is forecasted over 15 years since the agreement with the landlord will be renewed or discontinued within this period. Projects used for benchmarking include Kollektiv Hotel, Sudut Rasa restaurant, Hara Café, and Nomadic Coffee in Bandung. By examining similar projects, trends and patterns can be identified to inform financial projections, making them more realistic and achievable. Key assumptions include revenue estimates, cost of goods sold (COGS), operational costs, depreciation, and inventory requirements.

Revenue assumptions are based on expected income from various sources such as room rentals, restaurant sales, kids' playground tickets, and parking fees. Operational costs include staff salaries (excluding COGS), utilities, maintenance, marketing, and other essential expenses. Depreciation assumptions account for the gradual reduction in value of the hotel and restaurant's assets over time. Inventory assumptions involve the management and replenishment of stock required for smooth operations. Operational expenses are projected to grow by 5% annually, considering increasing wages and expenses based on Sudut Group's experience in



Bandung. Other fees, such as rent and specific operational fees, are set at fixed percentages. A tax rate of 20% is included in the financial assumptions.

Price increments and growth rates are considered for various categories, such as a 5% annual increase in hotel rent and a 10% annual increase in restaurant ticket prices, based on assumptions from previous projects. These increments help in projecting the long-term financial sustainability of the hotel. Additionally, COGS assumptions, including a yearly increase of 5%, ensure that cost projections remain aligned with expected market trends.

In the hotel sector, COGS includes room supplies, cleaning supplies, utility costs, laundry expenses, and food and beverage costs for complimentary services. In the restaurant sector, COGS includes raw food ingredients, beverages, kitchen supplies, utility costs, and packaging materials. By averaging these costs annually, a more accurate projection of future COGS can be made, aiding in the development of a reliable financial model for the project.

Constructing Pro Forma Financial Statements

Constructing pro forma financial statements is a vital process in the financial planning of the hotel project. These statements include the pro forma income statement, balance sheet, and cash flow statement. They are created using the previously determined assumptions, allowing for accurate forecasting of the project's financial performance.

The pro forma income statement outlines the projected revenues and expenses over the operational period of the hotel. Revenue projections are categorized into various sources such as hotel rent (Sudut Mimpi), restaurant sales (Sudut Rasa), kids' playground ticket sales, and parking fees. The cost of goods sold (COGS) and other fees are calculated based on these revenue streams. Operational expenses, including staff salaries, equipment, building maintenance, and utilities, are detailed. Depreciation expenses are consistently factored into the financials, reflecting the gradual reduction in asset values. Gross profit and operating profit are derived by subtracting COGS and operational expenses from the total revenue. Tax liabilities are then deducted to calculate the net income.

The pro forma balance sheet provides a snapshot of the hotel's financial position at specific points in time, including projections for assets, liabilities, and equity. Current assets are composed of cash, account receivables, and inventory. Owner equity remains constant, while retained earnings accumulate over the years based on the net income. The depreciation schedules of each asset are detailed, with current assets growing, contributed by cash and account receivables.

The pro forma cash flow statement forecasts the inflows and outflows of cash, ensuring the hotel maintains adequate liquidity. Operating activities include net income, adjustments for depreciation, and changes in working capital components such as inventory and account receivables. Investing activities primarily involve capital expenditures on buildings and equipment. Financing activities include the owner's equity investment, with no additional financing activities projected. Figure 2 indicates the growth of each business line of Sudut Group's new project in PIK 2.

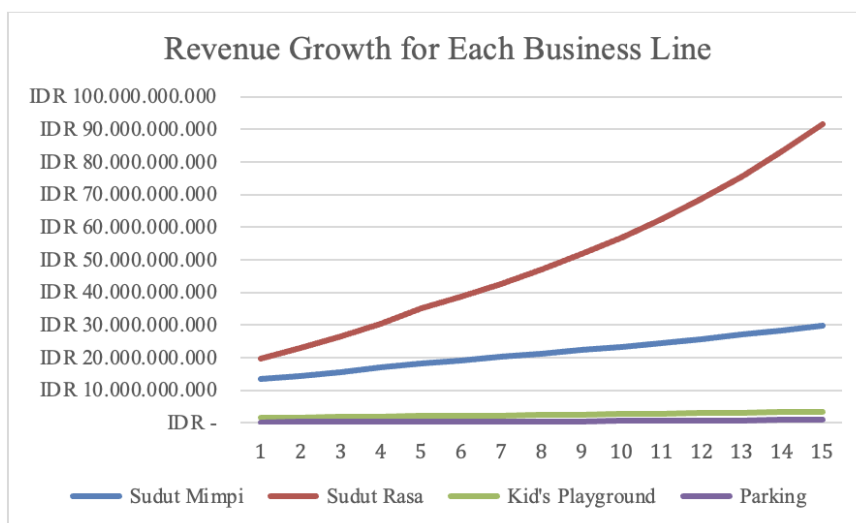


Figure 2. Revenue Growth for Each Business Line



Calculating the Free Cash Flow to the Firm

Before proceeding with the feasibility analysis, calculating the Free Cash Flow to the Firm (FCFF) is essential. FCFF represents the cash flow available to all investors, both equity and debt holders, after accounting for capital expenditures, working capital, and operating expenses. It provides a clear picture of the financial health and potential profitability of the project.

To calculate FCFF, the first step is to input EBIT (Earnings Before Interest and Taxes) from the income statement. Taxes are subtracted from EBIT to obtain the Net Operating Profit After Taxes (NOPAT). Depreciation and amortization, which are non-cash expenses, are then added back to NOPAT to determine the actual cash generated. Adjustments for changes in current assets, including required cash, inventory, and accounts receivable, are made. Finally, capital expenditures (CapEx) for property and equipment are subtracted, resulting in the FCFF.

Using the FCFF, the Net Present Value (NPV) of future cash flows can be determined, providing a comprehensive assessment of the project’s financial viability. The Internal Rate of Return (IRR) and Payback Period can also be defined after accumulating the FCFF.

Stage 2 - Cost of Equity

Capital Asset Pricing Model for the Cost of Equity

The Capital Asset Pricing Model (CAPM) is employed to estimate the cost of equity for the hotel project. This model considers the risk-free rate, the beta coefficient of the project, and the expected return of the market to determine the required return on equity. The beta coefficient reflects the sensitivity of the project’s returns to market returns and is a crucial component in this calculation.

To benchmark the cost of equity, data from other companies with similar business models, specifically hotels and restaurants, are used. These companies are publicly listed on the Indonesia Stock Exchange (IDX), providing reliable and comparable financial data. The details are available on Table 2. For this project, the risk-free rate is 7.05%, sourced from Indonesia’s government bond yield with 15 years of maturity per June 2024. The beta coefficient is 0.19, as derived from the average unlevered beta of comparable companies. The expected return of the market is 16.13%, based on the average stock market return in Indonesia from 1984 – 2021. Using these values, the CAPM formula calculates the cost of equity to be 8.76%.

Table 3. List of Benchmarked Company and Financial Data

Candidates' Ticker Code	Company Beta	Debt to Equity Ratio	Unlevered Beta
SHID	-0,3	58,97%	-0,20
DFAM	0,19	374,69%	0,04
FITT	1,41	98,74%	0,75
KPIG	0,29	23,02%	0,24
JHHD	0,1	3,57%	0,10

However, this number is considered small for the hotel and restaurant industry. Using the beta from Damodaran [12], which is 1.05, the cost of equity is recalculated to be 16.58%. This reflects the expected return required by investors to compensate for the risk associated with the project.

The CAPM is preferred over the Weighted Average Cost of Capital (WACC) to enhance flexibility. CAPM allows for a straightforward estimation of the cost of equity by focusing on the systematic risk of the project, represented by the beta coefficient. This flexibility is beneficial when the project owner plans to adjust the capital structure, shifting between equity and debt financing as needed.

Stage 3 - Terminal Cash Flow

At the project’s end in Year 15, the terminal cash flow, representing the project’s residual value, is included, bringing the total cash flow for that year to IDR 61.734 billion. The discount rate used is the cost of equity, calculated using the CAPM model, which stands at 16.58%. The growth rate is based on the Compound Annual Growth Rate (CAGR) of Indonesia’s hospitality industry, projected at 2.6%. This growth rate provides a stable and realistic benchmark for projecting long-term financial performance. The final year free cash flow to the firm is IDR 7,404,912,895.



The result of the terminal cash flow is IDR 61,734,436,850. This calculation ensures a comprehensive evaluation of the project’s long-term value, considering both its ongoing operational performance and its terminal value at the end of the forecast period. By incorporating these factors, the financial analysis provides a realistic and robust projection of the project’s potential profitability. Table 4 shows the total cash flow generated in the first 15 years, with addition of terminal cash flow at the end of the period.

Table 4. Total Cash Flow for Each Year

Year	FCFF	Terminal Value	Total Cash Flow
0	IDR (41.600.000.000)		IDR (41.600.000.000)
1	IDR 3.702.998.167		IDR 3.702.998.167
2	IDR 6.159.975.392		IDR 6.159.975.392
3	IDR 7.272.966.353		IDR 7.272.966.353
4	IDR 8.550.996.550		IDR 8.550.996.550
5	IDR 10.018.099.070		IDR 10.018.099.070
6	IDR 10.618.524.521		IDR 10.618.524.521
7	IDR 10.507.377.577		IDR 10.507.377.577
8	IDR 10.425.828.013		IDR 10.425.828.013
9	IDR 10.278.808.734		IDR 10.278.808.734
10	IDR 10.056.907.028		IDR 10.056.907.028
11	IDR 9.788.625.629		IDR 9.788.625.629
12	IDR 9.428.160.990		IDR 9.428.160.990
13	IDR 8.823.739.219		IDR 8.823.739.219
14	IDR 8.184.682.522		IDR 8.184.682.522
15	IDR 7.404.912.895	IDR 54.329.523.956	IDR 61.734.436.850

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Stage 4 – Feasibility Analysis

Technique of Capital Budgeting

After preparing the pro forma financial statements and gathering all necessary assumptions, capital budgeting techniques are applied to assess the project’s feasibility [17]. This involves evaluating the Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period. By accumulating the annual cash flows from the Free Cash Flow to the Firm (FCFF) and including the terminal cash flow at the end of the project, these financial metrics are calculated. The formulas used for these calculations are outlined in the previous chapters.

The capital budgeting analysis for the project yields promising results. The annual cash flows, including a significant terminal cash flow in Year 15, show a steady increase over time.

Result of the Feasibility Analysis

Table 5. Capital Budgeting Techniques and Feasibility Result

Techniques	Result	Criteria	Conclusion
NPV	IDR 54.881.243.591	Positive Value	ACCEPT
IRR	19,33%	Higher than 16,58% as cost of Equity	ACCEPT
Payback Period	6,56	Less than max acceptable payback at 15 years	ACCEPT



Three primary capital budgeting techniques were employed to evaluate the financial viability: Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period. Each technique offers a unique perspective on the project’s potential returns and associated risks. The NPV method calculates the present value of all future cash flows generated by the project, discounted back to their value today using the cost of equity. For this project, the NPV is calculated to be IDR 54,881,243,591. Since the NPV is positive, it indicates that the project is expected to generate more value than the cost of the investment, suggesting that the project is financially viable and should be accepted.

The IRR is the discount rate that makes the NPV of all cash flows from a particular project equal to zero, representing the project’s expected rate of return. For this project, the IRR is calculated to be 19.33%, which is higher than the cost of equity (16.58%). Since the IRR exceeds the cost of equity, the project is expected to generate a return greater than the minimum required return, thereby justifying acceptance of the project. The Payback Period measures the time it takes for the project to recover its initial investment from its net cash flows. For this project, the payback period is 6.56 years, significantly less than the project’s maximum acceptable payback period of 15 years. A shorter payback period indicates a quicker recovery of the initial investment, thereby reducing the risk of prolonged exposure to market uncertainties and financial risks. Hence, the project meets the criteria and is recommended for acceptance.

Based on the results of these capital budgeting techniques, the project demonstrates strong financial viability. The positive NPV, IRR exceeding the cost of equity, and a relatively short payback period collectively indicate that the project is expected to generate substantial value and provide a solid return on investment.

Stage 5 – Investment Risk Assessment

Determining the Sensitive Variable

In determining the sensitive variables, each variable is examined individually to assess its impact on the project’s Net Present Value (NPV). A variable is considered sensitive if a change in those variables results in a proportionally larger change in the NPV. This analysis is crucial as it helps identify which variables significantly influence the project’s financial outcomes and require careful monitoring.

The sensitivity analysis involves evaluating changes in key variables, both increasing and decreasing them by 10%, and observing the corresponding swings in NPV.

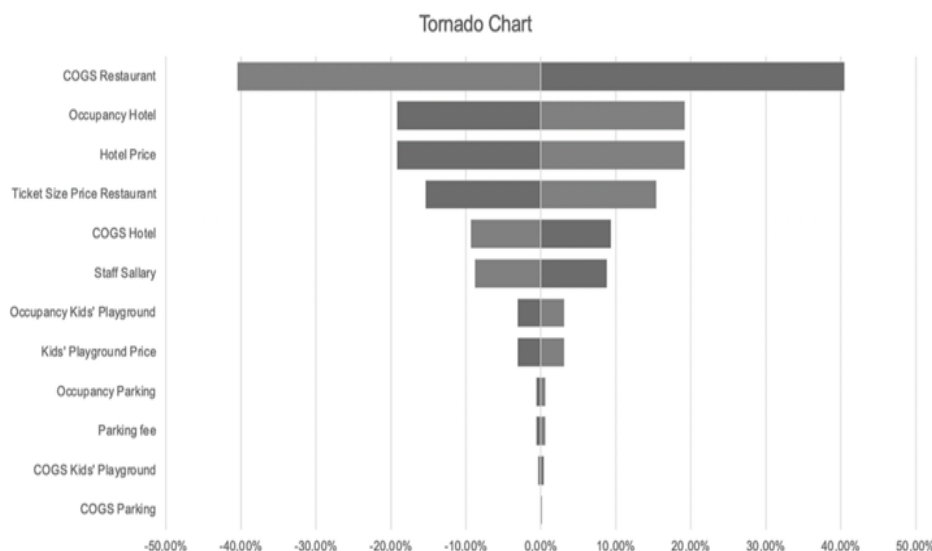


Figure 3. Tornado Chart of Sensitive Variables

From this analysis, it is concluded that the NPV is sensitive to several variables such as the Cost of Goods Sold (COGS) for the hotel, COGS for the restaurant, hotel occupancy rates, hotel price for the customer, and restaurant average ticket size. These variables exhibit significant changes in NPV when altered, indicating their substantial impact on the project’s financial performance.



Conversely, Sudut Fee and Rent Fee, although impactful on the NPV, are not considered sensitive because these costs are fixed by agreement at the project’s inception and are not subject to future fluctuations. Understanding these sensitivities allows for better risk management and strategic planning, ensuring the project’s financial robustness.

The tornado chart visually represents the sensitivity analysis of various variables on the Net Present Value (NPV) of the project. It highlights how changes in each variable, both increases and decreases, impact the NPV. The chart’s horizontal bars indicate the extent of the NPV swing for each variable, with the variables sorted from the most to the least sensitive.

The analysis reveals that the Cost of Goods Sold (COGS) for the restaurant is the most sensitive variable. A 10% increase in COGS leads to a significant -40.48% change in NPV, while a 10% decrease results in a 40.48% increase in NPV. This indicates that managing restaurant costs is crucial for maintaining the project’s profitability. Hotel price and occupancy rate are also highly sensitive, each showing a 19.19% swing in NPV with a 10% change. This emphasizes the importance of optimal pricing strategies and high occupancy rates for the project’s success.

The analysis also illustrates the critical role that revenue plays in the sensitivity analysis, as variations in revenue from each business line have a direct impact on the NPV.

The Net Present Value (NPV) is particularly sensitive to the variables associated with the hotel and restaurant because these business lines contribute most of the project’s revenue. Specifically, the restaurant accounts for 67% of the total revenue, while the hotel contributes 29%. These substantial percentages mean that any fluctuations in the cost of goods sold (COGS), occupancy rates, or pricing strategies in these areas will significantly impact the overall financial performance of the project. In contrast, the kids’ playground and parking area contribute only 3% and 1% of the total revenue, respectively, making their impact on the NPV relatively minor. Therefore, it is crucial to carefully manage and optimize the hotel and restaurant operations to ensure the project’s financial success.

In summary, the tornado chart identifies COGS for the restaurant, hotel pricing, and hotel occupancy as the most critical variables affecting the project’s financial outcomes. These areas should be prioritized for effective management and strategic planning to ensure the project’s profitability.

Monte Carlo Analysis

After identifying and understanding the variables, a Monte Carlo Analysis is conducted. This analysis offers a comprehensive evaluation of the project’s financial feasibility by simulating 1,000 different scenarios with randomly generated values for the sensitive variables. Each variable is assessed individually to determine its distribution, which helps in generating random numbers around the mean, incorporating the minimum and maximum values.

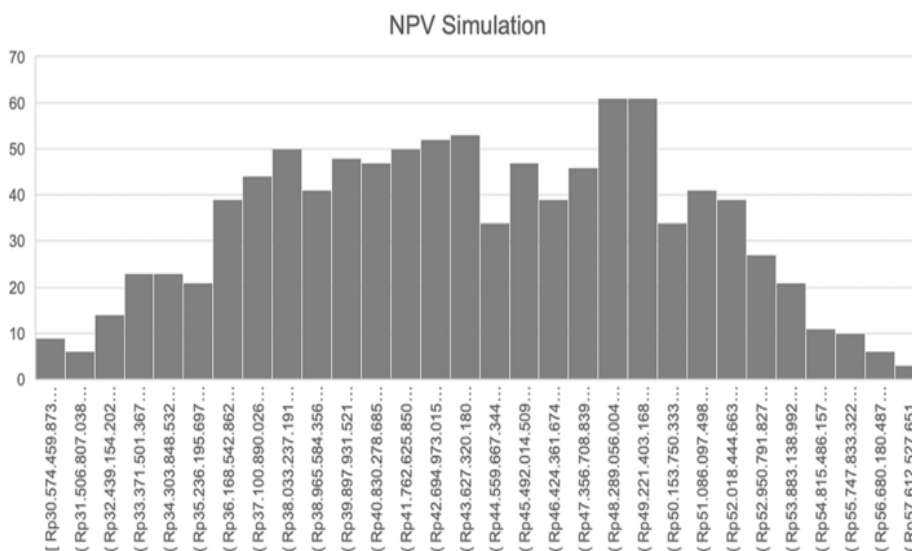


Figure 4. NPV Simulation Result



The resulting histogram displays the range and frequency of potential Net Present Value (NPV) outcomes. The curve of the NPV distribution is slightly skewed to the left, indicating a higher frequency of lower-than-average NPVs, but the distribution is relatively symmetrical, suggesting a balanced range of outcomes.

The average NPV from the simulations is approximately IDR 44,318,599,606, with a standard deviation of IDR 6,132,261,885, indicating a moderate spread around the mean. The minimum NPV observed is IDR 30,574,495,873, and the maximum is IDR 58,544,874,816, showcasing the potential range of financial outcomes. The kurtosis value of -0.8597 suggests a flatter distribution compared to a normal distribution, meaning the NPV values are more evenly spread out. The skewness value of -0.044 indicates a slight skew to the left, suggesting a small tendency towards lower NPVs, although this skewness is minimal.

Additionally, the probability of the NPV being less than zero is 0%, which implies a high likelihood of achieving positive financial outcomes for this project. This analysis provides stakeholders with a comprehensive understanding of the potential risks and returns, emphasizing the importance of managing key variables to ensure the project's financial success.

IV. CONCLUSION

This research aimed to evaluate the economic feasibility of Sudut Group's proposed hotel and restaurant project at Pantai Indah Kapuk 2 (PIK 2). Through an in-depth financial analysis, the study examined the potential profitability and sustainability of the project. The key financial metrics assessed, including Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period, provided a thorough evaluation of the project's economic viability.

The financial analysis yielded positive results, indicating that the project is economically sound. The NPV was calculated to be IDR 54,881,243,591, indicating a substantial expected value generation over the investment period. This positive NPV meets the criteria for project acceptance, as it signifies that the project is expected to generate more value than its initial cost. An IRR of 19.33% supports the project's potential to deliver significant returns above the cost of equity, which is 16.58%. This IRR exceeds the cost of equity, thus meeting another crucial criterion for project acceptance. The payback period of approximately 6.56 years suggests a relatively swift recovery of the initial investment within a 15-year timeframe, making the project appealing to investors. The fact that the payback period is less than 15 years further strengthens the project's attractiveness and feasibility.

A comprehensive sensitivity analysis highlighted the critical variables impacting the project's financial performance, such as hotel occupancy rates, hotel pricing, and restaurant COGS. Effective management of these factors is essential for the project's success. Specifically, strategies must be developed to maintain high occupancy rates and ticket sizes for the restaurant, optimize hotel pricing, and control restaurant costs to ensure sustained profitability. The analysis shows that these variables significantly influence the NPV, reinforcing the need for diligent management.

Additionally, a Monte Carlo simulation involving 1,000 trials provided a robust analysis of potential financial outcomes under varying scenarios. The average NPV from the simulation was IDR 44,318,599,606, with a range from IDR 30,574,495,873 to IDR 58,544,874,816, demonstrating a high likelihood of positive NPV outcomes. This analysis showcases the project's financial resilience and potential for success amidst uncertainties and market fluctuations.

The study's findings underscore the economic feasibility of Sudut Group's project, suggesting it is a sound investment with substantial potential for profitability. The comprehensive financial analysis, coupled with sensitivity and risk assessments, provides a solid foundation for informed decision-making by stakeholders. By meeting the critical criteria for NPV, IRR, and payback period, the project demonstrates strong potential for generating substantial returns and recovering the initial investment in a timely manner. These results offer confidence to potential investors and stakeholders regarding the project's financial viability and strategic value.

After analyzing the feasibility study, several risks associated with the project have been identified. These risks have been assessed and incorporated into the variables that significantly impact the Net Present Value (NPV), particularly the Cost of Goods Sold (COGS) for the restaurant, hotel occupancy rates, and hotel pricing. Recognizing and addressing these risks is crucial for ensuring the project's success and financial viability.

To mitigate the high COGS for the restaurant, a multi-faceted strategy can be employed. Firstly, implementing stringent cost control measures such as bulk purchasing and negotiating better deals with suppliers can help reduce the cost of raw materials. Secondly, optimizing menu offerings to focus on high-margin items while minimizing waste through efficient inventory management will further control costs. Additionally, introducing seasonal menus can take advantage of cost-effective, locally sourced ingredients, thereby reducing overall COGS and enhancing profitability.



Ensuring high hotel occupancy and maintaining a steady number of visitors require a proactive approach. A robust marketing strategy that includes targeted advertising, loyalty programs, and partnerships with travel agencies can attract a steady stream of guests. Moreover, offering exceptional customer service and unique experiences will encourage repeat visits and positive word-of-mouth. Leveraging online platforms and social media to engage potential customers and showcase the hotel's amenities and special offers can also boost occupancy rates. Seasonal promotions and package deals, especially during off-peak periods, can help maintain consistent visitor numbers throughout the year.

To ensure that the hotel's pricing remains stable and competitive, especially given its sensitivity as a key variable, a dynamic pricing strategy should be adopted. This involves regularly monitoring competitors' pricing strategies and adjusting the hotel's rates accordingly to stay attractive to potential guests. Implementing a flexible pricing model that adjusts rates based on demand, special events, and peak seasons can help maximize revenue without sacrificing occupancy. Additionally, enhancing perceived value through exceptional service, exclusive amenities, and personalized guest experiences can justify premium pricing and foster customer loyalty.

Lastly, to increase the restaurant ticket size per customer, several strategies can be implemented. Enhancing the menu with high-value items and offering bundled meals or combo deals can encourage customers to spend more. Training staff to upsell effectively by suggesting add-ons, premium beverages, and desserts can also boost the average ticket size. Implementing loyalty programs that reward higher spending with discounts or special offers can incentivize customers to increase their order size. Additionally, creating an appealing dining atmosphere and exceptional service experience can justify higher prices and encourage customers to indulge in more extensive dining options.

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