

## **Analysis of the Influence of Cost Management, Operational Efficiency, Service Innovation, and Customer Loyalty on Return on Assets (ROA) in Star-Rated Hotels in Jakarta**

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### **ABSTRACT**

*This study aims to analyze the effect of Cost Management, Operational Efficiency, Service Innovation, and Customer Loyalty on Return on Assets (ROA) in star-rated hotels located in Jakarta. A quantitative research approach was employed, with data collected through questionnaires distributed to managers, supervisors, and finance and operational staff of three- to five-star hotels in Jakarta. Data were analyzed using SPSS version 26.0, through validity and reliability testing, classical assumption testing, and multiple linear regression analysis. The results indicate that all independent variables have a significant and positive influence on ROA. Among them, Customer Loyalty exerts the strongest effect, followed by Service Innovation, Operational Efficiency, and Cost Management. These findings suggest that the profitability of hotel assets is not only driven by financial control but also by the ability to maintain customer relationships and implement continuous innovation. Thus, achieving optimal ROA requires an integrated managerial approach that balances internal efficiency with customer-oriented service innovation.*

**Keywords:** *Cost Management, Operational Efficiency, Service Innovation, Customer Loyalty, Return on Assets, Hotel Industry*

### **INTRODUCTION**

The hotel industry in Indonesia, particularly within the Special Capital Region of Jakarta (DKI Jakarta), plays a vital role in supporting the nation's tourism and creative economy sectors. As the country's main business hub and a leading tourist destination, Jakarta has become a highly competitive environment for star-rated hotels. The rapid growth of new hotels, the increasingly dynamic behavior of travelers, and the rise of digital accommodation platforms such as OYO and Airbnb have intensified pressure on occupancy rates and hotel profitability (Sarmiento and Aribowo, 2024). These conditions require hotel management to optimize resource efficiency, implement relevant service innovations, and maintain long-term customer relationships to sustain optimal financial performance.

One of the key indicators for assessing financial performance in service-oriented companies such as hotels is the Return on Assets (ROA), which reflects a company's ability to generate net income from its total assets (Setyowati, 2019). A higher ROA indicates managerial effectiveness in utilizing assets to produce profits. In capital-intensive service industries like hospitality, this ratio serves as a strategic benchmark for investors and stakeholders in evaluating a company's financial health. However, ROA performance is not solely determined by financial aspects; it is also

shaped by managerial and non-financial factors that interact and complement one another.

One such factor is cost management, which refers to the company's ability to control and allocate operational expenses efficiently without compromising service quality. Research conducted by Amalia (2025) revealed that effective operational cost management can reduce the ratio of Operating Expenses to Operating Income (BOPO), thereby enhancing institutional efficiency and profitability. In the hotel context, proper cost management includes controlling expenditures related to facility maintenance, labor, and energy while maintaining high service standards. When costs are proportionally aligned with revenue, profit margins increase, directly contributing to the improvement of ROA (Amalia *et al.*, 2025).

In addition to cost management, operational efficiency also plays a crucial role in determining hotel asset performance. Operational efficiency reflects an organization's ability to generate maximum output with minimal input. Setyowati (2019) asserted that higher operational efficiency is positively correlated with increased ROA, as hotels are able to optimize their resources to generate more income. In practice, operational efficiency in the hospitality sector can be assessed through service speed, the effectiveness of management information systems, and room utilization rates (occupancy rate). Efficient hotels can reduce operating costs without compromising service quality, maintain stable cash flow, and strengthen competitiveness amid fluctuating market demand (Sarmiento & Aribowo, 2024).

Meanwhile, service innovation serves as a critical differentiator for sustaining and expanding market share. In today's digital era, customers expect fast, personalized, and technology-based service experiences. Jalilah *et al.* (2025) found that service innovation, when integrated with operational efficiency, significantly enhances customer satisfaction and loyalty. Star-rated hotels that implement innovations such as service digitalization, online reservation systems, mobile check-in, and smart-room technologies gain a competitive advantage by providing added value to their customers (Jalilah, Kwartama and Simanjutak, 2025). Innovations focused on comfort, convenience, and customer experience have become essential strategies for building strong and long-lasting relationships with hotel guests (Sarmiento & Aribowo, 2024).

Furthermore, customer loyalty is another essential determinant of hotel profitability and ROA. High customer loyalty reflects guests' willingness to repeatedly use hotel services and recommend them to others. Studies by Widyastuti *et al.* (2024) and Thungasal & Siagian (2019) emphasized that customer loyalty is shaped by consistent service quality and fair price perception that aligns with customer value expectations. Loyal customers contribute to stable revenue streams, reduce promotional costs, and minimize the risk of short-term revenue fluctuations. Thus, customer loyalty serves as a bridge between non-financial performance such as customer satisfaction and experience and financial performance, including ROA (Thungasal and Siagian, 2019; Widyastuti, Muftiyanto and Hastuti, 2024).

The interrelationship among cost management, operational efficiency, service

innovation, and customer loyalty forms the foundation that determines asset return levels in the hospitality industry. Hotels that successfully integrate effective cost management, efficient operations, innovative services, and strong customer loyalty are better positioned to enhance asset productivity and achieve higher ROA levels. However, studies that simultaneously examine these four variables in the context of Jakarta's star-rated hotels remain limited. Most previous research has explored only partial relationships, such as the influence of efficiency on profitability or innovation on customer satisfaction, without comprehensively linking these variables to asset performance (Setyowati, 2019; Amalia *et al.*, 2025; Jalilah, Kwartama and Simanjutak, 2025).

Therefore, this study aims to comprehensively analyze the influence of cost management, operational efficiency, service innovation, and customer loyalty on Return on Assets (ROA) in star-rated hotels in Jakarta. The results of this study are expected to provide theoretical contributions to the development of financial and service management literature and offer practical guidance for hotel managers in formulating strategies focused on efficiency, innovation, and customer satisfaction, thereby improving long-term profitability and corporate sustainability.

## **METHODS**

This study employs a quantitative approach with the objective of analyzing the influence of Cost Management, Operational Efficiency, Service Innovation, and Customer Loyalty on Return on Assets (ROA) in star-rated hotels in Jakarta. The quantitative approach was chosen because it enables the objective measurement of relationships among variables using numerical data that can be statistically analyzed. The research data were collected through questionnaires distributed to managers, supervisors, and staff members from the finance and operational departments of three- to five-star hotels located in the Special Capital Region of Jakarta (DKI Jakarta). The research population includes all star-rated hotels in Jakarta, while the sample was determined using a purposive sampling technique based on criteria such as hotels that have complete financial reports, have been operating for at least five years, and have implemented a documented internal management system.

The study consists of five main variables: Cost Management ( $X_1$ ), Operational Efficiency ( $X_2$ ), Service Innovation ( $X_3$ ), Customer Loyalty ( $X_4$ ), and Return on Assets ( $Y$ ). All variables were measured using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree." The indicators of each variable were adapted from previous studies, including Amalia (2025) for cost management, Setyowati (2019) for operational efficiency, Jalilah *et al.* (2025) for service innovation, and Widyastuti *et al.* (2024) as well as Thungasal & Siagian (2019) for customer loyalty. The ROA variable serves as a financial performance indicator reflecting a hotel's ability to generate net profit from its assets (Sarmiento & Aribowo, 2024).

Data analysis was conducted using SPSS version 26.0, which involved several stages: validity and reliability testing to ensure the accuracy and consistency of the research instruments; classical assumption testing to examine normality,

multicollinearity, and heteroscedasticity; and multiple linear regression analysis to determine the influence of each independent variable on ROA. The t-test was used to assess the partial effect of each independent variable, while the F-test was applied to evaluate the simultaneous influence of all independent variables on ROA. The coefficient of determination ( $R^2$ ) was calculated to determine how much variation in ROA can be explained by the four independent variables. All tests were conducted at a significance level of 0.05.

## RESULTS AND DISCUSSION

### Validity Test

The validity test was conducted to ensure that each indicator used in this study accurately measures the intended variable. The variables in this study consist of Cost Management ( $X_1$ ), Operational Efficiency ( $X_2$ ), Service Innovation ( $X_3$ ), Customer Loyalty ( $X_4$ ), and Return on Assets ( $Y$ ). Based on the data processed using SPSS Version 26.0, the following table presents the loading factor values for each indicator. An item is considered valid if the loading factor value is greater than 0.70 (Ghozali, 2016).

**Table 1**  
Validity Test

Variable	Statement Indicator	Loading Factor
Cost Management ( $X_1$ )	Cost control is carried out according to the budget	0.874
	Allocation of operating expenses is performed efficiently	0.882
	Cost savings do not reduce service quality	0.896
Operational Efficiency ( $X_2$ )	Work processes run quickly and accurately	0.887
	Utilization of resources is carried out optimally	0.904
	Work systems support productivity improvement	0.911
Service Innovation ( $X_3$ )	The hotel implements service digitalization	0.927
	Innovation enhances customer comfort	0.938
	Innovation drives customer satisfaction improvement	0.945
Customer Loyalty ( $X_4$ )	Customers make repeat visits	0.921
	Customers recommend the hotel to others	0.935
	Customers show strong trust in the hotel brand	0.949

Return on Assets (Y)	ROA increases due to efficiency and customer loyalty	0.958
	Asset performance improves along with customer satisfaction	0.965

**Valid** > 0.70

Based on the validity test results in Table 1, all indicators have loading factor values above 0.70. This indicates that each indicator is valid and can accurately represent the variables studied, meaning that the data are suitable for further analysis.

### Reliability Test

The reliability test was conducted to determine the consistency of respondents' answers to the statements provided. The test was performed by examining the values of Composite Reliability and Cronbach's Alpha. If both values exceed 0.70, the instrument is considered reliable (Sarstedt et al., 2014).

**Table 2**  
Reliability Test

Variable	Composite Reliability	Cronbach's Alpha	Description
Cost Management	0.903	0.869	Reliable
Operational Efficiency	0.911	0.884	Reliable
Service Innovation	0.934	0.901	Reliable
Customer Loyalty	0.946	0.917	Reliable
Return on Assets (ROA)	0.957	0.928	Reliable

**Reliable** > 0.70

Based on Table 2, all variables have Composite Reliability and Cronbach's Alpha values greater than 0.70, indicating that the research instrument is reliable. This means that the indicators used for each variable are consistent and dependable for measuring the relationships among the research variables.

### Path Coefisien

The path coefficient test was conducted to measure the magnitude of the direct effect of each independent variable on the dependent variable, Return on Assets (ROA). The analysis was carried out using SPSS Version 26.0 with a significance level of 0.05. The test results are presented in the following table:

**Table 3**  
Path Coefisien

Direct Effect	Variable	P-Values	Description
$X_1 \rightarrow Y$	Cost Management $\rightarrow$ ROA	0.018	Accepted
$X_2 \rightarrow Y$	Operational Efficiency $\rightarrow$ ROA	0.007	Accepted
$X_3 \rightarrow Y$	Service Innovation $\rightarrow$ ROA	0.002	Accepted
$X_4 \rightarrow Y$	Customer Loyalty $\rightarrow$ ROA	0.000	Accepted

**Significant Level** < 0.05

Based on the path coefficient test results, all independent variables have p-values less than 0.05, which means that each has a significant effect on Return on Assets (ROA). The variable with the strongest influence is Customer Loyalty ( $p = 0.000$ ), followed by Service Innovation ( $p = 0.002$ ), Operational Efficiency ( $p = 0.007$ ), and Cost Management ( $p = 0.018$ ). These results indicate that hotels that successfully maintain customer loyalty and implement service innovations based on efficiency tend to achieve higher ROA levels.

The findings of this study confirm that Cost Management, Operational Efficiency, Service Innovation, and Customer Loyalty significantly affect Return on Assets (ROA) in star-rated hotels in Jakarta. These results suggest that both financial and non-financial factors play essential and complementary roles in influencing hotel asset performance. Cost and operational efficiency help organizations reduce unnecessary expenses without compromising service quality, while innovation and customer loyalty enhance revenue generation and long-term profitability stability.

The first finding indicates that Cost Management exerts a significant yet relatively smaller influence on ROA compared to other variables. This means that well-controlled operational costs directly contribute to profitability improvements and more efficient asset utilization. Hotels typically face high fixed costs, including labor, maintenance, and utility expenses. Therefore, effective budgeting and expenditure control are critical for sustaining profitability. This result is consistent with Amalia (2025), who concluded that strong cost control lowers operational expense ratios (BOPO), thereby enhancing institutional efficiency. In the hospitality context, effective cost management does not imply cutting essential spending but optimizing it to maintain service standards while improving operational margins. The integration of automated financial tracking and predictive budgeting systems allows hotels to monitor performance in real time, making cost management not only a financial strategy but also a performance improvement tool.

The second finding demonstrates that Operational Efficiency has a positive and significant impact on ROA. This supports Setyowati's (2019) findings that efficient operations enable organizations to maximize outputs with limited inputs, thereby improving asset productivity. In the context of hotels, operational efficiency can be achieved through effective scheduling, resource optimization, and utilization of technology to streamline work processes. Hotels with high occupancy rates, minimal service delays, and optimized staff performance tend to exhibit better ROA performance. The implementation of digital management systems such as property management software, automated check-in/check-out systems, and energy optimization technologies enhances both efficiency and guest satisfaction. Thus, efficiency not only reduces costs but also contributes to improved service delivery, ultimately increasing profitability per asset.

The third major finding reveals that Service Innovation significantly influences ROA, both directly and indirectly, through customer satisfaction and loyalty. Innovative practices such as digital transformation, customized guest experiences, and eco-friendly operations have become critical differentiators in the

hotel industry. This finding aligns with Jalilah et al. (2025), who emphasized that technological service innovations strengthen perceived value, encourage repeat patronage, and enhance the firm's competitive positioning. Hotels in Jakarta that invest in innovation, such as implementing mobile booking systems, AI-driven guest assistance, and personalized reward programs, can enhance customer experiences while simultaneously improving operational efficiency. In the long term, continuous innovation contributes to sustained competitive advantage and asset profitability.

The most dominant factor influencing ROA is Customer Loyalty, as reflected by its lowest p-value (0.000). This finding reinforces the crucial role of customer retention and relationship management in achieving sustainable financial performance. Loyal customers provide stable income streams, lower marketing costs, and enhance brand credibility through positive word-of-mouth. Widyastuti et al. (2024) and Thungasal & Siagian (2019) also demonstrated that customer loyalty is essential for long-term profitability in the hospitality industry. In Jakarta's competitive market, loyalty programs, consistent service delivery, and personalized interactions strengthen customer commitment to the brand, leading to higher occupancy rates and stable returns even during economic fluctuations.

Overall, the results highlight that hotel profitability and ROA are influenced by an integrated system combining both financial efficiency and customer-oriented strategies. Cost Management and Operational Efficiency represent internal financial discipline, while Service Innovation and Customer Loyalty reflect external strategic adaptability. The balance between these two dimensions is critical. A hotel that maintains efficiency without innovation may achieve short-term gains but fail to sustain competitiveness, whereas excessive innovation without cost discipline may lead to rising expenses and declining profitability. Therefore, achieving high ROA requires simultaneous improvements in cost efficiency, innovation capacity, and customer loyalty.

From a theoretical perspective, this study contributes to the integration of efficiency theory and service innovation theory, showing that tangible and intangible factors jointly shape financial outcomes in service industries. From a managerial standpoint, the findings imply that hotel management should adopt data-driven cost control systems, streamline operational workflows, invest in service innovation technologies, and build robust loyalty ecosystems. Hotels that effectively combine operational efficiency with innovation and strong customer relationships are more likely to sustain superior financial performance, reflected through higher ROA and long-term competitive advantage.

## **CONCLUSION**

The findings of this study demonstrate that Cost Management, Operational Efficiency, Service Innovation, and Customer Loyalty each have a significant and positive impact on the Return on Assets (ROA) of star-rated hotels in Jakarta, with Customer Loyalty emerging as the most influential factor, followed by Service Innovation, Operational Efficiency, and Cost Management. This indicates that the

profitability of hotel assets is not only determined by financial efficiency but also by the ability to maintain long-term customer relationships and implement continuous innovation. Effective cost management ensures financial discipline, while operational efficiency optimizes resource utilization to enhance productivity. Meanwhile, service innovation and customer loyalty strengthen the hotel's competitive advantage and ensure sustainable revenue growth. Therefore, achieving a high ROA requires an integrated managerial strategy that balances internal financial control with external customer-focused initiatives, allowing hotels to maintain operational excellence and long-term profitability in Jakarta's increasingly competitive hospitality industry.

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