



Analysis Of Hospital Efficiency And Implications For Financial Performance

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ABSTRACT

Effective financial performance can have a positive impact on hospital efficiency. When hospitals have good financial performance, they are able to optimize resource management, increase revenue, and reduce operating costs. The objective of this study is to analyze Dr. Kariadi Hospital's efficiency from 2018 to 2022 using a financial ratio analysis approach based on PER-24 of 2018 and examine its implications for financial performance. This study employs secondary data in the form of financial statement data from RSUP Dr. Kariadi Semarang, spanning from 2018 to 2022. The data was evaluated by computing eight financial performance metrics. The results suggest that RSUP is efficient based on several indicators, including the current ratio, collection period, fixed asset turnover, and POBO ratio. While inventory turnover is a good indicator, the return on assets (ROA) is only moderate. However, the cash ratio and return on equity (ROE) still need improvement. As a strategic measure, it is recommended to focus on improving the cash ratio and return on equity (ROE) indicators in order to enhance the efficiency and financial performance of Dr. Kariadi Hospital Semarang in the upcoming period.

INTRODUCTION

The Indonesian government is required, according to the 1945 Constitution, to provide all citizens with access to basic healthcare. One effective and efficient way to achieve this is through the use of hospitals. This fact can be seen from the allocation of the health budget in 2021, where 48 percent of the health ministry's budget is allocated for health services (Profile of the Indonesian Ministry of Health, 2021), in accordance with the provisions (UU No. 36, 2009), which stipulate a health budget allocation of 5 percent of the State Budget (APBN). Hospitals play a crucial role in the healthcare system and require ongoing efforts to maintain efficient and optimal operations (Androutsou et al., 2022; Yousefi Nayer, Fazaeli, & Hamidi, 2022). Ensuring hospital operational efficiency is not only essential for health service performance but also for meeting the government's obligation to provide proper health facilities (Law No. 36, 2009).

Hospital efficiency is the ability of hospitals to provide quality healthcare using available resources. One indicator of efficiency is the ability of hospital management to produce service outputs reflected in operating income (Fazria and Dhamayanti, 2019; Kohl et al., 2019). However, the Ministry of Health's financial statements from 2018 to 2022 show fluctuations in the realization of operating income and operating expenses, indicating challenges in achieving consistent efficiency. (Figure 1) (Figure 2).

Figure 1 Target Income & Operating Income BLU 2018 - 2022

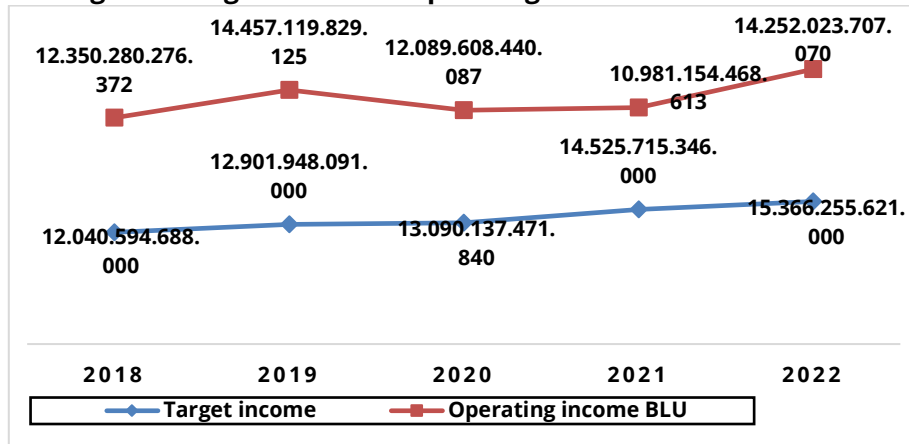
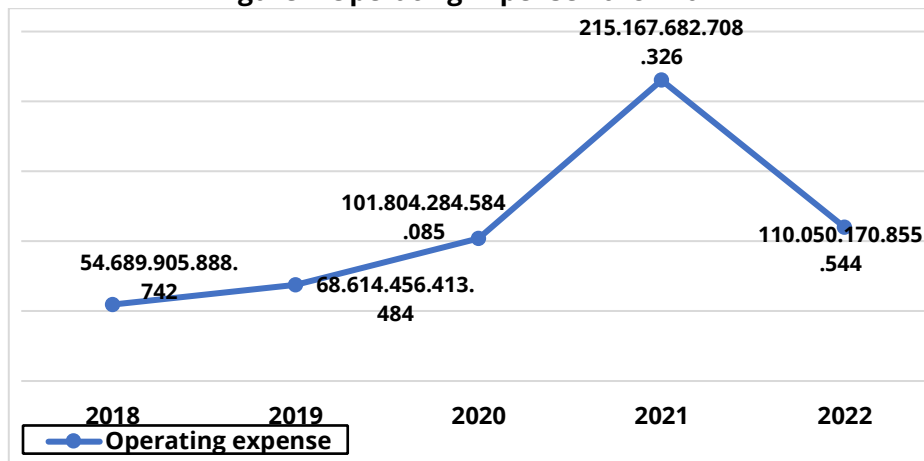


Figure 2 Operating Expense 2018 - 2022



Hospital operational efficiency is an important focus, especially in the face of changing health system dynamics and government policies related to funding and health resource development (Su et al., 2022). Furthermore, the number of hospitals in Indonesia has increased by 9.6% from 2017 to 2021, highlighting the need to enhance efficiency to maintain service quality amidst this growth (Ministry of Health Profile 2021). The Indonesian government is improving efficiency by transforming government hospitals into public service agencies (BLU) to achieve financial independence and resource efficiency (Astuti and Hariani, 2020).

High efficiency reflects good financial performance, as hospitals can optimally manage resources, maximize revenue, and minimize operating costs. Therefore, comprehending the correlation between efficiency and hospital financial performance is crucial for optimizing health services and meeting public demands. This study will analyze the Central General Hospital's (RSUP) efficiency in terms of financial performance, with the aim of contributing to the understanding and application of hospital adaptation to improve operational efficiency. The purpose of this study is

to analyze the efficiency of Dr. Kariadi Hospital from 2018 to 2022 using a financial ratio analysis approach based on UU No. 36 of 2009 and its implications for financial performance.

LITERATURE REVIEW

Stewardship Theory

Donaldson and Davis proposed stewardship theory in 1991, which serves as the foundation for understanding the relationship between management and owners in an organization. This theory is particularly relevant in the context of government hospitals, where it can guide the management of resources for public health services. This theory emphasizes that management should act ethically and optimally in managing organizational resources for the benefit of owners or key stakeholders, particularly in terms of financial performance.

When examining the financial performance of government hospitals, the Stewardship Theory regards management as stewards who have a fiduciary responsibility to run the organization efficiently and responsibly. In managing financial performance, management is expected to ensure efficient resource use while maintaining transparency, accountability, and stakeholder involvement in financial decision-making.

Stewardship Theory provides a conceptual basis for understanding how government hospital management can maintain optimal financial performance, ensure a balance between efficiency and ethics, and fulfill their fiduciary responsibilities to owners and society as stewards of public resources.

Hospital

In Indonesia, hospitals are institutions that offer comprehensive individual health services, as defined by UU. No. 44, 2009 Permenkes No. 3, 2020. According to the World Health Organization (WHO), hospitals not only provide disease treatment and prevention but also serve as training centers for health workers and medical research facilities.

According to UU No. 44/2009 Article 5, hospitals are responsible for providing medical services, health rehabilitation, maintaining and improving individual health, educating and training human resources, as well as researching, developing, and implementing technology in the health sector. The classification of hospitals includes general hospitals and specialized hospitals, with management types being public or private. The evaluation of service capacity, facilities, and human resources is required.

In Indonesia, the concept of public service agencies (BLU) provides government agencies with new opportunities to manage public services with a more flexible financial approach, as stated in UU No. 1, 2004. In this context, BLU is considered a dynamic entity that is presented to improve public services with a sound business approach.

From an organic perspective, BLU is viewed as a government agency that can transform into an autonomous agency, remaining under the government and applying business principles without the main focus on profit-seeking. BLU aims to provide public or commercial services efficiently and independently.

Efisiensi

Efficiency is defined as the ratio between outputs and inputs, according to E.E. Ghiselli and C.W. Brown (1995). This definition emphasizes the importance of understanding the relationship between actions taken to achieve certain goals using limited resources.

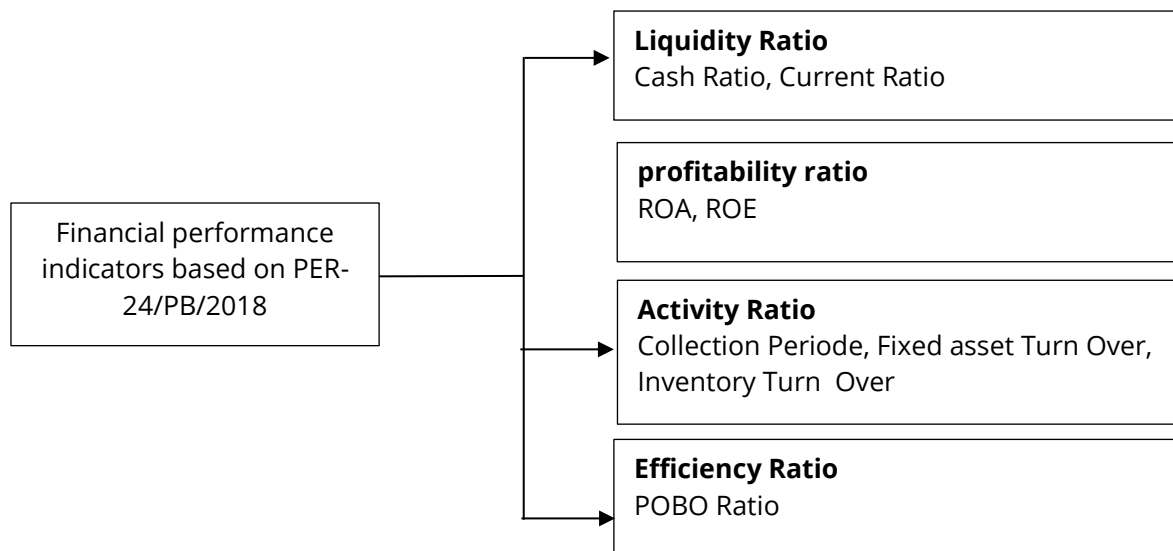
Efficiency in hospitals is measured using various methods and indicators, such as the cost-efficiency ratio, labor productivity, bed utilization rate, data envelopment analysis, net profit ratio, and others. The evaluation of efficiency involves comparing the achieved results with the resources and efforts used. The effectiveness of government hospitals has a significant impact on the better management of public budgets, decreased government financial burden, improved

access to and quality of services, increased public satisfaction, increased government credibility, healthcare cost savings, and positive effects on the local economy.

Financial Rasio

Financial ratios provide a comprehensive overview of the financial health of government hospitals. In this study, they are categorized into four financial performance ratio indicators based on the Director General of Treasury Regulation Number: PER-24/PB/2018. These include liquidity ratios, profitability ratios, activity ratios, and efficiency ratios.

Figure 3. Financial Performance Indicators



Based on the above description, the hypothesis is that the better the financial performance, the more efficient the hospital.

METHODS

Sampling

This study employs a longitudinal observational design to analyze quantitative data on the same variables consistently over the past five years. After collecting the data, financial ratios will be used to analyze each variable.

The research sample is Dr. Kariadi Hospital Semarang, a central government-run public service agency hospital that operates from 2018 to 2022. The hospital was awarded the BLU Award for excellence in health services in 2023, making it eligible for inclusion in the study. The aim of selecting BLU Award-winning hospitals is to provide stakeholders in the healthcare sector with a valuable guide to improving service quality and overall financial management.

Data Collection

The data collection method comprises guidelines that list the necessary data for the research and aim to assist researchers in conducting reviews. Financial data is obtained from financial statements, specifically the balance sheet and operational report.

This study uses secondary data, which was collected from the financial statements of Dr. Kariadi Hospital Semarang from 2018 to 2022. Additionally, information was compiled by searching records in books, journals, symposia, and other sources.

Measures

The financial ratio indicators used in the analysis method are based on the Regulation of the Director General of Treasury Number: Per-24/PB/2018, which provides guidelines for performance assessment of BLUs in the field of hospital (RS). The assessment indicators include cash ratio, current ratio, collection period, fixed asset turnover, ROA, ROE, inventory turnover, and POBO ratio. The data processing process will use Microsoft Excel software, with stages of editing, processing, and cleaning. (Table 1)

Table 1 Operational Variables

No	Variable	Measurements
1	Cash Ratio Measuring the hospital's ability to pay its short-term liabilities using hospital cash	<p>Cash and cash equivalents refer to the funds held by the BLU expenditure treasurer and any cash equivalents listed on the balance sheet. It is important to note that this information is presented objectively and without bias.</p> <p>Short-term liabilities refer to the total amount of short-term debts listed on the balance sheet.</p> $\frac{\text{Cash} + \text{Cash equivalents}}{\text{Short-term liabilities}} \times 100\%$
2	Current Ratio Measuring the hospital's ability to pay its short-term liabilities using the hospital's current set	<p>current assets refer to the total current assets listed on the balance sheet.</p> <p>Short-term liabilities refer to the total amount of short-term debts listed on the balance sheet.</p> $\frac{\text{Current Assets}}{\text{Short-term liabilities}} \times 100\%$
3	Collection Periode (hari) Measuring the collection period of hospital receivables	<p>Accounts receivable represent the gross BLU operational accounts receivable.</p> <p>Operating income is BLU income minus income from APBN</p> $\frac{\text{Accounts receivable}}{\text{Operating income}} \times 1 \text{ hari}$
4	Fixed Asset Turn Over Measuring the asset turnover ratio at the hospital	<p>BLU Income is Total BLU Income minus income from APBN.</p> <p>Fixed Assets is total fixed assets on Balance Sheet.</p> $\frac{\text{BLU Income}}{\text{Fixed Assets}} \times 100\%$

5	Return on Fixed Asset (ROA)	Measuring the return on assets held	<p>The surplus or deficit before items of gain or loss represents the total surplus or deficit in the statement of operations, excluding depreciation and amortisation expenses.</p> <p>Fixed Assets is total fixed assets on Balance Sheet.</p>	$\frac{\text{The surplus or deficit before items of gain or loss}}{\text{Fixed Assets}} \times 100\%$
6	Return on Equity (ROE)	Measuring the return on equity ownership	<p>The surplus or deficit before items of gain or loss represents the total surplus or deficit in the statement of operations, excluding depreciation and amortisation expenses.</p> <p>Equity refers to the total equity on the balance sheet.</p>	$\frac{\text{The surplus or deficit before items of gain or loss}}{\text{Equity}} \times 100\%$
7	Inventory Turn Over	Measuring the inventory turnover period for one year.	<p>Persediaan merupakan total persediaan di neraca Pendapatan BLU merupakan Total BLU Income is Total BLU Income minus income from APBN.</p>	$\frac{\text{Inventory}}{\text{Income BLU}} \times 100\%$
8	POBO Ratio	Measuring how much operating income can cover hospital operating costs	<p>Operating income is BLU income minus income from APBN</p> <p>Operating expense refer to the total operating expenses, excluding depreciation/amortisation expenses.</p>	$\frac{\text{Operating income}}{\text{Operating expense}} \times 100\%$

With measurement criteria and categories based on PER24/PB/2018

RESULTS

Based on the analysis of financial performance ratios in accordance with calculations based on PER-24/PB/2018 concerning Guidelines for Performance Assessment of BLU in the Field of Health Services (Hospital), the calculation results are as follows:

Table 2 recapitulation of financial ratio analysis at rsup dr. Kariadi semarang in 2018-2022

Financial performance efficiency analysis	Periode					Average Score	PER-24/PB/2018		MAX Score	% Score	PK	
	2018	2019	2020	2021	2022		M	Score				
	Cash Rasio (%)	3.568	192	237	1.682		685	1.273				RK > 480
Current Ratio (%)	20.708	1.734	443	2.549	1.184	5.323	RL > 600	2,75	2,75	100	Baik (AAA)	
Collection Periode (hari)	0,34	0,37	0,15	0,09	0,01	0,19	PPP < 30	2,25	2,25	100	Baik (AAA)	
Fixed Asset Turn Over (%)	28	30	28	29	30	29,01	PAT > 20	2,25	2,25	100	Baik (AAA)	
Return on Fixed Asset (ROA) (%)	-0,96	-1,05	-3,75	0,52	10,33	1,02	1 < ROA < 2	1	2,25	44,44	Sedang (B)	
Return on Equity (ROE) (%)	-0,86	-0,94	-3,47	0,47	8,50	0,74	0 < ROE < 1	0,62	2,25	27,56	Buruk (CC)	
Inventory Turn Over (%)	11,47	13,14	21,73	16,50	118,12	36,19	35 < PP < 45	1,75	2,25	77,78	Baik (A)	
POBO Ratio (%)	97	96	86	102	153	106,73	PB > 65	2,75	2,75	100	Baik (AAA)	
Pperformance efficiency analysis RSUP Dr. Kariadi Semarang (2018-2022)									13,87	19	73,00	Baik (A)

During the 2018–2022 period, the following criteria assessments received a good (AAA) rating: current ratio, collection period, fixed asset turnover, and POBO ratio. Inventory turnover also performed well, with a rating of A. However, return on fixed assets (ROA) was rated as moderate (BBB), while cash ratio and return on equity (ROE) received poor ratings of CC. The

calculation results suggest that an evaluation is necessary and that concrete actions should be taken to improve the cash ratio and return on equity (ROE) indicators. (ROE).

DISCUSSION

The study findings suggest that RSUP's financial performance is strong, although there are three indicators that require special attention to achieve an AAA rating. The assessment of the current ratio, which stands at 5.323%, indicates that RSUP Dr. Kariadi Semarang possesses sufficient liquid assets to pay its short-term liabilities, bills, accounts payable, and other liabilities with ease. This demonstrates the financial stability and cash flow management capabilities of RSUP Dr. Kariadi Semarang. If the topic is asset and liability management efficiency, a high current ratio may indicate efficient management of current assets such as medicine stock, cash, and receivables. The collection period value of 0.19%, which is close to the maximum good value, has a significant positive impact. RSUP can collect receivables quickly and efficiently, which not only strengthens cash flow but also reflects effective receivables management. This ability helps to reduce the risk of late payments from patients or other parties. Achieving a good collection period also indicates an improvement in the hospital's liquidity, providing important financial flexibility in dealing with emergency situations or capitalising on investment opportunities. An optimal collection period can also strengthen the confidence of lenders, investors, and other interested parties in the RSUP's ability to manage financial aspects.

The assessment of fixed asset turnover performance, with an average of 29.01%, illustrates RSUP Dr. Kariadi Semarang's ability to utilise its fixed assets efficiently to generate significant revenue. The fixed asset turnover ratio measures the extent to which the hospital can convert investments in fixed assets into operating income. The high ratio reflects the hospital's efficiency in optimising the use of its assets. The POBO ratio at RSUP Dr. Kariadi Semarang is high, with an average of 106.73%. This reflects the hospital's operational efficiency in managing operating income and expenses, which has positive implications for its financial and operational performance. Evaluating this ratio is important for understanding the hospital's overall operational efficiency and its impact on its financial health.

The hospital's inventory turnover is 36.19%, reflecting good efficiency in inventory management. This ratio measures how often a hospital's inventory is used and replaced during a given period. A high inventory turnover rate indicates positive implications for operational and financial efficiency, meaning that hospitals can quickly turn over their inventory.

The performance assessment for return on assets (ROA) indicates a medium category (B) with an average value of 1.02%. This suggests that RSUP DR Kariadi Semarang is relatively efficient in converting fixed asset investments into net income, but further improvement is necessary to achieve a good category. Achieving a good category would enable the hospital to optimise asset utilisation and create significant added value from its investments. A higher ROA value indicates that the hospital has managed its fixed assets well, generating revenue comparable to or higher than the cost of care and maintenance. A good ROA value has a positive impact on the hospital's profitability, as the profit generated from fixed assets is sufficient to cover operational costs and make a profit. Efficient fixed asset utilisation also contributes to the overall financial health of the hospital. An evaluation is necessary to enhance the value of ROA at Dr. Kariadi Hospital Semarang.

The performance assessments for ROE and cash ratio fall under the bad category (CC). The average ROE value for the 2018–2022 RSUP is 0.74% lower than the maximum ROE score of above 8%. This indicates that RSUP's return on equity (ROE) is a crucial measure of the efficiency of using equity and its impact on financial performance. A low ROE value may indicate an inability to generate sufficient profits from hospital operations, resulting in low returns for shareholders. It may also be due to difficulties in effectively utilising equity, which can limit growth and innovation.

The cash ratio performance assessment for RSUP from 2018 to 2022 is 1,273%. The cash ratio is a crucial metric for assessing liquidity. It measures a hospital's ability to meet short-term

obligations using cash assets or cash equivalents. A low cash ratio increases the risk of being unable to meet short-term obligations, resulting in higher financial risk. This can complicate operational activities, decrease stakeholder trust, and affect the ability to negotiate lower rates with lenders or suppliers due to a lack of liquidity.

Overall, the efficiency analysis of the financial performance of Kariadi General Hospital Semarang has a score of 73%, which is in the good (A) category, indicating a positive achievement, but still must be improved. This is in line with research at the Regional Public Service Agency Harapan Insan Sendawar Regional General Hospital, West Kutai Regency (Natalia, Deviyanti, and Setiawati, 2022).

Previous research shows that there is a significant positive effect between the liquidity ratio and financial performance (Fatoni et al., 2023). Therefore, the implication of the higher liquidity ratio of the hospital is to increase the financial independence of the hospital (Astuti and Hariani, 2020). The national health insurance (JKN) policy has a significant impact on RSUP's liquidity ratio, resulting in increased service revenue and a shorter debt collection duration. However, for RSUPs, efficient liquidity can have an impact on weak cash management if not managed properly (Wijayani, 2018). This can take the form of financial planning that is not aligned with the hospital's strategic plan and the absence of hospital risk mitigation (Jak and Magdalena, 2023).

Improvements in the identified areas can enhance the efficiency of RSUP Dr. Kariadi Semarang's financial management and operational performance. This can lead to positive outcomes such as enhanced liquidity, financial competitiveness, and increased trust from stakeholders, including lenders and investors. These improvements can provide a stronger foundation for future growth, facility development, and improved quality of healthcare services.

CONCLUSION

The efficiency assessment of Dr. Kariadi Semarang Central Public Hospital is rated as 'good' with an 'A' rating. However, there is still room for improvement to achieve an 'AAA' rating. Four indicators, namely inventory turnover, return on fixed assets (ROA), cash ratio, and return on equity (ROE), need to be improved to achieve full efficiency. A sound financial performance assessment can positively impact hospital efficiency. The financial ratio score contributes 20% to the overall performance assessment. Therefore, if the financial ratios are at their maximum, it can significantly improve hospital efficiency.

SUGGESTION

This study analysed one hospital out of 17 BLU central public hospitals managed by the Indonesian Ministry of Health. Therefore, any generalisation of findings and conclusions to BLU hospitals owned by the Ministry of Health needs to be done with caution. More analysis is required to compare the efficiency of each hospital run by the Indonesian Ministry of Health. This will provide a reference for other hospitals. It is necessary to further explore the aspects of RSUP BLU that relate to the flexibility of financial management to ensure ongoing efficiency.

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