

## Efforts to Recommend Efficiency and Effectiveness of Hospital X Management Using a Balanced Score Card Approach with a Risk Management Theory Approach

**Budhi Setianto<sup>1,2\*</sup>, Agus Aan Adriansyah<sup>1</sup>, Akas Yekti Pulih Asih<sup>1</sup>, Yauwan Tobing Lukiyono<sup>3</sup>, Nikmatus Sa'adah<sup>4</sup>**

<sup>1</sup> Department of Public Health, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Surabaya 60237, East Java, Indonesia

<sup>2</sup> Head of Planning, Development and Information Systems, Surabaya Islamic Hospital, Surabaya 60246, East Java, Indonesia

<sup>3</sup> Department of Medical Laboratory Technology, Faculty of Health, Universitas Nahdlatul Ulama Surabaya, Surabaya 60237, East Java, Indonesia

<sup>4</sup> Department of Dentistry Education, Faculty of Dentistry, Institut Ilmu Kesehatan Bhakti Wiyata Kediri, Kediri 64144, East Java, Indonesia

\*Corresponding author: budhi.setianto@unusa.ac.id

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### **Abstract**

*As a private house, Hospital X Surabaya has a large patient base. One way to assess the performance of the services provided is to use the Balanced Scorecard (BSC) method, where this assessment does not only look at the financial perspective but other aspects in providing health services to patients at Hospital X Surabaya. This research aims to (1) analyze the performance assessment using Balanced Scorecard (BSC) analysis at Hospital X (2) analyzing quality achievements and customer acquisition (3) analyzing internal business processes (4) analyzing employee productivity at Hospital X Surabaya. This study was built from a study of several secondary data from Hospital X using a case study approach. Based on studies carried out by looking at existing data. research results (1) Performance assessment using Balanced Scorecard (BSC) analysis at Hospital 2) quality indicators are not achieved and the customer acquisition process is low, there is a decrease in the attraction of new customers or new patients (patient acquisition) which causes a reduction or no increase in the number of new patients that had been planned, (3) Achievement of ALOS & BTO values in accordance with standards Ministry of Health of the Republic of Indonesia, and (4) a decrease in employee productivity in health service facilities*

**Keywords :** BSC, Effectiveness, Efficiency, Unit Cost, Risk Management

### **1.Introduction**

Hospitals are one of the health service institutions that have an important role in providing health services to the community (Fentiana and Ginting, 2020). To be able to carry out health service delivery optimally, there needs to be a management process that plays a role in maintaining smooth operations while improving health services. The management process in a hospital is called hospital management (Analysis and Rusli, 2017). The Indonesian government implemented the National Health Insurance (JKN) program as of January 1 2014 by encouraging hospitals to join this program. The payment system from previously fee-for-service became a prospective-payment-system with INA CBGs rates (Sumiati, Witcahyo and Ramani, 2020). This encourages hospitals to become more efficient while maintaining service quality. This payment system

must be anticipated by hospital management, so that hospital income from BPJS claims remains positive for future hospital development(Hudori, 2016).

Because this makes the hospital always provide the best service to the community. In full, every company administration needs measuring tools to determine whether performance is good or not. Performance measurement is a crucial component of a business environment. In management patterns in a business organization (Iswandharu, Sriyanto and ..., 2018). Previously, there was traditional performance measurement which only prioritized financial perspectives, without looking at other perspectives. Where the greater the profit, the better the performance. As management skills develop and technology grows, company performance measurement schemes that only rely on a financial perspective are felt to have many irregularities(Fitriyani, Saifudin and Margareta, 2019). So, financial factors are no longer the only basis for calculating hospital management performance. This fact is the origin of the balanced scorecard concept, which means performance is measured proportionally from 2 sides, namely financial and non-financial. Therefore, the balanced scorecard concept can be used for changes that accommodate hospitals to be superior and productive in advancing management performance (Zahra, 2015). The balanced scorecard not only assesses financial perspectives but also reviews non-financial perspectives such as customers, internal business processes, and learning and growth. With the four perspectives of the balanced scorecard, employees from lower to upper levels are asked to understand the mission and programs of the organization (Rahmadani, Dewata and Jauhari, 2023).

Balanced scorecards are cards that contain performance data, then the word balanced gives the meaning of balance(Sagala and Siagian, 2021). In loose terms, a balanced scorecard means performance measurement data with a balanced scope. The balanced scorecard was developed by Robert Kaplan and David Norton(Trianjaya, 2017). Superior company operations must cover four areas, namely finance, customers, business processes and growth. How assets are managed in producing goods and services determines the health of the company(Sudaryo, 2014). The company's ability to improve performance in these four areas determines its ability to compete in the market and determines the company's sustainability(Handayani, 2017).

Surabaya Islamic Hospital is an agency under the guidance of the Surabaya Islamic Hospital Foundation (YARSIS) which operates in the public sector by supporting superior health services for the community. RSI Surabaya must also be able to provide accountability to both the foundation and the community both financially and non-financially. Therefore, it is necessary to have performance measurements that not only measure the hospital's financial angle, but also non-financial angles. The balanced scorecard is the right option to understand performance measurement from financial and non-financial aspects. The objectives of this research are (1) Measuring hospital performance x based on a financial perspective, customer perspective, internal business process perspective and learning and growth perspective. (2) Analyze the comparative assessment of income and costs in the unit cost of each service (3) Calculate the risk management assessment from each perspective assessment element (4) Develop recommendations for effective improvement efforts.

## **2. Materials and methods**

### **2.1 Materials**

The data used is secondary data sourced from Surabaya X Hospital data related to the achievements of January - March 2024 which includes financial data, Quality and Patient Safety Achievement Data, External Customer Satisfaction Data, Internal Customer Satisfaction Data, and Internal Customer Satisfaction Data.

### **2.2 Data collection procedures**

The data collected is then processed according to each perspective, Balance Score Card (1) Financial Perspective (2) Customer Perspective Customer Perspective, (3) Process Perspective and (4) Learning and Growth Perspective(Fuada, 2020):

### **2.3 Data analysis**

Data processing is carried out by processing in accordance with existing standard key performance indicators.

## **3. Results and discussion**

### **3.1 *Balanced Score Card***

a. **Financial Perspective:** Pay attention to financial indicators such as revenue, net profit, and return on capital. This perspective describes whether the organization achieves financial goals and provides added value to shareholders (Rotaria, 2021). *The Balanced Scorecard measurement at Surabaya Islamic Hospital* uses financial performance benchmarks such as: (1) Return on Investment, (2) Cash Ratio, (3) Current Ratio, (4) Ratio of Total Equity to Total Assets (5) Net Profit Margin, (6) Bopo (7) Average Collection Period, (8) Average Days Inventory.

(1) Return On Investment,

A performance measure used to evaluate the efficiency or profitability of an investment. ROI is the ratio of profits and losses from an investment compared to the amount of money invested/assets (Marlina Putri, Pusparini and Mariadi, 2023). ROI is expressed as a percentage and is calculated by dividing net profit by the initial outlay for investment needs. The higher the ROI value, it means that the profit obtained from an investment activity is also greater. On the other hand, low ROI means that the profit obtained is not optimal and indicates that the investment decision was not appropriate.

Table 1. Return On Investment RS X Surabaya Data for January – March 2024

No	Month	Profit Before Tax + Depreciation	Assets	ROI	Evaluation
1	January	933,555,319+1,211,821,960	322,283,507,710	0.67%	60
2	February	1,179,577,050+1,212,361,537	341,741,531,753	0.70%	60
3	March	(185,751,053)+1,220,886,029	342,451,666,861	0.30%	60
Average					60

It can be seen from the table above that the ROI percentages in January, February and March were 0.67%, 0.70% and 0.30% respectively. The percentage above is still categorized as low because it is below 5%, so the assessment is 60. In February, the first trimester, the ROI percentage increased from January 0.67% to 0.70%, but in March it decreased quite significantly, namely to 30%. It can be interpreted that the ability of hospital capital invested in all assets to generate hospital income is still relatively low, there is still a need to improve the management of hospital assets to increase the resulting level of profitability.

(2) Cash Ratio,

A liquidity ratio that measures a company's ability to pay its short-term debt with cash or resources close to cash (Tarigan and Sinaga, 2022). The cash ratio is calculated by comparing a company's total cash and cash equivalents to its current liabilities. The cash ratio is expressed in units of times or percentage (%).

Table 2. Cash Ratio RS X Surabaya Data for January – March 2024

No	Month	Cash + Bank	Current Liabilities	Cash Ratio	Assessment
1	January	22,426,520,179	18,583,302,642	121%	100
2	February	30,836,697,498	17.109.631.208	180%	100
3	March	26,460,590,025	19,178,944,310	138%	100
Average					100

It can be seen from the data above that the Cash Ratio percentage in the first trimester was the highest, namely in February, at 180%, meaning that every rupiah of current liabilities could be covered with Rp. 1.80 in cash and bank money. Likewise in March, it was 138% or IDR 1.38. This shows that the hospital has sufficient or even good working capital in the form of cash for all its operational

activities and is even able to pay its current liabilities well. The cash ratio assessment in January, February and March each received a value of 100, which means that the hospital's cash condition is relatively stable and able to finance all its operational expenses. It is hoped that in the second trimester this figure will not decrease and is expected to increase further.

(3) Current Ratio

liquidity ratio which measures a company's ability to pay off its current liabilities, such as debt and employee salaries, in the short term (Zuniawan *et al.*, 2020). The current ratio is calculated by comparing total current assets with total current liabilities, and is expressed in units of times or percentage (%).

Table 3. Current Ratio RS X Surabaya Data for January – March 2024

No	Month	Smooth Activation	Current Liabilities	Current Ratio	Evaluation
1	January	43.421.127.422	18,583,302,642	234%	100
2	February	51,128,879,427	17.109.631.208	299%	100
3	March	48,294,153,599	19,178,944,310	252%	100
Average					100

It can be seen from the calculation above that the largest current ratio percentage was in February at 299%, second in March at 252%, and finally in January at 234%. This can be interpreted that in February every 1 rupiah of current liabilities owned by the hospital was guaranteed by 2.99 current assets, but there was a decrease in March, namely every 1 rupiah of current liabilities was guaranteed by 2.52 current assets. The current ratio in the first trimester each gets a value of 100 because it reaches above 150%, and the highest ratio is in February. The ratio in the first trimester is categorized as good because it reaches point number 2, or it can be interpreted that the financial performance condition in the first trimester can be categorized as good.

(4) Ratio of equity to total assets

The equity to total assets ratio is a measure of how much company assets are owned by investors (Rotaria, 2021). This ratio uses the company's total assets (current and non-current) and total equity to show how much leverage the company has, or how effectively they fund asset needs without using debt.

Table 4. Ratio of equity to total assets of RS X Surabaya Data for January-March 2024

No	Month	Total Equity	Total Assets	Total Equity Ratio	Evaluation
1	January	174.677.156.790	322.283.507.711	54%	70
2	February	195,856,733,840	341,741,531,754	57%	70
3	March	195,670,982,787	342,451,666,862	57%	70
Average					70

It can be seen from the data above that in the calculation of total equity to total assets or Equity to Total Asset Ratio (EAR) in the first trimester the percentage figure was very good with a rating of 100. In January the percentage was 54%, in February and March it rose to 57%. This can be interpreted as meaning that the amount of own capital used to fund or finance all hospital assets is good, and this is a sign that its financial performance is good.

(5) Net Profit Margin

Net profit margin is the percentage of income generated from business activities and calculates each flow of operational funds and tax costs (Lesmana, 2020; Rotaria, 2021). All these fund flows will

then be calculated and measured to determine the percentage of profit obtained(Kesek *et al.*, 2020).

Table 5. Net Profit Margin of RS X Surabaya Data for January – March 2024

No	Month	Clean SHU	Operational Pend	NPM	Evaluation
1	January	933.555.319	15,991,630,244	5.84%	70
2	February	1,179,577,050	16,238,524,431	7.26%	70
3	March	(185,751,053)	18,482,682,329	-1.01%	60
Average					66.67

It can be seen from the table above that the NPM percentage in the first trimester experienced increases and decreases. In January the NPM percentage was 5.84%, in February it rose to 7.26%, and in March it actually fell to -1.01%. Each NPM in January, February and March received a value of 70, 70, and 60. This means that the hospital's ability to generate net profit from revenue is still less efficient because the percentage is still below 20% and efficiency is needed. costs to minimize the size of operational expenses

(6) Operating Costs Operating Income

Operating Expenses Operating Income is a ratio used to measure a bank's performance when generating profits. This ratio compares operational costs with operating income(Tarigan and Sinaga, 2022). The smaller the BOPO value, the more efficient the bank is in carrying out its activities.

Table 6. Operational Costs Operational Income of Hospital X Surabaya Data for January – March 2024

No	Month	Operational Expenses	Operational Pend	BOPO	Evaluation
1	January	14,093,707,088	15,991,630,244	88.13%	70
2	February	14,225,772,451	16,238,524,431	87.61%	70
3	March	18,095,118,466	18,482,682,329	97.90%	60
Average					66.7

It can be seen from the BOPO calculation above, the BOPO percentage in March reached 97%, which is the highest compared to January and February. In January, the BOPO percentage was 88.13%, while in February it reached 87.61%, this was the lowest compared to January and March. This percentage is still classified as high because it exceeds the BOPO standard based on Bank Indonesia regulations, namely a maximum of 85%. This can be interpreted as a lack of efficiency in covering hospital operational expenses with the operational income obtained.

(7) Average Collection Period

The average collection period is the average amount of time it takes for a hospital to receive payment for credit sales from customers.

$$\text{Average Collection Periode} = \frac{\text{Piutang Rata-Rata}}{\text{Penjualan Kredit}} \times 365 \times \frac{3}{12}$$

$$\text{Average Collection Periode} = \frac{19.205.200.138}{57.615.600.414} \times 365 \times \frac{3}{12} = 30.44 \text{ Days}$$

(8) Average Days Inventory

Average day inventory, or inventory conversion period, is the average time needed to convert raw materials into finished products and then resell them

$$\text{Average Days Inventory} = \frac{\text{Persediaan Rata-Rat}}{\text{Harga Pokok Penjualan}} \times 365 \times \frac{3}{12}$$

$$\text{Average Days Inventory} = \frac{977.954.956}{2.984.580.19} \times 365 \times \frac{3}{12} = 29.90 \text{ Days}$$

Financial Perspective Assessment

Table 7. Recapitulation of Financial Indicators for RS X Surabaya Data for January – March 2024

No	Financial Indicators	Mark
1	ROI	60
2	Cash Ratio	100
3	Current Ratio	100
4	Total Equity Ratio	70
5	NPM	66.7
6	BOPO	66.7
7	Average Collection Period	80
8	Average Days Inventory	80
Average		

- b. **Customer Perspective:** Focuses on customer satisfaction and the organization's ability to meet customer needs and expectations (Fuada, 2020). The indicators used can be the level of customer satisfaction, market share, or customer retention rate. The internal business process perspective displays critical processes that enable business units to provide *value propositions* that are able to attract and retain customers in desired market segments and satisfy shareholder expectations through *financial returns* Simon

(1) Customer Satisfaction

Table 8. Customer Satisfaction for January – March 2024

No	Month	Satisfaction Percentage	Evaluation
1	January	96%	100
2	February	109%	100
3	March	98%	100

From the customer satisfaction percentage table above, it can be seen that the average percentage is above 90% or is considered good. The highest percentage was in February reaching 109%, and the lowest percentage was in January. This percentage is taken from customer satisfaction scores from all services ranging from inpatient, outpatient, emergency room, HD, medical support to nutrition. From the above achievements, it can be concluded that patients who visit RSI Surabaya Ayani are quite satisfied with the services provided, however, this high percentage is a separate evaluation so that the percentage given by patients does not decrease, and continues to provide the best service to continue to gain the trust of patients.

(2) Customer Acquisition

The process carried out by a company to attract new customers and convert potential customers into loyal customers (Rotaria, 2021). This is an important marketing concept, especially for new companies, to increase business attractiveness and profits.

$$\text{Customer Acquisition} = \frac{\text{Jumlah Pelanggan Baru}}{\text{Total Pelanggan}} \times 100\%$$

Table 9. Customer Acquisition for January – March 2024

No	Old Patients	Reg	EX	Total	Percentage
1	January	1,660	828	2,488	9%

2	February	1,514	726	2,240	9%
3	March	2,370	774	3,144	11%

The table above shows that the percentage of customer acquisition in March increased compared to January and February with a percentage of 9%, but in March there was an increase of 2% to 11%. This indicates that RSI Surabaya A Yani can attract new patients from the community. This increase could be a good starting point for increasing the number of patients and patient trust in RSI Surabaya A Yani. However, this percentage is still categorized as low because it is still below 30%. It is hoped that in the following period or month this percentage will increase, accompanied by the best service and marketing strategies that can attract public attention.

- c. **Internal Process Perspective:** Highlights the efficiency and effectiveness of an organization's internal processes (Fuada, 2020). In this perspective, key indicators related to the processes that produce products or services are identified, including innovation, quality and productivity.

Table 10. Key Indicators

No	Indicator	January	February	March	Average	KPI assessment
1	DRILL(%)	55.72	59.84	68.68	61.43	80
2	Alos(Day)	2.41	2.52	2.56	2,496	100
3	TOI (Day)	1.95	1.69	1.17	1.60	80
4	BTO (Times)	7.03	6.88	8.29	7.41	73.3

- d. **Learning and Growth Perspective:** Measures an organization's ability to learn, adapt, and improve its capabilities. This perspective includes aspects such as employee development, knowledge management, and innovation capabilities (Handayani, 2017). This perspective provides the infrastructure for achieving the previous three perspectives, and for generating long-term growth and improvement. It is important for a business entity when investing not only in equipment to produce products/services, but also investing in infrastructure, namely: human resources, systems and procedures.

Table 11. KPI Assessment

No	Variable	20 24
1	Organizational Culture/Alignment	83 %
2	Opportunity	80 %
3	Communication	81 %
4	Leadership	80 %
5	Work Activities	82 %
6	Work environment	82 %
7	Compensation	70 %
8	Intention to leave	42 %
Average employee satisfaction		75 %
KPI assessment		90

From the table above it is known that employee satisfaction with all hospital management has an average percentage of 75% and received a rating of 90. This means that the average employee is quite satisfied with hospital management, the largest percentage is organizational culture, and below that there is work activities and work environment, which means that employees are comfortable with their work environment and can complete work according to their respective job descriptions without any obstacles from co-workers or an unhealthy work environment. In terms of leadership, it is also good, meaning that

there are no problems between superiors and subordinates or vice versa in their respective lines, so that in solving work problems there are no obstacles or personal problems at work. From the overall satisfaction aspects above, the percentage of employees wanting to change jobs is only 42%.

Table 12. Employee Productivity for January – March 2024

No	Description	Jan-24	Feb-24	Mar-24
1	Operating Income	15,991,630,244	16,238,524,431	18,482,682,329
2	Operational Expenses	14,093,707,088	14,225,772,451	18,095,118,466
3	SHU	1,897,923,156	2,012,751,980	387,563,863
4	Non-Operating Income & Expenses	-964,367,837	-833174930	-573314916
5	SHU before tax	933.555.319	1,179,577,050	-185,751,053
6	Number of employees	733	736	735
7	Employee Productivity	127%	160%	-25%
8	KPI assessment	100	100	70

It can be seen from the calculation table above that employee productivity in January and February has reached 100%, namely with a percentage of 127% and 160% respectively and getting a value of 100. However, in March the percentage decreased to 25%, due to the SHU in March experienced a fairly large decline, even minus due to increasing operational expenses, therefore employee productivity calculations also decreased. However, if we look at the previous months, the productivity of the total employees was good and reached the specified target.

Table 13. Increasing Employee Education for January – March 2024

No	Month	Education Advancement (20 Hours/Year)	Evaluation
1	January - March	3.57%	70

It can be seen from the table above that the percentage increase in employees during the first trimester is still categorized as low, the monthly achievement should be 5%, but up to this March the total percentage achievement was only 3.57%, meaning that there are still many employees who have not participated in the education increase (20 hours). /Year). For further evaluation materials, it is hoped that all employees will take part in educational improvements to increase the potential of each employee and achieve the determined quality indicators.

### 3.2 Key Performance Indicators

Table 14. Key Performance Indicators

No	Assessment Coding	Average Achievement	Average Achievement x Value Weighting Distribution	Evaluation
1	Finance	75.71	75.71 * 45%	34
2	Customer	86.66	86.66 * 10%	9
3	Internal Business Processes	94.37	94.37 * 35%	33
4	Learning and Growth	87.5	87.5 * 10%	9
Total of all KPI values				85 (Good)

The financial perspective shows the ability of hospital management to achieve financial results. In the table above, the average KPI achievement in finance is 75.71 or in the quite good category but needs to be improved further by increasing profits, utilizing assets to increase income, and cost efficiency. The customer perspective achievement, namely with an average achievement of 86.66, this figure can be categorized as quite satisfactory and has exceeded the predetermined target and is able to provide quality service to patients who use the service, both in handling patient complaints and in serving patients who need information related to the services provided. at RSI Surabaya A.Yani.

The internal business perspective is related to service quality, patient safety, as well as improving the quality of service. In assessing this KPI, the internal business uses the indicators BOR, ALOS, BTO, GDR, NDR and the achievement of each service against the target. All of these indicators reached an average of up to 94.37, meaning that this achievement was very good in terms of service to patients, almost all hospital activities obtained satisfactory results within the specified achievements. However, we must be able to maintain and improve services so that the full quality contained in each service is achieved. Meanwhile, from a learning and growth perspective, the percentage achieved was 87.5, which means that the performance produced by all employees can be categorized as good, but still needs to be improved in terms of the quality of performance of all human resources within RSI Surabaya Ayani. In this perspective, indicators are used, employee *turnover*, employee satisfaction, employee productivity, and increased employee education.

Meanwhile, the global KPI assessment in the first trimester received a score of 85 and can be categorized as good, but there needs to be improvements both in service quality, internal business processes and in the HR sector, so as not to reduce the KPI value in the following period. It is necessary to carry out further evaluation regarding indicators that get low scores in order to find out how the system or service is not good and hold further discussions regarding strategies to increase scores or services that are still less than the target.

#### 4. Conclusion

The following are the results of the research (1) The performance assessment using Balanced Scorecard (BSC) analysis at Hospital X (2) No achievement of quality indicators and low acquisition processes of customers there is a decrease in withdrawal of new customers or new patients (patient acquisition) that causes a reduction or no increase in the number of new patients that have been planned, (3) Achieving appropriate Alos & BTO values with the standards of the Ministry of Health of the Republic of Indonesia, and (4) a decrease in employee productivity in health service facilities

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#### Conflict of interest

The authors declare that they have no competing interests note

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