

# Performance Analysis of a Public Hospital in the COVID-19 Pandemic Using the Balanced Scorecard

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This study aims to evaluate and describe the performance of a public hospital in the COVID-19 Pandemic using the Balanced Scorecard approach based on four perspectives: customers, financial, internal business process, and growth and learning. The analytical method used is descriptive analysis. The data used is qualitative and quantitative that is sourced from primary data and secondary data. The balanced scorecard concept can be an innovative performance system for a hospital to help the hospital be superior and creative in increasing public service performances. This study leads to several findings. First, the customer perspective measuring customer satisfaction attained a mastery level of 75.21. Second, based on the financial perspective, the hospital's financial management is already proper despite being less efficient in expenditure and only quite effective in the income realisation. Third, from the internal business process perspective, the hospital already made innovations during 2020. Moreover, most of the indicators of service have followed the standards set by the Indonesian Health Ministry except for BTO and ALOS. Lastly, the growth and learning perspective measuring employee satisfaction attained a mastery level of 76.87%.

**Keywords:** *Performance, Balanced Scorecard, Financial Perspective*

## I. INTRODUCTION

Public demands on public services such as regional government hospitals in the COVID-19 pandemic are increasing both from the perspective of accountability and transparency as well as financial governance and management. Such demand is related to the relatively increasing distribution of regional government budgets and the state budget, especially in public health services. However, it is not matched by overall quality improvement in health services. Consequently, there is a gap between community expectations in health care with what is actually happening in the field (World Health Organization, 2009).

The COVID-19 pandemic presents health systems with a severe scarcity problem: the inevitable constraint of limited resources when demand surges. The provision of hospital care, particularly critical care (CC), is waiting times, prices, or other demand management mechanisms, via explicit or implicit admission and discharge criteria, a scarce resource and rationed in most countries even in normal times. The COVID-19 pandemic challenges existing rationing mechanisms due to an unprecedented surge in demand, particularly for CC and respiratory support that may exceed existing supply in many countries, especially during the peak of the pandemic (Planner, 2020).

Some factors that cause the quality of local government hospital services to be less satisfactory, among others, are limited availability of drugs, lack of medical equipment and supporting medical facilities such as laboratory, and lack of specialist doctors during the COVID-19 pandemic. Another cause is that patient administration services are still performed manually or have not applied information technology. Furthermore, the hospital is not professionally managed due to incompetent human resources. The weaknesses mentioned above cannot be revealed only by evaluating the financial ratios approach. It must be analysed by integrating financial measurement methods with ratios and non-financial approaches to provide more comprehensive results. An evaluation method that integrates finance and non-finance is the Balanced Scorecard (BSC) Method. The BSC approach method is able to identify problems that occur within the organisation, and evaluate data accurately so that the results can be used as data by management for strategic decision making (World Health Organization, 2020).

The Balanced Scorecard (BSC) is an instrument which translates the mission and strategy of an organisation into a broad collection of action metrics and indicators, and which subsequently provides the structure necessary to control and serve as a strategic measurement system (Kaplan, R., & Norton, 1996). Viewed as a performance measurement system (PMS), the BSC is not a new tool as PMSs have always existed in all organisations in all cultures in one form or another. Hence the novelty of the BSC does not reside in its existence but rather in the attempt to achieve standardisation via conventions and universal rules (Urrutia de Hoyos, 2015).



A study by Urrutia (2015) in Spanish private health-care using BSC analysis tool approach concludes that the BSC is applicable to any type of organisation, albeit with modifications; a BSC for non-profit organisations must be modified to include a mission perspective, thus supporting Kaplan's model for non-profit organisations. Hospitals should also include an additional perspective which provides specific information on social demographic factors regarding the hospital's operating environment. While Chen (2006) (Xiao-Yun Chen, 2006), who compared hospitals in China and Japan using the BSC analysis tool approach, found that the BSC was found to be effective for underlining existing problems and identifying opportunities for improvements. The BSC also revealed the hospitals' contribution to performance improvement of each country's total health system (Urrutia de Hoyos, 2015).

The research conducted by Pollalis et. al. (2004) (WHO, 2003) in the US Department of Defense found that the Balanced Scorecard (BSC) offers a methodology that can be applied to the federal sector to enable more effective alignment of programs to mission and a tangible means for measuring the results. Some agencies, particularly within the Department of Defense, have embraced the Balanced Scorecard as a means for achieving these objectives, and have successfully transformed their programs to achieve higher productivity, aligning with the mission of the agency and resulting in higher efficiencies. Gasperz (2003) argues that looking simply at financial or financial measures will not be able to provide a real picture of the state of the company, and for this reason, effective performance measurement should translate the mission, vision and strategy of an organisation into operational objectives and performance measures both financial and non-financial.

## II. LITERATURE REVIEW

The COVID-19 pandemic requires sufficient public funding to ensure a comprehensive response. Reprioritising public spending toward bolstering the economy and the health system requires timely action from government leaders and a supportive public finance environment. Highly-affected countries have taken various approaches to budgetary allocation, depending on their public financial management (PFM) and regulatory systems. Adjustments are required on the revenue side of budgets (e.g. loans) to account for these new economic and fiscal constraints. Quick decision-making on the expenditure side is also needed. That will be the focus of this blog. Every country must develop specific processes for allocating budget funds to the response (World Health Organization, 2009).

Performance measurement according to Anthony, Banker, Kaplan, and Young (Kaplan, R., & Norton, 1996) is "activity of measuring the performance of an activity of the entire value chain". From the definition, it is concluded that performance is a measurement activity carried out on various activities as an existing value chain in the business.

Atkinson argues that performance measurement is perhaps most important, most misunderstood, and the most difficult task in management accounting. An effective system of



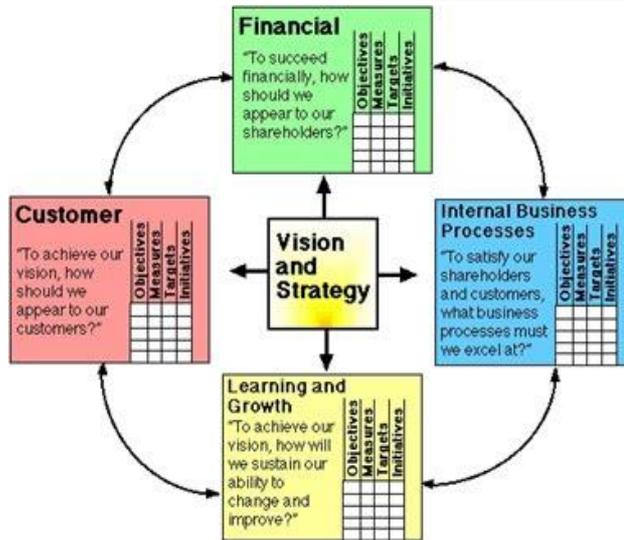
performance measurement contains critical performance indicators (performance measurement) that: (1) consider each activity and the organisation itself from the customer's perspective; (2) evaluate each activity using customer validated measure of performance; (3) consider all facets of activity performances that affect customers and; (4) provide feedback to help organisation members identify problems and opportunities for improvement (Atkinson, A., 2005).

The term public sector has a wide range of meanings. In each country, the scope of public sector organisations is often not the same. In Indonesia, various organisations are included in the scope of the public sector such as the central government, regional governments, State-Owned Enterprises (SOEs), Regionally-Owned Enterprises (BUMD), educational organisations, health organisations, and mass organisations. While in the UK, public sector organisations cover the fields of national industry, central government departments, and regional governments.

According to Hansen & Mowen, Balanced Scorecard (strategic-based responsibility accounting system) is a responsibility accounting system which measures four key perspectives namely (1) financial, (2) customer, (3) the process perspective, and (4) learning and growth (Hansen, D., & Mowen, 2018).

The Balanced Scorecard is a model of combined performance measurement between financial and non-financial performance measures that translates the company's vision and strategy into goals and measurements seen from 4 (four) perspectives. Unlike the performance measurement set by the government which only measures financial performance, the Balanced Scorecard also measures non-financial performance. It assesses financial performance with measurements from customers, internal processes, and learning and growth.

According to Kaplan and Norton (Kaplan, R., & Norton, 1996), the Balanced Scorecard complements a set of financial measures of past performance with measures of future performance drivers.



**Figure 2.1 Balanced Scorecard Framework (Kaplan, Norton)**

The balanced scorecard approach is intended to answer the main questions, namely:

- a. Financial: how is the company's appearance in the eyes of the shareholders?
- b. Customer: how is the company perceived by the customers?
- c. Internal business processes: what are the company's advantages?
- d. Learning and growth: does the company have to continuously make improvements and create value continuously?

## 2.1 Customer Perspective

In the customer perspective, public sector organisations focus on meeting people's satisfaction through providing quality public goods and services at affordable prices. In order to meet customer satisfaction public sector organisations must identify the factors that influence customer satisfaction, then make these satisfaction measurements (Mahmudi., 2015).

Service quality is a driver of customer satisfaction that is multi-dimensional. According to Zeithaml, Parasuraman and Berry (Ratmono, D. and Sholihin, 2015), there are five dimensions of service quality determinants called the Servqual concept. The five dimensions are:

- a. Tangibles or physical form, are the physical appearance of buildings, equipment, employees, and other facilities owned by providers.
- b. Reliability, which is the ability to deliver the promised service accurately.
- c. Responsiveness, which refers to willingness to encourage customers and provide services sincerely.
- d. Assurance of certainty/guarantee is the knowledge and courtesy of workers and their ability to provide confidence to customers.

- e. Empathy, which is the treatment or personal attention given by providers to customers.

According to Kotler (Kotler, P., & Keller, 2012), cited in the book *Total Quality Management*, there are several methods that can be used in measuring customer satisfaction, including:

- a. Complaints and suggestions system

Customer-centred organisations provide broad opportunities for their customers to submit suggestions and complaints. This information can provide bright ideas for the company and enable it to react responsively and quickly to overcome problems that arise.

- b. Ghost shopping

One way to get a picture of customer satisfaction is to hire several people to act as potential buyers, then report their findings about the strengths and weaknesses of the company's and competitors' products based on their experience in purchasing these products. Besides the ghost shopper can also observe how to handle each complaint.

- c. Lost customer analysis

The company should contact customers who have stopped buying or who have moved suppliers to understand why this is happening. It is not only the exit interview that is necessary, but monitoring the customer loss rate is also important as an increase in the customer loss rate indicates the company's failure and satisfies its customers.

- d. Customer satisfaction survey

Generally, research on customer satisfaction is done by survey research, whether by post, telephone, or direct interview. The company will get responses and feedback directly from customers and also give a positive signal that the company is paying attention to its customers.

## 2.2 Financial Perspective

The balanced scorecard continues to use a financial perspective because measures of financial performance can provide clues whether the company's strategy and implementation contribute or not to an increase in corporate profits (Sa'adah, L., & Maksum, 2018). The purpose of the financial perspective is related to efforts to improve financial performance by increasing revenue while reducing costs. Efforts to increase revenue and reduce costs are intended to increase fiscal independence that can be used to improve services (Mahmudi., 2015).

Financial performance is a measure of company achievement, and thus profit is one of the tools used by managers (Machowicz, 2012). Financial performance is a company activity which is intended to obtain and use capital in an effective and efficient way.

According to Sa'adah (2020: 56) (Sa'adah, L., & Maksum, 2018), there are several other financial ratios that can be used in measuring financial performance, including:

1. Net Profit Margin (NPM)

This ratio is used to measure the company's ability to generate net income or net profit from the main operating activities for the company concerned to determine the efficiency of a company, formulated as follows:

$$\text{NPM} = \frac{\text{EAT (Net Income)}}{\text{Revenue}} \times 100\%$$

NPM is considered good, if during the observation period the results of NPM calculations have increased, it is considered quite good if it is constant and is considered poor if it has decreased (Gaspersz, 2003).

2. Return On Investment (ROI)

The Return on Investment from operating income, or commonly called ROI, is the ratio used to measure the ability of the capital invested in overall assets to generate net income. The formula is as follows:

$$\text{ROI} = \frac{\text{EAT (Net Income)}}{\text{Total Assets}} \times 100\%$$

3. Economic Ratio

The economic ratio is a ratio that represents savings in the use of a budget that includes careful or frugal management and no waste which is expressed in the following formula:

$$\text{Economy Ratio} = \frac{\text{Capital expenditure}}{\text{Budget}} \times 100\%$$

Economic criteria according to Mohammad Mahsun (Mahsun, 2006) as follows:

Percentage of Finance Performance	Criteria
Less than 100%	Economical
Equal to 100%	Economically Balanced
More than 100%	Not economical

4. Efficiency ratio

The efficiency ratio is a ratio that illustrates the ratio between expenditure incurred to revenue realisation. If the target to be achieved by a public policy is very simple while the costs incurred through the policy process are too large. The formula is as follows:

$$\text{Efficiency Ratio} = \frac{\text{Total Expenses}}{\text{Revenue}} \times 100\%$$

The efficiency criteria according to Mohammad Mahsun (Mahsun, 2006) are as follows:

Efficiency Criteria	Description
> 100%	Inefficient
90.01% - 100%	Less efficient
80.01% - 90%	Efficient enough
60.01% - 80%	Efficient
< 60%	Highly efficient

Efficiency ratio is considered not good if during the observation period the results of the performance of the efficiency level indicator are increased, quite good if they are constant and good if they are decreased because the smaller the results obtained the better the level of efficiency.

#### 5. Effectiveness Ratio

The effectiveness ratio is a ratio that describes the success or failure of an institution in achieving its objectives. In this case, it is to compare the realisation of income with the applied revenue target which is formulated as follows:

$$\text{Effectiveness Ratio} = \frac{\text{Revenue Realisation}}{\text{Revenue Budget}} \times 100\%$$

The effectiveness criteria according to Mohammad Mahsun (Mahsun, 2006) are as follows:

Effectiveness Criteria	Description
> 100%	Highly Effective
90.01% - 100%	Effective
80.01% - 90%	Fairly Effective
60.01% - 80%	Less Effectiveness
< 60%	Not Effective

The effectiveness ratio is considered good if during the observation period the performance results of the effectiveness ratio indicator are increased, quite good if they are constant and poor if they are decreased.

### 2.3 Internal Business Process Perspective

The internal business process perspective is a perspective that evaluates the relevance of designing a company performance appraisal system that is able to implement a company's strategy and form a good internal process mechanism. The management will identify critical internal processes that must be favored by the company (Sa'adah, L., & Maksum, 2018).

The internal business process perspective is a process to support the creation and delivery of value propositions that can satisfy the target market segment and realise the expected financial goals, critical internal processes must be prepared and improved on an ongoing basis. This is the main focus of the internal business perspective (Amins, 2012).

Kaplan and Norton (1996) (Kaplan, R., & Norton, 1996) divide the internal business processes into three stages, namely:

- a. Innovation process, one of the critical processes where the efficiency, effectiveness and timeliness of this innovation process will drive cost efficiency in the process of creating added value for customers. In this process, business units explore understanding of the needs of customers and then create the products and services they need. The innovation process in a company is usually carried out by the marketing department so that each decision to release a market product meets marketing requirements and can be commercialised or based on market needs. To measure the level of innovation in a service business, it can be calculated by the formula:

$$\text{Innovation} = \frac{\text{New Service Income}}{\text{Total Income}} \times 100\%$$

- b. Operation process, by which products are made and delivered. Activities in this stage are divided into two parts namely 1) the process of making products, and 2) the process of delivering products to customers. Performance measurements related to the operations process are grouped in time, quality, and cost
- c. The after-sales service process, which is a service to the customer after the sale of the product / service is done. Activities that occur in this stage, for example handling warranty and repairing the handling of damaged and returned goods and processing customer payments. The company can measure whether its efforts in after-sales service have met customer expectations, by using quality, cost, and time benchmarks as done in the operation process.

The application of the balanced scorecard in the perspective of internal business processes in case studies of hospitals is different from the application in companies of both goods and services. As it is described previously, the operation process involves making and delivering services. The process of operation places more emphasis on operational activities directly related to hospital patients, namely the activity of delivering services to patients (Sa'adah, L., & Maksum, 2018).

Based on indicators from the Ministry of Health of the Republic of Indonesia (Indonesia, 2012)(Indonesia, 2018) measurement of hospital services to determine the level of effectiveness and efficiency of measuring instruments used are as follows:

### 1. BOR (Bed Occupancy Ratio) or Use of a Bed

BOR is a number that shows the percentage of use of available beds in a certain time period. The ideal standard of BOR values is between 60-85%. If more than 85%, the services provided are less effective which can be caused by:

- a. High workload
- b. The workspace is limited while the use of beds continues
- c. Increased quality of patients getting the care they deserve
- d. Prolonged patient's healing period.

BOR can be calculated using the following formula:

$$\text{BOR} = \frac{\text{Number of Treatment Days}}{\text{Number of Bed}} \times 100\%$$

### 2. BTO (Bed Turn Over Rate) or turnover of the bed is the frequency of use of a bed in a certain period, how many times the bed is used in one unit of time. Ideally, in one year, an average bed is used 40-50 times. It is formulated as follows:

$$\text{BTO} = \frac{\text{Number of Patient Discharged (alive and dead)}}{\text{Number of Bed}} \times 100\%$$

### 3. GDR (Gross Death Rate) which is the general death rate for every 1000 sufferers. The GDR value cannot be more than 45 per 1000 patients discharged and is formulated as follows:

$$\text{GDR} = \frac{\text{Total Number of Patient Dying}}{\text{Number of Patient Discharged (alive or dead)}} \times 100\%$$

### 4. NDR (Net Death Rate), which is the death rate 48 hours after being treated for each 1000 outgoing patients. This indicator gives the quality of service at the hospital. The tolerable NDR is less than 25 per 1000 discharged patients. NDR is formulated as follows:

$$\text{NDR} = \frac{\text{Number of Patient Dying after 48 hours}}{\text{Number of Patient Discharged (alive or dead)}} \times 100\%$$

### 5. ALOS (Average Length Of Stay), which is the average length of stay of a patient or the number of calendar days in which a patient receives inpatient care at a hospital, from being registered as an inpatient to being discharged from the hospital. This indicator, besides providing an overview of the level of efficiency, can also provide quality service. In general, the ideal value of ALOS is between 6-9 days. ALOS is formulated as follows:

$$ALOS = \frac{\text{Number of Days of Hospital Treatment before Discharged}}{\text{Number of Patient Discharged (alive or dead)}} \times 100\%$$

6. TOI (Turn Over Internal), which is the average day that indicates the bed is not occupied by patients from the last time it is filled to the next time filled. This item gives an overview of the level of efficiency in using the bed. Ideally, an empty bed is not occupied in the range of 1-3 days. TOI is formulated as follows:

$$TOI = \frac{((\text{Number of Beds} \times \text{Number of days}) - \text{Days of Hospital Treatment})}{\text{Number of Patient Discharged (alive or dead)}} \times 100$$

### III. RESEARCH METHOD

The research method used is descriptive analysis method. According to Sugiyono (Sugiyono, 2016), descriptive analysis is a statistical analysis used to analyse data by describing collected data as it is without intending to make conclusions or generalisations. The analysis involves presenting data in the form of tables, figures, and percentages, which is accompanied by descriptive narration.

The objective of this research is to measure the performance achievements using the balanced scorecard approach based on four perspectives: customer, financial, internal business process, and growth and learning. The research location is at the public hospital, or hereafter only the hospital.

The data used in this study is qualitative in the form of words or verbal statements, not in numbers (Sugiyono, 2016), which include organisational structure, a brief history of the public hospital, and interviews. Also, there is quantitative data in the form of numerical data that show the results of measurement variables and used for research purposes. The quantitative data consists of LRA, balance sheet reports, operational reports, profile books of 2019, and other documents. In this study, there are two types of respondents: (1) patients, to measure the performance of the customer's perspective (2) employees, to measure the performance of learning and growth perspectives. The population's size in the customer's perspective is the number of outpatients in 2020 (*Profile Book of the General Hospital. Kendari, 2019*) (Hospital, 2017), 64,277 people, and the number of inpatients in the same year, 10,006 people. Meanwhile, the size of the population for learning and growth perspectives is the total number of employees of the regional public hospital in 2020, totaling 531 people. The samples for this research is selected using the accidental sampling technique and Slovin formula with the desired error rate of 10%. As many as 99.86 or 100 of 74,233 patients (inpatients and outpatients), are chosen as the samples for the customer's perspective. Meanwhile, of 531 employees, as many as 84.15 or 84, are chosen as the samples for learning and growth perspectives.

The data used in this study includes primary data obtained from the source directly and secondary data obtained from sources published. The former includes data from interviews with employees and patients as well as questionnaires distributed to patients and employees. Meanwhile, the latter is obtained or collected from books, journals, articles, internet, literature, reference books, documents, hospital profile books or hospital reports, as well as other sources related to research.

The techniques of data collection in this study are as follows:

- a. Documentation, by which documents made by research subjects, in this respect, the hospital, are analysed and examined to get data/information.
- b. A questionnaire, a form that contains a set of questions submitted in writing to a person or group of people to get answers or responses and information needed by researchers. This technique is used to obtain information about patient satisfaction and employee satisfaction.
- c. Interview, by which the researcher asks questions directly to the respondent to get information. The interview is conducted to obtain more information about the internal business process

#### **IV. RESULTS AND DISCUSSION**

The public hospital was initially the health center established by the Dutch Colonial Government in 1927. It used to be a Center for Community Health Service (known as Puskesmas) before the government of South East Sulawesi Province set it to be a regional public hospital in 2001 (Republic of Indonesia, 2004). It ultimately transformed into a class B hospital as it is today. The total land area is 3,527 m<sup>2</sup>, and the building area is 1,800 m<sup>2</sup>.

The public hospital's vision is to be at the forefront of public health services with excellent service quality by focusing on developing facilities and human resources. Its mission is to provide health services that are quality, quick, precise, and at a low cost, and also to enhance the competency of human resources such as doctors, medical and non-medical administrative staff to improve medical services and other supporting services.

##### **1. Customer Perspective**

The performance measurement of the public hospital for the customer's perspective is the measurement of success in terms of customer/patient satisfaction. It is measured by distributing questionnaires to 100 patients/customers to assess customer satisfaction.

The overall level of mastery of each customer perspective indicator is calculated by adding up the total score of the answers to each indicator and divided by the maximum score assumed if all respondents gave a score of 5 on all question items, presented in the following table:

**Table 1.** The overall mastery level of customer perspective indicators

NO	INDICATOR	OBTAINED SCORE	MAXIMUM SCORE	LEVEL OF MASTERY	CATEGORY
A	B	C	D	$e = (c/d)*100\%$	F
1	Physical Evidence	2658	3500	75.94%	Good
2	Trust	1541	2000	77.05%	
3	Responsiveness	1826	2500	73.04%	
4	Certainty	1550	2000	77.50%	
5	Empathy	1497	2000	74.85%	
6	Expense	1491	2000	74.55%	
7	Service Intensity	1470	2000	73.50%	
<b>Customer Perspective</b>		<b>12,033</b>	<b>16,000</b>	<b>75.21%</b>	<b>Good</b>

Source : Reprocessed research results

The data in the table above are the results of the questionnaire filled out by 100 respondents consisting of 45 men and 55 women. The respondents belong to the participants of the JKN programs (National Health Insurance) such as BPJS (Health Social Security Organizing Agency), ASKES (Health Insurance), and KIS (Healthy Indonesia Card). In addition to closed questions, the researcher gave some respondents open questions to describe further their answers given to the closed questions so that the respondents' statements could clearly be understood. Respondents' answers to open questions that need to be considered by the hospital management are as follows:

- a. Respondents' answer about the level of friendliness of officers and doctors to patients is 6%. It means that some patients experience unsatisfactory services, including when they register in the administration desk and when examined by a doctor. Some patients find doctors not communicating with patients so that patients do not understand the disease they suffer.
- b. Respondents' answers about cellular network repair is 9%. The level of cleanliness is 9%, which means it still needs to be improved both in the patient care areas and especially in the toilets as some cannot function well because of damage.
- c. Respondents' answers about the completeness of medical service tools is 8% since such equipment as a laboratory for cancer testing and bone physiotherapy equipment are hardly available.

## 2. Financial Perspective

The performance measurement of the public hospital from the financial perspective is concerned with its financial performance. This study scrutinised the 2019 and 2020 audited

financial statements comprising the Budget Realisation Report, the Equity Change Report, and the Assets Report of the Hospital (Hospital, 2017) (Hospital, 2018) . The financial perspective was the most quickly finished as the researcher easily obtained these financial statements from the hospital's accounting department. They are the basis for assessing the hospital's performance from the financial perspective using the Economical Ratio, Effectiveness Ratio, Efficiency Ratio, Net Profit Margin, and Return On Investment.

### Economic Ratio

Source: Matrix and Budget Realisation Report of Public Hospital in 2019 and 2020

Year	Expenditure		Percentage	Performance Criteria
	Budget (IDR)	Realisation (IDR)		
1	2	3	$4=(3/2)*100$	
2019	57,236,034,700.00	51,486,522,994.82	89.95%	Economical
2020	70,976,403,236.00	56,690,041,451.56	79.87%	

The economic ratio is a ratio that illustrates savings in the use of a budget that includes careful or frugal management and no waste. The calculation result shows that in the realisation of the budget for 2019 and 2020, none reached 100%, where there was a budget reduction of 10.08% from 2019 to 2020. It means that the public hospital can adjust its expenditure no more than what has been budgeted and can even minimise it in 2020.

### Efficiency Ratio

Year	Income (IDR)	Expenditure (IDR)	Percentage	Performance Criteria
1	2	3	$4=(3/2)*100$	
2019	53,818,073,623.20	51,486,522,994.82	95.67%	Less efficient
2020	58,573,540,050.62	56,690,041,451.56	96.78%	

Source: Budget Realisation Report the Public Hospital in 2019 and 2020

The efficiency ratio is a ratio that aims to see a decrease in operating costs concerning the income used. The calculations show that expenditures for 2019 and 2020 are both still below the value of income. However, the percentage reaches 95.67% and 96.78% in 2019, and 2020 respectively. Also, there is an increase in expenditure from 2019 to 2020, and it belongs to less efficient criteria.

### Effectiveness Criteria

Year	Income		Percentage	Performance Criteria
	Target (IDR)	Realisation (IDR)		
1	2	3	$4=(3/2)*100$	
2019	30,000,000,000.00	53,818,073,623.20	179.39%	Highly Effective
2020	71,982,174,072.00	58,573,540,050.62	81.37%	Fairly Effective

Source: Matrix and Budget Realisation Report the Public Hospital in 2019 and 2020

The effectiveness ratio is a ratio that illustrates hospitals' ability to achieve targets set in terms of revenue. Based on the results of calculations, the realisation of revenue for 2019 is above 100%, i.e., 179.39%, while for 2020, it does not reach 100%, which is 81.37%. Thus, the former is categorised as highly effective, while the latter is said to be effective enough. The revenue received by the public hospital from 2019 to 2020 increased by IDR 4,755,466,427.48. Despite the increase, the latter only belongs to effective enough category since the revenue budget for 2020 is also increased to IDR 71,982,174,072.00 from the previous year, which is IDR 30,000,000,000.00. In 2019, the public hospital's revenue budget only considered the revenue plan from the operational process. It did not consider the APBD revenue, while in 2020, the revenue plan began to include the APBD revenue.

### Net Profit Margin

Year	Net Profit (IDR)	Income (IDR)	Percentage	Performance Criteria
1	2	3	$4=(2/3)*100$	
2019	2,209,134,570.52	56,157,140,585.30	3.93%	Good
2020	13,147,818,826.30	77,498,377,632.38	16.96%	

Source: Operational Reports the Public Hospital in 2019 and 2020

NPM (Net Profit Margin) is used to see the size of the net profit concerning income to determine the hospital's efficiency, where the higher, the better. Based on the calculation results, it appears that the NPM value of the public hospital from 2019 to 2020 increased by 13.03%. This increase indicates that the NPM belongs to the good category.

### Return On Investment

Year	Net Profit (IDR)	Total Asset (IDR)	Percentage	Performance Criteria
1	2	3	$4=(2/3)*100$	
2019	2,209,134,570.52	83,641,560,359.81	2.64%	Good
2020	13,147,818,826.30	102,788,010,405.70	12.79%	

Source: Operational and Balance Reports the Public Hospital 2019 and 2020

ROI (Return On Investment) aims to measure the increase in net profit generated by the public hospital as measured by dividing the percentage of net income by assets or, in other words, to

measure the ability of capital invested in all assets to generate net profits. The calculation result shows that the ROI value from 2019 to 2020 is increased by 10.15%, and this indicates that the ROI the Public Hospital is in a good category.

The overall results of each benchmark calculation show that financial management at the public hospital is in a proper category. The expenditure, however, is less efficient. Likewise, the revenue realisation for 2020 is only in a quite effective category. Therefore, the public hospital should minimise its expenditure in the future. According to Sa'adah (2020; 57) (Sa'adah, L., & Maksum, 2018), to achieve the efficient category, the hospital must withhold expenses so that only around 60.01% - 80% of income received annually. Similarly, for the effectiveness, it is put forwards that income is said to be effective if it is in the range of 90.01% - 100% of the budget, and this is also what should be sought by the public hospital.

### **3. Internal Business Process Perspective**

Performance measurement of the internal business process perspectives is measured using two indicators: the innovation process and operational process.

The innovation process is an indicator used to measure service creation based on patients' needs and desires as an added value for the public hospital. Based on interviews with the public hospital management, the hospital made a pretty big innovation in 2020. The innovation carried out was by adding 35 beds over the whole year 2020 so that the total number of beds in the public hospital was 179 units scattered throughout the room. Another innovation made was the construction of the Private Medical Care Center (PMCC) building. Based on interviews with the public hospital (interview results attached in Appendix 5), the reason for constructing the PMCC separate from the main building is to expand buildings and facilities so that they can best serve the community. The PMCC building was inaugurated in October 2019 and began operating in stages starting on January 1, 2020. The services performed at the Private Medical Care Center (PMCC) building use the same facilities and also the same types of payment, and of course, accept JKN (National Health Insurance) patients. The PMCC building includes several services that used to be in the old building before being moved to PMCC building, including the ophthalmology room, ob-gyn room, dermatologist room, therapy occupation room, and eight inpatient rooms. There are also several new services at the Private Medical Care Center (PMCC) building, namely the IGD Ponek, which is an emergency installation specifically for pregnant women who are giving birth. Besides, there is the addition of Serunik Room (VIP Room) with as many as 12 rooms, Azalea Room (VVIP Room) with as many as ten rooms, and the most luxurious, namely Gladiolus Room (Executive Room) with as many as three rooms.

**Table 2.** Operating Process the Public Hospital in 2019 and 2020

Description	Year		Standard (Indonesian Health Ministry)	Category
	2019	2020		
BOR (%) <i>Bed Occupancy Ratio</i>	73%	75%	60-85%	Ideal
TOI (day) <i>Turn Over Internal</i>	2 days	1 day	1-3 days	Ideal
BTO (times) <i>Bed Turn Over</i>	60 times	69 times	40-50 times	Not Ideal
ALOS (day) <i>Average Length Of Stay</i>	4 days	3 days	6-9 days	Less Ideal
GDR (%) <i>Gross Death Rate</i>	0.02%	2.6%	≤45%	Ideal
NDR (%) <i>Net Death Rate</i>	0.03%	1.8%	<25%	Ideal

Source: Indicator of service at the Public Hospital

The first item, BOR (Bed Occupancy Ratio), is a number that shows the percentage of use of available beds in a specific period. The tolerance level or BOR standard set by the Ministry of Health of the Republic of Indonesia is 60% -85%, meaning that if the BOR is less than or below 60%, it indicates the low bed occupancy rate. On the other hand, if it is more than 85%, it indicates that the level of bed occupancy usage in the public hospital is quite high. The percentages of BOR in 2019 and 2020 in the public hospital are 73% and 75%, respectively. These percentages show that those years the level of use of beds in the public hospital is still at the standard value set by the Republic of Indonesia Ministry of Health, or at an average level.

The second item, the TOI (Turn Over Internal), is the average day which indicates the bed is not occupied by the patient from being filled to the next time it is filled. This item gives an overview of the level of efficiency in using the bed. The tolerance level or TOI standard set by the Indonesian Ministry of Health is 1-3 days. TOI shows the gap in bed use between old patients and new patients. The amount of TOI in 2019 in the public hospital is 2 days while in 2020 it is one day. This shows that the use of beds between old patients and new patients was still in the ideal category set by the Ministry of Health of the Republic of Indonesia.

The third item is the BTO (Bed Turn Over Ratio). The tolerance level or BTO standard set by the Ministry of Health of Indonesia is 40-50 times. BTO shows the frequency of the level of bed used by patients in a certain period. It means that if the BTO is less than or below 40 times it shows low use of hospital beds, and it can be said that the hospital is short of patients. If more than 50 times, it shows that the level of bed use by patients is quite high. The percentage of BTO in the public hospital in 2019 is 60 times and in 2020 is 69 times. It shows that in 2019 and 2020, the BTO level in the public hospital exceeds the Indonesian Ministry of Health standards, meaning that the number of additional beds for patients does not correspond to the number of patients entering and an increase in the number of patients in 2020. Therefore, the hospital needs additional beds to deal with this. Further research indicates that the hospital had added the required beds gradually so that by the end of 2020, the number of additional beds

would become 35 units, and the hospital hoped that the addition of these beds could idealise the value BTO.

The fourth item is ALOS (Average Length Of Stay), which calculates the average number of days a patient is treated. The tolerance level or ALOS standard set by the Indonesian Ministry of Health is 6-9 days. Table 4.15 shows that the ALOS for the public hospital in 2019 is only four days, and in 2020 it decreased to only three days. It shows that in 2019 and 2020, ALOS's level in the public hospital is still below the standard set by the Republic of Indonesia Ministry of Health. In other words, on average, patients return sooner than the minimum standard. Further research reveals factors contributing to this problem: the patient's condition has improved/recovered that turns their status to outpatient care, the patient's or their family's requests to discharge early to be treated at home.

The fifth item is Gross Death Rate (GDR), which is the general death rate for every 1000 patients discharged. The tolerance level or GDR standard set by the Ministry of Health of the Republic of Indonesia is below 45%. The percentage of GDR shows the overall death rate of patients in the hospital. If the hospital's GDR from year to year shows a decrease, it can be said that the hospital has improved performance in providing services to cure patients. Table 4.15 shows that the percentage of GDR in the public hospital for 2019 is only 0.02% and increased in 2020 by 2.6%. It shows that GDR's level in the public hospital is still within the tolerance limits set by the Ministry of Health of the Republic of Indonesia. However, the increase in 2020 implies a performance decrease in treating patients.

The sixth and final item for the perspective of internal business processes is the NDR (Net Death Rate), which represents the death rate after 48 hours of treatment in 1000 discharged patients. The tolerance level or NDR standard set by the Ministry of Health of Indonesia is equal to or less than 25%. In general, if the hospital's NDR shows a decrease from year to year, it can be said that it has improved its performance in providing services to cure patients. The NDR level in the public hospital in 2019 is 0.03% and increased in 2020 to 1.8%. This finding shows that the level of NDR in the City Hospital of Kendari is still within the scope of tolerance provided by the Ministry of Health of the Republic of Indonesia. However, the increase indicates a decrease in performance in providing health care services.

Overall, the public hospital's performance from the perspective of internal business processes is already good. It is due to the innovations they made to add value to the hospital during 2020 being quite a lot, and also the operation process that, on average, meets the standards.

#### **4. Growth and Learning Perspectives**

The performance measurement the public hospital in the perspective of growth and learning is concerned with employee satisfaction. The researcher administered questionnaires to 84 employees working in various professions or departments at the hospital. Based on the age

group, the vast majority of the respondents are aged 26-30. In terms of gender, the female respondents dominate, 56 out of 84. It is not surprising since nurses, pharmacists, and administrative staffs who work at the public hospital are mostly women. The employees with tenure of 15 – 20 years make up the most significant respondents. Based on the employment status, as many as 48 employees are civil servants. Furthermore, in terms of education level, 55 respondents are bachelor graduates.

The overall mastery level for each indicator of growth and learning perspective is calculated by adding up the total score of the answers to each indicator then divided by the maximum score. The maximum score is assumed if all respondents gave a value of 5 on all question items. The table below presents the level of mastery for all the indicators.

**Table 3.** The level of mastery of the entire indicators for growth and learning perspective

NO	INDICATOR	SCORE	MAXIMUM SCORE	LEVEL OF MASTERY	CATEGORY
a	b	C	D	e = (c/d)*100%	F
1	Motivation	1840	2520	73.01%	Good
2	Personal development opportunity	1569	2100	74.71%	
3	Leadership	1910	2520	75.79%	
4	Working atmosphere	1922	2520	76.27%	
5	Duties and responsibility	2445	2940	83.16%	
<b>Growth and learning perspective</b>		<b>9686</b>	<b>12600</b>	<b>76.87%</b>	<b>Good</b>

Source: Reprocessed research results

In addition to giving closed questions, the researcher also gave open queries to elicit employees' suggestions to the public hospital. Of the sixteen employees involved, most suggest the improvement of patient services. The overall indicators of growth and learning perspective have resulted in a mastery level of 76.87%. According to Sa'adah (2020), this figure is included in the good category, meaning that the public hospital employees have been satisfied with the work they have done so far. However, there are some suggestions given by the employees that are essential points for the public hospital in the hope that it will be improved and further enhanced in the coming years.

## V. CONCLUSIONS

Based on the results and discussion previously described, several conclusions can be drawn as follows:

1. The performance of the public hospital from the customer perspective is measured through customer satisfaction indicators: physical evidence, trustworthiness, responsiveness, certainty, empathy, cost, and service intensity. Overall, the level of indicator is mastery level at 75.21%, which belongs to the good category. It means that although there are still many

deficiencies in the service, the patients are satisfied with the service provided. A few of suggestions require the public hospital to be improved or changed so that its services can be even better.

2. The public hospital's performance from the financial perspective is assessed from 5 benchmarks covering economic ratio, effectiveness ratio, efficiency ratio, Net Profit Margin, and Return On Investment. Overall, based on the results of the calculation of each benchmark, it can be concluded that financial management at the public hospital is in a good category. However, it is still inefficient in terms of expenditure. Also, its revenue realisation only belongs to a quite effective category, specifically in 2020. In the future, the hospital's expenditure should make up only 60.01% - 80% of the income received.
3. The public hospital's performance from the internal business process perspective measured using two indicators, namely the innovation process and operational process. These two indicators cover six items, namely BOR, TOI, ALO BTO, GDR, and NDR. Overall, the performance of the public hospital from the perspective of internal business processes is good. This good performance is due to the innovations made by the hospital during 2020 and the operation process that has commonly met the standards.
4. The performance of the public hospital from the growth and learning perspective is gauged by measuring employee satisfaction based on five indicators: motivation, personal development opportunities, leadership, the atmosphere at work, and duties and responsibility. Overall, the growth and learning perspective's indicators have resulted in a mastery level of 76.87% and achieved a good category. It means that the staff of the public hospital have been satisfied with the work they have done so far. However, some critical suggestions were given by employees for the services improvement in the coming period.



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