



## Balanced Scorecard Effectiveness in Evaluating Comprehensive Performance of Tana Toraja Regional Public Hospital

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### Abstract

Public organizations must perform comprehensive measurements in serving the community. One suitable measurements is the balanced scorecard since it is measure quantitative and qualitative aspects. This study aimed to analyze the effectiveness of the balanced scorecard in measuring performance of Tana Toraja Regional Public Hospital from four aspects: financial, customers, internal business processes, and growth/learning. This descriptive quantitative research investigated the average value and the frequency distribution of the satisfaction level for four aspects. While, for financial analysis used data from budget ratio, revenue realization, revenue growth and the cost recovery rate. The results showed that the Balanced Scorecard was very effective in measuring comprehensive performance. The performance of the Tana Toraja Hospital was good, categorized in healthy (AA category). Furthermore, the hospital successfully realize its vision, mission, and goals of public organizations as one of the good public health services met the four perspectives in BSC. They were customer perspectives, financial, internal business processes, and growth/learning.

## Efektivitas Metode *Balanced Scorecard* dalam Mengevaluasi Kinerja Komprehensif Rumah Sakit Umum Daerah Tana Toraja

### Abstrak

Organisasi publik harus melakukan pengukuran kinerja yang komprehensif dalam melayani masyarakat. Salah satu pengukuran kinerja yang komprehensif adalah balance scorecard karena mengukur aspek kuantitatif dan kualitatif. Penelitian ini bertujuan untuk menganalisis efektivitas balanced scorecard dalam mengukur kinerja RSUD Tana Toraja dari empat aspek yaitu keuangan, pelanggan, proses bisnis internal, serta pertumbuhan/pembelajaran. Penelitian kuantitatif deskriptif ini mengkaji nilai rata-rata dan distribusi frekuensi tingkat kepuasan untuk empat aspek. Sedangkan untuk perspektif keuangan digunakan data dari perbandingan anggaran, realisasi pendapatan, pertumbuhan pendapatan, dan cost recovery rate. Hasil penelitian menunjukkan bahwa Balanced Scorecard sangat efektif dalam mengukur kinerja komprehensif. Kinerja Rumah Sakit Tana Toraja tergolong baik dengan kategori sehat (kategori AA). Selanjutnya, rumah sakit berhasil mewujudkan visi, misi dan tujuan organisasi publik sebagai salah satu pelayanan kesehatan masyarakat yang optimal dengan memenuhi 4 perspektif dalam BSC, yakni perspektif pelanggan, keuangan, proses bisnis internal serta pertumbuhan/pembelajaran.

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The Regional General Hospital (RSUD) Tana Toraja, the front line of public services, has a complex health service function. The community uses the hospital as the primary reference of health service. Therefore, the hospital must provide equitable, qualified, and patient-oriented satisfaction services.

The measurement of public organization performance, the RSUD, should consider many aspects. For example, the performance measurement in which requires many aspects to consider.

The Tana Toraja Hospital uses the standards specified in the Budget Work Plan to measure the performance. It includes some indicators, such as the number of inpatient and outpatient visits, minimum Service Standards (SPM), and financial performance written in the Budget Work Plan. The hospital revenue payment to the regional treasury, determined by the local government, indicates the hospital's performance measurement during the regional autonomy.

It proves that the hospital did not have integrated measurement. The hospital only measures the service aspects (SPM) and finance without measuring the hospital's performance comprehensively. Hospitals as health service providers are public services that are intangible public service, therefore measuring the performance of health services is not enough to only use financial measures but must use non-financial measures such as patient satisfaction, commitment, and satisfaction of human resources as well as the development of facilities and infrastructure (Mahmudi, 2010).

The Balanced Scorecard refers to the performance management to facilitate an organization translating the vision and strategy into action. This process usually utilizes a set of financial and non-financial indicators in a causal relationship. Based on Charles & Ralph in Rangkuti (2014), a Balanced Scorecard is a

systems approach for organizing performance measures into an integrated and easy-to-understand framework based on four different perspectives that define company goals.

The Balanced Scorecard (BSC) measures performance from four perspectives. They are 1) financial perspective that deals with how the organization increases revenue and reduces costs; 2) customer perspective that seeks the customers' points of view toward the organization; 3) internal business process perspective that sees the organizational efforts to develop from the internal process improvement; and 4) learning and growth perspective that seeks the efforts of the organization to improve and add values for customers.

Chimtengo, Kezzie, & Hanif (2017) found that the balanced scorecard could reveal organizational weaknesses from four aspects. They also found excellent college performance with the balanced scorecard. The results proved the strong correlation of the internal processes, innovation, and learning processes toward performance. Seth (2013) also proved the balanced scorecard could measure the organizational performance of higher education institutions in Kenya.

From the previous studies, the balanced scorecard is suitable for public sector organizations.

The scorecard does not only focus on quantitative-financial aspects but also qualitative and non-financial aspects. Thus, it is adaptable for public sector organizations to improve the performance of public sector organizations.

The balanced scorecard approach may require some substantial changes in culture within the organization (Chavan, 2009). The balanced scorecard requires understanding, commitment, support, acceptance, and cultural adaptation from all business components. Thus, this organization will find new things and new

goals in different areas. The organization could make the balanced scorecard even more balanced and effective in supporting a living, growing, viable organization. Each organization has different needs, market areas, people, products, and services. Therefore, each organization needs different balanced scorecards. Adejoka & Bayat (2014) and Lyn & Zhang (2014) found balanced scorecard could measure the performance appraisal in hospitals.

The balanced scorecard shows that financial gain/perspective is not the only perspective that needs attention. Therefore, it makes a balanced scorecard suitable for organizations because profit is not the main object. Financial measures in public sector organizations are optional because they only determine service levels and service capacities. An organization adopts the balanced scorecard because of the organization's non-financial perspective. This organization aims to fulfill its mission. Thus, the balanced scorecard is suitable for public organizations.

This study aimed to analyze the effectiveness of the balanced scorecard in supporting comprehensive performance at the Tana Toraja Regional Hospital as a sector organization which includes four perspectives, namely financial, customer, internal business processes, and learning and growth perspectives.

## **METHODS**

This research used a quantitative approach. The type of research was descriptive, which described and analyzed the effectiveness of the balanced scorecard method in supporting the comprehensive performance of the Tana Toraja Hospital.

The financial performance indicators of the Tana Toraja Regional Hospital consist of revenue growth, cost expenditures, budget

comparisons, and revenue realization, and cost recovery rate (CRR). The weighting according to expert respondents (Director of the Tana Toraja Regional General Hospital, Head of Finance, Human Resources and Services Department) for financial performance is 30%.

According to expert respondents (Director of the Tana Toraja Regional General Hospital, Head of Finance, Human Resources and Services Department) for customer performance indicator as much as 25%, consisting of customer retention of 50%, customer satisfaction survey of 95%, and customer acquisition of 4%.

Internal business process perspective indicators use the weighting according to expert respondents (Director of the Tana Toraja Regional General Hospital, Head of Finance, Human Resources and Services Department) for internal business performance is as much as 20%, consisting of facilities and infrastructure indicators 7%, process 7%, and technical quality related to internal standards by 6%. used bed occupancy rate (BOR), the average length of stay (ALOS), bed turn over (BTO), the net death rate (NDR).

The researchers used a survey with 165 respondents from a population of 280 people to obtain data about the learning and growth indicator. The weighting of growth and learning performance according to expert respondents (Director of the Tana Toraja Regional General Hospital, Head of Finance, Human Resources and Services Department) is as much as 20%, consisting of training indicators and increasing employee skills, by 4%, employee productivity by 4%, motivation by 6%, and information system capability by 6%.

In this study, the data were obtained through a questionnaire of respondents who were directly related to service activities, namely Tana Toraja Hospital employees, and patients as users of hospital services. Other data sources

were documents related to research. The data collection techniques used the interview to the expert respondent to know the priority of each indicator weight and maximum balanced scored.

The data collection techniques also use documentation from Tana Toraja Regional Hospital which consists of reports on financial

performance. After obtaining the value of each performance measure, then the results were compared with the standard measure/ideal value.

As for measuring the Balances Scorecard according to Rangkuti (2014), the steps are as follows:

1. Measuring the weight and indicator weights. The list of measurement indicators and the results are shown in Table 1.

**Table 1. Measurement Indicators and Its Results**

Perspectives	Indicator	Weight	Indicator weight
Financial	Budget Comparison and Revenue Realization	7	1,75
	Revenue Growth	8	2
	Cost Recovery Rate	8	2
	Expenses	7	1,75
	Total	30%	7,5
Customer	Customer satisfaction	18	6
	Customer retention	3	1
	Customer acquisition	4	1,3
	Total	25	8,3
Internal process	Facilities and infrastructure	7	0,875
	Process	7	0,875
	Technical quality related to internal standards :		
	BOR (Bed Occupancy Rate)	1	0,125
	Response time for doctor services in the emergency	1	0,125
	Outpatient waiting time	1	0,125
	Waiting time for drug services	1	0,125
	NDR (Net Date Rate)	1	0,125
	GDR (Gross Date Rate)	1	0,125
Total	20	2,5	
Growth & Learning	Employee Skills training and upgrading,	5	1
	Ability	5	1
	Productivity	5	1
	Employee Satisfaction	5	1
	Information System Capability	5	1
	Total	25	5

Sources: Data processed, 2020

2. Measuring the maximum weighted score by using the Rangkuti formula (2014) as follow:

$$MWS = I \times MIS \times IW$$

MWS = maximum weighted score

I = indicators x

MIS = maximum indicator scores

IW = indicator weights

3. Measure the number of indicator scores  
The assignment of values A = 4, B = 3, C = 2, D = 1 for each indicator is based on the four criteria for each indicator, using the class interval value, namely the target minimum values
4. Measuring the total final score (Rangkuti, 2014) with the following formula:

$$TS = \frac{MWS}{WS} \times 100\%$$

TS = total score

MWS = maximum weighted score

WS = weighted score

Next, after counting the total score of each indicator, then the results are compared with the balanced scorecard standard criteria Rangkuti (2014) which is shown in Table 2.

## RESULT

The Balanced Scorecard is a management performance measurement system or strategic management system, which is derived from the vision and strategy and reflects the most important aspects of an organization (Georgiev, 2017, Arash & Zairi, 2014; Zairi, 2011)). In measuring the performance of Tana Toraja General Hospital with a balanced scorecard, it is divided into four perspectives, namely:

### a. Financial perspective

The weighting according to expert respondents for financial performance is 30%. The financial performance indicators of the Tana Toraja Regional Hospital consist of revenue growth, cost expenditures, budget comparisons, and revenue realization, and Cost Recovery Rate (CRR). The results of this aspect are shown in Table 3.

For the Budget Comparison and Revenue Realization indicators, the result was 105.6% and including in the A category. While for Revenue Growth, it was 116.61% realization and including in the A category. Next, for the Cost Recovery Rate, the realization was 126%, so it was also included in the A category. Lastly,

**Table 2. Balanced Scorecard Standard Criteria**

Condition	Category	Total Score
Very Healthy	AAA	≥95
	AA	80<TS<95
	A	65<TS<80
Less Healthy	BBB	50<TS<65
	BB	40<TS<50
	B	30<TS<40
Not Healthy	CCC	20<TS<30
	CC	10<TS<20
	C	TS<10

Sources: Rangkuti (2014)

**Table 3. Financial Indicators Results**

Perspective:	Indicator	Realization	Value	Score
Financial	Budget Comparison and Revenue Realization	105,6	A	4
	Revenue Growth	116,61	A	4
	Cost Recovery Rate	126	A	4
	Expenditure	88,95	B	3
Total				15

Source: processed data (2020)

for Cost Expenditure, it was only realized 88,95%, therefore it was in (B) class. All in all, after summarizing the score of all indicators, the total indicator score for financial perspective was 15.

b. Customer perspective

The weighting according to expert respondents for customer performance was 25%.

For Survey Indicators Customer Satisfaction 95% (A), Customer Retention 50% (A), Customer Acquisition 4% (A), and the total indicator score for customer perspective is 12 as shown in Table 4.

c. Internal business process perspective

The weighting according to expert respondents for internal business performance is as much as 20%.

Meanwhile, the detailed results for each indicator can be seen in Table 5. From Table 5, it can be seen that for the Facilities and Infrastructure indicators, it has 75% realization, then it was included in the B category. For Process indicator, has 85% realization, and include in the A category. Next, for Technical Quality related to Internal Standards: BOR (Bed Occupancy Rate) was 82.72%, so it was included in A class. For the Response time of doctor services in the emergency department, it just realized 65% or only in the B category. For Outpatient waiting time was 80% realization, or in A category and in waiting time for drug services, was 70% (B), NDR (Net Date Rate) 89% (A), and GDR (Gross Date Rate) 76% (B). Overall, the total indicator score for the Internal business process perspective is 28.

**Table 4. Customers Perspective Results**

Perspectives	Indicator	Realization	Value	Score
Customer	Customer satisfaction	95	A	4
	Customer retention	50	A	4
	Customer acquisition	4	A	4
Total				12

Source: processed data (2020)

**Table 5. Internal Business Process Perspective Results**

Perspectives	Indicator	Realizatio	Value	Score
Customer	Facilities and infrastructure	75	B	3
	Process	85	A	4
	Technical quality related to internal standards:			
	BOR (Bed Occupancy Rate)	82,72	A	4
	Response time	65	B	3
	Outpatient waiting time	80	A	4
	Waiting time for drug services	70	B	3
	NDR (Net Date Rate)	89	A	4
	GDR (Gross Date Rate)	76	B	3
Total				28

Source: processed data (2020)

d. Growth and learning perspective

The weighting of growth and learning performance is as much as 20%.

For the indicators of training and improvement of employees' skills with sub-indicators: Employees who take training 78% (B), Ability 80 % (B), Productivity 99% (A), Employee Satisfaction 84% (B), Information System Capability 73% (B) and the total indicator score for the Learning and Growth

perspective is 15. The overall performance of Tana Toraja Hospital based on the Balanced Scorecard can be seen in the following table (Table 6).

Furthermore, measuring the final value per component, namely the weighted score divided by the maximum weighted score x 100%. The final value per component can be seen in Table 7.

**Table 5. Growth and learning Perspective Results**

Perspectives	Indicator	Realization	Value	Score
Growth & Learning	Employee Skills training and upgrading	78	B	3
	Ability	80	A	3
	Productivity	99	A	3
	Employee Satisfaction	84	B	3
	Information System Capability	73	B	3
	Total			

Source: processed data (2020)

**Table 6. Achievement of Average Performance of Tana Toraja Hospital**

Perspectives	Indicator weight	Score	Balanced Score
Financial	7.5	15	112,5
Customer	8	12	96
Internal process	2,5	28	70
Growth and Learning	5	15	75

Source: processed data (2020)

**Table 7. Final Value for each BSC Perspective at Tana Toraja Hospital**

Perspectives	Indicator weight	Maximum Balanced Score	Balanced Score	Final value per component
Financial	7.5	120	112,5	93%
Customer	8	99	96	96%
Internal process	5	80	70	87.5%
Growth and Learning	5	100	75	75%
Total		399	353,5	88,6%

Source: processed data (2020)

The Performance of the financial perspective of Tana Toraja Regional Hospital is considered to be very good with a weighted score of 112 or 93% of the maximum weighted score of 120. The customer perspective performance of Tana Toraja Hospital is considered very good with a weighted score of 96 or 96% of the maximum weighted score of 99. The final score for the internal business process perspective obtained from the customer perspective is 70 or 87,5% of the maximum weighted score of 80. The Performance of the Learning and Growth Perspective of the Tana Toraja Regional Hospital is considered good by achieving a weighted score of 75 or 75% of the maximum weighted score of 100.

From the table above, it can be seen that the lowest final value per component is from the growth and learning perspective which is 75% and the highest final value per component is from the customer perspective with a value of 96%.

The total final value is the total weighted score/maximum total weighted score x 100% =  $(353,5 / 399.96) \times 100\% = 88,6\%$ . Based on the value of standard criteria which can be seen in table 2, then the performance of Tana Toraja Hospital based on the Balanced Scorecard is 88,6%, including the healthy category (AA category). Tana Toraja Hospital's performance appraisal based on the Balanced Scorecard is categorized as healthy (AA). This showed that the performance of Tana Toraja

Hospital reflects a balance between financial performance and non-financial performance.

## **DISCUSSION**

This study showed that the performance measurement of Tana Toraja Hospital with a balanced scorecard approach is 88,6 % in the healthy category (AA category). The results showed that the Balanced Scorecard was very effective in measuring the comprehensive performance of the Tana Toraja Hospital. Balanced Scorecard shows that the non-financial perspective in public sector organizations is related to efforts to improve financial performance by increasing income and simultaneously reducing costs (Mahmudi, 2010).

Taufik (2018) found the excellent performance of three hospitals in Pasuruan with the Balanced Scorecard (BSC). The Balanced Scorecard was very effective in measuring the comprehensive performance of the hospital. This reflects that the three hospitals in Pasuruan struggled to realize the achievement of vision, mission, and goals as one of the optimal public health services in Pasuruan and surrounding areas.

Seth (2013) also found that the balanced scorecard could improve organizational performance at higher education institutions in Kenya. Thus, the balanced scorecard is suitable for the public sector since it does not only emphasize quantitative-financial aspects. The card is also useful for non-financial aspects, such as services. Thus, there is a need for a performance measurement that covers all aspects.

Organizational finance includes two perspectives: short-term and long-term. In a financial approach that aims for the short term, the strategy used is increasing productivity.

Meanwhile, in the long-term financial approach, a special strategy called a growth strategy, includes increased income and increased shareholder value. Based on the findings obtained in the field, it showed that the efforts of the Tana Toraja Regional Hospital in increasing the financial perspective in terms of Income

Growth (comparison of hospital income from year to year) in 2018 were IDR 18,693,943,647.18, and in 2019 IDR 48,840,536,550.61 increased 116.61 %. Comparison of Budget and Realization (Comparison between planning budget and revenue target for one period), the 2019 budget is IDR 39,462,079,989, and the realization is IDR 48,840,536,550.61, which means that the realization of Tana Toraja Hospital revenue is 105,6%. Cost Recovery Rate (Comparison between income and expenditure in one period), comparing 2018 revenue of IDR 48,840,536,550.61 and operating costs of IDR 35,142,239,349, the achievement is 1.26 times (126%), this shows that every IDR 1 of RSUD Tana Toraja operational costs can afford to be financed by the income of IDR 1.26. When compared with the ideal standard CRR is 100%, the CRR achievement of Tana Toraja Hospital is very good with an achievement of 126%.

The perspective of customers in public sector organizations is the main focus because the purpose of public sector organizations at a macro level is to reach the community's welfare. From a customer perspective, public sector organizations focus on customer satisfaction. Mulyadi (2010) explains that public sector organizations must identify the factors that affect customer satisfaction because customer satisfaction will trigger the success of financial performance. The customer perspective performance of Tana Toraja Hospital is assessed as Good with a weighted score of 96 or 96% of the maximum weighted score of 99.

According to Yuwono (2007), if customers are not satisfied, they will look for other producers that suit their needs. Poor performance from the customer perspective is observable in customer satisfaction will reduce the number of customers in the future. Gasperz (2006) states that customer satisfaction measures provide feedback on how well the organization is doing, efforts to satisfy various customer needs will determine customer retention and acquisition.

It is in line with the research results about the decreased visits from 2018 to 2019. It showed a percentage of decreased visits by 3.4% due to patient dissatisfaction. The other cause was the competitors' presence with increased services of expert doctors in medical practice clinics. This study also found other private hospitals that served the National Health Insurance Program (BPJS). The customer retention, seen from the number of old visits, increased by 50% due to the hospital's status as the only government hospital in the two districts, Tana Toraja and North Toraja. Thus, the community from the district needed it to get assurance treatment for the Jamkesda membership. North Toraja Regency collaborates with the Tana Toraja district government, in this case, RSUD Tana Toraja, to serve KIS insurance patients or the poor with a certificate of incapacity from North Toraja to get health services. In addition, the Health Social Security membership patient preferred this hospital to obtain affordable health serve. It led to a long queue. It showed other influential factors of customers' retentions and visits, such as geographical conditions. Patients will go to the closest health service provider even the service does not satisfy them.

The perspective of internal processes in business organizations and public organizations is the same. It is to build organizational

excellence through continuous improvement of internal processes (Mahmudi, 2010). In this perspective, measurements must cover all activities undertaken to create products or services that provide specific satisfaction to customers. The results showed that the final score from the internal processes perspective was 70 or 87.5% which was in the healthy category. Indicators of work support facilities become an inhibiting factor due to limited tools and equipment to support the work, on the other hand, the process indicators in the implementation of work are also not optimal due to the large workload of employees which results in slow processing of services provided.

From the perspective of growth and learning, Kaplan and Norton (1996) reveal the importance of an organization to continue paying attention to employees, monitoring employee welfare, and improving employee knowledge. Proper knowledge levels increase the employees' participation to meet the three perspectives in a balanced scorecard and organizational goals. Those perspectives are worker capability, motivation, and information system capability.

The performance of the hospital's Learning and Growth Perspective was low. It only obtained a score of 75 or 75% of the maximum weighted score of 100. Capability, as a variable, could describe the employees' satisfaction levels under the policies of the hospital management. The training and improvement program for the employees' skills showed only 78% employees attended the program, categorized (B), and ability 80% (B). The results showed that Tana Toraja Hospital was optimal in providing training to support employability skills. Motivation is a variable that describes the level of employee satisfaction with the policies taken by RSUD Tana Toraja in motivating employees. The results showed that employee productivity was 99% (A), and

employee satisfaction was 84% (B). The employee questioner showed the employees had average satisfaction. It was due to lack of motivation for the staff. For example, the gaps of service fees with the workload the employees went through. Information systems could support employees to improve immediate implementation processes and product feedback. It is in line with the results of the research. It showed Information System Capability 73% (B), which means that the information system capability at Tana Toraja Hospital is still average. The balanced scorecard approach may require some substantial changes in culture within the organization.

The adaption of the balanced scorecard for the public sector requires understanding, commitment, and support from all components. All organizations have different needs, market areas, people, products, and services. Therefore, they need different balanced scorecards (Chavan, 2009). However, this research findings confirm the previous empirical result that found balanced scorecard is relevant for public sector performance evaluation (Imelda, 2004), eventhough it should be corrected and adapted with the bureaucracy, system of public entities (Monteiro & Ribeiro, 2017; Aydin, 2019; Gurie, 2019)

The balanced scorecard also checks the balance of goals and accountability. It means organizational people must accept accountability to realize the measurement balance. The people of the organization are the key to the success of the balanced scorecard system, especially top management commitment. Gurie (2019) found in his study that communication and top management commitment as crucial aspect which are impeding implementation of BSC in seven public sectors studied in Eithopia.

However, the applicability of BSC in public sector is more likely to be success if the

institutions are mature enough. Aydin (2019) found that if the maturity of institution is higher than the median then the possibility of BSC to be applied in that institutions is more likely to success. This also what might happen to the Tana Toraja Public Hospital, considered that the age of the hospital is already quite mature, which is 31 years old. Therefore, it is ready and mature enough to implement all aspects of BSC in hospital sector.

## **CONCLUSIONS AND SUGGESTIONS**

The balanced scorecard approach was effective to describe the performance of the Tana Toraja Regional Hospital. Balanced scorecard showed the correlation of the non-financial perspective in public sector organizations toward the improvement of financial performance by increasing income and simultaneously reducing costs. The results showed the performance of the Tana Toraja Regional Hospital is good and including in the healthy category (AA category). The financial perspective performance of RSUD Tana Toraja is considered very good achievement with almost perfect evaluation. The hospital also had an excellent performance based on customer perception. In addition, the performance of the internal business process perspective was also excellent. The performance of the learning and growth perspectives of the Tana Toraja public hospital was also good, with most majority respondent agree on that.

The successfulness of implementation of BSC in Tana Toraja Hospital in evaluating the hospital performance, once again is supporting the previous study that BSC is suitable in evaluating comprehensive performance in public sector institutions. Eventhough the application of its dimensions should be adapted and corrected based on the specific condition of the institutions.

The researchers suggest the hospital to immediately use a computerized system/MIS to support the service process. The hospital must pay attention to the quality of hospital activities to meet the set standards.

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