



Designing Performance Measurement with the Balanced Scorecard Method in the Tourism Service Industry

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Abstract - *The research in this paper discusses the performance measurement of a tourism service company. The performance measurement that is done is the measurement used by the company at this time and the measurement of performance using the Balanced Scorecard (BSC) method. The purpose of this research is to identify the performance measurement system that is currently being used by the company, to measure performance using the BSC method and to make improvements with the strategy map and Key Performance Indicators (KPI) tables produced by this study. The process of weighting the perspectives and main indicators of making KPI tables uses the Analytical Hierarchy Processes (AHP) method. This research shows that the measurement method used by the company is currently inadequate and the BSC method is the right measurement system needed for now and for the future. The results of measuring company performance in 2019, the biggest is financial performance with a performance score of 0,694, second place is customer performance with a performance score of 0,691, in third place is growth and learning performance with a performance score of 0,560 and the last order is the performance of internal business processes with a score performance 0,551. The company's performance score is 2,496 (with a mean of 0,624). This means that the company's current performance is still not good.*

Keywords - *company performance, Balanced Scorecard (BSC), Analytical Hierarchy Process (AHP), Key Performance Indicators (KPI).*

I. INTRODUCTION

In this era of globalization, tourism is an alternative sector that has been proclaimed by the Indonesian government to be used as a foundation in supporting development. As the youngest sector in national development, tourism has grown rapidly so that it has contributed a lot, including foreign exchange earners, employment opportunities, expanding business opportunities and so on. With an area plus extraordinary natural conditions, making Indonesia a country that has great potential for tourists to visit.

Performance appraisal or measurement is an important factor for the company. Apart from being used to assess the success of the company, performance measurement can also be used as a basis for determining the reward system within the company such as determining the level of salaries of employees and appropriate rewards. Management can also use company performance measurement as an evaluation tool by considering strategic and risk factors appropriately.

So far, performance measurement commonly used by many companies, including at PT. X, generally only focuses on the financial sector because the data used for measurement are easily obtained through financial reports and the size is clear. If the company succeeds in achieving a high financial level, the company will be considered successful. Performance measurement using this system causes the company's orientation to only one short-term profit and tends to ignore the company's long-term survival (Khan et al, 2012). Performance measurement that focuses on the financial sector alone is not capable of measuring the performance of a company's intangible assets and intellectual property (human resources). In addition, performance measurement in this way is also less able to tell a lot about the company's past, does not pay attention to the external sector and is less able to fully guide the company in a better direction (Kaplan and Norton, 2000).

Based on this situation, a new approach is needed in measuring company performance. The measuring instrument used to obtain a strategic balance between financial performance targets, customer performance targets, internal process performance and human resource performance is the Balanced Scorecard method. The purpose of this study is to measure the performance of the company and to suggest improvements in performance improvement using the Balanced Scorecard method.

II. METHOD

2.1 Data Collection Technique



This study uses several data collection techniques, namely primary data and secondary data, with the following explanation :

- a) Primary data is data obtained through data collection instruments in the form of questions in the form of questionnaires with specific questions or statements and based on an ordinal scale based on the Likert method and the Analytical Hierarchy Process (AHP) pairwise comparison method.

The methods used are as follows :

1. The method of observation, namely the method of collecting data by observing and making direct observations on all company activities.
 2. The interview method is a method of collecting data by asking questions directly (question and answer) with company management.
 3. The questionnaire method is a set of questions that logically relate to the research problem and each question has answers that have meaning or meaning in testing the hypothesis. This study uses an AHP weighted questionnaire.
- b) Secondary data is data obtained from all existing sources, namely literature and reports that are related to this research in the form of financial reports, customer data and employee data.

2.2 Data Analysis Technique

In choosing a strategy, it is necessary to consider the suitability of the company's vision and mission. From various data such as strategic planning and the results of interviews with company management, the company's strategic goals and Key Performance Indicators (KPI) are compiled as in table I.

Table I Strategic Targets and KPI

Strategic Targets		Key Performance Indicator	
F1	Increase the profitability ratio	KPI.1	Return on Equity Turnover (ROE)
		KPI.2	Return on Investment Turnover (ROI)
F2	Increase the liquidity ratio	KPI.3	Increase in Cash Ratio (Cash Ratio)
		KPI.4	Current Ratio Increase (Current Ratio)
F3	Increase the effectiveness ratio	KPI.5	Operation Turnover Ratio (Operating Ratio)
		KPI.6	Total asset turnover (TATO)
C1	Provide satisfaction to customers	KPI.7	Increase in customer acquisition
		KPI.8	Decreased number of customer complaints
C2	Sales effectiveness	KPI.9	Market share growth
		KPI.10	Increase in Customer Retention Rate
I1	New product or service development	KPI.11	Innovation process
		KPI.12	After sales service process
G1	Increase the productivity of human resources	KPI.13	Decreased employee turnover
		KPI.14	Increase in employee productivity

Source: Company Vision and Mission for 2019

2.3 Analysis of Data Using the Analytical Hierarchy Process Method

The method used to process and analyze data is the Analytical Hierarchy Process (AHP) method. The first thing to do is identify the criteria and sub-criteria items that support performance to determine the priority scale and the scale numbers using the Pair Comparison Rating Scale table, create a matrix and weighting or eigen vector.

How to determine the eigen vector is :

1. The matrix is squared.
2. The resulting quadratic matrix is then formed as a vector by adding up each row.
3. The vector is normalized by dividing each element by its number. The result is an eigen vector.
4. Calculating the consistency of the ratio from each table, if the consistency ratio (CR) <0,1, it means that the results of the questionnaire above are consistent and can be continued to the ranking stage.

Formula :

$$\text{Consistency Index} : CI = (\lambda \text{ maks} - n) / n - 1$$



Consistency Ratio : $CR = CI/IRC$

- The next stage is to calculate the performance and after the second stage questionnaire is collected then it is processed using a Likert scale, the last is calculating the performance achievement.

2.4 Performance Measurement

Measuring company performance using the Balanced Scorecard method requires a series of provisions that indicate objectives, benchmarks, targets and assessment scales. The assessment scale used is the Likert scale, with the determination of the assessment as follows :

- Grade 5 (Very Good).
- Grade 4 (Good).
- Grade 3 (Enough).
- Grade 2 (Bad).
- Grade 1 (Very Bad).

The stages of measuring the performance of the Balanced Scorecard are as follows :

- Set the target of each KPI based on past data.
- Weighting with AHP on the perspective of the Balanced Scorecard, strategic objectives and KPI are weighted from each perspective, strategic objectives and KPI.
- Perform a hierarchical analysis of the Strategic Targets and KPI weightings to test the AHP weighting results obtained by the total weight, using the following formula :
 $Total\ Weight = Main\ Weight \times Sub\text{-}coordinate\ Weight$
- Evaluating the results of the BSC weighting by multiplying all the weights, using the following formula :
 $Total\ Weight = Perspective\ Weight \times Strategic\ Target\ Weight \times KPI\ Weight$
- Calculate the performance of the Balanced Scorecard using the following formula :
 $Performance\ Score = Ratio\ Measurement\ Scale \times Total\ Weight$

III. RESULT AND DISCUSSION

3.1 Weighting Analytical Hierarchy Process (AHP)

Weighting is done to determine the level of importance of each perspective, strategic and KPI which is used as a reference in the company's performance appraisal process. The determination of the weight is based on the results of the questionnaire that has been filled in by the participants who have a relationship in carrying out the achievement of targets and KPIs. The participants are Director, General Manager, Accounting Manager, Marketing Manager, HRD Manager, owner and practitioner. The results of the questionnaire were processed using the AHP (Analytical Hierarchy Process) method and using the AHP Priority Calculator Online Software assistance. The results of the weighting questionnaire assessment have been filled in by the respondents, the geometric mean is calculated to obtain the average value of the pairwise comparison assessment.

3.2 Perspective Level Weighting Results

Participants for this weighting are carried out by five participants, namely the Director, General Manager, HRD Manager, company owner and practitioner. The five people are relevant participants because they have functions and positions that can affect the achievement of the company's vision and mission. The weighting results can be seen in table II.

Table II AHP Weighting Results Perspective Level

Perspective	Priority	Weight	Total Weight
Financial	2	27,30%	100%
Customer	1	31,50%	
Internal Business Process	3	21,40 %	
Growth and Learning	4	19,80 %	

Source : AHP Priority Calculator Software Online Calculation

This weighting is influenced by the interests of companies that choose customer criteria as the top priority because the company is oriented towards customer satisfaction in marketing its services. But to get customer satisfaction requires financial support, internal business and human resources.

3.3 Result of Weighting Strategic Target Level

Participants for this weighting are carried out by five participants, namely the Director, General Manager, HRD Manager, company owner and practitioner. The five people are relevant participants because



they have functions and positions that influence the determination of the company's strategic goals. The weighting results can be seen in table III.

Table III AHP Weighting Results Strategic Target Level

Strategic Target	Priority	Weight	Total Weight
Increase the profitability ratio	1	51,70%	100%
Increase the liquidity ratio	2	26,20%	
Increase the effectiveness ratio	3	22,10%	
Provide satisfaction to customers	1	68,30%	100%
Sales effectiveness	2	31,70%	

Source : AHP Priority Calculator Software Online Calculation

This weighting is influenced by the interests of the company which prioritize customer satisfaction as the top priority. Some weightings get results that are not too much different, determining the priority scale is considered based on current interests and what needs the company wants to achieve. These targets will be met through the achievement of targets in each division or individual, which are translated into Key Performance Indicator (KPI).

3.4 Weighting Results Level Key Performance Indicator (KPI)

Participants for weighting were carried out by seven participants, namely the Director, General Manager, Accounting Manager, Marketing Manager, HRD Manager, company owner and practitioner. The seven people are relevant participants because they have functions and positions that affect the determination of the company's Key Performance Indicator (KPI) level. The weighting results can be seen in table IV.

Table IV AHP Weighting Results KPI Level

KPI	Priority	Weight	Total Weight
Return on equity turnover (ROE)	1	54,70%	100%
Return on investment turnover (ROI)	2	45,30%	
Increase in cash ratio (Cash Ratio)	2	39,40%	
Current ratio increase (Current Ratio)	1	60,60%	100%
Operation turnover ratio (Operating Ratio)	1	59,20%	100%
Total asset turnover (TATO)	2	40,80%	
Increase in customer acquisition	1	64,70%	100%
Decreased number of customer complaints	2	35,30%	
Market share growth	2	46,60%	100%
Increase in customer retention rate	1	53,40%	
Innovation process	1	57,50%	100%
After sales service process	2	42,50%	
Decreased employee turnover	2	41,20%	100%
Increase in employee productivity	1	58,80%	

Source : AHP Priority Calculator Software Online Calculation

This weighting is influenced by the interests of each division within the company. Management plays a role in determining the priority scale of each KPI, so that the main priority is the KPI to increase customer acquisition. The company will focus on increasing customer acquisitions due to the decline in recent years. Several weightings obtained results that were not much different, the prioritization was considered based on current interests and what the company wanted to achieve.

3.5 Strategic Target Weighting Test



The measurement aims to test the weighting results against two perspectives that will be used as the basis for measuring company performance, the calculation results can be seen in table V.

Table V Strategic Target Weighting

Perspective	Perspective Weight	Strategic Target	ST Weight	Total Weight
Financial	0,273	Increase the profitability ratio	0,517	0,141
		Increase the liquidity ratio	0,262	0,072
		Increase the effectiveness ratio	0,221	0,060
			Total Weights	0,273
Customer	0,315	Provide satisfaction to customers	0,683	0,216
		Sales effectiveness	0,317	0,099

Source : Calculation of the 2019 BSC Performance Formulas

3.6 Weighted Test Key Performance Indicator (KPI)

The measurement aims to test the weighting results of all KPIs that will be used as the basis for measuring company performance, the calculation results can be seen in table VI.

Table VI Weighted Test Key Performance Indicator (KPI)

Strategic Target	ST Weight	KPI	KPI Weight	Total KPI Weight
Increase the profitability ratio	0,141	Return on equity turnover (ROE)	0,547	0,077
		Return on investment turnover (ROI)	0,453	0,064
Increase the liquidity ratio	0,072	Increase in cash ratio (Cash Ratio)	0,394	0,028
		Current ratio increase (Current Ratio)	0,606	0,044
Increase the effectiveness ratio	0,060	Operation turnover ratio (Operating Ratio)	0,592	0,036
		Total asset turnover (TATO)	0,408	0,024
Provide satisfaction to customers	0,216	Increase in customer acquisition	0,647	0,139
		Decreased number of customer complaints	0,353	0,077
Sales effectiveness	0,099	Market share growth	0,466	0,046
		Increase in Customer Retention Rate	0,534	0,053
New product or service development	0,214	Innovation process	0,575	0,123
		After sales service process	0,425	0,091
Increase human resources productivity	0,198	Decreased employee turnover	0,412	0,082
		Increase in employee productivity	0,588	0,116

Source : Calculation of the 2019 BSC Performance Formulas



3.7 Weighting Evaluation

To obtain a performance value, the next stage is to evaluate the results of the weighting test that was carried out in the previous stage. The results of this weighting evaluation can be seen in Figure I.

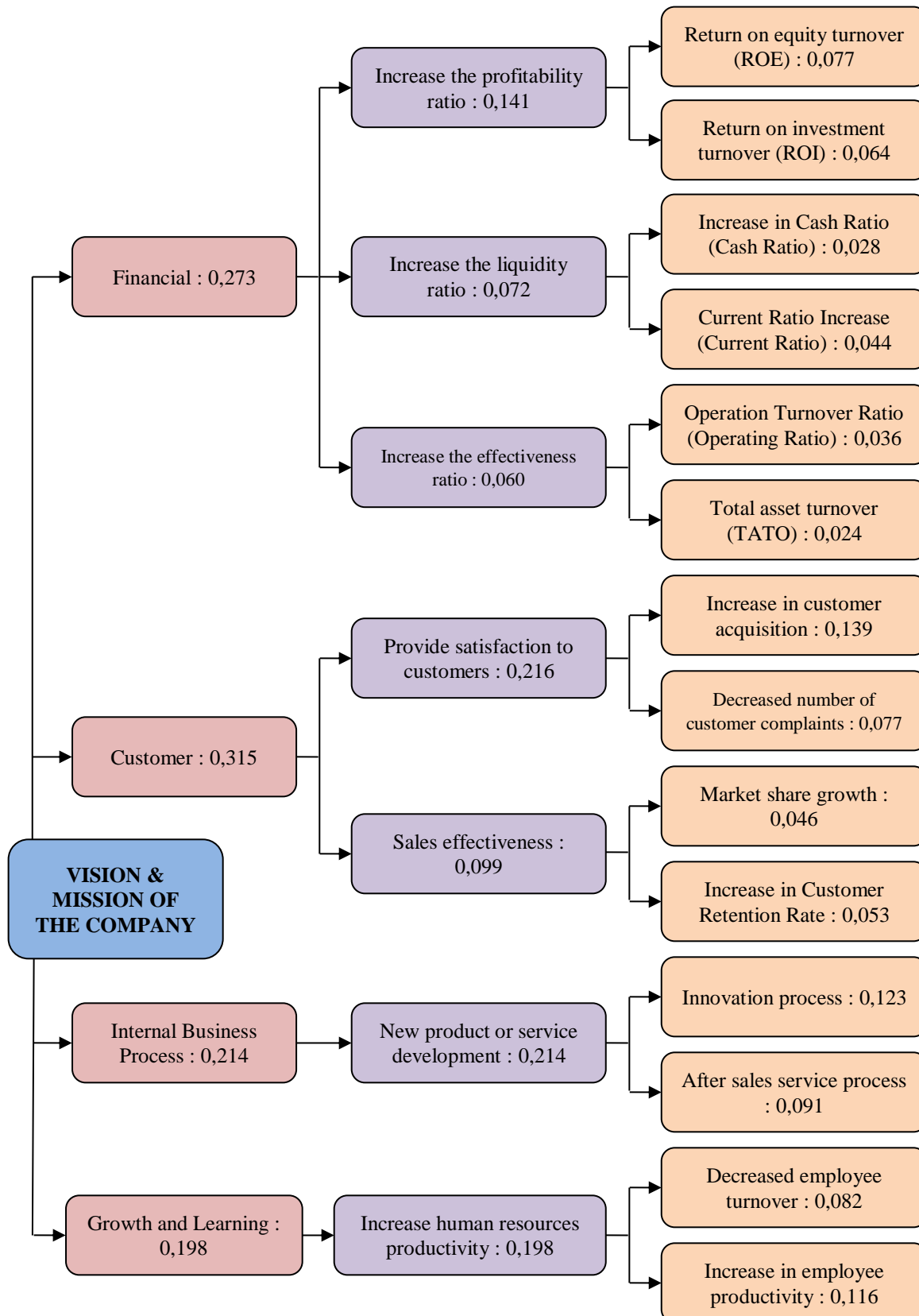




Figure I Company Balanced Scorecard Hierarchy Structure

3.8 Balanced Scorecard Performance Measurement Pengukuran Kinerja Balanced Scorecard

This performance measurement aims to assess current achievements (in 2019), the results of the performance measurement for the four BSC perspectives are shown in table VII.

Table VII Performance Measurement in 2019

Strategic Target	KPI	Value Scale	Total Weight	Performance Score
FINANCIAL PERSPECTIVE PERFORMANCE				
Financial Performance Score 0,694				
Increase the profitability ratio	Return on equity turnover (ROE)	2	0,077	0,154
	Return on investment turnover (ROI)	3	0,064	0,192
Total performance profitability ratio				0,346
Increase the liquidity ratio	Increase in Cash Ratio (Cash Ratio)	3	0,028	0,084
	Current Ratio Increase (Current Ratio)	3	0,044	0,132
Total performance liquidity ratio				0,216
Increase the effectiveness ratio	Operation turnover ratio (Operating Ratio)	3	0,036	0,108
	Total asset turnover (TATO)	1	0,024	0,024
Total performance effectiveness ratio				0,132
CUSTOMER PERSPECTIVE PERFORMANCE				
Customer Performance Score 0,691				
Provide satisfaction to customers	Increase in customer acquisition	1	0,139	0,139
	Decreased number of customer complaints	4	0,077	0,308
Total performance customer satisfaction				0,447
Sales effectiveness	Market share growth	3	0,046	0,138
	Increase in Customer Retention Rate	2	0,053	0,106
Total performance sales effectiveness				0,244
INTERNAL BUSINESS PROCESS PERSPECTIVE PERFORMANCE				
Internal Business Process Performance Score 0,551				
New product or service development	Innovation process	3	0,123	0,369
	After sales service process	2	0,091	0,182
Total performance new product or service development				0,551
GROWTH AND LEARNING PERSPECTIVE PERFORMANCE				
Growth and Learning Performance Score 0,560				
Increase human resources productivity	Decreased employee turnover	4	0,082	0,328
	Increase in employee productivity	2	0,116	0,232
Total performance human resources productivity				0,560

Source : Evaluation Results of Weighting and Likert Scale in 2019

IV. CONCLUSIONS

From the calculation results of the discussion analysis that has been done with the Balanced Scorecard method, it can be concluded :

1. The results of measuring company performance in 2019, the biggest is financial performance with a performance score of 0,694, second place is customer performance with a performance score of 0,691, in the third place is growth and learning performance with a performance score of 0,560 and the last order is the performance of internal business processes with a performance score of 0,551. The company's performance score is 2,496 (with a mean of 0,624). This means that the company's current performance is not good.



2. The results of the Balanced Scorecard design for the current condition of the company get weighted results, namely 0,273 for a financial perspective, 0,315 for a customer perspective, 0,214 for an internal business process perspective and 0,198 for a growth and learning perspective. The biggest weight is from the customer perspective, this means the company is very concerned with the satisfaction of its customers.

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