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MEASUREMENT PERFORMANCE OF COMPANY USING BSC-AHP METHOD

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ABSTRACT

Measurement of a company's performance is being obliged to organize a future strategy. When a company has good performance, it's expected to fulfill consumer's necessary. A company with good performance also can be competing with the competitor. So every company is demanded to increase their performance. Balance Scorecard (BSC) is one of the methods can be used to measure a company's performance through four perspectives, those four perspectives are: financial perspective, customer performance, internal business process perspective also grows and learn perspective. But BSC only can measure company's performance without knowing the quality of priority each perspective. So in this research, analytical hierarchy process (AHP) is used for quality of each perspective in BSC. Then we will know which perspective have the highest and the lowest quality. A company can prepare a special strategy to increase the performance if they know the quality. Based on the result of performance measurement, the performance result is 94%, so the performance of the company can be categorized very well. On the measurement of priority quality, consumer perspective has the lowest score that is 0.07. Then, financial perspective has the highest score that is 0.49. Both perspectives will be used as a reference by the company in increasing the performance.

Keywords: Performance Measurement, Balanced Scorecard, Analytical Hierarchy Process

I. INTRODUCTION

Measurement of a company's performance or organization is obliged to arrange a future strategy of the company. When the performance of the company is good, it is expected to fulfill consumer's necessary. In another side, a company with good performance also can be competing with the competitor. Generally, performance is measured based on financial performance. But this measurement is less complete cause there are other factors affect performance. Kaplan and Norton [1] introduce a method used to measure the performance of a company or organization, that is a balanced scorecard (BSC). BSC is not only evaluating financial performance, but BSC is also evaluating non-financial performance through four perspectives, that is financial performance, customer performance, internal business performance also grows and learning performance.

Some performance measure with BSC research, such as Aytül & Ekmekçi [2], they evaluate and prepare a strategy to increase performance based on vision and mission they have through BSC method. Kádárová., et.al [3] explain that BSC method being a discussion in industry field because BSC can measure performance through four perspectives. And the feedback from BSC method is improvisation process strategy, motivating and educating the company to increase performance. Türüdüoğlu., Et.al [4] explains that the four perspectives in the BSC method and the relationship between the four perspectives, so that can be improved the performance of a hotel in Turkey. Further Özpeynirci, R., et al, [5] conducted a study using the BSC method to measure educational accounting performance at the University. Thus, can be known whether accounting education process applied is effective or not and also can be used as a

strategy to increase effectiveness. Bentes, A., et.al [6] held a research to integrate BSC and AHP method to measure performance in telecommunication University in Brazil. That research is a recommendation for the next researcher to consolidate BSC-AHP method with the other measurement methods.

Thus, on the research held, appear some problems that need a solution. Build performance measurement with BSC which is consolidated with AHP that the function is giving quality on those four perspectives, the company can prepare a strategy to increase the performance. Based on the research before, application of BSC and AHP methods held on manufacture company, telecommunication service, and other services. Thus, it gives us chance to apply BSC and AHP method in measurement of government office.

II. LITERATURE REVIEW

2.1 Performance Measure with Balance Scorecard

The method of evaluating the performance of this research is BSC. The basic concept of BSC is to explain vision, mission, and strategy of the company into the determination of scorecard purpose and measure [1]. Balanced scorecard (BSC) is one of performance measure method introduce by Kaplan and Norton on [1]. BSC is an approachment system used by the company to measure the performance through considerate four related perspectives.

2.1.1 Perspectives on BSC

1. Financial Perspective

Financial perspective related to shareholder in a company. Start from capital income, current,

money supply, capital return and all other financial activities held by the company.

2. Customer Perspective
Customer perspective related to customer's satisfaction. How the customer can understand the product and service of the customer.
3. Internal Business Process Perspective
Internal business process perspective related to the main competence that company has.
4. Growth and Learn Perspective
Growth and learn perspective related to how the company can defend and develop the product. On this perspective, it is also very important for the company to understand the employee, start from the safety until the performance.

2.2 Analytical Hierarchy Process (AHP)

2.2.1 Definition of AHP

AHP method is developed by. Saaty T.L [8]. AHP method is one of the methods used to finish complex problem being simpler and more hierarchy.

2.2.2 Decision Making on AHP Method

To use AHP method rightly, there are some

steps to, through, there are:

1. Define the problem and find the solution.
2. Make the hierarchy structure.
3. Make couple compression matrix which is explained relative contribution on each purpose or criteria.
4. Normalize the data through divide value on each couple matrix with a total value of each column.
5. Count eigen vector value and the consistence.
6. Repeat step 3, 4 and 5 for all hierarchy.
7. Count eigen vectors from each pairwise comparison matrix.
8. Test the hierarchy consistence. If the value is not $CR < 0.1$, so the valuation should be repeated.

2.2.3 Preparation of priority in AHP

The first step is arranged pairwise comparison. Numeric numbered used for 1-9 comparison like what Saaty said is:

Table 2.1 Pairwise Comparison Vote Score

The intensity of interests	Description
1	Both elements are equally important
3	One element, slightly more important than another element
5	One element, are more important than others
7	One element is clearly more important than the absolute other elements
9	One element is absolutely important than other elements
2,4,6,8	The values between two values of considerations, nearby

III. RESEARCH METHODOLOGY

3.1 Research Object

This research will be held in Local Tax Service Office Bantul, Yogyakarta. The object and focus on this research are measure company's performance based on perspectives in BSC which is consolidated with AHP to find the quality.

3.2 Plan and Research(K-Chart)

Based on the literature study on the chapter before, can be arranged plan's research and equipment used (K-chart) also the position research Zainuddin, M. F [7] such as:

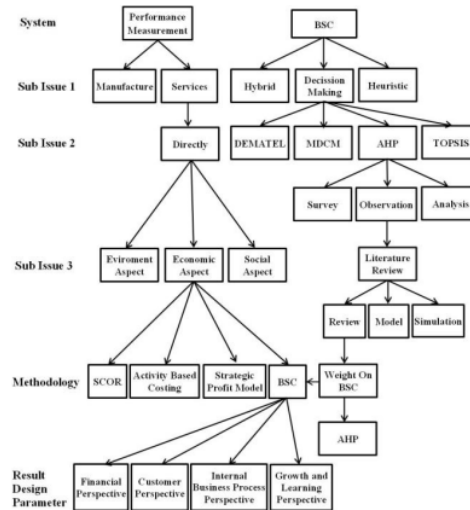


Figure 3.1 K-Chart Research

3.3 A Conceptual Model

Based on the planning and research it can be arranged the conceptual model of research aim to facilitate this research. A Conceptual model can be seen in Figure below:

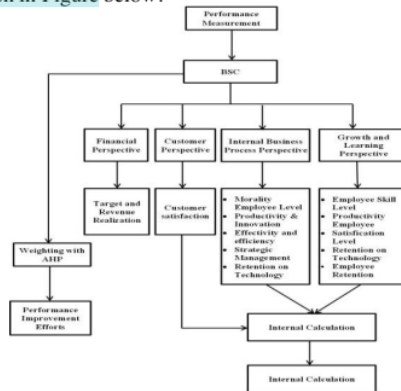


Figure 3.2 Conceptual Model

3.4 Necessary Data

3.4.1 Primary Data

Primary data are the data which taken and collected by researcher directly from object researched. Primary data can be established through:

1. Interview, a method that used to get the data through direct interview.
2. Observe, a method that used to get research data through see and direct observe on the field.
3. Questioner result, a method that used to get the research data through question sheet give to the customer, employee, and expert on the company.

The primary data that will be used in this research are:

1. Customer Data
Customer data which can support this research is Customer Satisfaction Level (tangibility, reliability, responsiveness, assurance, and empathy).
2. Internal Business Process Data
Internal Business Process Data which can be used in this research is:
 - a. Morality Employee Level
 - b. Productivity & Innovation
 - c. Effectivity and efficiency
 - d. Strategic Management
 - e. Retention on Technology
3. Growth and Learning Data
Growth and Learn Data which can be used in this research is :
 - a. Employee Skill Level
 - b. Productivity Employee
 - c. Satisfaction Level
 - d. Retention on Technology
 - e. Employee Retention

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3.4.2 Secondary Data

Secondary data is data obtained or collected researchers from existing sources. Secondary data in this study such as the vision and mission of the company, financial data, and other data required in this study. The financial data used in this study is the income in 2015.

3.5 Data Collection

The data that collected in this study is done by:

1. Literature Study
A literature study conducted in order that researchers can understand the basic concepts of research to be conducted. A literature study by reading the articles, journals, scientific papers, reports and other papers to support the research.
2. Field Research
Field research was conducted to obtain information by direct observation in the field. The field research can be done in several ways, among others:
3. Observation
Observations can be done by coming directly into the field and observe firsthand how the state of the field.

4. Questionnaires

Questionnaires can be done with a few questions through the sheets of questions and given directly to the authorities to be filled so as to obtain information in writing and more actual.

5. Company data

The company's data can be obtained through the data records on the company itself. As the company's history, vision and mission of financial data or other data that is needed in research.

Table 1. Data Target & Actual Revenue

Description	Target	Actual
PKB	Rp. 116.500.000.000	Rp. 124.198.537.800
BBNKB	Rp. 89.000.000.000	Rp. 89.818.977.800
Regional Retribution	Rp. 26.730.000	Rp. 26.282.000

Table 2. AHP Calculation Results

Perspective weight	Criteria weighting on Each Perspective	Alt. Weight
Financial	PKB	0,63
	BBNKB	0,26
	Regional Retribution	0,11
		0,49
Customers	Tangibility	0,05
	Reliability	0,49
	Responsiveness	0,14
	Assurance	0,22
	Empathy	0,09
Internal Business Processes	Moral level on Employees	0,48
	Productivity & Innovation	0,27
	Effectivity&Efficiency	0,14
	Strategic Management	0,06
	Retention Of Technology	0,04
Growth and learning	Employee Skill	0,47
	Employee productivity	0,24
	Employee satisfaction	0,08
	Retention Of Technology	0,04
	Employee retention	0,17

Table 3. Performance Measurement Results

Perspective	Category	Standard	Realisasi
Financial	PKB	Rp. 116.500.000.000	Rp. 124.198.537.800
	BBNKB	Rp. 89.000.000.000	Rp. 89.818.977.800
	Regional Retribution	Rp. 26.730.000	Rp. 26.282.0000
Customers	Tangibility	Categorized either satisfied or if it is in the interval between 476 to 588	Realization index of 559 so that it can be categorized satisfied or good.
	Reliability	Categorized either satisfied or if it is in the interval between 476 to 588	realization index of 564 so it can be considered satisfied or good.

Perspective	Category	Standard	Realisasi
	Responsiveness	Categorized either satisfied or if it is in the interval between 476 to 588	Realization index of 560 that can be categorized satisfied or good.
	Assurance	Categorized either satisfied or if it is in the interval between 476 to 588	Realization index of 534 so it can be considered satisfied or good.
	Empathy	Categorized either satisfied or if it is in the interval between 476 to 588	Realization index of 554 so it can be considered satisfied or good.
Internal Business Processes	The level of employee moral	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 229 so it can be considered satisfied or good.
	Productivity & Innovation	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 251 so it can be considered satisfied or back.
	Effectiveness & Efficiency	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index at 254 so it can be categorized as very satisfied or very good.
	Strategic management	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 253 so it can be categorized as very satisfied or very good.
	Retention Of Technology	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 257 so it can be categorized as very satisfied or very good.
Growth and Learning	Skill Employees	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 243 so it can be considered satisfied or good.
	Employee productivity	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 247 so it can be considered satisfied or good.
	Employee satisfaction	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 247 so it can be considered satisfied or good.
	Retention Of Technology	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 256 so it can be categorized as very satisfied or very good.
	Employee retention	Categorized either satisfied or if it is in the interval between 204 to 252.	Realization index of 257 so it can be categorized as very satisfied or very good.

Based on the calculation of the 18 benchmarks that have been done, it can be seen that there are 17 benchmarks that meet the standards/targets. Meanwhile, there is one benchmark that does not meet the standards/targets. Thus the total percentage of KPPD Bantul performance is as follows:

$$\begin{aligned}
 &\text{Total Percentage performance} \\
 &= \frac{\text{The standard amount is reached}}{\text{Number of standards established}} \times 100 \% \\
 &= \frac{17}{18} \times 100 \% \\
 &= 94\%
 \end{aligned}$$

From the above calculation can be seen that the percentage calculation KPPD Bantul performance amounted to 94%. Thus, the shape of KPPD performance can be said is very good.

IV. RESULT AND DISCUSSION

A. Performance Measurement

Performance measurement in KPPD Bantul done with a few steps has been getting good results. The results obtained by measuring performance through four perspectives of the balanced scorecard and conduct weighting by AHP to the four perspectives that, with the overall result is quite good. Giving the weight of is done conducted interviews and filling the questionnaire to the Head of KPPD Bantul and processed by AHP. For financial perspective got a weight of 0.49. For the perspective of the customer to obtain the weight of 0.07. In the perspective of internal business processes has a weight of 0.15. Meanwhile, learning and growth perspective has a weight of 0.29.

Customer perspective had the lowest weight because based on the weighted conducted interviews to the Head of KPPD Bantul on the criterion of tangibility, only obtain a weighting of 0.05 and 0.09 for empathy. Based on the results of interviews with leaders KPPD Bantul, the place doesn't become a serious problem for KPPD Bantul. The most important are the performance of its employees. With good employee performance, customers will feel satisfied. However, a sense of empathy for employees in serving customers' problems is lacking. This is why the perspective of the customer weighs the lowest performance.

Financial perspective has the greatest weight because according to the results of main target interviews and questionnaires is the achieve of financial targets that have been set. The perspective of internal business processes, learning and growth perspective also has a sizeable of the weight. This is because according to the head of KPPD Bantul, the employee performance, employee skills, employee morale and service innovation are essential in serving customers. If KPPD Bantul can maximize employee performance, it is certain that customers will be satisfied.

Based on the weighted with AHP and calculation of performance has been carried out, the performance was obtained by KPPD Bantul amounted to 94%. This value is significant, it is because of almost all benchmarks in accordance with predetermined targets. Where 17 of the 18 benchmarks have to meet targets and there is only one yardstick does not reach the target.

B. Improving The Performance

Based on the research objectives first, then the proposed improvements in performance that must be carried out as follows:

1. Fix the indoor facilities so that customers feel more comfortable when they have to queue.

2. Increase the empathy of employees to better understand and be happy to assist any customer complaints.
3. Do the training on employees to achieve better reliability in serving customers. Employee reliability in serving customers will also shorten the waiting time so that the queues can be minimized.
4. Continue to innovate services to attract people who are not yet aware of the importance of paying taxes. With the increasing number of people are aware of the importance of paying taxes, the main financial targets can be achieved with the maximum.

The provision of the proposed improvement, conducted with due regard to the benchmarks that have low and high weights. By improving benchmarks that have a low weight and maintain or even increase the benchmarks that have a high weight can be assured that the performance of KPPD Bantul will increase.

V. CONCLUSION

Overall performance on KPPD Bantul which is reviewed through four perspectives in the BSC, obtaining a percentage of 94%. Thus, it can be said KPPD Bantul performance is very good. Then the efforts should be made to improve performance include: improve indoor facilities, so the customers feel comfortable when having to queue, increase empathy employees to be happy when serving customers, conducted employee training to achieve better reliability in serving customers and continue to innovate the service, especially to attract people who are have not conscious of the importance of paying taxes.

Suggestions are given for future research is on measuring performance with BSC-AHP can be combined again with other methods such as simulation methods. And the application of BSC-AHP method can be in other places such as SMEs, restaurants etc.

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