FACTORS AFFECTING THE EFFECTIVENESS OF THE PERFORMANCE MEASUREMENT SYSTEM AT THE MINISTRY OF MARITIME AFFAIRS AND FISHERIES OF THE REPUBLIC OF INDONESIA

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ABSTRACT

The purpose of this study was to examine the effect of management commitment, SAKIP training, employee involvement, incentives for performance, and system design on the effectiveness of the performance measurement system. This study is a sample study of 65 work units where each work unit that is sampled is represented by one person as a sample. The results of testing the research data concluded that management commitment affects the effectiveness of the performance measurement system, then incentives for performance affect the effectiveness of the performance measurement system, and finally the system design influences the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.

Keywords: performance measuring system, commitment, training, involvement, incentives, design

I. INTRODUCTION

Public accountability is one part of strategic policy issues in Indonesia today, because improved accountability is expected to have an impact on the creation of good governance. Public accountability in government agencies in Indonesia is known as Government Agency Performance Accountability (AKIP) which is implemented in the form of a Government Agency Performance Accountability System (SAKIP), and at the same time SAKIP as a performance measurement system. SAKIP was developed in an integrated manner with planning systems, budgeting systems, treasury systems, and government accounting systems.

SAKIP began to be known since the Presidential Instruction Number 7 of 1999, then renewed with Presidential Regulation Number 29 of 2014 concerning the Government Agency Performance Accountability System. SAKIP measures the successes and failures of programs and activities by evaluating the level of performance achievements that can be realized as a form

of accountability for budget spending and the existence of feedback on failure to achieve in order to improve strategies in the future. SAKIP also tries to change the wrong paradigm that the success and failure of programs and activities carried out is only based on the absorption of the budget. Because basically to be able to know the successes and failures of an organization, all organizational activities must be measured and indicators of measurement not only based on inputs but also based on the outputs or benefits of a program/activity.

The results of Akbar, Pilcher, & Perrin's (2012) study of performance measurement systems in Indonesia indicate that SAKIP in general is only to fulfill the provisions of legislation not for the effectiveness and efficiency of the activity program. Then the results of the research of Jurnali and Siti-Nabiha (2015) show that the regulation of the performance measurement system of government agencies in Indonesia is quite comprehensive but does not have a system of punishments and rewards. The implementation of SAKIP lacks integration between planning and budgeting, indicators and reporting of inaccurate data. The results of the study were supported by publication data from the Ministry of Administrative Reform and Bureaucratic Reform (Kemenpan-RB), that the implementation of SAKIP had not shown the expected accountability. Few government agencies reach the "Satisfying" (A) category. In 2015 ministries/institutions that obtained A score were only 4 ministries/institutions, namely the Ministry of Finance (Ministry of Finance), the Corruption Eradication Commission (KPK), the Ministry of Maritime Affairs and Fisheries (KKP), the Supreme Audit Agency (BPK).

KKP looks interesting because it can improve the achievement of AKIP values. In 2010, only the CC score was obtained, and in 2015 it got an A. The BPK, Kemenpan-RB, and the Financial and Development Supervisory Agency (BPKP) which should be examples for other agencies still unable to reach Category A, and were able to be crucified by the KKP initially (in 2010), the third AKIP value has obtained a good category (B) while the KKP is still in the CC category. The achievement of the KKIP AKIP value is not accompanied by financial management performance. The results of the 2017 financial management audit, the BPK gave an opinion "Not Giving Opinions" (TMP or disclaimer) to the CTF.

The TMP opinion indicates that the application of SAKIP at the CTF has not been effective, because based on the government's mandate on PP no. 8 of 2016 that the accountability for the implementation of the APBN/APBD, each reporting entity must compile and present a performance report produced from a SAKIP. SAKIP was developed in an integrated manner with the planning system, budgeting system, treasury system, and government accounting system (PP No. 8 of 2006 articles 2 and 20). The implementation of SAKIP is carried out for the preparation of performance reports, in harmony and in accordance with the administration of government

accounting systems and procedures for controlling and evaluating the implementation of development plans (Perpres No. 29 of 2014 article 2).

In order for the implementation of SAKIP as an effective performance measurement system it is necessary to know the factors that determine it. To implement and create an effective performance measurement system it is necessary to pay attention to several things, namely commitment and understanding of performance indicators, high motivation to achieve results, and greater use of performance information for feedback and learning (Hacker & Brotherton, 1998; Goh, 2012) . Some research results support this opinion, that the use of multidimensional performance measures, organizational factors (top management support and training) has a relationship with the effectiveness of performance measurement systems (Tung, Baird, & Schoch, 2011). Then the performance measurement system by giving rewards, employee involvement, commitment, and performance information determines the success of performance measurement systems (Nuti, Seghieri, & Vainieri, 2012; Akbar, Pilcher, & Perrin, 2012, Primarisanti & Akbar, 2015). More details Alharthi (2016) uses the theory of the critical success factors that determine the effectiveness of performance measurement systems in United Arab Emirates government organizations namely performance motivation for incentives, performance measurement systems and organizational strategies, staff involvement in systems, design and integration system, as well as top management commitment and support.

This research is a replication of the research of Tung, Baird, & Schoch (2011) and Alharthi (2016). This study adopted an important factor in the successful implementation of the performance measurement system from Alharthi. The author adopts Alharthi research with the consideration that the type of object of research is equally in government organizations, then Alharthi's research is qualitative, the authors are interested in conducting quantitative research. In addition, Tung, Baird & Schoch recommend further research using the same parameters in other industries such as services and the non-profit sector.

So the purpose of this study are: 1) to examine the effect of management commitment on the effectiveness of the performance measurement system; 2) to examine the effect of SAKIP training on the effectiveness of the performance measurement system; 3) to examine the effect of employee involvement on the effectiveness of the performance measurement system; 4) to examine the effect of incentives on performance on the effectiveness of the performance measurement system; 5) to examine the effect of system design on the effectiveness of a performance measurement system.

II. LITERATURE REVIEW

1. Effect of Management Commitments on the Effectiveness of Performance Measurement Systems

Chan (2004) and Emerson (2002) also report that top management commitment and leadership are key factors in increasing the effectiveness of a performance measurement system (in Tung et al., 2011). Similarly, Kennerley & Neely (2002) found that top-level management support is very important for the design and implementation of performance measurement systems, while management's time to reflect actions is a major contributor to the effectiveness of performance measurement systems (in Tung, Baird & Schoch, 2011). The success of a performance measurement system or other large project in an organization is highly dependent on top management commitment and support (Richardson, 2004; in Alharthi, 2016). Experience repeatedly shows that the most important conditions for success are ownership and active involvement of the executive team (Kaplan & Norton, 2001; in Alharthi, 2016). Furthermore, top management must make the performance measurement system a priority (Chrusciel & Field, 2003; in Alharthi, 2016). The dedication of top management and the benefits that are felt to flow from the performance measurement system are two main factors in the successful implementation (Bourne et al., 2002, in Alharthi, 2016). Thus hypothesis 1 is proposed: management commitment influences the effectiveness of the performance measurement system.

2. Effect of SAKIP Training on the Effectiveness of Performance Measurement Systems

The importance of training in relation to the development and implementation of successful performance measurement systems is highlighted in a number of studies. Cavaluzzo & Ittner (2004) found that measurement development performance and positive results were related to the extent to which the related training was provided (in Tung, Baird, & Schoch, 2011). Chan (2004) cites training as an important factor for effective performance measurement systems. All performance measures must have clear objectives communicated and considered as relevant and reliable so that managers can access information that is useful for decision making (in Tung, Baird, & Schoch, 2011). Similarly, Emerson (2002) concluded that training is the key to maintaining the usefulness and effectiveness of a performance measurement system. Training not only allows users to understand the concepts and principles of performance measurement, but also provides opportunities for employees and managers to operate the system. Therefore, users better understand the purpose of the system and how to operate it; the more likely they will be committed to it, thus increasing the likelihood that the desired results will be achieved (in Tung, Baird, & Schoch, 2011). Thus hypothesis 2 is proposed: SAKIP training affects the effectiveness of the performance measurement system.

3. Effect of Employee Engagement on the Effectiveness of Performance Measurement Systems

The involvement of employees in the preparation of performance measurement systems has a strong relationship with the effectiveness of the performance measurement system. This is proven based on previous research (Chan, 2004; Kaplan & Norton, 2001, in Tung, Baird, & Schoch, 2011). The results of Chan's study (in Tung, Baird, & Schoch, 2011) report higher employee involvement contributing to the effectiveness of the performance measurement system. Similarly, Kaplan & Norton (in Tung, Baird, & Schoch, 2011) states that to achieve an effective performance measurement system, employees at the lower levels in the organizational hierarchy must be involved in forming performance measures. This bottom-up participation approach allows employees to take the initiative in defining their responsibilities and related performance indicators. Therefore, employees will be committed to the system and the desired results can be achieved to a greater extent (in Tung, Baird, & Schoch, 2011). Involving staff employees in strategic initiatives such as the development and implementation of performance measurement systems can increase the chances of success (Sadikoglu & Zehir, 2010; Olsen et al, 2007; in Alharthi, 2016), and lack of staff involvement is one reason for failure of performance measurement systems (Kaplan, 2000, in Alharthi, 2016). Thus hypothesis 3 is proposed: employee involvement influences the effectiveness of the performance measurement system.

4. Effect of Incentives on Performance on the Effectiveness of Performance Measurement Systems

Linking incentives for performance has been identified as an important factor influencing the effectiveness of performance measurement systems (Burney et al., 2009; Johanson et al., 2006; Chan, 2004, in Tung, Baird, & Schoch, 2011). For example, the Chan (2004) study in the cities of the United States and Canada found that the linkage of performance measurement systems with compensation is rare, and the lack of linkages in performance measurement for these benefits is considered a barrier to the effectiveness of performance measurement systems (in Tung, Baird, & Schoch, 2011) The most important factor to stimulate and motivate staff will continue to be interested and committed to implementing a performance measurement system is the relationship between incentives and the results of a performance measurement system; availability of awards and recognition. Effective application of these two factors will create the desired motivation between the staff needed to implement a performance measurement system effectively. To determine the right type or level of implementation, it can be done using several indicators, including staff satisfaction with rewards and recognition systems, percentages and number of incentives applied, and their relationship with the results of the performance measurement system (Alharthi, 2016). Thus hypothesis 4 is proposed: incentives for performance affect the effectiveness of the performance measurement system.

5. Effect of System Design on the Effectiveness of Performance Measurement Systems

The implementation of successful performance measurement systems largely depends on the appropriate design (Neely, Bourne, & Kennerley, 2000; in Alharthi, 2016). One common problem in implementing a performance measurement system occurs when the system does not cascade down (Kaplan & Norton, 2000; in Alharthi, 2016). Likewise, one of the causes of failure in the performance measurement system applies to using ad hoc measures that are not integrated with organizational strategies and are not used to manage business (Chrusciel & Field, 2003; in Alharthi, 2016). Thus, it is clear that one of the causes of failure is creating a complex system, with a large number of performance indicators and actions. When the system becomes too large it starts to focus and becomes useless. The secret to success is to keep the performance measurement system simple and easy so that it is relevant to strategic objectives (Alharthi, 2016). Thus hypothesis 5 is proposed: system design and integration affect the effectiveness of the performance measurement system.

Based on the description, the framework of this research can be described as follows:
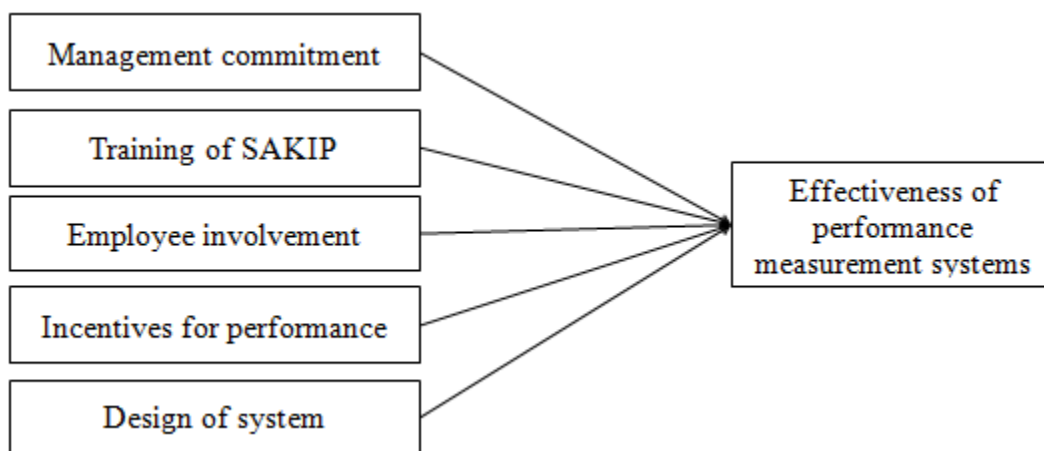

Figure 1: Scheme of Framework

III. RESEARCH METHODS

1. Research Design

This research is a hypothesis testing research that is a research that aims to test hypotheses, where the hypothesis tested the influence of management commitment, SAKIP training, employee involvement, incentives for performance, system design on the effectiveness of the performance measurement system. This research is causality by trying to see the effect of independent variables on the dependent variable. The level of intervention in this study is minimal intervention, where researchers do not manipulate the data to influence the results of the

study; researchers only study the effect of independent variables on the dependent variable. The researcher does not regulate and without intervention on the independent variables whose targets only want to test the effect of independent variables on the dependent variable. The unit of analysis used is organizational level, namely the work unit that is required to prepare a Performance Report at the Ministry of Maritime Affairs and Fisheries.

2. Research Populations and Samples

The population in this study is all work units that have an obligation to submit performance reports totaling 178 work units. To determine the number of samples using the Slovin formula (Now & Bougie, 2017). With a population of 178 work units and the percentage of allowance for inaccuracy of 5%, the results of the formula calculation are 64.03, rounded up to 65 work units that are sampled. The sampling method uses proportionate stratified random sampling, which is the determination of the sample paying attention to the strata (levels) that exist in the population.

3. Sources and Data Collection Techniques

Research uses primary data sources, collected directly from the answers to questionnaires filled in by the head of the work unit who has an obligation to submit performance reports to the scope of the Ministry of Maritime Affairs and Fisheries. The technique of collecting data using survey methods is the method of collecting primary data obtained directly from the original source. The reason for using the method is because the research data is in the form of subject data that states the opinions, attitudes, experiences or characteristics of the research subjects individually. The survey method used in this study was through a questionnaire.

4. Variable Operationalization

This study only consists of dependent variables and independent variables. The dependent variable is the effectiveness of the performance measurement system, while the independent variables are management commitment, SAKIP training, employee involvement, incentives for performance, system design.

Table 1: Indicators and Measurement of Variables

Variable	Indicator	Scale
Effectiveness of the performance measurement system	- The creation of transparency - learning - Assessment - Sanctions - Outcome on performance	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2)

	Adapted from Bruijn (2007), and Tung, et al. (2011).	- very rare (1)
Management commitment	- Availability of adequate resources to support the performance measurement system. - Effective communication to support performance measurement systems. - The authority of management is carried out to support the performance measurement system. Adapted Tung, et al. (2011).	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2) - very rare (1)
SAKIP training	- Adequate training has been provided to ensure employees understand SAKIP. - Adequate training has been provided to develop SAKIP. - Adequate training has been provided to implement SAKIP. Adapted from Tung, et al. (2011).	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2) - very rare (1)
Employee involvement	- Lower level employees participate in designing a performance measurement system. - Lower level employees are involved in choosing performance measures. Adapted from Tung, et al. (2011).	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2) - very rare (1)
Incentives for performance	- Award recognition system - Achieving performance is given financial rewards - Performance achievement is given non-financial rewards. Adapted from Alharthi (2016), and Tung, et al. (2011).	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2) - very rare (1)
System design	- Selection of appropriate and simple indicators - User friendly design - Integrated to all levels - Simple flexible design Adapted from Alharthi (2016).	Likert Scale: - very often (5) - often (4) - doubt (3) - rarely (2) - very rare (1)

Source: Bruijn (2007), Tung, et al. (2011), & Alharthi (2016)

5. Method of Analysis and Design of Hypothesis Testing

Data analysis used in this study is multiple linear regression. Before testing multiple linear regression, the validity and reliability tests are carried out first, as well as the classic assumption test (multicollinearity, heteroscedasticity, normality). The method of data analysis in this study uses the method of multiple linear regression analysis which is a statistical technique used to test

the influence of two or more independent variables on dependent. There are several forms of multiple linear regression analysis that are used as follows:

$$SAKIP = b0 + b1KM + b2PS + b3KP + b4IK + b5DS + ei$$

SAKIP = effectiveness of the performance measurement system

KM = management commitment

PS = SAKIP training

KP = employee involvement

IK = incentives for performance

DI = system design

b0 = Constants

b1-b3 = Regression Coefficient

e = error

Statistical testing is done to determine whether to accept or reject the proposed hypothesis. To examine the effect of independent variables on the dependent variable is done using partial test or t-test. The null hypothesis (Ho) and alternative hypothesis (Ha) in this study are as follows:

1. Management commitment affects the effectiveness of the performance measurement system.
   Ho1: b1 = 0: Management commitment does not affect the effectiveness of the performance measurement system.
   Ha1: b1 ≠ 0: Management commitment affects the effectiveness of the performance measurement system
2. SAKIP training affects the effectiveness of the performance measurement system.
   Ho2: b2 = 0: SAKIP training has no effect on the effectiveness of the performance measurement system.
   Ha2: b2 ≠ 0: SAKIP training affects the effectiveness of the performance measurement system.
3. Employee involvement affects the effectiveness of the performance measurement system.
   Ho3: b3 = 0: Employee involvement does not affect the effectiveness of the performance measurement system.
   Ha3: b3 ≠ 0: Employee involvement affects the effectiveness of the performance measurement system.

4. Incentives for performance affect the effectiveness of the performance measurement system.

Ho4: b4 = 0: Incentives for performance do not affect the effectiveness of the performance measurement system.

Ha4: b4 ≠ 0: Incentives for performance affect the effectiveness of the performance measurement system.

5. System design influences the effectiveness of the performance measurement system.

Ho5: b5 = 0: System design does not affect the effectiveness of the performance measurement system.

Ha5: b5 ≠ 0: System design influences the effectiveness of the performance measurement system.

Since this research is data in the form of samples rather than populations, it is necessary to examine the significance of the influence of each variable as follows:

1. Compare the value of t statistics with the critical point according to the table. If the statistical value t results of the calculation are higher than the value of the t table, then the null hypothesis is rejected and accepts the alternative hypothesis which states that an independent variable individually affects the dependent variable (Ghozali, 2013).
2. Comparing probabilities with 0.05. If the probability value of the calculation results is smaller than 0.05 then the null hypothesis is rejected and accepts the alternative hypothesis which states that an independent variable individually affects the dependent variable.

VI. RESEARCH RESULTS AND DISCUSSION

1. Research Results

The research data used are primary data obtained through questionnaire data that is delivered directly or through electronic media to respondents. The time range for filling out the questionnaire is for 3 weeks. The number of questionnaires distributed was 65 questionnaires, and returned as many as 65 questionnaires, which means that the questionnaire returned by 100 percent.

a. Characteristics of Respondents

Based on the education level the respondents were dominated by 32 graduates (DIV / S1) (49.23%). Based on the sex of the respondents dominated by men as many as 37 people (56.92%). Executing positions dominated the respondents of this study as many as 32 people (49.23%). Meanwhile, based on the echelon II and echelon III respondent's work unit is not much different, namely 24 people (36.92%) for echelon II and 23 people (35.38%) for echelon III.

b. Descriptive Analysis

Descriptive analysis is useful to provide an overview of the variables used in this study. The dependent variable in this study is the Effectiveness of the Performance Measurement System is the usability or functioning of the performance measurement system in achieving the expected goals or benefits. Respondents' answers to the 47 questions / statements submitted, were given a score which then produced an average value of each variable and could be interpreted based on class length as stated by Sudjana (2005).

The effectiveness of the performance measurement system obtained an average value of 3.78, which means that most respondents gave good answers to the statements submitted in the questionnaire. Management commitment obtained an average value of 3.75, which means that most respondents gave good answers to the statements submitted in the questionnaire. SAKIP training received an average score of 3.78, which means that most respondents gave good answers to the statements submitted in the questionnaire. Employee involvement obtained an average value of 3.67, which means that most respondents gave good answers to the statements submitted in the questionnaire. The incentives for performance obtained an average score of 3.70, which means that most respondents gave good answers to the statements submitted in the questionnaire. System design obtains an average value of 3.76 which means that most respondents give good answers to the statements submitted in the questionnaire.

c. Description of Research Data

The data description provides an overview or description of the characteristics of the variable data used in the study. The data description function is to find out the minimum value, maximum value, average value, standard deviation) the rate of deviation of the data distribution of each variable), and the number of respondents analyzed.

Table 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Effectiveness of PMS	65	2.75	4.42	3.7877	.42655
Management commitment	65	2.89	4.44	3.7557	.39141
SAKIP training	65	2.67	4.67	3.7797	.46058
Employee involvement	65	2.50	4.50	3.6731	.50180
Incentives for performance	65	2.29	4.43	3.7057	.46794

| System design | 65 | 2.33 | 4.44 | 3.7675 | .41355 |

Source: Primary data processed (2019)

The effectiveness of the performance measurement system has a minimum value of 2.75 and a maximum value of 4.42. While the average value obtained is 3.79 which means that the average respondent is well involved in increasing the effectiveness of SAKIP.

Then management commitment obtained a minimum value of 2.89 and a maximum value of 4.42 with an average value or mean of 3.75. This shows that most respondents have carried out management commitments well.

SAKIP training obtained a minimum value of 2.67 and a maximum value of 4.67 with an average value of 3.78. This indicates that SAKIP training has been well implemented.

Employee involvement obtains a minimum value of 2.50 and a minimum value of 4.50 with an average obtained of 3.67. This means that employees have been well involved in the effectiveness of the implementation of SAKIP in the work environment of the Ministry of Maritime Affairs and Fisheries.

The incentives for performance obtained a minimum value of 2.29 and a maximum value of 4.43 and an average value of 3.71 which means that incentives for performance have been implemented properly according to SAKIP at the Ministry of Maritime Affairs and Fisheries. And finally for the system design variable, the minimum value is 2.33 and the maximum value is 4.44 and the average value is 3.77. This indicates that the existing system design has been able to facilitate SAKIP users.

d. Instrument Testing Results

The quality of data obtained from the use of research instruments can be evaluated through validity testing and reliability testing based on Cronbach Alpha coefficients commonly used in social science research. Validity testing uses Pearson Correlation Product Moment with the help of SPSS 20. Each statement item is considered valid if r is positive and r> r-table for degree of freedom (df) = n - 2, so if the correlation between items with a total score is less from r-table or negative, the items in the instrument are declared invalid. The study sample was 65, with df = n - 2 meaning that r-table became a reference to 63, with r-table value of 0.244. Based on the results of testing the validity that not all statement items are declared valid, as many as 3 statement items are declared invalid, namely:

1. statement item number 1 on the variable Performance Measurement System Effectiveness. Item statement number 1 is invalid because the value of r-count <r-table (0.146 <0.244).
2. statement item number 6 on the Management Commitment variable. Item statement number 6 is invalid because the value of r-count <r-table (0.220 <0.240).
3. statement item number 7 in the System Design variable. Item statement number 7 is invalid because the value of r-count <r-table (0.236 <0.226).

Thus the item is not included in the testing of the hypothesis, and the value of the total score of the Effectiveness of the Performance Measurement System, Management Commitment, and System Design will change after the item statement is not included.

Reliability testing is intended to determine the consistency of a measuring instrument (questionnaire) in its use. The questionnaire can be said to be reliable (reliable) if it has reliability or alpha of 0.6 or more (Nunally in Ghozali, 2013). By using Cronbach Alpha and with the help of SPSS 20, the results of reliability testing of each variable are obtained as follows:

Table 3: Reliability Test Results

Variable	Cronbach Alpha Critical Value	Cronbach Alpha Calculation Results	Decision
Effectiveness of PMS	0,6	0,814	Reliable
Management commitment	0,6	0,694	Reliable
SAKIP training	0,6	0,702	Reliable
Employee involvement	0,6	0,710	Reliale
Incentives for performance	0,6	0,750	Reliable
System design	0,6	0,736	Reliable

Source: Primary data processed (2019)

Based on the results of reliability testing that all statement items are declared reliable, because the Cronbach Alpha value of the calculation results is greater than the critical value of Cronbach Alpha. The highest reliability value on the Performance Measurement System Effectiveness variable is 0.814 and the lowest is in the Management Commitment variable of 0.694. Thus the item statement in the study is feasible to be used as research data for hypothesis testing.

In addition to the validity and reliability tests also performed a classical assumption test which aims to obtain a regression model that produces a linear estimator that is not the best bias. The classic assumption test in the study consisted of multicollinearity, heteroscedasticity, and

normality. Multicollinearity, the aim is to test whether there is a correlation between fellow independent variables (multicollinearity). If there is a correlation between the independent variables high enough or above 0.90 then it indicates the presence of multicollinearity. In addition, it can also look at the value of Tolerance and Variance Inflation Factor (VIF), if the Tolerance is greater than 0.10 (10%) or the VIF value is less than 10 then multicollinearity does not occur.

Table 4: Multicollinearity Test Results

Model		DS	IK	KP	KM	PS	Collinearity Statistics	
							Tolerance	VIF
	DS	1.000	-.157	.005	-.189	-.188	.590	1.695
	IK	-.157	1.000	-.039	.240	.118	.600	1.666
1 Correlations	KP	.005	-.039	1.000	-.041	-.237	.870	1.150
	KM	-.189	.240	-.041	1.000	-.473	.901	1.110
	PS	-.188	.118	-.237	-.473	1.000	.854	1.170

Source: Primary data processed (2019)

The test results show that the highest correlation in the Management Commitment variable with SAKIP Training is equal to - 0.473 or 47.3%. Because this correlation is still below 90%, it can be said that there is no serious multicollinearity. The lowest Tolerance value in the System Design variable is 0.590 and the highest VIF value in the System Design variable is 1.695. Because this Tolerance value is still above 0.10 and VIF is not more than 10, it can be said that there is no serious multicollinearity.

Testing the next classic assumption is heteroscedasticity, the aim is to test whether in the regression model there is an inequality of variance from the residual one observation to another observation. If the residual variance from one observation to another is different, then it is called heteroscedasticity. A good regression model is not heteroscedasticity. If there is no clear pattern, and the points spread above and below the number 0 on the Y axis, heteroscedasticity does not occur.
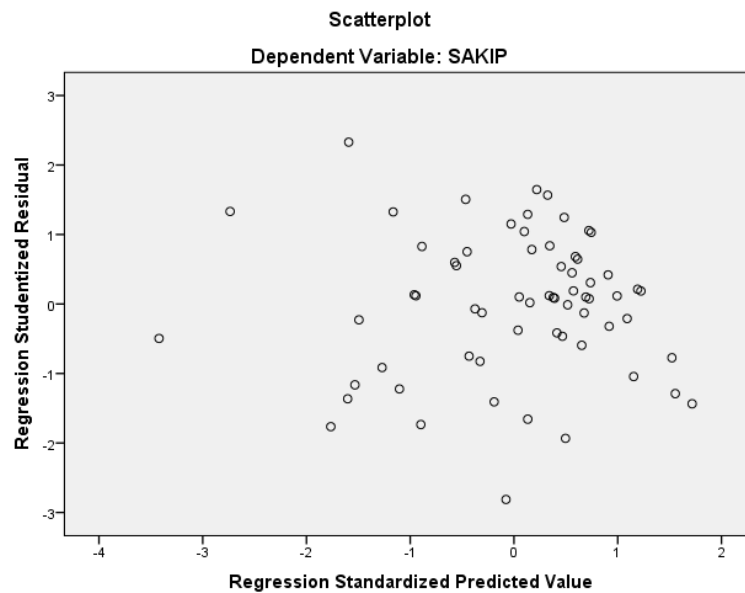
Figure 2: Heteroscedasticity Test Results

The Scatterplot graph shows that the points spread randomly and spread both above and below the number 0 on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model, so the model is feasible to predict the Effectiveness of the Performance Measurement System based on the input of independent variables Organizational Commitment, SAKIP Training, Employee Engagement, Incentives for Performance, and System Design.

Testing the last classic assumption is normality, the aim is to test whether in a regression model, the dependent variable and the independent variable have a normal distribution or not. A good regression model is normal or near normal data distribution. To be able to determine whether or not normal disturbance factors use the J-B test formula (Jarque-Bera test).

Table 5: Normality Test Results

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Unstandardized Residual	65	-,476	,297	,135	,586
Valid N (listwise)	65				

Source: Primary data processed (2019)

Skewness value of -0.4476 and Kurtosis -0.135. If these values are entered into the JB-test formula obtained as follows:

$$JB = n\left[\frac{S^2}{6} + \frac{(K-3)^2}{24}\right] = 65\left[\frac{-0{,}311^2}{6} + \frac{(0-3)^2}{24}\right] = 25{,}42281$$

Based on the results of the Jarque-Bera test, the value of Jarque Bera test-statistic is 25.42281 while the value of X2 table for df 65 and α = 0.05 is obtained at 84.82065. Thus it can be concluded that the JB test statistic value is smaller than the X2 table value. {JB test count (25.42281) <X2 table (85.82065)}, which means the regression model used has residuals or disturbing factors that are normally distributed.

e. Hypothesis Testing Results

Testing the hypothesis in this study to test the hypothesis that has been formulated previously. Testing uses t-test to see how much management commitment, SAKIP training, employee involvement, incentives for performance, and system design explain the effectiveness of a performance measurement system.

Table 6: Hypothesis Testing Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,683	8,414		,438	,663
	KM	,414	,203	,281	2,044	,045
	PS	-,173	,257	-,095	-,676	,502
	KP	,230	,282	,091	,816	,418
	IK	,376	,170	,243	2,212	,031
	DS	,529	,157	,379	3,378	,001

Source: Primary data processed (2019)

Based on the results of these tests, the effectiveness of the performance measurement system (SAKIP) is influenced by management commitment (KM), SAKIP training (PS), employee involvement (KP), performance incentives (IK), and mathematical design of the system (DS):

SAKIP = b0 + b1KM + b2PS + b3KP + b4IK + b5DS + ei

SAKIP = 3,683 + 0,414KM - 0,173PS + 0,230KP + 0,376IK + 0,529DS

The constant of 3.683 states that if Management Commitment (KM), SAKIP Training (PS), Employee Engagement (KP), Incentives for Performance (IK), and Value System Design (DS) remain unchanged, the Effectiveness of the Performance Measurement System (SAKIP) will fixed value that is equal to 3.683.

Regression coefficient of management commitment of 0.414 means that each change / increase in management commitment by 100% will increase the Effectiveness of the Performance Measurement System by 41.4%. The incentive regression coefficient for performance of 0.376 means that every change / increase in incentives for performance by 100% will increase the Effectiveness of the Performance Measurement System by 37.6%. System design regression coefficient of 0.529 means that every change / increase in system design by 100% will increase the Effectiveness of the Performance Measurement System by 52.9%. Then based on the testing of significance the following results are obtained:

1. Management commitment has a value of t count of 2.044 while the critical value (t table) is 1.997 and the probability of 0.045 is smaller than 0.05. It means that management commitment influences the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
2. SAKIP training has a value of t count of -0.676 while the critical value (t table) is 1.997 and the probability of 0.502 is greater than 0.05. This means that SAKIP training has no effect on the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
3. The involvement of employees has a value of t count of 0.816 while the critical value (t table) is 1.997 and the probability of 0.418 is greater than 0.05. It means that employee involvement does not affect the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
4. Incentives for performance have a value of t count of 2.212 while the critical value (t table) is 1.997 and the probability of 0.031 is smaller than 0.05. Means incentives for performance affect the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
5. System design has a value of t count of 3.378 while the critical value (t table) is 1.997 and the probability of 0.001 is smaller than 0.05. Means the system design influences the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.

2. Discussion

a. Effect of Management Commitment on the Effectiveness of Performance Measurement Systems

The test results show that management commitment has a major influence on the effectiveness of the performance measurement system. It can be seen that the regression coefficient value of management commitment reaches 41.4%, which means that when management commitment is further enhanced, the effectiveness of the performance measurement system will also increase.

Hypothesis testing proves that management commitment influences the effectiveness of the performance measurement system. The results of this study almost resembled the results of previous studies, because previous studies did not have exactly the same as this study, both the type of research, the use of terms, the object of research, and its measurement. The results of this study are almost the same as the results of Tung, et al., (2011) management support has a significant relationship with the effectiveness of the performance measurement system, then Akbar, et al. (2012) management commitment is a major contributor to SAKIP's success. Furthermore, Alharthi (2016) commitment and top management support are successful factors in the successful implementation of a performance measurement system.

Management commitment in this study adopted the indicators in Tung's research, et al. (2011), namely adequate resources, effective communication, and management authority were carried out. In further research it is necessary to develop broader indicators by exploring more relevant references, and indicators of management commitment adopted in public sector organizations rather than manufacturing companies. In addition, it is also necessary to consider other instruments besides questionnaires such as interviews. The measurement scale is more varied, not just the Likert scale. This is all the authors suggest that the results of testing are more tested, more reliable so that the conclusions obtained will be more generalized.

b. Effect of SAKIP Training on the Effectiveness of Performance Measurement Systems

The hypothesis testing proves that SAKIP training has no effect on the effectiveness of the performance measurement system. The results of this study are different from the results of previous studies, because previous research did not have exactly the same as this research, both the type of research, the use of terms, the object of research, and its measurement. The results of Tung, et al., (2011) research training have a significant relationship with the effectiveness of the performance measurement system, then Baird, et al., (2012) training has a significant relationship with the effectiveness of the performance measurement system.

The SAKIP training in this study adopted an indicator in Tung, et al. (2011) research, namely training to understand the performance measurement system, training to develop a performance measurement system, and training to implement a performance measurement system. Whereas in Baird's research, et al., (2012) training on the performance improvement system only uses one indicator, namely to what extent is training provided to staff? In further research it is necessary to develop broader indicators by delving deeper into relevant references not only training for understanding, training for system development, and training to implement them. In addition, SAKIP training indicators were adopted in public sector organizations rather than manufacturing companies. It is also necessary to consider other instruments besides questionnaires such as interviews. The measurement scale is more varied, not just the Likert scale. This is all the

authors suggest that the results of testing are more tested, more reliable so that the conclusions obtained will be more generalized.

c. Effect of Employee Engagement on the Effectiveness of Performance Measurement Systems

Hypothesis testing proves that employee involvement does not affect the effectiveness of the performance measurement system. The results of this study almost resemble the results of previous studies, because previous research did not have exactly the same as this study, both the type of research, the use of terms, the object of research, and measurement. The results of this study are almost the same as the results of the study by Tung, et al., (2011) that involvement has a significant relationship with the effectiveness of the performance measurement system. But the results of this study are different from the results of the study of Nuti, et al., (2013) the involvement of employees and managers is an important factor in the success of the performance measurement system. The involvement of Alharthi staff (2016) in the system is a factor that is successful in the successful implementation of a performance measurement system.

Employee involvement in this study adopted indicators in Tung's research, et al. (2011), namely lower level employees who participate in designing performance measurement systems, and low-level employees involved in choosing performance measures. In further research it is necessary to develop broader indicators by delving deeper into relevant references, and indicators of employee involvement are adopted in public sector organizations rather than manufacturing companies. In addition, it is also necessary to consider other instruments besides questionnaires such as interviews. The scale of measurement is more varied, not just the Likert scale. This is all that the author recommends that the test results be more tested, more reliable so that the conclusions obtained will be more generalized.

d. The Effect of Performance Incentives on the Effectiveness of Performance Measurement Systems

The test results show that incentives for performance have a major influence on the effectiveness of the performance measurement system. It can be seen that the regression coefficient value of management commitment reaches 37.6%, which means that when incentives for performance are increased, the effectiveness of the performance measurement system will also increase.

Hypothesis testing proves that incentives for performance affect the effectiveness of a performance measurement system. The results of this study almost resemble the results of previous studies, because previous research did not have exactly the same as this study, both the type of research, the use of terms, the object of research, and measurement. The results of this study are almost the same as the results of the study of Baird, et al., (2012). The award has a

significant relationship with the effectiveness of the performance measurement system. Then Nuti, et al., (2013) the reward system is an important factor in the success of the performance measurement system. Furthermore, Alharthi (2016) an incentive to motivate performance is a success factor in the success of implementing a performance measurement system. But the results of this study are different from the results of research by Tung, et al. (2011) that incentives do not have a significant relationship with the effectiveness of the performance measurement system, then.

The incentives for performance in this study adopted indicators in Tung, et al. (2011) and Baird, et al. (2012), namely financial rewards and non-financial rewards for performance achievement, and added an evaluation evaluation system as in Alharthi's research (2016). In further research it is necessary to develop broader indicators by delving deeper into relevant references and incentive indicators for performance. In addition, it is also necessary to consider other instruments besides questionnaires such as interviews. The scale of measurement is more varied, not just the Likert scale. This is all that the author recommends that the test results be more tested, more reliable so that the conclusions obtained will be more generalized.

e. Effect of System Design on the Effectiveness of Performance Measurement Systems

The test results show that system design has a major influence on the effectiveness of the performance measurement system. It can be seen that the size of the system design regression coefficient reaches 52.9% greater than management commitment and incentives for performance. This means that when giving incentives for performance is further enhanced, the effectiveness of the performance measurement system will also increase.

The hypothesis testing proves that system design influences the effectiveness of the performance measurement system. The results of this study almost resembled the results of previous studies, because previous studies did not have exactly the same as this study, both the type of research, the use of terms, the object of research, and its measurement. The results of this study are almost the same as the results of the study of Nuti, et al., (2013) the visual reporting system is an important factor in the success of the performance measurement system. Furthermore, Alharthi (2016) design and system integration are successful factors in the success of the performance measurement system.

System design in this study adopts indicators in Alharthi's research (2016), namely the selection of the right indicators, not too many performance indicators, user-friendly design, integrated to all levels, simple flexible design. In further research it is necessary to develop broader indicators by exploring more relevant references. In addition, it is also necessary to consider other instruments besides questionnaires such as interviews. The measurement scale is more varied,

not just the Likert scale. This is all the authors suggest that the results of testing are more tested, more reliable so that the conclusions obtained will be more generalized.

V. CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Based on the results of the testing and discussion of research data, some conclusions are obtained as follows:

1. Management commitment affects the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
2. SAKIP training does not affect the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
3. Employee involvement does not affect the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
4. Incentives for performance affect the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.
5. System design influences the effectiveness of the performance measurement system at the Ministry of Maritime Affairs and Fisheries.

Research has several limitations that can be considered in subsequent studies, namely:

1. Research instruments only use questionnaires distributed. There is a possibility of the inability of the respondent's answers because they want to be seen as good or because they do not understand the statement of origin of the answer.
2. The indicators for each variable adopted in previous studies were more likely to be research in business organizations rather than government organizations.

Based on the conclusions and limitations of this study, the authors provide the following suggestions:

1. To further research expand the object of research not only one agency / ministry / agency. It is necessary to consider other factors besides management, training, involvement, incentives, system design commitments. In addition, it is also necessary to develop appropriate instruments, measurement indicators are more tailored to government agencies.
2. To the Ministry of Maritime Affairs and Fisheries in an effort to improve the effectiveness of the performance measurement system should consider or pay attention to the variables in the study, so that later SAKIP that has existed so far is able to be more effective in achieving organizational goals.

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