



Effect of Performance Measurement System, Reward System, Implementation of Total Quality Management and Organizational Commitment on Managerial Performance in Pt. Socfindo Medan

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ARTICLE INFO	ABSTRACT
<p>Article history: Received Apr 10, 2020 Revised May 18, 2020 Accepted Jun 17, 2020</p>	<p>This study aims to determine the effect of performance measurement system, reward system, application of total quality management, and organization commitment on managerial performance either partially or simultaneously at PT. Socfindo Medan.</p>
<p>Keywords: Performance Measurement System; Reward System; Total Quality Management; Organizational Commitment; Managerial Performance.</p>	<p>This type of research is a causal associative. This research was conducted at PT. Socfindo Medan with research time for one month and using likert scale. The population of this research is PT. Socfindo Medan as many as 61 respondents and samples taken by using purposive sampling method so that the number of samples as much as 41 respondents. The data source of this research is primary data obtained through observation and spreading of questionnaire to staff. Data analysis techniques use data quality tests, descriptive statistical analysis, classical assumption tests and hypothesis tests.</p>
	<p>The results showed that in partial performance measurement system, application of total quality management and organization commitment variable had positive and significant influence on managerial performance, while reward system variable has positive and not significantly influenced on managerial performance. Simultaneously performance measurement system, reward system, application of total quality management, and organization commitment variables have significantly influenced on managerial performance at PT. Socfindo Medan.</p>
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1. INTRODUCTION

The situation in the era of globalization that is increasingly developing has resulted in rapid competition between existing companies to be able to survive and compete. Companies must have new breakthroughs to advance their business. Developed companies must continue to develop the latest innovations to produce superior products. The main key of advanced companies is to have a good management accounting system. Managerial performance can be assessed from the management accounting system it implements. Company managers must be able to apply a good management accounting system. Management accounting system in the form of performance measurement and awarding.

Managerial performance in a company can be influenced by several things, which researchers then use as independent variables, including: performance appraisal system, reward system, implementation of Total Quality Management (TQM) and organizational commitment. The determination of the independent variable is because this study is a study that replicates Setyani's (2015) research. Setyani conducted a study that aims to examine the effect of performance measurement systems, reward systems and the application of Total Quality Management on managerial performance. However, to distinguish this research from Setyani's research, this study added another independent variable, namely organizational commitment.

One of the factors that can affect managerial performance is the performance measurement system. Performance measurement systems help personnel develop work effectiveness more quickly and can improve managerial performance. Narsa and Yuniawati (2003:3) in their research explain that "the performance measurement system is a mechanism for periodic improvement of the effectiveness of the workforce in carrying out company operational activities based on predetermined standards". Improved performance measurement system will affect the level of managerial performance. Otherwise,

The next factor that can affect managerial performance is the reward system. "The reward system is a system or program implemented by management by providing additional acceptance for employees or managers as an effort to further improve their performance." (Setyani 2015:20).

In addition to the performance measurement system and reward system, the next thing that can affect managerial performance is the implementation of Total Quality Management (TQM). According to Hasanah (2013:15) Total Quality Management (TQM) is an approach in running a business that tries to maximize organizational competitiveness through continuous improvement of products, services, people, processes, and the environment. The company's goal in producing quality products is to achieve customer satisfaction which is marked by reduced complaints from customers so that it shows increased company performance.

And what can further affect managerial performance is organizational commitment. According to Prabowo (2015:7) "a very strong organizational commitment in individuals will cause individuals to strive to achieve organizational goals and the willingness to exert effort on behalf of the organization to improve managerial performance." This means that individuals with high organizational commitment will produce good performance in order to achieve organizational goals. According to Sinaga (2009: 18) "organizational commitment is a condition where members of the organization have high loyalty to the organization."

The main purpose of performance appraisal is to motivate personnel in achieving organizational goals and in complying with predetermined standards of behavior in order to produce the actions and results desired by the organization. Performance appraisals are used to suppress inappropriate behavior and to stimulate and enforce desirable behavior, through timely feedback on performance results and to obtain rewards, both intrinsic and extrinsic.

To increase intrinsic rewards, management can use several techniques such as increased responsibility, participation in decision making and other endeavors that increase one's self-esteem and that encourage people to be their best. Meanwhile, extrinsic rewards consist of compensation given to personal, either in the form of direct, indirect or non-monetary compensation.

According to Prabowo (2015:8) "a very strong organizational commitment in individuals will cause individuals to strive to achieve organizational goals and the willingness to exert effort on behalf of the organization to improve managerial performance. This means that individuals with high organizational commitment will produce good performance in order to achieve organizational goals.

2. RESEARCH METHOD

This type of research is “causal associative research, namely research that aims to determine the causal relationship between various variables. Based on these quotes, this study will examine the effect of the independent variable on the dependent variable. This study was conducted to determine and prove the effect of the performance measurement system, reward system, implementation of total quality management and organizational commitment as independent variables on managerial performance as the dependent variable.

2.1 Place and time of research

This research was conducted at PT. Socfindo Medan which is located at Jl. KL Yos Sudarso No. 106 Medan 20115 North Sumatra. The time of the study was carried out for 1 (one month), starting from the distribution of the questionnaires to the collection of related questionnaires again, namely in May 2017.

2.2 Population and Research Sample

The population in this study is the staff of PT. Socfindo Medan as many as 61 people with the following details: IT. dept. : 8 staff, General Dept. : 12 staff, Sales Dept. : 6 staff, Technological Dept. : 7 staff, Technical Dept.: 7staff, Finance Dept. : 5 staff person, Purchase Dept. : 5 staff, Agriculture Dept. : 11 staff.

The sample in this study were staff at PT. Socfindo Medan as many as 41 respondents. The sampling technique used in this research is purposive sampling.

2.3 Method of collecting data

Data collection methods used are observation and questionnaires. Data collection is also done through library research to obtain data that can be used to support this research. This study uses primary data for hypothesis testing. Primary data collection in this study was obtained through distributing questionnaires to parties related to the research conducted.

2.4 Data analysis technique

a. Descriptive Statistical Analysis

Descriptive statistical analysis includes the number, sample, minimum value, maximum value and average value (mean) of all variables.

b. Data Quality Test

Validity test is used to measure the validity or validity of a questionnaire. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire. Reliability test is used to determine whether the questionnaire remains consistent if it is used more than once for symptoms with the same measuring instrument.

c. Classical Assumption Test Analysis

In analyzing the data, the researcher used the help of the software program SPSS (Statistical Product & Service Solution) 25.0 for windows. There are four classical assumption tests carried out in this study, namely normality test, multicollinearity test and heteroscedasticity test.

d. Multiple Linear Regression Analysis

Multiple linear regression analysis was used to test the effect of the independent variable on the dependent variable.

e. Research Hypothesis Test

Hypothesis testing is a procedure carried out with the aim of deciding whether to accept or reject the hypothesis regarding population parameters. Hypothesis testing in this study used the F test and t test and the determinant coefficient test (R²).

3. RESULTS AND DISCUSSIONS

Based on the questionnaires distributed and received back, the data obtained with the rate of return in table 1 are as follows:.

Table 1. Questionnaire Result Data

Number of questionnaires distributed	53
Number of questionnaires received back	45
Number of incomplete questionnaires	4
Number of questionnaires that can be used	41

From the results of research conducted on 41 respondents as research subjects, it can be obtained general characteristics of respondents which include age, gender, last education, length of time in office, and length of service at the company. Classification of respondents based on characteristics is generally needed to obtain a broader insight about the object of research.

Table 2. Characteristics of Respondents by Age

Age	Amount	%
23-35 years old	9 respondents	22%
36-45 years old	18 respondents	43.9%
46 years old	14 respondents	34.1%
Total	41 respondents	100%

3.1 Descriptive statistical analysis

Descriptive statistical analysis is used to determine the description of a data seen from the minimum, maximum and mean values of the variables of the performance measurement system, reward system, implementation of total quality management, organizational commitment and managerial performance.

Table 3. Descriptive Statistics

	N	Minimum	Maximum	mean
Performance Measurement System (X1)	41	8.00	36.00	26.2195
Reward System (X2)	41	5.00	25.00	15.4878
Total Quality Management (X3)	41	20.00	50.00	37.0976
Organizational Commitment (X4)	41	19.00	44.00	32.9512
Managerial Performance	41	16.00	40.00	28.3415
Valid N (listwise)	41			

3.2 Data analysis

**Table 4. Validity Test Results
Performance Measurement System**

Question	Corrected Item-Total Correlation	rtable	Description
1	0.690	0.308	Valid
2	0.675	0.308	Valid
3	0.691	0.308	Valid
4	0.580	0.308	Valid
5	0.579	0.308	Valid
6	0.413	0.308	Valid
7	0.464	0.308	Valid
8	0.708	0.308	Valid

Reward System

Question	Corrected Item-Total Correlation	rtable	Description
1	0.681	0.308	Valid
2	0.683	0.308	Valid
3	0.729	0.308	Valid
4	0.730	0.308	Valid
5	0.772	0.308	Valid

TQM

Question	Corrected Item-Total Correlation	rtable	Description
1	0.816	0.308	Valid
2	0.709	0.308	Valid
3	0.647	0.308	Valid
4	0.804	0.308	Valid
5	0.712	0.308	Valid
6	0.705	0.308	Valid
7	0.652	0.308	Valid
8	0.833	0.308	Valid
9	0.872	0.308	Valid
10	0.822	0.308	Valid

Organizational Commitment

Question	Corrected Item-Total Correlation	rtable	Description
1	0.695	0.308	Valid
2	0.675	0.308	Valid
3	0.642	0.308	Valid
4	0.724	0.308	Valid
5	0.767	0.308	Valid
6	0.825	0.308	Valid
7	0.869	0.308	Valid
8	0.713	0.308	Valid
9	0.634	0.308	Valid

Managerial Performance

Question	Corrected Item-Total Correlation	rtable	Description
1	0.888	0.308	Valid
2	0.849	0.308	Valid
3	0.807	0.308	Valid
4	0.858	0.308	Valid
5	0.830	0.308	Valid
6	0.792	0.308	Valid
7	0.787	0.308	Valid
8	0.701	0.308	Valid

Table 4 Validity Test The benchmark value for the validity test is the correlation coefficient (r count) at a significance level of 0.05. If the correlation coefficient (r count) > critical value (r table) then the measuring instrument is valid. The critical value (r table) in this study is 0.3081. Based on the results

of the validity test in Table 4.6, all questions have $r_{count} > r_{table}$, which means that all of the statements are valid.

Table 5. Reliability Test Results

<i>Cronbach's Alpha</i>	N of Items
.977	40

If Cronbach's Alpha value is greater than 0.7, then the research questionnaire is reliable. It is known that the questionnaire is reliable, because the value of Cronbach's Alpha 0.977 is greater than 0.7.

3.3 Classic assumption test

The classical assumption test in this study was carried out using the SPSS version 25 statistical program.

a. Normality test

**Table 6. Normality Test
One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		41
Normal	mean	.0000000
Parameters,,b	Std. Deviation	3.37165098
most Extreme	Absolute	.101
Differences	Positive	.101
	negative	-.087
	Kolmogorov-Smirnov Z	.647
	asympt. Sig. (2-tailed)	.797

a. Test distribution is Normal.

b. Calculated from data.

Based on table 6, the Asymp value is known. Sig. (2-tailed) of 0.797 then the value of sig > 0.05 ($0.797 > 0.05$) and the assumption of normality is met.

b. Multicollinearity Test

Multicollinearity test was conducted to test whether there is a correlation between independent variables with one another in the regression model. If the tolerance value is 0.10 and the VIF value is 10, it can be concluded that there is multicollinearity in this study.

**Table 7. Multicollinearity Test
Coefficients^a**

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Performance Measurement System (X1)	.740	1.351
Reward System (X2)	.507	1.972
Total Quality Management (X3)	.490	2.039
Organizational Commitment (X4)	.637	1.569

Based on table 7, it is known that the VIF value of the performance measurement system variable (X1) is 1.351, the VIF value of the reward system variable (X2) is 1.972, the VIF value of the total quality management variable (X3) is 2.039, and the VIF value of the organizational commitment variable (X4) is 1.569. Each VIF value < 10 , then there is no case of multicollinearity.

c. Heteroscedasticity Test

**Table 8. Heteroscedasticity Test (Glejser Test)
Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,519	2.831		-.536	.595
	Performance Measurement System (X1)	-9.356E-5	.058	.000	-.002	.999
	Reward System (X2)	-.149	.090	-.367	-1.655	.107
	Total Quality Management(X3)	.118	.081	.329	1,459	.153
	Organizational Commitment (X4)	.059	.087	.134	.677	.503

a. Dependent Variable: glejser_test

Based on Table 8, it is known that the probability value or Sig. of the performance measurement system (X1) is 0.999, the probability value or Sig. of the reward system (X2) is 0.107, the probability value or Sig. of total quality management (X3) is 0.153 and the probability value or Sig. of organizational commitment (X4) is 0.503. All variables have a Sig value. > 0.05, it is concluded that there is no heteroscedasticity.

d. Multiple Linear Regression Analysis

**Table 9. Multiple Regression Test Results
Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.713	4,504		.158	.875
	Performance Measurement System (X1)	.214	.093	.293	2.315	.026
	Reward System (X2)	.006	.143	.007	.044	.965
	Total Quality Management(X3)	.298	.129	.360	2.315	.026
	Organizational Commitment (X4)	.329	.138	.325	2,381	.023

a. Dependent Variable: Managerial Performance

Based on table 9, the following multiple linear regression equation is obtained.

$$Y = 0.713 + 0.214X1 + 0.006X2 + 0.298X3 + 0.329X4 + e$$

Based on table 9, it is known that the regression coefficient value of the performance measurement system is 0.214, the reward system is 0.006, the total quality management is 0.298 and organizational commitment is 0.329. It is known that the regression coefficient value is positive. This means that the performance measurement system, reward system, application of total quality management and organizational commitment have a positive effect on managerial performance.

e. Research Hypothesis Testing Analysis

• F Test (Simultaneous Significance Test)

The F test aims to test the effect of the independent variables together or simultaneously on the dependent variables. If $F_{count} > F_{table}$ then there is a significant effect. If $F_{count} < F_{table}$ then there is no significant effect.

Table 10. F Test Results

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	608,498	4	152.125	12.044	.000a
	Residual	454.721	36	12,631		
	Total	1063,220	40			

a. Predictors: (Constant), Organizational Commitment (X4), Total Quality Management (X3), Reward System (X2), Performance Measurement System (X1)

b. Dependent Variable: Managerial Performance

Based on table 10, it is known that the F table value is 2.633 and the calculated F value is 12.044. Note that because the calculated F value > F table (12,044 > 2,633), it is concluded that there is a significant influence between the performance measurement system, reward system, implementation of total quality management, and organizational commitment together or simultaneously on managerial performance.

• t test (Partial Significance Test)

To see the partial effect of each independent variable, it can be seen using a t-test, namely whether the performance measurement system (X1), reward system (X2), total quality management (X3), and organizational commitment (X4) have a significant effect on partial to managerial performance (Y). If $t_{count} > t_{table}$, then H_0 is rejected and H_a is accepted, meaning that there is a significant effect. If $t_{count} < t_{table}$, then H_0 is accepted and H_a is rejected, meaning that there is no significant effect. The results of the t test analysis are shown in the following table:

Table 11. t test results

Coefficients ^a						
Model		UnstandardizedC oefficients		StandardizedC oefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.713	4,504		.158	.875
	Performance Measurement System (X1)	.214	.093	.293	2.315	.026
	Reward System (X2)	.006	.143	.007	.044	.965
	Total Quality Management(X3)	.298	.129	.360	2.315	.026
	Organizational Commitment (X4)	.329	.138	.325	2,381	.023

a. Dependent Variable: Managerial Performance

• R2 Test (Coefficient of Determination)

The coefficient of determination (2) is a value (proportion value) that measures how much the ability of the independent variables used in the regression equation to explain the variation of the dependent variable.

Table 12. Results of the Coefficient of Determination
Model Summary^b

Model	R	R Squa	Adjusted R Square	Std. Error of the Estimate
1	.757a	.5	.525	3.55403

a. Predictors: (Constant), Organizational Commitment (X4), Total Quality Management (X3), Reward System (X2), Performance Measurement System (X1)

b. Dependent Variable: Performance managerial

Based on Table 12, the value of the coefficient of determination² is located in the R-Square column. It is known that the coefficient of determination is $r^2 = 0.572$. This value means that all independent

variables, namely the performance measurement system, reward system, total quality management, and overall organizational commitment affect managerial performance variables by 57.2%, the remaining 42.8% is influenced by other factors.

It is known that the F table value is 2.633 and the calculated F value is 12.044. Note that because the calculated F value > F table ($12,044 > 2,633$), it is concluded that there is a positive and significant influence between the performance measurement system, reward system, implementation of total quality management, and organizational commitment together or simultaneously on managerial performance.

PT. Socfindo was able to survive the worst Indonesian economy because it had a good management accounting system. Managers are able to control the company when conditions are bad. In this case, managerial performance determines the sustainability of the company. Manager of PT. Socfindo must run a good management accounting system to produce quality products and carry out its organizational commitment so that it can have a strong influence on managerial performance at PT. Socfindo Medan.

4. CONCLUSION

Based on the results of the analysis in this study, it can be concluded as follows:

- The performance measurement system has a positive and significant effect on managerial performance at PT. Socfindo Medan.
- The reward system has no significant effect on managerial performance at PT. Socfindo Medan.
- Total quality management has a positive and significant effect on managerial performance at PT. Socfindo Medan.
- Organizational commitment has a positive and significant effect on managerial performance at PT. Socfindo Medan.
- Performance measurement system, reward system, implementation of total quality management and organizational commitment have a significant effect simultaneously (together) on managerial performance at PT. Socfindo Medan.

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