

The Effect of Management Accounting Information and Performance Measurement Systems on Managerial Performance at the Public Works Services, Medan Sunggal

Hasbiana Dalimunthe

Faculty of Economy and Business, Universitas Medan Area, Jalan Kolam No.1, Medan Indonesia
hasbianadalimunthe[at]staff.uma.ac.id

Abstract: *This study aims to examine the effect of the management accounting information usage and performance measurement systems on managerial performance at the Public Work Services. As an associative method, the sample used in this study was 70 respondents. The data analysis technique used are data instrument test which are validity and reliability tests and classical assumption tests including normality tests, heteroscedasticity tests, and multicollinearity tests. The hypothesis testing includes the T test and the determination (R²) test as well as the multiple linear regression analysis test. The results of this study partially show that the application of management accounting information has a positive and significant effect on managerial performance, and the performance measurement system has a positive and significant effect on managerial performance.*

Keywords: Management Accounting Information, Performance Measurement System, Managerial Performance, Public Work Services.

1. Introduction

Every company or organization is required to improve its performance, both operational and managerial sector. Managers in their operational activities are be in charged to organizing and mobilizing their subordinates to carry out every responsibility that has been given to achieve company goals. Every manager must be able to motivate the employees to working maximally to survive and develop utilizing scientific competencies so that their abilities can be useful for company achievement. Furthermore, the implementation of Information Technology (IT) is one of the efforts to improve the sustainability for a company. In fact, IT has been applied not just in business sector, but also in various purposes and contributes a great impact on them [1]. The Information System (IS) as the part of IT is usually used in a company. The IS provides a system that makes a series of collecting, processing, storing and sharing information to support management decision making. Then, the utilization of management accounting information helps the management to establishes the effective decisions, reducing uncertainty, and reducing risk in choosing alternatives [2].

Moreover, the performance measurement is required to determine the achievement of organizational goals, activities or programs as the job appraisal. Performance measurement is a systematic process to assess the final result of whether the planned program or activity has been achieved. The research was conducted at the Public Work Services of Medan Sunggal area, North Sumatra, Indonesia. The Public Work Services is in charge of administering government affairs in public works, housing and infrastructure development sector. A good managerial role must be able to direct, coordinate, and supervise the operational activities of his subordinates. The management accounting information system and performance measurement have been applied to

the Public Works Department, but this research wants to know whether the application of management accounting information and performance measurement systems can improve managerial performance.

2. Theories and Literature

2.1 Managerial Performance

The managerial performance is usually used to measure the company's operational effectiveness improvement. A manager is required to be able to manage the company activities or operations, managing time, machines, funds, employees or subordinates and information. The benchmark for the success of a manager is determined by the its performance and the responsibility. According to Bastian [3], the managerial performance is the result of the manager's activity process regarding the level of achievement in carrying out activities, programs, policies, to achieve the goals or objectives, vision and mission of the organization contained in the organizational strategy. Moreover, According to Soobaroyen, and Poorundersing [4], the managerial performance is a tangible evidence that managers have completed their work as effectively as possible.

In the same way, Mangkunegara [5] described the managerial performance as a process that continues to be carried out in collaboration between employees and direct rules that involve the application of expectations and understanding of the function of each employee's work. Then, Mulyadi [6] said that managerial performance is a performance produced by managers in mobilizing their abilities and the efforts of others who are within their authority. According to Silalahi [7], there are 8 (eight) managerial performance indicators, including:

- 1) Planning, defined as the manager's ability to determine the policy of each activity, which is then carried out by considering the current and future conditions.
- 2) Investigation, defined as the ability of managers to collect various information and provide information as notes, reports and accounts, measure results, determine inventory, and analyze jobs.
- 3) Coordination. defined as the managerial ability to harmonize actions that include exchanging information with other parts of the organization that serves to link and adjust programs, inform other parts and relationships with other managers.
- 4) Evaluation, defined as a managerial ability in assessing and measuring proposals, measuring reported performance including assessment of results records, employee assessments, financial statement assessments and product inspections.
- 5) Supervision. defined as the manager's ability to show actions to provide direction, guide, train, lead and develop subordinates, explain every rule and work objective, managers must be able to handle complaints from all employees.
- 6) Staff Selection, defined as the ability of managers to maintain various workforces, recruit employees, and interview them and be able to place human resources according to their fields of knowledge.
- 7) Negotiating, defined as the ability of managers to buy, sell or contract for goods and services and bargain in groups.
- 8) Representative, defined as a representative activity to attend meetings with business association activities, representatives from organizations, approach the community, give speeches at community events, and promote for the company's main goals.

2.2 Management Accounting Information

In every scope of management, the application of management accounting information is necessary. The application of management accounting information become an aid to the implementation of the organization in planning, controlling and in making decisions to achieve company goals. According Siregar et. al. [8], management accounting information system is an information system that transforms input by using a process so as to produce an output needed for decision making. Then, Purwanti [9] stated that management accounting information has three objectives, including:

- 1) Creating business decisions in operating activities and specific decisions in long - term investments.
- 2) Reports are given to parties outside the company, such as: shareholders, financial institutions and others.
- 3) Information is provided to the company's internal parties, namely to all levels of management.

Then again, Rohmat (2017) stated that there are 4 (four) indicators of management accounting information, including:

- 1) Scope, defined as the extensive management accounting information is able to provide information related to the external economic environment such as: market share of an industry, total market sales, gross national product or it can be non - economic in nature such as consumer

desires, competitor activities, world technology developments and demographic factors.

- 2) Time Lines, defined as importance of timeliness or timely information which can further improve management accounting information facilities and be used in management decision making.
- 3) Aggregation in management accounting information can provide information in various forms of aggression ranging from the provision of basic, unprocessed data to various aggressions based on certain time periods or areas such as responsibility centers.
- 4) Integration, defined as the various aspects such as target provisions or activities that are always calculated from the interaction process between one sub - unit and other sub - units, are assisted by integration in a management accounting information.

2.3 Performance Measurement System

According to Moeheriono [10], the performance measurement system is a process that can be determined from the assessment working progress towards goals in human resource management in producing goods and services including information on the efficiency and effectiveness of actions for achieving organizational goals. Furthermore, Wibowo [11] stated that the performance measurement system is something to know in the implementation of the performance of each division from the previously expected plan to achieve the desired goal.

According to Pasolong [12], performance measurement system indicators are variables that can express effectively and process efficiency based on guidelines and targets and company goals". It can be concluded that the indicators of the performance measurement system are as follows:

- 1) Focus on customer satisfaction by improving service quality.
- 2) Carry out responsibilities by working together.
- 3) Every employee is given the opportunity to work well.
- 4) Efforts are made to improve quality with the aim of providing satisfaction from every customer.

3. Methodology

The study used the quantitative data which comes from the primary data. Then, multiple linear regression is selected as the data analysis technique in this study. The sample used in this study were 70 respondents which are related to managerial performance. The quality of the data was then tested with validity and reliability tests. The classical assumption test uses normality test, multicollinearity test, and heteroscedasticity test. The hypothesis test of this study uses the t test and the coefficient of determination (R^2).

4. Result and Discussions

4.1 Instrument Test

The validity of an indicator if $r_{count} > r_{table}$ with the provisions of degree of freedom ($df = n - 2$), where n is the number of samples, then obtained $70 - 2 = 68$ with a

significant level of 5% (0.05 %) = 0.2826” [13]. The validity test of this research is shown in Table 1.

Table 1: Validity Test Result

Variable	Item	Correlation coefficient	R Table	Status
Management Accounting Information (X1)	MAI1	0,332	0,2352	Valid
	MAI2	0,472	0,2352	Valid
	MAI3	0,316	0,2352	Valid
	MAI4	0,366	0,2352	Valid
	MAI5	0,238	0,2352	Valid
Performance Measurement System (X2)	PMS1	0,392	0,2352	Valid
	PMS2	0,594	0,2352	Valid
	PMS3	0,497	0,2352	Valid
	PMS4	0,366	0,2352	Valid
	PMS5	0,387	0,2352	Valid
Managerial Performance (Y)	MP1	0,427	0,2352	Valid
	MP2	0,356	0,2352	Valid
	MP3	0,278	0,2352	Valid
	MP4	0,560	0,2352	Valid
	MP5	0,436	0,2352	Valid

Based on Table 1, it is explained that all the items on the variable application of management accounting information are valid. The value of correlation coefficient is greater than the value of R table or greater than 0.05. Table 1 also illustrates that the items of the performance measurement system variable are valid. The value of the correlation coefficient is also greater than the value of R table or greater than 0.05. Similarly, the items on managerial performance variables are valid. As shown in Table 1, the value of the correlation coefficient is greater than the value of R table or greater than 0.05. Then, the reliability test in this study is shown in Table 2.

Table 2: Reliability Test Result

Variable	Cronbach Alpha Value	Cut off Value	Status
Management Accounting Information (X1)	0.839	> 0.60	Reliable
Performance Measurement System (X2)	0.725	> 0.60	Reliable
Managerial Performance (Y)	0.758	> 0.60	Reliable

Based on Table 2, it shows that the variable of management accounting information (X1) is reliable, with the Cronbach Alpha value of 0.839, which is greater than 0.60. Then, the performance measurement system variable (X2) also reliable, with the Cronbach Alpha value of 0.725 which is greater than 0.60, and the managerial performance variable (Y) shows reliable status, with the Cronbach Alpha value of 0.758 which is greater 0.60.

4.2 Classical Assumption Test

In this study, the classical assumption test uses normality test, multicollinearity test, and heteroscedasticity test. The normality test is carried out by the Kolmogorov and Smirnov Test and histogram. Table 3 shows the result of the Kolmogorov and Smirnov Test.

Table 3: Kolmogorov and Smirnov Test

		Unstandardized Residual	
N		70	
Normal Parameters ^{a, b}	Mean	0.0000000	
	Std. Deviation	0.89991228	
Most Extreme Differences	Absolute	0.125	
	Positive	0.125	
	Negative	- 0.104	
Kolmogorov - Smirnov Z		1.043	
Asymp. Sig. (2 - tailed)		0.227	

Based on Table 3, the data shows a normal distribution, this can be seen from the sig. value of 0.227 which is greater than 0.05. This is also supported by the histogram image as illustrated in Figure 1.

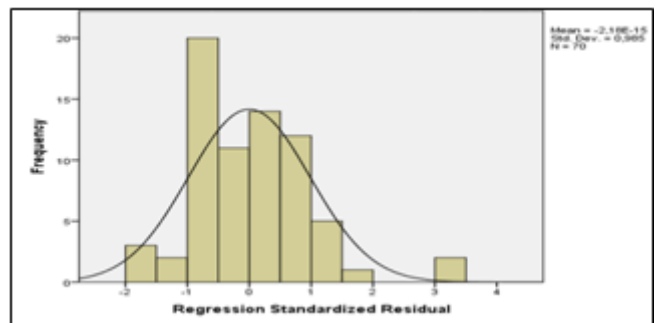


Figure 1: Histogram

Then, the result of multicollinearity test is shown in Table 4.

Table 4: Multicollinearity Test Result

Model	Collinearity Statistics	
	Tolerance	VIF
Management Accounting Information (X1)	0.821	1.218
Performance Measurement System (X2)	0.821	1.218

Based on Table 4 above, it shows that there is no issue of multicollinearity, this is verified by the Tolerance value of the management accounting information variable and the performance measurement system variable as much as 0.821 which is greater than 0.10, and the VIF value of 1.218 is smaller than 10. Furthermore, the heteroscedasticity test is carried out by Scatterplot as illustrated in Figure 2.

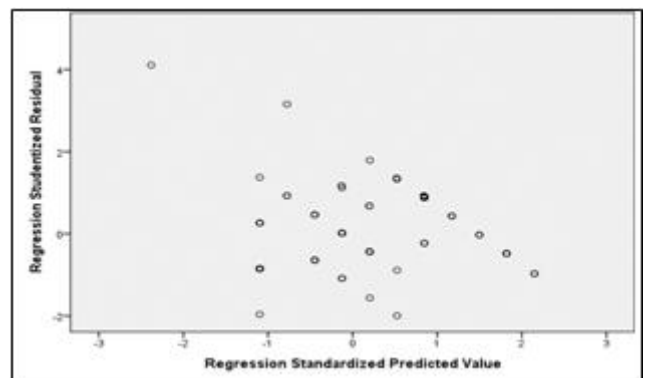


Figure 2: Scatterplot

Based on Figure 2, it can be seen that the points spread randomly up and down so that it can be concluded that the regression does not have heteroscedasticity issue.

4.3 Multiple Linear Regression

The multiple linear regression is used to test the hypothesis by determining the t test and the coefficient of determination (R^2). Table 5 shows the t test result.

Table 5: The t Test result

Model		t	Sig.
1	(Constant)	-1.603	0.114
	Management Accounting Information (X1)	7.413	0
	Performance Measurement System (X2)	4.729	0

Based on Table 5, X1 variable has the value of sig 0.00 < 0.05, this indicates that the application of management accounting information has a positive and significant effect on managerial performance. Thus, if the application of management accounting information is improved at the Public Works Service, managerial performance will also increase. To understand the state of the surrounding environment and identify activities, information is needed, the benefits of information are also useful for companies to control and monitor processes that have added value. Management really needs reliable information, namely information that has the characteristics of broad scope, timeliness, aggregation and integration. Therefore, the application of good management accounting information provides a good direction for management decision making.

Furthermore, X2 variable has the sig value 0.00 < 0.05 and indicating that the performance measurement system has a positive and significant effect on managerial performance. Hence, if the performance measurement system is improved at the Public Works Service, the managerial performance will also increase. The performance measurement system is useful for evaluating or assessing the extent to which the manager's performance in organizing the available resources both financial and non - financial in order to achieve company goals. The application of the manager's performance measurement system is also useful to find out what needs to be improved from the performance, so that in the future it is able to operate a better work.

The study also determines the coefficient of determination (R^2) from the regression as illustrated in Table 6

Table 6: Margin specifications

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin - Watson
1	0.813a	0.660	0.650	0.91325	1.599

Based on table 6, the R Square value is 0.660 or 66%, so it can be concluded that the relationship between managerial performance variables can be explained by the variable application of management accounting information and performance measurement systems by 66% while the remaining 34% can be influenced by other factors which not examined in the study.

5. Conclusion

The application of management accounting information has a positive and significant effect on managerial performance

at the Public Works Service. This means that the better the application of management accounting information applied to the Public Works Service, the better the managerial performance, this is evidenced by the application of management accounting information that has the characteristics of broad scope, timeliness, aggregation and integration.

Moreover, the performance measurement system has a positive and significant effect on managerial performance at the Public Works Department. This means that the better the performance measurement system, the better the managerial performance of the Public Works Department. This is evidenced by the condition of customer satisfaction in the form of services, carrying out responsibilities and efforts to improve the quality of performance.

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Author Profile



Hasbiana Dalimunthe is a lecturer at the Universitas Medan Area, Indonesia. She finished her B. S. degrees in 2001 and M. S. degrees in 2011. Her expertise is in accounting, auditing, and management accounting.