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INFLUENCE OF INFORMATION SYSTEM CHARACTERISTICS MANAGEMENT ACCOUNTING FOR PERFORMANCE MANAGERIAL AT PT. PLANTATION NUSANTARA III (PERSERO)

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ABSTRACT
Management Accounting Information System is a computer-based system designed to transform accounting data into information. Managerial performance is the ability or work achievement that has been achieved by personnel or a group of people in an organization, to carry out their functions, duties and responsibilities in carrying out company operations. This research is research conducted to test and analyze the influence of management accounting information system characteristics on managerial performance at PT. Perkebunan Nusantara III (Persero), with a sample of 32 respondents who were heads or representatives of each unit and section and used path analysis techniques using the PLS application. Based on the research results, it was concluded that Broadscope has no effect on Managerial Performance, Aggregation has no effect on Managerial Performance, Integration has no effect on Managerial Performance, and Timelines has no effect on Managerial Performance, and simultaneously Broadscope, Aggregation, Integration, and Timelines have no effect on Managerial Performance.
Keywords: Aggregation, Broadscope, Integration, Managerial Performance, Timelines.

INTRODUCTION

A company is required to continue to improve its performance, so that it can compete and survive challenges in the future. This can also be called managerial performance, namely a manager's control ability in utilizing the resources they have to identify problems, take advantage of opportunities and select and implement the adaptation process appropriately. An increase in the managerial performance of managers in an organization will improve organizational performance which will ultimately increase the organization's competitiveness.(Anindya, 2020). PT. Perkebunan Nusantara III (Persero) is a company operating in the plantation sector. Over the last three years, performance-related phenomena can be seen, including from company budget reports as in the following table:

Table 1. Target and Realized Profit at PT. Perkebunan Nusantara III (Persero) 2018-2022 (expressed in millions)

Year	Income	Profit Targets	Profit Realization	Difference	Information
2018	32,842,657	6,568,531	6,890,000	321,469	Optimal

2019	35,501,152	7,100,230	(3,716,589)	-10,816,819	Not Optimal
2020	39,390,437	7,878,087	(1,136,603)	-8,954,690	Not Optimal
2021	53,569,662	10,713,932	4,644,333	-6,069,599	Not Optimal
2022	56,210,340	11,242,068	5,413,200	-5,828,868	Not Optimal

Source: Annual Report, PTPN III

From the table above, it can be seen that in 2019 the difference in achieving PT Perkebunan Nusantara III's profit target was positive, meaning that in 2018 it had achieved the target and was considered optimal, but from 2019 to 2022 PT Perkebunan Nusantara III was in achieving the profit target set by management. namely 20% of revenue is considered not optimal, because in 2019 the difference between target and realized profit was -10,816,819, then in 2020 the difference from target and realized profit was -8,954,690, then in 2021 the difference from target and Realized profit is -6,069,599, then in 2022 the difference between target and realized profit will be -5,828,868. In the last 5 years, PT Perkebunan Nusantara III's financial performance in achieving profit targets has been considered not optimal.

LITERATURE REVIEW

Managerial Performance

Performance is the work result that can be achieved by a group of people in an organization, in accordance with their respective authority and responsibilities in order to achieve organizational goals. Another opinion suggests that managerial performance is the extent to which managers carry out management functions(Habibie, 2020). Managerial performance is the ability or work achievement that has been achieved by personnel or a group of people in an organization, to carry out their functions, duties and responsibilities in carrying out company operations. Another opinion says that managerial performance is the performance of individual members of an organization in managerial activities including planning, investigating, coordinating, staffing, negotiating, representing and overall performance.(Melia & Sari, 2019).

Management Accounting Information System

According to(Saipullah, 2017)The definition of an accounting information system is: "An accounting information system is a system that aims to collect and process data and report information relating to financial transactions". Processing the transaction in question can involve recording cash disbursement activities in a journal. Accounting information systems are also defined by(Syah & Alphi, 2014): "An accounting information system (AIS) is a computer-based system designed to transform accounting data into information. Based on the understanding of the experts above, it can be concluded that an accounting information system (AIS) is a system designed to carry out data processing activities and report information either manually or computerized regarding activities related to finance.

Characteristics of Management Accounting Information Systems

The characteristics of useful Management Accounting System information are broad scope, timelines, aggregation, integration.(Hayati & Yulistia, 2023):

Broad scope

Broad scopeis information that shows the dimensions of focus, time horizon, and quantification. In carrying out their duties, managers need information from a wide variety of sources (Robbins, 2015: 8). Because of this, management requires information that has broad scope characteristics, namely information that has broad and complete coverage (completeness), which usually includes economic aspects such as market share, gross domestic product (GDP), total sales, and non-economic aspects such as progress. technology, sociological changes (competitor actions, consumer tastes), and demographics.

Aggregation

Information is conveyed in a more concise form, but still includes important things so as not to reduce the value of the information itself. Properly aggregated information will provide useful input in the decision-making process, because less time is needed to evaluate it, thereby increasing management efficiency.

Integration

Information that reflects the complexity and interconnectedness between one part and another. Integrated information plays a coordinating role in controlling diverse decision making. The benefits of integrated information are felt to be important when managers are faced with a situation where they have to make decisions that will have an impact on other parts or units. Integrated information includes aspects such as target provisions or activities calculated from the interaction process of one sub-unit with other sub-units which will be reflected in integration information. The more segments there are in an organizational sub-unit, the more integrated information is needed.

Timelines

It is timeliness in obtaining information about an event. The timeliness dimension has two sub-dimensions, namely reporting frequency and reporting speed. Frequency relates to how often information is provided to managers, while speed relates to the time lag between the need for information and the availability of information. Timely information will help management in making decisions.

METHOD

This type of research used is the associative method. Associative research is research that aims to analyze the relationship between one variable and other variables or how one variable influences other variables.This research was conducted at PT. Perkebunan Nusantara III (Persero) from April 2023 to July 2023. The sampling technique uses a saturated sampling technique, the purpose of using this technique is to facilitate the research object considering limited resources and time. The data was analyzed using a quantitative approach using statistical analysis, namely the partial least squares-structural equestion model (PLSSEM) which aims to carry out path analysis with latent variables.

RESULTS AND DISCUSSION

Data analysis

The measurement model analysis (outer model) aims to evaluate the construct variables studied, the validity (accuracy) and reliability of a variable.

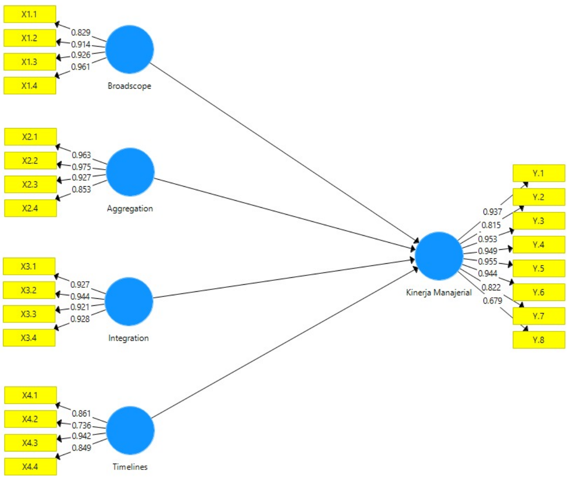

Figure 1. Outer Model

Source: Processed by SmartPLS (2024)

At this stage, it can be seen how much correlation there is between the indicators and their latent constructs, which will produce factor loadings. The factor loading value is said to meet the requirements for convergent validity for a construct if the component or indicator correlates > 0.70 with the construct to be measured. However, in some cases, the loading factor requirements above 0.70 are often not met. Therefore, a loading factor between 0.40 – 0.70 must still be considered to be maintained (Mahfud and Ratmono, 2013). At this stage, Y.8 does not meet the requirement > 0.70, so the conclusion is drawn:

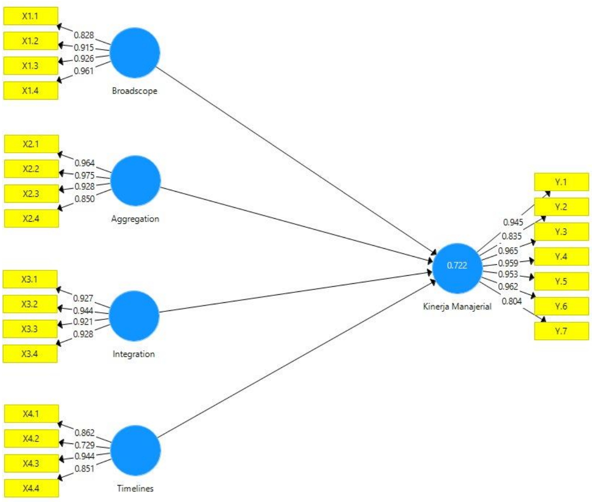

Figure 2. Outer Model (After One Indicator is removed)

Source: Processed by SmartPLS (2024)

After the Y.8 indicator was issued, the Outer Loadings results were obtained in Figure 4.2 above. Based on the picture, after the Y.8 indicator was deleted, the Outer Loadings value on the Y variable that met the criteria was only Y.1 - Y.7. So other indicators of variable Y that do not meet the criteria are excluded.

Validity Test

The validity test is used to see whether a questionnaire is valid or not. A questionnaire will be said to be valid if the questionnaire questions are able to prove what is measured by the questionnaire. Validity testing is applied to all question items on each variable. There are several stages of testing that will be carried out, including the following:

Convergent Validity (Convergent Validity)

Convergent validity is used to see the extent to which a measurement correlates positively with alternative measures of the same construct. To see whether an indicator of a construct variable is valid or not, look at the outer loading value. If the outer loading value is greater than (0.70) then an indicator is valid (Hair, Hult, Ringle, & Sarstedt, 2014). As can be seen in the table below, the data from the Convergent Validity and Discriminant Validity testing results.

Table 2. (Loading Factor Value)

Variable	Item Indicator	Validity		Average Variance Extracted(AVE)
		Outer Loading	Information	
Managerial Performance (Y)	Y.1	0.945	Valid	0.846
	Y.2	0.835	Valid	
	Y.3	0.965	Valid	
	Y.4	0.959	Valid	
	Y.5	0.953	Valid	
	Y.6	0.962	Valid	
	Y.7	0.804	Valid	
Broadscope (X1)	X1.1	0.828	Valid	0.826
	X1.2	0.915	Valid	
	X1.3	0.926	Valid	
	X1.4	0.961	Valid	
Aggregation (X2)	X2.1	0.964	Valid	0.866
	X2.2	0.975	Valid	
	X2.3	0.928	Valid	
	X2.4	0.850	Valid	
Integration (X3)	X3.1	0.927	Valid	0.865
	X3.2	0.944	Valid	
	X3.3	0.921	Valid	
	X3.4	0.928	Valid	

Variable	Item Indicator	Validity		Average Variance Extracted(AVE)
		Outer Loading	Information	
Timelines (X4)	X4.1	0.862	Valid	0.723
	X4.2	0.729	Valid	
	X4.3	0.944	Valid	
	X4.4	0.851	Valid	

Source: Processed by SmartPLS (2024)

The table above is known to see the validity of each item which is an indicator of the variable. If the outer loading value exceeds 0.70 then the item that is the indicator is considered capable of explaining the variable. Based on the table above, it can be seen that the loading factor value for each indicator is > 0.70, so it can be said that the indicators for each variable in this study are valid.

Discriminant Validity (Discriminant Validity)

Discriminant validity is a measurement model with reflexive indicators assessed based on cross-loading of measurements with constructs. If the correlation of the construct with the measurement items is greater than the size of other constructs, it shows that their block size is better than the other blocks. Meanwhile, according to another model to assess discriminant validity, namely by comparing the squareroot of average variance extracted (AVE) value. The following table below shows the results of the discriminant validity test based on the Fornell-Lacker approach, namely as follows:

Table 3. Fornell-Larcker Criterion

	Aggregation	Broadscope	Integration	Managerial Performance	Timelines
Aggregation	0.931				
Broadscope	0.947	0.909			
Integration	0.946	0.952	0.930		
Managerial Performance	0.840	0.825	0.834	0.920	
Timelines	0.928	0.937	0.947	0.812	0.850

The table above shows that the correlation value between the latent variable and the latent variable itself is greater than the correlation value between the latent variable and other latent variables. So it can be concluded that the Fornell-Larcker Criterion value meets the discriminant validity requirements.

Reliability Test

Reliability testing is carried out as a measuring tool to measure the concept of respondent consistency in answering each question item in the research instrument. Next, reliability testing was carried out based on composite reliability and Cronbach's alpha values.

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Table 4. Reliability Test Results

	Composite Reliability	Cronbach's Alpha	Results
Managerial Performance (Y)	0.974	0.969	Reliable
Broadscope (X1)	0.950	0.929	Reliable
Aggregation (X2)	0.963	0.948	Reliable
Integration (X3)	0.962	0.948	Reliable
Timelines (X4)	0.912	0.870	Reliable

Source: Processed by SmartPLS (2024)

The recommended composite reliability value is above 0.70. It is known that all composite reliability values for all variables are > 0.70. So, it can be concluded that it has met the reliability requirements based on composite reliability. Below, reliability testing is carried out based on Cronbach's alpha values. Cronbach's alpha value is recommended > 0.70. It is known that the Cronbach's alpha value is above > 0.70, which means it meets the reliability requirements based on the Cronbach's alpha value. So it can be concluded that the variables used in this research are declared reliable.

Structural Model Test (Inner Model)

After testing the outer model which has been fulfilled and meets the requirements, the next step will be testing the inner model. The inner model can be seen with R-Square for endogenous constructs and t-statistic values from path coefficient testing. R-Square is a test carried out to determine the correlation value between exogenous variables and endogenous variables. The higher the r-square value obtained means the better the prediction model of the research model being tested. Meanwhile, the path coefficient value shows a significant value in hypothesis testing.

Coefficient of Determination Test (R-Square)

The Coefficient of Determination (R Square) aims to evaluate the accuracy of predictions of a variable. In other words, to evaluate how variations in the value of the dependent variable are influenced by variations in the value of the independent variable in a path model. (Hair, Hult, Ringle, & Sarstedt, 2014; Garson, 2016). An R Square value of 0.75 indicates a strong PLS model, an R Square of 0.50 indicates a moderate PLS model and an R Square value of 0.25 indicates a weak PLS model (Ghozali, 2016). Based on data processing that has been carried out using SmartPLS software, the R-Square value has been obtained which can be seen in the following table below:

Table 5. R-Square results

	R-Square	R-Square Adjusted
Managerial Performance (Y)	0.722	0.680

Source: Processed by SmartPLS (2024)

It can be seen from the table above that the R-Square value of the Managerial Performance variable (Y) is 0.680, which means that the Broadscope (X1), Aggregation

(X2), Integration (X3), and Timelines (X4) variables are able to influence the Managerial Performance variable (Y) of 68.0%.

Hypothesis test

This test is to determine the path coefficients of the structural model. Hypothesis testing in this research can be seen from the direct influence. The image of the results of the direct influence hypothesis test can be seen in the following path coefficient image:

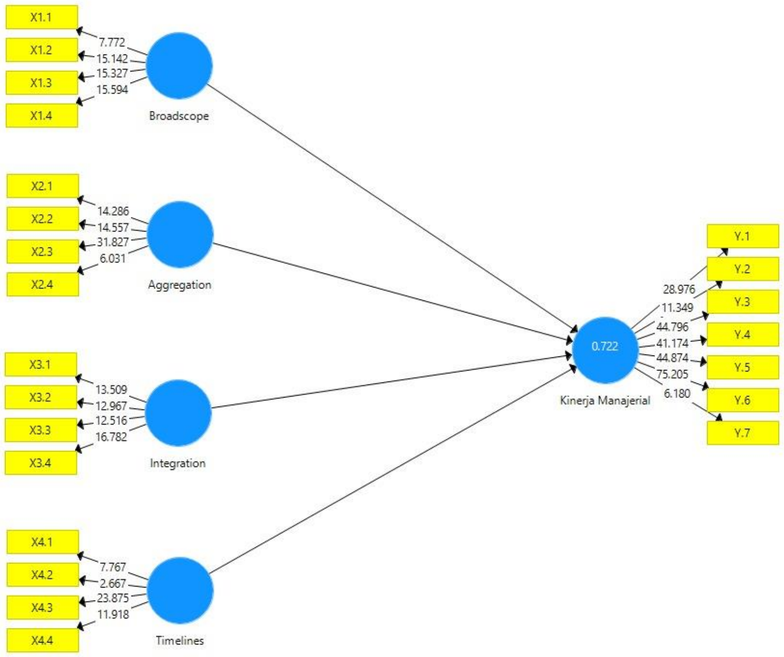

Figure 3. Path Coefficient
Source: Processed by SmartPLS (2024)

Testing the Direct Effect Hypothesis

The following are the results of testing the direct relationship hypothesis which can be seen in the following table:

Table 6. Results of Direct Effect Testing

	Original Sample (O)	**Samples Mean (M)**	**Standard Deviation (STDEV)**	**Q Statistics (|O/STDEV|)**	**P Values**
Broadscope (X1) → Managerial Performance (Y)	0.103	0.090	0.521	0.198	0.843
Aggregation (X2) → Managerial Performance (Y)	0.431	0.377	0.375	1,149	0.251

	Original Sample (O)	Samples Mean (M)	Standard Deviation (STDEV)	Q Statistics (|O/STDEV|)	P Values
Integration (X3) → Managerial Performance (Y)	0.284	0.343	0.396	0.717	0.474
Timelines (X4) → Managerial Performance (Y)	0.046	0.054	0.281	0.163	0.870

Source: Processed by SmartPLS (2024)

Based on the results of the data above, it can be obtained that the results of hypothesis testing with conclusions are as follows:

1. The influence of Broadscope (X1) on Managerial Performance (Y) has a path coefficient value of 0.103 with a probability value (p-values) = 0.843 > 0.05, which means it can be concluded that Broadscope (X1) has no significant effect on Managerial Performance (Y) in PT. Perkebunan Nusantara III (Persero).
2. The effect of Aggregation (X2) on Managerial Performance (Y) has a path coefficient value of 0.431 with a probability value (p-values) = 0.251 > 0.05, which means that it can be concluded that Aggregation (X2) has no significant effect on Managerial Performance (Y) in PT. Perkebunan Nusantara III (Persero).
3. The influence of Integration (X3) on Managerial Performance (Y) has a path coefficient value of 0.284 with a probability value (p-values) = 0.474 > 0.05, which means it can be concluded that Integration (X3) has no significant effect on Managerial Performance (Y) in PT. Perkebunan Nusantara III (Persero).
4. The influence of Timelines (X4) on Managerial Performance (Y) has a path coefficient value of 0.046 with a probability value (p-values) = 0.870 > 0.05, which means it can be concluded that Timeliness (X4) has no significant effect on Managerial Performance (Y) in PT. Perkebunan Nusantara III (Persero).

DISCUSSION

The results of this research are regarding the results of research on the suitability of theories, opinions and previous research that have been stated in the results of previous research. Therefore, it is necessary to change behavioral patterns to overcome this. In this case, it is known how the role of Broadscope (X1), Aggregation (X2), Integration (X3), Timeliness (X4) has on the influence of Managerial Performance (Y).

The Effect of Broadscope on Managerial Performance

From the results of the hypothesis testing analysis, it is known that Broadscope (X1) has no significant effect on Managerial Performance (Y) with a path coefficient value of 0.103 and a P-Values value of 0.843 > 0.05. Meanwhile, the T-Statistics value is 0.198. Thus tcount is smaller than ttable (0.198 < 1.69). This means that Broadscope (X1) has no significant effect on Managerial Performance (Y) at PT Perkebunan Nusantara III (Persero). Broadscope characteristics have three sub dimensions, namely: focus, quantification, and time. Focus relates to information originating from within or outside the organization, quantification relates to financial and non-financial information, and time relates to estimates of events that will occur in the future. In organizations with a decentralized structure, managers need Broadscope information as one of the implications of increasing their authority and responsibility as well as their function as controllers (Harisiadi 2002). Information is needed in decision making. Management requires adequate information for decision making. Broadscope characteristics provide information about external and internal company factors, economic and non-economic information, estimates of future events. Broadscope information can reduce uncertainty by providing a combination of financial and non-financial information that is needed and is able to help managers produce more effective policies so that the results are expected to improve Managerial Performance. This research is in line with research conducted by(Soegiarto, 2020),(Contest, 2021)And(Hasanah, 2015)which states that Broadscope has no effect on Managerial Performance. This is because the Managerial Performance that occurs in the company is not caused by the timeliness of information between related units and is also not caused by the focus of the company's financial information.

The Effect of Aggregation on Managerial Performance

From the results of the hypothesis testing analysis, it is known that Aggregation (X2) has no significant effect on Managerial Performance (Y) with a path coefficient value of 0.431 and a P-Values value of 0.251 > 0.05. Meanwhile, the T-Statistics value is 1.149. Thus tcount is smaller than ttable (1.149 < 1.69). This means that Aggregation (X2) has no significant effect on Managerial Performance (Y) at PT Perkebunan Nusantara III (Persero). Aggregation or collection characteristics are a summary of information according to function, time period, and decision model. Information by function will provide information related to the results of decisions from other units. This must be consistent with the formal decision model used by the organization, this information can reduce or save time in decision making because the information has been collected and organized according to different functions and time periods (Kirmizi 2001). With clear information regarding each manager's functional area of responsibility, conflict will be reduced (Chenhall and Morris 1986). This information is also useful as input in evaluating manager performance. Aggregation information is needed in companies, because it can prevent the possibility of information overload. Information that can be appropriately aggregated will provide the input needed to evaluate less information than information that is not aggregated. This research is in line with research conducted by(Soegiarto, 2020),(Contest, 2021)And(Irawati & Ardianshah, 2018)which states that Aggregation has no effect on Managerial Performance. This is because the Managerial Performance that occurs in the company is not caused by information relating to the decisions of each unit and information on the decisions of each manager in each unit.

The Effect of Integration on Managerial Performance

From the results of the hypothesis testing analysis, it is known that Integration (X3) has no significant effect on Managerial Performance (Y) with a path coefficient value of 0.284 and a P-Values value of 0.474 > 0.05. Meanwhile, the T-Statistics value is 0.717. Thus tcount is smaller than ttable (0.717 < 1.69). This means that Integration (X3) has no significant effect on Managerial Performance (Y) at PT Perkebunan Nusantara III (Persero). Integration or integrated characteristics provide a means of coordination between segments within sub-units or between sub-units within the organization. The complexity and interdependence between subunits will be demonstrated in integrated information from SIAM (Chenhall and Morris 1986). The greater the number of segments and business units in the organization, the greater the need for information on the integration characteristics of SIAM. In other words, integrated information provides a coordinating role in various decisions in highly decentralized organizations. Integrated information is also seen as a moral generator for business unit managers and indicates that this information contributes to improving performance (Chia 1995). Information that is combined with each other (Integration) reflects the coordination between one sub-unit segment and another. Integrated information is more needed in decision making in organizations with increasingly high levels of complexity and interdependence between sub-units. The characteristics of management accounting information that influence decision making can be seen in the explanation above. If the characteristics of management accounting information are adequate, then managerial performance will increase, but if the characteristics of management accounting information are inadequate, then managerial performance will also decrease. This research is in line with research(Alberian & Purbananda, 2021),(Irawati & Ardianshah, 2018)And(Hasanah, 2015), which was carried out by those who stated that Integration had no effect on Managerial Performance. This is because the Managerial Performance that occurs in the company is not caused by limited information for each unit and is also not caused by limited access to the accounting information system.

The Effect of Timelines on Managerial Performance

From the results of the hypothesis testing analysis, it is known that Timelines (X4) has no significant effect on Managerial Performance (Y) with a path coefficient value of 0.046 and a P-Values value of 0.870 > 0.05. Meanwhile, the T-Statistics value is 0.163. Thus tcount is smaller than ttable (0.163 < 1.69). This means that Timelines (X4) has no significant effect on Managerial Performance (Y) at PT Perkebunan Nusantara III (Persero). Timeliness or accuracy characteristics have two sub-dimensions, namely reporting frequency and reporting speed. Frequency relates to how often information is provided to managers. Meanwhile, speed is related to the time lag between the need for information and the availability of information. Information is presented in a timely manner (Timeliness), meaning that the information is available to be used as consideration in decision making before the information loses its ability to influence decisions. With timely information, you can provide fast feedback on decisions made. This research is in line with research conducted by(Contest, 2021),(Alberian & Purbananda, 2021)And(Wiarti, 2022)which states that Timelines have no effect on Managerial Performance. This is because the Managerial Performance that occurs in the company is not caused by the current and future information that the company has and is not caused by not updating the information data for each unit.

The Influence of Management Accounting Information System Characteristics on Managerial Performance

In making decisions, management needs quality information to produce decisions that can help the company achieve its goals. Adequate information has characteristics that describe its quality. The characteristics of the information produced by the management accounting system in the form of Broadscope, Aggregation, Integration and Timeliness are able to improve Managerial Performance. Managers who have management accounting information are generally able to make better plans and achieve predetermined targets. A management accounting information system is needed to improve the quality of information that is useful for management in making decisions. The information produced can be in the form of financial or non-financial data, namely other information related to the performance and results achieved by the company. This is where the characteristics of Broadscope, Aggregation, Integration, and Timeliness are needed to help managers make better decisions. Managers who obtain information with these characteristics are able to produce better planning and target achievement.

CONCLUSION

The test results found that all the characteristics of the management accounting information system, namely broad scope, aggregation, integration, and timeliness, had a negative and significant effect. This means that at PT Humbahas Bumi Energi all indicators have an impact on decreasing managerial performance, this of course must be a concern of management. In general, all the characteristics of this information system will have a positive impact on management performance, but because the sample used is also only 10 samples, it is possible that the results of this test will have an impact that can reduce managerial performance. This result cannot be generalized because it is only specific to PT. Discuss Earth Energy. Thus it is suggested to PT. Humbahas Bumi Energi (HBE) Medan to improve the quality of information which includes broad scope, aggregation, integration and timeliness in order to improve manager performance. For future researchers, they can add samples and not just focus on one company.

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