

Implementation of Accounting Information Systems, Management Information Systems and Performance Measurement Systems on Managerial Performance at Pt. Indonesia Nippon Steel Pipe

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Abstract

This study aims to determine the implementation of accounting information systems, management information systems, and performance measurement systems on managerial performance. The research population is the employees of PT. Indonesia Nippon Steel Pipe Karawang, West Java. Sampling using purposive sampling method. Based on these criteria, 100 employees were selected as samples in this study. The data analysis method uses the data analysis method using the Structural Equation Model (SEM) Partial Least Square (PLS) with Smart PLS Version 3 software. The test results show that the implementation of accounting information systems has an influence on managerial performance. The implementation of the performance measurement system has an influence on managerial performance.

Keywords: Accounting information systems, management information systems, performance measurement systems, managerial performance.

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INTRODUCTION

Global economic changes require every company to increase the effectiveness of its company operations to face increasingly fierce competition. The existence of this competition requires every manager to be able to motivate and make employees work well and maximally, in order to survive and develop in utilizing existing knowledge competencies, because poor managerial performance will cause negative responses from employees, such as Garuda employees who take action. The strike because of the inconvenience felt by the employees, one of which was the failure of the marketing and IT director in the sales strategy. That is, managerial performance has an important role in the running of a company.

According to Agung Sri Wahyudi (2015), a reliable manager is a manager who has the ability to see and use opportunities, identify problems, and select and implement the adaptation process to the current situation in the company so that they can make the right decisions. The success of an organization in achieving goals largely depends on the performance of managers

(Rante *et al.*, 2015). The development of a company to achieve its goals can be observed in the quality of managerial performance within the company (Fuadah *et al.*, 2020). A good manager in carrying out his duties and functions will pay attention to various important aspects in his decision making, including planning and mastering information systems and being able to predict environmental factors. The definition of an Accounting Information System according to Susanto, Azhar (2017: 80), is: "An accounting information system can be defined as a collection (integration) of sub-systems/components both physical and non-physical that are interconnected and work together harmoniously with each other to processing transaction data related to financial matters into financial information."

In addition to accounting information systems, Davis (2010:3) argues that in order to support the functions of operations, management and decision making in an organization, an integrated system is needed, namely a management information system. Moekijat (2009:17) argues that the management information system is a network of data processing procedures by an organization and put together if

deemed necessary with the intention of providing internal data and external data for the basis of decision making in order to achieve organizational goals.

Then an accounting study said that the company's low performance was not only caused by the company's management accounting information system that failed in determining the right advice, but also could be influenced by the company's performance measurement system (Sigilipu, 2013). The performance measurement system is a mechanism to periodically improve the effectiveness of employees in carrying out business operations against predetermined standards for the successful implementation of business strategies and improve decision making (Kumentas, 2013).

This research will be conducted at a steel automotive industry manufacturing company, namely PT. Indonesia Nippon Steel Pipe which is located in the Indotaisei Industrial Estate, Karawang. PT. Indonesia Nippon Steel Pipe is a steel pipe manufacturing company from the Nippon Steel Group which is located in Indonesia and is ISO 9001 certified.

LITERATURE REVIEW AND HYPOTHESES

Stakeholder Theory

The theory which states that all stakeholders have the right to obtain information about the company's activities that can influence their decision making. Stakeholders can also choose not to use the information and cannot play a direct role in a company and explain that the development of the stakeholder concept is divided into three namely corporate planning models, business policies and corporate social responsibility (Roberts (1992).

Contingency Theory

Fisher (1998) argues that contingency theory is dependent on the organizational context in which the controls are implemented. Meanwhile, Otley (1991) argues that accounting and management theory is an attempt to identify the most appropriate accounting-based control system for all conditions. In accounting principles and management will always try to adopt the system to be more useful in certain conditions. Therefore, efforts to identify the most important contingent variables and predict their effects on the control system design are needed. A better relationship between the control system and contingent variables is expected to increase organizational performance.

Agency Theory

Agency theory (Agency Theory) is a theory that explains the relationship between the agent (the party who manages the company) and the principal (the owner of the company) who are bound in an employment contract by mutual decision. In this case, the principal is the party who gives orders to the agent and evaluates all information about the company, while the agent is the party who runs the company's

management and decision maker. Jensen and Meckling in Herlia (2010) state that agency theory is the relationship between the employer (principal) and task recipient (agent) to carry out work.

Managerial Performance

According to Rafnida, Kirmizi, and Rofika (2011) managerial performance will be assessed after the management accounting information system can be applied in the company. Managerial performance is achieved when the company as a whole, or the managers of business units together have achieved the goals that have been set. According to Ulber Silalahi (2011:40), the dimensions of managerial performance consist of:

1. Planning, aims to provide guidelines and procedures for the implementation of objectives, policies, budgeting, and work programs so that they are carried out in accordance with the targets that have been set.
2. Investigation, the ability to collect and prepare information for records, reports and accounts, measure results, determine inventory, and job analysis.
3. Coordination, the ability to exchange information with people in other parts of the organization
4. Evaluation, the ability to assess and measure proposals, observed or reported performance which includes various assessments.
5. Supervision, the ability to provide direction, guide, train, lead and develop subordinates and explain the rules to subordinates, explain work objectives and handle employee complaints.
6. Staff selection, the ability to retain the existing workforce on your part, recruit employees, interview them, select new employees, place in appropriate positions, promote and transfer employees.
7. Negotiation, the ability to buy, sell or enter into contracts for goods and services, contact suppliers, and bargain with sellers, as well as bargain in groups.
8. Representative, ability to attend meetings with other companies, meetings with business associations, representatives from organizations, speeches for community events, approach to the community, as well as the ability to promote the main goals of the company.

Accounting Information System

An accounting information system is a collection of resources, such as people and equipment, designed to convert financial data into information. An accounting information system is a collection of various other resources into useful information for its users. This information is communicated to decision makers (Bodnar and Hopwood, 2010: 3). Users of accounting information can be grouped into two major groups, namely external and internal. External users include shareholders, investors, creditors, governments. Meanwhile, internal users consist of managers (Bodnar and Hopwood, 2010:4).

There are four objectives of the accounting information system according to Mulyadi (2016: 5), including providing information for the management of business activities, improving information generated by existing systems, improving accounting controls and internal checking, and reducing clerical costs in maintaining accounting records. The elements in the accounting information system are forms, journals, ledgers, subsidiary books and financial reports.

According to Widjajanto (2001:25) good quality of information is supported by several indicators that need to be taken into account, namely:

1. Relevant
2. Timely presentation
3. Equipment
4. Concise
5. Integration

According to Hansen and Mowen (2013: 5) accounting information can help managers identify a problem, solve problems, and evaluate performance to improve managerial performance.

H1: Implementation of Accounting Information Systems has an effect on Managerial Performance

Management Information System

According to Sutabri (2005: 90) a management information system is a structured human system or technology in generating data in the form of information, so that it can be used as a decision-making material for an organization. According to McLeod (2008: 12) that the management information system (MIS) is computerized to produce an information for those in need.

The management information system consists of five main components, namely people, business processes, data, hardware, and software. All of these components must work together to achieve business goals. Humans are users who use information systems to record daily business transactions; while business practices are agreed best practices that guide users and all other components on how to work efficiently; what is meant by data is daily business transaction records; hardware consists of computers, printers, network devices, etc.; while the software is divided into system software which refers to operating systems such as Windows and application software which refers to such as payroll programs and banking systems.

Management information systems are very important to be used by top-level managers to capture conditions that are not conducive in the company and activities that are not effective and efficient in order to support managerial performance (Yusuf *et al.*, 2018).

H2: Implementation of Management Information System has an effect on Managerial Performance

Performance Measurement System

Moehariono (2014: 96) explains that the performance measurement system is a process of assessing the progress of work against goals and objectives in human resource management to produce goods and services, including information on efficiency and effectiveness of actions in achieving organizational goals. According to Amins (2012: 97) the performance measurement system is the result of a systematic assessment based on a group of performance indicators in the form of inputs, outputs, results, benefits and impacts that are used in assessing the success and failure of implementing activities in accordance with the goals and objectives that have been set.

According to Moehariono (2012:108) there are 5 (five) kinds of performance measurement system indicators that are generally used, namely:

- a) Input Performance Indicators are indicators needed so that the implementation of activities can produce specified outputs, for example funds, human resources, information, etc.
- b) Output Performance Indicators, namely something that is expected to be directly achieved from an activity which can be either physical or non-physical.
- c) Outcome Performance Indicators, everything that reflects the functioning of the outputs of activities in the medium term (direct effects).
- d) Benefit Performance Indicators, something related to the ultimate goal of implementing activities.
- e) Performance Indicator Impact, is the influence that is caused both positive and negative at each level of the indicator based on the assumptions that have been set.

Performance measurement is carried out to emphasize unwanted behavior, through feedback that is both intrinsic and extrinsic (Sigilipu, 2013). So that it can direct employees to achieve organizational goals and meet predetermined standards of behavior, in order to produce better managerial performance.

H3: Implementation of Performance Measurement System has an effect on Managerial Performance

METHOD

Research Strategy

The strategy used in this research is Path analysis research strategy. Path analysis is an analytical technique used to analyze the inherent causal relationship between variables arranged in a temporary order using path coefficients as the value in determining the magnitude of the effect of exogenous independent variables on endogenous dependent variables (Sarwono, 2011).

The method used to support the strategy in this research is an associative survey method with a quantitative descriptive approach. Collecting data and analyzing data by seeking opinions from the subjects

studied by using a questionnaire to determine the influence between the variables studied. The quantitative research method itself is a research method based on the philosophy of positivism, where this research method is used to examine certain populations or samples, data collection using research instruments, data analysis is quantitative (statistical), with the aim of

testing predetermined hypotheses (Sugiyono, 2010). 2017: 24).

Population and Sample

The population in this study are all employees of PT. Nippon Steel Pipes. The following is data on the number of employees who filled out the questionnaire in this study:

Table 1: Research Population

No	desc	Education	Length of Work	Numb of Employees
1	FA & Purchasing Dep.	Bachelor	2-7 years	6 people
2	Production Dep.	High school - bachelor	3-10 years	115 people
3	HRGA & IT Dep.	Elementary school - undergraduate	2-10 years	13 people
Total				134 people

In this study, researchers used a non-probability sampling technique using purposive sampling. Purposive Sampling is a sampling technique with certain considerations (Sugiyono, 2017: 85). The reason for selecting the sample using purposive sampling is because not all samples have the criteria that have been determined by the researcher. Therefore, the researcher has determined the sample that was chosen deliberately to get a representative sample. The criteria used in this study are

1. Age more than 17 years, because with an adult age, respondents are expected to be able to make an objective assessment.
2. Employees of PT Nippon Steel Pipe Karawang Regency. In determining the sample size according to the provisions of Gay and Diehl (1996) in Chandrarin (2017: 130), that for descriptive research, a minimum sample of 5% of the population is taken, and approximately 100 respondents are obtained.

Data Collection

The primary data collection method used in this study was a questionnaire. In this study, the questions in the questionnaire were arranged according to the order of the variables in accordance with the indicators, the aim was that the questions in the questionnaire did not deviate from the research objectives. The data collected in this study came from questionnaires with ordinal data measurements. Measurement of ordinal data (ordinal scale) will show data according to a certain order or sequence (Ferdinand, 2015:261). While the type of ordinal scale used is the semantic scale, which is a response to a stimulus that is presented in the form of a semantic category, which states a certain level of nature or information.

This research instrument is measured by a Likert scale, which is a scale used to measure attitudes, opinions, and perceptions of a person or group of people in certain events. In the Likert scale there is a score or weight for the answers provided as listed in the table below:

Table 2: Weights of Likert Scale Values

No.	Alternative Answer	Value Weight
1	Strongly Agree (SS)	5
2	Agree (S)	4
3	Disagree (KS)	3
4	Disagree (TS)	2
5	Strongly Disagree (STS)	1

Data Analysis

The research in conducting this research used partial linear analysis (Partial Least Square/PLS) to test the research hypothesis. The hypothesis will be analyzed using WarpPLS version 7.0 software to test the relationship between variables that will be carried out by the computer. In quantitative research, one of them can use the Partial Least Square (PLS) method. PLS is an alternative approach that shifts from a covariance-based SEM approach to a variant-based approach (Ghozali, 2018). The purpose of Partial Least

Square (PLS) is to assist a research for prediction purposes. Weight estimate to create a component score of a latent variable based on the inner model (structural model that connects latent variables) and outer model (measurement model of the relationship between indicators and their constructs). The result is the residual variance of the dependent variable.

The data collected is presented in tabular form to make it easier to analyze and understand the data so that the data presented is more systematic. Where is the tabulation done?

There is a series of data analysis consisting of descriptive data analysis, outer model analysis, inner model analysis, and hypothesis testing.

- i. Descriptive data analysis is a descriptive technique that provides information about the data held and does not intend to test hypotheses. In this study, the average, minimum, maximum, and standard deviation of each variable will be determined.
- ii. Outer model analysis, in which the test carried out is convergent validity with the principle that the measurements of a construct should be highly correlated; discriminatory validity to find out whether the construct has sufficient discriminant; and reliability test.
- iii. The Inner Model describes the relationship between latent variables based on substantive theory. The structural model was evaluated using R-square for the dependent construct, Stone-GeisserQ-square test for predictive relevance and t-test and significance of the coefficients of structural path parameters.

- iv. Hypothesis testing is used to explain the direction of the relationship between endogenous variables and exogenous variables. Hypothesis testing is done by looking at the probability value and its t-statistics. For the probability value, the p-value with 5% alpha is <0.05. The t-Table value for 5% alpha is 1.96. So the criteria for accepting the hypothesis are when t-statistics > t-Table (Ghozali, 2018:95).

RESULT AND DISCUSSION

Respondents consisting of 100 people, where all respondents are employees of the company used as a tool to analyze and provide an overview related to the indicators in this study. The related variables are accounting information system, management information system and performance measurement system. The results of data processing for each variable are:

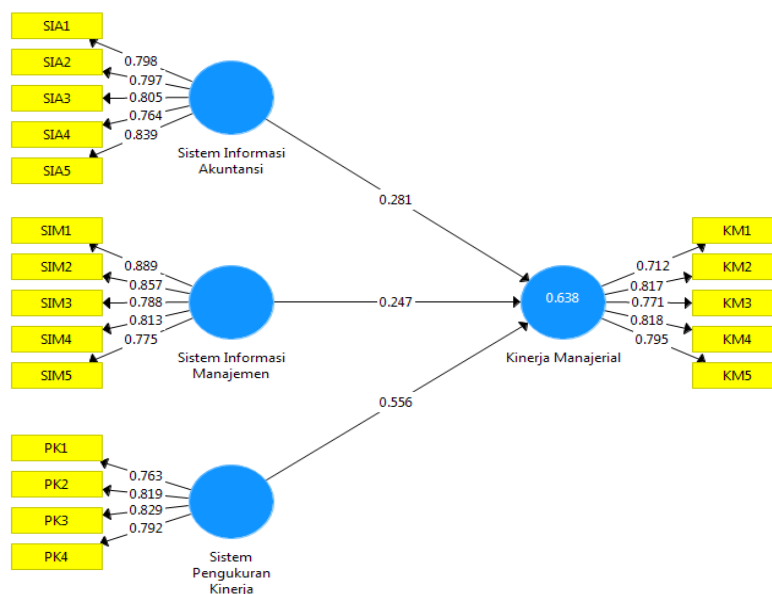
Table 3: Measurement Results of Accounting Information System Variables

Respondent's Opinion	Score	Numb of Respondents Answer	Total Score	Percentage
Strongly Agree (SS)	5	120	600	32.14%
Agree (S)	4	191	764	40.92%
Disagree (KS)	3	134	402	21.53%
Disagree (TS)	2	46	92	4.93%
Strongly Disagree (STS)	1	9	9	0.48%
Total		500	1867	100%

The table above shows that the accounting information variable consists of 5 statements about relevant, timely, complete, concise and integrated with a score of 1 to 5. The measurement results show that 32.14% strongly agree, 40.92% agree, 21.53% disagree, 4.93% disagreed, and 0.48% strongly disagreed.

Validity Test

Convergent Validity Testing of each construct indicator according to Chin in Ghozali and Latan (2015), an indicator is said to be valid if its value is greater than 0.5.



Based on Figure 4.5, all indicators have outer loading >0.5 . An indicator is said to be valid if its value

is greater than 0.5, while if there is an outer loading below 0.5, it will be removed from the model.

Reliability Test

Table 4: Composite Reliability Test Results

Variabel	Composite Reliability	Description
Accounting information system	0.899	Reliable
Management information System	0.914	Reliable
Performance Measurement System	0.877	Reliable
Managerial Performance	0.888	Reliable

Source: Questionnaire Test Results with SmartPLS version 3.0, 2022

Based on the table, it can be seen that all variables in this research model are reliable because composite reliability > 0.7 .

Table 5: Cronbach's Alpha Test Results

Variabel	Cronbach's Alpha	Desc
Accounting information system	0.862	Reliable
Management information System	0.883	Reliable
Performance Measurement System	0.815	Reliable
Managerial Performance	0.842	Reliable

Based on Table 4.9 above, it can be seen that all variables in this research model are reliable because Cronbach's alpha > 0.7 (Ghozali and Latan, 2015).

Hypothesis Testing

The stages of testing the structural model (hypothesis testing) are carried out with the following steps:

Table 6: Testing the Partial Effect Hypothesis

	Estimate	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Accounting Information System -> Managerial Performance	0.281	0.269	0.085	3.303	0.001
Management Information System -> Managerial Performance	0.247	0.250	0.109	2.277	0.023
Performance Measurement System -> Managerial Performance	0.556	0.561	0.077	7.270	0.000

- Hypothesis 1 Accounting Information System on Managerial Performance. The Accounting Information System has a t-statistic value of 3.303 > 1.96 , p-value 0.001 < 0.05 and original sample (estimate) 0.281, so H1 is accepted, meaning that the Accounting Information System has a positive and significant effect on managerial performance.
- Hypothesis 2 Management Information Systems on Managerial Performance Management Information System has a t-statistic value of 2.277 > 1.96 , p-value 0.023 < 0.05 and original sample (estimate) 0.247, so H2 is accepted, meaning that Management Information System has a positive and significant effect on Managerial Performance.
- Hypothesis 3 Performance Measurement System on Managerial Performance. The Performance Measurement System has a t-statistic value of 7.270 > 1.96 , p-value 0.000 < 0.05 and original sample (estimate) 0.556, so H3 is accepted, meaning that the Performance Measurement

System has a positive and significant effect on managerial performance.

The Effect of Accounting Information Systems on Managerial Performance

Based on the calculation results, the t-statistical value is 3.303 which means > 1.96 and the value of sig. 0.001 below 0.05 then H1 is accepted, which means that the Accounting Information System has a positive and significant influence on Managerial Performance, meaning that changes in the value of the Accounting Information System have a direct effect on changes in Managerial Performance or in other words if the Accounting Information System increases there will be an increase in the level of Performance Managerial and statistically have a significant influence. Based on the results of data processing with SmartPLS version 3.0, it is known that the path coefficient value of the Accounting Information System on Managerial Performance is 0.281, which means that the Accounting

Information System has a positive relationship to Managerial Performance.

The Effect of Management Information Systems on Managerial Performance

Based on the calculation results, the t-statistical value is 2.277 which means > 1.96 and the value of sig. 0.023 below 0.05 then H2 is accepted, which means that the Management Information System has a positive and significant influence on Managerial Performance, meaning that if the Management Information System increases, there will be an increase in the level of Managerial Performance and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the path coefficient value of the Management Information System on Managerial Performance is 0.247, which means that the Management Information System has a positive relationship to Managerial Performance.

The Effect of Management Information Systems on Managerial Performance

Based on the calculation results, the t-statistic value is 7.270 which means > 1.96 and the value of sig. 0.000 below 0.05 then H3 is accepted, which means that the Performance Measurement System has a positive and significant effect on Managerial Performance, meaning that changes in the value of the Performance Measurement System have a direct effect on changes in Managerial Performance or in other words if the Performance Measurement System increases there will be an increase in the level of Performance Managerial and statistically have a significant influence. Based on the results of data processing with SmartPLS version 3.0, it is known that the path coefficient value of the Performance Measurement System on Managerial Performance is 0.556, which means that the Performance Measurement System has a positive relationship to Managerial Performance.

CONCLUSIONS AND SUGGESTIONS

Based on the results of statistical tests of 100 respondents' data, the following conclusions were obtained:

1. Implementation of Accounting Information Systems has an influence on Managerial Performance at PT. Indonesia Nippon Steel Pipe. This means that the Accounting Information System at PT. Indonesia Nippon Steel Pipe has been effective and in accordance with the needs of the organization so as to improve managerial performance.
2. Implementation of Management Information Systems has an influence on Managerial Performance at PT. Indonesia Nippon Steel Pipe. This means that the better the implementation of the Management Information System, the better the Managerial Performance. Management Information System is a system that has a function as a forum

for planning targets to be achieved by the company in the future, compiling activities, practicing and supervising activities from the planned implementation to stay on track. If the goals and objectives of the organization have been achieved, it will improve the performance of the manager himself.

3. Implementation of the Performance Measurement System has an influence on Managerial Performance at PT. Indonesia Nippon Steel Pipe. Performance Measurement System is the process of recording and measuring the achievement of the implementation of activities in the direction of achieving the mission through the results displayed usually in the form of products, services, or processes. The better the Performance Measurement System, the higher the Managerial Performance.

This research has been carried out to the fullest by the researcher and the researcher realizes that there are still many limitations after doing this research, while the suggestions that the author can give include:

1. For PT. Nippon Steel Pipe should pay more attention and consider designing an accounting information system that is needed by the company in accordance with business strategies that can improve managerial performance, especially on timeliness and aggregation.
2. For further researchers, all companies that have implemented accounting information systems can be used to get a more complete and accurate picture.
3. For further research, it is better to increase the number of respondents studied so as to produce better research.
4. For further research, it is better to add the variables studied so as to produce better research.

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