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MANAGEMENT ACCOUNTING INFORMATION SYSTEMS ON THE EFFECTIVENESS OF MANAGERIAL DECISION-MAKING

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ABSTRACT

This research aims to test and analyze the influence of the Management Accounting Information System on the Effectiveness of Managerial Decision Making at BAPPEDA Medan City directly and indirectly. The approach used in this research is an associative approach. The population in this study was all BAPPEDA Medan City employees, totaling 56 people. The sample in this study used saturated sampling, totaling 56 people at PT Perkebunan Nusantara IV Medan. Data collection techniques in this research used observation techniques and questionnaires. The data analysis technique in this research uses a quantitative approach using statistical analysis using Outer Model Analysis, Inner Model Analysis and Hypothesis Testing. Data processing in this research uses the PLS (Partial Least Square) software program. The results of this research prove that the Management Accounting Information System significantly affects the Effectiveness of Managerial Decision Making at BAPPEDA Medan City.

Keywords: Effectiveness of Managerial Decision Making, Management Accounting Information Systems.

INTRODUCTION

In running a company, leaders must make several policies or decisions related to the management of their resources. In leadership, one of the most important functions is decision-making. Leaders must consider the best policy alternatives among the various alternative decisions available. This means that the decision taken is an alternative that results in maximum profit or minimal loss. To make the right decision, decision making, namely management must carry out various types of information as a basis for consideration according to the type of decision to be made or taken. Therefore, management is able to make accurate and up-to-date decisions. According to (Adzim, 2017), decision-making is a thought process in the context of solving a problem to obtain the final result to be implemented. Decision-making is also used as a determination of a series of activities to achieve the desired results ". Management is important in relation to the task of decision-making. The essence of decision-making is to systematically carry out a problem, collect facts and data, determine which alternatives come from the alternatives faced, and take action where the action chosen according to the calculation is the most appropriate, so clear information is needed on the decision taken. With clear information, it is possible for decisions to be made properly. The use of information systems in the field of accounting is a process of combining various components, both in physical form (hardware) and non-physical (software), that are interconnected and integrated harmoniously. This will assist users in recording and processing both financial and non-financial transactions, which in turn produce information used by management as a basis for decision-making (Hery, 2015). An information system is a formal set of procedures by which data is collected, processed into information, and distributed to users. The criteria for information systems

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include being flexible, effective, and efficient (Bodnar et al., 2013). With the information system, the accountant's work will be made easier, and the information generated can be completed on time. An organization's information technology is used to improve the performance of individuals who are expected to improve organizational performance. The value of information is related to decisions. The value of information is described as most meaningful in the context of a decision. If there is no decision, then information is not needed (Lubis & Syafira, 2021). Information is useful data that is processed so that it can be presented as a basis for making the right decisions by company or organization leaders. The source of information is data, and data is a reality that describes a real event and entity. Decisions can range from simple iterative decisions to long-term strategic decisions (Bodnar et al., 2013).

To be able to determine and make decisions on what steps the company takes to achieve company goals, of course, the company must have an accurate, timely, and reliable source of information for decision-makers. As we know, in society, there are various types of organizations that are interrelated in different activities with different goals. Some want to make a profit, such as trading companies, industries, services, financial institutions, etc., and some organizations need to be oriented to earn profits, such as social services, political organizations, licensing departments, and others. All types of organizations must record and report all their activities needed for decision-making (Hanum, 2015). Quality accounting information is useful for helping information users make useful decisions (Hani, 2015). Such quality information is obtained at the right time for decision-making, where the result is a more informed decision, a more appropriate allocation of resources, and a better response time so as to reduce costs and generate profits (Laudon & Laudon, 2012). Conversely, unqualified accounting information can result in decisions made by users that are not qualified so that they can cause losses (Irti et al., 2021). To calculate operational costs, companies use accounting information systems as a medium to generate information so that managers engaged in management levels can make decisions, for example, how much food money for each worker, how much telecommunications money, coordination costs, installation costs, maintenance costs and others (Hery, 2015) In addition, with AIS the company can find out whether a project is said to be profitable or loss-making so that managers or decision makers are right and in accordance with project conditions (Lubis & Syafira, 2021).

The quality of the accounting information system can be seen from the relationship between users and information system staff and the quality of information provided by a quality accounting information system (Nainggolan, 2015). With the implementation of a nationally integrated SPBE (Electronic Government System), based government realized Good Governance and produced accurate and integrated Indonesian data from the region to the center. So, the issuance of Permendagri No. 77 of 2020 automatically replaces the previous Permendagri Permendagri No. 13 of 2006 concerning Regional Financial Management Guidelines. So on this basis, all SKPD (Regional et al.) of Medan City, including the Regional Development Planning Agency (Bappeda) of Medan City, no longer use the Regional Management Information System (SIMDA) application, but for now use the Regional Government Information System application regulated in Permendagri No. 77 of 2020 concerning technical guidelines for regional financial management. The Local Government Information System is one form of information technology that is realized in the form of a computerized information system. The purpose of managing the Regional Government Information System is so that Regional Information Management can be carried out professionally as stated in Law Number 23 of 2014 that Regional Governments are required to

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provide Regional Government information (Regional development information and Regional financial information) and can provide and manage other Regional Government information.

The effectiveness of decision-making through information systems is the result obtained from an agency reflecting the extent to which the agency is able to produce information needed by information users in a timely, complete, accurate, and reliable manner in accordance with applicable regulations and encourage the realization of good government. In the implementation of information technology-based regional financial management, the central government and local governments are obliged to develop and utilize advances in information technology to improve the ability to manage regional finances and distribute regional financial information. Based on previous research from (Toreh et al., 2014), namely the Effect of Management Information Systems (SIM) on the Effectiveness of Decision Making at the Regional Secretariat of Manado City, states that there is a positive and significant relationship. One of the most important functions in leadership is decision-making; leaders spend most of their time, attention, and thoughts reviewing the decision-making process. Based on recent research from (Hagu et al., 2023), namely the effect of management information systems on decision-making at Maqna Gorontalo Hotel, it is concluded that the management information system variable has a positive and significant effect on decision-making. Based on previous research (Reinamah et al., 2021), the effect of management accounting information systems in reducing uncertainty in the decision-making process by managers in MSMEs. The study found the results that accounting information systems play a very vital role in management planning and decision making. In addition, research (Kyeremeh et al., 2022) on the banking sector in Ghana found that accounting information systems play an important role in management planning and decision-making in various financial institutions in the world.

LITERATURE REVIEW

Decision Making

Every decision-making process always results in a final choice. The output can be an action (action) or an opinion on the choice. A decision is the process of tracing a problem that starts from the background of the problem, identifying the problem, and forming conclusions or recommendations (Fahmi, 2017). The Dictionary of Sciences defines decision-making as the selection of a decision or policy based on certain criteria. This process includes two or more alternatives because if there is only one alternative, no decision will be made (Dagun, 2017). Decision-making is the selection of a particular alternative behavior (behavior) from two or more existing alternatives (Terry & Smith, 2016). Meanwhile, Siagian (2020) defines decision-making as a systematic approach to evaluating the nature of the alternatives faced and taking action that, according to calculations, is the most immediate. Meanwhile, Wulandari et al. (2020) state that decision-making is a process used to select an action as a way of solving problems. Indicators of Decision Making Performance according to (Hagu et al., 2023) states that to measure the performance of decision making carried out by leaders can be seen from:

- Problem identification speed
- Time required
- Analytical skills
- Decision Accuracy
- Trusted decision

Management Accounting Information System

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Information systems can be utilized by many parties to achieve company excellence through the speed, flexibility, integration, and accuracy of the information generated. Accounting information systems can provide opportunities for business people to increase efficiency and effectiveness in decision-making, enabling companies to achieve competitive advantage. According to Hansen & Mowen (2019), a management accounting information system produces outputs using inputs and various processes needed to fulfill management objectives. The management accounting information system is independent of a formal criterion that describes the nature of the income and expenditure process. These criteria are flexible and based on the objectives that management wants to achieve. According to Marina (2009), a Management accounting information system collects operational and financial data, processes it, stores it, and reports it to users, namely workers, managers, and executives. According to (Astuty, 2015), Information systems in management are part of an information system that measures, processes, and reports management information that is useful in making decisions for smooth quality information. According to (Animah et al., 2021), Management accounting information system is one of the factors that affect manager performance. The management accounting information system provides managers with the right information. Management information, as one of the products of the management accounting system, has a role in predicting the consequences that occur for various alternative actions that can be taken in various activities such as planning, supervision, and decision-making.

Based on the above understanding, the management accounting information system is an organizational supervision mechanism that can facilitate supervision by making reports and creating real actions against the work assessment of each component in an organization. According to (Chenhall & Morris, 1986), the indicators of management accounting information systems are as follows:

- Broadscope
- Aggregation
- Integration
- Timeliness

According to (Kieso et al., 2016), the indicators of the management accounting information system are as follows:

- Relevance
- Reliability
- Comparability,
- Consistency

Relationship between Management Accounting Information System and Managerial Decision Making Effectiveness

This study aims to examine the effect of Local Government Information Systems on the Effectiveness of Managerial Decision Making at the Regional Development Planning Agency Office (BAPPEDA) of the Mayor of Medan. To analyze this research, the researcher's theoretical framework is as follows: (Hery, 2015) explains that the management accounting information system is a formal system that provides information from the internal environment and the external environment for managers. According to (Gordon, 2015) adds that management accounting information systems are defined as formal systems designed to provide managers with the information needed to facilitate decisions and evaluate managerial activities. Local Government Information System is one form of information technology that

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is realized in the form of a computerized information system. According to (Imtihan & Fahmi, 2020) Local Government Information System is an integrated application that is used as a tool for local governments to increase the effectiveness of various regulations in the field of regional financial management. In order to carry out regional financial management in a transparent and accountable manner, the government utilizes technological developments, which are currently growing very rapidly; technology in the financial sector is the Regional Government Information System. A quality accounting information system is needed to produce quality information that is useful in effective decision-making.

SIA is built with the main objective of processing accounting data originating from various sources into accounting information needed by various users to reduce risk when making decisions (Susanto, 2017). The application of the quality of the accounting information system will produce quality accounting information, which users also use in making decisions. According to (Sutanta, 2019), information is the result of processing data so that it becomes a form that is important to the recipient and has a use as a basis for making decisions that can be felt as a direct result at that time or indirectly in the future. Effectiveness is a measure that shows how far a program or activity is to achieve the results and benefits expected by the organization. Effectiveness is an important factor of an information system that can reflect the information processing system so that it can produce quality information. The quality of information system information is one of the factors in measuring the level of user satisfaction with the Local Government Information System. This is because the entire accounting cycle is processed using the Local Government Information System to produce outputs in the form of financial statements. Produce output in the form of financial statements.

According to (Siagian, 2016), so that management/leadership can make decisions with a high level of effectiveness, the support of information that is up-to-date, complete, accurate, reliable, well processed, and stored in such a way that it is easy to trace when it is time to use is necessary. In other words, information that meets the characteristics of currency, completeness, reliability, accuracy, and trustworthiness, and is stored in such a way that it is easy to obtain/trace when needed will greatly support correct, rational, and quick decision-making. Sulindawati and Fathoni (2010) have stated the same thing: the level of success of decision-makers in organizations in making decisions is directly related to the quality of information available to them. The decision-making process is a process of rational use of information. If the Local Government Information System used produces quality information, it will result in effective decision-making for managerial parties in decision-making materials in the context of planning, implementing, and reporting accountability

METHOD

The research approach used in this study is to use an associative approach. Associative research, according to (Sugiyono, 2019), is research that aims to determine the relationship between two or more variables. Population is a generalization area consisting of objects/subjects that have certain quantities and characteristics set by researchers to study and then draw conclusions. The population of this study was all employees of the City Development Planning Agency (BAPPEDA) of Medan City, totaling 56 people. The sample is part of the population that will be taken for research and the results of the research are used as a representation of the population as a whole. Thus, the sample can be stated as part of the population taken with certain techniques or methods to be studied and generalized to the population (Suryani & Hendrayani, 2015). The sample in this study were all employees of the

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City Development Planning Agency (BAPPEDA) totaling 56 people. The sampling technique in this study was saturated sampling (total sampling). Saturated sampling is a sample that represents the total population. Usually done if the population is less than 100 (Suryani & Hendrayani, 2015). Given that the population is only 56 employees, it is feasible to take the whole to be sampled without having to take a certain number of samples. Data collection techniques using interviews and questionnaires. This data will be analyzed with a quantitative approach using statistical analysis, namely the partial least square-structural equation model (PLS-SEM), which aims to conduct path analysis with latent variables. This analysis is often referred to as the second generation of multivariate analysis (Ghozali & Latan, 2012). Variant-based structural equation analysis (SEM) can simultaneously test the measurement model and test the structural model. Measurement models are used for validity and reliability tests, while structural models are used for causality tests (hypothesis testing with prediction models).

RESULTS AND DISCUSSION

Measurement Model Analysis (Outer Model)

Convergent Validity

Convergent validity is used to see how far a measurement is positively correlated with alternative measurements of the same construct. It is seen from the outer loading value to see whether an indicator of a construct variable is valid. If the outer loading value is greater than (0.4), then an indicator is valid (Hair Jr et al., 2017).

Table 1. Convergent Validity

	Accounting Information System Management	Decision-Making
X.1	0,537	
X.2	0,836	
X.3	0,556	
X.4	0,822	
X.5	0,688	
X.6	0,722	
X.7	0,805	
X.8	0,728	
Y.1		0,879
Y.10		0,669
Y.2		0,907
Y.3		0,891
Y.4		0,772
Y.5		0,635
Y.6		0,837
Y.7		0,859
Y.8		0,754
Y.9		0,711

Source: SEM PLS (2024)

Based on the table above, it can be seen that the outer loading value for the Management

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Accounting Information System variable is greater than 0.4, so all indicators on the Management Accounting Information System variable are declared valid. The outer loading value for the Decision Making Effectiveness variable is greater than 0.4, so all indicators on the Decision Making Effectiveness variable are declared valid.

Internal Consistency Analysis

Internal consistency analysis is a form of reliability used to assess the consistency of results across items on the same test. Internal consistency testing uses a composite reliability value with the criteria that a variable is said to be reliable if the composite reliability value is > 0.600 (Hair Jr et al., 2017).

Table 2. Internal consistency analysis

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Information System Management Accounting	0,865	0,900	0,894	0,518
Decision-Making	0,934	0,939	0,945	0,635

Source: SEM PLS (2024)

Based on the internal consistency analysis data in the table above, the results show that the Management Accounting Information System variable has a composite reliability value of $0.894 > 0.600$, so it is reliable. Similarly, Decision-Making Effectiveness has a composite reliability value of $0.945 > 0.600$, so it is reliable.

Discriminant Validity

Discriminant validity aims to assess whether an indicator of a constructed variable is valid or not, namely by looking at the Heterotrait - Monotrait Ratio Of Correlation (HTMT) value < 0.90 , then the variable has good discriminant validity (valid) (Hair Jr et al., 2017).

Table 3. Discriminant Validity

	Accounting Information System Management	Decision-Making
Management Accounting Information System		
Decision-Making		0,385

Source: SEM PLS (2024)

Based on the table above, the results of the Heterotrait - Monotrait Ratio Of Correlation (HTMT) correlation are obtained, then 1. The Management Accounting Information System variable with Decision Making Effectiveness of $0.385 < 0.900$ Heterotrait - Monotrait Ratio Of Correlation (HTMT) correlation is declared valid.

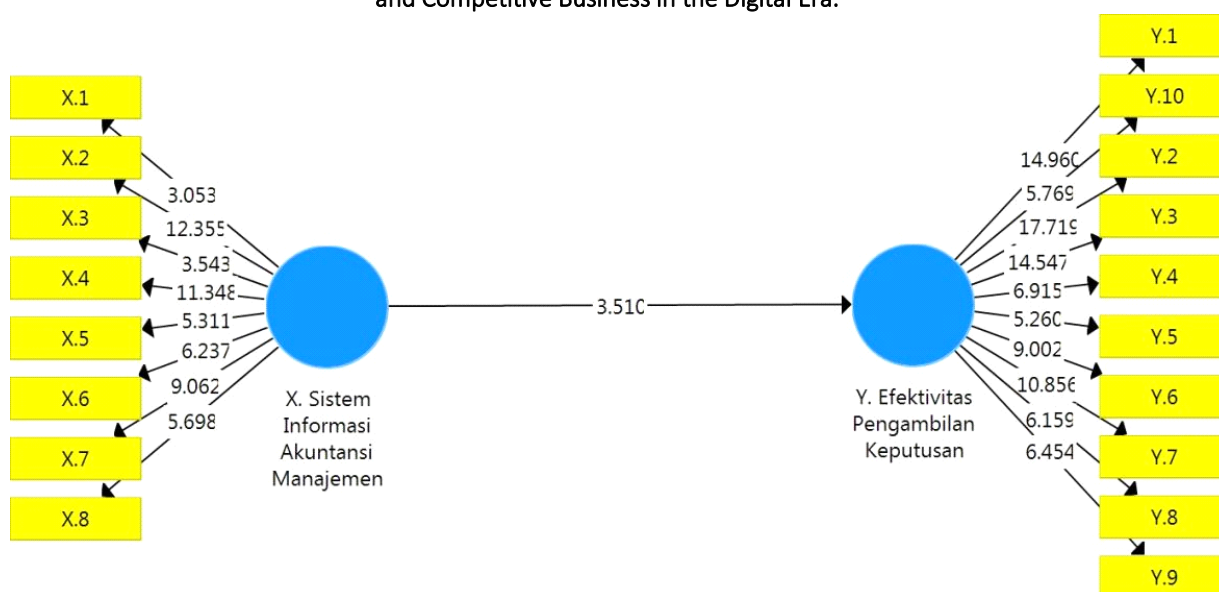
Structural Model Analysis (Inner Model)

In this test there are two stages, namely testing the hypothesis of direct influence and testing the hypothesis of indirect influence. The hypothesis testing path coefficients are in the figure below:

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Hypothesis Testing

Table 4. Hypothesis Testing

	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	T Statistic (O/STDEV)	P Values
Management Accounting Information System -> Decision-Making	0,374	0,431	0,107	3,510	0,000

Source: SEM PLS (2024)

Based on the table above, it can be obtained: 1. The direct effect of the Management Accounting Information System on Decision Making Effectiveness has a path coefficient of 0.374 (positive) and has a P-Values value of 0.000, so $0.000 < 0.05$, so it can be stated that the Management Accounting Information System has a significant effect on Decision Making Effectiveness.

Coefficient of Determination (R Square)

The Coefficient of Determination (R Square) aims to evaluate the accuracy of predicting a variable. In other words, to evaluate how the variation in the value of the dependent variable is influenced by the variation in the value of the independent variable in a path model. (Hair Jr et al., 2017)

Table 5. Coefficient of Determination

	R-Square	Adjusted R-Square
Decision-Making	0,140	0,124

Source: SEM PLS (2024)

In the table above, the results of the effect of the Management Accounting Information System and the Reward System on the Effectiveness of Decision Making are 0.140, meaning that the amount of influence is 14.0%. This shows a weak PLS.

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Discussion

The results of this study have a path coefficient of 0.374 (positive) and a P-Values value of 0.000, then $0.000 < 0.05$, so it can be stated that the Management Accounting Information System has a significant effect on the Effectiveness of Decision Making on BAPPEDA employees in Medan City. The management accounting information system is a formal system that provides information from the internal environment and the external environment for managers. (Gordon & Narayan 1984) added that management accounting information systems are defined as formal systems designed to provide managers with the information needed to facilitate decisions and evaluate managerial activities. Local Government Information System is a form of information technology that is realized in the form of a computerized information system (Nasution, 2021). The Local Government Information System is an integrated application that is used as a tool for local governments to increase the effectiveness of various regulations in the field of regional financial management. In order to carry out regional financial management in a transparent and accountable manner, the government utilizes technological developments that are currently developing very rapidly; the technology in the financial sector is the Regional Government Information System. A quality accounting information system is needed to produce quality information that is useful in effective decision-making. Accounting information systems are built with the main objective of processing accounting data originating from various sources into accounting information needed by various users to reduce risk when making decisions (Azhar Susanto, 2013: 8). In line with Azhar Susanto, Laudon and Laudon, state that the application of accounting information system quality will produce quality accounting information which users also use in making decisions. According to (Edhy Sutanta, 2003), information is the result of processing data so that it becomes a form that is important to the recipient and has a use as a basis for decision-making, which can be felt as a direct result of that time or indirectly in the future. Effectiveness is a measure that shows how far a program or activity is to achieve the results and benefits expected by the organization. Effectiveness is an important factor of an information system that can reflect the information processing system so that it can produce quality information. The quality of information system information is one of the factors in measuring the level of user satisfaction with the Local Government Information System. This is because the entire accounting cycle is processed using the Local Government Information System to produce output in the form of financial reports.

According to Siagian (2009), so that management/leaders can make decisions with a high level of effectiveness, the support of information that is up-to-date, complete, accurate, reliable, well processed, and stored in such a way that it is easy to trace when it is time to use it is necessary. In other words, according to Siagian (2009), information that meets the characteristics of recency, completeness, reliability, accuracy, and trustworthiness and is stored in such a way that it is easy to obtain / trace when needed will greatly support proper, rational and fast decision making. Winardi (1990) has stated the same thing: the level of success of decision-makers in the organization in making decisions is directly related to the quality of information available to them. The decision-making process is a process of rational use of information. If the Local Government Information System used produces quality information, it will result in effective decision-making for managerial parties in decision-making materials in the context of planning, implementing, and reporting accountability.

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CONCLUSION

Based on the results of the research and discussion that has been stated previously, the Management Accounting Information system has a significant effect on the effectiveness of Managerial Decision Making on BAPPEDA Employees in Medan City. Based on previous phenomena and research results, the authors can provide suggestions as follows: The effectiveness of Managerial Decision Making should be further improved so that the work results are satisfactory. Future researchers should add other variables that affect the effectiveness of managerial decision making and further researchers should look for research objects such as companies.

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