# Analysis of Computer-based Management Information Systems In The Decision-making Process

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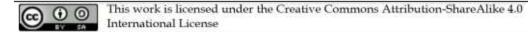
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## ABSTRACT

Computer-based management information systems mean that computers play an important role. An organization's technical capabilities, or an organization's ability to adapt to internal and external conditions, are critical to organizational success. Amid rapid technological advances, using Management Information Systems is the best way to manage high-quality information resources. The management role requires the effective deployment and use of resources to achieve specific goals. As a result, this task will help management by providing information quickly and precisely. To support company goals, an effective management information system is needed. In reality, the term "computer-based" or "computer-based information processing" is always associated with good and efficient management information systems. Information is required for each process, which is partly created by the management information system. To meet the needs and decisions made by organizations at each level of management, data, and information produced by information systems through special analysis are very helpful. Therefore, the aim of establishing a Management Information System (MIS) is to provide organizations with data and information that assists in making management decisions, both relating to routine and strategic management decisions.

## INTRODUCTION

Businesses desperately need information to survive and thrive. If companies do not get enough information, they will find it difficult to control resources and will ultimately lose environmental competition.his rival. In addition, existing information systems often do not function well. The main problem with information systems is that there is too much data that is not useful or meaningful. To design effective information systems, it is very important to understand the basic concepts of information. Companies must have a source of information that is accurate and reliable for the people who make decisions to achieve their goals. More and more companies in Indonesia are starting to realize the great benefits of Management Information Systems (MIS) to improve their company's performance after the rapid development of information technology.

Businesses that do not keep up with advances in information technology today will not be able to compete. Many researchers recognize that MIS user satisfaction is an important indicator in determining success in SIM design and implementation. However, MIS existed before the development of information technology (computer technology), and leaders of

organizations or companies have used MIS in decision-making efforts, although they are still limited. At that time, the decision-making mechanism was still very simple. Because all data is stored in paper form, the process is still done manually and takes a long time for various archive sheets. The goal of designing a new system is to create steps or techniques to provide quality information. With the advent of computer-based systems adapted directly for use by decision-making executives, there has been an examination of how they make decisions. In addition, advances in hardware and software greatly influence the quality of data created by management information systems.

## METHODS

This research uses a type of library study because the author can produce results from texts and is confronted with library data (Maulidna & Putra, 2022; Aryantie et al., 2023; Putra et al., 2023). To obtain relevant research findings, the author will search for books, journals, and library data as data sources, and then carry out analysis and collection from these sources. One of the characteristics of library research is that the author obtains sources from secondary data that are easily accessible and accessible (Salaba & Chan, 2023).

## RESULT

The role of information systems in all fields is increasingly strengthened by rapid technological advances. Starting from education to working for a company. To support some or all of their activities, every organization uses information systems. In a complex organization, each part uses different technology to perform the task of converting input into output. There are two dimensions of work activities related to organizational structure and activities, according to Perrow (1986), the first is task variation, which shows the number of exceptions in the task, which is measured by the number of unexpected and new events that occur during the work process. The second is the ease of analysis (analyzability), which shows that work that is easy to analyze can be broken down into several equal parts. Because every step in the process is measurable and easy to understand, solving problems is easydeviation is known.

The tasks of company managers and their relationship to information technology can be divided into two large groups. The first group consists of people who use or use the information technology at their disposal. This group includes all levels of employees, from staff to top management. These employees directly use information technology to support and support their daily activities at work. Usually, various professional positions, such as chief executive officer, information technology manager, system analyst, programmer, project manager, etc., are known to perform these tasks and have special abilities and

expertise in information technology. Many large companies that depend on the reliability of information technology have executive managers in the field of information systems. The Chief Information Officer (CIO) or Senior Manager in Information Systems and Technology is the executive most responsible for planning and developing information technology in this company. In a PT (Limited Company) in Indonesia, the CIO is equivalent to a director, who reports directly to the president director (Widodo, 2017). What is the role of a CIO? Studying and understanding the business the company is involved in is the main task of the board of directors, which is the responsibility of other executives. If core management learns enough about every part of the company's internals (especially about products or services offered), is currently insufficient.

The value of information is related to decision-making. Where management information systems help make organizational decisions, there are three stages: understanding, designing, and selecting. In most cases, SIM supports processing, computer and non-computer files (Howser, 2020). At the stage of understanding its relationship with SIM, the investigation process includes examining specific and determined data. The SIM must provide both methods. All data must be scrutinized by the information system itself and subjected to testing in situations that require attention. Both the MIS and the organization must provide clear communication channels for known issues to be escalated to the upper-level organization for handling. At this point, probability also needs to be established (Polyviou & Zamani, 2023). A database containing public, competitive, and internal data as well as techniques for tracking and finding problems is needed for SIM support.

At the design stage, the connection with SIM is to initiate alternative solutions and create decision models to be processed based on existing data. Available models should help analyze alternatives. Statistics and modeling software are included in SIM support. Structured approaches, model manipulation, and database retrieval systems fall into this category (Doedens, 2023). At the selection stage, MIS works best if design results are communicated in a way that drives decision-making. The role of MIS changes to collecting data for feedback and assessment after the election. At the selection stage, SIM helps by selecting various decision models to perform sensitivity analysis and establish the selection process. MIS support for decision-making includes a complete database, database search capabilities, statistical and other analytical software, and a model base containing software for creating decision models. This suggests that information is not needed if there is no choice or decision. Decisions can vary, from simple repetitive decisions to decisions related to plans. According to Mulyanto et al (2021), benefits and costs are the two main components that form parameters for measuring the value of information. Information is said to be valuable if the benefits are more effective than the costs of obtaining it. Rothery et al (2020) add, that most of the information cannot be estimated precisely in terms of monetary value, but its effectiveness can be estimated. Apart from that, it can be said that measuring the value of information will be more precise if using cost-effectiveness or cost-benefit analysis.

# CONCLUSIONS

Rapid advances in information technology have strengthened the role of information systems in various fields, from education to the world of work. Every organization, whether simple or complex, relies on information systems to support its activities. In the context of a complex organization, the use of different technologies by each part of the organization aims to transform input into output that meets operational needs. There are two main dimensions related to organizational structure and work activities, namely task variety and analytical capabilities. Task variety measures the number of unexpected events in the work process, while analytical capabilities indicate the extent to which work can be broken down into smaller components to facilitate task completion. In the world of work, there are two main groups of information technology users, namely groups that use information technology to support daily activities such as IT managers, CEOs, and system analysts, and executive groups that play a role in planning and developing information technology, such as CIOs. In Indonesia, the position of CIO is equivalent to a director and reports directly to the president director, showing how important their role is in the organization. MIS plays a crucial role in organizational decision-making through three main stages: understanding, designing, and selecting. At the understanding stage, MIS processes specific data needed to understand the problem. The designing stage involves creating decision models and analyzing alternative solutions based on existing data. At the selection stage, MIS supports the selection of the right decision model and provides data for feedback. The value of information in MIS is measured by its benefits and costs, and information is considered valuable if its benefits outweigh the costs of obtaining it.

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