Educational Management Information System: Integration of Technology and Management to Support Organizational Efficiency

Sulthan Syahril[1]

[1] Universitas Islam Negeri Raden Intan Lampung; sulthansyahril@radenintan.ac.id

ARTICLE INFO

ABSTRACT

The rapid development of information technology highlights the importance of understanding Management Information Systems (MIS) in supporting the efficiency and effectiveness of organizational decision-making. This study aims to explain the basic concepts of MIS, its components, and its benefits in a management context. This study uses a qualitative approach through a literature review of various relevant journals and books. The research findings indicate that MIS is an integration of people, machines, procedures, and information technology designed to produce quality information. MIS not only improves the quality of managerial decisions but also accelerates workflow and improves overall organizational performance. By understanding MIS thoroughly, organizations can more easily adapt to change and remain competitive.

Corresponding Author:
  Sulthan Syahril
Universitas Islam Negeri Raden Intan Lampung; sulthansyahril@radenintan.ac.id

1. INTRODUCTION

The rapid advancement of technology and information, along with the flow of information circulating at high speed and without limits, marks the advent of the information age. All information, whether ordinary or confidential, from a country can be easily conveyed and quickly accessed by the public, residents, and citizens worldwide. All types of information will be displayed clearly and transparently. With the globalization that is occurring worldwide, the need for informationis becoming increasingly important and imperative. The success of information delivery is highly dependent on the condition of supporting facilities and infrastructure (Wayan, 2022)

A management information system is a set of interrelated components that collect, process, store, and distribute information to support decision-making and management within a company. Information systems also help managers investigate problems, visualize complex issues, and produce accurate information. Information systems encompass input, models, processes, output, storage, and control. Using information systems to plan, process, control, and integrate data to determine company success (Mega, 2022). Management Information Systems are expected to facilitate companies in integrating corporate data, improving the quality of information held, establishing management control, and accelerating corporate data processing. This allows for the automation of routine tasks, encouraging

innovation in company products, improving service and control, and shortening workflow cycles. In this regard, it can be said that Management Information Systems and the development of supporting technologies will trigger major transformations in business and management. Therefore, a thorough understanding of the concepts and applications of MIS is crucial, both in academic and practical contexts. The purpose of this paper is to provide an understanding of the basic concepts of Management Information Systems.

This study aims to explain the basic concepts of MIS, its components, and its benefits in a management context. It is hoped that MIS will not only improve the quality of managerial decisions but also accelerate workflows and enhance overall organizational performance. By understanding MIS comprehensively, organizations can more easily adapt to change and remain competitive.

2. METHODS

This study uses a qualitative approach with a library research type. Library research is a research method by collecting data, then understanding and studying it from various literature sources related to this research (Miza, 2022). The data source in this study is secondary data obtained by collecting journals and books. The data collection technique in this study is through a literature study process, namely writing the research objectives, which then search for journals or books relevant to the research objectives, reading the abstract and the entire contents of the journal or book. There are 7 national journals and 3 books that have been selected based on predetermined criteria. The criteria for selecting journals is searching with the keyword management information system published on the Google Scholar page in the last 5 years, namely 2020-2025.

3. FINDINGS AND DISCUSSION

Concept of Management Information Systems
Basic Concept of Systems

The word "system" comes from the Latin (systēma) and Greek (sustēma), and is a unit consisting of elements or components connected together to facilitate the flow of information, material, or energy to achieve a goal. A system is an organization of interacting, interdependent, and integrated variables or components (Sadikin & Wiranda, 2022).

In Wijoyo et al.'s book entitled "Management Information Systems," several experts explain the definitions of systems according to: 1) Ludwig Von Bartalaney, who defines a system as a set of interconnected elements in an interrelationship between these elements and the environment. 2) Anatol Raporot, who defines a system as a collection of entities and their interconnected devices. 3) Ackof, who defines a system as any conceptual or physical entity consisting of interdependent parts (Wijoyo, 2021).

From the several system definitions above, we can understand that a system can be interpreted as a unit consisting of several components or subsystems that are organized, regular, interacting, interdependent, and inseparable (integrative) in achieving a goal. The characteristics of a system, as explained by Subariah in her book, "Management Information Systems," are:

1) System components are parts of a subsystem that can influence the overall system process.
2) Based on the system, the system is adjusted based on provisions and procedures. If the provisions align with the established procedures, the system will run.
3) The external environment of the system will influence and be influenced by the system's operation, as the system has its own capacity limitations.
4) System connectors are media containers that can connect to subsystems through connectors.
5) System inputs are energy and maintenance or signals. This energy can provide the necessary energy to operate the system.
6) System outputs are the results obtained from the input process, which are outputs from waste.

Basic Concepts of Information

Information is data processed into a form that is more useful and meaningful to the recipient. The source of information is data. Data is reality that describes events and real entities. According to Jogiyanto, data is reality that describes events and real entities. Events are something that occurs at a specific time, while information is the result of processing data into a form that is more useful and meaningful to the recipient, describing real events (facts) that are used for decision-making.

Therefore, the terms data and information are different. Data is raw material that needs to be processed and is relatively unusable for its users. Therefore, it needs to be further processed through a model to produce useful information. For example, inventory data for each item in a warehouse consists of a number of inventory cards. These inventory cards do not provide a clear report on the inventory status of each item in the warehouse. Therefore, each inventory card needs to be further processed to produce useful information for managers (Janri, 2012).

Basic Concepts of Management

Etymologically, the word "management" comes from the English verb "to manage," which can be interpreted as taking care of, administering, running, fostering, leading, and so on. Meanwhile, in Latin, the word "management" comes from two words: mantis and agere, which translates into Indonesian as "to handle." Terminologically, management can be defined as the science or art of organizing everything to achieve a goal. In this sense, management can be described as both an art and a science.

Terry states that the functions of management are planning, organizing, actuating, and controlling. Stoner states that the management function includes planning, organizing, leading, and controlling. Henry Fayol divides management functions into planning, organizing, commanding, coordinating, and controlling. On the other hand, John F. Mee stated that management functions include planning, organizing, motivating, and controlling.

These four experts each name the management functions based on their own opinions, but the essence is that management always begins with planning and ends with controlling (Jafar, 2020)

Definition of Management Information Systems

A Management Information System (MIS) is an information network needed by leaders to carry out their duties (for the benefit of the organization), especially in making decisions to achieve organizational goals. MIS techniques provide managers with information that enables them to plan and control operations. Computers have added one or two dimensions, such as speed, accuracy, and increased data volume, allowing for the consideration of more alternatives in a decision. An organization consists of numerous elements, people with various roles within the organization, activities, or tasks that are the tasks to be completed, the workplace, job authority, and communication links that bind the organization together. Management Information System (MIS) is the application of information systems within an organization to support the information needed by all levels of management. The emphasis of MIS is on the system, not on management. For MIS to operate effectively and efficiently, it must be managed optimally.

Literally, a management information system is a form of information system designed to serve managers. The definition of a management information system is actually better known as an integrated human-computer system that presents information to support the operational functions of management and the decision-making process within an organization. The ability of management to utilize it determines the success or failure of the management concerned in managing the organization they lead. A management information system is a network of management procedures ranging from data collection, data management, data storage, data retrieval, and information dissemination using various appropriate tools, with the aim of providing data to management at any time, quickly and accurately, as a basis for decision-making in order to achieve information objectives. Simply put, a system can be defined as a collection or set of elements, components, or variables that are organized, interacting, interdependent, and integrated. People tasked with leading an organization tend to focus too much on a single component of the organizational system (Jafar, 2020).

Components of a Management Information System

According to Susanto, the components of a management information system are integrated into a system that works harmoniously to produce reliable information for users. In the concept of a management information system, all elements and sub-elements involved in creating a quality management information system must be well integrated. These elements can also be referred to as accounting information system components, consisting of hardware, software, brainware, procedures, databases, and communication networks.

The components of a management information system are: a. Hardware is the physical equipment used in the process of collecting, inputting, storing, and outputting data processing results in the form of information; b. Software is a collection of programs that can be used to run a computer or specific application on a computer; c. Brainware is the most important or primary component of a management information system; d. Procedures are a series of activities or actions performed repeatedly in the same manner; e. Databases are an organization of data that has; f. interconnections or relationships that facilitate the process of searching for information; and; g. Computer networks and data communications.

Based on the description above, it can be synthesized that an information system is a subsystem that is part of a larger system. An information system is one of several subsystems within an organization. An information system cannot be created, designed, and operated separately from other subsystems. In other words, a Management Information System can be defined as an information system used to produce high-quality information to assist management in the decision-making process (Wayan, 2020).

Benefits of Management Information Systems

In research by Puspita and Nasution, several benefits of implementing management information systems were identified, namely: a. Managers are able to assess the results of their planned work and identify strengths and weaknesses in their work plans and business strategies; b. The management process gains inspiration when designing each activity to be executed; c. Many accomplishments are transferred from top management to more operational levels of the organization, leveraging their knowledge and experience; d. Organizations can maximize the functionality of their investments and evaluate whether the systems and information used have provided optimal benefits; e. Companies can reward performance improvements, making it easier to align business strategies with individual customer needs; f. Improving the quality of human resources so that every activity within the organization becomes more structured and focused (Annisa, 2020).

The implementation of a management information system has a significant impact on the smoothness and accuracy of the decision-making process within an organization. With complete, fast, and easily accessible information, leaders can be more responsive to emerging changes and challenges. This system also encourages openness, strengthens collaboration between departments, and assists in the overall oversight of organizational activities. When information is presented clearly and in a timely manner, companies are better prepared to face competition and develop sustainably (Wayan, 2020).

4.   CONCLUSION

A Management Information System Educational is an information network needed by leaders to carry out their duties (for the benefit of the organization), particularly in making decisions to achieve organizational goals. MIS techniques provide managers with information that enables them to plan and control operations. A Management Information System (MIS) is a crucial tool in enhancing an organization's competitive advantage. By utilizing information technology appropriately, companies or educational institutions can optimize decision-making, increase operational efficiency, and provide better service to customers or students. A computer-based information system (CIS) is a system designed to manage, store, process, and disseminate information using computer technology. To achieve an effective CIS, various stages must be completed, from requirements planning and system

development to implementation and maintenance to ensure the system continues to function effectively and adapt to technological development.

REFERENCES

Adlini, Miza Nina et al. "Metode Penelitian Kualitatif Studi Pustaka". *Edumaspul: Jurnal Pendidikan.* Vol. 6 No. 1 (2022), h. 974–80. https://doi.org/10.33487/edumaspul.v6i1.3394.

Aswiputri, Mega. "Literature Review Determinasi Sistem Informasi Manajemen: Database, Cctv dan Brainware". *Jurnal Ekonomi Manajemen Sistem Informasi.* Vol. 3 No. 3 (2022), h. 312–22. https://doi.org/10.31933/jemsi.v3i3.821.

Basalamah, Jafar, dan Muhammad Ashoer. Konsep Dasar Manajemen e – *Jurnal Riset Manajemen*. 2020.

Gede Endra Bratha, Wayan. "Literature Review Komponen Sistem Informasi Manajemen: Software, Database Dan Brainware". *Jurnal Ekonomi Manajemen Sistem Informasi.* Vol. 3 No. 3 (2022), h. 344–60. https://doi.org/10.31933/jemsi.v3i3.824.

Hafizh. "Kata kunci د". Kinabalu. Vol. 2 No. 1 (2021), h. 1671–78.

Haposan, Janry. "*Konsep Dasar Sistem Informasi*". Lecture Notes : Sistem Informasi. 2012 1–10.

Puspita, Anisa, dan Muhammad Irwan Padli Nasution. "Manfaat Implementasi Sistem Informasi Manajemen di Organisasi Bisnis". *Jurnal Penelitian Ekonomi Manajemen dan Bisnis (JEKOMBIS).* Vol. 3 No. 1 (2024), h. 153–58.https://doi.org/https://doi.org/10.55606/jekombis.v3i1.3035.

Sadikin, A, dan N Wiranda. *Sistem Informasi Manajemen*. Yogyakarta: K-Media, 2022.

Subariah, R. *Sistem Informasi Manajemen*. Purbalingga: Uereka Media Aksara, 2024.

Wijoyo, H. *Sistem Informasi Manajemen*. Selayo: Insan Cendikia Mandiri, 2021.