



The Role and Challenges of Website-Based Management Information Systems in Organizations: A Literature Review

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ABSTRACT

This study aims to examine the role, benefits, challenges, implementation, and development of technology in the application of website-based Management Information Systems (MIS) within organizations. The method used is a literature review of various relevant scientific sources published in the last five years. The results of the study indicate that web-based MIS significantly contributes to improving operational efficiency, information transparency, and the speed and accuracy of organizational decision-making. However, its implementation still faces various challenges, such as technological infrastructure readiness, human resource competence, implementation costs, resistance to change, and data security issues. Recent technological developments, such as the use of cloud servers and modern frameworks, have also promoted the flexibility and effectiveness of the system. This study provides conceptual and practical insights that organizations can use in designing effective and adaptive MIS implementation strategies in response to the dynamics of digital technology.

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INTRODUCTION

In this rapidly evolving digital era, the role of information technology has become increasingly vital in supporting organizational performance. A concrete form of digitalization is investment in intangible assets, particularly software that supports information systems, process automation, and the development of technology-based products and services (Andriani et al., 2025). One of the advancements in technology is the utilization of computer technology that can support quick, accurate, and efficient decision-making processes. In various modern organizations, the application of information technology has transformed traditional work methods into more systematic and integrated processes.

Along with this, the development of Management Information Systems (MIS) has brought significant changes in decision-making patterns within organizations. These changes have not only impacted leadership, but also been felt at the operational or technical implementation level (Rismawati et al., 2024). MIS enables relevant information to be available in a timely manner, so that planning, monitoring, and decision-making processes can run more effectively.

One of the modern implementations of SIM is a website-based Management Information System. The implementation of this system is considered a strategic step to support organizational activities comprehensively, both in operational, managerial, and strategic aspects. A web-based MIS not only facilitates data and information management but also enables real-time, transparent, and cross-organizational access to information, even extending to external partners. This undoubtedly adds value in addressing organizational challenges in the digital age.

By definition, SIM is the integration of information technology and human activities that functions to support organizational operations and assist in the decision-making process (Purba & Firdaus, 2024). The flexibility offered by website-based systems, such as anytime and anywhere access, makes SIM a highly relevant solution in today's dynamic and interconnected work environment.

However, despite its significant potential benefits, the implementation of web-based SIM also faces a number of challenges. Dependence on constantly evolving technology, limited human resource competencies in operating the system, and data security issues are major concerns. Additionally, resistance from some users within the organization also acts as a barrier to the adoption of new technology (Fadillah & Nasution, 2025). If not addressed properly, these challenges can reduce the effectiveness of the system and even impact the overall performance of the organization.

Therefore, a deep understanding of the factors that influence the successful implementation of SIM is very important. This will help organizations design appropriate strategies to optimize the benefits of SIM while minimizing potential obstacles (Purba & Firdaus, 2024). Although previous studies have discussed the role of SIM in supporting managerial processes, discussions related to the practical challenges of implementing website-based systems are still limited.

Previous studies have examined the importance of Management Information Systems (MIS) in supporting managerial processes, but discussions on the practical challenges faced in implementing website-based systems remain limited. Therefore, this article aims to systematically review the role and challenges of website-based Management Information Systems in an organizational context through a literature review approach. It is hoped that the results of this review will provide a conceptual and practical framework that is beneficial for organizations in designing and developing effective and adaptive MIS that can keep pace with technological advancements.

Literature Review

Management Information Systems (MIS)

Management Information Systems (MIS) are systems that process and organize data and information useful for supporting the implementation of tasks within an organization. Management Information Systems (MIS) are a combination of hardware, software, infrastructure, and human resources used to collect, process, store, and disseminate information needed to support managerial functions within an organization (Manarfa et al., 2024).

The Role of Website-Based MIS in Organizations

Web-based Management Information Systems (MIS) play a strategic role in supporting organizational activities, both in operational and managerial aspects. An integrated web-based Management Information System (MIS) facilitates data management, improves transparency, and supports effective decision-making processes (Rahma & Chotijah, 2024). This system is not only used in the business sector but has also been widely applied in the fields of education, social services, and public services.

Benefits of a Website-Based MIS in Organizations

An effective website-based management information system (MIS) can provide significant benefits to organizations, particularly in terms of improving efficiency, data accuracy, and competitiveness in the market (Fadillah & Nasution, 2025). This management information system also plays an important role in providing more effective, efficient, and timely data. Additionally, management information systems contribute to fostering creativity within organizations.

Challenges of Website-Based MIS in Organizations

Although web-based Management Information Systems (MIS) play a significant role in supporting organizational performance, their implementation is not without challenges that need to be overcome. The main challenges include user resistance, high costs, and dependence on technology (Fadillah & Nasution, 2025). Therefore, an appropriate strategy is needed to ensure that the management information system (MIS) functions optimally to support the achievement of organizational goals. The implementation of effective change management and the provision of training for employees are key factors in overcoming resistance and ensuring the success of the organizational MIS.

METHODOLOGY

This study is classified as qualitative research with a literature review approach. A literature review is a scientific study that focuses on an in-depth discussion of a topic. In this study, the researcher uses this approach to examine the role, benefits, challenges, and development of technology in Management Information Systems (MIS). This approach was chosen because it allows the researcher to collect and analyze information from various relevant academic sources, resulting in a comprehensive and in-depth understanding of the issue being studied.

The data in this study were obtained from scientific journal articles, previous research results, and official publications from relevant institutions related to the focus of the study. The literature used was selected based on the publication year criteria, namely within the last eight years (2021-2025) to ensure the relevance and currency of the information. The data collection process was conducted through a systematic search of various academic journal databases such as Google Scholar, Sinta, ScienceDirect, Garuda, and Semantic Google Scholar using keywords such as "Website-Based Management Information Systems," "The Role and Challenges of Management Information Systems," and "Management Information Systems in Organizations."

RESULTS

After reviewing 10 relevant journals on the role and challenges of Management Information Systems (MIS), several key findings can be identified and summarized in the following table:

Table 1. Journal References in the Literature Review

No	Title	Author & Year	Results
1	Management Information System for the Youth Organization Concerned with Orphaned Children (POPAY) Based on a Responsive Website	(Rinaldi et al., 2022)	The implementation of a management information system in the POPAY organization assists organizational administrators in systematically managing data and facilitates the public and donors in accessing information about activities and reports on fund usage.
2	Website-Based Community Service Management Information System at the Neighborhood and Community Level Using the Scrum Model	(Yoris et al., 2021)	A Laravel-based web information management system makes services at the RT and RW levels easier, faster, and more accurate.
3	Design and Development of an Integrated Web-Based Management Information System for the We SAVE Indonesia Organization	(Widiarta et al., 2024)	Technological developments: In the We SAVE Indonesia organizational management information system, it was found that the functional features of the management information system developed using the Python programming language with the Django 4 framework and SQLite database have been running in accordance with the needs of the We SAVE Indonesia organization.
4	The Role of Organizational Management Information Systems in Decision Making	(Syahputra et al., 2022)	MIS in organizations can trigger decisions that are not only fast and accurate but also aligned with best practices in the organization in an effective and efficient manner.
5	Analysis of organizational readiness in adopting cloud-based management information systems	(Pratama et al., 2024)	The transition to the cloud also presents significant challenges such as data security issues, system integration, and resistance to change
6	The Role of School Management Information Systems in Improving the Effectiveness of Learning Planning and	(Sumbaryani et al., 2023)	The School Management Information System (SIMS) plays a major role in improving the effectiveness of learning planning and evaluation. SIMS helps teachers and principals access, manage, and analyze learning data in a more structured and efficient manner.

	Evaluation		
7	Improving the Quality of Educational Services in Vocational Schools and Introducing an IT-Based Educational Management Information System	(Tanjung & Firdaus, 2024)	In its implementation, the SIM team at SMKN 2 and 6 Lhokseumawe faced various challenges in the process of inputting and managing data optimally. In reality, the information received from related institutions is often incomplete, fragmented, and outdated, hindering the effectiveness of the system being implemented.
8	Implementation of a Website-Based Donation Management Information System at the Putera Village Orphanage	(Arnold et al., 2024)	The implementation of a website-based donation management information system at the Putera Village Orphanage has proven effective in addressing the challenges faced by the orphanage administrators, as evidenced by the successful integration of orphanage data management online, improved efficiency, and reduced errors, particularly in the previous data entry process for donations.
9	Benefits and Challenges Faced in the Implementation of Management Information Systems in Decision-Making by Organizations	(Fadillah & Nasution, 2025)	Based on the results of data analysis from the literature study, the benefits of SIM have been proven to support efficiency, accuracy, and speed of decision making, while the main challenges include user resistance, high costs, and dependence on technology.
10	Management Information Systems on Small Business Startups and Their Strategy and Performance	(Rakhmawati & Mada, 2025)	Management Information Systems are information systems designed for use by the management of an organization. Management Information Systems generally collect summary data from various departments or subsystems within an organization and present it in a form that helps management make better decisions.

DISCUSSION

Based on a review of articles related to the role and challenges of website-based management information systems (MIS) in organizations, it was found that during implementation, MIS faces strategic roles and unique challenges in supporting organizational operations. The development of information technology has opened up new opportunities for organizations to improve operational effectiveness and decision-making quality. The following is a more in-depth discussion of various important aspects related to the role and challenges of website-based Management Information Systems (MIS) in organizations.

Management Information System (MIS)

Management Information Systems (MIS) are designed for organizational management, with a focus on collecting and presenting data from various departments. These systems assist in decision-making by presenting information in a useful format. MIS itself has physical elements that are necessary for the smooth running of the system, namely computer hardware, software, namely general system software, general application software, and application programs. The term "Management" indicates that this system is specifically intended for managerial needs, not for operational staff, while "Information System" refers to activities in collecting, organizing, and managing data efficiently. Overall, MIS plays a crucial role in improving strategy and performance in small business startups (Rakhmawati & Mada, 2025).

The Role of Website-Based SIM in Organizations

The School Management Information System (SIMS) plays a significant role in improving the effectiveness of learning planning and evaluation. SIMS helps teachers and school principals in accessing, managing, and analyzing learning data in a more structured and efficient manner (Sumbaryani et al., 2023).

Benefits of a Website-Based SIM in Organizations

The existence of a management information system (MIS) in the Popay organization can assist organizational administrators in managing data systematically and make it easier for the community and donors to obtain information about activities and reports on the use of funds (Sumbaryani et al., 2023). In community organizations, a web-based management information system using Laravel makes services at the

RT and RW levels easier, faster, and more accurate. MIS in organizations can trigger decisions that are not only quick and accurate but also aligned with best practices in the organization in an effective and efficient manner (Yoris et al., 2021).

Implementation of a Web-Based SIM in Organizations

The implementation of a website-based donation management information system at the Putera Village orphanage has proven to be effective in overcoming the problems faced by the orphanage administrators, as indicated by the successful integration of orphanage data management online, increasing time efficiency and reducing errors, especially difficulties in entering donation data previously (Arnold et al., 2024).

Challenges of Website-Based SIM in Organizations

The main challenges include user resistance, high costs, and dependence on (Fadillah & Nasution, 2025). The transition to the cloud also presents significant challenges such as data security issues, system integration, and resistance to change. In its implementation, the team at SMK Negeri 2 and 6 Lhokseumawe faced various challenges in the process of inputting and managing data optimally. In reality, the information received from related institutions is often incomplete, fragmented, and outdated, hindering the effectiveness of the system being implemented (Tanjung & Firdaus, 2024).

Development of SIM Technology

The management information system at We SAVE Indonesia shows that the functional features developed using the Python programming language with the Django 4 framework and SQLite database are operating in accordance with the organization's needs. This system supports various aspects of management, such as member management, activity management, general administration, fundraising, and financial management. Additionally, the implementation of a cloud server enables the system to be accessed flexibly from various locations and at any time (Widiarta et al., 2024).

Overall, the results of this study indicate that a website-based Management Information System (MIS) contributes significantly to improving operational efficiency, information transparency, and the speed and accuracy of organizational decision-making. MIS assists in systematic data management, accelerates service processes, and improves the quality of information needed by management. Its implementation has been proven to simplify organizational work processes, increase time efficiency, and reduce the potential for errors. However, its implementation still faces various challenges, such as dependence on technology, human resource competencies, high implementation costs, resistance to change, and data security issues (Fadillah & Nasution, 2025). Recent technological advancements, such as the use of cloud servers and modern frameworks, have further enhanced the flexibility and effectiveness of systems (Widiarta et al., 2024). Overall, these findings indicate that the success of implementing a Management Information System (MIS) in an organization is not solely determined by technology, but also by the readiness of human resources and appropriate implementation strategies. These findings provide important insights for organizations planning to implement an MIS to better prepare for challenges and maximize the role of the system.

CONCLUSION

This study examines in depth the role, benefits, challenges, and latest developments in the implementation of Management Information Systems (MIS) through a comprehensive literature review approach. Website-based Management Information Systems (MIS) play an important role in improving operational efficiency, supporting decision-making processes, and promoting transparency within organizations. The implementation of web-based MIS has proven to provide tangible benefits in data management, public services, and social activities, as demonstrated by various previous studies. However, the implementation of MIS is not without challenges, such as technological infrastructure readiness, high costs, user resistance to change, and data security issues. Additionally, technological advancements such as the use of cloud servers and modern frameworks are essential in supporting the flexibility and performance of MIS moving forward. Therefore, a deep understanding and strategic implementation plan are crucial for organizations to maximize the benefits of MIS sustainably.

RECOMMENDATION

This study recommends that the implementation of a website-based management information system can be optimized by organizations through the preparation of adequate technological infrastructure and the enhancement of human resource competencies through appropriate training. Change management strategies should also be implemented to reduce resistance to the use of new systems. Additionally, data security must be prioritized from the outset. The adoption of cutting-edge technologies such as cloud computing and modern frameworks can enhance system flexibility, while regular system evaluations and updates are necessary to ensure alignment with the organization's evolving needs.

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