



## The Influence of Hospital Management Information Systems on Administrative Efficiency: Literature Study

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### ABSTRACT

#### ARTICLE INFO

##### Article History

Received: 20-11-2025

Accepted: 12-12-2025

#### Keywords:

Hospital  
Management,  
Information  
System,  
Administrative  
Efficiency,  
Hospital

This study aims to analyze the influence of Hospital Management Information System (SIMRS) to administrative efficiency through the approach of literature study. The study was conducted by reviewing five national scientific articles published between 2020 and 2025 that were relevant to the topic of hospital administration efficiency. The synthesis of results shows that the implementation of SIMRS plays a significant role in accelerating service processes, improving data accuracy, facilitating inter-unit coordination, and supporting faster and more effective decision-making.

Overall, the results of the study show that the effectiveness of SIMRS implementation is highly dependent on management support, technological readiness, and workforce training. With optimal management, SIMRS has proven to be a strategic tool for improving administrative efficiency, transparency, and the quality of hospital services in the digital era.

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*Published by <https://ojs.ucp.ac.id>*

## INTRODUCTION

The Hospital Management Information System (SIMRS) is a subsystem that manages data and information related to service users according to their roles. SIMRS plays a crucial role in supporting all hospital activities through the application of information technology. Its goal is to integrate various departments for more efficient operations. This system is designed to manage administrative, financial, and clinical aspects in an integrated manner, as well as support information exchange with external parties such as insurance companies and other healthcare institutions (Wibowo, 2022).

SIMRS was created to manage all hospital operational and administrative activities in an integrated manner, from patient registration to medical record management, thereby streamlining the service process. This system also aims to improve data accuracy and facilitate access to information between service units (Ayustya & Sitorus, 2025).

Advances in information technology have had a significant impact on various sectors worldwide, including healthcare. Digitalization in healthcare services, particularly through the implementation of Hospital Management Information Systems (SIMRS), is a key strategy for improving the efficiency and effectiveness of hospital administration (Diaz, 2025).

As one of the largest healthcare institutions, hospitals are required to continuously improve the quality of medical services, monitor service activities, control operational costs, and provide fast and accurate access to information. Therefore, the use of information technology is a crucial factor in supporting hospital operational efficiency. In the healthcare sector, information systems have three main functions: assisting in the implementation of services and operations, supporting strategies to achieve competitive advantage, and facilitating decision-making and management processes. Therefore, the implementation of a management information system is essential for hospitals to operate more effectively and in a coordinated manner (Wulur et al., 2023).

All service data must be properly recorded, stored, processed, and documented using a hospital management information system to provide information, particularly about patients and their administration. This helps determine the quality of patient care, hospital performance, and costs (Taufiq, 2025).

The success of a SIMRS implementation is determined not only by the technical aspects of the system itself, but also by non-technical factors such as organizational support, the system's suitability to user needs, and especially the level of user satisfaction. User satisfaction is a crucial indicator of the extent to which SIMRS successfully delivers positive benefits, both for employees in improving their performance and for patients in improving the quality of care they receive (Utomo et al., 2024).

## METHOD

This study uses a literature review method, which is a research approach that examines and discusses various related theories in depth to obtain comprehensive information on the research topic. The articles reviewed in this study were publications from the last eight years (2020–2025) and were obtained through the Google Scholar database. The search was conducted using the terms *Hospital Management Information System*, *Administrative Efficiency*, and *Literature Review*. The selection process included identifying articles relevant to SIMRS and administrative efficiency, screening them based on titles and abstracts, and ensuring they met the publication year range. Only articles that matched the research focus were included in the review and used as the basis for synthesizing the findings.

## RESULT AND DISCUSSION

**Table 1. Literature Review Results**

Title	Author (Year)	Method	Key Findings
Overview of the National Health Insurance (JKN) Inpatient Administration System at Hospital X	(Gulo et al., 2025)	Qualitative study using interviews with six hospital staff (inpatient head, lab staff, registration, medical records, quality, pharmacy)	JKN administrative services operate with adequate personnel, structured procedures, and an integrated HINAI system. Challenges include network issues and incomplete medical records.
Relationship Between SIMRS	(Edwi et al., 2022)	Descriptive-analytic, cross-sectional; SIMRS	Study examines the relationship between SIMRS

Implementation and Outpatient Employee Performance		as independent variable, employee performance as dependent variable	implementation and employee performance; indicates performance improvement aligned with system utilization.
Impact of SIMRS Digitalization on Patient Administration Effectiveness	(Rohmah et al., 2025)	Qualitative descriptive literature review	SIMRS digitalization improves service speed, data accuracy, accessibility, and patient satisfaction. Barriers include infrastructure limitations and human resource readiness.
Impact of SIMRS Implementation on Employee Performance	(Triana et al., 2025)	Literature review synthesizing multiple journal findings	SIMRS significantly improves employee performance, operational efficiency, and service speed. Most studies report $p < 0.05$ association between SIMRS and performance outcomes.
SIMRS for Improving Health Service Quality in Indonesia	(Pane et al., 2023)	Literature review using	SIMRS improves health service quality by supporting management processes in health institutions.

## Discussion

Based on the results of the synthesis of five scientific articles, the application of Hospital Management Information System (SIMRS) proven to play an important role in improving administrative efficiency and work effectiveness in hospitals. In general, literature shows that SIMRS accelerates service processes, improves data accuracy, and supports faster and more coordinated decision-making. However, several studies have also identified challenges such as human resource readiness and infrastructure constraints that can hinder system optimization.

Research conducted by Gulo et al. (2025) shows that the use of an information system at Hospital X, Tangerang Regency, can improve the administrative flow of National Health Insurance (JKN) patients. The administrative process, from registration to claims, becomes more structured and efficient because the system is integrated between units. However, computer network constraints and staff accuracy in entering medical data remain administrative obstacles. These results are in line with research by (Pane et al., 2023) which found that the implementation of SIMRS improves service quality and the efficiency of hospital management activities by integrating service, financial, and logistics data in a single system.

Research conducted by Gulo et al. (2025), found that although variables such as system content, accuracy, appearance, user friendliness, and time lines relate with user satisfaction,

this study does not directly state that administrative efficiency increases automatically or overall

Furthermore, research (Edwi et al., 2022) shows a positive and significant relationship between the implementation of SIMRS and employee performance outpatient services at Dompot Dhuafa Integrated Hospital in Bogor. This study confirms that the higher the level of SIMRS implementation, the better the efficiency and effectiveness of administration and employee performance. This finding is supported by the findings of research aligns with research by Putri (2025) which also found that the implementation of SIMRS plays a significant role in improving service quality and hospital operational efficiency. The findings indicate that the main challenges in SIMRS implementation relate to infrastructure limitations, such as outdated hardware and unstable internet connectivity, which can impact the smooth implementation of the system. Solutions implemented include improving information technology infrastructure, intensive staff training, and recruiting IT experts to support the system. Furthermore, strengthening data security protocols is also crucial for protecting patient information and maintaining public trust. Despite these challenges, hospitals that successfully implement SIMRS optimally are able to improve administrative efficiency, service transparency, and overall health care quality, thereby strengthening public trust in government health services.

From the perspective of digitalization of administration Research (Rohmah et al., 2025) revealed that digital-based SIMRS can improve administrative efficiency by accelerating service processes, increasing data accuracy, and facilitating information access. However, challenges include limited technological infrastructure and human resource readiness to operate the system. These findings are reinforced by (Wibowo, 2022) which states that the success of hospital digitalization is greatly influenced by organizational readiness and workforce training in managing the system.

In contrast, research results (Utomo et al., 2024) show variations in the level of satisfaction of SIMRS users across several hospitals. These factors include differences in system complexity, lack of training, and user resistance to the transition from a manual system to a digital one. These findings are not entirely in line with the results (Ramadhani et al., 2025), which showed that SIMRS implementation significantly improved nurse satisfaction and performance through easier access to patient data, faster service delivery, and more efficient work time. These differences in results may be due to the level of infrastructure readiness, management support, and variations in human resource capabilities in each hospital.

Meanwhile, research (Pane et al., 2023) confirms that SIMRS not only increases administrative efficiency, but also has a direct impact on quality of health services. The implementation of this system allows for data transparency, time efficiency, and ease of coordination between hospital units. These results align with a study by (Wulur et al., 2023), which found that modern health information systems play a strategic role in optimizing patient care and hospital operational efficiency.

Overall, the results of the literature review show that SIMRS has a significant positive impact on administrative efficiency in hospitals. This system enables data integration between service units, accelerates administrative processes, reduces the risk of data input

errors, and supports informed decision-making. However, the success of SIMRS implementation remains dependent on the readiness of the technological infrastructure, human resource training, and management commitment to sustainable system management.

## ACKNOWLEDGMENT

The authors would like to express their gratitude to all supervisors, colleagues, and institutions who provided support, guidance, and valuable contributions that made this study possible.

## CONCLUSION

Based on the results of the literature review, the application of hospital management information system (SIMRS) proven to have a positive effect on administrative efficiency, work effectiveness, and quality of hospital services. This system can speed up administrative processes, improve data accuracy, and facilitate coordination and decision-making.

Research by Edwi et al. (2022); Gulo et al. (2025) and Pane et al. (2023) shows that SIMRS improves employee performance and service efficiency. However, studies such as Utomo et al. (2024) revealed that there were obstacles in infrastructure and human resource readiness that could affect the level of implementation success.

Overall, the effectiveness of SIMRS is highly dependent on management support, technological readiness, and health worker training. With good management, SIMRS can be a strategic tool to improve administrative efficiency and the quality of health services in hospitals.

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