



The Impact of Hospital Management Information Systems (HMIS) on Human Resource Efficiency and Effectiveness: A Literature Review

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Article Info	ABSTRACT
<p>Article History Received: Dec 31, 2024 Revised: Jan 08, 2025 Accepted: Jan 12, 2025</p> <hr/> <p>Keywords: HMIS, Health Information Technology, Efficiency</p>	<p>The Hospital Management Information System (HMIS) is an information technology platform that integrates all service workflows in a hospital to obtain precise and accurate information. The use of HMIS is considered essential for improving healthcare service quality and hospital operational efficiency. This study aims to explore the impact of HMIS on the efficiency and effectiveness of human resource (HR) performance in hospitals. The research employs a literature review method, collecting data from various relevant sources such as journals, books, and online resources, primarily from the last five years (2020–2024). The implementation of HMIS in hospitals has demonstrated improvements in HR performance efficiency and effectiveness. HMIS facilitates better data management, enhances coordination among work units, and accelerates healthcare service processes. However, effective implementation heavily relies on management support, workforce readiness, and the availability of adequate technological infrastructure. Investments in HMIS not only enhance HR performance but also contribute to the overall improvement of service quality for patients.</p>

INTRODUCTION

As part of the Health Information System encompassing all healthcare service activities within hospitals at all administrative levels, the Hospital Management Information System (SIMRS) is an information and communication technology system that manages and integrates all hospital service workflows into a coordinated network, reporting system, and administrative procedures to ensure precise and accurate information (Rabiah Demlinur Putri & Dety Mulyanti, 2023). The use of SIMRS in hospitals addresses various challenges in healthcare services. SIMRS is essential as a management strategy to improve healthcare service quality and gain a competitive advantage in the business sector (Molly R & Itaar M, 2021). It provides the information required by hospital managers to support management processes, including data collection, processing, presentation, and analysis.

Globally, SIMRS is considered a strategy to support more efficient healthcare services. The World Health Organization (WHO) encourages countries to adopt integrated digital health strategies with an emphasis on governance management, data processing, and the engagement of qualified human resources (WHO, 2024). For instance, in Tanzania, the implementation of

SIMRS, also known as HIS, has successfully improved data accessibility and healthcare service quality, particularly for women and individuals with disabilities (Lwoga & Komba, 2024). According to national data, only 14.23% of hospitals in Indonesia have high-quality information systems. One hospital that has implemented SIMRS is Bahteramas General Hospital in Southeast Sulawesi Province. This hospital highlights the importance of SIMRS implementation to enhance administrative efficiency across hospitals in Indonesia. The application of SIMRS has the potential to reduce administrative errors and accelerate patient services. Therefore, integrating SIMRS into national healthcare service policies is crucial (Kusmiranti et al., 2022).

Before SIMRS becomes a part of the health information system in hospitals, several challenges arise, one of which is workload. When the available workforce is limited, the workload increases, potentially leading to fatigue, decreased productivity, and impaired quality of healthcare services (Lestari, 2021). In addition to workload, other challenges in health information systems include time efficiency and service effectiveness. Therefore, a system is needed to support human resources in completing their tasks. SIMRS is an information and communication technology-based platform designed to manage all healthcare service processes through coordination networks, reporting, and management procedures. Its goal is to provide accurate and precise information. The implementation of SIMRS is one of the strategic steps taken by hospitals to develop effective management information systems, improve service quality, and enhance the efficiency and effectiveness of service processes (Halawa, 2024).

Previous studies revealed that SIMRS has significant potential to improve the quality of public services in the healthcare sector. Optimal public services are among the primary goals of an effective and efficient healthcare system, where SIMRS plays a strategic role in achieving these objectives. The system serves as a means to enhance service quality, reduce operational costs, and accelerate public service delivery. Efficiency is one of the key elements in public services. Through the implementation of SIMRS, hospitals can organize patient data, administration, and medical care systems more structured and efficiently. However, most existing studies focus more on the technical aspects of SIMRS implementation, such as system integration and technological infrastructure development. Conversely, in-depth studies on the impact of SIMRS on human resource (HR) performance and productivity remain limited. This research gap opens opportunities to understand how SIMRS implementation can enhance time efficiency, reduce administrative errors, and optimize HR tasks. Therefore, this literature review aims to explore further the impact of SIMRS on the efficiency and effectiveness of HR performance in hospitals (Putri et al., 2025).

METHODS

This study is a literature review. As a method, a literature review is used to gather data or sources relevant to a specific topic, which can be obtained from various references such as journals, books, and online sources. This research does not involve direct observation but relies on research journals that provide concise summaries of several pieces of literature, including books and journals, compiled to form the review. Our primary sources were textbooks related to the selected topic, namely "The Impact of Hospital Information Management Systems (SIMRS) on HR Efficiency and Effectiveness."

The criteria for inclusion include the publication year of the literature sources, which were limited to the last five years (2019–2024), as well as the alignment between keywords and findings in the journals. The strategy for journal collection was based on references from accredited sites such as Google Scholar and e-journals, employing a systematic approach to composing the literature review.

In the literature search, the researchers applied the following four methods: Search Strategy, Selection Criteria, and Quality Assessment.

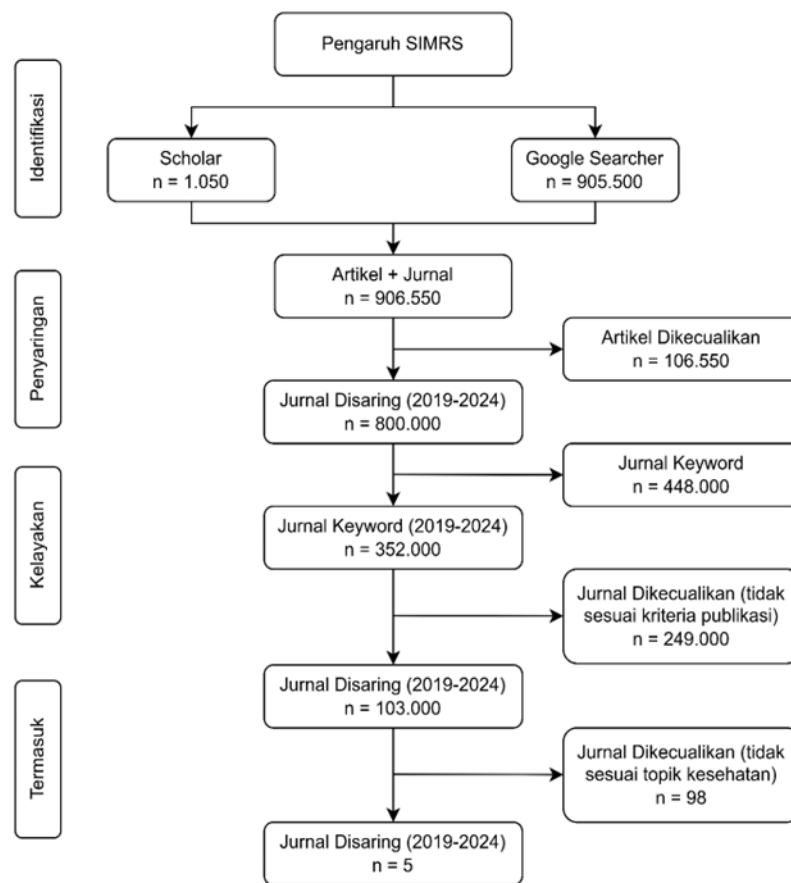


Figure 1. Flowchart of Literature Search

RESULTS

Table 1. Results of the Literature Review Study

Author	Title	Objective	Method	Conclusion
Ilham Fahrul Pratama, Eko Purwanto	Hospital Management Information System in Improving Efficiency	The purpose of this writing is to analyze the hospital management information system in	Library research method	The conclusion is that the implementation of the Hospital Management Information System (SIMRS) can improve hospital efficiency, both

		improving efficiency.		in terms of processes and service flow. This supports the reduction of hospital operational costs, enhances hospital performance, improves the expertise of hospital human resources, and advances the hospital organization towards a better direction.
Siti Aisah, Lisa Maharan	The Role of Management Information Systems in Improving Hospital Efficiency	The aim is to ensure that the implementation of the Hospital Management Information System (SIMRS) affects the efficiency of healthcare services.	Literature review	The majority of hospitals today have technology for their hospital information systems, which shows that the role of Computer-Based Hospital Information Systems (SIMRS) has the greatest impact in improving or facilitating healthcare services as well as increasing the productivity of both medical and administrative staff in hospitals.
Herianto Siregar, Arifah Devi Fitriani, Aida Fitria, Ismail Efendy, Nuraini	Analysis of the Implementation of the Hospital Information System on the Administrative Services at Haji Syaiful Anwar Hospital.	The aim is to analyze the effects of implementing the Hospital Management Information System (SIMRS) on administrative services using the PIECES technique.	A qualitative method was used involving 11 informants. Data collection was conducted through in-depth interviews to obtain comprehensive data regarding the experiences and perspectives of	The Hospital Information Management System (SIMRS) has enhanced the management and access to information in hospitals, contributing to the continuity of administrative services and the quality of care. From an economic perspective, SIMRS helps minimize undocumented expenses, secure

			the informants on the implementation of the Hospital Information Management System (SIMRS).	spending data, and improve resource efficiency.
Nursalamah Abdatus Salaam, Mulyadi	The Influence of Hospital Management Information System and Physical Environment on Human Resource Development and Service Quality at RSIA XYZ	The aim of this study is to examine the influence of the Hospital Management Information System (HMIS) and the Physical Environment on Human Resource (HR) Development and Service Quality at RSIA XYZ.	The method used is Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze data from the questionnaire distributed to employees of XYZ Maternity Hospital (RSIA XYZ).	The results of the study indicate that the Hospital Management Information System (SIMRS) has a significant impact on Human Resources Development. This demonstrates that SIMRS supports the development of employee skills and competencies through efficient and accurate data management.
Budi Utomo, Cahya Tri Purnami, Sri Winarni	The Effect of Using SIMRS on Employee Performance (A Study at Trimedika Ketapang Hospital, Grobogan)	The aim of this study is to examine the effect of using the Hospital Management Information System (SIMRS) on employee performance at Trimedika Ketapang Hospital, Grobogan.	This quantitative research used an observational design, conducted in March 2024 among employees at Trimedika Hospital in Ketapang, Grobogan. A total of 160 employees were involved in the use of the Hospital Information	The results of the study indicate that the quality of information affects employee performance through system usage. Good information enhances employees' efficiency in performing their tasks.

Management
System (SIMRS).

DISCUSSION

The Hospital Information Management System (SIMRS) is an information and communication technology platform that manages all healthcare service processes through a network of coordination, reporting, and management procedures (Margherita et al., 2021). The primary goal of SIMRS is to provide accurate and reliable information. The implementation of SIMRS is a strategic step taken by hospitals or clinics to enhance the effectiveness of the management information system, improve service quality, and increase efficiency and effectiveness in service delivery (Nolte et al., 2020).

SIMRS also influences Human Resource Effectiveness, as the utilization of technology-based information systems impacts work efficiency and effectiveness. In this context, it also affects the level of satisfaction with hospital services from the community, as fast and real-time access to patient data improves decision-making for medical staff. Furthermore, the integrated modules of SIMRS enable better coordination between work units, leading to more optimal patient care (Fikri Emsa Silmi, 2022). Employee performance is strongly influenced by the hospital management information system; in other words, the performance of employees is significantly affected by the system of management information available in the hospital (Bisra M et al., 2024).

The advantages of SIMRS include the acceleration of hospital administrative tasks (such as procurement of supplies or medications), tracking patient information, including medical records and health history necessary for diagnosis, providing fast services (for inpatient or outpatient administration), and preparing reports for hospital management quickly (Syaodih E et al., 2024). Hospitals benefit significantly from the use of SIMRS, beginning with increased time efficiency, simplifying tasks, and enabling staff to access patient data through a single application, which accelerates and streamlines service delivery (Fahrul Pratama & Purwanto, 2023; Lasaiba, 2023; Siregar et al., 2024).

However, the implementation of SIMRS presents significant challenges, including a lack of understanding and sufficient knowledge among employees regarding how to use the system. Although clinic management has provided training on the use of SIMRS prior to its implementation, there are still obstacles in its execution. Employees have not fully mastered the integration and use of the system's complex features, requiring deeper understanding to use it effectively. This results in suboptimal use of SIMRS. Additionally, some new employees have not received the necessary training, leaving them without sufficient experience and skills to operate the system (Spagnoletti et al., 2021; Waruwu et al., 2024).

CONCLUSION

The Hospital Management Information System (SIMRS) has a significant impact on improving the efficiency and effectiveness of human resources within hospitals. The integration of this system enables operational processes to run more quickly, accurately, and productively. However, the effectiveness of SIMRS implementation is highly influenced by management

support, workforce readiness, and the availability of adequate technological infrastructure. Investment in SIMRS not only enhances human resource performance but also contributes to the overall improvement of service quality for patients.

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