

THE ROLE OF HUMAN RESOURCE MANAGEMENT AND MANAGEMENT INFORMATION SYSTEMS IN IMPROVING SERVICE QUALITY AND PERFORMANCE

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ABSTRACT

Service In facing increasingly competitive service industry competition, organizations are required to balance internal efficiency and external excellence. This study aims to analyze the synergy between Human Resource Management (HRM) and Management Information Systems (MIS) in driving organizational performance. Based on the synthesis of the latest literature, it was found that the implementation of an integrated MIS plays a vital role in reducing cost inefficiencies and supporting data-driven strategic decision-making. On the external side, the use of marketing information has been proven to increase service utility and *Bed Occupancy Rate* (BOR). However, technology will only be effective if supported by adaptive human resources. Behavioral competencies such as polychronicity *and* employee engagement *are* determining factors in maintaining excellent service quality amidst dynamic work demands. This article concludes that the integration of digital capabilities and HR readiness is the key to sustainable organizational performance.

Keywords : *Human Resource Management, Management Information Systems, Service Quality, Operational Efficiency, Polychronicity .*

INTRODUCTION

The dynamics of modern business place service organizations, particularly hospitals and hotels, in a dual pressure situation . On the one hand, organizations are required to provide high-quality services oriented towards customer satisfaction, but on the other hand, they must maintain an efficient and sustainable operational cost structure. In this competitive landscape, organizational performance is no longer sufficient if assessed solely from a financial perspective, but must also integrate operational capabilities in responding to fluctuating market needs. Wisesa et al., (2024) identified that the stability of customer visits—as reflected in the *Bed Occupancy Rate* (BOR) indicator in hospitals—is highly dependent on the implementation of a comprehensive marketing mix strategy. This strategy includes not only promotions but also people and process elements *that determine* the *quality* of service perceived by consumers. The decline in this key performance indicator is often rooted in the organization's inability to formulate an appropriate strategy, as well as a failure to create a memorable customer experience (*experiential marketing*), as emphasized in previous studies on customer retention (Andriani & Fatimah, 2018).

Internally, efficiency leaks often occur due to suboptimal resource management and manual or fragmented business processes. Albar et al. (2024) in their literature review highlighted that without adequate information system support, service organizations are highly vulnerable to non-value-added (*waste*) activities. This inefficiency ultimately burdens the cost structure,

reduces profit margins, and undermines the organization's overall financial health. Therefore, the adoption of Management Information Systems (MIS) and digital accounting technology is a non-negotiable strategic step to ensure transparency, data accuracy, and cost control. The use of appropriate technology enables management to make data-driven decisions, which is crucial for maintaining operational sustainability (Andriani et al., 2025).

However, digital transformation and sophisticated systems cannot be effective without human capital readiness. Technology is merely a tool (*enabler*), while service execution remains dependent on human interaction. Referring to in-depth research by Andriani and Disman (2023), the fast-paced work environment of the service industry demands that employees have specific behavioral flexibility, known as polychronicity. Employees with high polychronic preferences are able to handle multiple tasks and customer demands simultaneously without experiencing excessive work stress. This is crucial because high work pressure without the support of adaptive competencies can trigger employee turnover intention, which will actually harm organizational performance (Andriani et al. 2023). Furthermore, a strong service culture *must* be instilled so that employees are not only skilled in using systems but also have a sincere service orientation (Andriani 2020).

The urgency of this research is based on data on the growth of the service sector in Indonesia, which remains a major economic engine. However, efficiency remains a challenge. For example, in the healthcare sector, Minister of Health Regulation No. 24 of 2022 requires all healthcare facilities to implement Electronic Medical Records (EMR) by the end of 2023. However, a 2023 report from the Ministry of Health shows that only around [mention the percentage, if available, from a local survey] hospitals are optimally integrated with the SatuSehat platform. The main obstacle is not software, but rather human resource readiness (digital literacy) and resistance to change.

Given this complexity, there is an urgent need to align technology and human aspects. This article aims to discuss how integrating the role of competent Human Resource Management (HRM)—through the development of polychronic behavior and *engagement*—with a reliable Management Information System (MIS) can provide a comprehensive solution. This synergy between "high-tech" and "high-touch" is expected to improve service quality and organizational performance sustainably amidst increasingly fierce industry competition.

LITERATURE REVIEW

Integration of Information Systems and Human Resources Capabilities in the Dynamics of the Service Industry

This literature review maps a theoretical framework regarding the relationship between Management Information Systems (MIS), Marketing Strategy, and Human Resource Management (HRM) in efforts to improve the performance of service organizations. The primary focus is on how technology and human behavior interact to create operational efficiency and service excellence.

1. The Urgency of Management Information Systems in Cost and Operational Efficiency

In the modern business landscape that demands high accountability, financial and operational management can no longer rely on conventional methods. Albar et al., (2024) through their systematic review emphasized that the implementation of information technology, particularly integrated accounting systems, is the main foundation in creating efficiency. This system functions to eliminate activities that do not provide added value (*non-value added activities*) or waste. Without the support of accurate and *real-time data*, organizations are vulnerable to budget leaks that directly impact profitability. Furthermore, Liana, et al. (2025) added that a precise cost management strategy—enabled by MIS—is crucial in maintaining service sustainability amidst

limited resources. Therefore, MIS is not just a reporting tool, but a strategic control instrument *that* enables management to achieve efficiency without sacrificing the quality of service output.

2. Data-Driven Marketing Mix Strategy and Service Quality

The performance of service organizations is often measured by the level of utility or customer visits (e.g., *Bed Occupancy Rate* in hospitals or *Room Occupancy* in hotels). Wisesa, Widjaja, and Purwadhi (2024) explain that fluctuations in this indicator are greatly influenced by the effectiveness of the marketing mix strategy (7Ps), particularly *the people*, *process*, and *physical evidence elements*. Utilizing market data processed through information systems allows managers to design more accurate digital promotion and segmentation strategies.

Service quality is a mediating variable linking marketing strategy to customer loyalty. Previous research by Andriani and Fatimah (2018) supports this argument by showing that an *experiential marketing approach*—creating memorable customer experiences—significantly increases revisit intention. This means that the data generated by the system must be translated into personalized and relevant service policies for consumers.

3. HR Adaptability: Polychronicity and Employee Engagement

Digital transformation and the demand for efficiency have consequences for employee workloads. This is where HR Management plays a crucial role in developing adaptive human capital. Andriani and Disman (2023) introduced the importance of the concept of polychronicity in the service industry.

Polychronicity is defined as an individual's preference and ability to handle multiple tasks or information simultaneously. In technology-intensive work environments, employees with high levels of polychronicity tend to view task complexity as a stimulating challenge, rather than a crippling burden.

In addition to behavioral competencies, psychological aspects are also a determining factor. (Andriani et al., 2023) found that a supportive work environment (including efficient work system support) is positively correlated with Employee Engagement and Job Satisfaction. Employees who feel emotionally connected to their jobs have a lower tendency to leave the organization (*turnover intention*). This is in line with the findings of Insani and Setiyariski [Andriani] (2020) who emphasized that the quality of service at the front office is highly dependent on the clarity of the tasks and responsibilities carried out by employees.

4. Synthesis: Convergence of Technology and Human Behavior

Based on the literature review above, a close relationship is evident between the "tool" (MIS) and the "actor" (HR). The efficiency offered by financial information systems (Albar et al., 2024) allows organizations to better allocate resources. However, the execution of service performance improvement strategies (Wisesa et al., 2024) depends entirely on employees with polychronic behavior and high *engagement* (Andriani & Disman, 2023).

The conceptual model developed is that the Management Information System acts as an *enabler*, providing accurate data for efficiency and marketing strategies, while Human Resource Management acts as a *driver*, ensuring employees are able to utilize the system multitasking to provide excellent service. This synergy leads to sustainable improvements in organizational performance.

RESEARCH METHODS

This study uses a qualitative approach with an Integrative Literature Review method . *This approach* was chosen because the main objective of the study is to synthesize knowledge from various different disciplinary streams—namely Human Resource Management (HRM), Management Information Systems (MIS), and Healthcare/Hospitality Management—into a new, comprehensive conceptual framework. This method allows researchers to critique, review, and integrate representative literature to address managerial challenges related to service efficiency and quality.

The data used in this study is secondary data sourced from reputable scientific journal articles, international conference proceedings, and accredited research documents. The literature focus covers the publication period between **2014 and 2025** .

1. Research Summary Table (2014 – 2025)

Author Name	Title	Main Research Results
Andriani (2014)	Organizational Culture and Competence vs. Job Satisfaction	Organizational culture and competence have a positive influence on bank employee job satisfaction.
Andriani & Fatimah (2018)	Experiential Marketing & Revisit Intention	<i>The experiential marketing</i> approach significantly increases tourists' return visit intentions.
Insani & Setiyariski (2020)	Front Office (Concierge) Service Quality	The quality of front-line service depends heavily on the clarity of employee duties and responsibilities.
Andriani & Disman (2023)	The Influence of Polychronicity on Hotel Employees	Polychronicity has a positive effect on employee engagement and reduces <i>turnover rates</i> .
Albar, et al. (2024)	Hospital Financial Management Strategy	Implementation of accounting information technology/MIS is able to eliminate <i>waste</i> .
Wisesa, et al. (2024)	Inpatient Visit Increase Strategy (BOR)	The stability of <i>the Bed Occupancy Rate</i> (BOR) is highly dependent on <i>the people and process elements</i> in the marketing mix.
Liana, et al. (2025)	JKN Inpatient Cost Management Strategy	Cost management strategy (SIM) is crucial in maintaining service sustainability amidst limited human resources.

This time span was chosen to capture the evolution of basic theories regarding organizational

culture and competencies (2014-2018) to the latest trends regarding digital transformation, EMR (*Electronic Medical Records*), and *medical tourism* (2024-2025).
Main data sources include: Current Studies (2024-2025):

2. Research Study Table (Year 2024 - 2025)

Author Name (Year)	Research Focus	Findings / Output
Albar, et al. (2024)	Accounting & Efficiency SIM	Eliminate non-value added activities <i>and</i> prevent budget leaks.
Wisesa, et al. (2024)	Marketing Mix 7P & BOR	SIM-processed market data enables accurate segmentation and increased service utility.
Nico, et al. (2024)	Analysis of Medical Personnel Needs	Determining the appropriate workload using <i>the Work Sampling method</i> in the Emergency Department.
Liana, et al. (2025)	Cost Containment	The accuracy of cost management depends on the validity of <i>real-time SIM data</i> .
Sanjaya, et al. (2025)	SOP for Medical Tourism	Analysis of the implementation of operational standards in improving the international competitiveness of hospitals.
Septia, et al. (2025)	EMR & Administrative Efficiency	Electronic Medical Records (EMR) significantly improve the efficiency of hospital administration.
Wijaya, et al. (2025)	Hospital SIM in Indonesia	The challenge of SIMRS integration in creating centralized and transparent data.

Focus on technology implementation (SIMRS/EMR), JKN cost efficiency, workload analysis, and global service SOPs (e.g., Liana et al., 2025; Septia et al., 2025; Sanjaya et al., 2025; Albar et al., 2024). Organizational Behavior Study (2014-2023):

3. Research Data Table (2014 - 2023)

Author Name (Year)	Main Variables	Conclusion
Andriani (2014)	Culture & Competence	Key determinants of job satisfaction in the banking industry.
Andriani (2017)	Food & Beverage Serving	Technical operational standards for service in the food service industry.

Andriani & Fatimah (2018)	<i>Experiential Marketing</i>	Creating memorable customer experiences as a retention strategy.
Andriani & Disman (2020)	Polychronicity in the Hotel Industry	Employees in Bandung show a high need for multitasking adaptation.
Islamy, et al. (2021)	Knowledge-Based View	Technology-based knowledge management improves higher education performance during the pandemic.
Adafiah, et al. (2023)	Emergency Patient Satisfaction	Emergency services during the Covid-19 pandemic are influenced by the responsiveness of human resources.
Andriani & Disman (2023)	<i>Employee Engagement</i>	Efficient work system support increases employee emotional engagement.

Focus on *human capital aspects* , such as polychronicity, *employee engagement* , and service culture (e.g., Andriani & Disman, 2023; Andriani, 2014).

Data collection was conducted through a systematic search of academic databases (Google Scholar and the SINTA portal) and a review of relevant specific documents. The keywords *used* included: "*Management Information Systems in Healthcare*" , "*Polychronicity Behavior*" , "*Service Quality*" , "*Cost Efficiency*" , "*Workload Analysis*" , and "*Organizational Performance*" .

Inclusion criteria for documents were: Articles addressing the intersection of technology and people in the service industry (hospitals/hotels). Articles presenting empirical data or theoretical reviews on operational efficiency and customer satisfaction. Recent articles addressing global standards (SOPs, TQM, Medical Tourism).

The collected data was analyzed using the Thematic Analysis *technique* .

4. Article Recapitulation Table (SOP, TQM, & Medical Tourism)

Specific Topics	Author (Year)	Article Title	Summary of Discussion
Medical Tourism & SOP	Sanjaya, et al. (2025)	Analysis of the Implementation of Medical Tourism SOPs in Increasing Hospital Competitiveness	Focus on standardizing operational procedures to attract international markets (Medical Tourism) at BIMC Siloam Hospital.
TQM (Total Quality	Wijaya, IMS, et al.	Evaluation of Pediatric Total	The use of TQM principles to ensure comprehensive

Management)	(2025)	Quality Management in Improving Children's Health Services	quality of health services in pediatric units.
Efficiency & SOP	Septia, et al. (2025)	EMR and Administrative Efficiency in Indonesian Hospitals	Operational standards through Electronic Medical Records to improve administrative efficiency and customer satisfaction.

The analysis process is carried out in three stages:
 Data Reduction: Identifying and extracting key findings from each article (e.g., findings on “cost inefficiency” from Albar et al., 2024, or “polychronic behavior” from Andriani & Disman, 2023).
 Theme Mapping: Grouping findings into three main clusters: (a) The Role of Technology in Efficiency, (b) Dynamics of HR Behavior, and (c) Service Quality Improvement Strategies.
 Synthesis and Conclusion Drawing: Connecting across clusters to build a conceptual model that explains how MIS and HR integration impact overall organizational performance.

DISCUSSION

The results of the literature review indicate that the main obstacle to the performance of service organizations often lies not solely in a lack of revenue, but rather in operational cost leakage due to inefficiency. In line with the findings of Albar et al. (2024), this discussion confirms that the adoption of a Management Information System (MIS) serves as an organization's primary defense mechanism. In managerial practice, MIS shifts the cost management paradigm from reactive to proactive. With the ability to detect non - *value-added activities* , management can implement strategic cost cuts without compromising the quality of service perceived by customers.

Furthermore, the transparency of data generated by accounting information systems supports accurate decision-making. As highlighted by Liana, Andriani, Hidayat, and Syaodih (2025), accuracy in cost *containment management* is highly dependent on data validity. When managers have *real-time access* to financial data, the risk of resource misallocation can be minimized, creating a leaner *and* more agile *organizational structure* in the face of market fluctuations.

The implementation of advanced technology demands fundamental changes in employee work behavior. This discussion highlights that the success of digitalization depends not only on *software* , but also on the mental readiness *of the brainware* (HR). Referring to the concept developed by Andriani and Disman (2023), a work environment integrated with MIS requires employees to have a high level of polychronicity. In daily operations, frontline employees *often* have to serve customers face-to-face while inputting data into the system.

Employees with a monochronic preference (one task at a time) may view this system integration as a distraction that triggers work stress. Conversely, employees with a polychronic preference will see it as a tool that expedites the completion of multiple tasks. Therefore, HR management strategies must shift from simply assessing technical competency to assessing behavioral fit . A supportive work environment that facilitates polychronic behavior has been shown to increase employee engagement *and* job satisfaction, ultimately reducing *turnover rates* (Andriani et al., 2023).

The performance of service organizations, often measured by visit volume or occupancy rates (such as BOR in hospitals), is the end result of the synergy between marketing strategy and service quality. Wisesa, Widjaja, and Purwadhi (2024) emphasize that an effective marketing mix strategy must be supported by precise data on consumer behavior. MIS provides this database, enabling organizations to target the right market segments with relevant messages.

However, an aggressive marketing strategy will only succeed if supported by excellent service delivery. This is where service culture plays a crucial role. As Andriani and Fatimah (2018) and Insani and Setiyariski (2020) explain, customer experience is shaped by direct interactions with employees. Information systems help expedite processes (assurance and responsiveness), but friendly and empathetic employees (empathy) remain the primary determinants of customer loyalty.

CONCLUSION

Based on the synthesis and in-depth analysis of the existing literature, this study concludes that improving service quality and performance of service organizations cannot be achieved through a partial approach. The key to the success of modern organizations lies in the integrative synergy between technological capabilities and human resource competencies. First, Management Information Systems (MIS) have proven to be a vital instrument in creating structural efficiency. Referring to the findings of Albar et al. (2024) and Liana, Andriani et al. (2025), MIS provides visibility into financial and operational flows, enabling organizations to eliminate waste *and* allocate resources precisely. In addition, MIS empowers data-driven marketing strategies that are essential to maintaining the stability of service utility or *occupancy rates*, as emphasized by Wisesa et al. (2024).

Second, the successful implementation of this technology is highly dependent on the readiness of Human Resource Management (HR). Advanced technology requires adaptive operators. This research underscores the urgency of the concept of Polychronicity, introduced by Andriani and Disman (2023). Employees with polychronic capabilities are able to simultaneously bridge the demands of precise systems with the demands of humanistic customer service, thereby maintaining high levels of customer satisfaction and employee engagement.

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