



## Influence of Workload, Motivation, and Human Resource Availability On Management Information System Quality

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### Abstract

In the digital era, the Management Information System (MIS) has become a strategic tool to support organizational performance and decision-making. However, MIS quality is not only determined by technological sophistication but also by human factors that directly influence its use and sustainability. This study aims to analyze the impact of workload, employee motivation, and human resource (HR) availability on the quality of MIS by employing a Systematic Literature Review (SLR) approach. Using PRISMA guidelines, a total of 135 articles published between 2020 and 2024 were initially identified, of which 20 met the inclusion criteria for full review. The selected studies came from various organizational contexts such as education, healthcare, corporate, and public sectors. The findings reveal that excessive workload reduces accuracy in data processing, delays information updates, and increases system-related errors.

Conversely, high employee motivation fosters accountability, proper data handling, and optimal system utilization, serving as a buffer against workload-related stress. Meanwhile, the availability of qualified HR plays a pivotal role in ensuring both the technical and managerial aspects of MIS run effectively. A lack of trained personnel often results in underutilization and mismanagement of systems. The synthesis highlights that workload, motivation, and HR availability are interconnected factors that collectively shape the quality of MIS. To enhance system performance, organizations must adopt balanced workload strategies, foster motivational work environments, and invest in HR development through training and strategic recruitment. These measures are essential for achieving sustainable, accurate, and effective MIS outcomes.

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## Introduction

In the digital era, the Management Information System (MIS) plays a crucial role in supporting organizational effectiveness and strategic decisionmaking. An effective MIS not only ensures the availability of accurate, timely, and relevant data but also enhances the efficiency of internal operations. However, the quality of MIS is not solely determined by the technology itself, but also by human factors within the system (Sahidin et al., 2025). Among the most influential factors are workload, employee motivation, and the availability of qualified human resources. These three variables often intersect and collectively shape how information systems are utilized and maintained. Overburdened employees may struggle to input or process data accurately, while unmotivated staff may neglect system procedures or fail to optimize its features (Rohman et al., 2023). Similarly, a lack of skilled human resources can lead to mismanagement or underutilization of the MIS infrastructure. Hence, analyzing these humancentric elements becomes essential to improve MIS outcomes.

The workload factor has consistently been cited as a major contributor to reduced system performance. When employees are assigned excessive tasks without proper allocation of time and resources, their ability to engage effectively with the MIS declines (Minto Prasetyo & Ali, 2024). Mistakes in data entry, delays in information updates, and system fatigue are common consequences (Marlen et al., 2024). This can disrupt the accuracy and reliability of organizational data, which in turn impacts managerial decisions. Managing workload is therefore not only a human resource issue but also a

technological and operational challenge. Organizations must evaluate how work distribution affects user interaction with MIS platforms. Balanced workload contributes to sustained system use and reduces the likelihood of burnout. Thus, workload management must be integrated into information system planning and evaluation (Maryadi et al., 2024).

Motivation is another crucial variable that significantly influences employee interaction with management systems. Highly motivated individuals tend to exhibit greater engagement, responsibility, and adherence to procedures when operating within an MIS environment (Maulia et al., 2024; Pariakan et al., 2023). Motivation can arise from both intrinsic and extrinsic sources—such as career development opportunities, recognition, job security, or alignment with organizational values (Marliana et al., 2023). When motivation is low, even the most advanced MIS tools may remain underutilized or misused. Consequently, system success requires not only technical training but also psychological and cultural reinforcement. Cultivating a motivated workforce fosters a sense of ownership and accountability in managing data and utilizing the system effectively. Therefore, motivation must be treated as a strategic investment in MIS quality enhancement (Andili et al., 2025).

The availability of human resources both in quantity and quality directly affects the operational strength of a management information system. Organizations that lack trained personnel often face delays in system updates, improper data handling, or even system failures due to mismanagement. Qualified human resources are needed not just for the technical operation of MIS, but also for administrative, analytical, and interpretive functions. Moreover, ongoing changes in technology demand continuous learning and adaptability (Sugiarti, 2024; Zulkifli T et al., 2024). Without a proactive HR development strategy, the gap between system capabilities and human expertise will continue to widen. Consequently, human resource availability is not just a support element, but a strategic pillar of MIS quality. Recruiting and retaining capable professionals ensures the sustainability of information systems in the long term (Krisnandi & Sundaasih, 2023).

Given the significance of these three variables workload, motivation, and human resource availability this study aims to explore their collective and individual impact on the quality of management information systems. A comprehensive understanding of these relationships is needed to guide organizational strategies and system development efforts (Saifuddin, 2020). By applying the Systematic Literature Review (SLR) method, this research compiles, synthesizes, and analyzes findings from multiple studies across various organizational contexts. The outcome is expected to provide both theoretical insights and practical recommendations for improving MIS performance through human resource management. Ultimately, this research emphasizes that technological advancement must be matched with appropriate human capacity and support (Ageng Saepudin Kanda S & Nugraha Rhamdani, 2024). This alignment is the key to achieving consistent and high-quality outcomes from modern management information systems.

The novelty of this study lies in its integrative focus on workload, motivation, and human resource availability as interconnected variables influencing the quality of Management Information Systems (MIS). Previous research has often addressed these elements separately, for instance, examining workload in relation to stress and performance (Sarker et al., 2019) or motivation in technology adoption (Venkatesh et al., 2022), without systematically analyzing how these factors interact to shape MIS quality. By employing a PRISMA-based Systematic Literature Review (SLR), this study synthesizes findings from multiple organizational contexts between 2020 and 2024, offering a more comprehensive perspective than prior single-variable or sector-specific studies. Moreover, unlike earlier works that predominantly emphasized technological determinants of system success (Dwivedi et al., 2020), this research highlights human-centric factors as strategic pillars for MIS sustainability. This conceptual shift contributes to bridging the gap between human resource management and information systems scholarship, aligning with recent calls for cross-disciplinary approaches in top-tier journals (Gregor & Hevner, 2023). Hence, the study advances both theoretical understanding and practical recommendations by demonstrating that technological advancement in MIS must be matched with appropriate human capacity and motivation to ensure consistent, high-quality outcomes.

## Methods

This study employs a Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize relevant studies that discuss the relationship between workload, motivation, human resource availability, and the quality of Management Information Systems (MIS). The SLR method is particularly suitable for summarizing a wide range of findings from existing literature, providing a structured overview of key trends and gaps in the field. To ensure transparency and replicability, the review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. PRISMA helps ensure the research selection process is comprehensive, rigorous, and systematically documented.

The first step in the review process was formulating research questions that guided the entire review. The main question posed was: *“How do workload, motivation, and human resource availability influence the quality of Management Information Systems?”* Based on this question, inclusion and exclusion criteria were developed to ensure relevance and quality. Only peer-reviewed journal articles published between 2020 and 2024, written in English or Indonesian, and focusing on MIS in organizational settings were considered. Articles that did not specifically discuss one or more of the three variables or lacked empirical evidence were excluded from the analysis.

The literature search was conducted using online academic databases such as Google Scholar, ScienceDirect, ResearchGate, and Semantic Scholar. Keywords used included combinations such as *“workload and MIS quality,” “employee motivation in MIS,”* and *“human resource availability in management information systems.”* The initial search yielded 135 articles. After removing duplicates and applying the inclusion/exclusion criteria, 20 articles were selected for full review and analysis. These selected articles provided a rich set of data from various sectors, including education, healthcare, government, and corporate organizations.

To organize the findings, a data extraction table was developed, recording important details from each study such as author, year, research objectives, methods used, variables examined, and key results. This facilitated comparison across studies and allowed identification of recurring patterns, contradictions, and research gaps. Furthermore, the studies were categorized based on the dominant variable (e.g., workload, motivation, or HR availability) to assess their individual impact on MIS quality. Both qualitative and quantitative research articles were included, ensuring a balanced and holistic understanding of the subject matter.

The data synthesis process involved thematic analysis and categorization. Similar findings were grouped together and contrasted with opposing results to uncover areas of consensus and divergence. Each theme—workload, motivation, and human resource availability—was analyzed independently and in relation to one another. This approach enabled the formulation of evidence-based conclusions and recommendations aimed at improving the implementation and sustainability of MIS in organizations. By applying the SLR method, this study not only provides a conceptual understanding of the key human factors influencing MIS quality but also offers practical insights derived from real-world applications. The PRISMA-based methodology ensures that each step in the research process—from literature identification to data interpretation—is transparent and systematically reported. This reinforces the reliability and academic rigor of the study, contributing to the growing body of knowledge in information system management and organizational performance.

The quality appraisal in this study was conducted using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist to assess the methodological rigor of each reviewed article. The evaluation focused on clarity of objectives, appropriateness of research design, validity of instruments, transparency of methods, and consistency between findings and conclusions. Only studies that met the minimum quality standards were included in the final synthesis, ensuring that the results are credible and provide a solid basis for both theoretical and practical recommendations.

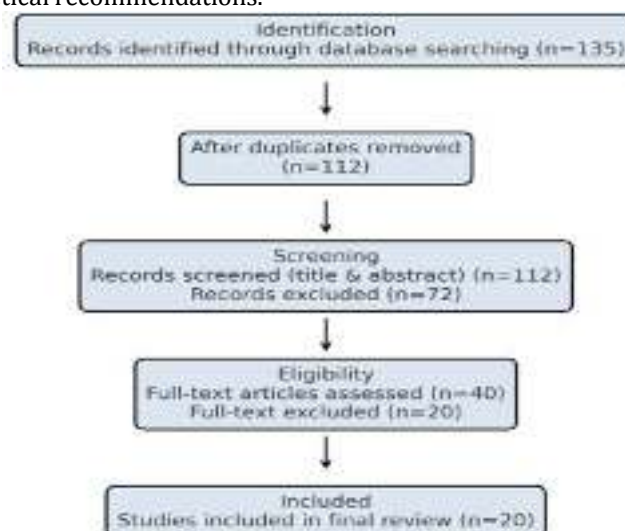


Figure 1. PRISMA

## Results

Table 1. Systematic Review

Title	Authors	Year	Journal	Keywords
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Title	Authors	Year	Journal	Keywords
The Impact of Lack of Human Resources on the Effectiveness of Organizational Performance	Sahidin, Riki Hikman; Nurhayati, Mafizatul; Sultan, Zulkifli	2025	International Journal of Applied Management and Business	miles and hubberman, organizational performance, workload
Pengaruh Beban Kerja dan Lingkungan Kerja Terhadap Kinerja Karyawan PT. Karunia Ultima Kemasan Jatikalen Nganjuk	Rohman, Saiful Nur; Ambarwati, Diana; Saptaria, Lina	2023	Populer: Jurnal Penelitian Mahasiswa	beban kerja, lingkungan kerja, kinerja karyawan
Pengaruh Beban Kerja Dan Stress Kerja Terhadap Kinerja Pegawai PT. XYZ	Marlen, Elisabeth; Fanggidae, Ronald P C; Dhae, Does	2024	GLORY Jurnal Ekonomi dan Ilmu Sosial	
Analyzing the Effect of Human Resources Quality on the Performance of Public Organizations	Marliana, Nanin; Ilmi, Zainal; Irwansyah, Irwansyah	2023	Journal of Madani Society	HR quality, public performance
The Influence of Competence, Workload and Work Motivation on Employee Performance	Andili, Alycia Hiko; Santoso, Soraya Nurfitri	2025	Indonesian Journal of Islamic Economics and Finance	motivation, performance, workload
The Role of Motivation Mediates the Influence of Workload and Stress on Employee Performance	Krisnandi, Herry; Sundaasih, Ira Perwati	2023	Budapest International Research and Critics Institute Journal	motivation, workload, stress
Peran Beban Kerja dan Stress Kerja terhadap Kinerja Karyawan di Lingkungan Pemerintah Daerah	Saifuddien, Andrian Haris	2020	Jurnal Ilmu Manajemen	employee performance, job stress, workload
The Influence of Human Resources Management, Technology, and Organizational Culture on Information System Quality	Mario Jr, Hanggara; Sukmawati, Anggraini; Affandi, Muhammad	2022	International Journal of Research and Review	HR management, information systems
Analisa Pengaruh Beban Kerja Terhadap Kinerja Pegawai Pemerintah Kota Bandung	Ageng Saepudin Kanda S; Nugraha Rhamdani	2024	Intellektika: Jurnal Ilmiah Mahasiswa	beban kerja, pegawai pemerintah
The Impact of Workload and Negative Work Environment on Employee Work Motivation	Endang Sugiarti	2024	AKADEMIK: Jurnal Mahasiswa Ekonomi & Bisnis	motivation; organizational behavior; work environment; workload

## Discussion

### The Influence of Workload on the Quality of Information Systems and Employee Performance

Workload is one of the most widely studied variables in relation to organizational performance and the quality of information systems. The study by Rohman et al. (2023) showed that workload and work environment significantly influence employee performance at PT. Karunia Ultima Kemasan. Excessive workload without proper management can lead to fatigue, reduced focus, and a higher risk of errors in operating management information systems. In this context, the quality of information output is highly dependent on the working conditions of the operators or employees directly involved in the input,

processing, and reporting of data (Mario Jr et al., 2022). A study by Andili and Santoso (2025) further strengthens these findings by examining the effects of workload, competence, and motivation on employee performance (Andili et al., 2025). They concluded that excessive workload could hinder work effectiveness and reduce the quality of data produced through information systems. This is because employees tend to prioritize the quantity of task completion over its quality. In information system-based work environments, workload pressure can result in incomplete data input or delayed updates.

Saifuddin (2020) studied the role of workload and job stress on employee performance within local government institutions. This research emphasized that high workload, if not balanced with effective stress management, will negatively impact individual performance and the quality of information produced. Unbalanced workloads also affect the emotional stability of employees, ultimately disrupting communication effectiveness and data accuracy in management information systems. In a more technical study, Sugiarti (2024) connected workload, job stress, and employee engagement with information system quality. The results indicated that high work pressure reduced employee engagement in managing information systems, causing the system to function suboptimally in supporting decision-making processes. Therefore, workload control strategies must be combined with increased employee involvement to maintain MIS quality.

A similar finding was presented by Marlen et al. (2024), who investigated the influence of workload and job stress on private-sector employees. They highlighted the importance of balancing workload and individual capacity to ensure that employees can manage information systems accurately and promptly. Poorly managed workload may trigger chronic stress, which in turn decreases the efficiency and effectiveness of information systems. A more localized study by Ageng and Nugraha (2024) specifically discussed workload among government employees in Bandung City. Their research revealed that increased workload correlates with decreased data accuracy in information-based reporting systems. In bureaucratic environments, excessive administrative tasks can also disrupt the integration and interoperability of systems across departments.

### **The Role of Motivation and Human Resource Availability in Supporting Information System Quality**

Work motivation is a crucial element in supporting the success of management information systems across organizational sectors. Krisnandi and Sundaasih (2023) revealed that motivation mediates the influence of workload and stress on employee performance. In this context, high motivation can reduce the negative impacts of workload and stress while maintaining employee performance in operating information systems. Motivated employees tend to be more thorough, responsible, and proactive in maintaining data quality.

The study by Sahidin et al. (2025) also addressed the lack of human resources as a barrier to organizational effectiveness. They emphasized that the shortage of skilled personnel in operating information systems directly impacts organizational performance. In this case, the availability of reliable human resources is a prerequisite for ensuring smooth and sustainable system operations. Mario Jr. et al. (2022) confirmed that human resource management, technology, and organizational culture influence information system quality. They stressed that HR quality in terms of technical competence, procedural understanding, and willingness to adapt significantly affects system effectiveness. Without skilled and motivated human resources, even the most advanced technologies cannot yield optimal results for the organization.

Andili and Santoso (2025) also highlighted the importance of employee competence in influencing both performance and the use of information systems. High motivation enhances the relationship between competence and actual performance. In other words, employees with strong technical skills and high drive are better equipped to use information systems as work tools. Thus, organizations should design incentive programs and career development initiatives to maintain motivation while enhancing HR capabilities.

In their research, Marlina et al. (2023) stated that HR quality is a dominant factor supporting public organizational performance. This finding supports the notion that investments in training and recruiting skilled human resources positively impact the effectiveness of public information systems. When employees are equipped with appropriate knowledge, they are better prepared to adapt to new systems and maximize the use of available features. Beyond the local context, the implications extend to the international level. In an era of digital globalization, the interoperability of MIS across borders whether in multinational corporations, international development programs, or global health information systems depends heavily on human factors. Countries with limited HR capacity or high workload pressure risk falling behind in digital transformation despite having access to modern technology. Thus, international collaborations should not only focus on technology transfer but also on developing global standards for workload management, motivation strategies, and HR training in MIS contexts. By emphasizing this human-centered perspective, the present study contributes to both the academic discourse and practical policies for building sustainable and inclusive information systems worldwide.



## Conclusion

This study concludes that the success of Management Information Systems (MIS) is not only determined by technological advancement but also by human-centric factors, particularly workload, motivation, and the availability of qualified human resources. By integrating these three variables through a systematic literature review, the study emphasizes the need for balanced workload management, continuous HR development, and motivation-building strategies as strategic pillars of MIS effectiveness. The contribution of this research lies in positioning human resource management as an inseparable component of information system quality, offering both theoretical enrichment and practical insights for organizations in adapting to digital transformation.

Despite its contributions, this study has several limitations. The analysis is limited to articles published between 2020 and 2024, which may exclude relevant earlier works or emerging studies outside this timeframe. Additionally, the review focuses on English and Indonesian sources, potentially omitting significant findings from other language contexts. Finally, as with most SLR studies, the synthesis is dependent on the quality of the included literature and does not provide new empirical data. Future research should expand the scope to cross-cultural comparisons, longitudinal studies, and empirical testing to further validate the integrated model of workload, motivation, and HR availability in determining MIS quality.

## Author Contributions

The authors have no conflicts of interest to declare.

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