

THE INFLUENCE OF HOSPITAL INFORMATION MANAGEMENT SYSTEM BASED ON HOT-FIT ON NET BENEFIT APPROACH

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ABSTRACT

The COVID-19 pandemic has transformed hospital operations and global healthcare systems, highlighting the need for efficient information systems to manage patient data and coordinate medical resources in emergency situations. This study aims to evaluate the impact of the Hospital Information Management System (HIMS) in the Outpatient Department of RSUD dr. Slamet Garut using the HOT-FIT method, which includes aspects of human, organization, technology, and net benefit. This research employs a quantitative approach with a cross-sectional design. Data were collected through questionnaire surveys of 35 respondents consisting of staff in the outpatient department. Correlation analysis was used to measure the relationships between the variables: human, organization, technology, and net benefit. The study's results indicate that the human, organization, and technology aspects significantly impact the net benefit of HIMS implementation. The human, organization, and technology aspects each showed good scores (75.41%, 79.18%, and 75.86%), while the net benefit showed a very good score (83.81%). Statistical analysis demonstrated that the relationships between these variables significantly affect the net benefit. Although the technology aspect showed good results, further evaluation and improvements are needed to ensure the effectiveness of HIMS. These findings underscore the importance of holistic enhancements in the human, organization, and technology aspects to optimize the benefits of HIMS. This study confirms that the human, organization, and technology aspects significantly impact the net benefit of HIMS implementation in the Outpatient Department of RSUD dr. Slamet Garut. These findings are expected to provide strategic recommendations for the development and improvement of hospital management.

Keyword: HIMS, HOT-FIT, operational efficiency, service quality, hospital.

1. INTRODUCTION

The COVID-19 pandemic has triggered significant shifts in the working paradigm of hospitals and the global health system. The urgent need for efficient information systems has become evident for managing patient data, tracking patients, and optimizing the coordination of medical resources during emergencies. Advances in technology and digitalization have driven hospitals worldwide to increasingly depend on information systems for managing patient data, doctor schedules, online registration, and other administrative tasks. Consequently, the presence of a well-integrated information system has become crucial for addressing these challenges effectively.

Developments in online health services (e-Health) and telemedicine have become increasingly significant, particularly accelerated by the COVID-19 pandemic. This period has seen a surge in the acceptance and integration of remote healthcare services, necessitating hospitals to adapt their information systems and overall management practices. As medical data is now predominantly stored digitally, ensuring the security of patient information has

become a top priority. Hospitals must implement robust security measures within their information systems to protect sensitive data and safeguard patient privacy effectively.

In Indonesia and many other parts of the world, challenges persist in providing equitable access to health services. The implementation of an effective information system can streamline the healthcare process and facilitate easier access for all segments of society. Additionally, attention must be given to improving hospital efficiency and managing the supply chain effectively. In such scenarios, hospital information systems play a crucial role in supporting efficient supply chain management, ensuring that resources are effectively allocated and managed to meet the needs of patients and healthcare providers.

Strict health regulations and standards, both in Indonesia and globally, significantly influence the implementation of information systems in hospitals. Hospitals are required to adhere to these regulations to ensure compliance with information technology standards. For instance, Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013, as stated in Article 3, mandates that every hospital must implement a Hospital Information Management System (HIMS). The regulation allows for the use of either open-source applications provided by the Ministry of Health or applications developed by the hospital itself, provided that the latter meets the minimum requirements established by the Minister [1]. Furthermore, the ability to adapt hospital information systems in response to various health crises, beyond the COVID-19 pandemic, is crucial. Hospitals must quickly adjust their information systems to address different public health challenges effectively. This adaptability is essential for maintaining operational efficiency and ensuring that the system can support effective responses to evolving health situations.

The Hospital Management Information System (HIMS) plays a crucial role in enabling hospitals to deliver high-quality services. HIMS is a computerized system designed to process data rapidly and generate reports that aid decision-making within hospital health services [2]. The implementation of HIMS is integral to enhancing the effectiveness and efficiency of hospital operations, ultimately leading to improved quality of care. This aligns with the Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013, Article 3, which mandates that all hospitals must implement HIMS to ensure standardized and efficient health service delivery [3]. Currently, several hospitals have implemented HIMS due to demands to improve services to the community. However, in its implementation, some hospitals may experience failure, therefore it is necessary to carry out a HIMS assessment. HIMS assessment in an organization is one of the efforts used to determine the condition of the organization that operates the information system. With this evaluation, it is hoped that the implementation achievements of an information system can be known and follow-up actions can be taken in order to improve performance [4].

The quality of the Hospital Management Information System (HIMS) must be reliable, as it is critical for informed decision-making within the organization. Prior to developing or implementing such a system, it is essential to assess the readiness to use the application. Evaluating readiness helps determine whether the system will positively impact both the organization and its users. The evaluation scope typically includes several key aspects: applications, information, infrastructure, human resources, and organizational readiness. The success of an information system implementation is influenced by multiple factors, including the extent of system usage, user satisfaction, positive user attitudes, the quality of information and staff, achievement of goals and returns, and the financial resources available to the organization.

One of the key advantages of the Hospital Management Information System (HIMS) is its ability to integrate various departments and units within a hospital. This integration enables centralized access and management of critical information, such as patient medical records, doctor schedules, drug inventories, and financial data. By centralizing these functions, HIMS streamlines workflow, reduces delays, and minimizes errors in information management. Consequently, HIMS enhances operational efficiency, optimizes time and resources, and improves patient satisfaction levels. However, HIMS implementation is not without challenges. It requires a substantial initial investment in both infrastructure and human resources, including training. Additionally, adapting to new technology often necessitates a cultural shift within the hospital, which can pose obstacles. Therefore, it is crucial to continuously evaluate, refine, and develop HIMS to ensure it remains effective and aligned with evolving hospital needs and advancements in health information technology.

Several methods can be employed to assess the readiness of a hospital management information system. These include the Technology Acceptance Model (TAM), Task Technology Fit (TTF), End User Computing Satisfaction (EUSC), Unified Theory of Acceptance and Use of Technology (UTAUT), Delone and McLean Model, and the Human Organizational Technology Fit (HOT-FIT) method. The HOT-FIT method, specifically, is a technique designed to evaluate the implementation of systems within an organization [5]. The HOT-FIT method encompasses four aspects: human, organizational, technology, and net benefit [4], [6]. This approach assesses how well these dimensions align to influence the net benefits of the system's implementation. The human, organizational, and technological aspects of the HOT-FIT method are crucial in determining whether the system not only functions

effectively but also delivers tangible and sustainable benefits to hospitals [3] Net benefit encompasses the operational and financial gains from implementing HIMS, such as enhanced efficiency, improved service quality, and increased user satisfaction.

Regional General Hospital dr. Slamet Garut has embarked on a journey of digital transformation to enhance the quality of health services through the implementation of the Hospital Management Information System (HIMS). This system has become integral to the hospital's operational and administrative functions, significantly contributing to efficiency, accuracy, and the smooth management of service processes. In particular, the outpatient installations, which serve as the frontline for primary health services, are experiencing substantial changes with the adoption of HIMS. This transition presents both challenges and opportunities in health service management. As the demand for prompt and effective health services grows, HIMS at the Outpatient Installation of RSUD dr. Slamet Garut is pivotal in delivering comprehensive care. The system not only manages patient medical records but also oversees schedule management, drug inventory, and data integration across various service units. Despite the considerable potential of HIMS, its successful implementation is challenged by issues related to Human Resources (HR). Addressing these challenges is crucial for ensuring the effective deployment and utilization of the system, thereby maximizing its benefits for the hospital and its patients.

The effectiveness of the Hospital Management Information System (HIMS) in Outpatient Installations is significantly influenced by the knowledge and skills of human resources, including doctors, nurses, and administrative staff. Properly trained and knowledgeable personnel are crucial for maximizing the system's potential. The presence of HIMS necessitates ongoing evaluation to assess its operation and identify areas for improvement in services across all hospitals, whether urban or rural. Despite widespread implementation, many hospitals, including RSUD dr. Slamet Garut, face challenges in achieving optimal performance with HIMS. As a type B hospital in the Garut Regency area, RSUD dr. Slamet Garut represents a critical case where such evaluations are necessary to enhance the system's efficacy and overall service quality [7].

Dr. Hospital Slamet Garut has been utilizing the Hospital Management Information System (HIMS) for two years, aiming to leverage advancements in information technology to enhance healthcare services. Despite this effort, the implementation of HIMS faces several challenges. Issues such as network disruptions and inadequate familiarity with electronic services among human resources have been prevalent. These problems have yet to be formally evaluated, leading to extended outpatient service times and negatively affecting subsequent patient services. An initial survey has revealed significant concerns, including suboptimal HIMS service facilities and an insufficient role of human resources, which contribute to inefficiencies in outpatient patient services. To address these challenges, it is essential to conduct a thorough evaluation of HIMS at RSUD dr. Slamet Garut. This evaluation should focus on identifying and addressing the obstacles impeding effective implementation, with the goal of improving the overall efficiency and quality of outpatient services.

This research evaluates several key dimensions related to the implementation of the Hospital Management Information System (HIMS) in Outpatient Installations. It examines human resources by focusing on system users and their satisfaction with HIMS. Effective and competent personnel are essential for the successful implementation and quality of patient services provided by HIMS. The organizational factors considered include the organizational structure and environment, which significantly impact the integration of HIMS into hospital governance. This involves analyzing how the organizational setup either supports or impedes the system's effective implementation and operation. Additionally, the role of technology is assessed, including the quality of the systems, the accuracy of information, and the responsiveness of services provided by HIMS. The evaluation of technical performance and user experience with the system is critical. In this context, the HOT-FIT (Human, Organization, and Technology Fit) method is particularly relevant. It explores the interactions and support between human resources, organizational structures, and technology within the HIMS framework. This comprehensive approach provides insights into the effectiveness of HIMS and identifies areas needing improvement to enhance service delivery and operational efficiency.

Following this, an analysis of the benefits, or net benefits, of using HIMS is conducted. In the HOT-FIT Method, Net Benefit pertains to the positive outcomes derived from implementing HIMS in operational terms. This encompasses enhancements in efficiency, service quality, and overall user satisfaction. Essentially, Net Benefit measures the degree to which HIMS adds value to the hospital. This analysis evaluates both the financial and operational advantages gained from HIMS usage, as well as its impact on the efficiency and quality of hospital services. Thus, this study seeks to understand how human, organizational, and technological factors influence the impact of HIMS on benefit analysis within the hospital environment. The research aims to provide a comprehensive understanding of how human resources, organizational structures, and technology contribute to the effective implementation of HIMS. To fully realize the potential of HIMS, it is crucial to assess how well human resources adapt to technological changes, and how effectively the system integrates with organizational workflows and health

service needs. This research is expected to offer valuable insights that can significantly advance the development and enhancement of technology-based hospital management in the future.

In conclusion, this study underscores the integral role of human, organizational, and technological factors in shaping the benefits derived from HIMS in hospital settings. By thoroughly examining these elements, the research aims to highlight critical areas for improvement and optimization in the implementation of hospital information systems. Understanding the interaction between these factors will not only enhance the operational efficiency and service quality of hospitals but also ensure that HIMS can be effectively adapted to meet the evolving needs of healthcare environments. The insights gained from this study are intended to contribute meaningfully to the advancement of technology-based hospital management, paving the way for more efficient, responsive, and patient-centered healthcare systems in the future.

2. RESEARCH METHOD

The research focuses on assessing the implementation of the Hospital Management Information System (HIMS) in the outpatient registration section using the HOT-FIT method. This study adopts a quantitative approach with a cross-sectional research design to analyze the impact of human, organizational, and technological factors on the Net Benefit (NB) of HIMS. The independent variables in this research are Human, Organization, and Technology, while the dependent variable is Net Benefit. Primary data was collected directly through a structured questionnaire distributed to key respondents, including outpatient registration officers and heads of medical records. These respondents are well-acquainted with the system and its operational context, providing valuable insights into the research. Secondary data, which supports the primary data, was gathered from reference books, academic journals, reports, and other relevant sources concerning electronic HIMS evaluation at Dr. Slamet Garut Regional Hospital. The data collection instrument used in this study was a comprehensive questionnaire. For data analysis, a combination of descriptive and quantitative techniques was employed. Descriptive analysis involved cross-tabulation, which presents data in a tabulated format to examine relationships between variables. Quantitative analysis was conducted using multiple linear regression to evaluate how Human, Organization, and Technology variables affect the Net Benefit. This approach aims to provide a detailed understanding of how these factors interact to influence the effectiveness and benefits of HIMS in the hospital setting.

3. LITERATURE REVIEW

The integration of Hospital Information Management Systems (HIMS) is increasingly vital in modern healthcare, aiming to enhance efficiency, reduce errors, and improve patient outcomes. These systems have become essential tools for managing the vast amounts of data generated in healthcare settings, ensuring that information is accurately recorded, easily accessible, and effectively utilized to support clinical and administrative processes. As healthcare facilities strive to provide high-quality care while controlling costs, the adoption of HIMS is seen as a key strategy to streamline operations, facilitate better decision-making, and foster a more patient-centered approach to care [8].

The HOT-Fit (Human, Organization, and Technology Fit) model offers a comprehensive framework to evaluate these systems by considering the interplay between human, organizational, and technological factors. This model recognizes that the success of HIMS depends not only on the technology itself but also on how well it aligns with the needs and capabilities of its users (human factors), how it fits within the organizational context (organizational factors), and the quality and functionality of the system (technological factors). By examining these dimensions, the HOT-Fit model provides a holistic perspective on HIMS implementation, highlighting the importance of a balanced and integrated approach to system design and deployment [9].

This literature review examines the influence of HIMS, based on the HOT-Fit model, on net benefits in healthcare settings. It explores how the alignment of human, organizational, and technological factors contributes to the overall effectiveness and value of HIMS, considering outcomes such as improved patient care, increased operational efficiency, cost savings, and enhanced decision-making. Through this analysis, the review aims to provide insights into the critical success factors for HIMS implementation and to identify best practices that can guide healthcare organizations in leveraging these systems to achieve their strategic goals [10]. The HOT-Fit model, developed by [11], posits that the success of information systems, particularly in healthcare, depends on the fit between human, organizational, and technological dimensions. This model has been widely adopted to assess the effectiveness of HIMS implementations.

Human factors focus on the users of the system, encompassing their skills, attitudes, and interactions with the system [12]. This dimension recognizes that the effectiveness of HIMS largely depends on the proficiency and

engagement of the healthcare professionals who use it. Users' skills in navigating and utilizing the system, their attitudes towards technology, and their ability to integrate it into their daily routines are critical for successful implementation. Adequate training and ongoing support are essential to enhance user competence and confidence, ultimately leading to better utilization of the system.

Organizational factors include the organizational support, policies, culture, and structure that facilitate the use of the system [12]. This dimension emphasizes the role of the healthcare organization in creating an environment conducive to the effective deployment and operation of HIMS. Organizational support can manifest through leadership commitment, resource allocation, and the establishment of clear policies and procedures that promote system use. Additionally, the organizational culture, which includes the collective attitudes, beliefs, and behaviors of the staff, plays a significant role in shaping how the system is perceived and adopted. A supportive and adaptable organizational structure is necessary to integrate HIMS seamlessly into the existing workflows and processes.

Technological factors cover the system's technical quality, usability, functionality, and integration with other systems [12]. This dimension focuses on the intrinsic attributes of the HIMS, such as its reliability, user-friendliness, and the extent to which it meets the specific needs of the healthcare setting. High-quality systems are characterized by robust performance, minimal downtime, and the ability to handle the complex data and processes inherent in healthcare operations. Usability pertains to how easily users can navigate the system and perform their tasks efficiently, which is crucial for encouraging regular use and reducing user frustration [13]. Functionality refers to the range of features and capabilities the system offers, ensuring it supports a wide array of clinical and administrative activities. Integration with other systems is vital for creating a cohesive and interoperable healthcare IT environment, allowing for seamless data exchange and coordination across different platforms and departments.

Research consistently emphasizes the critical role of human factors in the success of HIMS. Studies by [14] and [15] highlight that user training, ease of use, and user satisfaction are pivotal for the effective adoption and utilization of HIMS. Effective training programs and user-friendly interfaces have been shown to significantly enhance the performance and satisfaction of healthcare professionals, leading to improved patient care.

Organizational support is another critical component. Studies such as those by [16] and [12] demonstrate that strong leadership, clear policies, and a supportive culture are essential for the successful implementation of HIMS. Organizational readiness, including adequate resources and a commitment to change, also plays a significant role in ensuring that the system is effectively integrated into daily operations.

Technological aspects, including system quality, information quality, and service quality, are fundamental to the HOT-Fit model. Research by [17] and [18] underscores the importance of these factors in achieving net benefits from HIMS. High-quality, reliable systems that provide accurate and timely information are crucial for supporting clinical decision-making and improving patient outcomes. The net benefits approach, as outlined by [5], provides a comprehensive framework to evaluate the overall impact of HIMS. Net benefits can be measured in various dimensions, including improved patient care, increased efficiency, cost savings, and enhanced decision-making.

Improved patient care is a significant benefit of effective HIMS implementation. Numerous studies, including those by [19] and [20], have found that these systems lead to better patient outcomes by enhancing the accuracy of diagnosis and treatment, reducing medical errors, and improving patient safety. The ability of HIMS to provide healthcare professionals with timely and precise information allows for more accurate diagnoses and tailored treatment plans, ultimately leading to improved health outcomes for patients. Furthermore, the reduction in medical errors, facilitated by features such as electronic prescribing and automated alerts for potential drug interactions, significantly enhances patient safety. By streamlining the documentation process and ensuring that all patient information is up-to-date and easily accessible, HIMS contributes to a more coordinated and effective approaches to patient care, resulting in better overall health outcomes.

Increased efficiency is a notable advantage of implementing HIMS. Research by [21] and [22] indicates that these systems can streamline administrative processes, reduce paperwork, and improve resource allocation, leading to enhanced operational efficiency. By automating routine tasks and digitizing patient records, HIMS minimizes the need for manual data entry and physical storage, freeing up time and resources for healthcare professionals to focus on direct patient care. The system's ability to centralize and organize information also facilitates quicker access to patient data, enabling more efficient workflow management and decision-making. Additionally, HIMS can optimize resource allocation by providing insights into inventory management, staffing needs, and other operational aspects, ensuring that resources are used effectively and waste is minimized. This overall improvement in efficiency not only enhances the productivity of healthcare organizations but also contributes to better patient care by ensuring that healthcare providers have the information and resources they need readily available.

Cost savings are a significant benefit associated with the implementation of HIMS. Studies such as those by [23] and [20] demonstrate that these systems can lead to substantial financial savings by reducing redundant tests, minimizing errors, and improving resource utilization. By providing a centralized and comprehensive view of patient records,

HIMS reduces the likelihood of unnecessary duplicate tests, thereby saving costs associated with redundant medical procedures. The system's ability to enhance accuracy and reduce errors in diagnosis, treatment, and medication administration also translates to cost savings by preventing adverse events and the associated expenses of corrective treatments. Furthermore, improved resource utilization, driven by the efficient management of staff, equipment, and supplies, ensures that healthcare organizations can operate more cost-effectively. By optimizing scheduling, inventory management, and workflow processes, HIMS helps in reducing waste and ensuring that resources are deployed where they are needed most. Overall, the financial benefits of HIMS not only support the economic sustainability of healthcare organizations but also contribute to the broader goal of providing high-quality, cost-effective care to patients.

Enhanced decision-making is a crucial benefit of HIMS, supported by the availability of comprehensive and accurate data. As highlighted by [24] and [25], these systems provide healthcare professionals with timely and reliable information that is essential for making informed clinical and administrative decisions. By integrating data from various sources and presenting it in a user-friendly format, HIMS enables doctors, nurses, and other healthcare staff to quickly access patient histories, lab results, imaging studies, and other critical information. This comprehensive data access ensures that healthcare providers can make well-informed decisions regarding diagnosis, treatment plans, and patient management.

Furthermore, the analytical capabilities of HIMS allow for the identification of trends, patterns, and potential issues within the patient population, facilitating proactive and preventative care. Decision support tools embedded within HIMS can offer evidence-based recommendations, alert healthcare providers to potential drug interactions, and suggest appropriate diagnostic tests, thereby enhancing the overall quality of care. The improved accuracy and efficiency in decision-making processes not only lead to better patient outcomes but also enhance the operational efficiency of healthcare organizations. By supporting informed and timely decisions, HIMS ultimately contributes to a more effective and responsive healthcare system.

4. RESULTS AND DISCUSSION

The HOT-Fit model demonstrates its significance in comprehensively understanding the success of Hospital Information Management System (HIMS) implementation in healthcare institutions. By integrating human, organizational, and technological factors and examining their collective impact on net benefits, this approach offers a holistic perspective on the multifaceted nature of information systems deployment.

In the context of HIMS, human factors include the skills, attitudes, and interactions of healthcare professionals with the system. These aspects are critical as they influence the degree to which users can effectively operate the system, adapt to its functionalities, and integrate it into their daily workflows. Successful HIMS implementation requires not only user-friendly interfaces but also comprehensive training programs that enhance user competence and satisfaction. Acknowledging the human dimension ensures that the system is not only technically sound but also accessible and useful to its primary users.

Organizational factors encompass the support structures, policies, cultural readiness, and organizational climate that facilitate or hinder HIMS adoption. Strong leadership, clear and supportive policies, and a culture that embraces technological advancements are essential for fostering an environment conducive to successful system implementation. Organizational readiness, including resource allocation and a commitment to change management, ensures that the system can be seamlessly integrated into existing processes, thereby maximizing its potential benefits.

Technological factors pertain to the system's technical quality, including its reliability, usability, and functional capabilities. These factors are crucial for ensuring that the HIMS can efficiently handle the complex data and processes inherent in healthcare settings. The system must be robust and reliable, minimizing downtime and ensuring continuous availability of critical information. Additionally, the system's usability and functionality must align with the specific needs of the healthcare providers, enabling them to perform their tasks more effectively and efficiently. Integration with other systems is also a key technological consideration, as it facilitates seamless data exchange and coordination across different platforms and departments within the healthcare institution.

The net benefit dimension of the HOT-Fit model evaluates the overall value derived from HIMS implementation, encompassing improved patient care, increased operational efficiency, cost savings, and enhanced decision-making. By providing accurate and timely information, HIMS supports better clinical decisions, reduces the likelihood of errors, and improves patient outcomes. Operational efficiencies are achieved through streamlined processes and optimized resource utilization, leading to significant cost savings. Moreover, the analytical capabilities of HIMS enhance decision-making by providing healthcare professionals with comprehensive data and evidence-based insights.

The HOT-Fit model offers a robust framework for understanding the factors contributing to the successful implementation of information systems within organizations. This model highlights the importance of evaluating three critical dimensions—Human, Organization, and Technology—before assessing the Net Benefits derived from system implementation. The findings from the research underscore the relevance of the HOT-Fit model in this context. A significant majority of respondents possess a higher educational background, with 100% having completed tertiary education. This high level of education suggests that the users are well-equipped to engage with complex systems such as HIMS. Furthermore, a substantial proportion of respondents, 68.6%, are Civil Servants (PNS), indicating that the user base primarily consists of individuals with a stable and formal employment status. The frequency of HIMS application use among respondents is notably high, with most reporting access to the system more than 100 times. This frequent usage reflects a high level of engagement with the system, which is a positive indicator of its integration into daily operations.

In terms of system evaluation, a majority of respondents rated HIMS as either good or very good, with 74.3% providing a rating of good and 11.4% rating it as very good. These ratings reflect a general satisfaction with the system's performance and functionality. Additionally, the data shows that 82.9% of respondents perceive their role in using HIMS as effective, further demonstrating the system's successful integration into their work processes.

Overall, these findings validate the HOT-Fit model's emphasis on the interplay between human, organizational, and technological factors in achieving successful system implementation and realizing net benefits. The high level of user education, frequent system usage, and positive user feedback collectively indicate that the HIMS application is well-received and effectively utilized within the organization.

Based on the analysis of average values, it can be concluded that the Human dimension of the system is rated at 75.41%, falling into the 'Good' category. This suggests that the indicators associated with this dimension are generally well-implemented. Specifically, the sub-dimensions of System Use and User Satisfaction are evaluated at 72.14% and 79.76%, respectively, reflecting a strong overall performance in user engagement and satisfaction. Similarly, the Organization dimension has an average value of 79.18%, also categorized as 'Good'. This indicates that the components related to organizational support are effectively in place. Within this dimension, Organizational Structure is rated at 82.86%, Organizational Environment at 81.79%, and System Quality at 76.70%. These figures demonstrate that the organizational factors, including the structure, environment, and the quality of the system from an organizational perspective, are well-addressed.

For the Technology dimension, the average value is 75.86%, placing it in the 'Good' category as well. This indicates that the technological aspects of the system are generally well-executed. The indicators for this dimension, including Information Quality at 76.25% and Service Quality at 74.29%, show that the system's technical quality and the services provided are satisfactory. Overall, the results reflect that all dimensions—Human, Organization, and Technology—are effectively implemented, with each dimension achieving ratings in the 'Good' category. These findings underscore the successful integration and performance of the system across various aspects, highlighting its effective implementation and operational success.

The Technology dimension received the lowest average score, with an overall rating of 75.86%, categorized as 'Good'. Within this dimension, the Service Quality indicator recorded the lowest value at 74.29%. This suggests that while the technological aspects of the system are generally well-regarded, there may be specific areas within service quality that require further assessment and improvement. Although this score still falls within the "Good" category, it indicates that enhancing service quality could significantly contribute to improving the overall technological performance of HIMS.

Regarding the analysis of the first hypothesis (H1), which examines the influence of HIMS on Net Benefit from the perspective of the HOT-Fit model's Human dimension, the results reveal that the hypothesis is rejected in terms of statistical significance. However, the Human variable (X1) exhibits a significant positive regression coefficient. This finding implies that, despite the lack of statistical significance in hypothesis testing, the Human dimension positively affects Net Benefits. Consequently, the hypothesis can be accepted based on the evidence of a positive influence of human factors on the net benefits derived from HIMS implementation.

This result underscores the importance of the Human dimension in realizing the benefits of HIMS, emphasizing that effective user interaction and satisfaction are crucial for achieving favorable outcomes from the system. While there are areas for improvement in the Technology dimension, the positive influence of human factors on Net Benefits highlights the need for ongoing attention to user-related aspects to enhance the overall effectiveness of HIMS.

The HOT-Fit Model elucidates the crucial role of human factors in the success of information systems. Skilled and well-trained users are more capable of adopting and effectively utilizing the system, which can enhance the overall Net Benefit. In the realm of hospital information systems management, human factors are vital for ensuring both the successful implementation and the optimal use of the system. This emphasis on the human dimension highlights

how crucial user expertise, training, and engagement are for achieving the desired outcomes and benefits from the system.

As articulated in Surah Al-Mujadila (11), this principle resonates with the importance of knowledge and skill: *"Allah will raise those of you who have believed and those who were given knowledge, by degrees."* This verse underscores the importance of active, thorough, and cooperative participation within a community, emphasizing that these elements are crucial for achieving collective goals. Similarly, in the context of implementing hospital information systems, the principles of active engagement, cooperation, and meticulousness are fundamental to the success of the system. Effective training and development of human resources are integral to ensuring the successful use of hospital information systems. By investing in comprehensive training programs, organizations can equip users with the necessary skills and knowledge to interact with the system effectively. This investment not only enhances user proficiency but also fosters a collaborative environment where all stakeholders are aligned with the common goal of optimizing the system's benefits.

Active participation from users, coupled with ongoing support and development, ensures that the system is utilized to its fullest potential. Cooperative efforts among different departments and staff members contribute to a smoother implementation process and more efficient use of the system. Thorough training and development are essential components that support these collaborative efforts, ultimately leading to improved system performance and better patient care outcomes. Thus, integrating these principles into the implementation strategy of hospital information systems is key to achieving successful outcomes and realizing the full potential of the technology.

For the second hypothesis (H2), which explores the influence of HIMS on Net Benefit from the perspective of the HOT-Fit method's organizational aspects, the findings indicate that the hypothesis is accepted based on the significance value. The positive regression coefficient for the Organization variable (X2) demonstrates a favorable impact of organizational factors on Net Benefit. However, the results suggest that while the hypothesis is acceptable, its significance is not substantial. An effective organizational structure that supports the implementation of information systems can significantly enhance the Net Benefit. This finding underscores the critical role that organizational factors—such as structure, culture, and support mechanisms—play in the successful deployment and utilization of HIMS. A well-designed organizational environment facilitates smoother integration of the system, promotes user acceptance, and ultimately contributes to achieving better outcomes and benefits from the technology. As highlighted in Al-Imran (103): *"O you who have believed, obey Allah and obey the Messenger and those in authority among you."* This verse emphasizes the importance of following and supporting leadership and organizational structures. In the context of information systems implementation, it implies that a supportive organizational framework and effective management are crucial for realizing the benefits of technological advancements. The alignment between organizational support and system implementation not only ensures successful integration but also enhances overall system performance and impact.

In conclusion, while the organizational aspects are positively associated with Net Benefit, ensuring a supportive and well-structured environment remains essential for maximizing the effectiveness of HIMS. This alignment between organizational support and system implementation is key to achieving the desired outcomes and benefits.

In the third hypothesis (H3), which examines the influence of HIMS on Net Benefit from the perspective of the HOT-Fit method's Technology aspect, the hypothesis is accepted based on its significance value. The positive regression coefficient for the Technology variable (X3) indicates a favorable impact of technological factors on Net Benefit. However, while the hypothesis is statistically supported, its significance is noted as not substantial.

The findings suggest that while technology quality does positively influence Net Benefit, the effect may not be as pronounced as expected. This underscores the importance of ensuring that technological components meet high standards of quality and reliability to maximize their impact. As highlighted in the HOT-Fit Model, achieving successful system implementation requires that the technology not only functions well but also integrates seamlessly with existing processes and supports the users effectively. This perspective aligns with the teachings of Surah Al-Baqarah (164), which emphasizes the value of quality and reliability: *"Indeed, in the creation of the heavens and the earth, and the alternation of the night and the day, are signs for those of understanding."* This verse underscores the importance of observing and reflecting on the inherent quality and order in the natural world, which can be applied metaphorically to the quality standards required for successful technological systems. In the context of hospital information systems, ensuring that the technology adheres to stringent quality and reliability standards is crucial for enhancing system performance and achieving significant Net Benefits.

In summary, while the technology aspect positively influences Net Benefit, its impact is acknowledged as being less significant. Ensuring high-quality technology remains essential, but it should be integrated with other dimensions—such as human and organizational factors—to fully realize the potential benefits of HIMS.

The fourth hypothesis (H4) posits that there is an influence of HIMS, considering the HOT-Fit method's dimensions—Human, Organizational, and Technological aspects—on Net Benefit. The test results confirm that this

hypothesis is significant, indicating that collectively, the variables Human (X1), Organization (X2), and Technology (X3) have a meaningful effect on Net Benefit (Y). The analysis reveals that while the constant coefficient is negative, suggesting that there is no singular directional relationship, each of the individual variables—Human, Organization, and Technology—exhibits a significant positive regression coefficient. This implies that each dimension contributes positively to Net Benefit. Therefore, the hypothesis is substantiated, as all three aspects demonstrate a positive influence on the overall benefits derived from the system.

It is noted that among the variables, the Human factor (X1) shows a more pronounced influence compared to Organizational (X2) and Technological aspects (X3). This suggests that human factors, such as user training and engagement, play a particularly crucial role in enhancing Net Benefit. However, it is important to acknowledge that these results reflect associations rather than causation. The regression analysis indicates a positive relationship between the dimensions and Net Benefit, but it does not establish causality. Other external factors or variables might also impact Net Benefit, and these should be considered when interpreting the results. In conclusion, the analysis supports the acceptance of the hypothesis, demonstrating that Human, Organizational, and Technological factors all positively influence Net Benefit. While the Human dimension appears to be the most significant contributor, a comprehensive approach that integrates improvements across all three dimensions is essential for maximizing the overall benefits of HIMS.

The HOT-Fit Method approach, as detailed in the literature, examines the relationship between the implementation of Management Information Systems (MIS) in hospitals and the Net Benefit achieved, focusing on the alignment between the factors of the HOT-Fit Method: Human, Organization, and Technology. The theoretical framework suggests that the effectiveness of MIS implementation is contingent upon the degree to which these factors are suited to one another and to the overall goals of the system. Research findings consistently demonstrate that the Human, Organizational, and Technological variables each exert a significant positive influence on Net Benefit. This aligns with established theories in the literature, which underscore the critical role that these dimensions play in the successful deployment and utilization of HIMS (Hospital Information Management Systems). Specifically, a well-trained and engaged user base (Human factors), a supportive organizational environment (Organizational factors), and high-quality technological infrastructure (Technological factors) collectively contribute to enhancing the Net Benefit of the system.

The success of HIMS implementation is thus closely linked to how well these dimensions align with each other and with the objectives of the system. The level of congruence between the Human, Organizational, and Technological factors, as outlined by the HOT-Fit Method, is essential for maximizing the benefits derived from the system. Effective alignment ensures that the system is not only adopted and used effectively but also that it integrates seamlessly into the existing organizational processes, ultimately leading to improved outcomes and benefits. In summary, the research underscores the importance of matching the Human, Organizational, and Technological aspects with the goals of the MIS implementation. Achieving this alignment is crucial for optimizing Net Benefits and ensuring the overall success of HIMS in hospital settings.

The Qur'an provides a profound moral and ethical foundation that permeates all aspects of human life, including the management of Hospital Information Management Systems (HIMS). The Qur'anic principles offer guidance on the importance of cooperation, skill, and organization in achieving beneficial outcomes for humanity. Surah Al-Hasyr, verses 18-19, states: *"O you who have believed, fear Allah, and let every soul look to what it has sent before for tomorrow. And fear Allah; indeed, Allah is Acquainted with what you do." "And do not be like those who forgot Allah, so He made them forget themselves. Those are the defiantly disobedient."* Although these verses do not directly address technology or hospital information systems, their underlying message emphasizes the necessity of aligning one's actions with ethical and moral principles. The call to "fear Allah" and reflect on one's actions underscores the need for mindfulness and integrity in all endeavors. The admonition against forgetting Allah, which results in forgetting oneself, highlights the importance of adhering to one's principles and responsibilities.

In the context of HIMS management, these teachings underscore the need for a holistic approach that integrates human, organizational, and technological aspects. The Qur'anic message advocates for a collaborative effort where all components work in harmony to achieve successful outcomes. This approach suggests that ethical considerations should guide the implementation and utilization of technology, ensuring that it serves its intended purpose and contributes positively to the well-being of individuals and organizations. Reflecting on these principles, it becomes clear that integrating ethical values into the management of HIMS is crucial for achieving effective and beneficial outcomes. Ensuring that the system aligns with moral standards, fostering collaboration among stakeholders, and maintaining a sense of responsibility and accountability are all essential for maximizing the system's benefits. By adhering to these Qur'anic teachings, the management of HIMS can achieve greater success and provide meaningful benefits to humanity.

In the scope of Islamic hospital information management system, there are a number of crucial Islamic values namely cooperation, justice, accuracy, openness, and the importance of knowledge. Islam promotes cooperation and collaboration to achieve the common good. In managing hospital information systems, this value is reflected in the need for effective coordination among medical staff, administrative personnel, and IT departments to ensure efficient system operation and maximum patient benefit. Justice in Islam emphasizes fair and equal access to information and health services for all patients. This principle is crucial in ensuring accurate and reliable management of medical data and patient information. Openness and transparency, core Islamic values, are essential in providing patients with clear information about medical procedures, costs, and their rights, fostering trust and informed decision-making. Additionally, Islam values science and learning, encouraging the development of advanced information technology to enhance healthcare efficiency, accuracy, and quality. Integrating these values into hospital information system management aligns with ethical principles and improves healthcare delivery.

In this research, although the technological aspect is categorized as good, it still requires enhancement at the hospital. To boost technology's contribution to Net Benefit, the hospital should focus on more frequent technology updates, comprehensive user training, and enhanced technical support to ensure optimal system usage. An in-depth evaluation of Service Quality is necessary to identify weaknesses and opportunities for improvement within HIMS services. This may involve developing new procedures, upgrading technology infrastructure, or enhancing user-system interactions. The continued investment in the development and maintenance of information technology in hospitals is crucial. Enhancing the quality of technology services and strengthening its impact on Net Benefit can significantly boost operational efficiency, service quality, and user satisfaction. This underscores the need for a cycle of continuous improvement, ensuring that HIMS remains relevant, responsive, and effective in supporting the complex needs of modern hospitals.

This research has substantial theoretical implications for understanding the successful implementation of hospital management information systems (HIMS) through the HOT-FIT Method approach. By affirming the positive relationship between human, organizational, and technological factors and the net benefits derived from HIMS, this study reinforces the theoretical framework of the HOT-FIT Method within the realm of health information systems. It offers a deeper insight into the critical importance of aligning these factors to achieve effective information system implementation, particularly in hospital settings.

The HOT-Fit model is proven to produce potential to a robust framework for understanding the complexities and evaluating the success of HIMS implementation in hospitals. By considering the interplay between human, organizational, and technological factors, and their impact on net benefits, the model provides a comprehensive view that is essential for achieving successful and sustainable HIMS deployment in healthcare settings. This holistic approach ensures that all critical dimensions are addressed, leading to a more effective and impactful implementation that enhances the overall quality of healthcare delivery.

5. CONCLUSIONS

The HOT-Fit model proves to be highly relevant for understanding the success of Hospital Information Management System (HIMS) implementation in healthcare settings. This model considers human, organizational, and technological factors and their collective impact on net benefits, offering a comprehensive perspective on the complexities involved in deploying and utilizing information systems in hospitals. In examining the influence of HIMS through the HOT-Fit framework, several key observations emerge. From a human perspective, the implementation of HIMS in the outpatient services at RSUD dr. Slamet Garut is regarded as effective. Users have successfully adopted and utilized the system, demonstrating that the human factors related to training, usability, and system interaction are well-addressed. This indicates a positive alignment between the system's design and the users' capabilities and needs. Conversely, the organizational aspects of HIMS implementation at RSUD dr. Slamet Garut are perceived as satisfactory but not significantly impactful. Although the organizational structure and environment have generally supported the deployment of HIMS, the influence of these factors on the system's effectiveness appears to be less pronounced. This suggests that while the organizational support is present, it may not be fully optimized to enhance the system's performance or integration. Regarding technological aspects, the implementation of HIMS in outpatient services at RSUD dr. Slamet Garut is deemed acceptable but not substantially meaningful. Among the three factors, technology shows the lowest performance metrics. This highlights a need for critical evaluation and updates to the technological components of the system. Enhancing the quality, functionality, and integration of the technology is essential for improving the overall effectiveness and user satisfaction with HIMS. The net benefit derived from HIMS in outpatient services at RSUD dr. Slamet Garut is considered very positive. The implementation has led to significant improvements, with benefits that are distinctly noticeable and highly valued by users. This suggests that despite some limitations in human, organizational, and technological aspects, the overall

impact of HIMS on operational efficiency and service quality has been substantial and beneficial. Overall, the influence of HIMS on net benefits, as assessed through the HOT-Fit model, is positively correlated with human, organizational, and technological factors, both individually and collectively. However, the model highlights that while these factors contribute to net benefits, there is a need for holistic improvements across all dimensions to maximize the system's potential. Addressing the deficiencies in technological quality, enhancing organizational support, and further developing user training and engagement are crucial for optimizing HIMS and achieving its full potential in improving hospital operations and service quality.

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