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An Evaluative Study of the Hospital Management Information System at Medical Record Unit Based on the Technology Acceptance Model (TAM)

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A B S T R A C T :

The rapid advancement of information technology has transformed various sectors, including healthcare. Hospitals are required to adapt to these changes by implementing Hospital Management Information Systems (HMIS) to improve service quality and operational efficiency. This study aims to evaluate the effectiveness of the HMIS at Nurhayati General Hospital Garut by applying the Technology Acceptance Model (TAM). A descriptive-analytical method with a qualitative approach was employed through interviews, observations, and literature review. The findings indicate that users perceive the NUHA application as effective, up-to-date, and beneficial, particularly in facilitating patient data collection, reducing queues, and supporting documentation of nursing and medical care. The reporting features were also found to enhance the completeness of patient records. Despite these benefits, challenges remain in medical record services, especially in generating detailed reports. The study recommends strengthening the IT team by employing internal programmers, enhancing human resources, providing refresher training in collaboration with vendors, and upgrading hardware to optimize system performance. Overall, the HMIS at Nurhayati General Hospital Garut has demonstrated positive contributions to healthcare services, though further improvements are necessary to maximize its effectiveness.

Keywords: Information system, Hospital Management, Evaluation, TAM, HMIS.

1. Introduction

The rapid advancement of information and communication technology has had a profound impact on various sectors, including healthcare. Hospitals, as complex organizations that are capital- and labor-intensive, rely heavily on information management to deliver comprehensive health services such as inpatient, outpatient, and emergency care. Consequently, the adoption of health information technology has become a necessity for improving efficiency, integration, and quality of care.

In Indonesia, the importance of hospital information systems is reinforced by regulations, including Law No. 44 of 2009 on Hospitals and the Regulation of the Minister of Health No. 49 of 2016, which mandate that every hospital must implement a Hospital Management Information System (HMIS). HMIS is designed to integrate clinical, administrative, and managerial processes, thereby enabling accurate, timely, and secure patient data management. It also provides a foundation for decision-making in hospital management. However, the success of HMIS does not depend solely on its technical design but also on the willingness and ability of users to adopt and consistently utilize the system.

The Electronic Medical Record (EMR), as a critical subsystem of HMIS, is central to improving the quality of health services by ensuring the completeness, accuracy, and legal compliance of medical documentation. Nevertheless, challenges are frequently reported, such as incomplete documentation, delayed record submission, lack of compliance with standard operating procedures, and technical disruptions. Studies have also shown that human resource limitations, inadequate training, and user resistance to digital systems are significant barriers to optimal HMIS utilization. These challenges highlight the importance of continuous evaluation of HMIS to ensure its alignment with hospital needs and regulatory requirements.

At Nurhayati General Hospital Garut, HMIS was first introduced in 2019 through the ICHA Mobile platform and later upgraded in 2023 with the NUHA (*Neural Universal Healthcare Application*). The system supports a wide range of functions, including outpatient and inpatient registration, emergency care, laboratory services, billing, and reporting. Despite these advancements, problems persist. Patient medical records are often incomplete or misplaced, standard operating procedures are inconsistently followed, and integration between hospital units remains limited. In addition, reliance on external vendors and the lack of internal IT personnel hinder system optimization and sustainability.

Patient visit data between 2018 and 2023 further underline the urgency of addressing these challenges. Following the COVID-19 pandemic, the hospital experienced a significant increase in outpatient and inpatient visits, with more than 100,000 outpatient visits recorded in 2022. The growing volume of patients places additional demands on HMIS, particularly in terms of speed, accuracy, and reliability of medical documentation. Without an effective and user-friendly system, service delivery may be compromised, resulting in delays, inefficiencies, and decreased patient satisfaction.

To address these issues, it is crucial to evaluate the acceptance and effectiveness of HMIS from the perspective of its users. The Technology Acceptance Model (TAM), developed by Davis (1989), provides a widely recognized theoretical framework to assess user acceptance of information systems. TAM emphasizes two primary constructs—perceived usefulness and perceived ease of use—that shape user attitudes, behavioural intentions, and actual system

usage. Applying TAM in the context of HMIS at Nurhayati General Hospital allows for a systematic assessment of how well the system meets user expectations, the extent to which it supports clinical and administrative tasks, and the barriers that may hinder optimal adoption.

This study, therefore, seeks to evaluate the implementation of HMIS in the medical record unit at Nurhayati General Hospital Garut using the Technology Acceptance Model (TAM). The findings are expected to provide practical insights for hospital management in improving system functionality, strengthening human resource capacity, and ensuring the sustainability of HMIS implementation. Moreover, the study contributes to the broader discourse on health information systems in developing countries, where challenges of resource limitations, user acceptance, and regulatory compliance remain critical issues.

2. Literature Review

2.1. Hospital Management Information System

The Hospital Management Information System has become a central element in hospital digital transformation, serving as an integrated platform for collecting, processing, storing, presenting, and analysing data required to support both clinical services and administrative management. It is not merely a technical tool but also a strategic instrument that shapes efficiency, accountability, and decision-making within healthcare organizations. HMIS is often described as a communication-based system that unifies hospital workflows by connecting patient services, administrative processes, and managerial functions into a single data stream, thereby ensuring accuracy, timeliness, and reliability of information.

In the Indonesian context, HMIS holds strong legal and institutional significance. Based on Law No. 44 of 2009 concerning Hospitals and reinforced by the Regulation of the Minister of Health No. 82 of 2013, every hospital is required to implement an integrated information system that aligns with the national health information system. This obligation emphasizes the role of HMIS not only in improving internal efficiency but also in supporting national health policy through data interoperability and standardized reporting. Compliance with these regulations further ensures that hospitals can maintain accreditation, improve quality assurance, and strengthen accountability to patients, regulators, and stakeholders.

The effectiveness of HMIS depends on a set of core components that must work in harmony. These include software applications that accommodate hospital workflows from registration to billing, reliable hardware such as servers and computers to sustain continuous operations, and robust networking systems that guarantee accessibility across hospital units. Equally important are standard operating procedures that guide staff in using the system consistently, organizational commitment that ensures adoption at all levels, and adequate human resources trained in both IT and healthcare operations. Without these foundations, HMIS cannot function as an effective backbone of hospital services.

When implemented successfully, HMIS offers wide-ranging benefits. It improves hospital efficiency by accelerating patient registration, reducing queues, and minimizing duplication of medical records. Paper-based documentation is gradually replaced by digital processes, creating a more sustainable and accountable workflow. Patient data becomes accessible across multiple departments such as outpatient care, inpatient care, pharmacy, and laboratory, which strengthens coordination and continuity of care. For managers and executives, HMIS provides timely and accurate reports that support monitoring, evaluation, and evidence-based planning. From a financial perspective, streamlined workflows reduce costs and administrative burdens, while patients experience more transparent, responsive, and satisfactory services. These positive outcomes also enhance the hospital's reputation and competitiveness.

Nevertheless, the adoption of HMIS remains challenging, particularly in developing countries. Data completeness and consistency are often problematic due to user negligence or insufficient training. Resistance to change also emerges when staff accustomed to manual processes hesitate to transition to digital systems. Many hospitals remain dependent on external vendors because they lack internal programmers, which makes sustainability vulnerable to contractual and financial constraints. Technical issues such as unstable networks and inadequate hardware further disrupt performance, while concerns about data security persist due to the sensitive nature of medical records. Another key challenge lies in interoperability, since hospital systems are often unable to integrate smoothly with the broader national health information system.

The medical record unit illustrates both the importance and the complexity of HMIS. Medical records constitute the legal and clinical basis of patient care, documenting registration, diagnosis, treatment, and follow-up. Within HMIS, medical record functions include digital registration of patients, input of clinical services with standardized ICD coding, documentation and tracking of files, monitoring of patient visits, and generation of medical reports for both internal management and external oversight. By digitizing these activities, HMIS reduces delays, increases data accuracy, improves completeness of documentation, and supports decision-making across clinical, administrative, and managerial levels. The integration of medical records with other hospital units ensures continuity of information, improves efficiency, and contributes to the overall quality of healthcare services.

An ideal HMIS should therefore combine user-friendliness with high levels of integration, ensuring seamless data flow between clinical, administrative, and managerial subsystems. It must also guarantee strong data security through encryption, access controls, and audit mechanisms. Flexibility and scalability are critical so that the system can be adapted to the specific needs of each hospital and expanded as demands grow. Mobile access has become increasingly important to support real-time decision-making, while regular updates are necessary to keep pace with technological advances and regulatory changes. When these criteria are fulfilled, HMIS transcends its role as a digital tool and emerges as a strategic asset that enables hospitals to deliver modern, efficient, and patient-centered healthcare services.

2.2. HMIS Evaluation

Evaluation is broadly defined as a systematic process of generating information to assess the extent to which objectives have been achieved. It functions not only as a measurement of effectiveness and efficiency but also as a means of making judgments about programs, systems, or policies. Putra and Kurniawati (2019) describe evaluation as a research activity aimed at collecting, analysing, and presenting information about a specific object, then judging it against predetermined indicators so that the results can inform decision-making. Similarly, Daerina et al. (2018) emphasize that evaluation

provides not only descriptive information but also value-laden insights that enable control, refinement, and improvement. In this sense, evaluation is both an analytical and a normative activity that guides the development of systems and policies.

Within the hospital setting, the evaluation of information systems such as the Hospital Management Information System (HMIS) is particularly significant. This is because health information technology is not limited to technical infrastructure but extends to human adoption and organizational processes. Early evaluations of HMIS in several hospitals revealed inefficiencies, such as the persistence of paper-based documentation in outpatient claims despite digital implementation. At Nurhayati General Hospital Garut, for instance, the introduction of the NUHA (*Neural Universal Healthcare Application*) system was intended to address these limitations by adopting a paperless approach and enabling integration with external platforms such as *Satu Sehat*. This highlights the fact that evaluation in health information systems must capture both the practical benefits perceived by users and the broader impact on service delivery.

Scholars classify evaluation into several types depending on object, focus, and timing (Prabowo, 2019). From the perspective of object, evaluation may target policies, programs, projects, materials, or human resources. In terms of focus, it may take the form of needs assessment, process evaluation, output evaluation, or efficiency assessment. Temporally, evaluation may be strategic when conducted prior to implementation, formative when conducted during implementation, or summative when conducted after implementation. These diverse classifications indicate that evaluation is not a uniform activity but a flexible process that must be adapted to the characteristics of the program or system under study, including HMIS.

Evaluation frameworks have also evolved, offering conceptual models that guide assessment. Tyler's *goal-oriented evaluation model* emphasizes the achievement of predetermined objectives, while Scriven's *goal-free* and *formative-summative* approaches allow evaluators to focus on actual outcomes both during and after implementation. Other models such as Stake's *countenance evaluation*, *responsive evaluation*, the *CSE-UCLA model*, and Stufflebeam's *CIPP model* (Context, Input, Process, Product) emphasize different dimensions of evaluation ranging from context and inputs to processes and outputs. Provus's *discrepancy model* further underscores the importance of identifying gaps between ideal conditions and actual implementation. Collectively, these models demonstrate that evaluation is not merely a technical assessment but also a theoretical endeavour to capture the multidimensional reality of programs and systems (Muryadi, 2017).

In the field of information systems, several methodological approaches have been developed to suit technological environments. According to Hakam (2016), at least five evaluation models are frequently employed. The *Task Technology Fit (TTF)* model assesses the degree to which technology matches user tasks, highlighting effectiveness as a function of technological relevance. The *End-User Computing (EUC) Satisfaction* model evaluates satisfaction with content, format, accuracy, and ease of use. The *Human-Organization-Technology (HOT) Fit Model* emphasizes the interplay among human, organizational, and technological factors in shaping acceptance. The *DeLone and McLean IS Success Model* focuses on system quality, information quality, and service impact as determinants of success. Among these, the *Technology Acceptance Model* (TAM) has gained wide recognition as one of the most robust and practical frameworks for evaluating information systems.

First introduced by Davis (1989) and derived from the Theory of Reasoned Action (TRA), TAM explains user acceptance of technology through two primary constructs: *perceived usefulness*, or the belief that a system enhances job performance, and *perceived ease of use*, or the belief that the system is free of effort. These constructs shape user attitudes toward use, behavioural intention, and ultimately actual usage. Over time, TAM has been extended to include additional external variables such as user satisfaction, prior experience, and organizational support (Mustafa & Garcia, 2021; Aburbeian et al., 2022; Mogaji et al., 2024). Its strength lies in its simplicity and predictive power, making it highly applicable in the context of health information systems where user adoption is a decisive factor in system success.

The implementation of HMIS at Nurhayati General Hospital Garut provides an example of the relevance of TAM. Most inpatient medical record operations are managed not by medical record specialists but by nurses and midwives. Despite their non-IT background, these users perceive the NUHA application as useful and relatively easy to operate, particularly in terms of reducing documentation time and improving patient data management. Such findings illustrate the central role of perceived usefulness and ease of use in shaping positive user experiences and willingness to adopt the system. Evaluating HMIS through the lens of TAM thus offers a more comprehensive understanding of both technical and human dimensions, revealing the extent to which the system supports performance, addresses barriers to adoption, and contributes to the overall improvement of hospital services.

3. Research Method

This study employs a descriptive-analytical research design with a qualitative approach, utilizing data obtained through interviews, observations, and literature reviews to evaluate the Hospital Management Information System (SIMRS) at Nurhayati General Hospital Garut. The research adopts a research and development (R&D) method as described by Sugiyono (2011), which is designed not only to produce a specific product but also to test its effectiveness. In this context, the study aims to evaluate the implementation of SIMRS using the Technology Acceptance Model (TAM) as a strategic framework to propose improvements and optimization strategies for the system. According to Supriyati (2015), TAM-based evaluation encompasses five aspects: perceived ease of use, perceived usefulness, attitude toward technology, behavioral intention to use, and actual technology usage.

The research was conducted between January and November 2023, with informants selected purposively based on their expertise and involvement in the SIMRS implementation. A total of seven participants served as key informants: the Head of the SIMRS Division, IT staff, outpatient registration officer, Head of the Pharmacy Installation, emergency registration officer, legal officer, and Head of the Medical Records Installation. These individuals were deemed capable of providing comprehensive and reliable insights into the implementation and challenges of SIMRS at Nurhayati General Hospital.

Data collection involved three techniques. First, structured interviews were conducted to obtain in-depth information from a relatively small number of respondents, enabling detailed exploration of issues related to system use and user experiences. Second, observations were carried out to document events and processes in real time, guided by observation formats containing predetermined items, consistent with the definitions of Sugiyono (2018) and Hutahaen (2018). Third, a literature review was performed, drawing on scholarly publications, hospital documents, and relevant studies to contextualize the findings and strengthen the analytical framework.

The Technology Acceptance Model (TAM) was applied as the primary framework for evaluation. Initially introduced by Davis (1989) and derived from the Theory of Reasoned Action (TRA), TAM provides a predictive model of user acceptance of technology, focusing on two key constructs: perceived usefulness and perceived ease of use. Over time, TAM has been widely adopted and refined, becoming one of the most influential models in the field of information systems (Suariedewi & Sulistyawati, 2016). In this study, TAM was used to analyze the extent to which NUHA, the SIMRS application at Nurhayati General Hospital, was perceived as useful and easy to operate, as well as how these perceptions shaped user attitudes and behavioral intentions. Previous studies, such as Afiana et al. (2019), have demonstrated the strength of TAM in measuring SIMRS adoption, with findings indicating that perceived ease of use can exert a stronger influence than other variables. The present study builds on such evidence by applying TAM specifically within the medical record context of a regional hospital.

Data analysis followed a qualitative approach involving several steps: transcribing recorded interviews, examining all data from multiple sources, reducing data by summarizing key findings, organizing and categorizing data, and presenting results in comparative tables. The process was strengthened through methodological and source triangulation to ensure the validity and reliability of findings. Source triangulation was employed by comparing information obtained from different informants, while methodological triangulation involved cross-checking results from interviews, observations, focus group discussions, and document analysis. This multi-angle validation strategy ensured that the conclusions drawn were not based solely on a single perspective but rather represented a consistent pattern across multiple data sources.

Ultimately, the application of TAM in this study was intended to provide a holistic evaluation of SIMRS implementation, highlighting the perceived benefits and ease of use for both employees and patients, while also identifying organizational and technical challenges. The results are expected to guide hospital management in refining the NUHA system, enhancing service delivery, and improving patient satisfaction through evidence-based recommendations.

4. Results and Discussion

4.1. Perceived Usefulness

Perceived usefulness is defined as the belief that the use of a technology can improve individual as well as organizational performance. In the implementation of the NUHA application at RSU Nurhayati Garut, the majority of users assessed that the system is quite effective, especially in supporting patient data collection, reducing queues, and accelerating the process of recording medical care. NUHA is also perceived to contribute to the timeliness of report submission to management, thereby helping to maintain administrative order compared to previous manual methods.

Nevertheless, the benefits obtained are not yet fully maximized. Limitations can still be seen in terms of system integration, particularly because NUHA has not been directly connected with the Ministry of Health's SIMRS or the Mobile JKN application. In addition, the reporting feature remains limited, so that the data generated has not yet provided a fully comprehensive picture for management's strategic analysis needs. Thus, although NUHA has proven effective at the operational level, its potential strategic benefits have not yet been fully realized.

Empirically, these findings are consistent with Jober's (2021) study at RSUD Abepura, which showed a significant positive relationship between perceived ease of use and perceived usefulness. In other words, the easier a system is to operate, the greater the benefits perceived by users. NUHA, despite still facing technical obstacles, is still perceived as beneficial because it has been able to deliver tangible efficiency in service and administrative processes.

Conversely, the results of this study differ from the findings of Sevtiyani et al. (2018) at RSUD Kajen, which found that perceived usefulness had no effect on the intention to use the system. This difference can be explained by the differing organizational contexts. At RSU Nurhayati Garut, the practical benefits of NUHA are directly felt in daily work, particularly in the smoothness of recording and reporting, making it easier for users to accept the system despite technical limitations.

Further analysis shows that the perceived benefits of NUHA are still more evident in administrative functions than in strategic functions. By strengthening system integration, adding more detailed reporting features, and linking it with external applications such as Mobile JKN, the perceived usefulness of NUHA can be significantly increased. This at the same time supports the Technology Acceptance Model (TAM) framework, where the higher the perceived usefulness, the greater the likelihood of system acceptance by users.

4.2. Perceived Ease of Use

Perceived ease of use refers to the degree of user confidence that a system can be understood and operated without excessive effort. In the context of the NUHA application at RSU Nurhayati Garut, the majority of informants stated that the application is relatively easy to use. At the beginning of its implementation, some users experienced difficulties because they had to fill in many forms and adjust to the new system. However, over time, they became more accustomed to it, thus making work processes more efficient.

Nevertheless, a number of technical obstacles still pose challenges that reduce users' positive experiences. One of the main problems is medication orders not entering the pharmacy system, so healthcare workers have to re-input them manually. In addition, frequent network disruptions slow down services, especially in units with high workloads such as the ER and pharmacy. Hardware limitations, such as the insufficient number of computers, and the lack of IT staff (only two people available in the morning), further worsen the situation when disruptions occur. This condition indicates that although NUHA is easy to use at the application level, the supporting infrastructure and human resources remain inadequate.

Empirically, these findings are consistent with Bayu Aji's (2017) study at RSIA Bhakti Magetan, which showed that perceived ease of use had a significant effect on SIMRS acceptance, with an influence level of 75.3%. However, the study by Perkasa et al. (2023) presents a different picture, namely that the ease of use of SIMRS only received a low score (39%) due to limited infrastructure readiness and suboptimal user engagement. A similar situation is

seen with NUHA at RSU Nurhayati Garut: although the system is intuitive and relatively easy to learn, limitations in networks, computers, and technical staff reduce the optimal benefits perceived by users.

Thus, it can be concluded that the perceived ease of use of NUHA is influenced not only by system design but also by external supporting factors. Improving the network, adding hardware, and increasing the number and capacity of IT staff are strategic steps to strengthen the perception of ease of use. These improvements will not only encourage system acceptance but also enhance NUHA's effectiveness in supporting hospital services as a whole.

4.3. Attitude Toward Using

Users' attitudes toward the NUHA application at RSU Nurhayati Garut show a positive tendency. The majority of employees state that they accept the presence of this application and use it in their daily patient care activities. This acceptance is reflected in the minimal resistance to the new system and the willingness to adapt, even though not all employees received formal training. Some employees relied on written modules or learned from more experienced colleagues, indicating the presence of a self-learning process. This suggests that system acceptance is determined not only by formal hospital support but also by users' individual initiatives.

This positive attitude is an important asset in the diffusion process of information technology in the hospital environment. According to the Technology Acceptance Model (TAM), attitude toward using is a mediating variable that bridges perceived usefulness and perceived ease of use with behavioral intention. Thus, the formation of positive attitudes toward NUHA at RSU Nurhayati Garut can be seen as an early signal that the system has prospects for sustainable adoption.

Empirically, these findings are consistent with the study of D. S. H. Putra & Kurniawati (2019), which showed that positive attitudes toward SIMRS at Hospital X made a large contribution to behavioral intention, with a score of 77.7% in the good category. These findings align with the Theory of Reasoned Action (TRA), which asserts that individual attitudes will influence behavioral intentions. In the context of information systems, the more positive employees' attitudes are toward the system, the more likely they are to continue using it.

Jober's (2021) study at RSUD Abepura also supports this conclusion, finding a significant positive relationship between perceived usefulness and attitude toward using. In other words, users who perceive real benefits from the system tend to have a more positive attitude. This aligns with the situation at RSU Nurhayati Garut, where despite infrastructure and system integration limitations, employees still view NUHA as beneficial, particularly in patient record-keeping and managerial reporting efficiency.

However, there are challenges that need to be addressed. This positive attitude has not been matched by evenly distributed technical skills due to limited training. Some employees have not had the opportunity to participate in formal training and rely solely on self-study tutorials. This may create a competence gap between more skilled users and those with limited abilities. If left unaddressed, this gap could lead to dependency on a few "experts," reducing service efficiency when those individuals are unavailable.

Furthermore, the lack of training reduces opportunities to strengthen positive attitudes. Supriyanti & Cholil's (2017) study at Prof. Dr. R. Soeharso Orthopedic Hospital Surakarta showed that comprehensive and intensive training could significantly enhance positive attitudes toward SIMRS. This indicates that positive attitudes are shaped not only by the perceived benefits of the system but also by adequate organizational support through policies, socialization, and continuous training.

The implication is that RSU Nurhayati Garut needs to strengthen its NUHA training policies regularly, for example every three or six months, involving all staff without exception. This aims to transform the existing positive attitude into widespread practical competence across all service lines. In addition, the positive attitude should also be supported by a more stable and integrated system, so that users' positive experiences become more consistent.

Theoretically, these findings reinforce the position of attitude toward using as an important variable in the TAM framework. The positive attitudes formed at RSU Nurhayati Garut indicate that although the system is still under development, users still demonstrate relatively good acceptance. This can serve as a basis for future studies to examine non-technical factors, such as organizational culture, leadership style, and managerial support, that can strengthen positive attitudes toward hospital information systems.

4.4. Evaluation of SIMRS Based on Actual Use in the TAM Method

The actual use of the NUHA application at RSU Nurhayati Garut has spread to almost all service units, ranging from outpatient care, inpatient care, ER, pharmacy, laboratory, to radiology. Each unit has different usage patterns depending on its operating hours. Outpatient services, for example, use NUHA during regular working hours (07:30–18:00, Monday–Saturday), while ER, pharmacy, laboratory, and radiology use it continuously 24 hours a day. This shows that NUHA is not just an additional application but has already become the backbone of daily medical services.

However, despite the relatively high level of use, NUHA still faces several obstacles that hinder optimal actual usage. First, the system has not been fully integrated with important external platforms such as the Ministry of Health's SIMRS and Mobile JKN. This condition forces some users to perform double entry, i.e., entering the same data into two different systems. This clearly increases the administrative workload, lengthens service time, and potentially creates data inconsistencies. Second, technical problems are still found, such as medication orders not always being properly recorded in the pharmacy system, which slows down service flow. Third, the limited number of computers and IT staff results in slow responses to network or system disruptions.

From the perspective of the Technology Acceptance Model (TAM), actual usage is the final manifestation of perceived usefulness, perceived ease of use, and attitude toward using. This means that the high level of NUHA usage in various service units shows that most employees have already accepted the system as part of their routine work. However, the existing technical and structural problems may reduce the quality of user experience, potentially lowering satisfaction and long-term sustainability of use.

Empirically, these findings are consistent with the study of D. S. H. Putra & Kurniawati (2019), which reported SIMRS actual usage at 69.4% (good category). This means that although the system helps speed up work, technical limitations remain a hindering factor. Ahadi & Sudaryana's (2024) study

also emphasized that user satisfaction increases in line with the intensity of system use in daily activities, meaning the more often NUHA is used, the higher the dependency and satisfaction formed. However, if the system is unstable or not integrated, satisfaction levels may decline.

Thus, NUHA's actual usage at RSU Nurhayati Garut can be considered quite good because it already covers all major units and is used in full service cycles, both during regular working hours and 24-hour emergency services. Nevertheless, to achieve truly optimal usage, the hospital needs to immediately resolve integration issues with the Ministry of Health's SIMRS and Mobile JKN, improve the pharmacy module so that medication orders are not lost, and add infrastructure such as sufficient computers and IT staff. These efforts will not only improve operational smoothness but also strengthen users' satisfaction and trust in the system.

5. Conclusion

The evaluation of the NUHA application at RSU Nurhayati Garut through the Technology Acceptance Model (TAM) demonstrates that the system has provided tangible benefits in supporting hospital operations, particularly in-patient data recording, administrative efficiency, and service delivery in both the emergency department and outpatient care. Although the system's strategic potential is not yet fully realized due to the lack of integration with the Ministry of Health's SIMRS and the Mobile JKN application, NUHA has proven effective at the operational level and shows strong prospects for further optimization.

Users generally perceive NUHA as relatively easy to operate after an initial adjustment period. However, technical and infrastructural constraints, including limited computer availability, unstable network connections, and recurring issues in the pharmacy module, remain significant barriers. These challenges indicate that ease of use is influenced more by infrastructure readiness and technical support than by system design alone.

Attitudes toward NUHA are generally positive, reflected in employees' acceptance and willingness to adapt, even in the absence of formal training for all staff. This positive outlook aligns with the benefits perceived by users but is not yet matched by evenly distributed technical competence. Continuous training is therefore essential to ensure that acceptance is followed by the necessary skills.

In terms of actual usage, NUHA has been adopted widely across almost all hospital units, including 24-hour operations in emergency, pharmacy, laboratory, and radiology services. This reflects a high degree of acceptance, though optimal usage remains constrained by limited integration, insufficient IT personnel, and hardware shortages. Addressing these gaps will enable NUHA to achieve its full potential in line with the broader goals of SIMRS implementation.

The hospital management should enhance NUHA's reporting features and accelerate its integration with the Ministry of Health's SIMRS and the Mobile JKN system. This will reduce double entry, increase efficiency, and improve data accuracy. Infrastructure improvements are urgently needed, particularly through the addition of computers, upgrading of server capacity, and provision of a stable independent network. Adequate infrastructure will strengthen the perception of ease of use and minimize operational disruptions. Human resource development must be prioritized by increasing the number of IT staff and organizing regular user training sessions (e.g., every three to six months). This will ensure that the existing positive user attitude is accompanied by strong and evenly distributed technical competence. Continuous evaluation of NUHA should be conducted through user surveys, discussion forums, and system audits. Such evaluations will provide the basis for ongoing improvements and ensure that NUHA consistently contributes to the enhancement of hospital service quality.

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