
**THE RELATIONSHIP BETWEEN ELECTRONIC MEDICAL
RECORDS IMPLEMENTATION AND USER SATISFACTION AT
BAHTERAMAS REGIONAL HOSPITAL, SOUTHEAST SULAWESI
PROVINCE**

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ABSTRACT

Electronic Medical Records (EMR) implementation plays a crucial role in improving work efficiency and the quality of healthcare services in hospitals. The success of EMR implementation can be evaluated using the DeLone and McLean model, which encompasses system quality, information quality, and service quality, and impacts user satisfaction. This study aims to determine the relationship between system quality, information quality, and service quality and user satisfaction with EMR at Bahteramas Regional Hospital, Southeast Sulawesi Province. This study used a quantitative approach with a cross-sectional design. The sample in this study consisted of 274 respondents who were users of the EMR system, using a proportionate stratified random sampling technique. Data were collected through a structured questionnaire and analyzed using the fisher exact test. The results of the study indicate that system quality is significantly related to user satisfaction (p -value = 0.007), information quality is significantly related to user satisfaction (p -value = 0.000), and service quality is also significantly related to user satisfaction (p -value = 0.009). The conclusion of this study is that system quality, information quality, and service quality are related to user satisfaction in the implementation of electronic medical records. Therefore, improving system quality, information quality, and service quality requires attention to support user satisfaction and optimize the use of EMR in hospitals.

KEYWORDS: Electronic Medical Records, System Quality, Information Quality, Service Quality, User Satisfaction.

INTRODUCTION

Electronic Medical Records (EMR) are crucial in healthcare because they contain patient health data. This data can be used to measure the quality of care provided. EMRs also facilitate communication within and between hospitals because the data recording and storage processes are automated. However, the quality of the information produced depends heavily on the accuracy of the data entered by healthcare workers (Muhlizardy et al., 2024). The success of EMRs depends heavily on the level of acceptance and involvement of medical staff in adopting and mastering this new technology (Ikawati, 2024). User satisfaction with EMRs is a key indicator in assessing the effectiveness of the information system (Muhlizardy et al., 2024). User satisfaction is a key indicator of successful EMR implementation (Sulistian et al., 2025).

The implementation of Electronic Medical Records (EMR) in Indonesia is based on a regulatory mandate, namely Minister of Health Regulation Number 24 of 2022, which requires healthcare facilities to implement it no later than December 31, 2023. However, data from a national survey conducted by PERSI (the Indonesian Hospital Association) in 2022 showed that only 50% of hospitals had implemented EMR, and of that number, the level of optimal utilization was still low, reaching only 16%. This gap arises from structural and human resource constraints that hamper the digital transition amidst limited resources (Nurlaily & Setiatin, 2025).

The success of RME implementation can be explained using the DeLone and McLean model, which spreads information system success across six interconnected dimensions. This model explains that system quality, information quality, and service quality influence user usage and satisfaction levels. Furthermore, these usage and satisfaction levels are the primary determinants of net benefits (Mamis, 2025).

Based on an initial survey on October 27, 2025, an interview was conducted with the information system at Bahteramas Regional General Hospital, Southeast Sulawesi Province, it was found that Bahteramas Regional General Hospital, Southeast Sulawesi Province, has been using electronic medical records using the SIMRS Khanza application since February 1, 2023. In its implementation, there are still several obstacles such as limited mastery of information technology in some health workers, especially those from the elderly group, followed up by the hospital through a strategy to increase human resource capacity by organizing training on the use of electronic medical records carried out in groups or individually; and there are still documents that are managed manually, namely general consent which contains a statement that the patient is willing to be transferred to the hospital,

meet a doctor, take medical action, comply with hospital regulations, know the patient's rights and obligations, consent to surgery, refusal of action, forced discharge, doctor education to patients, and all forms that require patient signatures are still managed manually.

This condition indicates that although electronic medical records have been implemented at Bahteramas Regional Hospital, its implementation is not yet fully optimal, so an evaluation is needed to assess the extent to which the implementation is related to the level of user satisfaction as an indicator of system success. Therefore, this study aims to investigate the relationship between the implementation of electronic medical records and user satisfaction at Bahteramas Regional Hospital, Southeast Sulawesi Province.

LITERATURE REVIEW

Definition of Hospital

The WHO states that hospitals are an integral component of the social and medical structure, serving the purpose of providing comprehensive health services to the community, both curative and preventive. This definition also encompasses the hospital's role as a center for multidisciplinary training and research (Ariska, 2023).

Electronic Medical Records

According to Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022, electronic medical records are medical records created using an electronic system intended for the management of medical records (Permenkes, 2022). Electronic medical records are computer-based health information systems that provide information on patient data, health data, allergies, and laboratory results. Some of these are also supported by decision support systems (Kesuma, 2023). One of the main objectives of electronic medical records is to increase the efficiency of medical record work because it can speed up and simplify access to information, improve data integration between hospital management systems and other systems to reduce problems caused by human factors, reduce the space used for medical records, and more (Rokhmah, 2024).

The Concept of Electronic Medical Records Success

The model proposed by DeLone and McLean reflects the interdependence of six variables that measure information system success. The DeLone and McLean model is a type of work structure used to assess factors that can indicate the success of information system implementation. According to the DeLone and McLean Information Systems Success Model, information quality, system quality, and service quality interact to influence the intensity of use or user satisfaction. The level of use can have a positive or negative impact on user

satisfaction. The main model frequently used and evaluated in information systems was developed by DeLone and McLean in 1992 and revised in 2003.

Information System Success Variables

According to Delone and Mclean (2016), there are six variables for measuring the success of information systems, namely:

1. System Quality: The desired characteristics of an information system.
2. Information Quality: The desired characteristics of system outputs. For example, management reports and web pages.
3. Service Quality: The quality of support system users receive from the information systems organization and IT support personnel.
4. Usage: The extent and manner in which employees and customers utilize the capabilities of the information system.
5. User Satisfaction: The degree to which users are satisfied with reports, websites, and support services.
6. Net Impact: The extent to which the information system contributes or contributes to the success of individuals, groups, organizations, industries, and nations.

MATERIAL AND METHODS

This research was conducted at Bahteramas Regional General Hospital, Southeast Sulawesi Province, from March to April 2026. This quantitative study used an analytical approach and a cross-sectional design. The population consisted of 868 personnel using the electronic medical record system (SIMRS Khanza) at Bahteramas Regional General Hospital, Southeast Sulawesi Province. The sampling technique used was proportional stratified random sampling. The sample size, using Slovin's method at a critical value of 5%, was 274 respondents. Data were collected using a questionnaire. The analysis technique used by the researcher was the Fisher's Exact test to examine the relationship between variables.

RESULT

Tabel 1. Characteristics of Respondents.

Variables	Frequency	Percent (%)
Age		
20-30	36	13.1
31-40	135	49.3
41-60	103	37.6
Gender		

Variables	Frequency	Percent (%)
Male	60	21.9
Female	214	78.1

Source: Primary Data, 2026

A total of 274 respondents participated in this study. The majority of respondents were aged 20–30 years (13.1%), followed by those aged 31–40 years (49.3%) and 40–60 years (37.6%). Females predominated (78.1%), while males accounted for 21.9% of the respondents.

Tabel 2. Univariate Analysis.

Variables	Frequency	Percent (%)
System Quality		
Less Good	14	5.1
Good	260	94.9
Information Quality		
Less Good	13	4.7
Good	261	94.3
Service Quality		
Less Good	5	1.8
Good	269	98.2
User Satisfaction		
Less Satisfied	9	3.3
Quite Satisfied	265	96.7

Source: Primary Data, 2026

Univariate analysis showed that the majority of respondents assessed system quality as good, with 260 respondents (94.9%), while 14 respondents (5.1%) rated it as less good. For information quality, most respondents also rated it as good, with 261 respondents (94.3%), whereas 13 respondents (4.7%) assessed it as less good.

Similarly, service quality was predominantly perceived as good by 269 respondents (98.2%), while only 5 respondents (1.8%) rated it as less good. Regarding the user satisfaction, the majority were categorized as quite satisfied, with 265 respondents (96.7%), while 9 respondents (3.3%) were categorized as less satisfied.

Tabel 3. Bivariate Analysis.

Variables	User Satisfaction				p-value
	Quite Satisfied		Less Satisfied		
	n	%	n	%	
System Quality	254	92.7	6	2.2	0.007
Good	11	4.0	3	1.1	
Less Good					

Variables	User Satisfaction				p-value
	Quite Satisfied		Less Satisfied		
	n	%	n	%	
Information Quality					
Good	257	93.8	4	1.5	0.000
Less Good	8	2.9	5	1.8	
Service Quality					
Good	262	95.6	7	2.6	0.009
Less Good	3	1.1	2	0.7	

Source: Primary Data, 2026

For system quality The results showed that of the 260 respondents who rated the system quality as good, 92.7% were quite satisfied, while 2.2% were dissatisfied. Meanwhile, 1.1% of respondents rated the system quality as poor and were dissatisfied. The results of the Fisher exact statistical test show a p-value of 0.007, which is smaller than $\alpha = 0.05$. Thus, H_0 is rejected, which means there is a significant relationship between system quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.

For information quality, The results showed that of the 261 respondents who rated the information quality as good, 93.8% were quite satisfied, while 1.5% were dissatisfied. On the other hand, there were still 1.8% of respondents who rated the information quality as poor and dissatisfied. The Fisher exact test showed a p-value of 0.000, which is less than $\alpha = 0.05$. Therefore, H_0 is rejected, indicating a significant relationship between information quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.

Furthermore, for service quality, The results showed that of the 269 respondents who rated the service quality as good, 95.6% were quite satisfied, while 2.6% were dissatisfied. On the other hand, 0.7% of respondents still rated the system quality as poor and were dissatisfied. The Fisher exact test showed a p-value of 0.009, which is less than $\alpha = 0.05$. Therefore, H_0 is rejected, indicating a significant relationship between service quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.

DISCUSSION

System quality is the system's ability to process data to produce desired or desired results. Meilani et al. (2020) identified several indicators for assessing system quality, including ease of use, security, response time, ease of access, and reliability (Haykal et al., 2023). Based on the data analysis, it was found that system quality is related to user satisfaction. The results showed that the majority of respondents stated that the system quality was in the good

category. Users considered the system easy to use, able to adapt to user needs, responded quickly, and was easily accessible. However, a small number of respondents considered their user satisfaction level to be less than satisfactory. This could be due to other factors such as information quality that does not meet user needs or suboptimal support services.

This is in line with Permana et al. (2023), who stated that good system quality, such as ease of use, access speed, reliability, flexibility, and security, can improve user comfort while working and support service efficiency and effectiveness. This is also in line with Agsari et al. (2024), who stated that good SIMRS system quality provides positive user perceptions and contributes to increased user satisfaction because the system can be used more stably and with minimal disruption.

Information quality refers to how good the information provided by the system is including things such as accuracy, relevance, appropriateness, timeliness, and ease of understanding (Rahmi et al., 2025). Based on the data analysis, it was found that information quality is related to user satisfaction. This indicates that the better the quality of the information produced, such as accuracy, completeness, relevance, timeliness, and an easy-to-understand presentation format, the higher the level of user satisfaction. The research results show that the majority of respondents stated that the information quality was good, as measured by indicators of accuracy, completeness, relevance, timeliness, and presentation format. This indicates that the information generated by the system was sufficiently accurate, complete, appropriate to user needs, timely, and easy to understand. However, a small number of respondents stated that user satisfaction levels were still in the less than satisfactory category. In line with research by Firdaus et al. (2024), information quality in the implementation of electronic medical records is considered to play a role in supporting the service process, particularly in helping healthcare workers obtain more structured patient data that meets service needs. Furthermore, Suryani et al. (2024) explain that information quality is a crucial component in the success of a hospital information system, as well-presented information can support user work activities more effectively. Research by Anggraini et al. (2025) also shows that information quality is related to user satisfaction, particularly when the information presented is easy to understand and can be used according to service needs. Thus, it can be concluded that information quality plays a crucial role in increasing user satisfaction, as good information will support more effective, efficient, and high-quality services.

Service Quality assesses the responsiveness and ability of the technical support team to handle user issues (Fathoni & Arfan, 2024). Based on the data analysis, it was found that service quality is related to user satisfaction. This indicates that the better the quality of

service provided, such as responsiveness in addressing issues, ease of access to assistance, and adequate technical support, the higher the level of user satisfaction. Good service enables users to perform tasks more smoothly and minimizes obstacles in using the system. This finding aligns with research by Putra & Darmawan (2021), which states a positive relationship between service quality and user satisfaction, where improvements in service quality are followed by increases in user satisfaction. The research results showed that the majority of respondents were quite satisfied with the quality of healthcare services. This reflects that users considered the services provided, such as technical support, responsiveness to issues, and ease of obtaining assistance, to be adequate in supporting work activities. However, a small proportion of respondents assessed that user satisfaction levels were still in the less than satisfactory category. This could be due to other factors, such as suboptimal system quality or information that doesn't fully meet user needs. Adequate service quality contributes to increased user trust in the system and supports the smooth running of their service processes.

CONCLUSION

Based on the research findings on the relationship between electronic medical record implementation and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province, the following conclusions can be drawn:

1. There is a significant relationship between system quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.
2. There is a significant relationship between information quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.
3. There is a significant relationship between service quality and user satisfaction at Bahteramas Regional General Hospital, Southeast Sulawesi Province.

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