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Overview of the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

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ABSTRACT

Electronic Medical Record (RME) is a digital system that aims to improve the efficiency, accuracy, and quality of health services in hospitals. The Government of Indonesia requires all health facilities, including Otanaha Hospital, to implement RME according to the latest regulations. This study aims to describe the success of the implementation of RME at Otanaha Hospital.A type of descriptive research with quantitative methods. A sample of 113 health workers and administrative staff was selected proportionally simple random. Data were collected through questionnaires and interviews, analyzed descriptively. The results of the study showed that the implementation of RME at Otanaha Hospital was considered very good by the majority of users. The quality of RME information is considered adequate and supports clinical services. Management support is strong and contributes to the success of implementation. Users are considered ready and receive effective training, supported by good infrastructure. The satisfaction level is still low, it needs to improve the content, convenience, and speed of the system. The implementation of RME is considered to have not been successful because the efficiency and quality of service have not been optimal. The RME at Otanaha Hospital is good enough, but it needs to improve infrastructure and improve human resource training so that the use of RME is more optimal. Evaluation and development of sustainable systems are important to support the quality of health services.

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INTRODUCTION

Electronic medical records (RMEs) are a form of electronic storage of patients' personal, demographic, social, and clinical data, as well as clinical events during medical services. RME serves as a tool to support decision-making in the patient care process (Mauliddiyah, 2021). RME is an essential technological tool for healthcare, modernizing medical information management and contributing to high-quality patient care and efficient management. The implementation of RME impacts patient satisfaction, documentation accuracy, accelerates patient data access and reduces clinical errors in services at health facilities of Puskesmas and Hospitals (July et al., 2023).

Based on the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022, it gives authority to the Ministry of Health regarding the data and content of the RME and its implementation system (Septian, 2023). A health service institution in accordance with the Regulation of the Minister of Health No. 30 of 2020 Article 1 is an entity that provides comprehensive health services for individuals, including inpatient, outpatient, and emergency care. Hospitals always try to provide good service to the

community, both in terms of medical and non-medical services. Therefore, hospitals must implement effective performance strategies so that good service can be achieved with effectiveness within the hospital (Ariani et al., 2023).

Based on research conducted by Alkaf et al. (2024), it is shown that the quality of information in the RME (Electronic Medical Record) system has a positive effect on user information satisfaction, which in turn encourages higher performance expectations. Performance expectations and the availability of supporting facilities also shape users' positive attitudes towards RME. This attitude significantly increases overall satisfaction, which ultimately has a positive impact on the perception of RME benefits. The research concluded that the implementation of RME at UGM Hospital succeeded in improving the quality of services and supporting the overall success of the system.

The implementation of the Electronic Medical Record (RME) system is part of the digital transformation of health services in Indonesia. By 2024, around 80% of hospitals and 93% of health centers in Gorontalo Province will have implemented this system, making Gorontalo one of the provinces with the highest achievement nationally (Ministry of Health of the Republic of Indonesia, 2024). One of the health facilities that has also adopted RME is Otanaha Hospital in Gorontalo City, which began implementing it at the end of 2022, although initially limited to the patient registration process. In 2023, the implementation will be expanded to all service units such as administration, poly, and pharmacies.

However, Otanaha Hospital still faces a number of challenges in optimizing RME, especially related to unstable network quality and patient data duplication issues. These disruptions not only hinder the workflow of medical personnel, but also risk lowering information accuracy and patient safety. Therefore, a thorough evaluation of the system is needed, including improving infrastructure and human resource competencies. Based on these conditions, the researcher is interested in conducting a study entitled "Overview of the Successful Implementation of Electronic Medical Records at the Otanaha Gorontalo Regional General Hospital."

METHOD

The type of research used in this study is descriptive using quantitative methods. The population in this study is all health facilities at Otanaha Hospital which totals 158 caregivers. The determination of the number of samples in this study used the Slovin formula so that a sample of 113 health facilities at Onahaha Hospital was obtained.

In this study, the sampling technique used is Proportional Simple Random Sampling, so that from the total sample of 113 people divided from 54 Nurses, 28 Midwives, 4 Pharmacists, 7 ASS Pharmacists, 1 Health Admin, 1 General Computer Operator, and 18 Room Administration.

RESULT

Table 1 Distribution of respondents by age

Age Group (Year)	Frequency	
	n	%
≤35 Years	84	74.3
36-40 Years	27	23.9
41-50 Years	2	1.8
51-60 Years	0	0
Total	**113**	**100.0**

Source: Primary Data, 2025

Based on table 1 distribution Respondents Based on the age group of 113 employees, it was found that the age of the employees who dominated was the age group ≤35 84 employees (74.3%) while for the age group of 36-40 as many as 27 employees (23.9%), while for the least age group of 41-50 years old as 2 employees (1.8%)

Table 2 Distribution of respondents by Last Education

Education	Frequency	
	n	%
Diploma	4	3.5
Bachelor	91	80.5

Master	16	14.2
Doctor	2	1.8
Total	**113**	**100.0**

Source: Primary Data 2025

Based on table 2 of the distribution of respondents based on the last education shows that of the 113 respondents, the last education that dominated the most was Bachelor as many as 91 employees (80.5%), then for the last Master's education as many as 16 employees (14.2%), while for the last education Diploma as many as 4 employees (3.5%), while the last education with the least is Doctor as many as 2 employees (1.8%).

Table 3 Distribution of Respondents by Employment Status

Employment Status	**Frequency**	
	n	**%**
PTT	42	37.2
ASN	71	62.8
Total	**113**	**100.0**

Source: Primary Data 2025

Based on table 3 of the distribution of respondents based on employment status, it shows that of 113 respondents, the most dominant employment status is ASN, which is as many as 71 respondents (62.8%). Meanwhile, the least employment status is PTT with 42 employees (37.8%).

Table 4 Distribution of Respondents by System Quality

System Quality	**Frequency**	
	n	**%**
Highly Effective	106	93,3
Effective	7	6,2
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 4, the distribution of respondents for system quality shows that out of 113 respondents, there are 116 employees who have a very effective category, and for respondents who have an effective category as many as 7 respondents (6.2%).

Table 5 Distribution of Respondents Based on Information Quality

Quality of Information	**Frequency**	
	n	**%**
Very Adequate	23	20,4
Adequate	90	79,6
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 5, the distribution of respondents for information quality shows that out of 113 respondents, there are 23 respondents (20.4%) who have a very adequate category, while 90 respondents (79.6%) have an adequate category.

Table 6 Distribution of Respondents by Management Support

User Training and Readiness	**Frequency**	
	n	**%**
Highly Prepared	106	93,8
Ready	7	6,2
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 6 of the distribution of respondents for job satisfaction, it shows that out of 113 respondents, there are 23 respondents (20.4%) who have a very supportive category, respondents who have a supportive category as many as 90 respondents (79.6%).

Table 7 Distribution of respondents by training and user readiness

User Satisfaction	Frequency	
	n	%
Very satisfied	3	2,7
Satisfied	47	41,6
Dissatisfied	63	55,8
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 7 of the distribution of respondents for training and user readiness, it shows that out of 113 respondents, there are 106 respondents (93.8%) who have the category of training and user readiness, respondents who have the category of ready to do training and user readiness as many as 7 respondents (6.2%)

Table 8 Distribution of Respondents by User Satisfaction

User Satisfaction	Frequency	
	n	%
Very satisfied	3	2,7
Satisfied	47	41,6
Dissatisfied	63	55,8
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 8 of the distribution of respondents for user satisfaction, it shows that out of 113 respondents, there are 3 employees (2.7%) who have a very satisfied category, respondents who have a satisfied category as many as 47 employees (41.6%), and respondents who have a dissatisfied category as many as 63 (55.8%).

Table 9 Distribution of Respondents Based on Successful RME Implementation

Successful RME Implementation	Frequency	
	n	%
Succeed	14	12,4
Less Successful	99	87,6
Total	**113**	**100**

Source: Primary Data, 2025

Based on table 9, the distribution of respondents in work discipline shows that out of 113 respondents, there are 14 respondents (12.4%) who have a successful category, 99 respondents (87.6%) who have an unsuccessful category.

DISCUSSION

Overview of System Quality on the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

The results showed that the majority of respondents (93.8%) rated the Electronic Medical Record (RME) system at Otanaha Hospital to be very effective, reflecting that the system runs both technically and operationally. High effectiveness is assessed from the reliability of the system, service availability, speed of access, and data security through user authentication, according to the theories of DeLone & McLean (2003) and Stair & Reynolds (2018).

The system is also considered easy to use and flexible, supports the principle of usability (Nielsen, 1993), and is able to improve work efficiency as described by Laudon & Laudon (2014). Responsive technical support and integration with other systems also strengthen the successful implementation, in line with McLeod & Schell (2008).

These findings are reinforced by Hastuti (2020) research showing that the speed and reliability of RMEs improves efficiency, as well as Sari et al. (2021) who emphasize the importance of system security. Ramadhan (2022) and Rahayu (2021) also concluded that the ease of interface, technical support, and system integration had an effect on participation and success in using RME.

Overview of Information Quality on the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

The results showed that the majority of respondents (79.6%) rated the quality of information on the RME system as adequate, and 20.4% rated it as very adequate. This shows that the information provided by the system has met the expectations of users in supporting clinical services.

These findings are supported by the assumption that respondents understand information quality indicators such as accuracy, completeness, and relevance, and that the system runs stably during the study. These results are in line with the information systems success model by DeLone & McLean (2003) and TAM by Davis (1989), which emphasizes the importance of perception of usability and quality of information in influencing user satisfaction.

Research by Wang & Strong (1996) also strengthens the validity of the indicators used, while previous studies by Yusof et al. (2018), Ismail et al. (2020), and Kujala et al. (2020) confirm that the accuracy, completeness, and relevance of information play an important role in increasing user satisfaction, productivity, and trust in RME systems.

Overview of Management Support for the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

The results showed that the majority of respondents assessed that management's support for the implementation of RME was in the category of supporting to very supportive. This reflects the existence of clear policies, adequate provision of resources, and strong management commitment in supporting the successful implementation of the system.

The underlying assumption of these findings is that management policies and support have been effectively socialized, and that the system infrastructure is in good condition, thereby improving user comfort and satisfaction. These findings are in line with Kotter's (1996) theory of the importance of management's role in organizational change, as well as the Resource-Based View (RBV) theory which emphasizes the importance of internal support as a strategic asset. The DeLone & McLean (2003) model also places management support as a major factor in the success of information systems.

This research is also in line with Alshamrani et al. (2020), Putra & Sari (2019), and Wijaya et al. (2021), who affirm that policy support, moral motivation, and long-term infrastructure planning play an important role in the success and sustainability of RME system implementation.

Overview of User Readiness and Training for the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

The results showed that the majority of respondents (93.8%) stated that they were very ready to use the Electronic Medical Record (RME) system, and another 6.2% stated that they were ready. This readiness includes aspects of strategic plans, usage policies, management communication, system convenience, training, and technological infrastructure.

Training is provided three times a year and includes the use of SIMRS, patient data security, as well as hands-on practice using computers. This is considered effective in building user confidence and competence.

These findings are supported by the theory of the Technology Readiness Index (Parasuraman, 2000) and the Technology Acceptance Model (Davis, 1989), which state that optimism, training support, and ease of use increase readiness for technology adoption. Previous research by Al-Busaidi & Al-Shihi (2010), Venkatesh & Bala (2008), and Puspita et al. (2021) also confirms that user readiness and adequate training are key factors for the successful implementation of RME.

Overall, the readiness of users at Otanaha Hospital is very good, but continuous improvements in training, communication, and infrastructure are still needed so that the system continues to be optimal as the organization's needs evolve.

Overview of User Satisfaction with the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

The results showed that 55.8% of respondents felt dissatisfied, 41.6% were satisfied, and only 2.7% were very satisfied with the Electronic Medical Record (RME) system. This indicates that even though the system has been thoroughly implemented and supported by training and policies, there are still various obstacles in meeting user expectations.

The main factors that affect low satisfaction include: information content that is not fully relevant, data inaccuracies, interface appearance that lacks efficiency, user adaptation that still takes time, and delays in updating information.

These findings are supported by the Expectancy Disconfirmation Theory (Oliver) and the User Satisfaction Model (Bailey & Pearson, 1983), which state that satisfaction is influenced by the gap between expectations and actual performance, as well as the factors of system quality and ease of use. Research by

Rahmadiliyani et al. (2019) and Putri & Sonia (2021) also confirms that the quality of content, display, and accuracy of information greatly determine the satisfaction of RME users.

Overview of the Successful Implementation of Electronic Medical Records at the Otanaha Regional General Hospital (RSUD)

Based on the results of the questionnaire, the majority of respondents (87.6%) assessed that the implementation of RME at Otanaha Hospital had not been successful, while only 12.4% considered it successful. This low success is due to the lack of optimal operational efficiency, service quality, and reduction of medical errors.

Users consider that the system has not been able to speed up the work process, especially in registration and patient data search. In terms of service quality, the speed of response and the comfort of the system are still considered low. In addition, medical error reduction features such as automatic alerts and data verification have not been optimally performed. These findings are in line with the Diffusion of Innovations theory and the TOE model, which emphasizes the importance of organizational support and technological readiness. Previous studies have also shown that weak training, suboptimal systems, and lack of safety features contribute to implementation failures. The success of RME requires system improvement, intensive training, and stronger management support.

CONCLUSION

Based on the results of the study, it can be concluded as follows: 1) The RME system at Otanaha Hospital is considered very good by the majority of users. 2) The quality of RME information is considered adequate and supports clinical services. 3) Strong management support and contribute to the successful implementation. 4) Users are considered ready and receive effective training, supported by good infrastructure. 5) The level of satisfaction is still low; It needs to improve the content, convenience, and speed of the system. 6) The implementation of RME is considered to have not been successful because the efficiency and quality of service have not been optimal.

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