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# Organizational Change Management in the Implementation of Electronic Medical Records in Healthcare Facilities : Systematic Review

**Isma Yanti[1], Nayla Shopya[2], Esraida Simanjuntak[3]**
[1,2,3]Department of Diploma III in Medical Records and Health Information, Imelda University Medan, Indonesia

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**ABSTRACT**

***Objective:*** *The rapid development of digital information technology has significantly influenced various sectors, including healthcare. The implementation of EMR is part of the digital transformation in healthcare facilities aimed at improving service quality, work efficiency, and patient data security. The success of EMR implementation is influenced not only by technological readiness but also by an organization's ability to manage change. This study aimed to analyze organizational change management in the implementation of Electronic Medical Records in healthcare facilities.* ***Method:*** *This study employed a Systematic Literature Review by reviewing scientific articles retrieved from Google Scholar, PubMed, ScienceDirect, and Taylor & Francis databases. A total of 51,323 articles were identified, followed by identification, screening, and selection based on the inclusion and exclusion criteria, resulting in 17 articles that met the eligibility criteria for analysis. The data were analyzed descriptively by identifying the external and internal factors influencing the successful implementation of EMR.* ***Results:*** *The results showed that the most influential external factors included technological development, government regulations and public policies, socio-cultural changes, economic conditions and financial crises, market competition and globalization, as well as environmental factors. In addition, the findings indicated that the successful implementation of EMR was supported by management commitment, human resource readiness, continuous training, and the availability of information technology infrastructure. However, several challenges remained, including user resistance, limited technological competence, inadequate socialization, and an organizational culture that had not fully supported change. Therefore, effective change management is an essential factor in supporting the successful implementation of EMR in healthcare facilities.* ***Novelty:*** *Organizational change management in EMR implementation in healthcare facilities is influenced by two supporting factors, namely external and internal factors. The most dominant external factors are technological development and government regulations, while the most dominant internal factors are technological innovation and changes in work processes and standard operating procedures.*

## INTRODUCTION

The development of digital information technology in its use in various fields, one of which is health, is growing very rapidly. The development of digital information technology has become one of the phenomena in Indonesia that has prompted the Ministry of Health to carry out a transformation in the health sector.

One tangible form of technological development in healthcare facilities is the use of electronic medical records in the patient service process. Electronic Medical Records are documents containing patient identity data, examinations, treatments, procedures, and other services provided to patients. The enactment of Ministry of Health Regulation No. 24 of 2022 concerning Medical Records, replacing Ministry of Health Regulation No. 269 of 2008, requires health service facilities to maintain electronic medical records no later than December 31, 2023.

Previous research [1] on "Implementation and Impact of EMR System Usage in

Healthcare Services" shows that EMR implementation in Indonesia still faces various challenges requiring integrated solutions. One of the main problems is the lack of information technology infrastructure, especially in healthcare facilities in resource-limited areas. In addition, human resource adaptation is also a challenge, especially for medical personnel accustomed to manual systems. Research results [2] on "*Analysis of the Success of Electronic Medical Record Implementation Based on the Change Management Approach at Pamanukan Medical Center Hospital*" show that EMR implementation has not been fully optimized in several service components. Performance variations among indicators such as incomplete diagnosis documentation, missing data in informed consent forms, and technical problems in uploading laboratory results highlight fundamental issues in the readiness of individuals and organizations to adapt to digital systems. Another study [3] on "EMR Implementation in Hospitals" concluded that although EMR has been proven capable of improving service efficiency, ease of information access, and patient safety, its implementation still faces obstacles such as low digital literacy, system limitations, and weak commitment from medical personnel, thus requiring the right strategy to operate optimally.

In the implementation of electronic medical records, change management is needed to help healthcare workers adapt to the shift from manual to electronic work systems. Conceptually, change management can be understood as a systematic effort to manage the knowledge, facilities, and resources needed to direct change to the parties affected by the process.

Based on the latest data from the Indonesian Ministry of Health in 2025, 96% of hospitals in Indonesia have implemented EMR, with 92% of them already connected to the national SATUSEHAT platform. This high quantitative achievement has not been fully matched by the quality of equitable implementation, considering that only a small portion of hospitals consistently submit patient health data regularly and completely to the platform.

Although EMR implementation has been widely applied in various healthcare facilities, its success is not only influenced by technological readiness but also by the readiness of organizations and human resources in facing changes. Therefore, this study aims to examine organizational change management in the process of implementing Electronic Medical Records in Health Service Facilities, using a *systematic review* method by searching various *literature* related to organizational change management in EMR implementation at healthcare facilities.

## RESEARCH METHOD

### Literature Study Search Strategy Design

The search strategy in this study refers to the steps taken to obtain scientific articles that meet the previously established criteria. The approach used is *systematic review*, which is a systematic method to collect, critically examine, integrate, and present findings from various studies related to a particular topic or research question. This approach was chosen to explore a theoretical framework relevant to the topic "Organizational Change

Management in the Implementation of Electronic Medical Records in Health Facilities."

From the 17 journals reviewed, variations in research methods were found, namely 3 journals using *systematic review*, 3 journals using qualitative case study approaches, 3 journals using descriptive qualitative approaches, 2 journals using qualitative approaches without further details, 2 journals using descriptive quantitative approaches, 1 journal using associative quantitative approaches, 1 journal using quantitative methods, and 1 journal combining quantitative and qualitative approaches simultaneously.

**Keywords and *Databases***

A crucial element determining the success of a search in a *systematic review* is keyword selection, because the quality of search results heavily depends on how those keywords are arranged. The keywords used in this study include Change Management and Implementation of Electronic Medical Records. Besides keywords, determining the search *database* is also an important step after the keywords are determined. *The* journal database used in this *systematic review* search is *a* database of national and international journals accredited by Sinta. The researcher conducted journal research using *Google Scholar, PubMed, Science Direct,* and *Taylor and Francis.*

**Inclusion and Exclusion Criteria**

The *literature criteria* in this study are divided into inclusion and exclusion. Inclusion criteria include journals on organizational change management in the implementation of electronic medical records in health facilities, journals related to electronic medical records published in *the database* from 2021-2026, and journals accredited by Sinta and International. Exclusion criteria are set for journals that are not used, namely journals that do not align with the topic of organizational change management in the implementation of electronic medical records in health facilities, journals related to manual medical records published in 2020 or earlier, and journals without accreditation.

**Literature Search Selection**

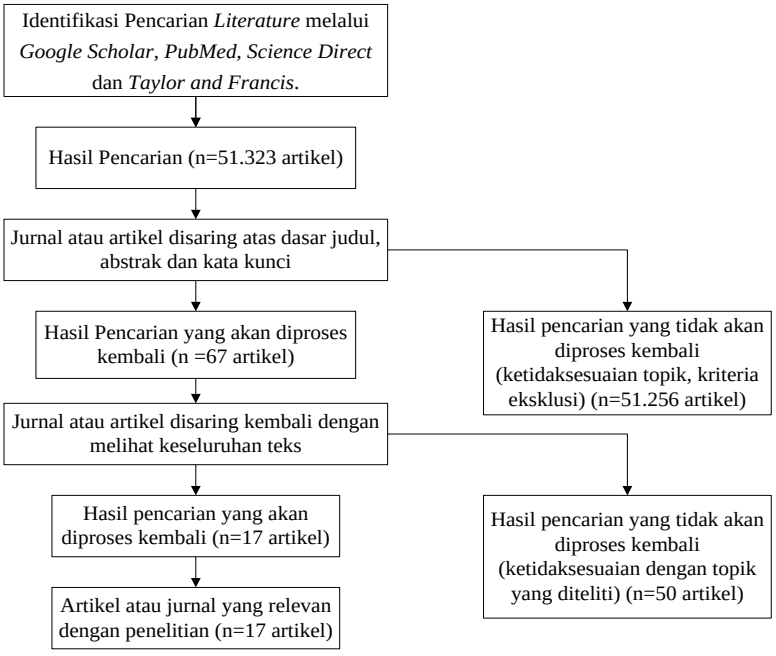


**Figure 1.** Search Selection Literature.

**Ethical Clereance**

This research is a literature review with a *Systematic Review* approach, where all data used are sourced from publicly published scientific articles (secondary data), without involving primary data collection, direct contact, or access to individual patient medical records at any healthcare facility. Here we list the research ethics approval number: 857/LPPM-UIM/VII/2026/e.

## RESULTS AND DISCUSSION

### *Results*

Based on the *literature* search conducted through *the Systematic Review* method, 17 international and national scientific journals accredited by SINTA met the inclusion criteria and served as the basis for analysis of organizational change management in the implementation of electronic medical records in health facilities. Of all the journals reviewed, 2 were international journals, 1 journal accredited SINTA 2, 1 journal accredited SINTA 3, 4 journals accredited SINTA 4, and 9 journals accredited SINTA 5. These journals were published between 2021 and 2026, thus providing relevant information coverage that is still relevant and in line with the latest developments. The most commonly used research method is descriptive qualitative, followed by descriptive quantitative, quantitative-qualitative, and *systematic review*.

Data from each journal are then arranged in the form of extraction tables to facilitate identification of identity, methods, as well as research patterns and focuses, covering external and internal factors that influence change management in the implementation of electronic medical records in healthcare facilities. The journal identity recap results are presented in Table 1 Journal Review Results

**Table 1.** Journal Review Results

| No | Journal | Author Name (Year) | Journal Name (Vol, No) | Journal Title | Methods, Subjects, and Research Objects | Data Sources |
|---|---|---|---|---|---|---|
| 1 | Journal 1 | Yuana Wangsa Putri, Tini Rezeki Saragih, Sri Hajijah Purba (2024) | SEHAT RAKYAT: Journal of Public Health (Vol 3, No. 4) | Implementation and Impact of Using Electronic Medical Record Systems (EMR) in Health Services | Metode: Systematic Literature Review Subject: 10 articles from Google Scholar Subject: Electronic Medical Record Article | Google Scholar SINTA 4 |
| 2 | Journal 2 | Retna Wati, Prita Devy Igiany, Julia Pertiwi (2024) | Public Health Journal (Vol 8, No. 1) | Analysis of the Readiness for the Implementation of Electronic Medical Records at | Method: Qualitative Descriptive Subjects: 2 medical records officers and 1 nurse | Google Scholar SINTA 4 |

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|---|---|---|---|---|---|---|
| | | | | BAKI Community Health Center | Object: Electronic Medical Record Maintenance Method: Qualitative Case Study Subject: medical record officer, doctor, nurse, technician | |
| 3 | Journal 3 | Farah Adiba, Martha Inya Kalli, M. Arief Rachman (2025) | JRMIK STIA Malang (Vol 6, No. 2) | Analysis of Human Resource Readiness in the Implementation of Electronic Medical Records at RSIA Mutiara Bunda | Object: Human Resource Readiness in the Implementation of EMR | Google Scholar SINTA 5 |
| 4 | Journal 4 | Atikah Khairunnisa, Wiku Bakti Bawono Adisasmito (2024) | Syntax Literate: Indonesian Scientific Journal (Vol 9, No. 6) | Analysis of Organizational Readiness for the Implementation of Electronic Medical Records at Community Health Centers in Bekasi City | Method: Descriptive Qualitative Subjects: 12 informants from 12 Community Health Centers Object: RME Assessment at 12 Community Health Centers | Google Scholar SINTA 4 |
| 5 | Journal 5 | Jean Francis Melanny Kassiuw, Budi Hidayat (2024) | ARSI Journal: Indonesian Hospital Administration (Vol 10, No. 3) | Factors Related to User Motivation and EMR Implementation with Service Efficiency in the Outpatient Installation of Kebayoran Lama Regional General Hospital | Method: Associative Quantitative Subject: 72 informants Object: Implementation of Electronic Medical Records | Google Scholar SINTA 2 |
| 6 | Journal 6 | Vivi Alayda Wahyudi, Elfi, Totok Subianto, Maula Ismail Mohammad (2025) | Journal of Health, Science, and Technology (Vol 4, No. 2) | Implementation of Electronic Medical Records and Work Effectiveness in the Medical Records Unit of Ciremai Hospital in 2025 | Method: Descriptive Quantitative Subject: 24 informants from medical records officers Object: Implementation of Electronic Medical Records | Google Scholar SINTA 5 |
| 7 | Journal 7 | Al Wafi Rahmaputri Ardianingrum, Fadillah Yusuf | International Journal on Advanced Science, | An Implementation of Electronic Medical | Method: Descriptive Qualitative Subject: 9 | Google Scholar SINTA 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Qurnia (2025) | Education, and Religion (Vol 8, No. 1) | Records Reviewed from the Legal Aspects of Electronic Medical Records Security in Hospitals at Madiun City Area | informants Subject: Implementation of EMR in 4 hospitals | |
| 8 | Journal 8 | Nurmaidah, Kustiningsih N., Rahayu S. (2024) | Gema Wiralodra (Vol 15, No. 1) | Change Management Strategy in the Implementation of Electronic Medical Record System in the Era of Digital Transformation: Case Study at Rahman Rahim Hospital | Method: Descriptive Qualitative Subjects: Hospital Director, IT team, HRD, and medical records department Object: Change management in the implementation of EMR | Google Scholar SINTA 4 |
| 9 | Journal 9 | Rosalia Agustin, Daniel Happy Putra, Dina Sonia, Bangga Agung Satrya (2025) | Journal of Public Health (Vol 13, No. 5) | Implementation of Electronic Medical Records Based on the Perspective of Medical Record and Health Information Officers at RSUD Balaraja | Method: Descriptive Qualitative Subject: 9 informants from medical records officers Subject: Medical Record Application | Google Scholar SINTA 5 |
| 10 | Journal 10 | Agustinus Andika, Bernabas Harold Ralph Kairupan, Nurdjannah Jane Niode (2025) | Promotive Preventive Journal (Vol 8, No. 2) | Analysis of the Implementation of Electronic Medical Records in the Inpatient Installation of Gunung Maria Hospital, Tomohon | Method: Descriptive Qualitative Subjects: 5 informants Object: Maintenance of medical records in the Medical Records Unit | Google Scholar SINTA 3 |
| 11 | Journal 11 | Fikri Ainta Alfarizi, Sali Setiatin (2026) | Prima Indonesia Public Health Journal/JKPI (Vol 10, No. 1) | Analysis of Psychological and Organizational Factors in the Implementation of Electronic Medical Records by Medical Records Staff at Welas Asih | Method: Descriptive Qualitative Subjects: 33 informants Subject: Factors of Electronic Medical Records Users | Google Scholar SINTA 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | Journal 12 | Mandisa Msomi, Trywell Kalusopa, Lungile Precious Luthuli (2021) | South African Journal of Libraries and Information Science/SAJLIS (Vol 87, No. 2) | Regional Hospital Change Management in the Implementation of Electronic Health Records (EHR) Systems at Inkosi Albert Luthuli Central Hospital, South Africa | Method: Descriptive Quantitative Subjects: 108 participants Subject: Change management in Electronic Medical Records | Google Scholar International |
| 13 | Journal 13 | Amelia Septi Ayuni, Fita Rusdian Ikawati, Anis Ansyori (2025) | Amanah Health Journal (Vol 8, No. 1) | Implementation of Electronic Medical Records in Hospitals | Metode: Systematic Literature Review Subject: 10 articles from Google Scholar and SINTA Subject: Electronic Medical Record Article | Google Scholar SINTA 5 |
| 14 | Journal 14 | Welly Rahma Devita, Purwadhi, Achmad Dheni Suwardhani (2025) | ProBusiness: Management Journal (Vol 16, No. 1) | Implementation and Effectiveness of Using Electronic Medical Records at Permata Hati Duri Hospital Riau | Method: Descriptive Qualitative Subject: practicing physician Object: Implementation of Electronic Medical Records | Google Scholar SINTA 5 |
| 15 | Journal 15 | Anzany Tania Dwi Putri (2023) | Medika Hutama Journal (Vol 4, No. 3) | Challenges in Implementing Electronic Medical Records in Indonesia Healthcare Facilities | Metode: Systematic Literature Review Subject: 12 articles from Google Scholar Subject: Electronic Medical Record Article | Google Scholar SINTA 5 |
| 16 | Journal 16 | Mandisa Msomi (2023) | Journal Health and Technology/JHT (Vol 2, No. 4) | Monitoring and Evaluating Electronic Health Records Systems in Public and Private Hospitals in the Ethekwini Area, Kwazulu Natal, South | Methods: Quantitative and Qualitative Subject: 94 informants Object: Implementation of medical records in public and private | Google Scholar International |

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|---|---|---|---|---|---|---|
| | | | | Africa | hospitals | |
| 17 | Journal 17 | Sigit Nur Aziz, Rivaldi Ramadhan, Ima Amaliah, Nunung Nurhayati (2026) | International Journal of Management Analytics/IJMA (Vol 4, No. 1) | Analysis of the Success of Electronic Medical Record Implementation Based on the Change Management Approach at Pamanukan Medical Center Hospital | Method: Descriptive Quantitative Subject: internal hospital report form Subject: Change management in EMR | Google Scholar SINTA 5 |

The study results show that the implementation of electronic medical records is not only influenced by technological readiness but also requires effective change management. Various factors found in the *literature* include external factors such as technological developments, government regulations and public policies, social and cultural changes, market competition and globalization, economic conditions and financial crises, as well as environmental factors and climate change. In addition, internal factors such as leadership changes, organizational structure changes, organizational culture changes, innovation and technology, changes in work processes and operational standards, as well as employee performance and productivity also play an important role in the successful implementation of electronic medical records. The distribution of external factors is presented in Table 2

**Table 2.** Distribution of External Factors in Change Management in RME Implementation

| External Factors | Number of Journals | Percentage | Journal Code |
|---|---|---|---|
| Technological Developments | 14/17 | 82,4% | 1,4,5,6,7,8,9,10,11,12,13,15,16,17 |
| Government Regulation and Public Policy | 12/17 | 70,6% | 1,2,3,4,5,7,8,10,11,13,14,15 |
| Social and Cultural Change | 11/17 | 64,7% | 1,3,4,5,6,7,9,11,12,14,15 |
| Environmental Factors and Climate Change | 6/17 | 35,3% | 1,2,4,7,8,9 |
| Market Competition and Globalization | 2/17 | 11,8% | 13,14 |
| Economic Conditions and Financial Crisis | 0/17 | 0,0% | – |

Table 2 shows that technological development is the most frequently found external factor, namely in 14 out of 17 journals (82.4%), followed by government regulations and

public policy in 12 journals (70.6%), social and cultural changes in 11 journals (64.7%), environmental factors and climate change in 6 journals (35.3%), as well as market competition and globalization in 2 journals (11.8%). No journals were found that explicitly discuss economic conditions and financial crisis as external driving factors.

**Table 3.** Distribution of Internal Change Management Factors in EMR Implementation

| Internal Factors | Number of Journals | Percentage | Journal Code |
|---|---|---|---|
| Innovation and Technology | 13/17 | 76,5% | 1,2,3,4,5,7,8,9,10,11,12,14,15 |
| Process Changes and Operational Standards | 12/17 | 70,6% | 3,4,6,7,8,9,10,12,13,15,16,17 |
| Organizational Culture Change | 11/17 | 64,7% | 1,4,5,6,8,9,10,12,14,16,17 |
| Employee Performance and Productivity | 11/17 | 64,7% | 2,3,5,8,10,11,12,14,15,16,17 |
| Organizational Structure Changes | 1/17 | 5,9% | 4 |

Table 3 shows that among internal factors, innovation, and technology were the most frequently found factors, namely in 13 out of 17 journals (76.5%), followed by changes in processes and operational standards in 12 journals (70.6%), changes in organizational culture and employee performance or productivity found in 11 journals (64.7%), and organizational structure changes found in only 1 journal (5.9%). Four journals [4], [8], [10], [12] reported all categories of internal factors simultaneously, while three journals [6], [13], [16] reported only one category of internal factors.

***Discussion***

**Journal 1**

Journal 1 by [1] titled "Implementation and Impact of the Use of Electronic Medical Record Systems (EMR) in Health Services" uses a *systematic literature review* method of 10 articles and shows that change management in EMR implementation is driven by external factors such as information technology developments, government regulations through Ministry of Health Regulation No. 24 of 2022, environmental and climate change factors due to the obligation to implement EMR across all health service facilities, as well as socio-cultural changes among healthcare workers who are required to switch to digital systems. From the internal factor perspective, this journal highlights innovations and technologies that play a role in reducing medical data errors through more structured documentation, as well as changes in organizational culture that are more collaborative among medical personnel. This aligns with change management theory [4], which emphasizes that organizations need to adapt to both internal and external conditions, as

well as theory [5] regarding the role of information technology in operational transformation. These findings are relevant to the background of research highlighting the national obligation to implement EMR no later than December 31, 2023.

**Journal 2**

Journal 2 by [6] titled "Analysis of the Readiness for Electronic Medical Record Implementation at BAKI Community Health Center" uses a qualitative descriptive method with two medical records officers and one nurse as subjects. The external factors found are limited to government regulations through Ministry of Health Regulation No. 24 of 2022 and environmental factors in the form of the policy of transforming national medical records from manual to electronic, so this journal is among those that only present one dominant external factor dimension compared to more comprehensive journals such as Journal 7. On internal factors, this journal highlights innovations and technology in the form of network and electricity infrastructure that are quite stable, but employee performance and productivity remain obstacles due to the absence of special training and EMR workflow SOPs. This condition is relevant to change management theory, which states that the success of organizational change heavily depends on human resource readiness and the availability of standard procedures [4], and aligns with the background that technological readiness alone is insufficient without organizational and HR readiness. Compared to Journal 3, which also studies HR readiness, these two journals consistently find that lack of training is the main obstacle to *the process of unfreezing* old work culture according to Kurt Lewin's theory.

**Journal 3**

Journal 3 by [7] titled "Analysis of Human Resource Readiness in the Implementation of Electronic Medical Records at RSIA Mutiara Bunda" uses a qualitative case study method with informants including medical record officers, doctors, nurses, and technicians. The external factors identified are government regulations in the form of Ministry of Health Regulation No. 24 of 2022, which is part of the 2020-2024 RPJMN, as well as social and cultural changes due to many healthcare facilities still using manual methods. The internal factors show staff resistance due to lack of training, anxiety about new workloads, and limitations of technological infrastructure such as unstable internet access. These findings strengthen the change management theory regarding resistance challenges as described [8], and align with the research background highlighting human resource adaptation as the main challenge for medical personnel accustomed to manual systems. Compared to Journal 2 at Baki Community Health Center, both studies show that technological infrastructure constraints slow down the *transition process*, but Journal 3 emphasizes the psychological dimension in the form of employee anxiety, which was also found in Journal 11.

**Journal 4**

Journal 4 by [9] 2 titled "Analysis of Organizational Readiness for the Implementation of Electronic Medical Records at Community Health Centers in Bekasi City" uses a descriptive qualitative method with 12 informants from 12 Community Health Centers. This journal is among the most comprehensive covering external factors,

namely technological developments, environmental factors and climate change, socio-cultural changes related to the low integration of SATUSEHAT, as well as Ministry of Health Regulation No. 24 of 2022. From an internal perspective, this journal is also the most comprehensive because it covers organizational structure changes through direct involvement of the Head of Community Health Centers, changes in collaborative organizational culture, innovation and technology in the form of *the e-puskesmas* application, as well as changes in processes and SOPs for EMR that have not been fully completed. This is very much in line with structural change management theory and leadership theory [8], which emphasize the role of leaders in directing change, and is relevant to the background of the Ministry of Health's commitment to digital transformation. Compared to 13 other journals, Journal 4 together with Journal 8, Journal 10, and Journal 12 is considered the most comprehensive in capturing internal factors of change management, making it the main benchmark for journals with narrower scopes like Journal 13.

**Journal 5**

Journal 5 by [8] titled "Factors Related to User Motivation and Implementation of Electronic Medical Records with Service Efficiency in the Outpatient Installation of RSUD Kebayoran Lama" uses an associative quantitative method with 72 informants. External factors include technological developments and modernization, Ministry of Health Regulation No. 24 of 2022, as well as socio-cultural changes through the launch of the SATUSEHAT platform. A prominent internal factor is organizational culture changes that accelerate services and user motivation, but this journal also finds resistance among specialist doctors due to manual practice habits elsewhere and lack of training before adopting EMR. According to change management theory, this condition illustrates the challenge *of resistance to change* as explained [8] and addresses the research background related to the negative impression that EMR increases the workload of medical personnel. Compared to Journal 9, which also discusses the motivation of medical record officers, both journals show a similar pattern, with minimal training being the main cause of low user motivation towards the new system.

**Journal 6**

Journal 6 by [10] titled "*Implementation Of Electronic Medical Records And Work Effectiveness In The Medical Records Unit Of Ciremai Hospital In 2025*" uses a descriptive quantitative method with 24 medical records officer informants. The identified external factors are only the development of information and communication technology and socio-cultural changes towards digital health data storage. The internal factor highlights changes in organizational culture that make staff feel more meticulous and in accordance with standards, but the adaptation process to the new system is still ongoing due to the habit of manual methods. These findings align with theory [4] regarding changes in organizational values and norms that require adjustment time, and are relevant to the digital literacy challenges of healthcare workers. Compared to Journals 1 and 9, which also raised the theme of the effectiveness of the medical records unit, Jurnal 6 emphasizes a consistent pattern that the success of work culture change is gradual and requires time

for adaptation, not instant change.

**Journal 7**

Journal 7 by [11] titled "*An Implementation of Electronic Medical Records Reviewed from the Legal Aspects of Electronic Medical Records Security in Hospitals at Madiun City Area*" uses a descriptive qualitative method with nine informants from four hospitals. This journal, together with Journal 4, is considered the most comprehensive covering external factors because it contains technological developments, socio-cultural changes, the regulation of Permenkes No. 24 of 2022 replacing Permenkes No. 269 of 2008, as well as environmental factors related to the relevance of manual medical records in the digital era. Internal factors include changes in processes and SOP of RME that have not yet been approved by the Hospital Director, as well as technological innovations in the form of automatic data backup systems. This confirms change management theory [4] about the importance of regulatory compliance and operational system readiness, as well as relates to patient data security aspects as challenges in EMR implementation. Compared to Journal 8, which also discusses hospital case studies, Journal 7 emphasizes legal and data security aspects, while Journal 8 emphasizes comprehensive managerial strategies.

**Journal 8**

Journal 8 by [12] titled "*Change Management Strategy in the Implementation of Electronic Medical Record System in the Era of Digital Transformation: Case Study at Rahman Rahim Hospital*" uses a descriptive qualitative method with informants including the Hospital Director, IT team, HRD, and medical records department. External factors include the Industry 4.0 era, environmental factors through the contribution of SIRS, as well as the regulation of Ministry of Health Regulation No. 24 of 2022. As one of the journals with the most complete internal factors along with Journal 4, Journal 10, and Journal 12, this journal discusses changes in processes and operational standards through careful planning, innovation and technological infrastructure, alignment of organizational culture with medical practice values, as well as employee performance and productivity, although there is still a lack in awarding outstanding human resources. These findings directly represent management theory [4] and Kurt Lewin's three-stage model [8], where change strategies are systematically arranged from *the unfreezing* to *refreezing* stages. Compared to Journal 17, which also takes a change management approach, Journal 8 shows more systematic implementation because it involves multi-departments from the planning stage.

**Journal 9**

Journal 9 by [13] titled "*Implementation of Electronic Medical Records Based on the Perspective of Medical Record and Health Information Officers at RSUD Balaraja*" uses a descriptive qualitative method with 9 medical records officer informants. The external factors found include social and cultural changes because conventional medical records are considered inefficient, technological developments, and environmental factors related to the trend of EMR transformation in the health sector. The internal factors show changes in operational processes that have been running since 2015 with full implementation in 2022, technological innovations such as *real-time* data access, but also

organizational culture changes that confuse new staff due to differences in manual and electronic system procedures. This aligns with the theory of operational process change management [4] and is relevant to the importance of consistency in digital work procedures. Compared to Journal 13, which also studied EMR implementation in hospitals, Journal 9 shows that the gradual transition process over the long term from 2015-2022 provided better adaptation time compared to the implementation carried out suddenly.

**Journal 10**

Journal 10 by [14] titled "Analysis of the Implementation of Electronic Medical Records in the Inpatient Installation of Gunung Maria Hospital, Tomohon" uses a descriptive qualitative method with 5 informants. External factors include the development of information technology and the regulation of Ministry of Health Regulation No. 24 of 2022, which is part of the national digital transformation. As one of the journals with the most complete internal factors along with Journals 4, 8, and 12, this journal demonstrates technological innovations that accelerate work processes, improved employee performance and productivity through vendor socialization, organizational culture changes due to the total cessation of manual medical records, as well as changes in processes and SOPs supported by mandatory management circular letters. These findings align with transformational leadership theory [8], where leadership commitment through firm policies accelerates the success of change. Compared to Journal 6, which is also located in a hospital with a similar theme, Journal 10 shows more positive results due to firmer management commitment and *ongoing follow-up* to user needs.

**Journal 11**

Journal 11 by [15] titled "*Analysis of Psychological and Organizational Factors in the Implementation of Electronic Medical Records by Medical Records Staff at Welas Asih Regional Hospital*" used a descriptive qualitative method with 33 informants. The external factors found include the development of health information technology, social and cultural changes towards an integrated digital system, as well as the regulation of Ministry of Health Regulation No. 24 of 2022. The internal factors highlight the performance and productivity of employees who have strong intentions to utilize EMR but still require training support, as well as technological innovation hindered by infrastructure and network issues. This relates to change management theory regarding the psychological dimensions of employees in facing *technostress*, as well as relevant to medical personnel's concerns about the ability to operate new technology. Compared to Journal 3, which also highlighted the psychological aspect of human resources, these two journals consistently show that psychological and organizational factors are closely related in determining the success of EMR adoption, where training support is the key to reducing employee resistance.

**Journal 12**

Journal 12 by [16], an international journal titled "*Change Management in the Implementation of Electronic Health Records (EHR) Systems at Inkosi Albert Luthuli Central*

*Hospital, South Africa*," used a descriptive quantitative method with 108 participants. External factors included South Africa's national *e-Health strategy* and the development of international health information technology. As one of the journals with the most comprehensive internal factors alongside Journal 4, Journal 8, and Journal 10, this journal discusses innovations and technologies related to the risk of losing patient health files, relatively minimal organizational cultural changes in employee job descriptions, employee performance and productivity through basic computer training, as well as operational process changes through the provision of *EHR system modules*. These international findings reinforce the generalization of change management theory [4] which is *universal* across countries. Compared to Journal 16, which also originates from South Africa, Journal 12 focuses more on managerial change strategies, while Journal 16 emphasizes post-implementation system monitoring and evaluation.

**Journal 13**

Journal 13 by [3] titled "Implementation of Electronic Medical Records in Hospitals" used a *systematic literature review* method on 10 articles. The external factors found were quite comprehensive, including the development of information technology, market competition and globalization due to increased patient legal awareness, as well as the regulation of Ministry of Health Regulation No. 24 of 2022. However, in terms of internal factors, this journal only shows one dimension, namely changes in processes and operational standards, making it the journal with the narrowest coverage of internal factors compared to the other 16 journals. This shows a gap with change management theory, which emphasizes that the success of change ideally includes many internal dimensions such as structure, culture, and employee performance, as found more fully in Journals 4, 8, 10, and 12. Compared to Journal 15, which both use *the Systematic Literature Review method*, Journal 13 emphasizes business aspects more while Journal 15 focuses more on technical and human resource challenges.

**Journal 14**

Journal 14 by [17] titled "Implementation and Effectiveness of Electronic Medical Record Use at Permata Hati Duri Hospital Riau" uses a descriptive qualitative method with practicing physician informants. The external factors found include market competition and globalization due to the rapid growth of health service facilities, socio-cultural changes towards technology integration, as well as the regulation of Ministry of Health Regulation No. 24 of 2022. The internal factors highlight changes in organizational culture since the shift from manual to electronic recording in October 2023, technological innovations such as the addition of computer facilities in every room, as well as employee performance and productivity supported by socialization of RME software usage. This is relevant to market competition theory [8], which states that organizations must innovate to avoid falling behind competitors. Compared to Journal 3, which also found delays in the adaptation of senior employees, Journal 14 shows a similar pattern where users over 50 years old have difficulty adapting to computer-based recording, thus requiring more intensive assistance.

**Journal 15**

Journal 15 by [18] titled "*Challenges in Implementing Electronic Medical Records in Indonesia Healthcare Facilities*" used a *systematic literature review* method of 12 articles. External factors include developments in information and communication technology, socio-cultural shifts from paper-based medical records to electronic, as well as the regulation of Ministry of Health Regulation No. 24 of 2022 supplemented by Minister of Health Decree No. 1423 of 2022, although SOP constraints are still found that have not been prepared in several health facilities. Internal factors highlight the unpreparedness of SOPs or EMR implementation modules, difficulties in adapting healthcare workers over 50 years old, as well as instability of internet access causing deletion and data inaccuracies. These findings illustrate the challenges of managing new resources and technologies as described [19]. Compared to Journal 7, which also highlighted the unclear SOP of the RME, these two journals consistently show that the absence of written operational standards is the main obstacle to effective implementation in various health service facilities.

**Journal 16**

Journal 16 by [20], an international journal titled "*Monitoring and Evaluating Electronic Health Records Systems in Public and Private Hospitals in the Ethekwini Area, Kwazulu Natal, South Africa*" uses quantitative and qualitative methods with 94 informants. The external factors found are only one dimension, namely technological developments as the basis for the importance of monitoring and evaluating EHR systems, so this journal is included in the narrowest scope of external factors along with Journal 2 and Journal 17. The internal factors discuss organizational culture changes through regular quarterly meetings with private partners, changes in processes and operational standards still dependent on IT companies for general hospitals, as well as employee performance and productivity through training based on individual task evaluation. This is relevant to change management theory regarding the importance of continuous monitoring and evaluation systems as part of *the refreezing* stage according to Kurt Lewin's model. Compared to Journal 12 from the same country, Journal 16 focuses more on the post-implementation evaluation stage rather than the initial change planning stage.

**Journal 17**

Journal 17 by [2] titled "*Analysis of the Success of Electronic Medical Record Implementation Based on the Change Management Approach at Pamanukan Medical Center Hospital*" uses a descriptive quantitative method with data sources in the form of internal hospital forms and reports. The external factors found are only technological developments as major transformations in modern health services, making this journal categorized as the narrowest external factor coverage along with Journal 2 and Journal 16. The internal factors are quite comprehensive, including organizational culture changes that are still not ready to shift from manual documentation accompanied by weak managerial commitment, changes in processes and operational standards that demand behavioral adaptation as well as competency improvement, and employee

performance and productivity that need to be enhanced through strengthening motivation and technical skills. These results directly use *the change management* approach as explained in theory [4] and Kurt Lewin's three-stage model, especially in *the unfreezing* stage, which is not yet optimal due to resistance from the old work culture. Compared to Journal 8, which uses a *more systematic change management* approach from the start, Journal 17 shows that an approach without strong managerial commitment at the start tends to result in less optimal implementation.

## CONCLUSION

**Fundamental Finding :** Based on the review of 17 journals, organizational change management in the implementation of Electronic Medical Records (EMR) in health facilities is influenced by external and internal factors. The most dominant external factors are information technology development, government regulations, and public policies, while the most dominant internal factors are innovation and technology, as well as changes in processes and operational standards. Journal 4 and Journal 7 provide the most comprehensive discussions of external factors, while Journal 4, Journal 8, Journal 10, and Journal 12 comprehensively discuss internal factors. **Implication :** Health facilities should actively adapt to information technology developments and strengthen network infrastructure and computer equipment to support EMR implementation. Management should also allocate budgets for increasing server capacity, ensuring equitable access to technological facilities, and providing intensive EMR training for all healthcare workers to improve technological and human resource readiness. **Limitation :** The review was based on 17 journals, and the comprehensiveness of the discussion on external and internal factors varied across the reviewed journals. Only a limited number of journals comprehensively addressed each factor, which may restrict the breadth of insights obtained from the literature review. **Future Research:** Future research should examine organizational change management in EMR implementation through broader literature reviews and empirical studies involving various types of health facilities. Further studies may also investigate the interaction between external and internal factors and their influence on EMR implementation readiness, adoption, and sustainability.

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***Isma Yanti (Corresponding Author)**
Department of Diploma III in Medical Records and Health Information, Imelda University Medan, Indonesia
Email: ismamanullang@gmail.com

**Nayla Shopya**
Department of Diploma III in Medical Records and Health Information, Imelda University Medan, Indonesia

**Esraida Simanjuntak**
Department of Diploma III in Medical Records and Health Information, Imelda University Medan, Indonesia