Lentera Pustaka: Jurnal Kajian Ilmu Perpustakaan, Informasi dan Kearsipan
Vol. 11, No. 2, December 2025
http://ejournal.undip.ac.id/index.php/lpustaka

Research Article
Received: 20 June 2025, Revised: 2 October 2025, Accepted: 20 October 2025, Online: 19 Novenber 2025

Structuration of Medical Record Management During The Transition Period at Soeharso Orthopedic Hospital

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Abstract
Background of the study: This research describes the successful implementation of electronic medical record management during the transition period in Soeharso Orthopedic Hospital, Surakarta (RSO). This hospital is a specialized orthopedic hospital and is a national referral hospital. As a referral hospital, the hospital must provide maximum service to patients. The success of Electronic Medical Record (EMR) management during this transition period can be used as a reference for other hospitals in managing their medical record archives.
Objective: to analyze the management of medical records during the transition from manual medical records to electronic medical records.
Methods: This research uses qualitative approach with a case study design. Data sources come from interviews, FGD, observation and documentation
Results: The success of medical records management in RSO during the transition period is not only determined by the availability of existing technology and policies, but also by the agent's ability to adapt and play an active role in forming a supportive structure.
Conclusion: The success of RM management during the transition period is influenced by factors such as training and mentoring; management support; agent involvement in decision-making and the flexibility of the RSO organization.

Keywords: Medical record management; Electronic Medical Record; Record transition period, Soeharso Orthopedic Hospital, structuring

INTRODUCTION

Managing medical records is a crucial activity in hospitals' efforts to provide healthcare services to patients. Medical record management is crucial because medical records contain the entire history of a patient's care, from diagnosis and therapy to examination results. Indonesia is currently following many hospitals worldwide in transitioning from manual to electronic medical records. This transition is undoubtedly driven by the technological explosion that has transformed various fields, including healthcare. The reason for this shift is undoubtedly an effort to improve patient care. Research by Ariani (2023) shows that the implementation of Electronic Medical Records (ER) in several hospitals has improved data efficiency, accuracy, and accessibility.

The transition from manual to electronic medical records management presents a unique challenge for hospitals. These challenges include not only employee resistance to

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change but also the integration of existing systems, from manual management systems to digital systems, infrastructure, budgets, and improving the competency of healthcare workers in using electronic systems. In this structuration approach, the interaction between agents (users) and structures (medical records systems) mutually influences and shapes new work patterns.

Undeniably, managing electronic medical records (EMR) offers many conveniences, particularly in terms of ease of access and minimizing administrative errors. However, this transition process is not without challenges. Several previous studies have attempted to identify several challenges in implementing EMR, such as staff resistance to new technology, limited infrastructure, and the need for work culture adjustments (Haux, 2006). For example, research by Mustofa and Soesilo (2019) shows that resistance to technological change remains a significant problem in various hospitals in Indonesia, especially when training and socialization regarding the new system are inadequate. Another study by Wears and Berg (2005) highlights that the transition to electronic systems often faces challenges in terms of workflow changes, which can cause discomfort for early adopters. Wears and Berg's research is also supported by research by Kim & Johnson (2011), which states that the challenges in switching from a manual medical record management system to electronic medical records primarily involve adapting to technology, changing work procedures, and training healthcare workers involved in medical records management.

Despite numerous challenges, several hospitals have successfully implemented EMR. One example of this successful transition is the RSO. This is why the RSO was chosen as the research location due to its success in managing medical records, both manually and electronically. Soeharso Orthopedic Hospital is a national referral hospital in orthopedics that has gradually implemented an EMR system. The success of this transition lies not only in the adoption of adequate technology but also in the implementation of a comprehensive managerial approach, where all staff contributing to medical record management, from creation to discontinuation, received intensive training in operating the EMR. Furthermore, the hospital's organizational structure also supported the change process by enabling the integration of manual and electronic systems during the transition period. A study by Nugroho and Hartanto (2021) highlighted that the successful implementation of EMR at RSO was achieved through sound transition management and adequate technological infrastructure support.

In the context of this system change, Anthony Giddens' structuration theory can be used as a theoretical framework to understand the interaction between agents (medical staff) and structures (medical records management systems, hospital policies, and procedures). Giddens' structuration theory focuses on how agents and structures influence and shape each other within a social institution (Giddens, 1984). In this case, the medical staff at RSO act as agents who must adapt to the structural changes resulting from the implementation of EMR, while the hospital's organizational structure also undergoes modifications to support the use of new technology. Structure not only constrains agents but can also be modified by the agents' actions in their efforts to adapt to the new system.

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Several previous studies support this approach in understanding the dynamics of medical records management transitions. Research by Boulus and Bjorn (2010) identified that agents' adaptation to new technologies is often dynamic, where agents are not only subject to structures but also play a role in shaping and transforming those structures through their daily work practices. Sewell (1992) also supports this view by asserting that social structures are not static entities, but rather the product of ongoing interactions between agents and structures.

In the context of medical records management at RSO, structuration theory allows us to understand how medical staff adapt to EMR, as well as how hospital policies (structures) are designed to support this adaptation. A study by Smith et al. (2014) found that the success of the transition to EMR was significantly influenced by the interaction between technology and organizational structure, particularly in terms of how the new system was integrated into existing work procedures. Another study by Crewell et al. (2013) showed that the application of structuration theory can help explain how flexible and adaptive organizational structures can facilitate the adoption of new technologies in a hospital environment.

In the case of RSO, the transition from manual to electronic medical records was accompanied by modifications to work policies and procedures to support the integration of the two systems during the transition. Medical staff were involved in the evaluation of the new system, providing feedback on challenges encountered during initial implementation. This demonstrates that agents at this hospital were not simply subject to the structure but were actively involved in shaping a new structure that better suited their daily operational needs. This process aligns with Giddens's view of the role of agents in modifying social structures through their actions (Giddens, 1984).

This study aims to fill that gap by exploring the structuration of medical record management during the transition period at Soeharso Orthopedic Hospital. Through a qualitative approach, this research seeks to reveal the dialectical relationship between structure and agency, the dynamics of adaptation and resistance among hospital staff, and the reconstruction of institutional practices during the move toward electronic systems. The findings are expected to contribute both theoretically—by enriching the discourse on structuration in healthcare transformation—and practically—by offering contextual insights for policymakers and hospital administrators seeking to manage similar transitions effectively. This study is significant because it provides a deep understanding of how the structuration process influences the transition from manual to electronic medical record management at Soeharso Orthopedic Hospital, offering both theoretical and practical insights for improving digital transformation in healthcare organizations.

Based on this discussion, the main objective of this study is to analyze how the process of structuration occurs during the transition from manual to electronic medical record management at RSO. The study also seeks to understand how the interaction between agents and structures shapes new practices, routines, and governance patterns in managing health information through EMR. Accordingly, the research question posed is:

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"How does the interaction between agents and structures shape the process of medical record management during the transition from a manual to an electronic system at RSO?"

LITERATURE REVIEW

Structuration Theory and Organizational Change

The Structuration Theory was developed by Anthony Giddens (1984), who argues that social life is not merely the result of rigid structures or individual actions, but rather the outcome of a dynamic interaction between the two. Giddens introduced the concept of the "duality of structure," referring to the reciprocal relationship between structure and agency (individual actions), where both continuously influence, shape, and transform one another. Structures—comprising rules, norms, and resources—do not merely constrain actions but also serve as the medium that enables them to occur. Consequently, through repeated actions, individuals indirectly reproduce or modify the existing structures.

Within organizations, Structuration Theory provides a conceptual framework for understanding how organizational change occurs. Such change does not arise solely from formal policies or the introduction of new technologies but also emerges through the ongoing social interactions within the organization itself. The adoption of information technology, including the digitalization of information systems that drive organizational transformation, can be viewed as a setting where actors negotiate, reinterpret, and adjust existing structures to align with new practices and emerging needs. This theory positions human beings as reflective agents who possess the capacity to "understand, evaluate, and modify" the structural conditions surrounding them. Accordingly, in the implementation of Electronic Medical Records (EMR), Structuration Theory serves as a valuable analytical lens to understand that the success or failure of transformation is not solely determined by technological availability but also by how actors—such as employees, management, health professionals, and medical record officers—perceive, negotiate, and integrate the technology into their daily work practices.

Similarly, in the context of medical record management at Surakarta Orthopedic Hospital, Structuration Theory helps explain how medical staff adapt to the operation of EMR systems and how hospital policies (as structures) are designed to support such adaptation. A study by Smith et al. (2014) found that the success of EMR transition is highly influenced by the interaction between technology and organizational structures, particularly regarding how new systems are integrated into existing work procedures. Another study by Creswell et al. (2013) indicated that applying Structuration Theory helps explain how flexible and adaptive organizational structures can facilitate the adoption of new technologies in hospital environments.

The Dynamics of Medical Record Regulation

Policies on medical record management in Indonesia have undergone significant changes and developments, following the rapid adoption of information technology in the

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E-ISSN: 2540-9638, ISSN: 2302-4666.
doi: http://doi.org/10.14710/lenpust.v11i2.78625

healthcare sector. The earlier regulation, Minister of Health Regulation No. 269 of 2008, permitted manual documentation and allowed for the optional use of electronic methods. However, it did not provide detailed provisions regarding electronic systems, data security, or interoperability. This regulation was later revoked and replaced by Minister of Health Regulation No. 24 of 2022 concerning Medical Records.

The issuance of Regulation No. 24 of 2022 marks a paradigmatic shift for all healthcare facilities in Indonesia. The regulation mandates that all healthcare institutions must implement Electronic Medical Records (EMR) that are connected and interoperable with the national platform SATUSEHAT. Key provisions of this regulation include:
a) Ensuring the security, confidentiality, integrity, and availability of data;
b) Requiring EMR systems to comply with standards set by the Ministry of Health;
c) Establishing a dedicated EMR management team with adequate training; and
d) Setting a national implementation deadline of December 31, 2023.

Additionally, regulations related to the retention of medical records are stipulated in the Decree of the Minister of Health No. HK.01.07/MENKES/539/2023, emphasizing the importance of proper medical record retention as part of the national health information governance framework.

The Concept of Structuration in Medical Record Management

The concept of structuration is particularly relevant for understanding the process of medical record management, especially during the transition from manual to electronic systems. In this context, structures include policies, regulations, standard operating procedures (SOPs), and technological infrastructures such as the Hospital Information System (HIS) and Electronic Medical Record (EMR) platforms. The agents refer to actors directly involved in EMR management—namely healthcare professionals, medical record officers, IT personnel, and hospital administrators.

These two elements—structure and agency—continuously interact and mutually shape one another, leading to the reproduction of new organizational arrangements (Giddens, 1984). Upward (1997), in his seminal article "Structuring the Records Continuum – Part Two: Structuration Theory and Recordkeeping", argued that the dynamics of recordkeeping practices can be effectively examined through the lens of Structuration Theory. He posits that effective recordkeeping systems are not merely products of rules or technology, but rather the outcome of ongoing social practices that sustain a balance between structure and agency. This theoretical stance is further supported by Lewellen (2015) in her study of electronic recordkeeping systems in New Zealand, which demonstrated that the perceived value of records significantly influences system adoption and utilization. When agents—such as medical record staff—recognize the strategic importance of records, they are more inclined to effectively maintain and use the system.

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In the case of Surakarta Orthopedic Hospital, the implementation of EMR exemplifies the dynamic interplay between agency and structure, where the success of transition depends heavily on the active engagement of medical staff in adaptation processes, supported by managerial interventions that enable structural modifications. Therefore, this study seeks to explore how the interaction between agency and structure shapes the success of EMR implementation, employing Giddens' Structuration Theory as the primary analytical framework.

METHODS

Research approach

This study employs a qualitative approach with a case study design to explore the structuration process in medical record management during the transition from a manual to an electronic system at RSO. The qualitative approach was chosen to gain an in-depth understanding of the dynamic interaction between institutional structures and human agency within the organizational context. Through this approach, the researcher seeks to trace how rules, resources, and social practices are reproduced and transformed throughout the digitalization process of medical record management.

Study Location, Informan and Data Collection Methods

This research examines the practice of medical record management during the transition period at a government hospital, namely Rumah Sakit Khusus Orthopedi Prof. Dr. R. Soeharso Surakarta. This hospital is a vertical institution under the Ministry of Health.

The criteria for informants in this study are as follows:

(1) Individuals directly involved in medical record management activities, including doctors, nurses, medical record officers, IT staff, and archival staff; and
(2) Individuals responsible for managing medical records from creation to disposal who were actively working in the field during the transition period.

The selection of informants was based on purposive sampling theory. According to Sugiyono (2018), purposive sampling is a technique for selecting data sources by identifying individuals who are considered to have the most knowledge about the subject of study or who possess authority that facilitates deeper exploration of the research context.

To support the sampling technique, this study also utilized medical record data from 2022 to the present, covering the period from the initial implementation of the Electronic Medical Record (EMR) system.

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TABLE 1
Research Data Source

Initial Name	Duration	Position
SS (M)	3 hours	Head of Instalation SIMRS
MB (M)	1 hours	Head of Instalation MedRec
HS (M)	1 hours	Doctor
KE (F)	2 hours	Nurse
AD (M)	2 hours	IT Staff
DK (F)	2 hours	Medical Record Officer
TS (F)	2 hours	Record Officer

Data was collected by interviews, observation, and documentation during August to October 2024.

Analysis Method

Data analysis was carried out using the interactive model developed by Miles and Huberman (1994), which consists of three concurrent activities: data reduction, data display, and conclusion drawing/verification. The data analysis technique involved data coding, identifying relationships among categories, and drawing conclusions. Documentation analysis emphasizes medical record management procedures. Data analysis techniques include coding data, identifying relationships between categories, and drawing conclusions.

To ensure reliability and validity, data triangulation was conducted through three forms of triangulation: methodological triangulation, source triangulation, and time triangulation. Documentation analysis focused on the procedures of medical record management.

FINDINGS

Medical Records Management Process During the Transition Period

Prof. Dr. R. Soeharso Orthopedic Hospital Surakarta is a type A educational hospital of the Indonesian College of Orthopedics and Traumatology which is a national reference. To improve customer satisfaction or service users, one of the missions of Prof. Dr. R. Soeharso Orthopedic Hospital Surakarta is to provide comprehensive Orthopedic Traumatology and Medical Rehabilitation services oriented to the needs and health of patients, and of high quality, as well as affordable for all levels of society. Medical records management is carried out by medical recorders at the Medical Records Installation. The organizational structure of the medical records installation can be seen in the following image:

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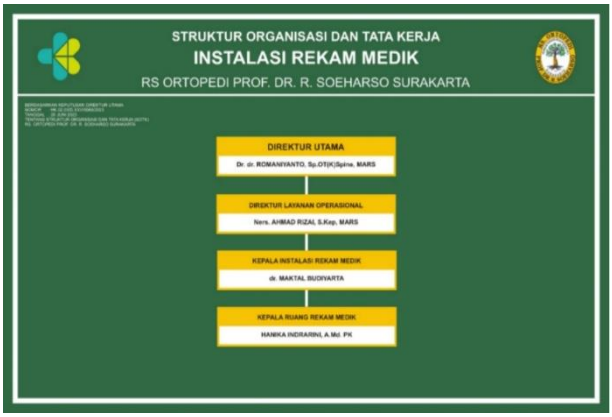

Figure 1: Organizational Structure of the Medical Records Installation

The SOP for managing manual medical records is as follows and the management of electronic medical records at RSO is as shown in Figure 2 below:

RS.ORTOPEDI PROF.DR.R.SOEHARSO SURAKARTA	PENYIMPANAN DOKUMEN REKAM MEDIS DAN REKAM MEDIS ELEKTRONIK		
STANDAR PROSEDUR OPERASIONAL (SPO)	NO. DOKUMEN OT.02.02/XXX.1.7/ /2022	NO. REVISI 0	HALAMAN 1/1
	TANGGAL TERBIT 15 NOV 2022	Ditetapkan PP.Direktur Utama, Dr. dr. Pamudji Utomo, Sp.OT (K) NIP 196202281989031003	
Pengertian	Kegiatan menjaga agar dokumen Rekam medis dan rekam medis Elektronik terpelihara baik, rapi dan aman, tidak rusak, tidak hilang serta terpelihara kerahasiaan isi dokumen Rekam Medis dari pemaparan oleh pihak yang tidak berwenang		
Tujuan	Sebagai acuan penerapan langkah-langkah untuk menyimpan dokumen rekam medis dan rekam medis elektronik.		
Kebijakan	Surat Keputusan Direktur Utama Rumah Sakit Ortopedi Prof. Dr. R. Soeharso Surakarta Nomor: HK.02.03/XXX.1.7/17.254/2022 tentang Pedoman pelayanan rekam medik		
Prosedur	A. Penyimpanan Dokumen Rekam Medis Manual 1) Dokumen rekam medis yang sudah lengkap disimpan dalam rak penyimpanan. 2) Dokumen rekam medis di sortir menurut nomor dan tempatnya. 3) Dokumen Rekam Medis dimasukkan dalam rak penyimpanan dengan penjajaran secara "*Terminal digit Filling System*" 4) Dokumen Rekam Medis yang tebal dijadikan 2 (dua) atau 3 (tiga) jilid dengan diberi volume 1, volume 2 dan seterusnya. 5) Dokumen Rekam Medis in-aktif dihitung sekurang-kurangnya 5 (Lima) tahun dari kunjungan terakhir. B. Penyimpanan Dokumen Rekam Medis Elektronik 1) Dokumen rekam medis elektronik yang selesai di input oleh petugas sesuai kewenangannya akan tersimpan di server 2) Server penyimpanan dokumen rekam medis elektronik ada 3 (tiga) yaitu server utama, server back up dan server yang ditempatkan di luar Rumah Sakit yang bekerja sama dengan RS Ortopedi Prof. Dr. R. Soeharso Surakarta		
Unit Terkait	- Instalasi Rekam Medis - Instalasi SIRS		

Figure 2. SOP For Storing Medical Records

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The relationship between structure and agents in this study can be seen in Figure 3 below:

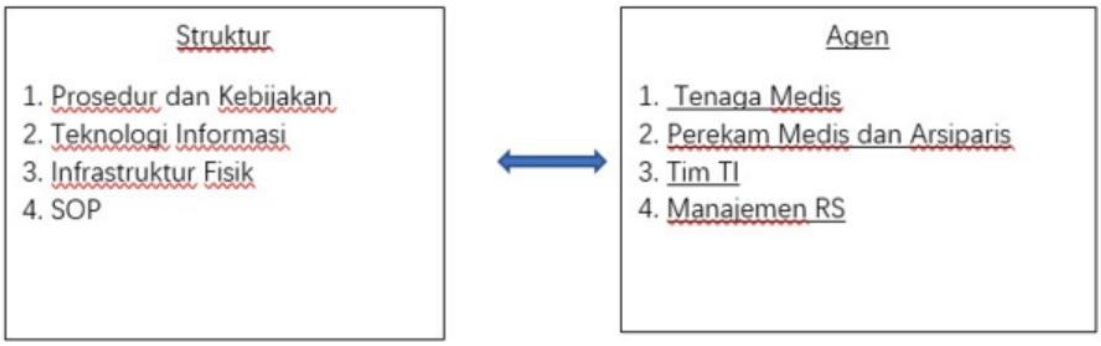

Figure 3. Relationship Between Structure and Agent

Based on the research results, the transition of medical records management at RSO from a manual system to an electronic system took place in several stages, starting from planning, infrastructure procurement, staff training, and finally full implementation. This hospital adopted a phased approach in implementing the electronic system, allowing agents to slowly adapt to the new system. This approach has proven effective in minimizing resistance to change, as also found in research by Kim and Johnson (2011), who stated that the gradual implementation of new technology can reduce the adaptation burden for staff. This is as expressed by SS who stated that "the medical records team, medical recorders, and the *Sistem Informasi Manajemen Rumah Sakit* (SIMRS) team jointly developed plans, infrastructure procurement, and scheduled staff training related to the implementation of the new system."

In the early stages of the transition, agents found it difficult to shift from using manual medical records, which had been part of their work routine. Some agents stated that the old structure was easier to access and use, especially for those less familiar with technology. This finding is consistent with research by Mustofa and Soesilo (2019), which showed that resistance to technological change is often caused by a lack of training and familiarity with the new system. At RSO, this resistance was overcome through the provision of comprehensive training and intensive mentoring during the transition period. This was expressed by MB, who said, "In addition to training, we, along with the IT team, provided assistance to doctors and nurses in completing the RME. The successful implementation of the RME was not only for the medical records and SIMRS teams but also for the service team."

Furthermore, the study findings indicate that technical factors, such as limited technological infrastructure (structure), also impact the smooth transition process. In the early stages of implementation, several technical issues occurred, including system instability and limited network access. These technical issues not only caused inconvenience for agents but also hampered the smooth recording of patient medical records. This aligns with Haux's (2006) findings, which state that the availability and reliability of technological infrastructure are crucial to support a smooth transition to an electronic medical record system. Similar issues

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also occurred in the RSO and *Sistem Informasi Manajemen Rumah Sakit* (SIMRS) Team, but due to a clear division of tasks, these obstacles were successfully overcome.

However, despite the technical challenges, Surakarta Orthopedic Hospital successfully addressed most of these issues through gradual infrastructure (structural) improvements. Furthermore, the hospital provided space for the use of manual systems during the transition period, which helped medical staff continue operating without compromising patient care. This approach reflects the flexibility required in organizational structures during technological transitions, as revealed in Sewell's (1992) research, where adaptive structures allow agents (medical staff) to continue operating while adapting to technological changes. This was revealed during the FGD, where all informants agreed that the necessary flexibility during the transition was accommodated by RSO management.

Agent Adaptation to Technological Change: The Role of Training and Management Support

Interviews and field observations indicate that the success of the medical records management transition at RSO was significantly influenced by the ability of the agents, specifically the medical recorders and IT team, to adapt to new technologies. As expressed by Giddens' (1984) structuration theory, agents are not only influenced by structure but also play an active role in shaping and modifying it. In this context, the medical recorders and IT team at Surakarta Orthopedic Hospital played a key role in navigating the changes that occurred during the transition to an electronic system. The agents' ability to collaborate and address the needs of users, namely doctors and nurses, significantly facilitated the transition from manual to electronic medical records at this RSO. HS stated that:

"The transition from manual to electronic medicala record has not been an obstacle for us because our needs are always facilitated by our friends at SIMRS and Medical Records. If there are any problems, we just call, and they will come to facilitate if it is related to the format. I take"We're having trouble filling it in. The most annoying obstacle so far is having to fill in the medical record form repeatedly with the same data. This can reduce the time spent interacting with patients, but the IT team is working on linking all the same data so it can be copied and pasted so it doesn't become a problem in the future."

One important finding of this study is that training plays a crucial role in accelerating the adaptation process. Agents, in this case medical staff consisting of doctors and nurses who have received training, feel more confident in using electronic systems and are able to record medical records more efficiently. Similarly, medical recorders also find it easier to manage medical records with the training they have received. The transition period is not easy for medical recorders. In addition to managing EMR, medical recorders are also required to continue managing manual medical records because during this transition period, manual medical record archives are still being created. From the SS and MB gaps, it is known that not all EMR systems are integrated, for example with the laboratory and radiology, which means that medical records are still created manually and must be managed by medical recorders. However, with intensive training, this does not pose a barrier for medical recorders in carrying

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out their work, even though quantitatively, the RSO still lacks medical record personnel. This condition was expressed by DK, who stated that managing manual medical records does not burden medical recorders during this transition period. These findings are reinforced by Nugroho and Hartanto (2021), who found that continuous and comprehensive training can improve staff skills in using electronic systems and reduce resistance to change.

Furthermore, hospital management support was also a crucial factor in the success of the transition at this RSO. Hospital management not only provided training for medical staff but also actively participated in the decision-making process related to the development of the electronic medical records system, including providing infrastructure to support the implementation of the EMR. This support from hospital management was conveyed by SS and confirmed by AD. This provided space for medical staff to provide input and participate in the process of adjusting the system being implemented at the RSO. This participatory approach aligns with the findings of Smith et al. (2014), who stated that the involvement of agents, in this case management, in the technology transition process can increase implementation effectiveness, as agents have a direct role in identifying problems encountered and providing solutions that are appropriate to their operational needs.

Interview results also indicated that the IT team took advantage of opportunities provided by RSO management to modify workflows and recording procedures to better suit service needs. For example, several medical teams provided input to the SIMRS IT team regarding system development features that needed to be added to improve the efficiency of patient data recording. This reflects Giddens' (1984) view that agents, in this case the SIMRS TEAM, have the capacity to influence and modify structures through their actions. This was echoed by SS, who stated that they held regular meetings to discuss input from doctors and nurses regarding the development of RME features that facilitated their recording in the RME.

Interaction between Agents and Structures in the Transition Process

Giddens' structuration theory provides a relevant analytical framework for understanding the interactions between agents and structures during the transition of medical records management at RSO. Based on the research findings, the interaction between agents (medical staff and medical records officers) and structures (electronic medical records systems, hospital policies, and technological infrastructure) played a crucial role in determining the success of this transition.

Currently, RSO hospital management still tolerates manual medial record management as a backup in case of technical disruptions in the RME. However, over time, hospital policies and procedures have changed to support the full use of electronic systems. This RME modification process involves input from agents and the medical team, who play an active role in providing feedback regarding the obstacles they encounter while using the RME. This was expressed by AD and complemented by SS, who stated that "changes, improvements pale System development is carried out based on input from RME users, where our SIMRS team tailors the system according to a pattern based on input from RME users, both medical officers

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and service teams. This condition is also supported by research conducted by Boulus and Bjorn (2010) which put forward to find that agents have an important role in modifying organizational structures during the technology adaptation process, because they provide input and contributions to system improvement and development.

At RSO, the agents also demonstrated flexible adaptability by utilizing both manual and electronic systems simultaneously during the transition period. This flexibility allowed them to adjust to technological changes without sacrificing the quality of patient care. This condition was clearly seen in the medical records installation. DK stated that "the work carried out in the medical record installation not only involves manual management but also must examine the completeness of the RME filled out by doctors and nurses. This completeness must be completed within 1 x 24 hours because it is related to BPJS claims." TS also stated that the archivist's workload also increased by converting manual RM media to electronic to support services. This also reflects the findings of research conducted by Sewell (1992), which states that a flexible structure allows agents to adapt better to change, because they can utilize various strategies to face challenges that arise during the transition period.

Furthermore, the results of this study indicate that hospital structures have also undergone significant changes along with the growing use of technology in RSOs, including EMRs. RSOs continue to develop new policies in line with technological advancements that support the full use of electronic medical records, including policies related to data security, recording procedures, and more efficient workflows. These policies are designed to ensure that all medical staff, including doctors and nurses, can operate EMRs optimally, while minimizing the risk of errors in recording and clinical decision-making. This approach aligns with the findings of Jha et al. (2009), who stated that an adaptive and proactive management structure is crucial to supporting the successful implementation of technology in hospitals.

The findings of this study reinforce Giddens' view that social and organizational change occurs through a recursive process of structuration, in which agents and structures cannot be separated dichotomously. In the context of the EMR transition, policy and technological structures function as frameworks that shape behavior, while healthcare professionals act as driving agents who reproduce and transform these structures through their everyday practices.

Factors Influencing Transition Success

The results of this study identified several key factors that influence the success of the transition of medical records management at RSO, namely:

- Training and Mentoring: Intensive and ongoing training significantly assisted medical staff in mastering the use of electronic systems. Furthermore, mentoring during the transition period enabled staff to receive assistance when encountering technical difficulties or recording errors. Training and mentoring for medical staff at the RSO were conducted by the IT Team and the Medical Records Department. The training and

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mentoring could last for several days, even until the medical staff were able to perform the work independently. This was conveyed by SS and MB.

- Management Support: Support from RSO management is crucial in providing the necessary resources during the transition, including the provision of adequate technological infrastructure, training, and supportive policies.
- Agent Involvement in Decision Making: The involvement of all elements involved in the management of RM archives in decision-making related to the development and modification of electronic medical record systems increases the success of implementation, because the system developed is more suited to clinical needs.
- Flexibility of Organizational Structure: A flexible organizational structure allows medical staff to use both manual and electronic systems simultaneously during the transition period, thus providing space for agents to gradually adapt to the new system.

These factors support findings from previous studies, such as those by Crewell et al. (2013) and Smith et al. (2014), which highlight the importance of agent participation, training, and management support in the successful implementation of new technology in hospitals.

DISCUSSION

Medical records management in Indonesia is regulated by Minister of Health Regulation Number 24 of 2022 concerning Electronic Medical Records. This regulation replaces the previous Ministerial Regulation Number 269 concerning Medical Records. Through Ministerial Regulation Number 34 of 2022, all healthcare facilities are required to use EMR in providing services.

To date, the Ministry of Health has not issued a policy on medical record management during the transition period. This has caused RSO to experience obstacles in managing their manual medical records. Obstacles faced during the transition period related to technology adaptation in RSO can be minimized through training and mentoring for users. This can be illustrated by the RSO Medical Record Installation Performance Agreement which targets that the achievement of RME filling by users is ≥ 85%, with the strategic goal of realizing the digitalization of service processes and management processes with performance indicators for integrated RME implementation across all services: registration, Emergency Room, Inpatient, Outpatient, O&M, supporting services (lab, radiology, nutrition and medical rehabilitation), and pharmacy. However, another obstacle most suggested by RSO is how to manage the manual medical record created until this regulation is enacted. The next obstacle is the considerable cost required to carry out media transfer of this manual medical record so that they can be filed with EMR. The problem becomes more complicated when RSO must continue to store the manual record that have been transferred until their retention period expires.

CONCLUSIONS

Giddens' structuration theory approach in this study helps explain how the interaction between agents and structures influences the success of the medical records management transition at RSO. The active involvement of agents in the structure modification process,

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including the development of new policies, the development of workflows, and the improvement of the electronic medical records system at RSO, significantly impacted the EMR management process during the transition. Feedback from agents to the structure and feedback from agents on implementation can be used to make necessary adjustments to make the system more effective and efficient.

The interaction between agents and structures during this transition period demonstrates that changes in organizational structures are not linear, but rather result from a complex dynamic between agent actions and structural arrangements. This research demonstrates that agents are not only subject to structures but also play an active role in shaping and modifying those structures through everyday practices.

Thus, this study contributes to the understanding of how structuration theory can be applied in the context of medical records management during the technological transition period, as well as how the interaction between agents and structures can influence the success of technology implementation at RSO. This study offers opportunities for further research development. Future studies are comparative studies among hospitals can help reveal how organizational contexts and work cultures affect the dynamics of structuration during the EMR transition process.

AUTHORS CONTRIBUTIONS

All authors have contributed to the final manuscript. The contribution of all authors: conceptualization, methodology, formal analysis, writing original draft preparation, writing review and editing. All authors have read and agreed to the published version of the manuscript.

CONFLICT OF INTEREST

All authors have no conflict of interest related to this study.

FUNDING

This study did not receive any funding.

ACKNOWLEDGEMENTS

The researcher would like to thank the RSO Management who are willing to be our data source. Hopefully, this research can be used as a data source and continue quantitatively to measure how much medical records support information data and health and medical knowledge regarding world-scale pandemic diseases for the research community.

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