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# ELECTRONIC MEDICAL RECORDS IN INCREASING USER SATISFACTION: LITERATURE REVIEW

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**Abstract**

The research aim of this study is to systematically review existing literature to evaluate the impacts of Electronic Medical Records (EMR) implementation on healthcare efficacy and error reduction. The integration of EMRs into healthcare systems has garnered significant attention due to its potential to improve service quality and enhance patient satisfaction. Traditionally, medical records maintained through paper-based systems were vulnerable to errors, inefficiencies, and administrative burdens, negatively affecting patient outcomes. Digitizing patient information via EMRs facilitates rapid and accurate access to patient histories, diagnostic results, and treatment protocols, thus improving clinical decision-making and patient safety. Given the increasing demand for quality healthcare services and the imperative to reduce clinical errors, investigating the effectiveness of EMRs becomes crucial. A systematic literature review was employed to explore a wide range of published studies examining the effects of EMRs across diverse healthcare settings. The methodology involved identifying, analyzing, and synthesizing existing findings on the benefits and implementation challenges associated with EMRs. The results indicate that EMRs significantly improve healthcare efficiency by streamlining administrative workflows, reducing medication and diagnostic errors, and enhancing communication between healthcare providers and patients. Despite some barriers, such as initial implementation costs and training requirements, the overall impact is positive. This study highlights that EMRs are essential for modern healthcare delivery, serving as foundational tools for improving both healthcare quality and patient care experiences. These insights provide a robust foundation for future research and practical guidance for healthcare organizations seeking to optimize EMR integration.

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## INTRODUCTION

Hospitals are complex, professional, and capital-intensive healthcare facilities. This complexity arises because hospital services include various functions in service provision, education, and research, encompassing multiple disciplines in behavioral and medical sciences. As centers of healthcare, hospitals are required to provide comprehensive services to patients. One key element in delivering excellent healthcare is maintaining the quality of medical services as mandated by Law Number 29 of 2004 on Medical Practice.

One such medical service is medical records (Electronic Medical Records). According to the Regulation of the Minister of Health of the Republic of Indonesia (Permenkes RI) No. 269 of 2008 concerning Medical Records, it is stated that medical records are files containing records and documents that include the patient's identity, examination results, treatments provided, and other actions and services given to patients.

According to these regulations, every doctor is obliged to maintain medical records in medical practice. With Electronic Medical Records, doctors and healthcare professionals also benefit from easier access to patient information, ultimately aiding in enhancing patient safety and clinical decision-making, such as diagnoses, allergy reactions, and medication duplications.

According to the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022, electronic medical records refer to medical records created using electronic systems specifically designed for medical record management. At the initial stage, registration activities involve the entry of identity and social data for outpatient, inpatient, and emergency patients. The completion of medical records must be conducted by healthcare professionals who are responsible for the services provided. Healthcare professionals are individuals dedicated to the health sector who possess knowledge and skills acquired through formal education and hold the authority necessary to carry out health-related activities. It is expected that healthcare professionals will gain a sense of satisfaction from delivering these healthcare services (Permenkes, 2022).

Hospitals in a particular region provide healthcare services to the community through healthcare professionals. Healthcare services offered are aimed at individuals and communities seeking assistance. These services encompass health promotion activities, preventive care, medical treatment, and health rehabilitation, delivered through emergency care, outpatient care, and inpatient services (Law No. 17, 2023). One crucial aspect of hospital healthcare services is the management of medical records. Medical records constitute an archival system that comprehensively describes all healthcare activities performed within a specified period. To enhance the quality of healthcare services, hospitals are mandated to maintain medical records as part of the standard healthcare service practice (Kencana et al., 2019).

User satisfaction refers to the overall satisfaction level of healthcare professionals regarding their interaction with electronic medical records. In delivering healthcare services, it is expected that healthcare providers derive satisfaction from the services they provide. Satisfaction itself is an emotional response resulting from the overall experience provided by a specific product or service. It represents the alignment between an individual's expectations of an ideal condition and their perception of the actual reality received (Swarjana, 2021). Nowadays, health has become a significant priority for the community, resulting in increased demand for high-quality healthcare services. As individuals' levels of knowledge increase, so too does their need for better health services. Consequently, healthcare institutions face greater demands to improve their quality of service, ultimately leading to higher satisfaction among service recipients.

The efficiency aspects and utilization of electronic medical records can reduce operational costs and increase revenue in healthcare facilities, particularly hospitals. Therefore, the completion of patient medical records (MR), including EMRs, is a mandatory duty for every doctor and other healthcare professionals. Compliance in documenting medical records using EMRs will enhance service quality, patient satisfaction, and patient safety due to errors in identification and patient profiling (Nyoman et al., 2021). The introduction of Electronic Medical Records (EMR) offers benefits, including saving time, preventing document loss, and enhancing patient participation in their care. EMRs are considered an efficient system to improve patient engagement and doctor-patient communication.

Specifically, EMRs enhance patient compliance and satisfaction with the healthcare system (Wali et al., 2020). Service quality is crucial in healthcare organizations. Nevertheless, healthcare service quality will make healthcare organizations more efficient as everyone working within will consistently perform better in a continuously improved system, fostering job satisfaction, commitment, and increased morale in the healthcare profession, which ultimately leads to patient satisfaction (Pohan, 2013).

Fachmi and Setiawan (2020) state that Service Quality is the assessment of the perfection of a product or service from the consumer's perceived value based on a comparison between what the consumer expects and what the consumer receives. This means that when a healthcare facility can provide good service to patients, it directly or indirectly creates customer satisfaction, where customers feel happy and satisfied that the healthcare facility has delivered service in line with their expectations. Additionally, research conducted in Saudi Arabia found that the use of EMRs can enhance various aspects of the healthcare system, such as physician productivity, information access, and healthcare service quality (Khalifa M, 2017).

According to Kitesa et al. (2021), a study involving 184 hospital patients in Ethiopia showed that the implementation of EMRs in hospitals significantly contributes to reducing patient waiting times for healthcare services. Patient satisfaction is the result of an evaluation conducted by patients between what they desire and the reality they perceive (Xesfingi & Vozikis, 2016). In healthcare, satisfaction is an attitude formed by emotions, which must be measured by a subjective total multidimensional assessment of attributes related to the experience in healthcare

services (Spiridon et al., 2018). According to Wali et al. (2020), EMRs are considered an efficient system to enhance patient engagement and clinician communication. Specifically, EMRs improve patient compliance and satisfaction with the healthcare service system. Service time also affects the increase in patient satisfaction.

Ibrahim et al. (2022), in a study involving 321 patients across 14 general hospitals in Malaysia, demonstrated that hospitals implementing Electronic Medical Records (EMRs) significantly influence patient satisfaction. Research by Jin et al. (2022) on patients in general hospitals in China showed that the implementation of EMRs in hospitals impacts patient satisfaction by improving service quality. Electronic Medical Records (EMRs) are crucial to implement due to their ability to reduce workload, costs, and medical errors. Paper-based reporting has many shortcomings, including manual data entry and the need for manual processing. Therefore, a systematic review of the Electronic Medical Records (EMRs) system for patient satisfaction and quality of care is essential to determine the extent of its implementation. In compiling the report, it is presented narratively how EMRs affect user satisfaction, emphasizing empirical evidence, identifying gaps in existing literature, and providing recommendations for future research. The final outcome of this review is expected to offer valuable insights into the effectiveness of EMRs in enhancing user satisfaction in healthcare services.

## METHOD

The research method employed is a literature review, which involves a meticulous and in-depth examination. A systematic methodology is used to collect and analyze data from various relevant sources. Journal articles published from 2012 to 2024 will be the primary focus of data collection. Databases such as PubMed, Scopus, Web of Science, and Google Scholar are used with predefined keywords like "Electronic Medical Records," "User Satisfaction," "Healthcare Technology," and "Patient Outcomes". Our search strategy includes the use of a combination of keywords to filter and broaden the search, ensuring that all relevant literature is identified. After gathering the relevant literature, a screening process is conducted through reading titles and abstracts, followed by full-text examination of articles selected based on strict inclusion and exclusion criteria. This is to ensure that only the most relevant studies with robust methodologies are included in the review. Information from the selected articles will be extracted using a specially designed data extraction form, which includes essential information such as authors, year of publication, study objectives, population studied, methods used, and the main findings and conclusions of each study. Data analysis will be conducted qualitatively by categorizing results based on main themes, and where possible, quantitatively through meta-analysis to identify patterns and trends. The article selection process involves searching with relevant keywords, filtering based on titles and abstracts, assessing full-text eligibility, and quality assessment of articles ultimately included in the review.

The article selection process for the literature review on electronic medical records was meticulously structured. Initially, a comprehensive search on Google Scholar yielded 879 articles. This set was then refined to include only those published within the specified timeframe from 2012 to 2024, resulting in 98 articles. Further screening was conducted using specific criteria, incorporating the keywords "user satisfaction" and "healthcare technology."

The research method employs a systematic literature review conducted meticulously using Publish or Perish 8 and visualized through VosViewer. This refined search narrowed down the selection to 20 relevant articles that met all the inclusion criteria for the literature review. These articles were chosen based on their direct relevance to the study topics and their contribution to understanding the impact of electronic medical records on user satisfaction and healthcare technology.

Results indicated that EMRs significantly enhance healthcare delivery by streamlining administrative processes, reducing medical errors, and improving communication between healthcare professionals and patients. Although implementation presents challenges such as initial costs and training requirements, EMRs consistently demonstrate their essential role in modernizing healthcare practices and optimizing patient care outcomes.

## RESULT AND DISCUSSION

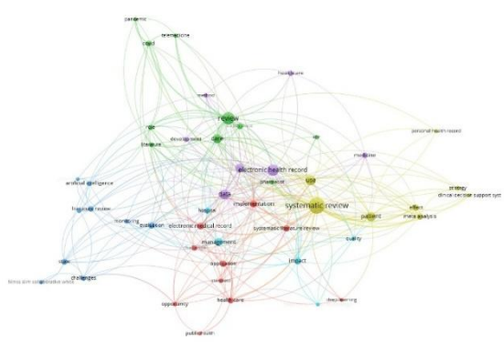


**Figure 1**. Vosviewer Output

Figure 1 presents the VosViewer visualization output, illustrating a comprehensive network map of research topics related to

Electronic Medical Records (EMRs). This visualization highlights multiple interconnected clusters, represented through different colors, indicating thematic relationships between keywords from selected publications. Central nodes such as "electronic health record," "systematic review," "patient," "implementation," "management," and "care" demonstrate their pivotal roles in the current research landscape, signifying frequent and strong co-occurrence in the analyzed literature. Keywords like "telemedicine," "COVID," "pandemic," and "artificial intelligence" suggest recent emerging research interests connected to EMRs, highlighting the impact of global healthcare changes and technological advancements. Additionally, peripheral nodes and less interconnected terms signify niche research areas, including "personal health record," "clinical decision support systems," and "deep learning." Overall, the dense interconnections within this visualization underline EMR's multidimensional influence on healthcare practice, emphasizing its integration with technological, administrative, clinical, and patient-centered domains.

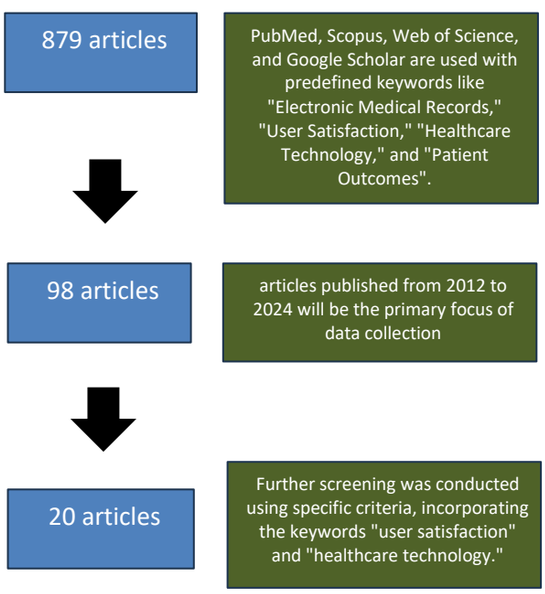


**Figure 2**. Article Selection and Selection Process

The research conducted by Coni Orien in 2024 revealed that the electronic medical records at Santa Elisabeth Hospital in Medan achieved high satisfaction levels among healthcare professionals. The End User Computing Satisfaction (EUCS) methodology was employed to measure this satisfaction across five dimensions: content, accuracy, format, ease of use, and timeliness. Satisfaction with content reached 98.0%, indicating that the information in the electronic medical records system is considered complete and relevant by users. The satisfaction level for information accuracy is 91.8%, showing that the data presented by the system is generally accurate and reliable. Satisfaction with the system format reached 93.9%, signifying that the system's layout is easy to understand and meets user needs. The satisfaction level for the ease of use of the system is 87.8%, indicating that the system is relatively easy for users to operate. Satisfaction with the timeliness in the system is 93.9%, indicating that the system provides a quick and timely response.

Qie et al. (2024) found that the improved MLSMOTE multi-label learning framework effectively addresses class imbalance in EMR datasets, significantly enhancing decision-making accuracy in rehabilitation programs for SCI patients. The results of the study indicate that the improved MLSMOTE multi-label learning framework effectively addressed class imbalance within the electronic medical records (EMR) dataset of spinal cord injury (SCI) patients. Among the seven multi-label classification models evaluated, the Classifier Chain (CC) model showed the highest performance. Specifically, the CC model achieved notable improvements, with a precision of 83.33%, a recall rate of 81.20%, and an F1-score of 79.82%. Additionally, the CC model exhibited the lowest values for hamming loss (0.1388) and ranking loss (0.2467), highlighting its superior accuracy and reliability. These findings demonstrate that leveraging advanced multi-label classification techniques and balanced datasets can significantly enhance decision-making accuracy in selecting appropriate rehabilitation programs for SCI patients based on EMRs.

Zhao and Xiong (2024) stated that MSCNER significantly enhances the accuracy of named entity recognition in Chinese electronic medical records by employing multi-scale feature extraction and attention mechanisms. This study proposes MSCNER, a unified Multi-Scale Embedding Network designed to enhance Named Entity Recognition (NER) in Chinese Electronic Medical Records (EMRs). The research addresses the complexities posed by the Chinese language and the unstructured nature of medical texts. MSCNER integrates multi-scale feature extraction, capturing detailed contextual information at character, word, and positional levels, alongside an attention-based weight allocation module to manage complex and discontinuous entities. Experimental evaluations on three benchmark Chinese EMR datasets demonstrate that MSCNER significantly outperforms existing models, achieving state-of-the-art performance in terms of accuracy and reliability. These results highlight MSCNER's effectiveness and potential to improve clinical decision-making and healthcare data management.

Ferretti-Gallon et al. (2024) demonstrated that implementing an electronic medical record

alert significantly reduced inappropriate food allergy panel testing. This study evaluated the effectiveness of an electronic medical record (EMR) alert designed to reduce unnecessary food allergy (FA) panel testing. Due to the high rate of false-positive results, inappropriate FA panel testing often leads to unnecessary dietary restrictions and negative health outcomes. An EMR alert intervention was implemented, displaying a warning when healthcare providers ordered FA panels and requiring acknowledgment of potential adverse outcomes. A retrospective chart review comparing one year before and after the intervention showed a significant reduction (55.5%) in FA panel orders post-intervention. Despite most tests being ordered for non-IgE-mediated symptoms, the intervention successfully decreased indiscriminate testing, highlighting the importance of targeted allergy testing and provider education to improve patient care and clinical decision-making. Implementing an electronic medical record alert significantly reduced inappropriate food allergy panel testing (Ferretti-Gallon et al., 2024).

Martin et al. (2024) demonstrated that natural language processing effectively extracts social determinants of health from inpatient electronic medical records. This study aimed to develop and validate methods for extracting social determinants of health (SDOH) specifically, language barriers, employment status, education, and living alone from inpatient electronic medical records (EMRs) using natural language processing (NLP). Algorithms using regular expressions were applied to both structured and unstructured EMR data from Calgary hospitals. The results showed that unstructured clinical notes were significantly better at capturing SDOH compared to structured data fields, with high positive predictive values (PPV): 99% for language barriers, 98% for living alone, 96% for unemployment, and 88% for retirement status. The findings underscore the effectiveness of NLP techniques for accurately extracting critical health determinants from EMRs, potentially improving healthcare management and policy decisions. Natural language processing effectively extracts social determinants of health from inpatient electronic medical records (Martin et al., 2024).

The research conducted by Nicole Wijkman and Karolina Sjökvist in 2023 explored the advantages and disadvantages of web-based interactive resumes compared to traditional static formats, particularly within the consulting industry. The study found that interactive resumes offer benefits such as enhanced engagement, visual appeal, and improved customization capabilities. Discussing the advantages and disadvantages of web-based interactive resumes compared to traditional static resume formats, particularly in the context of the consulting industry. However, the research also highlighted drawbacks such as technical complexity and the additional effort required to create and maintain this type of resume. This study employs a qualitative case study method to explore these aspects.

By providing in-depth insights into the pros and cons of interactive resumes, this study could potentially influence the recruitment process for both resume creators and reviewers. The research recommends that resume creators consider these factors when choosing the appropriate resume format. Some advantages of interactive resumes identified include enhanced user engagement, visual appeal, and customization options. However, this study also found several disadvantages, such as technical complexity and the additional effort required to create and maintain an interactive resume.

The research by Gusti Suciati in 2023 evaluated patient satisfaction with the services at Dr. H. Mohamad Rabain General Hospital in Muara Enim District. Utilizing a cross-sectional method with a sample of 99 respondents, the study identified that factors such as responsiveness and tangibles significantly influence patient satisfaction. Specifically, tangibles, or the physical aspects of the service like cleanliness and room comfort, played a dominant role in determining satisfaction. The findings suggest that improvements in tangible factors could significantly enhance patient satisfaction. Suciati hopes that the hospital will focus on enhancing tangible aspects to improve the overall quality of service. There is a significant relationship between patient satisfaction and the variables of responsiveness and tangibles, where both variables contribute to the level of patient satisfaction. Multivariate analysis found that the tangible factor is the dominant factor influencing patient satisfaction.

The research conducted by Dede Setyadi and Mardiati Nadjib in 2023 reviewed literature on the implementation of Electronic Medical Records (EMR) and its impact on service quality and patient satisfaction. This study employed a systematic review method, including research articles from 2020 to 2023 related to the impact of EMR, utilizing databases such as Scopus, Science Direct, and PubMed. The results from the review indicate that the use of EMR in hospitals enhances service quality more optimally compared to Paper Medical Records (PMR). EMRs allow healthcare providers to access and update patient information in real-time, which enhances patient convenience and reduces waiting times by improving healthcare service efficiency. Additionally, patient satisfaction levels with EMR are statistically significantly better than with PMR because EMRs can improve the quality of care received by patients. The conclusion of this study is that the implementation of EMR in

hospitals significantly enhances the quality of services provided by healthcare organizations and patient satisfaction. Discussing the impact of Electronic Medical Records (EMR) on service quality and patient satisfaction in the healthcare sector. Through a literature review, this study assesses the comparison between hospitals using EMR and Paper Medical Records (PMR), and how EMR can enhance service quality and patient satisfaction. Specifically, this study demonstrates that the implementation of EMRs in hospitals significantly contributes to enhanced efficiency in accessing and updating patient information in real-time, which further improves the quality of healthcare services. Additionally, EMRs help reduce waiting times and improve patient comfort, statistically increasing patient satisfaction levels compared to traditional medical record systems. The main conclusion of this study is that EMRs play a vital role in improving service quality and patient satisfaction, making them an effective tool in modern medical practice for achieving better health outcomes and operational efficiency.

The research conducted by Hartanti N. Silalahi in 2022 reviewed the completeness of inpatient medical record files at the Fransiskus Room of Santa Elisabeth Hospital in Medan. The focus of the study was to evaluate the completeness of medical records, including patient identity, anamnesis, informed consent, and medical summaries. The results showed a high level of completeness in all measured categories, with critical information such as informed consent and medical summaries achieving 100% completeness. This study uses a descriptive approach to assess the completeness of medical records, which includes patient identity, anamnesis, informed consent, and medical summaries. This study emphasizes the importance of proper medical record keeping and its completeness as a reflection of the quality of healthcare services at the hospital. Silalahi recommends that medical record officers enhance their awareness and discipline in completing medical records to ensure optimal service quality. The research findings indicate a high level of completeness across various aspects of medical documents, such as: Patient identity: 97.5% complete, Anamnesis: 96.2% complete, Informed consent: 100% complete, Medical summary: 100% complete

The research conducted by Ni Made Reni in 2022 focused on analyzing the quality of service and patient satisfaction in the outpatient department at Bangli Regional General Hospital. This study utilized observation techniques, questionnaires, interviews, and documentation studies to collect data from 100 respondents. The results indicated that patients were generally satisfied with the services provided, with an average satisfaction index score of 487.56. However, some factors, such as the use of the latest medical technology, quick service, security against loss and theft, and clear consultation on costs, should be prioritized for improvement. This research aims to provide insights to hospital management to enhance service quality and patient satisfaction.

The research conducted by Intan Aulia Annisa in 2021 discussed patient satisfaction with services at the outpatient registration area at Dungus Madiun Lung Hospital. This study employed a descriptive method with a quantitative approach, involving 100 patients as samples. The findings showed high satisfaction levels across various dimensions, such as tangibles, reliability, responsiveness, empathy, and assurance, with a general satisfaction score reaching 83.34%, indicating that patients were generally very satisfied with the services provided. The study recommends several improvements to increase patient satisfaction, including enhancing the cleanliness and comfort of the waiting area and improving the quality of communication and friendliness of the staff.

The research conducted by Coni Orien in 2024 depicts the effectiveness of electronic medical records at Santa Elisabeth Hospital in Medan, receiving strong positive feedback from healthcare professionals thanks to the integration of content, accuracy, format, ease of use, and timeliness. This study highlights the importance of technology in enhancing operational efficiency and user satisfaction, a finding parallel to Nicole Wijkman and Karolina Sjökvist's 2023 study exploring the pros and cons of web-based interactive resumes. Although they found that interactive resumes improve engagement and visual appeal, they also face challenges in technical complexity and maintenance needs. Meanwhile, Gusti Suciati's 2023 research at Dr. H. Mohamad Rabain General Hospital underscores the significant relationship between tangible factors such as cleanliness and comfort and patient satisfaction, indicating an urgent need for more attention to physical facilities to enhance patient satisfaction. Similarly, Dede Setyadi and Mardiati Nadjib's 2023 literature review shows that the use of EMRs significantly contributes to improved service quality and patient satisfaction, affirming that technological innovations in medical records can substantially alter health operational dynamics. Collectively, these four studies support the argument that technology and attention to operational details have a profound impact on service efficiency and user satisfaction, both in medical and professional contexts.

Hartanti N. Silalahi's 2022 research highlights the importance of complete documentation in medical records at Santa Elisabeth Hospital in Medan, with results showing a very high level of completeness across

various medical document categories. This study underscores how the completeness of medical records contributes to improved healthcare service quality and patient safety, a principle also raised in Ni Made Reni's 2022 research. Reni evaluated patient satisfaction with outpatient services at Bangli Regional Hospital, finding that factors such as the friendliness and responsiveness of staff significantly impact patient satisfaction, emphasizing the importance of human interaction in healthcare service contexts. Meanwhile, Intan Aulia Annisa's 2021 study at Dungus Madiun Lung Hospital measured patient satisfaction based on tangibles, reliability, responsiveness, empathy, and assurance, with highly satisfying results, reflecting the importance of these elements in enhancing patient satisfaction. These studies indicate that both physical infrastructure and the quality of interactions between staff and patients are crucial interrelated components in enhancing the effectiveness of healthcare services and support the argument that improvements in both areas simultaneously can have a significant influence on enhancing the overall quality of service and patient satisfaction.

While Rubiyanti (2023) underscores the significant challenges, including juridical and technical barriers, that impede the effective implementation of Electronic Medical Records (EMRs) in Indonesian hospitals, Ikawati (2024) builds on the discussion by evaluating how overcoming these challenges can lead to improved service quality in hospitals. Ikawati's research highlights the benefits of EMRs in enhancing coordination among medical teams and reducing errors, demonstrating the potential gains once the obstacles identified by Rubiyanti are addressed. Laila et al. (2024) identify a range of inhibiting factors that challenge the implementation of Electronic Medical Records in hospitals, focusing on material, human, and financial aspects. Building on this foundation, Faida & Ali (2021) further explore these challenges by specifically measuring the readiness of hospitals to adopt EMRs using the DOQ-IT approach, providing a detailed assessment of how prepared healthcare facilities are to overcome these barriers and effectively implement EMR systems.

Faida & Ali (2021) categorize the readiness of hospitals to implement Electronic Medical Records (EMRs) as high, pinpointing specific areas of strength such as human resources and infrastructure. Building on the topic of readiness, Belrado & Wahab (2024) examine the partial implementation of EMRs at Bakti Timah Hospital, revealing gaps particularly in inpatient units and suggesting areas for enhancement like training and infrastructure development. Further elaborating on the need for effective EMR usage, Chiu Chang et al. (2021) focus on the quality of EMR systems and their impact on user satisfaction among healthcare providers, highlighting the critical role of data quality in fostering user satisfaction. This line of inquiry is extended by Setyadi & Nadjib (2023), who systematically review the broader implications of EMR deployment, affirming that effective implementation significantly boosts both service quality and patient satisfaction in healthcare settings. Setyadi & Nadjib (2023) affirm the positive impact of Electronic Medical Records (EMRs) on service quality and patient satisfaction, showcasing how technological advancements in healthcare enhance operational efficiency and patient outcomes. Building on these improvements in patient experiences, Liu et al. (2012) conduct a systematic review to further evaluate patient satisfaction with EMR and EHR implementations, confirming increased patient contentment across various service aspects. Transitioning from healthcare to the broader implications of digital tools, Wijkman & Sjokvist (2023) explore the use of web-based interactive resumes, highlighting how digitalization can enhance user engagement and appeal a concept paralleling the benefits seen with EMRs. This exploration of digital tools is extended by Furtmueller et al. (2020), who focus on optimizing online resume designs from a recruiter's perspective, thus emphasizing the importance of aligning digital interfaces with user needs, a principle that is equally applicable in designing user-friendly EMR systems.

## CONCLUSION AND RECOMMENDATION

The conclusions from an extensive literature review on the effectiveness of electronic medical records, patient satisfaction, and the use of interactive resumes reveal that both technology and attention to human interaction play a vital role in enhancing efficiency and satisfaction in healthcare services and other professional industries. This research highlights several important aspects the use of electronic medical records (EMR) and interactive resumes has been shown to enhance user engagement, operational efficiency, and user satisfaction by facilitating easier access to information and speeding up administrative processes. This indicates that the smart integration of technology into daily practices can play a transformational role in improving service quality. The study also shows that physical infrastructure, such as cleanliness and comfort of facilities, along with the quality of interactions between staff and patients, are key determinants of patient satisfaction. Friendly and responsive interactions, as well as a clean and comfort able environment, not only enhance patient satisfaction but can also influence their perception of the quality of care they receive.

Despite significant research into the impact of technology and human interaction on efficiency and satisfaction, there is still room for

further exploration. For instance, future studies could explore the optimal balance between automation and human interaction, as well as its effects on patient satisfaction in various cultural and economic contexts. With the increasing use of EMRs, it is also important to explore how data from these systems can be securely integrated with other technologies to support clinical decisions without compromising patient privacy.

This research reinforces the importance of technological innovation combined with enhanced human interaction quality in the context of healthcare services. Furthermore, studies that integrate both elements could pave the way for substantial improvements in the effectiveness and efficiency of healthcare services in the future.

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