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ARTICLE

Improving End-User Satisfaction with Electronic Medical Records (EMR)

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ABSTRACT
In today's interconnected world, it is widely understood that the effectiveness of health information system, a key component of information technology, depends on user satisfaction. In theory, electronic medical records (EMRs) were just a substitute for paper records; nevertheless, they have brought about substantial changes to the working circumstances of nurses and other professionals in the healthcare business. This study introduces a novel approach to improve user satisfaction within Semarang City context, which could potentially be implemented globally. The impact of modern technology was investigated by applying Aggelidis and Chatzouglou's End User Computing Satisfaction (EUCS) approaches to previous health information system (HIS). As a result, the fundamental model was enhanced by including a new factor known as "technology compatibility." This research aims to develop a perspective that can measure the degree of satisfaction experienced by end users. Italso investigates the influence of technical compatibility component, which was recently included. Quantitative correlation was chosen as the approach for cross-sectional analysis. Approximately 200 participants took part in the study effort. Every single survey question was structured into a five-point Likert scale, which was then reviewed again by specialists from a range of highly specialized fields. The explanatory factor analysis served as the foundation for the final structure of the measuring instrument. PLS-SEM, or partial least structural equation modeling, was used to analyze the data collected by stratified random sampling. As a result, the quality of information, the quality ofsystem, the supporting resources, and the compatibility of technology are all factors that impact user satisfaction. Implementing changes and breakthroughs in information system would increase overall user satisfaction

A. INTRODUCTION

In modern world, there is a growing awareness of the need to make investments in information technology to enhance the provided standard of medical care. It is clear that for the health sector to achieve its goals of efficiency, productivity, service quality, and customer happiness, it is necessary to make use of an efficient information system (Özel Sebetci, 2018; Tabibi & Nasiripour, 2011). There is a tangible influence that the use of information technology (IT) has on the quality of medical treatment (Campanella et al., 2016; Othman, Bashir, & Arabi, 2019). In hospitals, assistance provided by hospital information system (HIS) acts on three different levels: tactical, strategic, and practical. The main goals of these systems in academic

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research hospitals can be summarized as follows: improving personnel efficiency and the quality of patient care; eliminating repetitive and unnecessary procedures; utilizing computers in various operations; generating information more efficiently through statistical and data mining techniques; establishing cost-effective hospitals; acknowledging the significance of modern work methods in health organizations; enhancing systems (Aghazadeh, Aliyev, & Ebrahimnezhad, 2012; Ismail, Abdullah, Shamsudin, & Ariffin, 2013). Health Information System (HIS) was successfully implemented and effectively used in healthcare institutions, significantly enhancing information retrieval speed, decision-making procedures, reliability, workforce efficiency, and increased patient contentment. Additionally, expenses started to decrease significantly simultaneously.

Additionally, HIS helps reduce the time needed to make decisions on diagnosis and treatments by delivering trustworthy and precise patient information. This, in turn, leads to a rise in hospital revenues as a result of higher patient satisfaction (Fadhil, Jusop, & Abdullah, 2012). Research on thee adaptation of information system shows thatuser behaviors and intents are connected to the amount of satisfaction with the information system. Furthermore, the satisfaction levels may effectively predict the future behaviors of the health staff. Other factors that affect user satisfaction are user administration, resistance, and the applicability of the technology (Karimi, Poo, & Tan, 2015). While it is essential to guarantee the effective adoption of new technology to gain the most significant advantage, it is also crucial to overcome user resistance (Haddara & Moen, 2017).

To save nurses from the tedious task of data entering, it was determined that Automated Data Entering Process Technology be developed. This would allow them to dedicate more time to patient care and other activities that are connected to improvements in performance and job satisfaction (Bauer, Faanp, John, & Wood, 2020). The use of digital technology to supplement healthcare delivery is fast increasing in low- and middle-income countries (LMICs) (Atinga, Abor, Suleman, Anaba, & Kipo, 2020). The use of health information technology (HIT) by nurses in acute care settings is increasing at an unprecedented rate. The usage of electronic medical record (EMR) systems has become vital for the proper management of information about patients (Dubale, Mengestie, Tilahun, & Walle, 2023). Efforts to lower the costs of medical treatment for patients with cardiovascular disease should take into account the degree of job satisfaction reported by healthcare providers in primary care settings (Mundt & Zakletskaia, 2022). The transition to electronic medical records (EMRs) and their implementation has confronted nurses with several challenges, even though EMRs give several advantages and financial benefits (Drexler, 2020). In theory, electronic medical records (EMRs) were just a substitute for paper records; nevertheless, in fact, they have brought about substantial changes to the working circumstances of nurses and other professionals in the healthcare business (Johnson, Gee, Kelly, & Butler, 2021). In cross-sectional research of primary care doctors (PCPs), contentment with electronic health records (EHR) was shown to be associated with work satisfaction (Jones et al., 2013). The majority of faculty members reported that the electronic health record had a negative or neutral influence on their work satisfaction (Kissel et al., 2022).

According to the Ministry of Health statistics, the foreign debt of medical faculty hospitals in Semarang City has dramatically raised. In light of this, it is critical to investigate the potential influence of an HIS on the current circumstance. However, the major goal of this study is to establish how satisfied end-users are with the hospital's health information system (HIS) This would be the first stage before t examination. Following that, it is necessary to investigate the influence of the technical compatibility aspect, which has just been included, on the degree of satisfaction experienced by end consumers by designing a model that could be quantified. It is urgent to investigate the impact of the new HIS in light of the findings.

B. LITERATURE REVIEW

After extensively studying several IS success metrics, DeLone and Mclean present a model that integrates the characteristics of IS success measurement (Walle, Demsash, Ferede, & Wubante, 2023). In this study, we developed a modified DeLone and McLean's (D&M) model that consisted of four major components (information quality, service quality, system quality, and user happiness), which were important contributors to user satisfaction (Tilahun & Fritz, 2015). The following describes how we adapted predictors and assumptions (Figure 1).

Information quality

Information quality problems are related to IS output metrics. Most acknowledged information quality indicators include perceived usefulness, accuracy, format, and timeliness (Walle et al., 2023). Information quality has been identified as a determining factor for IS use and user satisfaction (Tilahun & Fritz, 2015; Walle et al., 2023). Information quality had a direct positive effect on healthcare professionals "satisfaction". This demonstrates that higher information quality results in higher user satisfaction and district health information system utilization. This study investigates the following hypotheses:

H1: Information quality has a positive effect on system quality.
H2: Information quality has a positive effect on user satisfaction

Service quality

Service quality concerning the external and internal user assistance offered, as well as the complementary infrastructures that enable successful deployment of the EMR (Tilahun & Fritz, 2015). A study conducted by Ojo (2017), Çelik & Ayaz (2021), Walle et al. (2023), and Dubale et al. (2023) showed that service quality was identified as a factor impacting IS utilization and user satisfaction. Service quality has a direct significant effect on the use of the district health information system and healthcare professionals' satisfaction with using this system. Users will be happier and more likely to use the system if they are more satisfied with the level of support, such as when they receive helpful internal and external assistance. Therefore, this study explores the following hypotheses:

H3: Service quality has a positive effect on information quality.
H4: Service quality has a positive effect on system quality.
H5: Service quality has a positive effect on user satisfaction.

System quality

System quality explores whether a system has the user-required capacity to support work activities. Studies revealed that simplicity of use is the most prevalent indicator of system quality (Tilahun & Fritz, 2015). Several studies have highlighted system quality as the most important determining criteria for assessing IS performance (Tilahun & Fritz, 2015; Walle et al., 2023). System quality has a significant direct and indirect effect on the use of district health information systems and healthcare professionals' satisfaction in using this system. This suggests that improved system quality should result in greater user satisfaction and beneficial effects on personal productivity. This study examines the following assumptions in this context:

H6: System quality has a positive effect on user satisfaction.

C. METHOD

Research Approach

This research applies descriptive research methodologies, which assume that the fundamental purpose of the basic inquiry is to observe and collect data about a specific event, generally at a single point in time by using a cross-sectional survey. This served as the basis for the inquiry (Eşitti & Kasap, 2019). The fundamental goal of descriptive research methodology is to collect data and observe specific events in basic studies. This study adopts a descriptive research technique and survey instruments to capture the objective and social characteristics of manufacturing enterprises accurately. The goal is to provide replies to the study hypotheses. This enables the research to address the concerns raised during the investigation. Before using this strategy, it is necessary to conduct a comprehensive examination of the relevant literature to determine the focused themes. An inquiry framework is developed, taking into account existing research in the industry. The survey was then augmented with structural equation modeling (SEM) to develop and validate the predicted relationships.

The Population of the Study and Sample Size Determination

The informants of the research are all medical professionals who worked in two Semarang City hospitals, such as K.R.M.T Wongsonegoro Hospital and Tugurejo Hospital. The study population, on the other hand, consists of all physicians, nurses, and other medical personnel employed in private Semarang City hospitals that had installed EMR systems throughout the research period. The study's participants were doctors and nurses from private Semarang City hospitals who were familiar with EMR systems. However, medical personnel who were unavailable during the trial had less than six months of experience and worked at the COVID-19 location throughout data collection were not included in the study.

Sampling Technique and Procedures

Participants are 100 people recruited from K.R.M.T Wongsonegoro and 100 people from Tugurejo Hospitals. Both hospitals are located in Semarang city, Central Java. Following the acquisition of two common hospitals, each was assigned a proportionate number of participants. Respondents were selected in total from each of the hospitals. The sample consisted of 200 people from various hospital personnel in K.R.M.T Wongsonegoro and Tugurejo hospitals. We used hospital staff as respondents, taking into account their roles as physicians, nurses, and officers in medical hospitals K.R.M.T Wongsonegoro and Tugurejo hospitals, Semarang, Central Java, Indonesia. The data collection period was from January to August 2023. This study included healthcare professional such as health data entry officer and management secretaries, information system officers (HMIS), radiologists, medical laboratory workers, pharmacists, radiologists, and physicians (Maillet, Mathieu, & Sicotte, 2015).

Data Collection Tools and Procedures

It was decided to employ self-administered questionnaires that were modified from previous research (Ismail et al., 2013; Ö Sebetci, 2015; Özel Sebetci, 2018). Two distinct categories have been established for the questionnaire. Eight components belong to sociodemographic and user background that are included in the first section. The second category includes four items: system quality, information quality, service quality, and overall user satisfaction. While four questions are used to measure users' satisfaction, four questions are used to evaluate the quality of the service, four questionsare used to evaluate the quality of the system, and four questions are used to evaluate the quality of the information. The participants are given a clear description of the study's objectivein the questionnaire. During

research study, participants were asked to contribute their time, and those who consented to take part were given questionnaires. A total of two hundred surveys were distributed. However, to allow further analysis, only replies from individuals who indicated that they had used at least one version of the form and answered the questionnaire's questions were evaluated. A total of 200 valid surveys were submitted. The researcher used Google Forms to create the questionnaire and simplify data collecting. After finishing the assignment, the data obtained from Google Forms was saved. Due to the impracticality of doingface-to-face contact in the research environment, the researcher collected data using Google Forms. Because no identifying information was included in each questionnaire or invitation to participate in the poll, the identities of those who opted to participate remained anonymous.

Data Collection and Quality Control

A day before data collection, training was provided to supervisors and data collectors on the objectives of the research, the process ofcollecting data, the data collection instruments, the approach taken by participants, data confidentiality, and the participants themselves. The supervisors and the investigator made sure that the questionnaires had all of the necessary information. Before the start of the study endeavor, the questionnaires were examined in advance at Semarang City Hospital. This assessment was conducted among health professionals, who made up 10% of the total sample size. Before starting data collection procedure, the data was checked for completeness and consistency. Following that, any modifications were made based on the pretest findings. Cronbach's alpha values greater than 0.7 were calculated, allowing dependability to be determined. It was assessed whether the questionnaires had any missing data, or discrepancies, or were complete.

Measures

Cross-sectional data is applied to assess the accuracy of the presented theoretical model. For data collection, survey of the target population was conducted. The indicators were evaluated using a Likert scale, with five points assigned to each category. The anchors on the scale run from one to five, with one indicating Strongly Disagree and five suggesting Strongly Agree. This strategy requires less time and effort, and by using this scale, respondents can remain neutral by voting for "*neither agree nor disagree*". Furthermore, a Likert scale with five points was utilized in this study, since other studies have shown the advantages of utilizing this technique (Chatterjee, Chaudhuri, González, Kumar, & Singh, 2022; Dubey et al., 2019; Gupta, Justy, Kamboj, Kumar, & Kristoffersen, 2021).

Data Analysis

In recent research, data was analyzed using PLS-SEM and the Smart PLS tool (Ringle, Wende, & Becker, 2015) due to its advanced estimations and broad use in the independent sector (Rasoolimanesh, Ali, & Jaafar, 2018). Given that the study attempted to foresee and characterize the structure, PLS is the most appropriate approach for analysis, as proven by (Joe F Hair, Howard, & Nitzl, 2020). When it comes to assessing and using the structural model to explain and evaluate constructions, the PLS-SEM is a very useful tool. In addition, when the study comprises a variety of concepts, the adaptable tool is utilized to construct models. Furthermore, the program is utilized to obtain specific findings after addressing issues with sample size and data normality. The research employed a two-step process to analyze the data, as recommended in the PLS-SEM literature (Siyal, Donghong, Umrani, Siyal, & Bhand, 2019). The initial step in the PLS-SEM technique was to analyze the measurement to determine inter-item reliability, convergent validity, and internal consistency. The second phase involved studying the structural model to evaluate the hypotheses (Henseler, Ringle, & Sinkovics, 2009).

D. RESULT AND DISCUSSION

Sociodemographic Characteristics of Participants.

A total of 200 healthcare professionals from general hospitals were recruited, and 200 completed all of the surveys with a response rate of 100%. Of the entire 200 responses, 110 (55.0%) were men. There were 110 responders (55.0%) between the ages of 31 and 40. Nearly half of the 145 respondents (45.5%) held a bachelor's degree. The majority of responders (53, 26.5%) have served in hospitals for 1-3 years. Nearly half of the 91 responders (72.5%) were nurses. The majority of respondents (64/32.0%) had 6-10 years of work experience (Table 1).

Table 1. The Demographic Characteristics of Respondents

Characteristics	n	%	Characteristics	n	%
Gender			**Position**		
Male	110	55.0	Physician	49	24.5
Female	90	45.0	Nurse	91	45.5
Age	200		**Officer**	60	30.0
20-30 years	51	25.5	IS Operation Period		
31-40 years	120	60.0	1-5 years	60	30.0
41-50 years	21	10.5	6-10 years	64	32.0
50 years and older	8	4.0	11-15 years	45	22.5
Education Level			16-20 years	20	10.0
Primary education	5	2.5	20 years or more	11	5.5
Secondary education	25	12.5	**HIS Operation Period**		
Bachelor's Degree	145	72.5	1-2 years	55	27.5
Masterr's Degree	20	10.0	3-4 years	50	25.0
Doctor's Degree	5	2.5	5-6 years	45	22.5
Service Period in Hospital			7-8 years	25	12.5
Not answered	5	2.5	9-10 years	15	7.5
1-3 years	53	26.5	10 years or more	10	5.0
4-6 years	48	24.0	**IS Operation Experience**		
7-9 years	42	21.0	None	5	2.5
10-12 years	24	12.0	Beginner	35	17.5
13-15 years	14	7.0	Intermediate	40	20.0
16-18 years	9	4.5	Experienced	70	35.0
18 years or more	5	2.5	Advanced	50	25.0

Source: Processed Primary Data (2023)

User Background and Technology-Related Factors

The study's findings indicated that 64 respondents (32.0%) have been using HIS for 6-10 years. 55 respondents (27.5%) operated HIS for three to four years. There were 70 experienced respondents (35.0%) (Table 1).

The Validity and Reliability Test

Table 3 showsconvergent validity,eliability and validity of indicators, as well as constructs. Table 2 shows the reliability test findings based on Cronbach's Alpha, Composite Reliability, and Average Variance Extracted. These conclusions were reached by computing the average variance extracted. Table 2 shows the results of the reliability tests that were conducted. When the researcher examined the data, he noticed that it exceeded the maximum quantity supplied, which was 0.7. Cronbach's Alpha was utilized to analyze the collected data, and this is the result that it produced in line with the suggestions that were supplied by a few researchers (Bjekić, Strugar Jelača, Berber, & Aleksić, 2021; Taber, 2018). The highest reported value for composite reliance is greater than 0.7, and construct composite dependency values very much higher. According to the researchers' results, the Critical Composite (CR) level should be set at 0.7 and considered satisfactory. Researchers can conclude that the CR requirements have

been met based on the data shown in the table above. Because of this, we may conclude that the CR requirement has been met. Composite reliability can be used as an alternative to Cronbach Alpha since the CR value is significantly greater; nonetheless, the difference between the two is not especially noteworthy (Peterson & Kim, 2013).

The average variance acquired (AVE) is a statistical measure of validity convergence. The AVE values may be seen in the table below. The findings exceed 0.5, indicating the highest reported level to date. A value of 0.5 for the absolute minimum of the AVE can be regarded as sufficient (Rouf & Akhtaruddin, 2018). After meeting the acceptability level, all four dimensions demonstrated convergent validity. Researchersmade our conclusion after determining that the threshold had been crossed. The data shown in the table above serves as the foundation for these conclusions. Three basic techniques are possible when evaluating assumptions regarding discriminant validity. This collection includes convergent validity, heterotrait ratios, and other comparable techniques (Ab Hamid, Sami, & Mohmad Sidek, 2017).

Table 2. Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Service Quality (SERVQ)	SERVQ1	0.822	0.808	0.874	0.635
	SERVQ2	0.764			
	SERVQ3	0.835			
	SERVQ4	0.762			
System Quality (SysQ)	SysQ1	0.829	0.811	0.888	0.665
	SysQ2	0.704			
	SysQ3	0.867			
	SysQ4	0.793			
Information Quality (IQ)	IQ1	0.821	0.800	0.871	0.630
	IQ2	0.661			
	IQ3	0.853			
	IQ4	0.826			
User Satisfaction (US)	US1	0.840	0.832	0.888	0.665
	US2	0.818			
	US3	0.775			
	US4	0.828			

Note: CR: Composite Reliability, AVE: Average Variance Extracted
Source: The Processed Primary Data (2023)

Table 3. Discriminant Validity: Heterotrait-Monotrait (HTMT)

	IQ	ServQ	SysQ	US
IQ				
ServQ	0.198			
SysQ	0.343	0.695		
US	0.380	0.760	0.806	

Source: The Processed Primary Data (2023)

Table 3 displays the analytical findings demonstrating heterotrait-monotrait comparison (HTMT) discriminant validity. All HTMT values larger than 0.9 show that the components differ sufficiently, implying that each element reflects a distinct collection of phenomena (Joseph F Hair, Risher, Sarstedt, & Ringle, 2019). This may be concluded from the readings being more than 0.9. Using the data presented in the Table above, the researcher judged that the HTMT requirements for discriminant validity were met. After carefully analyzing all of the information supplied, this decision was made. More than 0.9 is noteworthy for all of the produced values (Joseph F Hair et al., 2019; Iqbal et al., 2021; Kock, 2015; Wong, 2013).

Structural Model

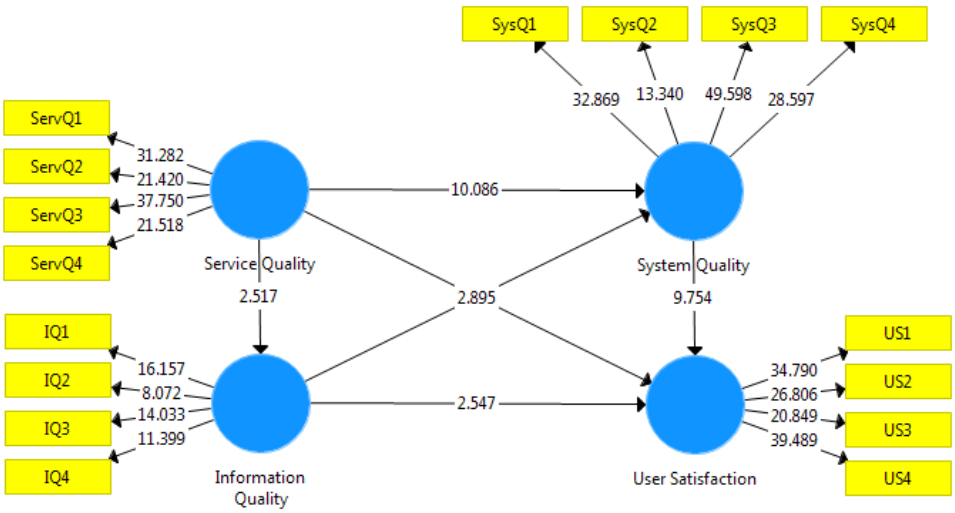
Table 4 provides information on the model variables. This table shows the variable means, standard deviations, T-statistics, and p-values.

Table 4. Mean, Standard Deviation, T-Statistic, and P-Value

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*p* Values	Results
IQ → SysQ	0.192	0.193	0.066	2.895	0.004	Accepted
IQ → US	0.216	0.221	0.057	3.800	0.000	Accepted
ServQ → IQ	0.164	0.175	0.065	2.517	0.012	Accepted
ServQ → SysQ	0.571	0.575	0.049	11.694	0.000	Accepted
ServQ → US	0.626	0.629	0.042	14.882	0.000	Accepted
SysQ → US	0.549	0.553	0.056	9.754	0.000	Accepted

Source: The Processed Primary Data (2023)

Based on the data supplied in Table 4, the researcher might reach the following conclusions: There is a positive and significant influence between Information Quality and System Quality (β = 0.192; T = 2.895; p = 0.004); there is a positive and significant influence between Information Quality and User Satisfaction (β = 0.216; T = 3.800; p = 0.000); there is a positive and significant influence between Service Quality and Information Quality (β = 0.164; T = 2.517; p = 0.012), there is a positive and significant influence between Service Quality and System Quality (β = 0.575; T = 11.694; p = 0.000); there is a positive and significant influence between Service Quality and User Satisfaction (β = 0.626; T = 14.882; p = 0.000); and there is a positive and significant influence between System Quality and User Satisfaction (β = 0.549; T = 9.754; p = 0.000). Figure 1 depicts the graphical correlation between these factors.



(Figure 1: Estimated Path Coefficients)

Source: Processed Primary Data (2023)

After extensively researching different IS success measures, DeLone and Mclean developed a model that combines the properties of IS success assessment (Walle et al., 2023). In this study, we proposed a modified DeLone and McLean's (D&M) model with four key components (information quality, service quality, system quality, and user happiness), which were important contributors to users' satisfaction (Tilahun & Fritz, 2015). Information quality problems are linked to IS output metrics. The bulk of identified information quality measures include perceived utility, accuracy, format, and timeliness (Walle et al., 2023). Information

quality has been established as a determinant of IS use and user satisfaction (Tilahun & Fritz, 2015; Walle et al., 2023).

An updated model based on the study performed by Aggelidis & Chatzoglu (2012) is created to assess end-user satisfaction with the new HIS in hospitals linked with the medical school. Furthermore, it was necessary to construct a useful viewpoint to investigate the influence of technological compatibility on the amount of enjoyment experienced by end-user goods. When users have high expectations when the system is being introduced, the relationship between their needs and the approach's applicability has significant impact on user satisfaction and indirect power over the system. The appropriateness of the system from which users expected particular results will have a role in determining the degree of enjoyment that users have with the system, but only if the users' expectations of the system are too high. According to previous research findings, the system's performance significantly impacts the amount of satisfaction reported by users in this study. Users of the system must have faith in the system's long-term sustainability and the availability of prompt and trustworthy customer support in the case of a technical hiccup. This is because the technical sufficiency of an HIS is an important problem in the deployment of the new HIS (Karimi et al., 2015).

The End User Computing Satisfaction (EUCS) model are valid and reliable for determining end-user satisfaction with information technology systems. This is because current study findings show remarkable parallelism with those reported by Chatzoglu et al. and other investigations in the relevant literature. In terms of end-user satisfaction, a service-supported user resource was determined to be statistically significant (Özel Sebetci, 2018; Özel Sebetci & Çetin, 2016). Furthermore, the findings of the supplied model, which was equivalent to the model presented by Sebetci, demonstrated that the source of help did not significantly or directly affect the amount of enjoyment experienced by end-users (Özel Sebetci, 2018). Furthermore, because support sourcing is an integral part of the entire model, it may be utilized to characterize and quantify the variance in system quality related to end-user satisfaction. Furthermore, the system's quality is a critical component in affecting the amount of enjoyment experienced by end-users, as proved by many studies (Aggelidis & Chatzoglou, 2012).

Service quality takes into account the external and internal user help provided, as well as the supporting infrastructures that enable the successful implementation of the EMR (Tilahun & Fritz, 2015). A study conducted by Ojo (2017), Çelik & Ayaz (2021), Walle et al. (2023), and Dubale et al. (2023) showed that service quality was recognized as a factor influencing IS utilization and user happiness. System quality investigates if a system provides the user-required functionality to enable work tasks. According to studies, ease of use is the most common measure of system quality (Tilahun & Fritz, 2015). Several studies have identified system quality as the most critical factor in IS performance (Tilahun & Fritz, 2015; Walle et al., 2023).

According to the findings of the longitudinal study conducted by Hadji et al. (2016), The specific characteristics of end users substantially impact the various stages of clinical information system (CIS) implementation. Furthermore, a CIS quality test is the most effective approach for assessing the level of satisfaction felt by users (Hadji et al., 2016). Similar to the findings of Hadji et al. (2016) research, The current study revealed that there is a positive and somewhat significant relationship between the quality of a system and the level of overall satisfaction (Hadji et al., 2016). By this research, Hadji et al. (2016), conducted a study in 2014 that focused on late-deployment assessments of a CIS. The study's findings indicated that the three key criteria that impact the variation of continuing intention are the perceived utility of the CIS, the conformity of expectations, and global satisfaction (Hadji et al., 2016) addition, Hadji & Degoulet (2016) Research into the characteristics that affect contentment and intent to continue using a CIS at a very late post-adoption time indicated that the perceived usefulness of the CIS, the compliance with expectations, and the quality of the CIS were responsible for

explaining 84% of the satisfaction components (Hadji & Degoulet, 2016). Even though this study only examined the early phases of a new HIS deployment, the quality of the HIS is critical; support sourcing has an indirect rather than a direct influence on satisfaction, but it is still significant.

Our research emphasized the importance of system quality since there is a positive and significant relationship between it and its other parts, such as support sourcing, information quality, and overall pleasure. However, in contrast to previous studies on this topic, the current research was not effective in establishing that the quality of the information has a significant influence in determining both the level of pleasure experienced by the end-user and the quality of the information that is provided (Özel Sebetci, 2018). In contrast, current study discovered that technological compatibility influenced general satisfaction in areas where technology usage has increased. Technical concerns include software failures, current system interface problems, sluggish system performance, and hardware-related hurdles that will have a detrimental influence on users' stress levels and overall happiness (Aggelidis & Chatzoglou, 2012). According torecent study, end-user satisfaction has increased since HISs are interoperable with modern technology. This comprehensive evaluation emphasized the importance of technology compatibility for end-user enjoyment, which is consistent with the findings of thisstudy.

E. CONCLUSION

Given that our research has investigatedwhich variables, in addition to the core components outlined in the relevant literature, influence end-user satisfaction, it is critical to perform a study to determine the impact of the technical compatibility factor. It has been demonstrated that the factor has a minor impact on overall satisfaction. However, the major shortcoming of this study was that it was conducted on staff members from distinct locations and different hospitals. Future research should use a test-retest structure to improve the instrument's validity and collect more reliable data to assess its appropriateness in various situations. This research should also improve the suggested model and test its accuracy with bigger and more varied populations. The examples should comprise medical institutions, regional hospitals, and clinics spread around Semarang City, Central Java, Indonesia. While this is happening, more study should be done on the elements that influence user happiness to better understand the complex relationships between satisfaction and the many parts of the model.

In conclusion, the current study found that the newly suggested model is a viable and trustworthy instrument that may be repeated in studies conducted in other nations and Indonesia. The study's findings suggested that the End User Computing Satisfaction (EUCS) test may be extended to diverse situations and used as a credible measure of computer satisfaction in various cultural and linguistic backgrounds. However, it is crucial to analyze Indonesia's economic structure, HIS policies, the method by which they are executed, and the backdrop.

This study used questionnaires to uncover the factors influencing university hospitals' adoption of electronic health records. Additional research may be undertaken to see whether there are other potential causes. As a result, researchers may scale up the existing model, which can then be utilized to propose a plan for HIS adoption. Longitudinal research is necessary to gain a thorough knowledge of the dynamics that exist between the key variables of decision-making in the context of an HIS deployment. This is because the data collection method in this study was a one-time process.

However, the most notable limitation of this study was that it was conducted on staff in two hospitals in one city. Future studies should further develop the proposed model and verify the model’s accuracy with bigger samples, such as medical centers, regional hospitals, and clinics across Indonesia to consolidate the validation of the instrument through a test-retest format and to obtain more valid data for evaluating its applicability in other contexts. In

parallel, the determinants of user satisfaction should be further analyzed to better understand the complex relationshipbetween satisfaction and various dimensions of the model.

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Contributorship

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