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Analysis of the Implementation of Hospital Management Information System (HMIS) Using the Human Organization Technology and Net Benefit (HOT-Fit) Model in the Outpatient Service Unit of Teuku Umar Regional General Hospital

Rizky Putri Aushiva
Master of Public Health Program, Faculty of Medicine, Syiah Kuala University

Irwan Saputra
Master of Public Health Program, Faculty of Medicine, Syiah Kuala University

Said Usman
Master of Public Health Program, Faculty of Medicine, Syiah Kuala University

Mulkan Azhary
Master of Public Health Program, Faculty of Medicine, Syiah Kuala University

Martunis
Master of Public Health Program, Faculty of Medicine, Syiah Kuala University

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Abstract

Background: Hospitals are healthcare institutions with complex operational systems and diverse information outputs. Therefore, the implementation of Hospital Management Information Systems (HMIS) is essential as an information technology system that integrates all service and administrative processes to produce accurate information that supports decision-making. The Indonesian government mandates all hospitals to implement and develop HMIS. However, its implementation still faces various challenges, including at RSUD Teuku Umar. Since its implementation in the outpatient unit in January 2023, no in-depth analysis has been conducted regarding the obstacles encountered during the process.

Objective: This study aims to analyze the implementation of HMIS in the outpatient service unit of RSUD Teuku Umar using the Human Organization Technology Net Benefit (HOT-Fit) model.

Methods: This is a quantitative study with a cross-sectional design. Data were collected using questionnaires distributed to 58 respondents, consisting of management and staff directly involved in HMIS implementation in the outpatient unit. Data analysis was conducted using Structural Equation Modeling-Partial Least Square to examine the significant influence between variables in HMIS implementation.

Results: The findings show that system quality significantly affects user satisfaction, system use, organizational structure, and the benefits of HMIS. Information quality significantly affects both user satisfaction and HMIS benefits. Additionally, user satisfaction and organizational structure significantly influence HMIS benefits, with user satisfaction

being the most dominant factor (path coefficient = 0.728; T-statistic = 10.717; p-value = 0.000). System quality and information quality have an indirect effect on SIMRS benefits through user satisfaction.

Conclusion: The implementation of HMIS in the outpatient unit of RSUD Teuku Umar still requires improvement. Efforts for development should focus on enhancing system quality, information quality, and user satisfaction as key factors in increasing the effectiveness and benefits of HMIS.

Conclusion: Elevated levels of TNF-α have been implicated with the presence and histological advancement of CRC. With rising tumor dedifferentiation, TNF-α broadens, which could be associated with a rise in inflammatory and oncogenic signaling in the worst CRC phenotypes. Hence, TNF-α stands as a potential biomarker of tumor grade and therapeutic monitoring, highlighting its role in the pathogenesis of CRC.

Keywords: HMIS, HOT-Fit, system quality, information quality, user satisfaction, HMIS benefits

Introduction

Hospital health services have very complex characteristics because their operations involve many human resources, capital, technology, information, and scientific knowledge. As a complex organization, hospitals generate diverse data and information. This diversity requires hospitals to manage data properly to process and produce accurate information since the data and information generated serve as the foundation for making appropriate policy decisions to improve service quality. The data and information are then managed within a system known as the Hospital Management Information System (Molly & Itaar, 2021).

The Hospital Management Information System (HMIS) is an implementation of hospital information and communication technology designed to ensure that healthcare services across all hospital departments are well integrated, creating a network of coordination and administration that is fast, precise, and accurate (Wijoyo et al., 2023). According to the Regulation of the Minister of Health No. 82 of 2013, HMIS is defined as an information and communication technology system that processes and integrates all hospital service flows in the form of coordination, reporting, and administrative procedures to obtain accurate and precise information and is part of the Health Information System.

Hospitals in Indonesia are required to implement HMIS as stated in Law No. 17 of 2023, which mandates that all hospitals adopt an integrated information system connecting each hospital unit and linking it with the national health system to enhance service efficiency, support decision-making, and improve the quality of healthcare services.

The importance of Information Systems in hospitals is further regulated by the Minister of Health Regulation No. 82 of 2013 on Hospital Management Information Systems, which states that every hospital must record and report all activities and operations in the form of an HMIS. This regulation serves as a guideline for all hospitals to begin implementing HMIS. The goal of implementing HMIS is to improve efficiency, effectiveness, and professionalism in performance, as well as access and hospital services. The HMIS used in a hospital must facilitate operations and be capable of addressing service constraints faced by patients (Ariantoro, 2021).

According to existing regulations, the implementation of HMIS is a mandatory requirement for hospital service delivery to obtain accreditation and collaborate with the Social Security Agency (BPJS) for Health (Pharmaheru et al., 2023). Therefore, every hospital must manage and develop HMIS as stipulated in the Minister of Health Regulation No. 82 of 2013 on HMIS.

The success of HMIS implementation is influenced by three main factors: human, organizational, and technological. These three factors must work synergistically to achieve efficiency and effectiveness, thereby improving the quality and performance of HMIS. Thus, these three factors determine the success of HMIS implementation.

HMIS implementation is mandatory for all hospitals in Indonesia. However, data from the Indonesian Ministry of Health (Kemenkes) in 2022 shows that out of 2,595 hospitals, only 88% (2,291) had implemented HMIS, while 12% (304) had not. Among those that had implemented it, 24% (629) applied it only in the front office and 64% (1,662) only in the back office, indicating that HMIS implementation remains suboptimal.

Given the importance of HMIS in supporting hospital services, especially in disseminating medical data and assisting staff and management in decision-making, a reliable HMIS is required to manage information effectively. To ensure the success of HMIS in producing high-quality information, a thorough analysis of the information system is a crucial step (Ariantoro, 2021).

The suboptimal implementation of HMIS shows the importance of conducting an in-depth analysis of the factors influencing it. This analysis aims to assess the current implementation, evaluate the benefits obtained, and identify problems faced by users and the organization. The results of the analysis can serve as a basis for improving and refining HMIS so that its implementation can operate optimally, provide benefits, and support the overall enhancement of hospital service quality (Nurhayati et al., 2022).

One method used to assess the success of HMIS implementation is the Human-Organization-Technology and Net Benefit (HOT-Fit) model developed by Yusof in 2006. This model comprehensively monitors system usage by examining four important aspects of information systems: human, organization, technology, and net benefit, as well as the relationships among these components that determine success and how they influence net benefits in system implementation (Yusof et al., 2006).

The HOT-Fit model is used because it can comprehensively evaluate and integrate key aspects of HMIS. The human aspect evaluates system usage in terms of who uses it, training, experience, knowledge, and acceptance or rejection of the system. The organizational aspect assesses the system from the perspective of structure and environment, including planning, management, control, and managerial support. The technological aspect evaluates the quality of the system, information, and services (Yusof et al., 2006).

Teuku Umar Regional General Hospital (RSUD Teuku Umar) is a type-C hospital owned by the Aceh Jaya District Government in Aceh Province. It began implementing HMIS in January 2023 using a local vendor. The system is web-based and is currently applied only to outpatient services. The selection of outpatient services as the first stage of HMIS implementation was based on the high volume of visits and the complexity of the service process, which demand speed, accuracy, and precision of data to support patient care. The effectiveness and efficiency of outpatient services greatly influence the hospital's image and patient satisfaction. Therefore, the implementation of HMIS in the outpatient unit is crucial to support smooth operations and improve service quality at RSUD Teuku Umar.

The implementation of HMIS in the outpatient services of RSUD Teuku Umar has not yet been optimal. Initial observations reveal various challenges affecting the system's success, particularly in terms of system quality, which has not met good information system indicators. Some problems include the lack of essential features to support hospital operations, such as integration of treatment costs, real-time drug stock and inventory management, and the absence of data analysis and disease trend reporting features. Additionally, the system often experiences errors and has a user interface considered less user-friendly, making daily operations difficult. This condition leads to inefficient service processes, inaccurate information, and decreased user satisfaction. As a result, the main benefits and goals of HMIS implementation have not been fully achieved.

Since the HMIS was first implemented in January 2023, no comprehensive analysis has been conducted on its implementation in the outpatient unit of RSUD Teuku Umar. Therefore, an in-depth analysis is needed to identify the challenges encountered during the implementation process. The results of this analysis are expected to serve as a foundation for planning system improvements and future development to enhance HMIS effectiveness and support service quality improvement at RSUD Teuku Umar.

Based on this background, the author is interested in conducting a study entitled "Analysis of the Implementation of the Hospital Management Information System (HMIS) Using the Human-Organization-Technology Net Benefit (HOT-Fit) Model in the Outpatient Unit of RSUD Teuku Umar." This research aims to analyze the implementation of HMIS in generating information and to determine the effectiveness of its implementation in accordance with its objectives, considering the technological, human, and organizational factors that influence the success of HMIS implementation and serve as a basis for improving the quality and performance of HMIS in the outpatient services of RSUD Teuku Umar.

Materials and Method

This research is a quantitative study using a cross-sectional approach. Observations and data collection were conducted simultaneously at one point in time. The study aims to analyze the components that influence the success of the implementation of the Hospital Management Information System (HMIS) in the outpatient unit of RSUD Teuku Umar using the Human-Organization-Technology Net Benefit (HOT-Fit) model. The research was carried out at RSUD Teuku Umar, Aceh Jaya Regency, from March 27 to April 28, 2025.

The population in this study consists of all management and staff members of RSUD Teuku Umar who are directly involved in the implementation of HMIS in the outpatient service unit, totaling 58 people, comprising 12 management personnel and 45 service staff. The sampling in this study was conducted using a non-probability sampling method with a total sampling technique

Results

1. Respondent Characteristics

The data on respondent characteristics used in this study are primary data obtained directly from 58 employees of RSUD Teuku Umar who are directly involved in the implementation of the Hospital Management Information System (HMIS) in the outpatient service unit. Data collection in this study was conducted using a questionnaire distributed online through the Google Form platform.

Before discussing the results in more detail, the characteristics of the respondents will first be described. The characteristics examined in this study include age, gender, educational background, and length of employment. The data were analyzed using SPSS software version 26.0. The tabulated results of the respondents' characteristics can be seen in the table below.

Table 1 Frequency Distribution of Respondent Characteristics

Characteristics	Frequency *(f)*	Percentage (%)
Gender		
Man	17	29.3
Woman	41	70.7
Age		
21-30 Years	13	22.4
31-40 Years	24	41.4
41-50 Years	21	36.2
Education Level		
Diploma	15	25,9
S-1/ Equivalent	20	34,5
S-2	1	1,7
Profession	21	36,2
S3	1	1,7
Long Time Working		
0-5 Years	16	27,6
6-10 Years	15	25,9
>10 Years	27	46,6
Sum	58	100

Based on the results of the data analysis in Table 1, it can be seen that out of 58 respondents, the majority were female, totaling 41 people (70.7%), while the remaining 17 respondents (29.3%) were male. For the age group, most respondents were aged between 31–40 years, totaling 24 people (41.4%). The smallest age group was 21–30 years, with 13 respondents (22.4%). In terms of education level, the majority of respondents held professional degrees such as doctors, pharmacists, or nurses, totaling 21 people (36.2%), followed by those with a bachelor's degree (S1) at 20 respondents (34.5%). The lowest education level was the doctoral degree (S3), with only 1 respondent (1.7%). Regarding the length of employment, most respondents had worked at RSUD Teuku Umar for more than 10 years, totaling 27 people (46.6%).

2. Frequency Distribution of Respondents' Perceptions Toward HMIS

The frequency distribution aims to identify and describe respondents' assessments of each research variable. The researcher analyzed the questionnaire responses from 58 respondents, consisting of 59 questions related to the implementation of the Hospital Management Information System (HMIS) based on the HOT-Fit model. All data were processed using SPSS software version 26.0, and each variable was categorized as either "good" or "less good." A variable was categorized as "less good" if its score was below the median value and as "good" if its score was equal to or above the median value. The results of the variable categorization can be seen in the following table.

Table 2 Frequency Distribution of Respondents' Perception of SIMRS Implementation Analysis with HOT-FIT Method

Variabel	**Frequency**	**Percentage (%)**
System Quality		
Good Luck	28	48,3
Good	30	51,7
Quality of Information		
Good Luck	29	50
Good	29	50
Quality of Service		
Good Luck	29	50
Good	29	50
User satisfaction		
Good Luck	26	44,8
Good	32	55,4
System Usage		
Good Luck	29	50
Good	29	50
Organizational Structure		
Good Luck	26	44,8
Good	32	55,2
Benefits of SIMRS		
Kuirang is good	9	15,5

Good	49	84,5
Total	**58**	**100**

Table 2 above explains the frequency distribution of the perceptions of 58 respondents toward various variables related to the implementation of the Hospital Management Information System (HMIS) based on the HOT-Fit model at RSUD Teuku Umar. The assessed variables include system quality, information quality, service quality, user satisfaction, system use, organizational structure, and the benefits of HMIS.

The majority of respondents assessed that the HMIS is already good and provides benefits; however, in the aspects of information quality, service quality, and system use, there were still evenly divided assessments between "good" and "less good." According to the researcher, this finding indicates that the HMIS application has not yet fully met all user expectations and that there are still limitations in the provider team's understanding of user needs. Therefore, improvements are needed so that the implementation of HMIS in the outpatient unit of RSUD Teuku Umar can run more optimally and be evenly accepted. The explanations for each of the measured variables are as follows:

1) **System Quality**

Based on Table 2, it is known that respondents' assessments of system quality in the implementation of HMIS in the outpatient unit of RSUD Teuku Umar show nearly balanced results. A total of 28 respondents (48.3%) rated the system quality as poor, while 30 respondents (51.7%) rated it as good. The assessment of system quality was based on several indicators, including ease of use, ease of learning, response time, feature availability, data processing speed, completeness, flexibility, and access security. This variation in assessment is influenced by differences in user experience, adaptability to the system, and technical issues encountered.

Respondents who rated the system quality as poor generally experienced issues such as slow system response time and inconsistent data processing. These factors are often influenced by infrastructure limitations, such as unstable internet connections. Good system quality, which includes ease of use, response speed, flexibility, and security, strongly influences users' perceptions of system quality. In addition, human resource training, management support, and continuous system maintenance also play a crucial role in determining system quality (Ismatuillah, 2023). Research conducted by Prapti Wujiani et al. (2025) adds that technical problems such as slow systems or incomplete features also contribute to lower system quality ratings.

These results indicate that although most respondents are satisfied with the current system quality, nearly half of them still believe that the system has not reached its optimal potential. Therefore, continuous improvements in reliability, user-friendliness, infrastructure, human resource readiness, data security, and completeness of features that align with user needs are essential. Enhancing HMIS system quality is expected to comprehensively meet user needs while supporting the successful implementation of HMIS in the hospital.

2) **Information Quality**

Based on Table 2, respondents' perceptions of information quality in the implementation of HMIS in the outpatient unit of RSUD Teuku Umar show balanced results. A total of 29 respondents (50%) rated information quality as poor, while the other 29 respondents (50%) rated it as good. This balanced outcome indicates that half of the users feel the information produced by HMIS meets their needs, while the other half still perceive shortcomings. These differences arise from variations in experience, understanding, and frequency of system use among respondents.

The assessment of information quality in this study includes several aspects, such as completeness, accuracy, readability, timeliness, relevance, and consistency of information. The less favorable perceptions occur because of deficiencies in some of these indicators, such as incomplete data and less intuitive display formats. In addition, these results are influenced by technical factors such as limited HMIS features and human factors such as insufficient training or system usage socialization.

Research by Ismatuillah (2023) also explains that organizational support and work culture influence users' perceptions of information quality.

These findings indicate diverse perceptions regarding the quality of information produced by HMIS in the outpatient unit of RSUD Teuku Umar. Therefore, evaluations and improvements are needed in technological aspects, user training, and organizational support so that all indicators of HMIS information quality can function optimally and be equally experienced by all users.

3) **Service Quality**

Based on Table 2, respondents' perceptions of service quality in the implementation of HMIS in the outpatient unit of RSUD Teuku Umar were equally divided, with 29 respondents (50%) rating it as poor and 29 respondents (50%) rating it as good. This result shows differences in user experiences when receiving services from the HMIS provider team. The assessment of service quality in this study includes indicators such as responsiveness, assurance, empathy, and technical support from the system provider.

Some respondents assessed the service quality as good, while others felt it was not yet optimal. This indicates that the services provided by the HMIS provider team in the outpatient unit of RSUD Teuku Umar have not fully met all user expectations. Some common issues encountered include slow responses to problems, lack of technical assistance, and limited support during system use. Research conducted by Sari et al. (2023) explains that the evaluation of service quality is strongly influenced by the responsiveness of the vendor or hospital IT team in addressing issues, while limited IT or vendor personnel also contribute to lower service quality ratings.

Improving the service quality provided by the HMIS provider is necessary, such as increasing response speed to technical issues and providing adequate training for the support or IT team to ensure that all users can experience consistent and satisfactory service quality.

4) **User Satisfaction**

Based on Table 2, user satisfaction with the implementation of HMIS in the outpatient unit of RSUD Teuku Umar shows that the majority of respondents felt satisfied. Out of 58 respondents, 32 respondents (55.4%) stated they were satisfied, while 26 respondents (44.8%) stated they were less satisfied with the use of HMIS. The assessment of user satisfaction was based on several indicators, including completeness, accuracy, format (system interface), ease of use, and system speed. These findings show that user satisfaction toward HMIS at RSUD Teuku Umar tends to be positive, although some respondents remain less satisfied. This is due to several factors, such as the system not being fully integrated and incomplete data, which can reduce satisfaction for some users. According to Ismatuillah (2023), user satisfaction with HMIS is greatly influenced by completeness, accuracy, ease of use, and system interface. Users feel satisfied when the system provides complete, accurate, easy-to-use, and clearly presented information. Overall, most HMIS users in the outpatient service unit of RSUD Teuku Umar are satisfied. However, system balancing and refinement are still needed to ensure that the user experience can be more optimal and consistent across all service lines.

5) **System Use**

Based on Table 2, respondents' assessments of HMIS use in the outpatient unit of RSUD Teuku Umar were equally divided, with 29 respondents (50%) rating it as good and 29 respondents (50%) rating it as poor. This assessment was based on two indicators: ease of use and the system's ability to meet user needs. This indicates that half of the respondents consider system usage to be effective. However, some respondents felt that the available features did not fully meet the needs of their units or work processes, making the system less optimal in supporting daily tasks.

Research by H. Febrita et al. (2021) explains that ease of use is a key factor in the acceptance and optimization of HMIS usage. The divided perceptions of HMIS usage at RSUD Teuku Umar result from variations in ease of use and the system's ability to meet user needs. Ease of use and system alignment with work requirements are crucial in determining the level of acceptance of HMIS implementation in hospitals.

6) **Organizational Structure**

The organizational structure variable was assessed through indicators such as application maintenance, management commitment, and team work procedures. According to Table 2, 55.2% of respondents rated the organizational structure at RSUD Teuku Umar as good in supporting HMIS implementation, while 44.8% rated it as poor. This indicates that the organizational structure is already fairly supportive but still requires further strengthening and improvement.

7) **Benefits of HMIS**

Based on Table 2, respondents' assessments of the HMIS benefit variable show that the majority of respondents, totaling 49 people (84.5%), rated it as good, while 9 respondents (15.5%) rated it as poor. This percentage is much higher than that of other variables such as system quality, information quality, service quality, and system use, which tended to be evenly divided between good and poor assessments. The benefit assessment was based on indicators of system effectiveness and time efficiency.

From these results, it can be concluded that most HMIS users in the outpatient unit of RSUD Teuku Umar experience tangible benefits from the implementation of HMIS, particularly in supporting work effectiveness and time efficiency. HMIS is considered capable of accelerating administrative processes, facilitating access to patient data, minimizing data entry errors, and improving coordination between hospital units. Processes such as registration, data retrieval, report generation, and patient medical record tracking can now be performed more quickly and accurately thanks to HMIS.

The high assessment of HMIS benefits compared to other variables is due to the direct and tangible impact it has on improving work effectiveness and time efficiency in outpatient services. Although some shortcomings remain in other aspects, as long as HMIS can streamline work processes, reduce administrative burdens, and facilitate information access, users will continue to rate its benefits highly. This finding aligns with research by Ismatuillah (2023), which explains that effectiveness and efficiency are the main outcomes of optimal HMIS implementation in hospital environments. Overall, these results indicate that HMIS has made a significant contribution that is directly felt by its users.

3. Results of Partial Least Square Structural Equation Modeling (PLS-SEM)

This study used PLS-SEM to analyze complex relationships among multiple variables, including both directly measurable (observed) variables and latent variables that cannot be measured directly. The analysis was conducted in two main stages.

1) **Measurement Model Evaluation (Outer Model)**

Evaluating the outer model in Partial Least Square Structural Equation Modeling (PLS-SEM) means conducting an assessment of the outer model. The purpose of evaluating the outer model is to ensure that the research instruments (indicators) used are truly valid and reliable in measuring the latent constructs being studied, before proceeding to the stage of analyzing relationships between constructs (inner model) (Hamid & Anwar, 2019).

Outer model evaluation is carried out through several main steps, namely convergent validity and discriminant validity to assess construct validity. Meanwhile, construct reliability can be assessed using construct reliability and validity (Hamid & Anwar, 2019). The figure below shows the outer model used in this study:

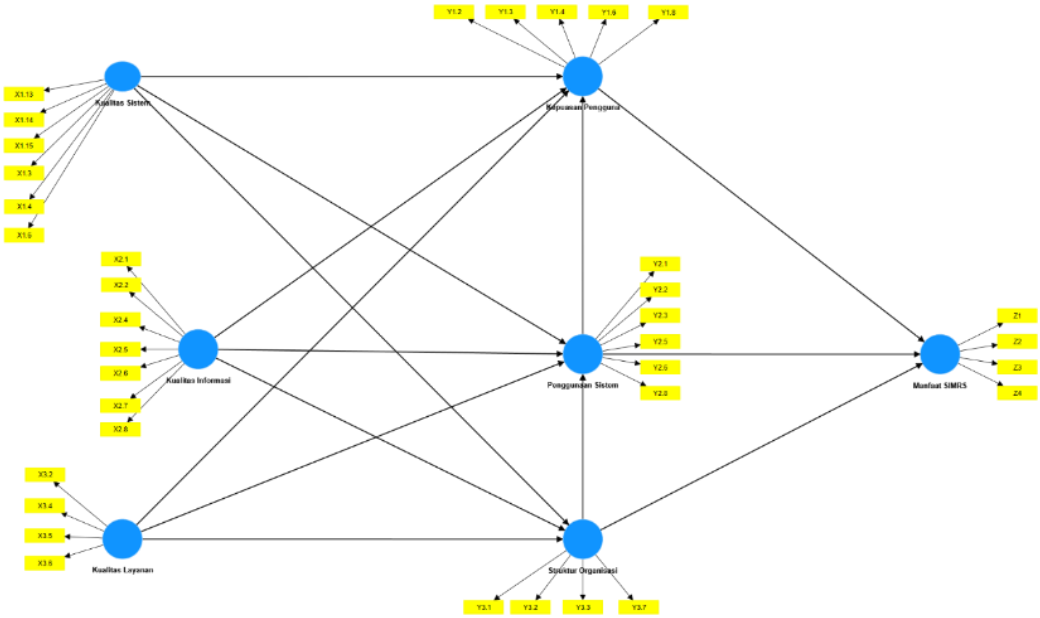

Figure 1. Outer Model According to the Theoretical Framework Before Validity and Reliability Testing

a. **Convergent Validity**

Convergent validity is used to determine the extent to which indicators of the same construct are highly correlated with each other. The criteria used to assess convergent validity are a loading factor value greater than 0.7 as the minimum threshold, and an Average Variance Extracted (AVE) value greater than 0.5 for each indicator of every construct. Indicators that do not meet these requirements (either the loading factor or AVE) must be eliminated from the model to ensure the accuracy of the analysis. The results of the convergent validity test for each indicator can be seen in Table 3 below:

Table 3 *Convergent Validity Test* (Outer *Loading* and *AVE Values*)

No	Question	Variabel	*Loading Factor*	*Average Variance Extracted (AVE)*
1	X1.3		0,902	
2	X1.4		0,852	
3	X1.6	System Quality	0,826	0,715
4	X1.13	(X1)	0,762	
5	X1.14		0,871	
6	X1.15		0,855	
7	X2.1		0,724	
8	X2.2		0,875	
9	X2.4		0,805	
10	X2.5	Quality of Information	0,823	0,685
11	X2.6	(X2)	0,763	
12	X2.7		0,934	
13	X2.8		0,851	
14	X3.2		0,867	
15	X3.4	Quality of Service	0,859	0,737

16	X3.5	(X3)	0,807	
17	X3.6		0,899	
18	Y1.2		0,824	
19	Y1.3		0,888	
20	Y1.4	User Satisfaction	0,855	0,758
21	Y1.6	(Y1)	0,901	
22	Y1.8		0,885	
23	Y2.1		0,835	
24	Y2.2		0,909	
25	Y2.3	System Usage	0,915	0,746
26	Y2.5	(Y2)	0,877	
27	Y2.6		0,884	
28	Y2.8		0,751	
29	Y3.1		0,822	
30	Y3.2		0,924	
31	Y3.3	Organizational Structure	0,828	0,724
32	Y3.7	(Y3)	0,825	
33	Z1		0,899	
34	Z2	Benefits of SIMRS	0,918	0,837
35	Z3	(Z)	0,940	
36	Z4		0,903	

Based on the table above, all constructs in this model have met the requirements for convergent validity or can be considered valid, as the loading factor values are greater than 0.7 and the AVE values are greater than 0.5. There are no indicators that need to be eliminated because all of them meet the established validity criteria. This indicates that the indicators or questions used in this study effectively reflect the correlation between the indicator/question scores and the corresponding constructs or variables. Therefore, all indicators can be used for further analysis in the SEM-PLS model.

b. Discriminant Validity

Discriminant validity is a statistical test in Structural Equation Modeling (SEM) used to ensure that the constructs or variables in the measurement model truly measure different concepts and do not overlap with one another. In other words, discriminant validity assesses the extent to which different constructs in the measurement model can be distinguished from each other.

There are three main methods for assessing discriminant validity in SEM-PLS: the Fornell-Larcker Criterion, the Heterotrait-Monotrait Ratio (HTMT), and Cross-Loading. In this study, discriminant validity was evaluated using the cross-loading values (Hair et al., 2021).

The criterion for cross-loading is that the loading factor value of an indicator on its intended construct must be higher than its loading values on other constructs, as the indicator should logically have a stronger relationship with its own variable (Hamid & Anwar, 2019). The results of the discriminant validity

test using cross-loading values can be found in Appendix 13 and are presented in the table below:

Tabel 4 Uji *Discriminant Validity - Cross Loading*

Variabel						
System Quality	**Quality of Information**	**Quality of Service**	**User Satisfaction**	**System Usage**	**Organizational Structure**	**Benefit**
X1.3: 0,902	X2.1: 0,724	X3.2: 0,867	Y1.2: 0.824	Y2.1: 0.835	Y3.1: 0.822	Z1: 0.899
X1.4: 0,852	X2.2: 0,875	X3.4: 0,859	Y1.3: 0.888	Y2.2: 0.909	Y3.2: 0.924	Z2: 0.918
X1.6: 0,826	X2.4: 0,805	X3.5: 0,807	Y1.4: 0.855	Y2.3: 0.915	Y3.3: 0.828	Z3: 0.940
X1.13: 0,762	X2.5: 0,823	X3.6: 0,899	Y1.6: 0.901	Y2.5: 0.877	Y3.7: 0.825	Z4: 0.903
X1.14: 0,871	X2.6: 0,763		Y1.8: 0.885	Y2.6: 0.884		
X1.15: 0,855	X2.7: 0.934			Y2.8: 0.751		
	X2.8: 0,851					

SBased on the discriminant validity test table using the cross-loading method, it can be concluded that each indicator has the highest loading value on its original construct compared to other constructs. This indicates that each indicator truly measures the intended construct specifically and does not overlap with other constructs. Therefore, it can be concluded that all indicators in the variables have good discriminant validity values and can be considered valid.

c. Construct Reliability

In addition to conducting validity tests, PLS-SEM must also perform construct reliability testing, as it is crucial to demonstrate the quality of the measurement model before conducting structural relationship analysis (the outer model). The purpose of the reliability test is to prove the accuracy, consistency, and stability of the instrument in measuring a construct (Hamid & Anwar, 2019).

Construct reliability can be analyzed using Cronbach's alpha and Composite Reliability (CR) values. The rule for evaluating construct reliability is that the Cronbach's alpha (α) value for each construct/variable should be greater than or equal to 0.60 ($\alpha \geq 0.6$), and the Composite Reliability (CR) value should be greater than or equal to 0.70 ($CR \geq 0.70$). If these criteria are met, the construct is considered reliable and meets the standard requirements for research (Hair et al., 2021). The following table presents the results of the construct reliability test in this study:

Table 5 Construct *reliability test*

Variabeil	*Cronbach's Alpha*	*Compositei Reiliability (CR)*
System Quality	0,920	0,938
Quality of Information	0,922	0,938
Quality of Service	0,881	0,918
User Satisfaction	0,920	0,940
System Usage	0,931	0,946
Benefits of SIMRS	0,935	0,954

Based on the construct reliability table above, all research variables have very high Cronbach's alpha and Composite Reliability values, all of which are above 0.88. These values indicate that all constructs in this study have high reliability. The Cronbach's alpha values exceed 0.6, and the Composite Reliability values are greater than 0.7 — both well above the recommended minimum thresholds. Therefore, it can be concluded that each indicator in every construct demonstrates consistency and reliability in measuring the intended variables. With these results, all constructs are deemed to meet the requirements for use in the subsequent stages of analysis.

2) Assessing the Inner Model (Structural Model Evaluation)

The second stage in evaluating PLS-SEM is the assessment of the structural model (Inner Model). This test is conducted to describe the relationships among latent variables in the research model in order to determine the strength and significance of these relationships. The criteria for evaluating the inner model are based on two main indicators: the R-squared (R^2) value and the significance value (hypothesis testing) (Ghozali, 2016).

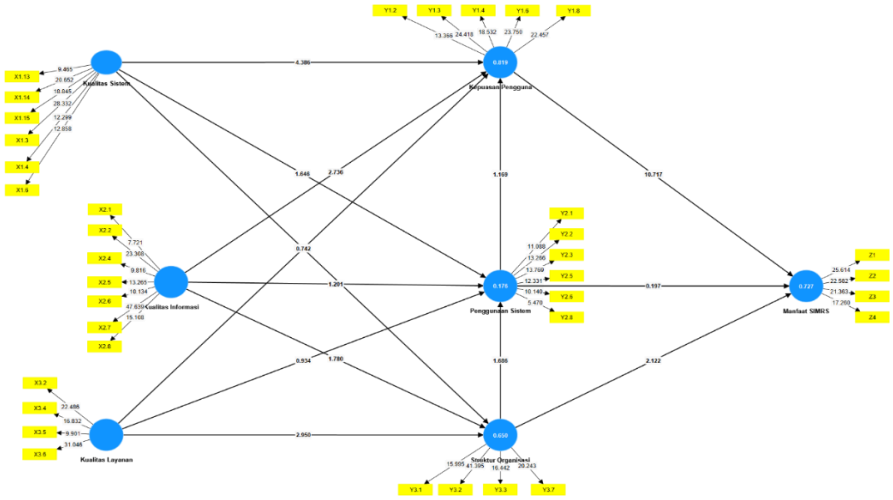

Figure 2 *Inner Model*

a. R-Square (R^2)

R-Square (coefficient of determination) is a key indicator in statistical analysis used to assess the extent to which independent (exogenous) variables influence dependent (endogenous) variables in a research model. The R-Square value indicates the overall predictive power of the model. It ranges from 0 to 1; the closer the value is to 1, the greater the proportion of the dependent variable that can be explained by the independent variables, thus indicating a better model (Hamid & Anwar, 2019).

The R-Square value can be categorized into several levels: a model is considered **very strong** if $R^2 \geq 0.75$, **moderate** if the value is between 0.50 and less than 0.75, and **weak** if it ranges from 0.25 to less than 0.50. Meanwhile, if the R-Square value is below 0.25, the model is considered **very weak.** The R-Square value serves as an important indicator in evaluating the strength and feasibility of the research model used (Hamid & Anwar, 2019). The following table presents the R-Square values obtained in this analysis:

Table 6 *R-Square Test Results (R2)*

NO	Variabel	*R-Square (R2)*
1	User Satisfaction	0,819
2	System Usage	0,176
3	Organizational Structure	0,650
4	Benefits of SIMRS	0,727

Based on the R-Square (R^2) test results table above, it can be explained that the user satisfaction variable has the highest R-Square value of 0.819, indicating that the variables of system quality, information quality, service quality, and system use together influence the user satisfaction variable by 81.9%, while the remaining 18.1% is influenced by other factors outside the research model. This finding indicates that the model has a very strong influence on this relationship.

The system use variable has the lowest R-Square value of 0.176. This means that the variables of system quality, information quality, service quality, and organizational structure influence the system use variable by 17.6%, while the remaining 82.4% is affected by other factors outside the research model. This indicates that the model has a weak influence on this relationship.

Meanwhile, the organizational structure variable has an R-Square value of 0.650, showing that the variables of system quality, information quality, and service quality influence the organizational structure variable by 65%, while the remaining 35% is influenced by other external factors. This suggests that the model has a moderate influence on this relationship.

The SIMRS benefit variable has an R-Square value of 0.727, indicating that user satisfaction, system use, and organizational structure variables influence the SIMRS benefit variable by 72.7%, while the remaining 27.3% is affected by other factors outside the research model. Thus, the model also has a moderate level of influence in this relationship.

Overall, these results show that the research model is very good at explaining the variations in the user satisfaction and SIMRS benefit variables, fairly good at explaining the organizational structure variable, but quite weak in explaining the system use variable.

4. Hypothesis Testing

In PLS-SEM analysis, hypothesis testing is conducted to determine whether the relationships or effects between variables in the model are significant or not. This process generally uses the bootstrapping method, where the data are resampled to calculate the path coefficient and its standard error. The results are reported in the form of t-statistic and p-value, which serve as the basis for decision-making. The significance thresholds (two-tailed) are t-value 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.58 (significance level = 1%). The relationship between variables is considered statistically significant if the p-value is below 0.05 or the t-statistic exceeds the critical value (Hamid & Anwar, 2019).

A significant path coefficient indicates that the relationship between independent and dependent latent variables has strong statistical support, meaning that the proposed hypothesis can be accepted (Hamid & Anwar, 2019). A direct effect represents a causal relationship that occurs directly between an independent latent variable and a dependent latent variable without involving a mediating variable. In this study, the direct relationship is analyzed through regression paths in the structural model (inner model), which represent the relationships between latent constructs based on theory or research hypotheses.

The interpretation of direct relationships not only considers the magnitude of the coefficient but also the direction of the relationship (positive or negative) and its significance value. If the direct relationship is significant, it can be concluded that the independent variable has a real contribution to the dependent variable directly, without being influenced by any mediating variables (Hamid & Anwar, 2019).

Table 7 Hypothesis test value of Path Coefficient Boostrapping *Total Effect results*

Path Coefficients	*Effect*	*Original sample (O)*	*Sample mean (M)*	*Standard deviation*	*T- statistics*	*P – Values*
Quality of User Satisfaction System		0.561	0.554	0.120	**4.678**	**0.000**
System Quality System Use		0.556	0.573	0.255	**2.183**	**0.029**
Quality Organizational		0.308	0.308	0.116	**2.650**	**0.008**

Structure System						
Quality of SIMRS Benefits System	*Indireict*	0.446	0.470	0.106	**4.384**	**0.000**
Quality of User Satisfaction Information		0.327	0.333	0.127	**2.573**	**0.010**
Quality of Information About Peingguinaan Sisteim		-0.224	-0.260	0.286	0.784	0.433
Quality of Information Built by Organizations		0.268	0.263	0.151	1.780	0.075
Quality of Information Benefits of SIMRS	*Indireict*	0.279	0.276	0.098	**2.840**	**0.005**
Quality of Peingguina Nursing Services		0.065	0.065	0.091	0.710	0.478
Quality of Service Delivery System		-0.044	-0.031	0.163	0.267	0.790
Service Quality Organizational Structure		0.323	0.335	0.109	**2.950**	**0.003**
Quality of SIMRS Benefits Services	*Indireict*	0.100	0.104	0.071	1.414	0.158
User Satisfaction Benefits of SIMRS		0.728	0.729	0.068	**10.717**	**0.000**
Peingguinaan Keipuiasan Peingguina		0.070	0.064	0.060	1.169	0.242
The Benefits of the SIMRS System		0.063	0.059	0.063	0.994	0.320
Struiktuir Organisasi Keipuiasan Peingguina	*Indireict*	0.025	0.024	0.029	0.866	0.386
Structuring of the Organizational Structure		0.361	0.372	0.214	1.686	0.092
Organizational Structure Benefits of SIMRS		0.187	0.186	0.074	**2.521**	**0.012**

1) Variables with No Significant Effect in SIMRS Implementation Analysis

The results of the PLS-SEM hypothesis testing using the bootstrapping method indicate the presence of variables that do not have a significant effect on SIMRS implementation. This interpretation is based on the path coefficient, t-statistic, and p-value. The variables are as follows:

a. Effect of Information Quality on System Usage

The hypothesis test using the direct path shows that information quality does not have a significant effect on SIMRS usage, with a path coefficient of 0.224, t-statistic 0.784 (t < 1.96), and p-value 0.433 (p > 0.05). This indicates that increases or decreases in information quality do not significantly affect SIMRS usage.

b. Effect of Information Quality on Organizational Structure

The hypothesis test using the direct path shows that information quality does not have a significant effect on organizational structure in SIMRS implementation, with a path coefficient of 0.268, t-statistic 1.780 (t < 1.96), and p-value 0.075 (p > 0.05). This indicates that changes in information quality do not significantly affect the hospital's organizational structure.

c. Effect of Service Quality on User Satisfaction

The hypothesis test using the direct path shows that service quality does not have a significant effect on user satisfaction in SIMRS implementation, with a path coefficient of 0.065, t-statistic 0.710 (t < 1.96), and p-value 0.478 (p > 0.05). This indicates that changes in service quality do not significantly affect user satisfaction.

d. Effect of Service Quality on System Usage

The hypothesis test using the direct path shows that service quality does not have a significant effect on SIMRS usage, with a path coefficient of -0.044, t-statistic 0.267 (t < 1.96), and p-value 0.790 (p > 0.05). This indicates that changes in service quality do not meaningfully affect SIMRS usage.

e. Effect of Service Quality on SIMRS Benefits

The hypothesis test using the indirect path shows that service quality does not have a significant effect on SIMRS benefits, with a path coefficient of 0.100, t-statistic 1.414 (t < 1.96), and p-value 0.158 (p > 0.05). This indicates that changes in service quality do not significantly impact SIMRS benefits through indirect paths.

f. Effect of System Usage on User Satisfaction

The hypothesis test using the direct path shows that system usage does not have a significant effect on user satisfaction, with a path coefficient of 0.070, t-statistic 1.169 (t < 1.96), and p-value 0.242 (p > 0.05). This indicates that the level of SIMRS usage does not significantly affect user satisfaction.

g. Effect of System Usage on SIMRS Benefits

The hypothesis test using the direct path shows that system usage does not have a significant effect on SIMRS benefits, with a path coefficient of 0.063, t-statistic 0.994 (t < 1.96), and p-value 0.320 (p > 0.05). This indicates that system usage does not significantly affect the benefits obtained from SIMRS implementation.

h. Effect of Organizational Structure on User Satisfaction

The hypothesis test using the indirect path shows that organizational structure does not have a significant effect on user satisfaction, with a path coefficient of 0.025, t-statistic 0.866 (t < 1.96), and p-value 0.386 (p > 0.05). This indicates that changes in organizational structure do not significantly affect user satisfaction.

i. Effect of Organizational Structure on System Usage

The hypothesis test using the direct path shows that organizational structure does not have a significant effect on SIMRS usage, with a path coefficient of 0.361, t-statistic 1.686 (t < 1.96), and p-value 0.092 (p > 0.05). This indicates that organizational structure does not significantly influence system usage in SIMRS implementation.

2) Variables with Significant Effects in SIMRS Implementation Analysis

Based on the statistical analysis using SmartPLS, several variables have a significant effect on the constructs studied. The interpretation of these effects is based on the path coefficient, t-statistic, and p-value. The results are summarized as follows:

a. Effect of System Quality on User Satisfaction

The direct path analysis shows that system quality has a positive and significant effect on user satisfaction in SIMRS implementation, with a path coefficient of 0.561, t-statistic 4.678 (>1.96), and p-

value 0.000 (<0.05). This indicates that the better the system quality, the higher the user satisfaction.

b. Effect of System Quality on System Usage

System quality has a positive and significant effect on SIMRS usage, with a path coefficient of 0.556, t-statistic 2.183 (>1.96), and p-value 0.029 (<0.05). This indicates that higher perceived system quality leads to increased system usage.

c. Effect of System Quality on Organizational Structure

System quality has a positive and significant effect on organizational structure, with a path coefficient of 0.308, t-statistic 2.650 (>1.96), and p-value 0.008 (<0.05). Improved system quality strengthens the hospital's organizational structure, enhancing coordination, communication, and work effectiveness.

d. Effect of System Quality on SIMRS Benefits

System quality has a positive and significant indirect effect on SIMRS benefits, with a path coefficient of 0.466, t-statistic 4.384 (>1.96), and p-value 0.000 (<0.05). This indicates that better system quality indirectly increases the benefits of SIMRS for hospitals, improving efficiency, effectiveness, and service quality.

e. Effect of Information Quality on User Satisfaction

Information quality has a positive and significant effect on user satisfaction, with a path coefficient of 0.327, t-statistic 2.573 (>1.96), and p-value 0.010 (<0.05). This means that higher information quality leads to greater user satisfaction.

f. Effect of Information Quality on SIMRS Benefits

Information quality has a positive and significant effect on SIMRS benefits, with a path coefficient of 0.279, t-statistic 2.840 (>1.96), and p-value 0.005 (<0.05). Higher information quality results in greater perceived benefits in terms of efficiency, effectiveness, and service quality.

g. Effect of Service Quality on Organizational Structure

Service quality has a positive and significant effect on organizational structure, with a path coefficient of 0.323, t-statistic 2.950 (>1.96), and p-value 0.003 (<0.05). Better service quality strengthens the hospital's organizational structure.

h. Effect of User Satisfaction on SIMRS Benefits

User satisfaction has a positive and significant effect on SIMRS benefits, with a path coefficient of 0.728, t-statistic 10.717 (>1.96), and p-value 0.000 (<0.05). Higher user satisfaction results in greater benefits from SIMRS implementation. This relationship is the most dominant and statistically significant in the study.

i. Effect of Organizational Structure on SIMRS Benefits

Organizational structure has a positive and significant effect on SIMRS benefits, with a path coefficient of 0.187, t-statistic 2.521 (>1.96), and p-value 0.012 (<0.05). A well-managed and strong organizational structure contributes to increased benefits from SIMRS.

j. Dominant Factor Influencing SIMRS Implementation

User satisfaction is identified as the most dominant factor influencing the benefits of SIMRS implementation, with the highest path coefficient of 0.728, t-statistic 10.717, and p-value 0.000. This indicates that improving user satisfaction—through technical quality, information quality, service quality, and organizational support—should be the main focus in enhancing SIMRS in the outpatient unit of RSUDTU.

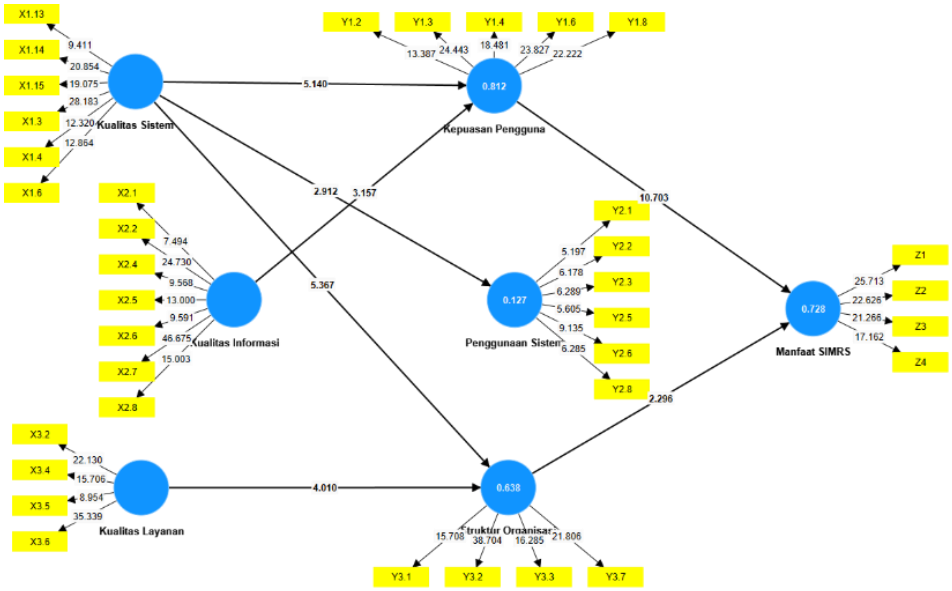

Figure 3 ***Inner Latest Model***

This study successfully identified a new model that is simpler yet stronger, after going through a process of eliminating variables that were not significant. This new model shows several advantages compared to the previous model, both theoretically and empirically.

First, in terms of simplicity, this new model is more concise because it only retains variables that have been proven to have significant effects, resulting in a more compact structure without reducing its explanatory power.

Second, this new model has stronger empirical validity, as evidenced by the very significant T-statistic and P-value for certain variables. These findings indicate that these variables are not only statistically significant but also have a considerable effect on the dependent variable, thereby strengthening the model's predictive power in explaining the factors that influence the implementation of the Hospital Information System (SIMRS).

This new model successfully re-specifies the HOT-Fit model, where system quality and information quality influence user satisfaction. Furthermore, user satisfaction has also been proven to be the most influential factor on the benefits of SIMRS, as well as the mediating variables that show significant and accepted effects. This new model emphasizes that the HOT-Fit theory can serve as a theoretical foundation for the implementation of SIMRS, thereby improving hospital service delivery.

Discussion

Significant Variable :

The Influence of System Quality on User Satisfaction

The analysis results indicate that system quality has a positive and significant effect on user satisfaction in the implementation of SIMRS. The obtained path coefficient value is 0.561, with a T-statistic of 4.678 (greater than 1.96) and a P-value of 0.000 (less than 0.05), indicating that the effect of system quality on user satisfaction is statistically significant. This means that the better the quality of the SIMRS, the higher the satisfaction experienced by the users.

Support for these findings is also reflected in the perception of the majority of respondents, where 51.7% assessed the quality of the SIMRS in the outpatient unit of RSUDTU as good. This indicates that most users are satisfied with the current system. These findings suggest that SIMRS is able to meet user expectations, particularly in terms of ease of use, response speed, rapid data processing, flexibility, and access security. This contributes to increasing user satisfaction with SIMRS in the outpatient unit of RSUDTU.

These findings are consistent with the research of Sari et al. (2023), which shows that system quality has a positive effect on user satisfaction. Indicators such as ease of use, response speed, and system security have been proven to enhance SIMRS user satisfaction. Similarly, the study conducted by Leistari (2020) stated that system quality is a key factor influencing user satisfaction with SIMRS,

where a user-friendly, fast, and secure system significantly determines the satisfaction level of staff and medical personnel.

These results are also in line with the HOT-Fit theory developed by Yusof et al. (2006), which emphasizes that system quality is one of the main dimensions affecting user satisfaction and the overall success of information systems. System quality includes ease of use, reliability, response speed, security, and flexibility. When a system is easy to use, stable, and reliable, users will feel more satisfied because the system supports their work effectively and efficiently (Tawar et al., 2022).

Based on these findings, it can be assumed that the SIMRS system quality implemented in the outpatient unit of RSUDTU has met the needs and expectations of users, in terms of ease of use, response speed, reliability, and system security. A user-friendly system that is well-integrated across outpatient service units helps medical staff and administrative personnel perform their daily tasks efficiently.

However, 48.3% of respondents still consider the system quality to be less than satisfactory. Therefore, it can be assumed that there is still a need for improvement or enhancement of SIMRS system quality in the future. This indicates that although the system quality has met the expectations of most users, periodic evaluation and refinement are still necessary to increase overall user satisfaction and support more optimal service delivery in the outpatient unit.

The Influence of System Quality on System Usage This study indicates that system quality has a positive and significant effect on the use of SIMRS in the outpatient unit of RSUDTU, with a path coefficient of 0.556, a T-statistic of 2.183 (T-statistic > 1.96), and a P-value of 0.029 (P-value < 0.05). This means that the better the perceived system quality by users—for instance, a system that is easy to access, fast, stable, and user-friendly—the higher the level of SIMRS usage in outpatient services. This finding is reinforced by descriptive analysis data, which shows that approximately 51.7% of respondents rated the quality of the SIMRS system as good. Thus, most users feel satisfied and are motivated to use SIMRS more actively to support outpatient service processes at RSUDTU.

These results are consistent with studies conducted at RSUD Natuina and RSUD Kota Palopo, which also showed that system quality positively and significantly affects SIMRS usage (Annuir, 2024; Sari et al., 2023). Research conducted by Norzi et al. (2023) also demonstrated a significant effect of system quality on SIMRS usage, with a P-value of 0.000 < 0.05. This indicates that improvements in system quality will encourage higher levels of SIMRS usage. Furthermore, the greater the perceived benefits of SIMRS by users, the higher the usage level of the system by hospital staff.

These findings align with the IS Success model developed by DeLone and McLean, which emphasizes that technological aspects—particularly system quality—are key factors influencing system usage and user satisfaction. The model asserts that the better the system quality, the higher the system usage among users (DeLone & McLean, 2003).

Based on these findings, it can be assumed that the SIMRS system quality implemented in the outpatient unit of RSUDTU has met the expectations and needs of most users, making the majority of users satisfied and motivated to use SIMRS more actively in supporting outpatient service processes. However, some respondents still feel that the system quality is lacking.

Therefore, system quality can be considered a key factor influencing SIMRS usage in the outpatient unit of RSUDTU. A system that is easy to access, responsive, stable, and user-friendly can enhance user (staff) confidence and convenience in carrying out service processes. Additionally, the SIMRS system at RSUDTU already complies with the standards set by Ministry of Health Regulation No. 82 of 2013 regarding SIMRS, particularly in terms of ease of access, data security, and system interoperability.

On the other hand, RSUDTU still needs to conduct regular system maintenance, evaluation, and improvements to continue meeting user needs, including enhancing system speed, stability, and ease of use. Continuous training and socialization are essential to improve user competence in operating SIMRS. Strengthening user feedback mechanisms is also a crucial step to ensure the system functions optimally and complies with applicable regulations, so that all users can fully benefit from SIMRS in the outpatient unit of RSUDTU.

The Influence of System Quality on Organizational Structure

The analysis results indicate that system quality has a positive and significant effect on the organizational structure in the outpatient unit of RSUDTU, with a path coefficient of 0.308, a T-statistic of 2.650 (T-statistic > 1.96), and a P-value of 0.008 (P-value < 0.05). This finding suggests that improving the quality of the SIMRS system—for example, having a system that is easy to access, fast, stable, and user-friendly—can strengthen the hospital's organizational structure. This is reinforced by descriptive analysis data showing that approximately 51.7% of respondents rated the SIMRS system quality as good. Therefore, the positive perception of the majority of users regarding system quality contributes to strengthening the organizational structure, improving coordination, and increasing work effectiveness within the hospital.

These results are in line with previous research by Amalia & Feirdianto (2022), which stated that system quality significantly affects hospital organizational structure. The better the system quality implemented, the stronger the organizational structure in supporting strategies for SIMRS implementation in the hospital. Furthermore, Muidiono (2018) explained that a high-quality system facilitates work processes, smooths communication between units, and simplifies coordination within the organization. A high-quality system also enables clearer task allocation, accelerates information flow, and increases the overall trust of organizational members in the system used. Therefore, a high-quality system strengthens the organizational structure and supports the achievement of organizational goals more effectively (Muidiono, 2018).

Based on the study results, the researcher assumes that a responsive and easy-to-learn SIMRS system clearly strengthens the organizational structure in the outpatient unit of RSUDTU. A strong organizational structure is reflected in the hospital director's active monitoring of SIMRS operations and good coordination between units. With a well-functioning system, patient visit numbers increase, queues can be minimized, and the BPJS-related work extension process becomes easier.

To ensure that system quality is maintained and continues to positively impact the organizational structure, the hospital needs to regularly conduct system evaluations and maintenance, provide continuous training to staff, strengthen inter-unit coordination, and ensure full support from leadership for SIMRS implementation. These steps will ensure that SIMRS remains optimal, facilitating smooth operations and improving the quality of services and hospital governance overall.

The Influence of System Quality on the Benefits of SIMRS

The analysis results indicate that system quality has a positive and significant effect on the benefits of SIMRS in the outpatient unit of RSUiDTUi, with a path coefficient of 0.466, a T-statistic of 4.384 (T-statistic > 1.96), and a P-value of 0.000 (P-value < 0.05). This finding suggests that improvements in a reliable, easy-to-use, and well-integrated system directly contribute to enhancing the benefits of SIMRS for the hospital, particularly in increasing efficiency, effectiveness, and the quality of hospital services. Additionally, descriptive analysis data show that 51.7% of respondents rated the quality of the SIMRS system as good. This majority positive assessment supports the hypothesis that system quality positively affects the benefits of SIMRS. High user acceptance and satisfaction are correlated with increased system usage, which ultimately strengthens the benefits derived from SIMRS in the outpatient unit of RSUDTU.

The study demonstrates the influence of system quality on SIMRS benefits (net benefit). The better the system quality, the better the outcomes obtained from using SIMRS. This is in line with research by Sari et al. (2023), which showed that system quality, information quality, and service quality are interrelated and affect organizational variables as well as the benefits (net benefit) of SIMRS. The study emphasizes that higher system quality leads to greater benefits perceived by SIMRS users, in terms of work efficiency, ease of data access, and work outcomes.

This finding aligns with research conducted by Indrayanti (2021), which indicated that system quality significantly affects the ultimate benefits (net benefit) of SIMRS. Similar results were found in the study by Nguidiarto et al. (2022), demonstrating that system quality has a positive and significant effect on the net benefits of SIMRS implementation. These findings are supported by the HOT-Fit model and the IS Success model, which highlight that system quality is a crucial factor that significantly influences the ultimate benefits of SIMRS implementation, both directly and indirectly through

increased user satisfaction (DeLone & McLean, 2003; Yuisof et al., 2006).

The researcher assumes that the current SIMRS system demonstrates stable performance and is well-integrated across units in the outpatient department, thereby facilitating workflow, reducing data duplication, and accelerating patient information access. This condition contributes to improved efficiency in outpatient services. In this study, the influence of system quality on SIMRS benefits is observed through the high level of user acceptance and satisfaction with the system, which contributes to the optimal utilization of SIMRS. Ultimately, this strengthens the benefits for the hospital, such as better patient data management and more coordinated and responsive services.

To ensure that the benefits of SIMRS are maintained and even enhanced, the hospital needs to regularly conduct system evaluation and balancing. Possible efforts include improving system reliability, expanding integration across units, providing training and guidance for the hospital IT team, and ensuring that SIMRS features remain relevant to user needs and service requirements. With these measures, SIMRS will continue to improve user satisfaction and provide significant benefits to the hospital.

The Influence of Information Quality on User Satisfaction

The results of the research indicate that information quality has a positive and significant effect on user satisfaction in the implementation of the Hospital Information System (SIMRS), with a path coefficient of 0.327, T-statistic of 2.573 (T-statistic > 1.96), and P-value of 0.010 (P-value < 0.05). This suggests that the better the quality of information produced by SIMRS—such as accurate, complete, relevant, easy-to-understand, and timely information—the higher the level of user satisfaction.

Although hypothesis testing shows that information quality positively and significantly affects user satisfaction, respondents in this study gave a balanced evaluation of information quality: 50% rated it as good, while 50% rated it as less than good. This indicates that some users feel their information needs are met and are satisfied, but others still perceive deficiencies, so overall satisfaction is not yet optimal. If this situation is not immediately evaluated and improved, user satisfaction is at risk of decreasing.

In the Hot-Fit model, information quality is one of the technological indicators that strongly determines the success of SIMRS implementation. Accurate, complete, relevant, easy-to-understand, and timely information will increase users' trust and comfort in carrying out their duties and responsibilities in the hospital. In other words, the higher the quality of information produced by SIMRS, the higher the users' satisfaction with the system. In addition to increasing user satisfaction, good information quality also contributes to the optimization of SIMRS utilization (Yuisof et al., 2006).

Information quality reflects the quality of the product produced by an information system. The better the quality of information produced by SIMRS, the higher the user satisfaction. These research results are consistent with the findings of Nurchahyani et al. (2024), which, through Pearson correlation tests, confirmed a positive and significant relationship between information quality and user satisfaction, with a strong correlation level. Similar results were reported by Sari et al. (2023), indicating that information quality positively affects user satisfaction. The assessment of information quality in SIMRS—such as completeness, accuracy, readability, and relevance—has been proven to impact user satisfaction. Therefore, the better the information quality produced, the higher the users' satisfaction.

Research conducted by Wahyuni Nasution & Novalinda Ginting (2023) supports these findings, showing that information quality positively affects final user satisfaction. The more complete, accurate, and relevant the information available in SIMRS, the higher the user satisfaction with the system. This research indicates that SIMRS capable of producing good, timely, and accountable information will enhance employee satisfaction as users of SIMRS. Thus, high information quality not only fulfills user needs but also strengthens trust and comfort in using SIMRS, which directly impacts increased user satisfaction.

According to research assumptions, the information produced by SIMRS in the outpatient unit of RSUiDTUi is generally accurate, timely, available in real-time, and aligned with user needs, thus assisting users in carrying out daily tasks and accelerating service processes, resulting in increased satisfaction with SIMRS. However, respondents' evaluations show that information quality

is still evenly divided, with 50% rating it good and 50% less than good. This indicates deficiencies in certain areas, such as laboratory test reports that are still separated, medicine stock in the pharmacy not synchronized with the warehouse, and pharmacy warehouse reports that lack official signatures and legal validation, making them unsuitable as official documents during inspections. Therefore, the hospital needs to routinely evaluate and balance SIMRS features to be more responsive to user needs, including ensuring document validity, so that information quality is consistently experienced by all users, user satisfaction increases, and SIMRS utilization is optimized to support outpatient services at RSUDTU.

The Influence of Information Quality on the Benefits of SIMRS

The results of hypothesis testing indicate that information quality has a positive and significant effect on the benefits of the Hospital Information System (SIMRS), with a path coefficient of 0.279, T-statistic of 2.840 (T-statistic > 1.96), and P-value of 0.005 (P-value < 0.05). This emphasizes that the higher the quality of information produced by SIMRS—considering aspects such as completeness, accuracy, readability, timeliness, relevance, and consistency—the greater the benefits perceived by the hospital, in terms of efficiency, effectiveness, and improved service quality.

Respondents in this study rated information quality evenly, with 50% assessing the quality of SIMRS information as good and 50% as less than good. This evaluation directly impacts the tangible benefits experienced from SIMRS. As a result, the benefits that should be fully realized by the hospital become unevenly distributed. If this situation is not immediately evaluated and improved, it may reduce the overall real benefits of SIMRS.

The information quality referred to here is the ability of an information system to consistently meet user needs and provide tangible benefits from SIMRS implementation (Magindra et al., 2023). High-quality information can enhance SIMRS effectiveness in supporting hospital operations, decision-making, and service delivery. However, SIMRS benefits will only be optimal if this information quality is consistently experienced by all users (Prapti Wujani et al., 2025).

Research conducted by Sitompul et al. (2024) showed that information quality has a positive effect on SIMRS benefits, although this effect was not statistically significant. This indicates that an increase in information quality has not yet been proven to tangibly enhance SIMRS benefits if user perceptions are still varied or uneven. Therefore, these findings differ from my research results. Conversely, these findings align with the study by Yuisnaningsih et al. (2021), which demonstrated that information quality has a significant effect on SIMRS benefits at RSUD Bahtermas.

The results of this study are also consistent with research conducted by Magindra et al. (2023), which explained that information quality affects SIMRS benefits. This is due to the validity and reliability of the information received, which facilitates the recording and reporting processes in hospitals and reduces errors in work. Thus, good information quality provides clear benefits for users and impacts the improvement of both individual and organizational performance.

Based on research at the outpatient unit of RSUDTU, it can be assumed that user assessments of SIMRS information quality still vary. Although hypothesis testing has proven that SIMRS information quality has a positive and significant effect on the benefits perceived by the hospital, this indicates obstacles in data presentation in several outpatient units, which ultimately hinders the optimization of SIMRS benefits. This situation arises because SIMRS in these outpatient units is still in the adjustment phase. Therefore, it can be concluded that improving SIMRS information quality remains a key factor in achieving optimal benefits and fulfilling user expectations.

The Influence of Service Quality on Organizational Structure

The analysis results indicate that service quality has a positive and significant effect on the organizational structure in the implementation of SIMRS at the outpatient unit of RSUDTU, with a path coefficient of 0.323, T-statistic of 2.950 (T-statistic > 1.96), and P-value of 0.003 (P-value < 0.05). This suggests that the better the service quality provided by SIMRS providers, the stronger the hospital's organizational structure in supporting SIMRS implementation.

In this study, service quality was measured through several indicators: responsiveness, assurance, empathy,

and technical support from SIMRS providers. However, based on respondents' assessments, service quality was still evenly divided, with 50% rating it as good and 50% as less than good. This reflects an uneven distribution of service quality across units. Such imbalance may hinder the effectiveness of the organizational structure in optimizing SIMRS utilization and has the potential to disrupt operational continuity, inter-unit coordination, and the achievement of hospital service improvement goals.

The study by Yuisnaningsih et al. (2021) aligns with these findings, showing that SIMRS service quality measured through responsiveness, reliability, empathy, and technical support significantly affects hospital organizational effectiveness. This research emphasizes that responsive and professional SIMRS services from the provider strengthen the organizational structure, improve inter-unit coordination, and streamline hospital operations.

Similarly, research by Amalia & Feirdianto (2022), using the HOT-Fit method, indicated that service quality affects organizational structure, with a path coefficient of 0.225, T-statistic of 2.309 (T-statistic > 1.96), and P-value of 0.021 (P-value < 0.05). This demonstrates that higher service quality corresponds to a stronger organizational structure in implementing SIMRS strategies at RS Perkebunan Jember. The study also emphasizes that organizational success is significantly influenced by the quality of services provided by the IT team or SIMRS provider, especially in maintaining communication, understanding user needs, and providing adequate technical support. Furthermore, an organizational structure supported by high-quality services enables more effective utilization and balancing of SIMRS within the hospital, in alignment with organizational goals.

Based on the analysis results, it can be concluded that service quality has a positive and significant impact on organizational structure in SIMRS implementation. This is highly relevant to the HOT-Fit model framework, which states that good service quality—such as responsiveness, assurance, empathy, and technical support—strengthens hospital organizational structures. Optimal service quality from SIMRS providers enhances inter-unit coordination, facilitates communication, and strengthens management commitment and team work procedures within the hospital. When services are consistent and meet user expectations, the organizational structure becomes more adaptive, responsive, and prepared to fully support SIMRS implementation (Yuisof et al., 2006).

Based on these findings, the researcher assumes that good service quality from SIMRS providers at the outpatient unit of RSUDTU will improve the hospital's organizational structure in implementing policies and service workflows. Organizational success is strongly influenced by service quality, particularly in technical support and communication. However, aspects such as responsiveness, assurance, and understanding of user needs are still suboptimal, as reflected by 50% of respondents rating service quality as less than good. This imbalance is due to the unavailability of SIMRS IT teams fully prepared to address user requests and problems, as well as the limited number of internal hospital IT staff. Consequently, some users feel they receive inadequate support when facing SIMRS-related issues, affecting the uniformity of service quality assessment. Therefore, high and evenly distributed SIMRS service quality across all service units is essential to strengthen the hospital's organizational structure.

The Influence of User Satisfaction on the Benefits of SIMRS

Statistical analysis indicates that user satisfaction is the strongest and most significant factor in determining the benefits of SIMRS implementation in the outpatient services of RSUDTU, with a path coefficient of 0.728, T-statistic of 10.717 (T-statistic > 1.96), and P-value of 0.000 (P-value < 0.05). This means that the higher the user satisfaction, the greater the benefits experienced by both users and the hospital from SIMRS implementation.

The study shows that the path coefficient for user satisfaction (0.728) is higher than that of organizational structure (0.187), indicating that user satisfaction is the most influential factor in determining the magnitude of SIMRS benefits in the outpatient unit. Furthermore, the study reveals that system quality indirectly affects SIMRS benefits through user satisfaction. The path coefficient from system quality to user satisfaction is 0.561, followed by the effect of user satisfaction on SIMRS benefits of 0.728. In other words, the better the system quality—such as ease of use, stability, and accuracy—the higher the user satisfaction with SIMRS. When users feel satisfied, they tend to use SIMRS more effectively, thereby increasing the benefits obtained.

Similarly, information quality indirectly influences SIMRS benefits through user satisfaction. The path coefficient from information quality to user satisfaction is 0.327, which is then followed by the effect of user satisfaction on SIMRS benefits of 0.728. This indicates that higher-quality information—accurate, complete, relevant, easy to understand, and timely—improves user satisfaction, which in turn positively affects the benefits of SIMRS in the outpatient unit.

Based on the questionnaire results, 55.4% of respondents reported being satisfied with SIMRS implementation. This supports the hypothesis test results that user satisfaction, measured through indicators such as feature completeness, accuracy, ease of use, and system interface, plays a crucial role in determining the extent of SIMRS benefits, including improvements in work effectiveness, efficiency, and service quality.

These findings align with research conducted at RSUiD Natuna, which found that system quality and service quality positively and significantly affect user satisfaction, ultimately enhancing the benefits of SIMRS (Annuir, 2024). Similarly, Muin (2019) showed that user satisfaction has a significant impact on SIMRS benefits. In that study, user satisfaction was measured through feature completeness, accuracy, ease of use, and application interface. Higher user satisfaction corresponded to greater benefits for hospitals, especially regarding work efficiency, faster access to data, and improved service quality.

Hypothesis testing confirms that user satisfaction significantly influences SIMRS benefits in the outpatient unit of RSUDTU. This finding is supported by the HOT-Fit model, which emphasizes that successful SIMRS implementation depends on the alignment of three main components: human, organization, and technology. In this context, user satisfaction represents the human dimension. According to the HOT-Fit model, user satisfaction is directly influenced by system quality and information quality, which ultimately impacts the benefits experienced by both individuals and the organization. In other words, the better the system and information quality, the higher the user satisfaction. When users are satisfied, they use SIMRS more effectively, resulting in significantly increased benefits for the hospital. Therefore, high user satisfaction is a key driver of SIMRS benefit realization (Yuisof et al., 2006).

The study assumes that to maximize the benefits of SIMRS implementation in the outpatient unit of RSUDTU, improvements in system quality—such as ease of use, reliability, and accuracy—and information quality—measured by completeness, relevance, and timeliness—are necessary. Enhancing these aspects is expected to increase user satisfaction. When user satisfaction rises, users will utilize SIMRS more efficiently and optimally, ensuring maximum benefits. User satisfaction-oriented SIMRS implementation becomes the key to achieving these benefits, including reducing work time, facilitating information exchange, speeding up services, and improving service quality in the outpatient unit of RSUDTU.

The Influence of Organizational Structure on SIMRS Benefits

Hypothesis testing indicates that organizational structure positively and significantly affects SIMRS benefits in the outpatient unit of RSUDTU, with a path coefficient of 0.187, T-statistic of 2.521 (T-statistic > 1.96), and P-value of 0.012 (P-value < 0.05). This finding suggests that a strong and well-managed organizational structure contributes meaningfully to increasing the benefits obtained from SIMRS implementation.

Based on the questionnaire results, 55.2% of respondents rated the organizational structure at RSUDTU as good in supporting SIMRS implementation. This aligns with the hypothesis test results, showing that organizational structure—measured through indicators such as application maintenance, leadership commitment, and team work procedures—facilitates coordination, accelerates decision-making, and increases SIMRS benefits, both in terms of work efficiency and service quality.

These findings are consistent with research conducted at RS Asy Syifa' Sambi, which demonstrated that improving organizational structure significantly enhances the benefits of SIMRS for users, both operationally and in service quality (Hasanah et al., 2022). Additionally, this result aligns with previous studies emphasizing the important role of organizational structure in maximizing SIMRS benefits. A strong organizational structure—including leadership commitment, structured work procedures, and effective coordination among units—accelerates decision-making and streamlines workflows,

thereby enhancing SIMRS benefits. Similarly, Puspita et al. (2020) found that organizational structure influenced the overall benefits of SIMRS in their case study at RS Mayapada Jakarta Selatan.

However, this finding differs from Faigayanti et al. (2022), who reported that organizational structure was not directly related to SIMRS benefits. That study concluded that organizational structure primarily motivates users to utilize the system; only when users are motivated do they begin to experience benefits, emphasizing that technological factors must still be maintained and improved.

This study aligns with the theoretical framework of the HOT-Fit model, which emphasizes the importance of organizational aspects such as organizational structure, management support, policies, and clear work procedures to optimize SIMRS utilization. A good organizational structure creates a conducive work environment, facilitates communication and coordination across units, and accelerates decision-making processes, thereby allowing SIMRS benefits to be maximized (Yuisof et al., 2006).

Based on the study's assumptions, an organizational structure supported by indicators such as application maintenance, leadership commitment, structured team work procedures, good governance, and hospital management support—especially for feature improvements, service flow alignment with SIMRS, and system updates according to user and hospital needs—will likely maximize SIMRS benefits in the outpatient unit of RSUDTU.

Variables with No Significant Effect:

Information Quality on System Usage

Hypothesis testing in this study indicates that information quality does not have a significant effect on SIMRS usage in the outpatient unit of RSUDTU. This is demonstrated by a path coefficient of 0.224, T-statistic of 0.784 (T-statistic < 1.96), and P-value of 0.433 (P-value > 0.05), showing that this effect is not statistically significant. This suggests that improvements or reductions in information quality do not significantly influence the level of SIMRS usage.

Previous research on SIMRS implementation in private and public hospitals shows that although SIMRS improves efficiency, not all aspects of information quality significantly affect system usage. Other factors, such as system quality and user-friendliness, play a more dominant role in influencing usage levels (Nurwito, 2024). This finding aligns with the current study, which shows that enhancing information quality does not directly correlate with increased SIMRS usage. Even though information quality is an important aspect of an information system, its influence on SIMRS usage in the outpatient unit is not significant.

This result is consistent with the study by Srimaydila Aziz & Rahayu (2022), which reported that information quality does not have a statistically significant effect on SIMRS usage. This is because SIMRS usage is mandatory; therefore, even if information quality is high, it does not automatically increase system usage since users are required to use SIMRS. Consequently, information quality is not a primary driver of system usage, and improving system quality does not necessarily increase usage levels. Similar findings were reported in RSUP Dr. Soeradji Tirtonegoro Klaten, where information quality did not positively affect usage because the system was mandatory for staff (Zai & Dewi, 2020).

Based on these findings, it is assumed that information quality does not significantly affect the level of SIMRS usage in the outpatient unit of RSUDTU. This is due to the mandatory nature of SIMRS implementation in hospitals, where adherence and usage behavior are driven more by management policies and organizational requirements rather than the quality of information produced by the system. The study suggests that system quality has a more influential role on SIMRS usage compared to information quality. Furthermore, at the time of the study, many users had not fully understood or utilized the available system features, making information quality a less critical driver of system usage. Therefore, changes in SIMRS information quality do not directly impact the level of system usage in the outpatient unit of RSUDTU.

The Effect of Information Quality on Organizational Structure

The results of the hypothesis testing show that information quality does not have a significant effect on organizational structure in the implementation of the Hospital Management Information System (SIMRS), with a path coefficient value of 0.268, a T-statistic of 1.780 (T-statistic < 1.96), and a P-value of 0.075 (P-value > 0.05).

Therefore, it can be concluded that improvements or decreases in information quality do not have a significant impact on the hospital's organizational structure in the implementation of SIMRS.

This finding is consistent with Feibrita (2020), who explained that information quality has no direct relationship with organizational structure. The organizational structure of a hospital is more strongly influenced by other dominant factors such as system quality, management policies, leadership, and the organizational environment. Similarly, the study by Puitro et al. (2024) emphasized that although information quality is important for operations and decision-making related to hospital services, its influence does not directly lead to changes in the organizational structure during SIMRS implementation.

However, this study contrasts with the findings of Singh and Wanasida (2023) at Puri Medika Hospital, which used the HOT-Fit model and showed that good information quality can improve the effectiveness of data processing. This, in turn, strengthens the organizational structure, particularly in aspects such as decision-making, coordination, and administrative efficiency.

According to the researcher's assumptions, the organizational structure at RSUDTU is more influenced by other factors beyond information quality, such as system quality, organizational culture, management policies, and leadership. Although the information quality generated by SIMRS is essential to support operations and decision-making, it does not directly affect changes in organizational structure. This is because SIMRS at RSUDTU currently functions only within outpatient services. Thus, even as the information quality produced by SIMRS improves, the existing organizational structure continues to operate according to the hospital's pre-established policies and needs.

Nevertheless, efforts to enhance information quality through the optimization of SIMRS in the outpatient unit of RSUiDTUi should continue to be made to support service efficiency and effectiveness, even though such improvements may not directly lead to significant changes in the organizational structure.

Service Quality on User Satisfaction

The results of the hypothesis testing indicate that service quality does not have a significant effect on user satisfaction in the implementation of the Hospital Management Information System (SIMRS). The path coefficient value was 0.065, with a T-statistic of 0.710 (T-statistic < 1.96) and a P-value of 0.478 (P-value > 0.05). Therefore, it can be concluded that improvements or decreases in service quality do not significantly affect the level of user satisfaction with SIMRS. This finding suggests that service quality is not the main determining factor influencing user satisfaction with SIMRS in the outpatient unit of RSUiDTUi.

Service quality in the implementation of SIMRS generally involves support provided by the vendor or IT team. The assessment criteria include response speed, service assurance, empathy, and follow-up actions. Meanwhile, user satisfaction is related to users' perceptions of the system's usefulness and their overall attitude toward the information system. According to Setyorini et al. (2021), the quality of SIMRS services includes the availability of user manuals, fast and responsive vendor support, quick system maintenance processes, and adequate helpdesk assistance.

This result aligns with the findings of Feibrita et al. (2021), which revealed that the quality of service provided by SIMRS vendors or IT teams does not significantly affect user satisfaction (p = 0.258), while system quality and information quality are significantly related to user satisfaction. This means users tend to be more satisfied when the system produces accurate, complete, and easily accessible information, and when it operates stably. Supporting services become secondary factors that play a greater role only when major system issues arise. Similarly, Sari et al. (2020) also stated that service quality is not the primary factor influencing user satisfaction with SIMRS; rather, system quality and information quality are more dominant determinants.

According to the researcher's assumption, service quality is not the main factor determining user satisfaction with SIMRS in the outpatient unit of RSUDTU. Users prioritize aspects of system quality and information quality when assessing their satisfaction. If the system runs smoothly, is easy to use, and provides accurate and relevant information, user satisfaction will be achieved even if the support services provided by the SIMRS vendor are less optimal. This is because the primary need of users in the outpatient unit of RSUDTU is to obtain accurate data and a responsive system to reduce their daily workload. Therefore, efforts to improve user satisfaction should

focus on enhancing system quality and the quality of information produced by SIMRS.

Service Quality on System Use

The results of the hypothesis testing indicate that service quality does not have a significant effect on the use of the Hospital Management Information System (SIMRS) in the outpatient unit of RSUDTU. This is evidenced by the path coefficient value of -0.044, a T-statistic of 0.267 (T-statistic < 1.96), and a P-value of 0.790 (P-value > 0.05). Therefore, it can be concluded that improvements or decreases in service quality do not lead to any significant changes in the level of SIMRS use by users.

This finding is consistent with the study by Amalia and Ferdianto (2022), which showed that service quality had no significant effect on the use of electronic medical record systems in hospitals. This was evidenced by a path coefficient value of -0.017, a T-statistic of 0.162 (T-statistic < 1.96), and a P-value of 0.871 (P-value > 0.05). This condition was caused by the slow response of service providers in addressing user requests, primarily due to the limited number of IT personnel in the hospital. The consistency of this finding is also supported by the study of Sari et al. (2020), which explained that there was no relationship between service quality and system use, confirming that service quality is not a major factor influencing the level of SIMRS utilization by users.

Based on the results of this study, it can be assumed that service quality is not the main factor influencing the level of SIMRS use in the outpatient unit of RSUDTU. In the implementation of SIMRS in this unit, the quality of service provided by the IT team or SIMRS vendor does not directly determine how frequently or effectively users operate the system. Users tend to prioritize system quality in supporting their daily work activities. This is because SIMRS has become an integral part of hospital operational processes, so users continue to use the system even if the service quality provided is not optimal. Therefore, efforts to increase SIMRS utilization in the outpatient unit of RSUDTU should focus more on improving and optimizing system quality and the quality of information produced by SIMRS, rather than solely on enhancing service quality, to maximize the benefits of SIMRS implementation.

Service Quality on the Benefits of SIMRS

The results of the hypothesis testing indicate that service quality does not have a significant effect on the benefits of the Hospital Management Information System (SIMRS), with a path coefficient value of 0.100, a T-statistic of 1.414 (T-statistic < 1.96), and a P-value of 0.158 (P-value > 0.05). Therefore, it can be concluded that an increase or decrease in the service quality provided by the SIMRS vendor does not have a meaningful impact on the benefits of SIMRS through indirect pathways in the tested model.

This finding is consistent with the study by Puspitasari and Nugroho (2021), which stated that service quality does not significantly affect the net benefits of SIMRS. Their study found that user dissatisfaction was caused by the vendor's slow response time when assistance was needed, the absence of a helpdesk, the lack of service quality assurance for SIMRS users, and the vendor's limited ability to resolve system-related problems. These conditions led to users and hospitals not fully experiencing the benefits of SIMRS implementation.

Similarly, research conducted by Yusnaningsih et al. (2021) also found that service quality does not significantly influence the net benefits of SIMRS. This occurs because users tend to prioritize system quality and the quality of information produced by the system. Therefore, the main benefits of SIMRS are derived more from system effectiveness and information accuracy rather than from service quality. This finding aligns with the results of the present study.

Based on these results, this study assumes that in the implementation of SIMRS at the outpatient unit of RSUiDTUi, the net benefits of SIMRS are more strongly influenced by user satisfaction and organizational support. It is also assumed that user satisfaction with SIMRS will improve in line with enhancements in system quality and information quality, which will ultimately contribute to increasing the overall benefits of SIMRS in the outpatient unit of RSUDTU.

System Use on User Satisfaction

The results of the hypothesis testing indicate that system use does not have a significant effect on user satisfaction in the implementation of the Hospital Management Information System (SIMRS) at the outpatient unit of RSUDTU. This is evidenced by the path coefficient value of 0.070, a T-statistic of 1.169 (T-statistic < 1.96), and a P-value of 0.242 (P-value > 0.05). Therefore, it can be concluded that the level of SIMRS use—whether it increases or decreases—does not cause any meaningful

changes in user satisfaction within the outpatient unit of RSUDTU. Although users may routinely use SIMRS in their daily activities, the frequency or duration of system use does not automatically correlate positively with the level of satisfaction they experience.

This finding is consistent with the study by Indrayanti (2021), which showed that system use has no significant effect on SIMRS user satisfaction. This suggests that although users regularly operate the system, the intensity of its use does not automatically enhance user satisfaction. This condition may occur because SIMRS usage is mandatory or part of established work procedures; hence, system usage levels do not always correspond directly with user satisfaction. User satisfaction tends to arise when the system fully meets their needs or expectations, particularly regarding system quality and information quality.

However, this result differs from the findings of Annuar (2024), which indicated a significant relationship between SIMRS usage and user satisfaction. That study showed that higher levels of SIMRS use were associated with higher user satisfaction, suggesting that frequent and intensive interaction with the system can shape positive user perceptions regarding their overall satisfaction with SIMRS.

Based on the findings of this study, it can be assumed that, in the implementation of SIMRS at the outpatient unit of RSUDTU, system use is not the main determinant of user satisfaction. Although users regularly use SIMRS in their daily work, the findings indicate that user satisfaction with SIMRS is more strongly influenced by factors such as system quality, information quality, and organizational support rather than by the frequency of system use. This may be because SIMRS usage in the outpatient unit is mandatory and part of the hospital's operational procedures, which does not automatically lead to increased satisfaction. User satisfaction is instead shaped by positive experiences while using the system—such as ease of access, reliability, relevance, and accuracy of the information generated by SIMRS. Therefore, it is suggested that efforts to improve SIMRS user satisfaction at RSUDTU should focus on enhancing system quality, information quality, and organizational support rather than merely increasing the frequency of system use.

System Use on the Benefits of SIMRS

The results of the hypothesis testing indicate that system use does not have a significant effect on the benefits of the Hospital Management Information System (SIMRS) in its implementation at the outpatient unit of RSUiDTUi. This is shown by the path coefficient value of 0.063, a T-statistic of 0.994 (T-statistic < 1.96), and a P-value of 0.320 (P-value > 0.05). Therefore, it can be concluded that the level of SIMRS use, whether it increases or decreases, does not directly influence the benefits obtained from its implementation.

This finding aligns with the Human-Organization-Technology Fit (HOT-Fit) theory proposed by Yusof et al. (2006), which states that system benefits (net benefits) are not solely determined by the frequency of system use but are also strongly influenced by other factors such as system quality, information quality, user satisfaction, and organizational support. In many cases, a high level of system use does not necessarily result in optimal benefits if the system quality, information quality, or user satisfaction remains low. Similarly, the study by Stervang et al. (2024) emphasized the importance of user experience in using health information systems, highlighting that systems that are easy to use and capable of providing useful information can enhance users' positive perceptions of the system.

This research finding is also supported by the study conducted by Jiwani (2024), which adopted the HOT-Fit framework. The study found that the benefits of hospital information systems do not always increase solely through higher system use. Instead, these benefits depend largely on the quality of user experience, including ease of use, information quality, and adequate organizational support such as training, technical assistance, and infrastructure readiness. The study further revealed that even with relatively high system usage, without strong organizational support and positive user experiences, improvements in satisfaction and system benefits cannot be achieved optimally. This reinforces the importance of synergy among human, technological, and organizational factors in the implementation of SIMRS to ensure maximum benefits for healthcare services and user satisfaction.

Based on the results of this study, it can be assumed that the level of SIMRS use in the outpatient unit of RSUDTU does not directly determine the extent of the benefits derived from its implementation. This condition may occur because the use of SIMRS is mandatory, meaning

users are required to use the system even when the perceived benefits are not yet optimal. This indicates that other factors, such as system quality, the quality of information provided by SIMRS, and organizational support, play a more dominant role in determining the benefits obtained. Therefore, efforts to enhance the benefits of SIMRS in the outpatient unit of RSUDTU should not merely focus on increasing the frequency of system use. Instead, greater attention should be directed toward improving system quality, information quality, user satisfaction, and organizational support, including providing adequate user training. In doing so, the benefits of SIMRS can be experienced more optimally and sustainably by all users within the hospital environment.

Organizational Structure on User Satisfaction

The results of hypothesis testing indicate that the organizational structure does not have a significant effect on user satisfaction in the implementation of the Hospital Management Information System (SIMRS) at the outpatient unit of RSUDTU. This is shown by the path coefficient value of 0.025, a T-statistic of 0.866 (T-statistic < 1.96), and a P-value of 0.386 (P-value > 0.05). Thus, changes in the organizational structure—whether improvements or declines—do not influence the level of SIMRS user satisfaction in the outpatient unit of RSUDTU. Although the organizational structure is one of the key elements in hospital management and operations, it is not a primary determinant influencing user satisfaction with the information system used.

Research conducted by Jiwani (2024) found that the organizational structure does not always affect the benefits and satisfaction of information system users in hospitals. This finding aligns with the results of this study, which show that the influence of organizational structure on SIMRS user satisfaction is not statistically significant. In that research, it was explained that although the organizational structure is an important factor in the implementation of information systems, its effect on user satisfaction is not always significant. Other factors, such as user experience and adequate organizational support, also play important roles in determining user satisfaction.

In contrast to this study, research conducted at RSUD Ajibarang by Nurcahyani et al. (2024) showed a positive and significant relationship between organizational structure and SIMRS user satisfaction. In that context, organizational structure includes aspects such as strategy, planning, management support, communication, and resource allocation. The study concluded that an information system supported by a well-structured organization can produce information that supports effective decision-making, thereby enhancing user satisfaction.

Based on this research, it can be assumed that changes in the organizational structure—either improvements or reductions—do not directly affect the level of SIMRS user satisfaction in the outpatient unit of RSUDTU. This finding indicates that although the organizational structure in the outpatient unit of RSUDTU has been functioning properly, it is not sufficient to significantly improve user satisfaction with SIMRS. Improvements are needed in other aspects that have a more direct impact on user satisfaction. Therefore, hospital management should focus more on improving system quality, providing adequate user training, and strengthening technical support. These steps are essential to enhance SIMRS user satisfaction in a sustainable and optimal manner.

Organizational Structure on System Usage

The results of hypothesis testing indicate that the organizational structure does not have a significant effect on the use of SIMRS in the outpatient unit of RSUiDTUi. This is shown by the path coefficient value of 0.361, a T-statistic of 1.686 (T-statistic < 1.96), and a P-value of 0.092 (P-value > 0.05). Thus, the influence of the organizational structure on SIMRS usage is not statistically significant. This finding indicates that changes or improvements in the organizational structure do not affect the level of SIMRS usage by users in the outpatient unit of RSUDTU.

This research aligns with the findings of Meiyana et al. (2023), who stated that organizational structure does not always influence the implementation of SIMRS through system usage. In other words, improvements in the organizational structure do not automatically increase the effectiveness or efficiency of SIMRS utilization. Furthermore, Jiwani (2024) emphasized that management support and user training are key factors influencing the success of SIMRS implementation, which may play a more dominant role than the organizational structure itself.

Based on this study, it can be assumed that changes in the organizational structure, whether improvements or reductions, do not significantly influence the level of SIMRS usage by users in the outpatient unit of RSUDTU. This may be due to several factors. First, the use of SIMRS is a mandatory activity in the users' daily work, so they continue to use the system even if the organizational structure does not have a strong impact. In addition, factors such as system quality, user training, ease of use, and individual motivation play more significant roles in determining the level of SIMRS usage compared to organizational structure in the implementation of SIMRS at the outpatient unit of RSUDTU.

Therefore, to enhance SIMRS utilization optimally, greater attention should be given to aspects such as user training, system quality, and technical support. A comprehensive and integrated approach involving technological, human, and organizational factors will be more effective in promoting maximum SIMRS usage.

Conclusion

Based on the results of this study on the analysis of SIMRS implementation using the Human–Organization–Technology Net Benefit (HOT-Fit) model in the outpatient unit of RSUDTU, the following conclusions can be drawn:

1. There is no significant effect between the variable of information quality and system usage.
2. There is no significant effect between the variable of information quality and organizational structure.
3. There is no significant effect between the variable of service quality and user satisfaction.
4. There is no significant effect between the variable of service quality and system usage.
5. There is no significant effect between the variable of service quality and the benefits of SIMRS.
6. There is no significant effect between the variable of system usage and user satisfaction.
7. There is no significant effect between the variable of system usage and the benefits of SIMRS.
8. There is no significant effect between the variable of organizational structure and user satisfaction.
9. There is no significant effect between the variable of organizational structure and system usage.
10. There is a significant effect between the variable of system quality and user satisfaction.
11. There is a significant effect between the variable of system quality and system usage.
12. There is a significant effect between the variable of system quality and organizational structure.
13. There is a significant effect between the variable of system quality and the benefits of SIMRS.
14. There is a significant effect between the variable of information quality and user satisfaction.
15. There is a significant effect between the variable of information quality and the benefits of SIMRS.
16. There is a significant effect between the variable of service quality and organizational structure.
17. There is a significant effect between the variable of user satisfaction and the benefits of SIMRS.
18. There is a significant effect between the variable of organizational structure and the benefits of SIMRS.
19. User satisfaction is the most dominant factor influencing the SIMRS benefit variable in the implementation of SIMRS at the outpatient unit of RSUiDTUi, with a path coefficient value of 0.728, a T-statistic of 10.717 (T-statistic > 1.96), and a P-value of 0.000 (P-value < 0.05).
20. This study also reveals that system quality and information quality have an indirect influence on the benefits of SIMRS through user satisfaction.

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