Journal of Education Technology and Information System Vol (02) Ed (01) P.18-30 (2026)
Received January 2025 / Revised February 2026 / Accepted February 2026

Journal of Education Technology and Information System

https://journal.unesa.ac.id/index.php/jetis/

Analysis Of SIMRS Implementation Using HOT-Fit Model with SEM-PLS Approach

Amrullah Rahman Farisi[1*], Ghea Sekar Palupi[1]

[1] Information System Department, State University of Surabaya, Surabaya, Indonesia
amrullah.20043@mhs.unesa.ac.id, gheapalupi@unesa.ac.id

Abstract. The implementation of Hospital Management Information Systems (SIMRS) is essential for managing and integrating all hospital service processes. However, many hospitals experience suboptimal benefits from their systems despite long-term system adoption. The goal of this research is to analyze SIMRS implementation at RSUD dr. Wahidin Sudiro Husodo uses the Human–Organization–Technology Fit (HOT-Fit) model by incorporating additional variables of compatibility and self-efficacy. This study employed a quantitative research design using Structural Equation Modeling–Partial Least Squares (SEM-PLS). A total of 17 hypotheses were tested to examine the relationships among technological, human, and organizational factors and their influence on net benefits. The results show that only 7 of the 17 hypotheses were supported. Organizational structure was found to have a significant direct effect on net benefits, while information quality, service quality, and organizational environment influenced net benefits indirectly. This study contributes theoretically by extending the HOT-Fit model through the inclusion of compatibility and self-efficacy variables, providing a more comprehensive framework for evaluating hospital information systems. Practically, the findings emphasize the importance of organizational structure and organizational readiness in maximizing the benefits of SIMRS implementation.

Keywords: *Analysis; Implementation; SIMRS; HOT-Fit Model; SEM-PLS; Hospital Information System*

1. Introduction

The rapid development of information technology has increased the reliance of hospitals on information systems to support clinical and administrative processes. Based on Indonesian Minister of Health Regulation No. 82 of 2013 on Hospital Management Information Systems, the government mandates that all hospitals in Indonesia implement a Hospital Management Information System (SIMRS), which is an information and communication technology system that manages and integrates all hospital service processes. The implementation of SIMRS is crucial for integrating information into the service process, increasing service efficiency and effectiveness, and reducing operational expenses and administrative tasks (Susilo & Mustofa, 2020). Despite this mandate, empirical evidence indicates that SIMRS implementation does not always result in optimal system benefits.

RSUD dr. Wahidin Sudiro Husodo is one of the Grade B hospitals in Mojokerto City that has implemented SIMRS since 2015. However, its utilization remains suboptimal, with many users still relying on manual processes. Most of them lack understanding of how to use SIMRS properly and do not perceive its benefits. A comprehensive and systematic evaluation of SIMRS implementation has not previously been conducted at this hospital.

Yusof et al. developed the Human Organization Technology (HOT) Fit model in 2008. The model integrates human, organizational, and technological aspects by considering the suitability of the relationship between these aspects in ensuring the successful implementation of information systems (Yusof et al. 2008). Previous studies applying the Human–Organization–Technology Fit

(HOT-Fit) model have reported inconsistent findings regarding the influence of technological, human, and organizational factors on system success and net benefits. While several studies found that system quality, information quality, and service quality significantly affect system usage and user satisfaction, other studies reported weak or insignificant relationships. Moreover, most prior HOT-Fit studies focused on core dimensions and paid limited attention to system compatibility with organizational processes and users' self-efficacy.

Therefore, this study addresses this research gap by extending the HOT-Fit model through the inclusion of compatibility and self-efficacy variables and examining their influence on SIMRS implementation and net benefits using an SEM-PLS approach.

2. Methods

This research is divided into several stages.

2.1 Problem Identification and Literature Study

Problem identification was conducted by interviews to gather information about the implementation of SIMRS at dr. Wahidin Sudiro Husodo Hospital. Based on interviews that have been conducted, SIMRS at RSUD Dr. Wahidin Sudiro Husodo has never been analyzed thoroughly and systematically. Then the benefits provided by SIMRS are still not optimal. For the literature study, the researcher used the Human Organization Technology (HOT) Fit model to evaluate information systems in various pieces of literature, as well as supporting literature such as relevant research methods, policies regarding hospitals, SIMRS, and more.

2.2 Hypothesis Development

The analysis model used in this study is Human Organizational Technology (HOT) Fit, which consists of 10 variables, namely system quality, information quality, service quality, compatibility, self-efficacy of system use, user satisfaction, organizational structure, organizational environment, and net benefits. There are 17 hypotheses in this study (see **Figure 1**).

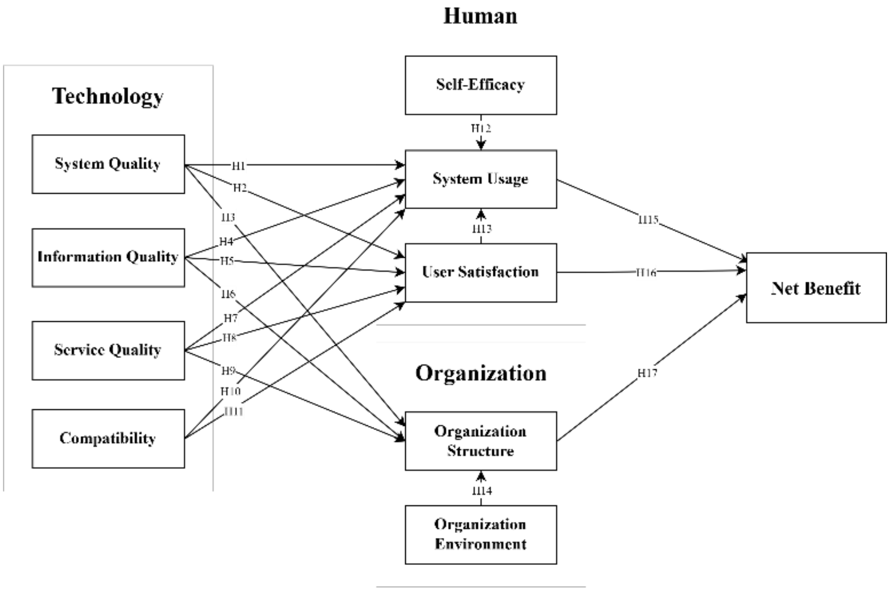

Figure 1 - Conseptual Model

2.3 Determination of Population and Sample

The population of this study are officers at Dr. Wahidin Sudiro Husodo Hospital who use SIMRS in their work. The sample was determined using a probability sampling technique utilizing a simple random sampling method based on the Slovin Formula (see Equation 1).

$$n = \frac{N}{1+Ne^2} = \frac{140}{1+140*(0,07)^2} = 83,04 \quad \textbf{(1)}$$

Description:

n: Sample size
N: Population size = 140 people
e: Error tolerance = 0.07 (following the confidence level = 93%).

This calculation shows a sample size of 83.04 which is rounded up to 85. So the expectation of a large sample is 85 respondents.

2.4 Preparation of Research Instruments

The instruments in this study were adopted from previous studies, Erlirianto et al. (2015) and Lestari et al. (2020), were adjusted to align with the variables in the HOT-Fit model. The compatibility and self-efficacy constructs were adapted from Sun et al. (2009) and Hung et al. (2010), respectively, and briefly adjusted to the UTAUT framework reviewed by Marikyan & Papagiannidis (2025) to ensure relevance to technology acceptance and user confidence. In total, 41 questions have been selected for use in this study (see Appendix 1).

2.5 Data Collection

Data were collected through a questionnaire distributed via Google Forms to officers at RSUD dr. Wahidin Sudiro Husodo, who utilizes SIMRS in their daily operations. Following data collection, a preprocessing stage was carried out to ensure data completeness and validity. This process included data cleaning by identifying missing values, either by excluding respondents with excessive missing data or by replacing missing values with the mean of the respective attribute.

2.6 Data Analysis

Data in this study was analyzed in two ways, namely descriptive and statistical analysis.

2.6.1 Descriptive Analysis

The analysis is conducted by summarizing data from the characteristics of respondents to determine the percentage of respondents from each characteristic, making it easier to read and analyze.

2.6.2 Statistical Analysis

Statistical analysis was conducted using the Structural Equation Model-Partial Least Square method and the SmartPLS 4 software consisting of:

a. Measurement Model Assessment (Outer Model)

   An assessment is conducted to determine the representation of manifest variables with latent variables by examining the validity and reliability of each construct indicator.

b. Structural Model Assessment (Inner Model)

   An assessment designed to measure the strength of the relationship between variables by analyzing the R^2 value.

c. Hypothesis Testing

   Hypothesis testing is conducted using the bootstrapping method to examine and evaluate the relationships between variables within the construct.

3. Results and Discussion

3.1 Respondents' Characteristics

During data collection, 130 valid responses were obtained. The larger sample size was retained to enhance the robustness and reliability of the analysis. The respondents' characteristics were categorized based on their latest education, work unit, and duration of employment (see Table 1).

Table 1 - Respondents' Characteristics

Respondents' Characteristics		Quantity	Percentage
Last education	SMA/K	10	8%
	Diploma	41	32%
	S1	77	59%
	S2	2	1%

Respondents’ Characteristics		Quantity	Percentage
Work Unit	Management	28	22%
	Medical Support	43	33%
	Medical Services	59	45%
Duration of Employment	<1 year	2	1%
	1-5 years	19	15%
	6-10 years	27	21%
	11-15 years	33	25%
	>15 years	49	38%

3.2 Measurement Model Assessment (Outer Model)

The measurement model assessment includes an assessment of convergent validity, discriminant validity, and construct reliability.

3.2.1 Convergent Validity

Convergent validity is a measure of the relationship between the indicator's value and the latent variable. Indicators are regarded as valid if their loading factor value exceeds 0.60. In addition, a successful measurement model should have an Average Variance Extracted (AVE) value greater than 0.50. The discriminant validity measurement of the following results (see Figure 2 and Table 2).

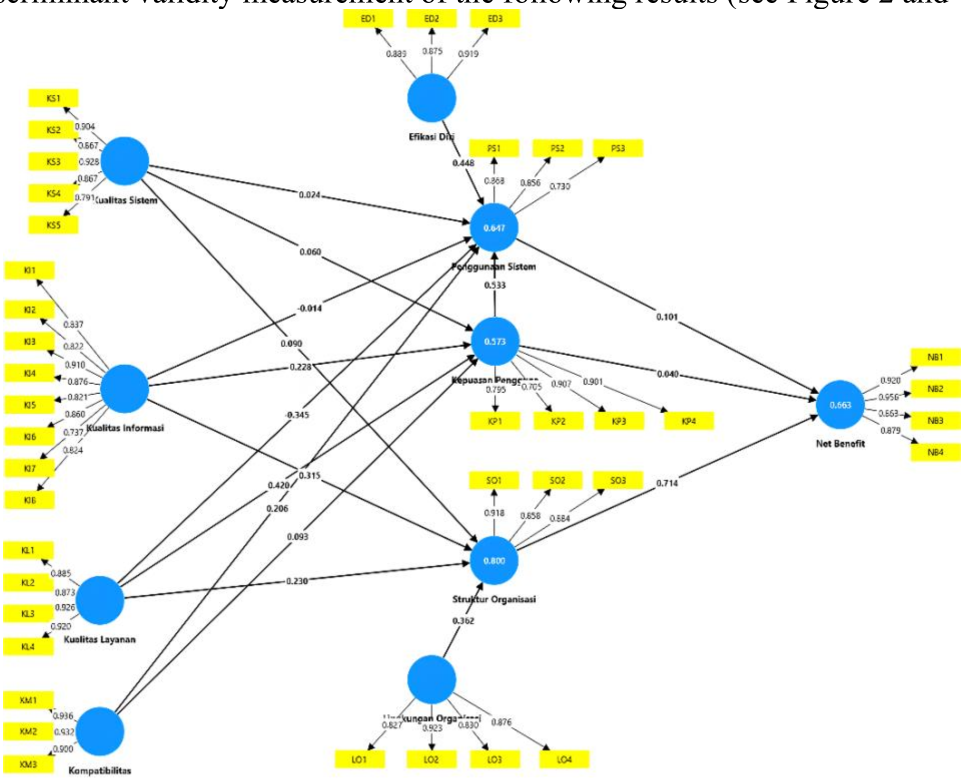

Figure 2 - Outer Model Measurement Results

Table 2 - Outer Loading and Average Variance Extracted Results

Variables	Indicator	Outer Loading	AVE
System Quality	SQ1	0.904	0.762
	SQ2	0.867	
	SQ3	0.928	
	SQ4	0.867	
	SQ5	0.791	
Information Quality	IQ1	0.837	0.701
	IQ2	0.822	
	IQ3	0.910	
	IQ4	0.876	

Variables	Indicator	Outer Loading	AVE
	IQ5	0.821	
	IQ6	0.860	
	IQ7	0.737	
	IQ8	0.824	
Service Quality	SVQ1	0,885	0.812
	SVQ2	0,873	
	SVQ3	0,926	
	SVQ4	0,920	
Compatibility	CM1	0,936	0.851
	CM2	0,932	
	CM3	0,900	
Self-Efficacy	SE1	0,889	0.800
	SE2	0,875	
	SE3	0,919	
System Usage	SU1	0,868	0.673
	SU2	0,856	
	SU3	0,730	
User Satisfaction	US1	0,795	0.691
	US2	0,705	
	US3	0,907	
	US4	0,901	
Organizational Structure	OS1	0,918	0.787
	OS2	0,858	
	OS3	0,884	
Organizational Environment	OE1	0,827	0.748
	OE2	0,923	
	OE3	0,830	
	OE4	0,876	
Net Benefit	NB1	0,920	0.819
	NB2	0,956	
	NB3	0,863	
	NB4	0,879	

It is known that the outer loading value of all indicator items on each variable is larger than 0.60, and the AVE value is greater than 0.50. Thus, the indicators for each variable met the conditions for convergent validity.

3.2.2 Discriminant Validity

Discriminant validity is assessed by comparing the cross-loading value of variable blocks to other indicators. If the value of the variable block with its indicator exceeds the value of the variable block with other indicators, the measurement model meets the discriminant validity requirements (see Table 3).

Table 3 - Cross-Loading Results

	SE	IQ	SVQ	CM	US	SQ	OE	NB	SU	OS
SE1	0.889	0.621	0.549	0.633	0.535	0.603	0.517	0.567	0.553	0.646
SE2	0.875	0.591	0.558	0.542	0.511	0.554	0.508	0.517	0.615	0.584
SE3	0.919	0.732	0.687	0.734	0.633	0.736	0.660	0.678	0.708	0.778
IQ1	0.558	0.837	0.673	0.771	0.603	0.797	0.635	0.689	0.487	0.705
IQ2	0.591	0.822	0.644	0.755	0.572	0.706	0.561	0.653	0.580	0.703
IQ3	0.710	0.910	0.714	0.837	0.600	0.808	0.645	0.687	0.564	0.737
IQ4	0.557	0.876	0.712	0.797	0.645	0.780	0.558	0.631	0.474	0.692
IQ5	0.620	0.821	0.615	0.755	0.605	0.718	0.584	0.636	0.474	0.66
IQ6	0.649	0.860	0.695	0.719	0.647	0.722	0.575	0.627	0.527	0.728
IQ7	0.549	0.737	0.617	0.618	0.461	0.596	0.551	0.518	0.422	0.606
IQ8	0.638	0.824	0.743	0.766	0.565	0.687	0.662	0.627	0.570	0.763
SVQ1	0.556	0.688	0.885	0.724	0.647	0.651	0.518	0.488	0.417	0.638
SVQ2	0.587	0.735	0.873	0.754	0.629	0.688	0.474	0.525	0.447	0.685
SVQ3	0.627	0.756	0.926	0.802	0.704	0.759	0.628	0.628	0.528	0.749
SVQ4	0.657	0.739	0.920	0.788	0.652	0.723	0.617	0.583	0.510	0.739
CM1	0.607	0.825	0.786	0.936	0.582	0.719	0.540	0.650	0.545	0.727
CM2	0.777	0.831	0.760	0.932	0.670	0.739	0.606	0.684	0.626	0.747

	SE	IQ	SVQ	CM	US	SQ	OE	NB	SU	OS
CM3	0.586	0.837	0.813	0.900	0.694	0.839	0.652	0.663	0.529	0.727
US1	0.469	0.567	0.647	0.577	0.795	0.532	0.505	0.480	0.592	0.593
US2	0.553	0.469	0.386	0.408	0.705	0.385	0.421	0.418	0.555	0.441
US3	0.565	0.619	0.628	0.673	0.907	0.612	0.559	0.549	0.649	0.677
US4	0.524	0.665	0.726	0.654	0.901	0.646	0.599	0.639	0.585	0.690
SQ1	0.731	0.761	0.704	0.732	0.597	0.904	0.572	0.593	0.539	0.679
SQ2	0.626	0.776	0.626	0.728	0.502	0.867	0.602	0.618	0.501	0.646
SQ3	0.603	0.812	0.717	0.781	0.596	0.928	0.523	0.583	0.493	0.680
SQ4	0.615	0.746	0.691	0.688	0.602	0.867	0.643	0.613	0.513	0.723
SQ5	0.523	0.699	0.674	0.693	0.593	0.791	0.539	0.573	0.504	0.684
OE1	0.488	0.507	0.435	0.438	0.424	0.457	0.827	0.728	0.471	0.598
OE2	0.554	0.624	0.594	0.574	0.570	0.589	0.923	0.734	0.516	0.667
OE3	0.577	0.620	0.447	0.542	0.520	0.551	0.830	0.696	0.587	0.685
OE4	0.567	0.695	0.658	0.673	0.647	0.665	0.876	0.787	0.535	0.763
NB1	0.600	0.692	0.476	0.602	0.547	0.596	0.800	0.920	0.552	0.751
NB2	0.640	0.731	0.567	0.687	0.566	0.638	0.819	0.956	0.586	0.767
NB3	0.519	0.646	0.586	0.644	0.615	0.603	0.720	0.863	0.503	0.692
NB4	0.632	0.676	0.621	0.684	0.573	0.638	0.743	0.879	0.531	0.718
SU1	0.693	0.629	0.486	0.612	0.644	0.603	0.577	0.559	0.868	0.661
SU2	0.565	0.501	0.479	0.539	0.588	0.480	0.511	0.519	0.856	0.548
SU3	0.447	0.344	0.317	0.325	0.518	0.317	0.396	0.380	0.730	0.380
OS1	0.712	0.800	0.728	0.774	0.643	0.766	0.667	0.730	0.578	0.918
OS2	0.600	0.737	0.740	0.697	0.670	0.703	0.641	0.679	0.543	0.858
OS3	0.693	0.692	0.614	0.646	0.637	0.617	0.792	0.744	0.637	0.884

It is known that the cross-loading value satisfies the discriminant validity requirements because each indicator's correlation value with its latent variable (highlighted in yellow) is greater than the correlation value with other variables.

3.2.3 Construct Reliability

A reliability test is performed to determine the accuracy or level of precision of a measure or measurement tool using two criteria: composite reliability with a value exceeding 0.70 and Cronbach alpha with a value greater than 0.60 (see Table 4).

Table 4 - Reliability Test Results

Variables	Cronbach Alpha	Composite Reliability
System Quality	0.921	0.922
Information Quality	0.938	0.941
Service Quality	0.923	0.927
Compatibility	0.913	0.916
Self-Efficacy	0.876	0.889
System Usage	0.757	0.783
User Satisfaction	0.847	0.865
Organizational Structure	0.864	0.866
Organizational Environment	0.887	0.894
Net Benefit	0.926	0.928

All variables have a composite reliability rating of higher than 0.70 and a Cronbach alpha greater than 0.60. These results indicate that all variables in this study have good reliability and meet the reliability test requirements.

3.3 Structural Model Assessment (Inner Model)

The coefficient of determination (R-squared) test is used to assess the structural models. R-Square (R^2) testing measures how much the independent variable explains the dependent variable. Strong R^2 values exceed 0.67, moderate R^2 values range from 0.33-0.67, while weak R^2 values fall below 0.19 (Chin, 1998) (see to Table 5).

Table 5 - R-Square Test Results

Variables	R-Square	Description
System Usage	0.647	Moderate
User Satisfaction	0.573	Moderate
Organizational Structure	0.800	Strong
Net Benefit	0.663	Moderate

The system usage variable (PS) can be explained by 64.7% of the variables system quality, information quality, service quality, compatibility, self-efficacy, and user satisfaction. System quality, information quality, service quality, and compatibility account for 57.3% of the user satisfaction variable (KP). System quality, information quality, service quality, and organizational environment variables account for 80% of the organizational structure (SO) variables. System usage, user satisfaction, and organizational structure account for 66.3% of the net benefit (NB) variable.

3.4 Hypothesis Testing

The bootstrapping method is used to evaluate and examine the influence of variables in the construct. A path is considered to have a significant effect if the path coefficient test value exceeds 0.1 (Hair et al. 2014). The hypothesis is accepted if the p-value is less than 0.05 and the t-statistics are more than 1.96 (Ghozali 2021) (see Table 6).

Table 6 - Bootstrapping Results

Hypothesis		Path Coefficient	T-Statistics	P-Value	Description
H1	System Quality → System Usage	0.024	0.161	0.872	Rejected
H2	System Quality → User Satisfaction	0.060	0.545	0.586	Rejected
H3	System Quality → Organizational Structure	0.090	1.244	0.213	Rejected
H4	Information Quality → System Usage	-0.014	0.080	0.936	Rejected
H5	Information Quality → User Satisfaction	0.228	1.339	0.181	Rejected
H6	Information Quality → Organizational Structure	0.315	2.870	0.004	Accepted
H7	Service Quality → System Usage	-0.345	2.720	0.007	Rejected
H8	Service Quality → User Satisfaction	0.420	3.665	0.000	Accepted
H9	Service Quality → Organizational Structure	0.230	2.766	0.006	Accepted
H10	Compatibility → System Usage	0.206	1.301	0.193	Rejected
H11	Compatibility → User Satisfaction	0.093	0.589	0.556	Rejected
H12	Self-Efficacy → System Usage	0.448	4.217	0.000	Accepted
H13	User Satisfaction → System Usage	0.533	6.692	0.000	Accepted
H14	Organizational Environment → Organizational Structure	0.362	4.555	0.000	Accepted
H15	System Usage → Net Benefit	0.101	1.163	0.245	Rejected
H16	User Satisfaction → Net Benefit	0.040	0.382	0.702	Rejected
H17	Organizational Structure → Net Benefit	0.714	8.223	0.000	Accepted

These results indicate that:

3.4.1 System Quality

System quality consists of three hypotheses, including:

a. **H_1** : System quality has a significant effect on system usage.

The test results indicate a t-statistics value of 0.161 (less than 1.96) and a p-value of 0.872 (greater than 0.05). Therefore, we can conclude that there is no significant impact between system quality and system usage, so H_1 is **rejected**. These results contradict Puspita et al. (2020) which shows that system quality had a significant effect on system usage.

b. **H_2** : System quality has a significant effect on user satisfaction.

The test results indicate a t-statistics value of 0.545 (less than 1.96) and a p-value of 0.586 (greater than 0.05). Therefore, we can conclude that there is no significant impact between system quality and user satisfaction, so H_2 is **rejected**. These results contradict Khotimah & Lazuardi (2018) which shows that system quality had a significant effect on user satisfaction.

c. **H_3** : System quality has a significant effect on organizational structure.

The test results indicate a t-statistics value of 1.244 (less than 1.96) and a p-value of 0.213 (greater than 0.05). Therefore, we can conclude that there is no significant impact between system quality and organizational structure, so H_3 is **rejected**. These results contradict Setiorini et al. (2021) which shows that system quality had a significant effect on organizational structure.

These results indicate that system quality is not directly the main determinant in system usage, user satisfaction, and organizational structure at RSUD dr. Wahidin Sudiro Husodo. System usage is driven more by external factors such as organizational policies and administrative obligations, while user satisfaction depends more on technical support, adequate training, and service responsiveness. In addition, although good system quality has the potential to drive changes in organizational structure, this impact has not been significant due to the lack of fit of the system with the strategic needs of the organization, as well as limited infrastructure and user training.

3.4.2 Information Quality

Information quality consists of three hypotheses, including:

a. **H_4** : Information quality has a significant effect on system usage.

The test results indicate a t-statistics value of 0.080 (less than 1.96) and a p-value of 0.936 (greater than 0.05). Therefore, we can conclude that there is no significant impact between information quality and system usage, so H_4 is **rejected**. These results contradict Widiastuti & Partiwi (2020) which shows that information quality had a significant effect on system usage.

b. **H_5** : Information quality has a significant effect on user satisfaction.

The test results indicate a t-statistics value of 1.339 (less than 1.96) and a p-value of 0.181 (greater than 0.05). Therefore, we can conclude that there is no significant impact between information quality and user satisfaction, so H_5 is **rejected**. These results contradict Erlirianto et al. (2015) and Deharja et al. (2021) which shows that information quality had a significant effect on user satisfaction.

c. **H_6** : Information quality has a significant effect on organizational structure.

The test results indicate a t-statistics value of 2.870 (greater than 1.96), a p-value of 0.004 (less than 0.05), and a path coefficient value of 0.315 (more than 0.10). Therefore, it can be conclude that there is a significant impact between information quality and organizational structure, so H_6 is **accepted**. These results are consistent with the research of Rumambi et al. (2017) and Widiastuti & Partiwi (2020) which shows that information quality had a significant effect on organizational structure.

The results show that although information quality is important in providing accurate and relevant data to support decision-making and interdepartmental coordination at RSUD dr. Wahidin Sudiro Husodo, it does not significantly affect the level of usage or user satisfaction. System usage is more influenced by institutional obligations and administrative needs, while user satisfaction depends on the system's support for overall work. However, information quality proved to have a significant influence in supporting the organizational structure, such as accelerating communication flow, reducing interpretation errors, and supporting strategic decisions.

3.4.3 Service Quality

Service quality consists of three hypotheses, including:

a. **H_7** : Service quality has a significant effect on system usage.

The test results indicate a t-statistics value of 2.720 (greater than 1.96) and a p-value of 0.007 (less than 0.05). However, the path coefficient value is -0.345 (less than 0.10). Therefore, we can concluded that there is an insignificant impact between service quality and system usage, so H_7 is **rejected**. These results contradict Setiorini et al. (2021) and Widiastuti & Partiwi (2020) which shows that service quality variables have a significant effect on system usage.

b. **H_8** : Service quality has a significant effect on user satisfaction.

The test results indicate a t-statistics value of 3.665 (greater than 1.96), a p-value of 0.000 (less than 0.05), and a path coefficient value of 0.420 (greater than 0.10). Therefore, we can conclude that there is a significant impact between service quality and user satisfaction, so H_8 is

accepted. These results are consistent with the research of Setiorini et al. (2021) and Erlirianto et al. (2015) which shows that service quality variables have a significant effect on user satisfaction.

c. **H_9** : Service quality has a significant effect on organizational structure.

The test results indicate a t-statistics value of 2.766 (greater than 1.96), a p-value of 0.006 (less than 0.05), and a path coefficient value of 0.230 (greater than 0.10). Therefore, we can conclude that there is a significant impact between service quality and organizational structure, so H_9 is **accepted**. These results are consistent with the research of Widiastuti & Partiwi (2020) and Sari et al. (2016) which shows that service quality variables have a significant effect on organizational structure.

The results show that although the quality of SIMRS services at RSUD dr. Wahidin Sudiro Husodo, such as quick response, reliability, and good technical support, have met users' expectations and created a positive experience, these factors do not significantly drive system usage. SIMRS usage is more influenced by operational needs, organizational policies, or work obligations, regardless of the quality of service provided. However, service quality was found to play an important role in building user satisfaction through responsiveness, problem-solving, and good communication, and had a significant impact on the organizational structure. Service support from the IT team helps ensure the integration of SIMRS into hospital operations, improving coordination between work units, and operational efficiency.

3.4.4 Compatibility

Compatibility consists of two hypotheses, including:

a. **H_{10}** : Compatibility has a significant effect on system usage.

The test results indicate a t-statistic value of 1.301 (less than 1.96) and a p-value of 0.193 (greater than 0.05). Therefore, we can conclude that there is no significant impact between compatibility and system usage, so H_{10} is **rejected**. These results contradict Goodhue & Thompson (1995) and Larsen et al. (2009) which shows that compatibility variables have a significant effect on system usage.

b. **H_{11}** : Compatibility has a significant effect on user satisfaction.

The test results indicate a t-statistics value of 0.589 (less than 1.96) and a p-value of 0.556 (greater than 0.05). Therefore, we can conclude that there is no significant impact between compatibility and user satisfaction, so H_{11} is **rejected**. These results contradict Sebetci (2018) and Islam & Azad (2015) which shows that compatibility variables have a significant effect on user satisfaction.

The results show that system compatibility is not the main factor driving system usage and user satisfaction. System usage is driven more by regulatory demands, institutional obligations, and administrative needs rather than system compatibility with users' workflows, while user satisfaction depends more on user experience, technical service support, and system efficiency in supporting daily tasks. Factors such as digital literacy and non-IT educational background also affect users' ability to understand and use the system optimally.

3.4.5 Self Efficacy

H_{12} : Self-efficacy has a significant effect on system usage.

The test results indicate a t-statistics value of 4.217 (greater than 1.96), a p-value of 0.000 (less than 0.05), and a path coefficient value of 0.448 (greater than 0.10). Therefore, we can conclude that there is a significant impact between self-efficacy and system usage, so H_{12} is **accepted**. These results are consistent with the research of Aldholay et al. (2018) which shows that the self-efficacy variable has a significant effect on system usage. These results indicate that self-efficacy is a key factor influencing the use of SIMRS at Dr. Wahidin Sudiro Husodo Hospital. Users' confidence in their ability to use SIMRS, supported by positive training, facilities, and experience, directly encourages system use. The higher the users' self-efficacy, the more likely they are to use SIMRS effectively.

3.4.6 System Usage

H_{15} : System usage has a significant effect on net benefits.

The test results indicate a t-statistics value of 1.163 (less than 1.96) and a p-value of 0.245 (greater than 0.05). Therefore, we can conclude that there is no significant impact between system usage and net benefits, so H_{15} is **rejected**. These results contradict Setiorini et al. (2021) and Widiastuti & Partiwi (2020) which shows that the system usage variable has a significant effect on net benefits. These results indicate that although the use of SIMRS at dr. Wahidin Sudiro Husodo Hospital has improved operational efficiency, such as recording patient data and managing schedules, it does not significantly affect net benefits. Constraints such as infrastructure limitations, including network connectivity and hardware, limit the impact of using the system on net benefits.

3.4.7 User Satisfaction

User satisfaction consists of two hypotheses, including:

a. **H_{13}** : User satisfaction has a significant effect on system usage.

The test results indicate a t-statistics value of 6.692 (greater than 1.96), a p-value of 0.000 (less than 0.05), and a path coefficient value of 0.533 (greater than 0.10). Therefore, we can conclude that there is a significant impact between user satisfaction and system usage, so H_{13} is **accepted**. These results are consistent with the research of Sari et al. (2016) and Khotimah & Lazuardi (2018) which shows that the user satisfaction variable had a significant effect on system usage.

b. **H_{16}** : User satisfaction has a significant effect on net benefits.

The test results indicate a t-statistics value of 0.382 (less than 1.96) and a p-value of 0.702 (greater than 0.05). Therefore, we can conclude that there is no significant impact between user satisfaction and net benefits, so H_{16} is **rejected**. These results contradict Widiastuti & Partiwi (2020) and Sari et al. (2016) which shows that the user satisfaction variable had a significant effect on net benefits.

The results show that user satisfaction is important in encouraging more effective use of SIMRS in RSUD dr. Wahidin Sudiro Husodo, especially through ease of use, administrative efficiency, and adequate technical support. However, the test results show that although user satisfaction increases, this factor does not significantly affect net benefits. Although users are satisfied with certain aspects of SIMRS, challenges such as system optimization, data integration, and adjustment to hospital operations still limit its contribution to net benefits.

3.4.8 Organizational Structure

H_{17} : Organizational structure has a significant effect on net benefits.

The test results indicate a t-statistics value of 8.223 (greater than 1.96), a p-value of 0.000 (less than 0.05), and a path coefficient value of 0.714 (greater than 0.10). Therefore, we can conclude that organizational structure has a significant influence and net benefits, so H_{17} is **accepted**. These results are consistent with the research of Khotimah & Lazuardi (2018) and Widiastuti & Partiwi (2020) which state that the organizational structure variable had a significant effect on net benefits. These results indicate that an effective organizational structure, especially through management support, training, and integration of SIMRS with hospital strategy, makes a significant contribution to the net benefits of SIMRS implementation at RSUD dr. Wahidin Sudiro Husodo. Such support can improve work efficiency, data accuracy, and patient service quality.

3.4.9 Organizational Environment

H_{14} : Organizational environment has a significant effect on organizational structure.

The test results indicate a t-statistics value of 4.555 (greater than 1.96), a p-value of 0.000 (less than 0.05), and a path coefficient value of 0.362 (greater than 0.10). Therefore, we can conclude that the organizational environment has a significant impact on organizational structure, so H_{14} is **accepted**. These results are consistent with the research of Setiorini et al. (2021) and Sari et al. (2016) which state that organizational environment variables have a significant effect on organizational structure. The results show that the organizational environment, which includes external pressures such as government regulations and technological developments, as well as internal needs such as operational efficiency, has an important role in driving changes in the organizational structure at RSUD dr. Wahidin Sudiro Husodo can ensure the successful implementation of SIMRS and the achievement of the hospital's strategic goals.

3.5 Discussion

3.5.1 Discussion of Results

The findings show that technological factors do not have a significant direct effect on net benefits. This suggests that system quality, information quality, service quality, and compatibility alone are insufficient to generate system benefits without strong organizational support. In hospital settings where system usage is mandatory, usage and user satisfaction do not necessarily reflect system success. Instead, organizational structure emerged as a critical factor in determining SIMRS success. A supportive organizational environment, including management commitment and organizational culture, plays a vital role in strengthening organizational structure and enabling sustainable system benefits.

3.5.2 Research Contribution

Theoretically, this study extends the HOT-Fit model by incorporating compatibility and self-efficacy and demonstrates the dominant role of organizational structure in determining net benefits. Practically, the findings suggest that hospital management should prioritize strengthening organizational policies, governance, and management support to maximize the benefits of SIMRS implementation.

3.5.3 Limitations

This study was conducted in a single public hospital and relied on self-reported data, which may limit generalizability and introduce response bias. Future research should involve multiple hospitals and apply mixed method approaches to provide a more comprehensive evaluation of SIMRS implementation.

4. Conclusions

This study concludes that SIMRS implementation at RSUD dr. Wahidin Sudiro Husodo has not yet generated optimal net benefits for all users, because not all hypotheses are accepted. It is known that out of 17 hypotheses, only 7 hypotheses are accepted, including $\mathbf{H_{6}}$, $\mathbf{H_{8}}$, $\mathbf{H_{9}}$, $\mathbf{H_{12}}$, $\mathbf{H_{13}}$, $\mathbf{H_{14}}$, and $\mathbf{H_{17}}$. So, only organizational structure can have a significant effect directly on net benefits in SIMRS implementation. Other factors, including information quality, service quality, and organizational environment, contribute indirectly to net benefits through organizational and human-related variables.

The findings highlight that increased system usage and user satisfaction alone are insufficient to ensure system success without strong organizational support. These results reinforce the importance of organizational readiness and structural alignment in hospital information system implementation.

References

Susilo, B & Mustofa, K. (2020), 'Evaluasi Penerapan Sistem Informasi Manajemen Rumah Sakit (SIMRS) di RSUD Praya Kabupaten Lombok Tengah Nusa Tenggara Barat', *Jurnal Sistem Informasi Kesehatan Masyarakat Journal of Information Systems for Public Health,* vol. 5, no. 3, pp. 13–27.

Puspitasari, E & Nugroho, E. (2018), 'Evaluasi Implementasi Sistem Informasi Manajemen Rumah Sakit di RSUD Kabupaten Temanggung dengan Menggunakan Metode Hot-Fit', *Jurnal Sistem Informasi Kesehatan Masyarakat Journal of Information Systems for Public Health,* vol. III, no. 3, pp. 63–77.

Yusof, M, Kuljis, J, Papazafeiropoulou, A & Stergioulas, L. (2008), 'An evaluation framework for Health Information Systems: human, organization and technology-fit factors (HOT-fit)', *International Journal of Medical Informatics,* vol. 77, pp. 386–398.

Erlirianto, L, Ali, A & Herdiyanti, A 2015, 'The Implementation of the Human, Organization, and Technology-Fit (HOT-Fit) Framework to Evaluate the Electronic Medical Record (EMR) System in a Hospital', *Procedia Computer Science,* vol. 72, pp. 580–587.

Sun, Y, Bhattacherjee, A & Ma, Q 2009, 'Extending technology usage to work settings: The role of perceived work compatibility in ERP implementation', *Information and Management,* vol. 46, no. 6, pp. 351–356.

Hung, M, Chou, C, Chen, C & Own, Z 2010, 'Learner readiness for online learning: Scale development and student perceptions'. *Computers and Education,* vol. 55, no. 3, pp. 1080–1090.

Lestari, F.D., Rachmadi, A., & Wardani, N.H., 2020. Evaluasi Sistem Informasi Manajemen Rumah Sakit Menggunakan Framework Human, Organization, and Technology-Fit (HOT-Fit) Model (Studi Pada RSI UNISMA Malang), Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, 4(8), pp. 2688–2696.

Marikyan, D., & Papagiannidis, S., 2025. Unified Theory of Acceptance and Use of Technology: A Review, in Papagiannidis, S. (Ed.), TheoryHub Book, Newcastle University. Available at: https://open.ncl.ac.uk

Chin, W 1998, *The Partial Least Squares Approach to Structural Equation Modeling,* Lawrence Erlbaum Associates, New Jersey.

Hair, J, Sarstedt, M, Hopkins, L & Kuppelwieser, V 2014, 'Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research", *European Business Review*, vol. 26, no. 2, pp. 106–121.

Ghozali, I 2021, *Partial Least Squares Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.2.9 Untuk Penelitian Empiris (Edisi 3)*, Badan penerbit Universitas Diponegoro.

Puspita, S, Supriyantoro & Hasyim 2020, 'Analysis of Hospital Information System Implementation Using the Human-Organization-Technology (HOT) Fit Method: A Case Study Hospital in Indonesia', *European Journal of Business and Management Research*, vol. 5, no. 6, pp. 1-8.

Khotimah, A & Lazuardi, L 2018, 'Evaluasi Sistem Informasi Manajemen Rumah Sakit Rajawali Citra Yogyakarta Menggunakan Model Human Organization Technology Fit (HOT-Fit)', *Jurnal Sistem Informasi Kesehatan Masyarakat Journal of Information Systems for Public Health*, vol. 3, no. 2, pp. 19-26.

Setiorini, A, Natasia, S, Wiranti, Y & Ramadhan, D 2021), 'Evaluation of the Application of Hospital Management Information System (SIMRS) in RSUD Dr. Kanujoso Djatiwibowo Using the HOT-Fit Method', *Journal of Physics: Conference Series*, vol. 1726, no. 1, pp. 1–21.

Widiastuti, N & Partiwi S 2020, 'Evaluation of Human Resource Information System by Using HOT-Fit Model', *IPTEK Journal of Proceedings Series*, vol. 3, pp. 31–31.

Deharja, A. S. M. W. ; D. N. A. ; H. A. N. N. (2021). Evaluating The Usability of Hospital Information System (HIS) Through Human Organization Technology-Fit (Hot-Fit) Model. International Proceedings the 2nd International Scientific Meeting on Health Information Management (ISMoHIM) 2020, 380–389.

Rumambi, F, Santoso, A & Setyohadi, D 2017, 'Identification of factors influencing the Success of Hospital Information System (SIRS) by Hot-Fit model 2006: A case study of RSUD Dr Samratulangi Tondano, Minahasa Regency, North Sulawesi', *Proceedings - 2017 International Conference on Soft Computing, Intelligent System and Information Technology: Building Intelligence Through IOT and Big Data, ICSIIT 2017*, pp. 202–207.

Sari, M, Sanjaya, Y & Meliala, A 2016, 'EVALUASI SISTEM INFORMASI MANAJEMEN RUMAH SAKIT (SIMRS) DENGAN KERANGKA HOT-FIT', *Seminar Nasional Sistem Informasi Indonesia*, pp. 203–208.

Goodhue, D & Thompson, R 1995, 'Task-Technology Fit and Individual Performance', *MIS Quarterly*, vol. 19, no. 2, pp. 213–236.

Larsen, T, Sørebø, A & Sørebø, Ø 2009, 'The role of task-technology fit as users' motivation to continue information system use', *Computers in Human Behavior*, vol. 25, no. 3, pp. 778–784.

Sebetci, Ö 2018), 'Enhancing end-user satisfaction through technology compatibility: An assessment on health information system', *Health Policy and Technology*, vol. 7, no. 3, pp. 265–274.

Islam, A 2016, 'E-learning system use and its outcomes: Moderating role of perceived compatibility', *Telematics and Informatics*, vol. 33, no. 1, pp. 48–55.

Yu, C 2012, 'Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT model', *Journal of Electronic Commerce Research*, vol. 13, no. 1, pp. 104–121.

Aldholay, A, Isaac, O, Abdullah, Z, Abdulsalam, R & Al-Shibami, A 2018, ‘An extension of Delone and McLean IS success model with self-efficacy: Online learning usage in Yemen’, *International Journal of Information and Learning Technology*, vol. 35, no. 4, pp. 285–304.

Appendix 1 (Research Instruments)

Variables	Indicator	Code
System Quality	SIMRS has features that are easy to learn	SQ1
	SIMRS uses language that is easy to understand	SQ2
	SIMRS presents data or information quickly	SQ3
	SIMRS keeps patient data confidential (no leakage of patient data)	SQ4
	SIMRS has never experienced a disruption that resulted in damage or loss of data	SQ5
Information Quality	Information on SIMRS is accurate	IQ1
	Data errors in SIMRS are easy to identify	IQ2
	Information on SIMRS is clear	IQ3
	Information on SIMRS is always complete	IQ4
	Information on SIMRS is appropriate to the needs	IQ5
	Information on SIMRS can be accessed at any time	IQ6
	Information on SIMRS can be accessed on every computer that has SIMRS installed.	IQ7
	Information on SIMRS is always in accordance with the access rights of SIMRS users.	IQ8
Service Quality	The IT team (as SIMRS manager) can provide a quick response when needed	SVQ1
	The IT team (as the SIMRS manager) calls you back to ask about problems that may be experienced when a system change occurs.	SVQ2
	The IT team (as the SIMRS manager) can always be trusted in solving problems with SIMRS.	SVQ3
	The IT team (as the SIMRS manager) always resolves problems with SIMRS until they are resolved.	SVQ4
Compatibility	The use of SIMRS fits all the needs and demands of your work activities.	CM1
	The use of SIMRS suits the way you complete your daily work.	CM2
	The use of SIMRS makes it easier for you to work without the need to change your work style.	CM3
Self-Efficacy	You feel confident in performing the basic functions on SIMRS needed to do your job	SE1
	You feel confident with the knowledge and skills you have in using SIMRS to do your job.	SE2
	You feel confident in using SIMRS to search or gather information related to your work.	SE3
System Usage	You often use SIMRS in carrying out your daily work tasks	SU1
	You can operate SIMRS without asking for help from others	SU2
	You are used to using computers in your work	SU3
User Satisfaction	All work related to medical/non-medical/support services can be completed without the need for manual processes.	US1
	You feel that SIMRS can reduce errors in work	US2
	You feel satisfied when working with SIMRS	US3
	You get the best service from the IT Team (as SIMRS manager)	US4
Organizational Structure	Hospital management provides full support in the implementation of SIMRS	OS1
	Hospital management provides training on the use of SIMRS	OS2
	Hospital management uses SIMRS as one of the strategies for improving health services.	OS3
Organizational Environment	The application of technology is the demand of the times	OE1
	The factor of improving health services encourages the development of SIMRS	OE2
	SIMRS implementation has been regulated in the Permenkes	OE3
	SIMRS as a factor in facilitating communication between work units in the hospital regarding medical/non-medical/support services data	OE4
Net Benefit	SIMRS can improve the effectiveness of your performance	NB1
	SIMRS helps improve the accuracy of data on medical/non-medical/support services.	NB2
	SIMRS makes you get your work done faster	NB3
	SIMRS enhances the image of the Hospital	NB4