

# Evaluation of Information System X Users Using the HOT-Fit Method at RSUD X in 2026

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## Abstract.

Digital transformation in the healthcare sector demands optimization of the Hospital Management Information System (SIMRS), including system information X at RSUD X, which still faces technical and usability challenges. This study aims to analyze the relationship between human, organizational, and technological factors and net benefits using the HOT-Fit model. The study used a quantitative, analytical descriptive design with a cross-sectional approach. The population was 117 SIMRS users with a sample of 91 respondents using the proportionate stratified random sampling technique. The research instrument was a 38-item Likert questionnaire that had been tested for validity and reliability. Data analysis was performed univariately and bivariately using the Spearman correlation test. The results showed that all variables had a significant relationship with net benefits, with moderate strengths for human ( $r=0.560$ ) and organizational ( $r=0.573$ ), and strong for technology ( $r=0.659$ ). In addition, most respondents gave positive assessments on all HOT-Fit dimensions, although there were still obstacles in access speed and technical services. The conclusion of this study shows that technological factors are the main determinant in increasing SIMRS benefits, supported by the role of human and organizational factors. System optimization requires infrastructure improvements, ongoing training, and consistent organizational support.

**Keywords:** Health Information System, Hospital Information System, HOT-Fit Model, Information System Evaluation and User Satisfaction.

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## I. INTRODUCTION

The era of digital transformation has revolutionized the global healthcare sector, with hospital management information systems (SIMRS) becoming a key pillar in improving service efficiency and decision-making. At the national level, Law Number 17 of 2023 concerning Health emphasizes the role of hospitals in providing specialist services, education, research, and social functions, which increasingly rely on integrated data management through SIMRS (Ministry of Health of the Republic of Indonesia, 2023). Recent trends indicate that SIMRS implementation not only simplifies administrative processes but also strengthens data security, as stipulated in Minister of Health Regulation No. 24 of 2022, which emphasizes the integrity, confidentiality, and availability of health information (Wijayanti & Nurhayati, 2024). Scientifically, this is relevant because it supports the achievement of Sustainable Development Goal 3 regarding quality healthcare, while practically, SIMRS reduces human workload and minimizes medical errors (Yusuf et al., 2023).

In Indonesia, the implementation of SIMRS faces unique challenges due to disparities in technological infrastructure and human resource readiness, particularly in regional hospitals. A preliminary study at RSUD X revealed inconsistent completion of the Integrated Patient Progress Notes (CPPT), with 490 instances of incompleteness in one quarter, coupled with local network disruptions that hampered data access (RSUD X Internal Report, 2025). This phenomenon reflects a national issue where 13 years of implementation of system information X have not been fully optimized, despite supporting patient registration and electronic medical record features (Dewi et al., 2021). Similar empirical data from a Ministry of Health survey shows that only 65% of regional hospitals achieve a data integration level above 80%, highlighting the urgency of a holistic evaluation for equitable service delivery (Prasetya & Sitompul, 2024).

Previous research has explored the success of SIMRS using the HOT-Fit model, which integrates human, organizational, technological, and net benefits dimensions. Wijayanti and Nurhayati (2024) found high scores in human (79.4%), organizational (73.5%), and technological (79.4%) aspects at PKU Muhammadiyah Kartasura Hospital, with SIMRS facilitating inter-unit coordination despite suboptimal training. Similarly, Syah Nur Putra et al. (2025) reported increased user satisfaction at Restu Ibu Hospital

Balikpapan through a quantitative cross-sectional approach, emphasizing the role of system quality in clinical decision-making.

However, other studies have shown significant inconsistencies. Dewi et al. (2021) at H. Adam Malik General Hospital identified human weaknesses (34.78% of respondents felt the SIMRS lacked decision-making support) and organizational weaknesses (53.62% lacked regular satisfaction evaluations), with technology being the dominant barrier, such as system disruptions (56.52%). Sitompul et al. (2024) at Bahteramas Regional Hospital also found contradictions, where net benefits were strongly influenced by technology despite low top management support. The main limitations of these studies lie in their specific focus (outpatient or medical records), the less-than-representative sampling technique, and the lack of causal analysis of HOT-Fit dimensions in small-scale regional hospitals.

The research gap lies in the lack of comprehensive evaluation of SIMRS in regional hospitals such as RSUD X, which has implemented local information system X for 13 years without a structured monitoring mechanism. Different from previous studies that were limited to the description of dimension scores, this study fills the gap by analyzing the causal relationship of human, organization, and technology to net benefits specifically in the context of remote areas, using a more inclusive cross-sectional design. The research problem formulation is focused on: "Evaluation of Information System X users between human, organization, and technology components with net benefits in RSUD X in 2026?"

This study aims to analyze the in-depth relationship between human factors (system usage and satisfaction), organizational (work structure and environment), technological (system quality, information, service), and net benefits of SIMRS X at RSUD X, with the specific objective of describing each dimension and its relationship. The urgency is pressing considering the digital transformation post-Permenkes 2022 and the 2025 field findings that show the inefficiency of CPPT, while the novelty lies in the first HOT-Fit application for local system information X in a regional hospital, surpassing previous studies in causal analysis and unique geographic context. The theoretical contribution enriches the SIMRS evaluation literature with an integrative model, while the practical one provides improvement recommendations for RSUD X, educational institutions, and further researchers to optimize national health services.

## II. METHODOLOGY

This study uses a quantitative descriptive-analytical approach with a cross-sectional design to evaluate the use of Information System X based on the HOT-Fit model at RSUD X. This approach allows the description of variable conditions at a certain point in time while analyzing the relationship between human, organizational, technological, and net benefits dimensions without intervention (Sugiyono, 2023; Yusvita et al., 2022). The cross-sectional design was chosen because it is efficient in measuring user perceptions simultaneously, as applied in similar SIMRS evaluations (Wijayanti & Nurhayati, 2024; Dewi et al., 2021).

The study population included 117 direct user personnel at X Regional General Hospital, including one general practitioner (GP), sixty-three nurses (63), five midwives (5), 17 medical records staff, and 31 laboratory staff. The sample size was calculated using the Slovin formula with a 5% margin of error, resulting in 91 respondents selected through proportionate stratified random sampling to ensure proportional representation across all professional strata (Sudaryono, 2022; Taherdoost, 2021). Inclusion criteria included personnel willing to complete the questionnaire and use the SIMRS directly, while exclusion criteria included those who refused or were not directly involved, ensuring relevant and high-quality data.

The main instrument is a 38-item Likert-scale checklist questionnaire (1=strongly disagree to 5=strongly agree), adapted from Afriza Faigayanti (2022) and validated in the HOT-Fit SIMRS evaluation. The instrument measures human (6 items), organization (11 items), technology (15 items), and net benefits (6 items), with validity confirmed through loading factor  $>0.70$  and reliability (Cronbach's alpha  $>0.70$ ; composite reliability  $>0.70$ ; AVE  $>0.50$ ) using SmartPLS (Emzir, 2021; Hair et al., 2022). This questionnaire has been proven consistent in measuring SIMRS user perceptions in the Indonesian hospital context.

The research procedure began with a preliminary study in August 2025 to identify the population, followed by coordination with the head of the medical records unit at RSUD X. Primary data collection was

conducted from January to March 2026 through direct questionnaire distribution to 91 respondents, supported by secondary data in the form of SIMRS user profiles from the hospital. Each respondent received an explanation of the procedure and the completion time was approximately 15–20 minutes, ensuring a high response rate as per health survey standards (Creswell & Creswell, 2023).

Data analysis included univariate analysis to describe the frequency distribution, mean, and perception categories of each HOT-Fit dimension using SPSS, as well as bivariate analysis to test causal relationships through Spearman or Pearson correlations based on normality tests ( $p < 0.05$  indicates a significant relationship). Data were converted to categories (strongly disagree 1.0-1.49 to strongly agree 4.50-5.00) as interpreted by Sanaky et al. (2023), allowing for practical interpretation aligned with the objectives of the SIMRS evaluation (Yusvita et al., 2022).

This study adhered to ethical principles by obtaining written informed consent from each respondent, maintaining anonymity through respondent codes, and minimizing risks through voluntary questionnaire distribution. Official permission was obtained from the leadership of RSUD X, while data were kept confidential in accordance with the principles of beneficence and justice (Putra et al., 2023; WHO, 2021). The main limitations are the potential response bias of the questionnaire and its cross-sectional nature, which does not capture longitudinal changes.

### III. RESULTS AND DISCUSSIONS

#### Univariate Analysis Results

##### 1. Respondent Characteristics

**Table 1. Respondent Characteristics**

Characteristics	Amount	Percentage (%)
20-30 Years	25	27.5%
31-40 Years	37	40.7%
41-50 Years	25	27.5%
51-60 Year	4	4.4%
Total	91	100%

primary data sources processed, 2026

Based on the characteristics of the respondents, it is known that the majority of respondents are in the 31-40 years age group, namely 37 respondents (40.7%). Meanwhile, the 20-30 years and 41-50 years age groups each numbered 25 respondents (27.5%), and the least number of respondents was the 51-60 years age group, namely 4 respondents (4.4%).

**Table 2. Respondent Characteristics**

Characteristics	Amount	Percentage (%)
Man	28	30.8%
Woman	63	69.2%
Total	91	100%

Processed primary data sources, 2026

Based on gender, the majority of respondents were female, namely 63 respondents (69.2%), while 28 respondents were male (30.8%).

**Table 3. Respondent Characteristics**

Characteristics	Amount	Percentage (%)
<b>High School/Vocational School</b>	1	1.1%
<b>DIII/DIV</b>	75	82.4%
<b>S1</b>	15	16.5%
<b>Total</b>	<b>91</b>	<b>100%</b>

Processed primary data sources, 2026

Based on their most recent education, the majority of respondents (75 respondents (82.4%) had a Diploma III/Diploma IV education. Meanwhile, 15 respondents (16.5%) had a Bachelor's degree. The lowest number of respondents was high school/vocational high school (SMA/SMK), with one respondent (1.1%).

**Table 4. Respondent Characteristics**

Characteristics	Amount	Percentage (%)
Doctor	1	1.1%
Nurse	49	53.8%
Midwife	4	4.4%
Medical records	13	14.3%
Laboratory	24	26.4%
Total	91	100%

Primary data sources processed, 2026

Based on profession, the largest group of respondents were nurses, with 49 respondents (53.8%). Meanwhile, respondents were laboratory technicians (24 respondents) (26.4%), medical records technicians (13 respondents) (14.3%), midwives (4.4%), and doctors (1.1%).

**2. Univariate data analysis of HOT-Fit variables**

**Table 5. Overview of Univariate Analysis of Human Variables**

INDICATOR	ANSWER (SCORE)					Amount	
	1	2	3	4	5		
<i>HUMAN (Man)</i>							
<i>System Use</i> (System User)	STS	TS	N	S	SS	Total	Percentage (%)
SIMRS is easy to use	0	0	2	77	12	91	Neutral: 2.2% Agree: 84.6% Strongly Agree: 13.2%
SIMRS is often used in daily work	0	0	2	67	22	91	Neutral: 2.2% Agree: 73.6% Strongly Agree: 24.2%
Feel comfortable using SIMRS	0	0	5	69	17	91	Neutral: 5.5% Agree: 75.8% Strongly Agree: 18.7%
<i>User Satisfaction</i> (User Satisfaction)	STS	TS	N	S	SS	Total	Percentage (%)
Support in building individual performance	0	0	3	73	15	91	Neutral: 3.3% Agree: 80.2% Strongly Agree: 16.5%
Attractive SIMRS display	0	2	12	64	13	91	Disagree :2.2% Neutral: 13.2% Agree: 70.3% Strongly Agree: 14.3%
SIMRS helps in decision making	0	0	4	72	15	91	Neutral: 4.4% Agree: 79.1% Strongly Agree: 16.5%

Processed primary data sources, 2026

The results of the univariate analysis on the Human variable showed a positive acceptance of SIMRS overall. In the System Use indicator, the majority of respondents agreed that SIMRS is easy to use (84.6% agree and 13.2% strongly agree), is frequently used in daily work (73.6% agree and 24.2% strongly agree), and is comfortable to use (75.8% agree and 18.7% strongly agree). Meanwhile, in the User Satisfaction indicator, the majority of respondents considered SIMRS to support individual performance (80.2% agree and 16.5% strongly agree), and the display is quite interesting (70.3% agree and 14.3% strongly agree, although 13.2% are neutral), and helps decision making (79.1% agree and 16.5% strongly agree).

**Table 6. Overview of Univariate Analysis of Organization Variables**

INDICATOR	ANSWER (SCORE)					Amount	
	1	2	3	4	5		
<i>Organization</i> (Organization)							
<i>Structure</i> (Organizational structure)	STS	TS	N	S	SS	Total	Percentage (%)
Hospital management supports the use of SIMRS	0	0	13	62	16	91	Neutral: 14.3% Agree: 68.1%

								Strongly Agree: 17.6%
Support from work units in the use of SIMRS	0	0	9	69	13	91		Neutral: 9.9% Agree: 75.8%
Have technical support	0	1	16	64	10	91		Strongly Agree: 14.3% Disagree: 1.1% Neutral: 17.6% Agree: 70.3%
The hospital management conducted training for employees related to SIMRS.	1	1	11	69	9	91		Strongly Agree : 11.0% Strongly Disagree : 1.1% Disagree: 1.1% Neutral: 12.1% Agree: 75.8%
Have adequate network facilities	0	10	15	59	7	91		Strongly Agree: 9.9% Disagree: 11.0% Neutral: 16.5% Agree: 64.8%
Have computer support (hardware and software)	0	6	23	5	6	91		Strongly Agree: 7.7% Disagree: 6.6% Neutral: 25.3% Agree: 61.5%
<i>Environment</i> (Organizational Environment)	STS	TS	N	S	SS	Total		Strongly Agree: 6.6% Percentage (%)
Encouragement from management regarding the use of SIMRS is good	0	1	20	60	10	91		Disagree: 1.1% Neutral: 22.0% Agree: 65.9% Strongly Agree : 11.0%
Encouragement from coworkers is good	0	0	30	53	8	91		Neutral: 33.0% Agree: 58.2% Strongly Agree: 8.8%
My coworkers encouraged me to use SIMRS	0	0	15	66	10	91		Neutral: 16.5% Agree: 72.5% Strongly Agree : 11.0%
Improve communication between data	0	0	3	76	10	91		Neutral: 16.5% Agree: 72.5% Strongly Agree : 11.0%
Save time in presenting information	0	1	1	69	20	91		Disagree : 1.1% Neutral: 1.1% Agree: 75.8% Strongly Agree: 22.0%

primary data sources processed, 2026

The results of the univariate analysis on the Organization variable indicate that organizational support tends to be positive for SIMRS. In the Structure indicator, the majority of respondents agreed with management support (68.1% + 17.6%), work units (75.8% + 14.3%), technical support (70.3% + 11.0%), training (75.8% + 9.9%), network availability (64.8% + 7.7%), and computer support (61.5% + 6.6%), although there was a neutral portion and a minor portion disagreed.

In the Environment indicator, the majority of respondents agreed with management support (65.9% + 11.0%), encouragement from coworkers (72.5% + 11.0%), improved data communication (72.5% + 11.0%), and time savings (75.8% + 22.0%), with coworkers' support generally being predominantly neutral (33.0%) but remaining positive overall.

#### A. Technology Variables

**Table 7. Overview of Univariate Analysis of Technology Variables**

INDICATOR	ANSWER (SCORE)					Amount	
	1	2	3	4	5		
	<i>Technology</i> (Technology)						
<i>System Quality</i> (System Quality)	STS	TS	N	S	SS	Total	Percentage (%)
Speed up the presentation of	0	0	1	65	25	91	Neutral: 1.1%

information about hospitals								Agree: 71.4% Strongly Agree: 27.5%
Provide a reliable security system	0	0	5	70	16	91		Neutral: 5.5% Agree: 76.9% Strongly Agree : 17.6%
Useful for hospital development	0	0	0	67	24	91		Agree: 73.6% Strongly Agree: 26.4%
Have high data accuracy	0	0	7	67	17	91		Neutral: 7.7% Agree: 73.6% Strongly Agree: 18.7%
Have the complete data required	0	0	1	72	18	91		Neutral: 1.1% Agree: 79.1% Strongly Agree: 19.8%
Has a variety of complete facility functions	0	0	5	70	16	91		Neutral: 5.5% Agree: 76.9% Strongly Agree: 17.6%
Has high access speed	0	12	20	46	13	91		Disagree: 13.2% Neutral: 22.0% Agree: 50.5% Strongly Agree: 14.3%
<i>Information Quality</i> (Information Quality)	<i>Quality</i>	STS	TS	N	S	SS	Total	Percentage (%)
Providing relevant information	relevant	0	0	4	76	11	91	Neutral: 4.4% Agree: 83.5% Strongly Agree: 12.1%
It is useful for me		0	0	1	74	16	91	Neutral: 1.1% Agree: 81.3% Strongly Agree: 17.6%
The quality of information provided is efficient		0	0	1	73	17	91	Neutral: 1.1% Agree: 80.2% Strongly Agree: 18.7%
Providing useful information across sectors	infor- mation	0	0	2	76	13	91	Neutral: 2.2% Agree: 83.5% Strongly Agree: 14.3%
Fill in the information presented completely		0	0	3	72	16	91	Neutral: 3.3% Agree: 79.1% Strongly Agree: 17.6%
<i>Service Quality</i> (Service Quality)	<i>Quality</i> (Service Quality)	STS	TS	N	S	SS	Total	Percentage (%)
Have support for needs		0	0	11	72	8	91	Neutral: 12.1% Agree: 79.1% Strongly Agree: 8.8%
Have good user documentation	user	0	0	17	67	7	91	Neutral: 18.7% Agree: 73.6% Strongly Agree: 7.7%
Quick repair if system damage occurs		0	2	25	53	11	91	Disagree: 2.2% Neutral: 27.5% Agree: 58.2% Strongly Agree: 12.1%

primary data sources processed, 2026

The results of the univariate analysis on the Technology variable showed an overall positive assessment of SIMRS.

In the System Quality indicator, the majority of respondents agreed on the acceleration of information (71.4% + 27.5%), reliable security (76.9% + 17.6%), usability (73.6% + 26.4%), data accuracy (73.6% + 18.7%), data completeness (79.1% + 19.8%), complete functions (76.9% + 17.6%), although access speed received 13.2% disagree and 22.0% neutral (50.5% + 14.3% positive).

In Information Quality, respondents predominantly agreed that the information was relevant (83.5% + 12.1%), useful (81.3% + 17.6%), efficient (80.2% + 18.7%), cross-sectoral (83.5% + 14.3%), and complete (79.1% + 17.6%).

In Service Quality, the majority agreed on support needs (79.1% + 8.8%), good documentation (73.6% + 7.7%), and quick fixes (58.2% + 12.1%), with a neutral portion (12.1–27.5%) and minor disagreement (2.2%).

**B. Net Benefits Variable**

**Table 8. Univariate Analysis of Net Benefits Variables**

INDICATOR	ANSWER (SCORE)					Amount	
	1	2	3	4	5		
	<i>Net Benefits(Net Profit)</i>						
<i>Net Benefits(Net Profit)</i>	STS	TS	N	S	SS	Total	Percentage (%)
SIMRS is useful for services	0	0	1	71	19	91	Neutral: 1.1% Agree : 78.0% Strongly Agree: 20.9%
SIMRS is easy to understand	0	0	2	71	18	91	Neutral: 2.2% Agree: 78.0% Strongly Agree: 19.8%
SIMRS provides complete information	0	0	1	73	17	91	Neutral: 1.1% Agree: 70.2% Strongly Agree: 29.8%
The use of SIMRS makes it easier to interact with other units.	0	0	2	68	21	91	Neutral: 2.2% Agree: 74.7% Strongly Agree: 23.1%
Improving hospital performance	0	0	1	64	26	91	Neutral: 1.1% Agree: 70.3% Strongly Agree: 28.6%
Increase customer/patient satisfaction	0	0	2	60	29	91	Neutral: 2.2% Agree: 65.9% Strongly Agree: 31.9%

primary data sources processed, 2026

Based on the results of the univariate analysis on the Net Benefits variable, the assessment of SIMRS generally tended to be very positive. Most respondents stated that SIMRS is beneficial for services (78.0% agree + 20.9% strongly agree), easy to understand (78.0% + 19.8%), provides comprehensive information (70.2% + 29.8%), and facilitates interaction with other units (74.7% + 23.1%). Respondents also mostly agreed that SIMRS improves hospital performance (70.3% + 28.6%) and increases patient satisfaction (65.9% + 31.9%), with a relatively small proportion of neutral respondents (1.1–2.2%) and no dominant disagreement.

**Bivariate Analysis Results**

**1. Data Normality Test**

**Table 10. Normality Test Results**

Variables	Significant	Conclusion
<i>Human</i>	0,000	Abnormal
<i>Organization</i>	0,000	Abnormal
<i>Technology</i>	0,000	Abnormal
<i>Net Benefits</i>	0,000	Abnormal

primary data sources processed, 2026

Based on the results of the normality test in the table above, all variables have a significance value <0.05. This indicates that the data for the Human, Organization, Technology, and Net Benefits variables are not normally distributed. Therefore, the correlation analysis used in this study was the Spearman Rank correlation test.

**2. Spearman Rank Correlation Test.**

**A. Human Relationship with Net Benefits of SIMRS Users**

**Table 11. Spearman Rank Correlation Test**

Hypothesis and Variable Relationship	Correlation Coefficient	Sig. (2-tailed)	Conclusion
<i>Human</i> with Net Benefits for SIMRS Users	0.560	$p < 0.000$	Significant, Moderate Relationship

processed data source, 2026

Based on the results of the correlation calculation of the relationship between Human and Net Benefits of SIMRS Users, with a sample of 91 respondents, a coefficient value of 0.560 was obtained. The significance value (Sig. 2-tailed) of 0.000 is smaller than the limit of  $\alpha = 0.05$  ( $0.000 < 0.05$ ), thus indicating that there is a significant relationship between the two variables. Based on the correlation coefficient value, the relationship between Human and Net Benefits of SIMRS Users is included in the moderate category. It can be concluded that there is a significant and positive relationship between Human and Net Benefits of SIMRS Users, so that the Alternative Hypothesis (Ha1) is accepted and the Null Hypothesis (H01) is rejected.

#### B. Relationship between Organization and Net Benefits of SIMRS users

**Table 12. Spearman Rank Correlation Test**

Hypothesis and Variable Relationship	Correlation Coefficient	Sig. (2-tailed)	Conclusion
<i>Organization</i> with Net Benefits for SIMRS Users	0.573	$p < 0.000$	Significant, Moderate Relationship

primary data sources processed, 2026

Based on the results of the correlation calculation of the relationship between Organization and Net Benefits of SIMRS Users, with a sample of 91 respondents, a correlation coefficient value of 0.573 was obtained. The significance value (Sig. 2-tailed) of 0.000 is smaller than the critical limit of  $\alpha = 0.05$  ( $0.000 < 0.05$ ), thus indicating that there is a significant relationship between the two variables. Based on the correlation coefficient value, the relationship between the Organization variable and Net Benefits of SIMRS Users is included in the moderate category. Thus, it can be concluded that there is a significant and positive relationship between Organization and Net Benefits of SIMRS Users, so that the Alternative Hypothesis (Ha2) is accepted and the Null Hypothesis (H02) is rejected.

#### C. The Relationship between Technology and Net Benefits of SIMRS Users

Hypothesis and Variable Relationship	Correlation Coefficient	Sig. (2-tailed)	Conclusion
<i>Technology</i> with Net Benefits SIMRS users	0.659	$p < 0.000$	Significant, Strong Relationship

**Table 13. Spearman Rank Correlation Test**

processed data source, 2026

Based on the results of the correlation calculation of the relationship between Technology and Net Benefits of SIMRS Users, with a sample of 91 respondents, a correlation coefficient value of 0.659 was obtained. The significance value (Sig. 2-tailed) of 0.000 is smaller than the critical limit of  $\alpha = 0.05$  ( $0.000 < 0.05$ ), thus indicating that there is a significant relationship between the two variables. Based on the correlation coefficient value, the relationship between the Technology variable and Net Benefits of SIMRS Users is included in the strong category. Thus, it can be concluded that there is a significant and positive relationship between Technology and Net Benefits of SIMRS Users, so that the Alternative Hypothesis (Ha3) is accepted and the Null Hypothesis (H03) is rejected.

## IV. DISCUSSION

### Respondent Characteristics

Respondent characteristics based on age, the majority of respondents were in the 31-40 years age range, amounting to 37 respondents (40.7%). This indicates that this age group is the dominant user of the Hospital Management Information System (SIMRS). This dominance reflects that productive age groups have good adaptability and work experience that supports optimal system use. This is in line with research by Liulin Nuha, 2025, who stated that perceptions of ease and usefulness influence the acceptance and use of

information systems. Meanwhile, respondents aged over 50 years were relatively fewer, which is likely due to limited adaptation to technology. Overall, user age is an important factor in the implementation of SIMRS that needs to be considered to ensure the system can be used effectively by all age groups without significant obstacles (Akbar, PSR, et al. 2025).

Based on gender, the majority of respondents were female (63 respondents (69.2%), while 28 respondents were male (30.8%). This indicates that female respondents are more dominant. This condition is in line with trends in the health sector, where health workers and users of information systems, including SIMRS, are predominantly female. In addition, women tend to be more active in health services and the use of information systems. These results are also in line with research by Ismail (2020), which shows that female respondents outnumber male respondents (Alamsyah, N., Daniati, E., & Ristyawan, A. 2025).

Based on the Professional Characteristics table, the majority of respondents had a Diploma III/Diploma IV education level of 75 respondents (82.4%), followed by Bachelor's degree (15 respondents) (16.5%), and High School/Vocational High School (SMA/SMK) of 1 respondent (1.1%). Meanwhile, there were no respondents with Master's and Doctoral degrees. This indicates that users of the Hospital Management Information System (SIMRS) are dominated by health workers with a vocational education background. This dominance reflects that Diploma III/Diploma IV have practical skills that are in accordance with the operational needs of the system, so they are more involved in using SIMRS. This is in line with research by Akbar and Hariez (2024) which states that vocational education increases the readiness of health workers in operating health information systems because the skills they have are aligned with system needs (Azizah, RN 2025).

### **Human Variables**

Based on the analysis of the Human variable, which includes the System Use and User Satisfaction indicators, it shows that in general the human aspect in the implementation of SIMRS is in the good category, with a predominance of agree and strongly agree responses for most indicators. In the System Use indicator, SIMRS is considered easy to use, frequently used in daily work, and provides comfort in its use. This indicates that users have been able to adapt to the system and utilize it to support work activities.

In terms of User Satisfaction, SIMRS was also deemed capable of supporting individual performance, assisting in decision-making, and having a fairly attractive appearance. However, a small number of respondents still gave neutral or disagreed assessments, particularly regarding the system's appearance, indicating room for improvement.

It can be concluded that the Human variable is in the good category and shows that users have been able to operate SIMRS well and feel its benefits in supporting performance, although there are still several aspects that need to be improved so that system use becomes more optimal.

These results indicate that the use of SIMRS in hospitals has been running well and is being optimally utilized by users to support service activities. This aligns with research by Dewi et al. (2023), which stated that the human factor in SIMRS implementation is in the good category, where users are able to operate the system quite well and the system supports the service process. (Satria Dewi, W., Ginting, D., & Gultom, R. (2021). Furthermore, Kurniastuti's (2024) research also showed that users of the health information system have a good level of skill in operating the system information, thus supporting service effectiveness. Thus, it can be concluded that the human aspect of the use of SIMRS in this hospital has been running well and supports service performance (Ismail, A. 2020).

This statement emphasizes that the effectiveness of SIMRS utilization is determined not only by the availability of the system and the completeness of its features, but also by the level of optimal utilization by all users in supporting organizational goals. In the context of this research, evaluation of SIMRS is crucial to ensure that the implemented system truly contributes significantly to improving service quality, work efficiency, and information management in hospitals. Therefore, the results of this study are expected to serve as a basis for assessing the effectiveness of SIMRS and as a consideration for future system development.

## Organization Variable

Based on the results of univariate analysis on the Organization variable which includes the Structure and Environment indicators, it shows that in general organizational support for the implementation of SIMRS is in the good category with a predominance of agree and strongly agree answers on most of the indicators.

In the Structure indicator, respondents rated hospital management, work units, and technical support as adequate. This is evident in the predominance of positive assessments across nearly all aspects, although a small number of respondents provided neutral or disagreed assessments, particularly regarding network facilities, training, and hardware and software support. This indicates that the overall organizational structure supports the implementation of the SIMRS, but there are still several aspects that need improvement.

In the Environment indicator, the research results also indicated positive conditions, with work environment support, such as management support, coworker encouragement, and the system's benefits in improving data communication and time efficiency, all categorized as positive. However, there were still neutral responses to coworker support, as well as a small number of disagreements on several indicators, indicating varying perceptions of the work environment.

Thus, it can be concluded that the Organization variable is in the good category and shows that organizational support, both from the structural and work environment aspects, has played a role in supporting the implementation of SIMRS, although there are still several aspects that need to be improved so that the system implementation can run more optimally.

The results of this study align with those of Alamsyah et al. (2025), who stated that organizational factors significantly influence the success of hospital information systems. Organizational support is a crucial component in increasing the effectiveness of system use (Khairurrozi, M., & Nasution, H. 2025). Furthermore, research by Majdi et al. (2026) also demonstrated that organizational aspects have a high value in the implementation of SIMRS, indicating that organizational support plays a crucial role in the success of the system. This support includes management commitment, policy availability, and effective coordination between work units, thus creating a structured work environment (Kurniastuti, AAKI, & Wirajaya, MKM 2024). Consistent with these findings, Ariantoro (2021) also explained that the implementation of SIMRS can have a positive impact on hospital services, such as shortening work time, facilitating the data checking process, streamlining information exchange, and facilitating access to required information. Furthermore, the use of SIMRS is also perceived to improve service response times. This strengthens the results of this study that organizational support in the implementation of SIMRS plays an important role in increasing work efficiency and the quality of services in hospitals.

## Technology Variables

Based on the results of the univariate analysis on the Technology variable, it shows that the technological aspects of SIMRS implementation have been running well, including system quality, information quality, and service quality. This is evident from the predominance of agree and strongly agree responses for almost all indicators, which are generally categorized as good.

Regarding system quality, respondents assessed that the system was able to accelerate information presentation, had good security, maintained data accuracy and completeness, and provided various required functions. However, there were still weaknesses in the system's access speed, with responses from both disagreeing and neutral, indicating that system performance was not yet fully optimized.

In terms of information quality, the system was assessed as providing relevant, useful, and efficient information, while supporting cross-sectoral needs. This demonstrates that the information generated by SIMRS meets user needs and can be utilized to support work.

In terms of service quality, the system was also assessed as having good support for user needs, equipped with adequate documentation, and capable of providing repair responses when system disruptions occurred. However, there were still several neutral and disagree responses regarding the aspect of system repair speed, indicating the need for improvement in technical services. However, there were still neutral responses and a small number of disagree responses on several indicators, particularly regarding access speed and system repair response. This indicates that there are still aspects that need to be improved,

particularly in terms of system performance and service speed. However, in general, the Technology variable remains in the good category and has been able to support the implementation of SIMRS optimally.

The results of this study align with those of Wirajaya & Nugraha (2022), who stated that the technology component in the SIMRS is in the very high category and is capable of supporting services and providing information for decision-making. This indicates that technology in SIMRS plays a crucial role in supporting the service process, particularly in accelerating the presentation of information needed by healthcare workers and hospital management (Liulin Nuha, DFZ 2025). These results align with those of Setiorini et al. (2021), who stated that system quality, information quality, and service quality in SIMRS influence user satisfaction. The better the quality of the technology used, the higher the level of user satisfaction in utilizing the system, which ultimately can support work efficiency, including faster and more accurate information presentation.

Thus, it can be concluded that the technological aspects of SIMRS implementation have been successful and have provided benefits in improving service efficiency. However, improvements in technical aspects such as access speed and system stability still need to be addressed to optimize SIMRS performance.

### **Net Benefits Variable**

Based on the results of the univariate analysis on the Net Benefits variable, it shows that the implementation of SIMRS provides good benefits for hospitals, especially in improving service quality, ease of use of the system, performance improvement, and user satisfaction. In general, respondents gave ratings in the agree and strongly agree categories for all indicators, which indicates that SIMRS has had a positive impact on the implementation of daily work.

The SIMRS is considered capable of facilitating service delivery and making it easier for users to understand and operate the system. Furthermore, the system is considered capable of providing comprehensive information and facilitating interactions between work units within the hospital. This demonstrates that SIMRS functions not only as an administrative tool but also as a support for coordination between service departments.

In terms of performance, SIMRS is also considered to contribute to improving work effectiveness and accelerating service processes in hospitals. Furthermore, the system has had a positive impact on patient satisfaction, indicating that SIMRS use has supported improvements in the overall quality of healthcare services.

Despite this, a small percentage of respondents still gave neutral ratings on several indicators, indicating varying perceptions of the system's benefits. Overall, however, the Net Benefits variable fell into the good category, indicating that SIMRS implementation has provided tangible benefits to hospitals, both in terms of service, performance, and user satisfaction.

The results of this study are in line with research conducted by Azizah et al. (2025) which stated that the implementation of the Hospital Management Information System (SIMRS) is able to increase service efficiency through optimizing faster and more accurate data processing, presentation, and analysis. This shows that the existence of SIMRS not only functions as a data recording tool, but also a system that is able to support decision making more effectively and timely. With the existence of an integrated system, the service process in the hospital becomes more efficient because information can be accessed more easily and quickly (Majdi, FM, Setiatin, S., 2026). In addition, research by Nurfaidah, (2025) also shows that SIMRS plays an important role in accelerating patient data management and increasing the effectiveness of health services. The use of this system helps in reducing delays in the administrative process and speeding up the flow of services to patients (Nurfaidah, N., et al 2025).

Based on these results, it can be concluded that the Net Benefits variable in this study falls into the good to excellent category, indicating that SIMRS has made a positive contribution to supporting hospital services. However, improvements in system integration and coordination between work units are still needed to ensure the benefits generated from SIMRS use are more optimal and comprehensive.

### **The Relationship between Human Factors and Net Benefits of SIMRS Users**

Based on the results of the correlation calculation of the relationship between Human and Net Benefits of SIMRS users, with a sample of 91 respondents, a correlation coefficient value of 0.560 was obtained,

indicating a relationship in the moderate category. The significance value (Sig. 2-tailed) of 0.000 is smaller than the limit of  $\alpha = 0.05$  ( $0.000 < 0.05$ ), so it can be concluded that there is a significant relationship between the Human variable and Net Benefits of SIMRS users. Thus, the Alternative Hypothesis ( $H_{a1}$ ) is accepted and the Null Hypothesis ( $H_{01}$ ) is rejected.

These results indicate that human factors play a role in influencing the benefits gained from using SIMRS. The better the user's skills, knowledge, and acceptance of the system, the greater the perceived benefits, both in terms of improved work efficiency, service quality, and decision-making support.

The results of this study indicate that the human variable has a significant effect on the Net Benefits of SIMRS. This finding aligns with the research of Dewi et al. (2021) which states that the human factor has a significant influence on Net Benefits. Based on the results of the multiple regression test, the calculated t value was -3.572 with a significance value of  $0.001 < 0.05$ , indicating that the human factor influences the system's benefits. This indicates that good human resource quality, such as the ability and understanding to operate the system, can improve the utilization of SIMRS, thus optimizing the resulting benefits. (Satria Dewi, W., Ginting, D., & Gultom, R. 2021)..

Based on the research results of Putra Rusli et al. (2024) regarding the influence of Human on Net Benefit in the implementation of the Hospital Management Information System (SIMRS), it can be concluded that the Human variable has a significant influence on Net Benefit. This is proven by the results of the Chi-Square bivariate test with a significance value of 0.001 ( $< 0.05$ ), so that  $H_0$  is rejected and  $H_a$  is accepted. This means that there is an influence between the Human aspect on Net Benefit in the use of SIMRS (Prima Soultani Akbar, TMH 2024).

The research also shows that the better the perception of human aspects, such as the availability of adequate human resources, suitable job placement, and ability to operate the system, the higher the net benefit generated from the use of SIMRS. This net benefit is reflected in increased work efficiency, ease of completion of work, time savings, and improved service quality in the hospital.

The use of SIMRS helps improve hospital services because it is used routinely, making it easier for users to operate. The more frequently the system is used, the easier it becomes to understand and user satisfaction increases. Therefore, regular training is necessary to improve user skills. The human factor also plays a crucial role; the better the user's skills and knowledge, the higher their satisfaction with SIMRS.

### **The Relationship between Organizational Factors and Net Benefits of SIMRS Users**

Based on the results of the correlation calculation between the Organization variable and the Net Benefits of SIMRS Users in 91 respondents, a correlation coefficient value of 0.573 was obtained. The significance value (Sig. 2-tailed) of 0.000 is smaller than the critical limit of  $\alpha = 0.05$  ( $0.000 < 0.05$ ), so it can be concluded that there is a significant relationship between the two variables. Based on the correlation coefficient value, the relationship between Organization and Net Benefits of SIMRS Users is in the moderate category. Thus, there is a significant and positive relationship between Organization and Net Benefits of SIMRS Users, so that the Alternative Hypothesis ( $H_{a2}$ ) is accepted and the Null Hypothesis ( $H_{02}$ ) is rejected.

The results of this study align with Khairurroz's (2025) study, which used the Human Organization Technology Fit (HOT-Fit) model. This study showed that organizational factors significantly influence user satisfaction, as viewed from the perspective of organizational structure and the organizational environment, with a p-value  $\leq 0.050$ . This indicates that good organizational support can increase user satisfaction in implementing information systems (Wirajaya, MKM, & Irawan, NAN 2022). In Rusli's (2024) research, The results of the hypothesis testing conducted revealed a partial effect between the organization variable and Net Benefit (SIMRS). This is demonstrated by the results of the bivariate test using the Chi-Square test, which yielded a significance value of 0.005. This value is  $< 0.05$ , so it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted, meaning the organization variable has an effect on Net Benefit (SIMRS). (Prima Soultani Akbar, TMH 2024).

Theoretically, organizations play a crucial role in supporting the successful implementation of information systems. Organizations need to provide and prepare human resources capable of adapting to various challenges that may arise in information system implementation, thereby minimizing obstacles in the

digital transformation process. Furthermore, all aspects related to the organization and information technology planning must be aligned so that technology development can support organizational goals and provide optimal benefits to users.

### **The Relationship between Technology Factors and Net Benefits of SIMRS Users**

Based on the results of the correlation calculation between the Technology variable and the Net Benefits of SIMRS Users in 91 respondents, a correlation coefficient value of 0.659 was obtained. The significance value (Sig. 2-tailed) of 0.00 is smaller than the critical limit of  $\alpha = 0.05$  ( $0.0000 < 0.05$ ), thus indicating that there is a significant relationship between the two variables. Based on the correlation coefficient value, the relationship between the Technology variable and the Net Benefits of SIMRS Users is included in the strong category. Thus, it can be concluded that there is a significant and positive relationship between Technology and the Net Benefits of SIMRS Users, so that the Alternative Hypothesis (Ha3) is accepted and the Null Hypothesis (H03) is rejected.

The research results of Dewi et al. (2021) stated that the Technology variable significantly influenced the Net Benefit of SIMRS with a calculated t-value of 7.504 and a significance level of  $0.000 < 0.05$ . This indicates that system quality, such as system reliability, availability of user guides, and consistency of information, play a crucial role in increasing the system's benefits for users. However, several obstacles were encountered in its implementation, such as occasional system disruptions, limited user guides, and suboptimal user understanding of SIMRS features, which can impact the effectiveness of system utilization (Satria Dewi, W., Ginting, D., & Gultom, R. 2021).

Thus, it can be concluded that the influence of technology on the Net Benefit of SIMRS still shows varying results across studies. This indicates that even though technology quality is considered good and has a strong relationship with Net Benefits, its impact on system benefits is not always significant if the system's implementation and utilization by users are not optimal.

## **V. CONCLUSION**

This study shows that the implementation of Information System X at RSUD X is generally in the good category based on the HOT-Fit model. Human, organizational, and technological aspects all have a significant relationship to net benefits, with moderate relationship strengths for human ( $r = 0.560$ ) and organizational ( $r = 0.573$ ) factors, and a strong relationship for the technological factor ( $r = 0.659$ ). These findings confirm that technology quality is the most dominant factor in increasing system benefits, especially in supporting service efficiency, information quality, and decision-making. In addition, users showed a high level of acceptance and satisfaction with the system, although there are still obstacles in access speed, network stability, and technical support and training aspects. Practically, these results indicate that SIMRS optimization depends not only on technological readiness, but also on increasing human resource capacity and strengthening organizational support on an ongoing basis.

However, this study has limitations, namely the use of a cross-sectional design that cannot capture changes in user perceptions longitudinally, and the potential for subjective bias in the questionnaire instrument. Furthermore, the study was only conducted at a single hospital, thus limiting the generalizability of the results. Therefore, future research is recommended to use a longitudinal or mixed methods design to gain a deeper understanding and expand the research location for more representative results. Future research can also develop structural analysis such as SEM to examine causal relationships more comprehensively. Practically, hospitals are advised to improve the quality of their network infrastructure, accelerate technical service responses, and conduct regular user training to ensure optimal and sustainable system utilization.

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