IJCCS (Indonesian Journal of Computing and Cybernetics Systems)
Vol.x, No.x, July xxxx, pp. 1~5
ISSN (print): 1978-1520, ISSN (online): 2460-7258
DOI: 10.22146/ijccs.xxxx

HOSPITAL MANAGEMENT INFORMATION SYSTEM EVALUATION AT GRHA PERMATA IBU DEPOK

Layli Hardiyanti*[1], Naeli Umniati[2]
[1,] Department of Information System Management; Gunadarma University, Indonesia
e-mail: ***[1]**hardiyantilayli@gmail.com, [2]naeli@staff.gunadarma.ac.id

Abstrak

Rumah Sakit GRHA Permata Ibu Depok telah menerapkan Sistem Informasi Manajemen Rumah Sakit (SIMRS) guna mendukung seluruh proses pelayanan di rumah sakit sejak tahun 2013. Evaluasi SIMRS perlu dilakukan untuk mengetahui keadaan sebenarnya dari implementasi sistem informasi dengan tujuan untuk memeriksa dan mengevaluasi SIMRS di RS Grha Permata Ibu Depok untuk mencapai hasil yang sebanding dengan menggunakan tolak ukur tertentu untuk memperoleh hasil kinerja yang sesuai dalam menunjang pelayanan yang lebih baik, efektif dan efisien serta dapat diketahui kondisi sistem kemudian dideskripsikan agar adanya tindakan lebih lanjut yang direncanakan untuk memperbaiki kinerja sistem informasinya. Penelitian menggunakan metode kuantitatif dengan pendekatan survei yang dilakukan secara online menggunakan google forms. Model evaluasi HOT-Fit digunakan untuk menilai tingkat kesiapan pemanfaatan suatu sistem informasi dengan komponen penting dalam sistem informasi yaitu, Human (Manusia), Organization (Organisasi), dan Technology (Teknologi), dan Net Benefts (Manfaat Bersih). Hasil penelitian ini diketahui bahwa dari 13 hipotesis yang dikembangkan, 6 hipotesis diterima dan 7 hipotesis ditolak karena tidak berpengaruh. Sehingga penelitian ini membuktikan bahwa tidak semua hipotesis yang diajukan terbukti secara empiris. Beberapa rekomendasi dari hasil pengujian yang diharapkan dapat meningkatkan tingkat keberhasilan implementasi SIMRS di Rumah Sakit Grha Permata Ibu Depok.

Kata kunci*— Evaluasi, Hot Fit, HMIS*

Abstract

The GRHA Permata Ibu Hospital in Depok has been implementing the Hospital Management Information System (HMIS) since 2013 to support all hospital service processes. An evaluation of the HMIS is necessary to understand the actual state of the information system implementation. The objective is to examine and assess the HMIS at GRHA Permata Ibu Hospital to achieve results that are comparable using specific benchmarks. The goal is to obtain performance outcomes that support better, effective, and efficient services, and to identify the system's current condition for further action planning to improve its performance. The research follows a quantitative method with an online survey approach using Google Forms. The HOT-Fit evaluation model is used to assess the readiness level for utilizing an information system, focusing on the crucial components of Human, Organization, Technology, and Net Benefits. The study's results reveal that out of the 13 developed hypotheses, 6 hypotheses were accepted, while 7 hypotheses were rejected. Therefore, the research proves that not all proposed hypotheses are empirically supported. Based on the test results, several recommendations are provided to enhance the success rate of the HMIS implementation at GRHA Permata Ibu Hospital in Depok.

Received June 1st,2012; Revised June 25th, 2012; Accepted July 10th, 2012

Keywords— *Evaluation, HOT Fit, HMIS.*

1. INTRODUCTION

The use of technology is now a necessity that requires all levels of society to follow and master information and communication technology. In the healthcare field, hospitals utilize information and communication technology to expedite public service activities.

In hospitals carrying out service activities, data processing is needed with a systematic management system for medical records, pharmaceutical, administrative and other data [1]. A key step in creating a hospital management information system with the aid of hospital technology is managing patient, employee, and medical staff data efficiently, effectively, quickly, easily, and accurately. [2].

The Hospital Management Information System (HMIS) is an information and communication technology-based system that processes and integrates the entire flow of hospital services through a coordinated network, reporting, and administrative procedures in order to acquire accurate and precise information, according to the definition provided in Article 1, Paragraph 2 of the Regulation of the Minister of Health of the Republic of Indonesia No. 82 of 2013. It is regarded as a part of the Health Information System as well [3]. Furthermore, all hospitals are required to adopt and use SIMRS under Article 3 of the Regulation of the Minister of Health No. 82 [3].

Grha Permata Ibu Depok Hospital was established in 2001 as a polyclinic and maternity hospital; now, it has increased its status to become a General Hospital (RSU) according to the permit issued on October 17, 2011. Grha Permata Ibu Depok Hospital is a hospital that has implemented HMIS. The information system at the Grha Permata Ibu Hospital Depok Asih Depok has been implemented since 2013. On May 15, 2022, the HMIS Avicenna HMIS was used with the latest version. HMIS ensures data integrity and management in decision-making, increasing efficiency and effectiveness in the business processes carried out. Until now, the use of HMIS has been supported by all workers at Grha Permata Ibu Depok Hospital.

To ascertain the actual condition of an information system installation, system information assessment is required. The successes of the information system installation may be determined via this review, and further activities can be planned to increase its efficacy [4]. When assessing a health information system, organizational and human factors are taken into account in addition to technology factors.

The Human Organization Technology (HOT) Fit model is one of the assessment methods used to determine the level of readiness for using an information system [5]. HOT Fit does not only focus on self-evaluated system components but also on additional supporting components that make this model suitable for use in research to produce comprehensive recommendations for application improvement and development [6].

The Human, Organization, and Technology components of the HOT-Fit paradigm are its main components. The way these variables interact and line up directly affects the system's overall net benefits. This model was chosen because it can provide a thorough review while concentrating on the essential elements of information system components.

The evaluation outcomes of HMIS at RSU Royal Prima in 2021, employing the HOT-Fit method, indicated that out of 106 respondents, all 106 perceived HMIS as useful, while 34 respondents found it not useful. The system's quality, information, service, system development, usage, user satisfaction, and organizational environment structure played a vital role in effectively and efficiently implementing HMIS at RSU Royal Prima Medan in 2021 [7]. When the Human Organization and Technology Fit Model was used to evaluate the deployment of HMIS at Arsani

Hospital in Sungailiat, Bangka Regency, it was found that 11 of the 18 established hypotheses were accepted and 7 were rejected. In order to increase the success rate of HMIS installation at Arsani Hospital, the research makes a number of suggestions [8]. The results of the t-test using SMARTPLS for the evaluation of HMIS at RSUD Al Fuadi Binjai suggested that user and user satisfaction variables had a direct impact on the value of the benefits offered by HMIS, whereas system quality and organizational variables had an indirect impact [9].

2. METHODS

The phases of research include steps to conduct research from beginning to end. Figure 1 depicts the research flow.

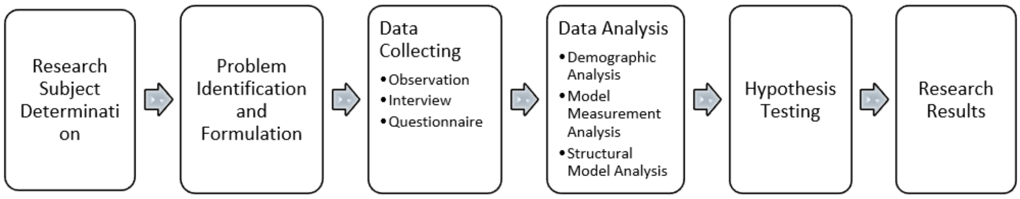

Figure 1 Research Flow

In Figure 1, The first stage involves determining the research subject. The second stage involves problem identification and formulation. The third stage consists of data collection using methods such as interviews, literature review, and questionnaire distribution. The subsequent stage is data analysis, which includes demographic analysis, model measurement analysis, and structural model analysis, followed by hypothesis testing and discussion.

In the final stage, conclusions and recommendations are drawn based on the research findings.The study was carried out at the Grha Permata Ibu Hospital, located at 168 Jalan KH. M. Usman in Kukusan-Beji, Depok, West Java. The hospital HMIS Grha Permata Ibu Depok is the focus of this investigation. The computerized system can process data quickly and precisely and produce information connected to all parts of hospital management. With HMIS, the functions of all sections are more concentrated in a professional manner, thus influencing the effectiveness of healthcare professionals and enhancing the standard of hospital services.

HMIS has to be evaluated as part of the implementation process. The readiness level for establishing an information system is determined using the HOT- Fit model as an assessment technique. Assessing this readiness is vital to ascertain the system's effectiveness, efficiency, and positive impact on both the organization and users [5]. The model offers a comprehensive elucidation of the information system's components, namely humans, organizations, and technology.

HOT-Fit assesses the crucial elements of an information system: Human evaluation considers the system from the users' perspective (system use), encompassing factors such as user identity, training, experience, knowledge, expectations, and their acceptance or rejection of the system [10]. The evaluation of organization focuses on how well the system aligns with the organizational structure and environment, including aspects such as planning, system management, control, management support, and financing. Contrarily, technology assessment looks at the system's, information's, and services' quality. The advantages that come from these components working together are represented by the term "Net Benefit." [11].

The objective of this study is to investigate the effects of the independent factors (people, organizations, and technology) on the dependent variable (net benefit) using a quantitative research technique using a cross-sectional design and survey methodology. The research instrument was a questionnaire designed based on a predetermined model, utilizing a 5-point Likert scale [12].

Table 1 Likert Scale

Description	Score
Strongly Disagree	1
Don't Agree	2
Neutral	3
Agree	4
Strongly Agree	5

The questionnaire utilized in this research was structured into two sections. The first section comprised general questions that focused on gathering information about the respondents' demographics.

Google Forms was used to distribute surveys, which were then shared over WhatsApp, in order to gather data. The population for this study consisted of employees of Grha Permata Ibu Depok Hospital, totaling 485 individuals. The Grha Permata Ibu Depok Hospital personnel who utilized the Hospital Management Information System (HMIS) were the criterion for respondents under the purposive sample technique that was applied.

To select the sample, the researcher employed the Slovin technique with a significance level (tolerable error rate) of 5% or 0.05 and a confidence level of 95%. The formula used to calculate the sample size (n) was based on the total population (N) and the significance level of 0.05 (d), as follows:

$$n = \frac{N}{1+N\,(d^2)} \quad (1)$$

This study's analysis was carried out using the Partial-Least Squares-Structural Equation Modeling (PLS-SEM) technique and the SmartPLS software. A statistical method called PLS- SEM does not call for any assumptions about how data will be distributed. The PLS model evaluation required many testing phases, including an analysis of the measurement model (outer model) and an evaluation of the structural model (inner model). The hypotheses formulated for this study are presented in Table 2.

Table 2 Research Hypothesis

H1	Information Quality (IQ) influences System Use (SU)
H2	Information Quality (IQ) influences User Satisfaction (US)
H3	Organization Environment (OE) influences Net Benefit (NB)
H4	Organization Structural (OS) influences Net Benefit (NB)
H5	Organization Structural (OS) influences Organization Environment (OE)
H6	Structural (OS) influences User Satisfaction (US)
H7	Service Quality (SEQ) influences System Use (SU)
H8	Service Quality (SEQ) influences User Satisfaction (US)
H9	System Use (SU) influences Net Benefit (NB)
H10	System Quality (SYQ) influences System Use (SU)
H11	System Quality (SYQ) influences User Satisfaction (US)
H12	User Satisfaction (US) influences Net Benefit (NB)
H13	User Satisfaction (US) influences System Use (SU)

3. RESULTS AND DISCUSSION

3.1 Demographic Analysis Results

The demographic analysis results on distributing the questionnaires were obtained from the answers of HMIS user respondents at Grha Permata Ibu Hospital, Depok, with as many as 171 respondents. The demographic results describing the respondents' identity can be seen in Figure 2 and Figure 3.

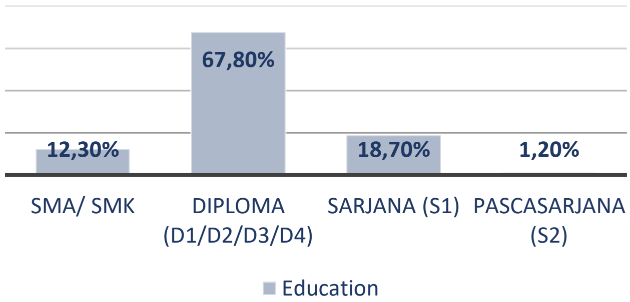

Figure 2 Respondent data based on education

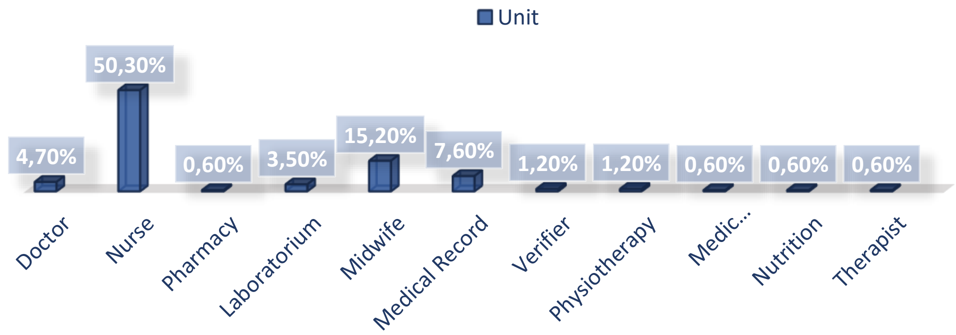

Figure 3 Respondent data based on unit

Figure 2 shows that the majority of respondents were diplomas (D1/D2/D3/D4) as their highest degree of schooling. Figure 3 shows that the majority of units that use HMIS were nurses.

3.2 Results of Measurement Analysis Model (Outer Model).

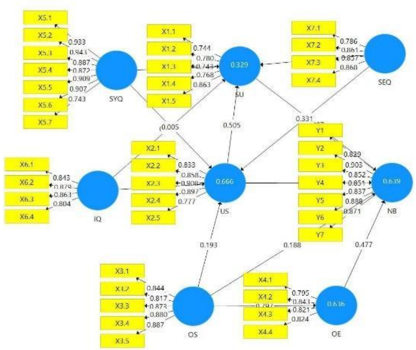

Figure 4 Outer Model

At this stage, the measurement model's (the outer model) examination is carried out using four testing procedures i.e the individual item reliability (the loading factor), the internal consistency reliability (the reliability composite), the average variance extracted (AVE), and the discriminant validity.

3.2.1 Individual Item Reliability

The association between each measuring indicator and its corresponding concept is shown by the use of the standardized loading factor in individual item reliability. A dependable indicator is one with a loading factor value larger than 0.70, meaning it is appropriate for assessing the construct [13]. If the loading factor value is <0.70, then the indicator must be removed (deleted) because it is considered invalid. After completing the test, the findings are depicted in Figure 5.

Variable	Code	Loading Factor	Information
System Use (X1)	SU1	0,744	Valid
	SU2	0,780	Valid
	SU3	0,743	Valid
	SU4	0,768	Valid
	SU5	0,863	Valid
User Satisfaction (X2)	US1	0,833	Valid
	US2	0,858	Valid
	US3	0,908	Valid
	US4	0,897	Valid
	US5	0,777	Valid
Organization Structure (X3)	OS1	0,844	Valid
	OS2	0,817	Valid
	OS3	0,873	Valid
	OS4	0,880	Valid
	OS5	0,887	Valid
Organization Environment (X4)	OE1	0,795	Valid
	OE2	0,843	Valid
	OE3	0,821	Valid
	OE4	0,824	Valid
System Quality (X5)	SYQ1	0,933	Valid
	SYQ2	0,943	Valid
	SYQ3	0,887	Valid
	SYQ4	0,872	Valid
	SYQ5	0,909	Valid
	SYQ6	0,907	Valid
	SYQ7	0,743	Valid
Service Quality (X7)	SQ1	0,786	Valid
	SQ2	0,861	Valid
	SQ3	0,857	Valid
	SQ4	0,868	Valid
Net Benefit (Y)	NB1	0,829	Valid
	NB2	0,903	Valid
	NB3	0,852	Valid
	NB4	0,851	Valid
	NB5	0,837	Valid
	NB6	0,888	Valid
	NB7	0,871	Valid

Figure 5 Loading Factor Test Results

Figure 5 demonstrates that the loading factor test results show values exceeding 0.70. This suggests that the constructs can effectively explain a substantial portion of the variations in the indicators, confirming that the variable indicators in Figure 3 are valid and appropriate for utilization as research instruments.

3.2.2 Internal Consistency Reliability

Internal consistency is the method used to assess a variable's dependability value. reliability [14]. Composite reliability (CR) values ranging from 0.6 to 0.7 are deemed to indicate good reliability [13], and Cronbach's alpha values better than 0.70 for each variable show strong reliability for all constructs. [15]. The results of this analysis are presented in Figure 6.

	Cronbach's Alpha	Rho_A	Composite Reliability
X1	0,841	0,866	0,886
X2	0,841	0,866	0,886
X3	0,912	0,915	0,934
X4	0,839	0,844	0,892
X5	0,954	0,973	0,963
X6	0,869	0,871	0,911
X7	0,865	0,873	0,908
Y	0,942	0,945	0,953

Figure 6 Composite Reliability (CR) Test Result

The composite reliability and Cronbach's alpha values for each variable are more than 0.70, as shown in Figure 6, confirming their validity and suitability for inclusion in this study model.

3.2.3 Average Variance Extracted (AVE)

By examining the average value to determine the magnitude of the indicators inside latent variables (constructs), convergent validity is evaluated. A high amount of convergent validity is indicated by an AVE value larger than 0.5 [13]. Table 3 below shows the results of the convergent validity test.

Table 3 Results of the Average Variance Extracted (AVE) Value Test

X1	X2	X3	X4	X5	X6	X7	Y
0,609	0,733	0,741	0,674	0,787	0,719	0,712	0,743

All of the indicators within these variables are legitimate and appropriate for use in this study model, as shown in Figure 7 by the AVE test results for each variable having values higher than 0.5.

3.2.4 Discriminant Validity

The Fornell-Larcker Criterion and Cross Loading are two techniques used in the discriminant validity testing phase. According to the Fornell-Larcker Criterion, a construct is determined to be legitimate by comparing its square root value to the correlation between its latent variables, and the AVE value must be higher [16]. Figure 7 below displays the Fornell-Larcker Criterion test results.

	IQ	NB	OE	OS	SEQ	SU	SYQ	US
IQ	0,848							
NB	0,538	0,862						
OE	0,636	0,770	0,821					
OS	0,692	0,706	0,797	0,861				
SEQ	0,805	0,549	0,692	0,678	0,844			
SU	0,472	0,646	0,659	0,636	0,456	0,781		
SYQ	0,365	0,264	0,255	0,253	0,381	0,183	0,887	
US	0,770	0,591	0,706	0,673	0,760	0,571	0,314	0,856

Figure 7 Fornell-Larcker Criterion Test Results

The square root values of AVE from the discriminant analysis for each construct using the Fornell-Larcker criteria are shown in Figure 7. These numbers exceed the association with other variables, proving the discriminant validity of these numbers. The square root values of AVE are greater than the correlation with other variables, just as they are with other latent variables.

In the Cross Loading evaluation, each variable is assessed to ensure that the correlation with its respective indicator is more significant than with other variables. It is projected that the cross-loading value will be greater than 0.7 [15]. Figure 8 below shows the results of the cross-loading test.

	SU	US	OS	OE	SYQ	IQ	SEQ	NB
X1.1	0,744	0,484	0,539	0,620	0,280	0,461	0,479	0,545
X1.2	0,780	0,378	0,427	0,408	0,134	0,326	0,232	0,395
X1.3	0,743	0,336	0,437	0,403	0,065	0,272	0,241	0,442
X1.4	0,768	0,437	0,402	0,411	0,112	0,268	0,291	0,356
X1.5	0,863	0,543	0,613	0,640	0,105	0,451	0,453	0,682
X2.1	0,531	0,833	0,565	0,629	0,244	0,642	0,689	0,479
X2.2	0,524	0,858	0,618	0,637	0,291	0,689	0,703	0,529
X2.3	0,458	0,908	0,589	0,604	0,309	0,695	0,654	0,504
X2.4	0,417	0,897	0,546	0,574	0,263	0,696	0,662	0,436
X2.5	0,505	0,777	0,553	0,570	0,232	0,565	0,533	0,571
X3.1	0,481	0,696	0,844	0,665	0,324	0,741	0,762	0,520
X3.2	0,468	0,556	0,817	0,644	0,244	0,587	0,609	0,510
X3.3	0,602	0,499	0,873	0,627	0,253	0,553	0,461	0,645
X3.4	0,564	0,568	0,880	0,733	0,179	0,560	0,533	0,641
X3.5	0,613	0,575	0,887	0,752	0,106	0,542	0,555	0,708
X4.1	0,535	0,563	0,587	0,795	0,222	0,521	0,595	0,549
X4.2	0,603	0,599	0,710	0,843	0,205	0,553	0,599	0,670
X4.3	0,517	0,507	0,554	0,821	0,088	0,441	0,408	0,670
X4.4	0,507	0,642	0,747	0,824	0,312	0,568	0,658	0,630
X5.1	0,145	0,295	0,204	0,239	0,933	0,320	0,370	0,231
X5.2	0,214	0,329	0,274	0,246	0,943	0,391	0,381	0,267
X5.3	0,171	0,257	0,200	0,207	0,887	0,308	0,267	0,220
X5.4	0,113	0,243	0,186	0,157	0,872	0,259	0,285	0,160
X5.5	0,143	0,266	0,208	0,265	0,909	0,380	0,378	0,235
X5.6	0,231	0,318	0,303	0,287	0,907	0,341	0,366	0,339
X5.7	0,057	0,206	0,145	0,143	0,743	0,225	0,297	0,120
X6.1	0,347	0,621	0,563	0,507	0,316	0,843	0,628	0,382
X6.2	0,303	0,655	0,528	0,500	0,301	0,879	0,666	0,397
X6.3	0,381	0,716	0,592	0,588	0,329	0,863	0,781	0,463
X6.4	0,550	0,611	0,650	0,551	0,290	0,804	0,644	0,564
X7.1	0,268	0,605	0,440	0,564	0,271	0,570	0,786	0,389
X7.2	0,418	0,682	0,636	0,609	0,341	0,708	0,861	0,518
X7.3	0,368	0,592	0,564	0,561	0,397	0,707	0,857	0,466
X7.4	0,463	0,678	0,627	0,599	0,281	0,721	0,868	0,471
Y1	0,488	0,456	0,489	0,565	0,175	0,363	0,370	0,829
Y2	0,539	0,468	0,593	0,636	0,219	0,420	0,425	0,903
Y3	0,508	0,471	0,530	0,624	0,218	0,388	0,386	0,852
Y4	0,538	0,548	0,616	0,688	0,243	0,500	0,510	0,851
Y5	0,581	0,535	0,670	0,715	0,225	0,493	0,576	0,837
Y6	0,620	0,547	0,665	0,684	0,243	0,553	0,540	0,888
Y7	0,602	0,520	0,661	0,704	0,258	0,494	0,473	0,871

Figure 8 Cross Loading Test Results

Based on the depicted figure, all loading indicators on the variables demonstrate higher significance compared to the cross-loading values. Therefore, the conclusion from the discriminant validity test confirms that all the question indicators in these variables are valid and appropriate to be used as research instruments.

3.3 Results of Structural Model Analysis (Inner Model)

As part of the structural model analysis, the path coefficient, the coefficient of determination (R2), and the effect size (f2) are used to evaluate the structural model and determine the relevance of the link between variables.

3.3.1 Path Coefficient Test *(β)*

A metric used to express the amount of importance in a connection between variables is the path coefficient. A path coefficient that is closer to +1 (positive) indicates a higher effect of the independent variable on the dependent variable. On the other hand, if the path coefficient is closer to -1 (negative), it suggests that the exogenous and endogenous variables do not have a positive connection [22]. Figure 9 below lists the results of the path coefficient analysis.

Relationship Between Variables	β	Relationship Direction
IQ -> SU	0,073	Positive
IQ -> US	0,368	Positive
OE -> NB	0,477	Positive
OS -> NB	0,188	Positive
OS -> OE	0,797	Positive
OS -> US	0,193	Positive
SEQ -> SU	0,017	Positive
SEQ -> US	0,331	Positive
SU -> NB	0,207	Positive
SYQ -> SU	-0,008	Negative
SYQ -> US	0,005	Positive
US -> NB	0,008	Positive
US -> SU	0,505	Positive

Figure 9 Path Coefficient

Based on the data provided in Figure 9, it is evident that the majority of variables (12 out of 13) exhibit a positive relationship with each other, while only one variable, SYQ with SU, shows a negative relationship between them.

3.3.2 Uji Coefficient of Determinan (R^2)

The Coefficient of Determinant Test, also known as R-squared, is conducted to assess the extent of influence that the independent latent variables have on the dependent latent variables. R-squared values range between 0 and 1, and they are categorized as strong (0.75), moderate or medium (0.50), or weak (0.25) based on their magnitude [13].

Adjusted R-squared is a correction of the R-squared value that takes into account the standard error. Compared to R-squared alone, it offers a more thorough assessment of the independent latent variable's capacity to explain the dependent latent variable. Table 4 below contains the results of the Coefficient of Determinant (R2) test.

Table 4 Results of the Coefficient of Determinant (R^2) Test

Variable	R-Square	Adjusted R Square
Syatem Use (SU)	0,329	0,313
User Satisfaction (US)	0,666	0,658
Organization Environtment (OE)	0,636	0,634
Net Benefit (NB)	0,639	0,630

The SU variable has an impact of 0.329 (32.9%) with an adjusted R-Square value of 0.313, falling into the weak group (0.25 R-Square 0.50) based on the data in Table 4. With an adjusted R-Square value of 0.658 and an impact of 0.666 (66.6%), the US variable falls within the moderate to medium range (0.50 R-Square 0.75). The OE variable, which is similarly classified as moderate to medium (0.50 R-Square 0.75), has an impact of 0.636 (63.6%) and an adjusted R-Square value of 0.634. With an adjusted R-Square value of 0.630 and an impact of 0.639 (63.9%), the NB variable falls within the moderate to medium range (0.50 R-Square 0.75).

3.3.3 Effect Size (f2)

The absolute value of each predictor latent variable's individual contribution to the R-squared criterion latent variable is used to calculate effect size (f2). Strong (0.35), moderate

(0.15), and weak (0.02) are the three levels that it is divided into. Values below 0.02 are considered negligible and can be disregarded due to their lack of significant impact [13]. The outcomes of the effect size test are visually presented in Figure 10.

	IQ	NB	OE	OS	SEQ	SU	SYQ	US
IQ						0,002		0,125
NB								
OE		0,183						
OS		0,032	1,746					0,054
SEQ						0,000		0,103
SU		0,062						
SYQ						0,000		0,000
US		0,000				0,134		

Figure 10 Effect Size Test Results

According to Figure 11, the variable "OS on OE" exhibits the most significant influence with a value of 1.746, surpassing the threshold of 0.35 and qualifying as a strong effect.

3.4 Hypothesis Test Results

To ascertain the significance of the connections between variables, the bootstrapping approach was used in conjunction with a two-tailed test. The significance level used was 5% (0.05), with a t-statistical significance value of 1.96. The results of the path coefficient values for each hypothesis path are presented in Table 5 below.

Table 5 Hypothesis Test Results

	Hypothesis	**Original Sample**	**Standar Deviasi**	**t-statistic**	**t-tabel**	**P Values**	**Desc.**
H1	**IQ -> SU**	0,073	0,135	0,540	1,96	0,590	Rejected
H2	**IQ -> US**	0,368	0,100	3,674	1,96	0,000	**Accepted**
H3	**OE -> NB**	0,477	0,131	3,636	1,96	0,000	**Accepted**
H4	**OS -> NB**	0,188	0,168	1,122	1,96	0,263	Rejected
H5	**OS -> OE**	0,797	0,049	16,405	1,96	0,000	**Accepted**
H6	**OS -> US**	0,193	0,133	1,451	1,96	0,147	Rejected
H7	**SEQ -> SU**	0,017	0,153	0,108	1,96	0,914	Rejected
H8	**SEQ -> US**	0,331	0,099	3,357	1,96	0,001	**Accepted**
H9	**SU -> NB**	0,207	0,101	2,047	1,96	0,041	**Accepted**
H10	**SYQ -> SU**	-0,008	0,091	0,093	1,96	0,926	Rejected
H11	**SYQ -> US**	0,005	0,059	0,085	1,96	0,932	Rejected
H12	**US -> NB**	0,008	0,137	0,062	1,96	0,951	Rejected
H13	**US -> SU**	0,505	0,195	2,596	1,96	0,010	**Accepted**

The results may be interpreted in the following way using the table 5 above:

H1: Information Quality (IQ) has an influence on System Use (SU). The results of the research, based on calculations using bootstrap, show that the path coefficient test for IQ on SU indicates a positive relationship, but it is not statistically significant. With a T value of 0.540, the initial sample value of 0.073 is less than the critical value of 1.96. Hypothesis 1 (H1) is rejected because of the standard deviation of 0.135 and the p-value of 0.590 (>0.05), indicating that System Use (SU) is not substantially impacted by Information Quality (IQ).

H2: User Satisfaction (US) is influenced by Information Quality (IQ). The study findings, as determined by bootstrapping, show that the IQ path coefficient test has a favorable and substantial impact on the US. With a statistical T value of 3.674 (>1.96) and a standard deviation of 0.100, the first sample value is 0.368. Since Hypothesis 2 (H2) is supported since the p-value is 0.000 (0.05), it can be concluded that Information Quality (IQ) does have a substantial effect on User Satisfaction (US).

H3: Organization Environment (OE) affects Net Benefit (NB). Based on bootstrap calculations, the study's findings show that the OE route coefficient test has a favorable and substantial impact on NB. With a statistical T value of 3.636 (>1.96) and a standard deviation of 0.131, the first sample value is 0.477. Hypothesis 3 (H3) is supported since the p-value is 0.000 (0.05), suggesting that Organization Environment (OE) substantially influences Net Benefit (NB).

H4: Organization Structural (OS) does not influence Net Benefit (NB). The findings from the research, using bootstrap calculations, show that the OS path coefficient test results in a positive relationship, but it is not statistically significant. With a statistical T value of 1.122 (1.96) and a standard deviation of 0.168, the initial sample value was 0.188. The Organization Structural (OS) does not substantially affect Net Benefit (NB), according to the p-value of 0.263 (>0.05), which results in the rejection of Hypothesis 4 (H4).

H5: Organization Structural (OS) has an influence on Organization Environment (OE). The research results, obtained from bootstrap calculations, demonstrate that the OS path coefficient test has a positive and significant influence on OE. The initial sample value is 0.79, the statistical T value is 16.405, the standard deviation is 0.049, and the original sample value is 0.79. Since Hypothesis 5 (H5) is supported since the p-value is 0.000 (0.05), it may be concluded that Organization Structural (OS) effects Organization Environment (OE).

H6: Organization Structural (OS) does not significantly affect User Satisfaction (US). The study's findings, based on bootstrap calculations, indicate that the OS path coefficient test results in a positive relationship, but it is not statistically significant. The original sample value is 0.193, with a statistical T value of 1.451 (<1.96), and a standard deviation of 0.133. The p-value is 0.147 (>0.05), leading to the rejection of Hypothesis 6 (H6), which means that Organization Structural (OS) does not significantly impact User Satisfaction (US).

H7: Service Quality (SEQ) does not influence System Use (SU). The results of the research, based on bootstrap calculations, reveal that the SEQ path coefficient test shows a positive relationship, but it is not statistically significant. The original sample value is 0.017, with a statistical T value of 0.108 (<1.96), and a standard deviation of 0.153. The p-value is 0.914 (>0.05), leading to the rejection of Hypothesis 7 (H7), indicating that Service Quality (SEQ) does not significantly affect System Use (SU).

H8: User Satisfaction (US) is influenced by Service Quality (SEQ). The research's conclusions show that the SEQ route coefficient test has a favorable and substantial impact on US utilizing bootstrap calculations. With a statistical T value of 3.357 (>1.96) and a standard deviation of 0.099, the first sample value is 0.331. Since Hypothesis 8 (H8) is supported since the p-value is 0.001 (0.05), it may be concluded that Service Quality (SEQ) has an impact on User Satisfaction (US).

H9: Net Benefit (NB) is greatly impacted by System Use (SU). The study findings suggest that the SU path coefficient test has a favorable and substantial impact on NB based on bootstrap calculations. The initial sample value was 0.207, and the statistical T value was 2.047 (>1.96) with a standard deviation of 0.101. As a result of the p-value of 0.041 (0.05), Hypothesis 9 (H9) is accepted, showing that System Use (SU) has a significant impact on Net Benefit (NB).

H10: System Quality (SYQ) does not influence System Use (SU). The results of the research, based on bootstrap calculations, reveal that the SYQ path coefficient test shows a negative relationship, but it is not statistically significant. The original sample value is -0.008, with a statistical T value of 0.093 (<1.96), and a standard deviation of 0.091. The p-value is 0.926 (>0.05), leading to the rejection of Hypothesis 10 (H10), indicating that System Quality (SYQ) does not significantly affect System Use (SU).

H11: System Quality (SYQ) does not significantly affect User Satisfaction (US). The findings from the research, using bootstrap calculations, indicate that the SYQ path coefficient test results in a positive relationship, but it is not statistically significant. The original sample value is 0.005, with a statistical T value of 0.085 (<1.96), and a standard deviation of 0.059. The p-value is 0.932 (>0.05), leading to the rejection of Hypothesis 11 (H11), which means that System Quality (SYQ) does not significantly impact User Satisfaction (US).

H12: User Satisfaction (US) does not significantly influence Net Benefit (NB). The study's findings, based on bootstrap calculations, indicate that the US path coefficient test results in a positive relationship, but it is not statistically significant. The original sample value is 0.008, with a statistical T value of 0.062 (<1.96), and a standard deviation of 0.137. The p-value is 0.951 (>0.05), leading to the rejection of Hypothesis 12 (H12), which means that User Satisfaction (US) does not significantly affect Net Benefit (NB).

H13: User Satisfaction (US) has an influence on System Use (SU). Based on bootstrap calculations, the study findings reveal that the US path coefficient test has a favorable and substantial impact on SU. With a statistical T value of 2.596 (>1.96) and a standard deviation of 0.195, the initial sample value was 0.505. Since Hypothesis 13 (H13) has a p-value of 0.010 (0.05), it is supported because User Satisfaction (US) substantially influences System Use (SU).

4. CONCLUSIONS

The research results are based on data analysis with 171 respondents in this study. Based on demographic data, respondents based on gender were dominated by women at 81.9%, based on the age of the majority aged 31-40 years by 45.6%, based on education dominated by diploma education level (D1/D2/D3/D4) by 67.8%, based on work units the majority Respondents were nurses by 50.3%, with a frequency of using the system > 15 times by 61.4%, respondents felt helped by the role of the system which was considered good by 48.5% and the success status of system users by 47.4% which stated that the system success status was good.

There are several recommendations for Grha Permata Ibu Hospital, which are given based on the test results, namely: (1) always carry out scheduled, routine, and periodic preventive maintenance and monitoring maintenance of HMIS regarding hardware and software in related units so that can further improve services to the community by improving the quality of the system used. (2) Hospital management needs to pay attention to the factors that encourage or hinder the adoption of HMIS as a reference in developing HMIS, such as network repair, repair of system errors that often occur in carrying out information access which is a barrier to service and other problems related to HMIS. (3) There is a need for training or fostering the use of information systems to improve the quality of human resources and the skills of system users in operating HMIS. (4) It is necessary to carry out regular evaluations and assessments for employees and HMIS to improve if there are obstacles or problems during use and minimize risks that may occur.

REFERENCES

[1] M. B. Aji, “Evaluasi Penerapan Sistem Informasi Menejemen Rumah Sakit RSIA Bhakti Persada Magetan Menggunakan TAM,” Jurnal Ilmiah Teknologi Informasi, vol 12, no.2, pp. 31–56, 2017.

[2] F. D. Lestari, A. Rachmadi, and N. H. Wardani, “Evaluasi Sistem Informasi Manajemen Rumah Sakit Menggunakan Framework Human, Organization, And Technology-Fit (HOT-Fit) Model,” Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer, vol 4, no. 8, pp. 2688-2696, 2020.

[3] Kemeterian Kesehatan RI. 2013. Peraturan Menteri Kesehatan Republik Indonesia Nomor 82 Tahun 2013 Tentang Sistem Informasi Manajemen Rumah Sakit. Jakarta: Kementerian Kesehatan Republik Indonesia.

[4] P. D. Abda'u, W.W. Winarno, and Henderi, "Evaluasi Penerapan HMIS Menggunakan Metode Hot-Fit Di RSUD Dr. Soedirman Kebumen," Jurnal Ilmiah Penelitian dan Penerapan Teknologi Sistem Informasi, vol 2, no. 1, pp. 46–56, 2018.

[5] Tawar, A. F. Santoso, and Y. S. Salma, "Model HOT Fit dalam Manajemen Sistem Informasi," Bincang Sains dan Teknologi (BST), vol 1, no. 2, pp. 76-82, 2022, doi: 10.56741/bst.v1i02.144.

[6] Y. D. Djohan, "Analisis Penerimaan Learning Management System Pada Kuliah itk. ac.id Menggunakan Pendekatan Technology Acceptance Model (TAM)," Doctoral dissertation, Institut Teknologi Kalimantan, 2021.

[7] J. Novita, A. F. P. Ismadi, C. N. Ginting, S.W. Nasution, and Gusbakti, "Evaluation of Hospital Management Information System (HMIS) Using Hot-Fit Method in RSU Royal Prima on 2021," International Journal of Scientific Engineering and Science, vol 6, no. 7, pp. 43-48, 2022.

[8] D. Vantissha and A. H. Azizah, "Evaluasi Penerapan Sistem Informasi Manajemen Rumah Sakit (HMIS) Menggunakan Model Human Organization and Technology Fit (Studi Kasus: Rumah Sakit Arsani – Sungailiat Kabupaten Bangka)," Jurnal Komputasi, vol 10, no. 2, pp. 9-21, 2022.

[9] M. I. Alhaq, Y. Absah, and R. P. Wibowo, "Evaluation of the Implementation of Hospital Management Information Systems (HMIS) Using the Hot-Fit Method at Al Fuadi General Hospital, Binjai," in Proceedings of the 19th International Symposium on Management (INSYMA 2022), pp. 529–538, 2023, doi:10.2991/978-94-6463-008-4_67.

[10] Z. A. Pranata, "Analysis of the Influence of Application Functions, Usability, and Perceived Benefits to Customer Satisfaction Shopee Online Shop in YOGYAKARTA," Jurnal Ekobis Dewantara, vol 2, no. 2, pp. 46-62,

[11] F. Franki, and I. Sari, "Evaluasi Rekam Medis Elektronik dengan Metode HOT-fit di Klinik Saraf RS Mitra Plumbon," Jurnal Penelitian Kesehatan "SUARA FORIKES" (Journal of Health Research" Forikes Voice"), vol 13, no. 1, pp. 43-51, 2022.

[12] Sugiyono, "Metode Penelitian Kuantitatif, Kualitatif dan R&D," Bandung: Alfabeta.CV. 2013.

[13] M. Sarstedt, C. M. Ringle, and J. F. Hair Jr, "Partial Least Square Structural Equation Modeling," In Homburg C., Klarmann M., Vomberg A. (eds) Handbook of Marketing Research. Springer, Cham, 2017.

[14] M. A. Memon, H. Ting, T. Ramayah, F. Chuah, and J Cheah, "A Review of the Methodological Misconceptions and Guidelines Related to the Application of Structural Equation Modeling: A Malaysian Scenario," Journal of Applied Structural Equation Modeling, vol 1, no. 1, pp. i-xiii, 2017.

[15] I. Ghozali and H. Latan, "Partial Least Squares Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0 Ed. Ke-2," Badan Penerbit Universitas Diponegoro, Semarang, 2015.

[16] J. Henseler, C. M. Ringle, and J. F. Hair Jr, "A New Criterion For Assessing Discriminant Validity In Variance-Based Structural Equation Modeling," Journal of the Academy of Marketing Science, vol 43, pp. 115-135, 2015.