ISSN No:-2456-2165

Analysis of the Implementation of Hospital Management Information Systems with Hot- Fit Model at Rsia Resti Mulya

Rifando Saputra
Master of Information Systems Management Department,
Business Information System,Gunadarma University, Indonesia

Abstract:- Hospital Information System (SIMRS) is a computerized-based application developed for medical record data management. The implementation of SIMRS in RSIA Resti Mulya is still found obstacles, among others, there are users who have difficulty using SIMRS, a lack of understanding of SIMRS, limited resources, lack of leadership support, and the use of SIMRS that has not utilized centralized data. The purpose of this study is to describe the factors that affect the effectiveness of SIMRS implementation using the Human-Organization Technology (HOT) Fit evaluation model. The type of research used is a quantitative approach. The population of this study is the user (user) of SIMRS application in RSIA Resti Mulya, with a sample of a total population of 85 people. The results of research with correlation showed there is a relationship between the availability of facilities and the quality of information with the effectiveness of SIMRS implementation and no relationship between personal capability, effectiveness of training.

Keywords:- *Hot Fit model, Hospital Management Information System. Application.*

I. INTRODUCTION

Hospital Management information systems (SIMRS) are part of a health information system that provides relevant sources of information throughout the hospital to support effective decision making and hospital administration. The purpose of SIMRS is to improve efficiency, effectiveness, professionalism, performance, and hospital access and services in addition measure evaluation mentions that the purpose of SIMRS is to produce high-quality information that can be used in all units for decision making. SIMRS performance is defined using data quality dimensions (accuracy, reliability, completeness, punctuality, integrity, and confidentiality) and continues to be used systematically for decision making.[1]

SIMRS application is to provide motivation for system users to input data done in SIMRS. The management has also conducted training for employees in operating SIMRS. The training is carried out if there are changes to the SIMRS application feature and is only given to a few employees (e.g. unit heads) but the training provided by the management is still lacking. The current condition is that after training officers do not apply the results of the training so that the existing impact is user behavior still ignores the procedures for operating SIMRS. Technology factors are divided into 3 parts, namely system quality, information quality and service quality.[1]

II. LIBRARY REVIEW

Hospital Management Information System

Hospital Management Information System (SIMRS) or often also referred to as Hospital Management System or Hospital Information System is a collection of sub-systems that are interconnected with each other and work harmoniously to achieve the goal of processing data into information needed to support hospital service functions and management decision making. Hospital Management Information System (SIMRS) is currently the main resource, which has added value and has an important role for hospitals to be able to provide the best service.[2]

Role of Hospital Management Information System

The management of hospitals without the help of the Hospital Management Information System resulted in some of the following (Hadiwidjojo, 2015), namely:

a) Data redundancies, recording the same medical data can occur repeatedly, causing duplication of data and this results in swelling data storage capacity. Service becomes slow because the process of retrieving (retrieval) of data is slow due to the large stack of files.
b) Unintegrated Data, storage and management of data that is not integrated causes data to be out of sync, the information in each part has different assumptions according to the needs of each unit / installation.
c) Out of date Information, because in the preparation of information must be designed manually then the presentation of information becomes late and less reliable truth. Hospitals need quality information. According to Jogiyanto in Setyawan (2016), that quality information has characteristics that are accurate, timely and relevant. Therefore, hospital management information system is needed to improve the quality of information in the management of hospitals.

ISSN No:-2456-2165

Evaluation Objectives

a) Determine the necessary improvements in a single individual product or team.
b) Confirm parts of a product where improvement is not required.
c) Achieve better technical quality work, at least more uniform and more predictable and to make technical performance more manageable.

Basic Concept of information system success

The existence of information technology-based systems that companies apply to influence the organization, business processes and organizational transactions Information systems become the first priority to be developed because of the magnitude of the external environmental forces and the similarity of the forces of internal or institutional factors Some systems fail due to conflicts of circumstances or internal environments.[3]

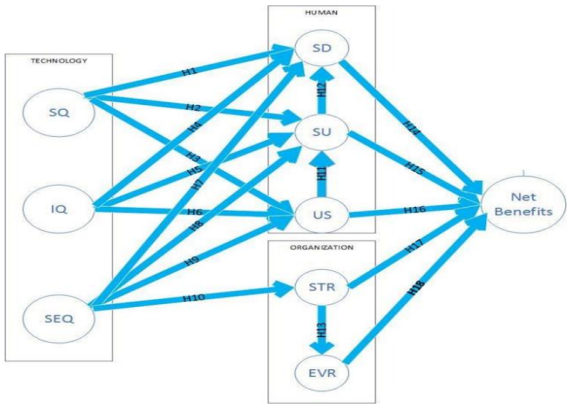
E. **Human Organization Technology (HOT)-Fit Model**

This model clarifies all the components contained in the information system itself, namely humans (Human) who assess information systems in terms of use (system use) related to who uses, training, experience, knowledge, expectations, attitudes of accepting and rejecting the system. Organization that assesses a system of organizational structure and organizational environment relates to planning, management, system control, management support,financing. Technology that assesses in terms of system quality, information quality and service quality. [5]

I RESEARCH METHODS

A. Data Analysis Methods

The model adopted from the human, organization and technology (HOT) fit research model consists of 9 variables, namely from System Development (SD), System Use (SU), User Satisfaction (US), Structure (STR), Environment (EVR), System Quality (SQ), Information Quality (IQ), Service Quality (SEQ), and Net Benefit by adding a relationship between information quality (IQ) variables to system development(SD).



Sumber : Dokumen Pribadi
Figure 1. Research Methods

The proposed model was developed based on previous research literature. This refers to previous research that states that "Companies that already have computerized data processing systems, when going to develop information systems will face problems in the physical and non-physical aspects. Physical aspects include: (1) development costs, (2) upgrading hardware, and (3) the creation of specific infrastructures. While non-physical aspects include (1) user acceptance rate, (2) management support, and (3) information system quality. Thus, seeing the relationship between information quality and system development, researchers in this study adopted the addition of the relationship between Information Quality (IQ) variables to System Development (SD).[3]

Variabel	Definition
System Development	Collaborative systems to maximize project efficiency and monitoring.
System Use	A measure of the actual use of the system that expresses the level of use.
User Satisfaction	User satisfaction with the system that has been running.
Structure	The organizational structure formed in the system
Environment	Surrounding environment system.
System Quality	The quality of information systems derived from system performance.
Information Quality	The quality of the information generated by the system.
Service Quality	Quality of service provided in system.

Table 1. Definition of variables

B. **Research Indicators**

Each variable has indicators to make it easier in the next analysis. Furthermore, the researchers conducted a pre-test of the initial design of the questionnaire to 30 SIMRS RSIA resti mulya users, the goal of which was to obtain remedial input before the questionnaire was distributed. The results of this Pretest can be seen in the attachment section.

Table 2. Variable indicator

Variabel	Indikator	Definisi	Kode
(*System Quality*) (SQ)	*Data Accuracy*	The system already has data accuracy and according to needs	SQ1
	User Friendly	The system has a simple and lightweight interface for user convenience	SQ2
	Ease of Learning	The system can be learned by users easily	SQ3
	Accessibility	The system is easy to access by users	SQ4
	Integration	The existence of interrelationships between subsystems one with the other other subsystems	SQ5
	Response Time	The system has time short response when used	SQ6
(*Information Quality*) (IQ)	*Relevancy*	System displays information relevant to users	IQ1
	Usefulness	The system has very useful information for its users	IQ2
	Data Conciseness	System displays information that is short, concise and clear.	IQ3
	Data Reliability	The system provides reliable information	IQ4
	Timeliness	The information provided by the system is up to date	IQ5
(*Service Quality*) (SEQ)	*Technical support*	The system already has a service with appropriate technical support when needed	SEQ1
	Responsiveness	The system serves users with a fast response	SEQ2
	Assurance	The system has guaranteed protection in managing the system	SEQ3
(*System Development*) (SD)	*Planning*	Defining the objectives and scope of system development	SD1
	Project Management	The system is in management System manager	SD2
	Project Scheduling	Systems have scalable time to maintain and evaluate	SD3
	Relationship with IT Strategy	System developed according to IT strategy	SD4
(System Use) (SU)	*Attitude*	Ethics in using system	SU1
	Training	Ethics in using system panduan	SU2
	Skill	The use of the system is carried out according to the level of ability the user has	SU3
	Amount of Use	The use of the system has been carried out routinely	SU4
	Motivation to Use	The use of the system is carried out in accordance with motivation to use	SU5
	System Acceptance	The use of the system can be easily accepted by the user	SU6
(*User Satisfaction*) (US)	*Overall Satisfaction*	Overall user satisfaction with the system	US1
	Perceived Usefulness	Users feel the benefits of the system	US2
	Satisfaction with Software	*Supporting software used to access the system has an effect on user satisfaction*	US3
(*Organization Structure*) (STR)	*Top Management Support*	The system has support from top management in the implementation of the system	STR1
	Leadership	The system has been supported by the maximum organizational leadership attitude	STR2
	Teamwork	The system is supported by human resources who work together in its implementation	STR3
	Strategy	The system has a good organizational strategy support	STR4
	Staffing	Staffing structure is good in system management	STR5
	Staff turnover	The system can store and manage employee knowledge so that the company keeps running well.	STR6
(*Environment*) (EV)	*Government*	Government policies in the organization have been running optimally.	EVR1
	Politics	The implementation of the system is in accordance with the conditions, needs and expectations of the organization's environment	EVR2
	Inter-organizational system	The internal environmental conditions of the organization affect the acceptance of the system	EVR3
(Net Benefits) (NB)	*Job effect*	The system can help do the user's work	NB1
	Productivity	Increase user productivity	NB2

	Work Load	The system can reduce the user's workload	NB3
	Effectiveness	The system is effective in its use	NB4
	Decision Making	The system helps make decisions	NB5
	Error	The system helps reduce errors in job reports	NB6
	Cost	Reducing organizational spending budget	NB7

III. RESULT AND DISCUSSION

This stage is done by analyzing respondents to the questions in the questionnaire, especially questions in the respondent profile section and questions about hospital management information systems (SIMRS) to produce information and related to the characteristics of respondents, the role of hospital management information systems (SIMRS), and the success status of hospital management information systems (SIMRS). Respondent data obtained by researchers in a period of approximately 2 months (January 10, 2021 to February 24, 2021) is as much as 85 data. Demographic information includes gender, job status, work units, system roles, and system user satisfaction status.

Table 3. Statistik Demografi

	Jenis Kelamin	Divisi	Unit kerja	Usia	Peranan	Tingkat Keberhasilan Sistem
Valid	**85**	**85**	**85**	**85**	**85**	**85**
Missing	**0**	**0**	**0**	**0**	**0**	**0**

A. Validity and Reliability

The results of the questionnaire deployment were incorporated into the validity and reliability test using Smartpls 3. Indicators on the questionnaire are mapped into variable diagrams based on outputs from SQ, IQ, and SEQ variables that have relationships with other variables, such as the following figure.

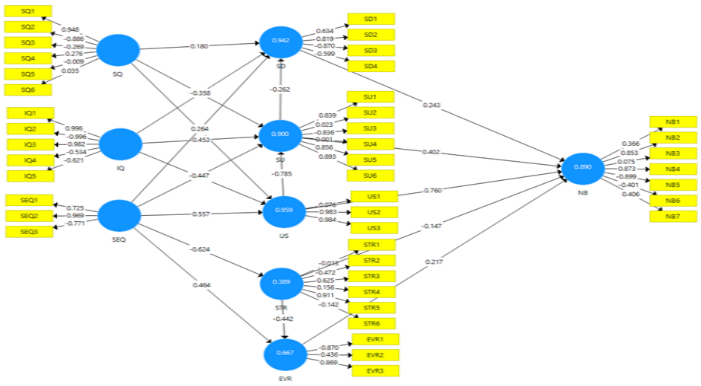


Figure 2. Result Smart PLs3

B. Outer Loading

Outer loading is a value that generates the value of each indicator to measure each variable. This stage is at least a value of 0.7 variable values. When above 0.7 the value will be green and if below 0.7 the value will be red. After knowing there is an indicator at 0.7, it must be deleted. After the delete below 0.7 the variable distribution value will change and there will be variables below 0.7, in the loss of variable values below 0.7.

Kode	Loading	Evaluasi
SQ1	0,948	Valid
SQ2	-0,886	Tidak Valid
SQ3	-0,269	Tidak Valid
SQ4	0,276	Tidak Valid
SQ5	-0,009	Tidak Valid
SQ6	0,035	Tidak Valid
IQ1	0,996	Valid
IQ2	-0,996	Tidak Valid
IQ3	0,982	Valid
IQ4	-0,534	Tidak Valid
IQ5	-0,621	Tidak Valid
SEQ1	0,725	Valid
SEQ2	0,969	Valid
SEQ3	-0,771	Tidak Valid
SD1	0,634	Tidak Valid
SD2	0,819	Valid
SD3	-0,870	Tidak Valid
SD4	-0,599	Tidak Valid
SU1	0,839	Valid
SU2	0,023	Tidak Valid
SU3	-0,836	Tidak Valid
SU4	0,001	Tidak Valid
SU5	0,856	Valid
SU6	0,893	Valid

Figure 3. Outer Loading

C. Cross Loading

The discriminant validity test is performed to find out each concept of each latent model is different from other variables by using Cross Loading. From the results of Cross Loading in table 4.9 this shows the value of each variable already has a better validity discriminant than in other indicators.

	EVR	IQ	NB	SD	SEQ	SQ	STR	SU	US
EVR3	1,000	-0,717	0,663	0,649	0,387	0,537	-0,591	-0,424	0,542
IQ1	-0,723	0,991	-0,900	-0,895	-0,598	-0,761	0,740	0,610	-0,769
IQ3	-0,697	0,990	-0,863	-0,860	-0,590	-0,741	0,705	0,599	-0,724
NB2	0,513	-0,757	0,891	0,623	0,454	0,613	-0,546	-0,507	0,622
NB4	0,679	-0,856	0,927	0,772	0,544	0,675	-0,687	-0,566	0,681
SD2	0,649	-0,886	0,774	1,000	0,549	0,690	-0,657	-0,540	0,698
SEQ1	0,072	-0,218	0,236	0,205	0,878	0,745	-0,188	-0,805	0,736
SEQ2	0,541	-0,770	0,686	0,702	0,951	0,939	-0,599	-0,877	0,938
SQ1	0,537	-0,758	0,710	0,690	0,936	1,000	-0,618	-0,915	0,984
STR5	-0,591	0,730	-0,684	-0,657	-0,475	-0,618	1,000	0,583	-0,607
SU1	-0,493	0,656	-0,605	-0,597	-0,783	-0,818	0,576	0,888	-0,817
SU5	-0,423	0,641	-0,635	-0,542	-0,804	-0,827	0,629	0,898	-0,827
SU6	-0,129	0,218	-0,236	-0,205	-0,843	-0,745	0,254	0,829	-0,736
US2	0,533	-0,730	0,708	0,687	0,916	0,984	-0,618	-0,897	0,984
US3	0,533	-0,755	0,708	0,687	0,916	0,951	-0,576	-0,897	0,981

Figure 4. Cross Loading

D. Average Variance Extracted (AVE)

The value of each variable AVE (Average Variance Extracted) is above 0.5, if it is below 0.5 there is an invalid indicator. If the AVE below 0.5 will be invalid, if there is no red it means the data is correct.

	Average Variance Extracted (AVE)
EVR	1,000
IQ	0,981
NB	0,827
SD	1,000
SEQ	0,837
SQ	1,000
STR	1,000
SU	0,761
US	0,968

Figure 5. Average Variance Extracted

E. Uji Composite Reliability

Composite reliability or combined reliability measures the true reliability value of a variable with the provision of composite values of more reliability..

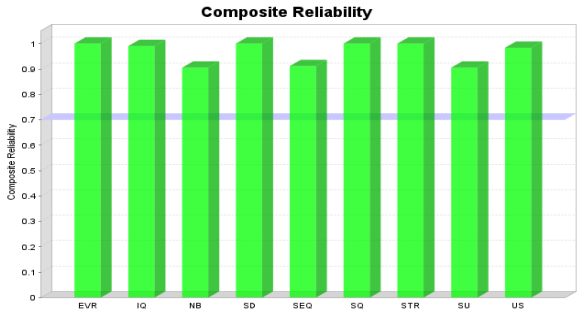


Figure 6. Composite Reliability

F. R-Square

Construct values and variables depend on each other as shown in the previous. Structure Organization (STR) has an R-Square value of 0.225, Environment Organization (EVR) 0.364, Net Benefit(NB) 0.713, System Development (SD) 0.789, System Use (SU) 0.874, and User Satisfaction (US) 0.969. This shows that the weakest variant value is owned by the STR variable at 22.5% and the strongest is owned by the US at 96.9%.

	R Square
EVR	0,364
NB	0,713
SD	0,789
STR	0,225
SU	0,874
US	0,969

Table 4. R-Square

G. Effect Size

This test is done to predict the influence of certain variables with other variables in the model structure with a value of about 0.02 for small influences of 0.15 for medium, and 0.35 for large influences.

	EVR	IQ	NB	SD	SEQ	SQ	STR	SU	US
EVR			0,053						
IQ				1,075				0,023	0,032
NB									
SD			0,110						
SEQ	0,023			0,001			0,291	0,123	0,054
SQ				0,006				0,024	1,401
STR	0,337		0,072						
SU			0,014	0,012					
US			0,071					0,017	

Figure.7 Effect Size

H. Hypothesis Test Result

In the statistical t test value, the used (two-tailed) t-value is 1.65 (significant level 10%); 1.96 (significant level 5%); and 2.58 (significant level 1%). And if the P Value is more than 0.05 and its static T is less than 1.96 then it will be declared rejected. If the P Value is less than 0.05 and its static T is more than 1.96 then it will be declared acceptable.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
EVR -> NB	0,171	0,168	0,126	1,359	0,175
IQ -> SD	-0,837	-0,811	0,114	7,369	0,000
IQ -> SU	-0,064	-0,073	0,087	0,735	0,462
IQ -> US	-0,054	-0,022	0,097	0,561	0,575
SD -> NB	0,309	0,342	0,215	1,438	0,151
SEQ -> EVR	0,137	0,134	0,073	1,878	0,061
SEQ -> SD	0,040	-0,006	0,186	0,214	0,831
SEQ -> STR	-0,475	-0,478	0,068	7,012	0,000
SEQ -> SU	-0,185	-0,162	0,206	2,355	0,019
SEQ -> US	0,132	0,063	0,200	0,659	0,510
SQ -> SD	0,149	0,228	0,305	0,488	0,626
SQ -> US	0,819	0,911	0,264	3,103	0,002
STR -> EVR	-0,526	-0,533	0,087	6,024	0,000
STR -> NB	-0,215	-0,203	0,118	1,826	0,069
SU -> NB	0,172	0,164	0,190	0,906	0,365
SU -> SD	0,143	0,157	0,146	0,981	0,327
US -> NB	0,438	0,405	0,216	2,026	0,043
US -> SU	-0,509	-0,535	0,258	1,968	0,050

Figure 8. Hypotesis Test Result

IV. CONCLUSION

a. The results of the test conducted on 85 respondents, then the researchers drew conclusions from the results of the study that has been done as follows: From the data processing results, 28 of the 43 indicators were removed: SQ2, SQ3, SQ4, SQ5, SQ6, IQ2, IQ4, IQ5, SEQ3, SD1, SD3, SD4, SU2, SU3, SU4, US1, STR1, STR2, STR3, STR4, STR6, EVR1, EVR2, NB1, NB3, NB5, NB6, NB7.

b. From the results of demographic processing it is known that demographic data shows data about 97.65% of respondents rated the success of SIMRS, Namum 2.35% of respondents rated the system less good, this is intentional or hope users with system conditions will be better.

c. The seven accepted hypotheses are IQ > SD , SEQ > STR, SEQ > SU, SQ > US, STR > EVR, US > NB, US > SU .

REFERENCES

[1]. Andi Dermawan Putra,, M. M. (2020). EVALUASI SISTEM INFORMASI MANAJEMEN RUMAH SAKIT (SIMRS) . Vol. 1, No. 1 Januari 2020, 61-68.[2]
[2]. Anis Khotimah. (2021). EVALUASI SISTEM INFORMASI MANAJEMEN MENGGUNAKAN MODEL HOT-Fit FASILITAS KESEHATAN X DI YOGYAKARTA. Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal Volume 11 Nomor 1, January 2021, 199-206. Retrieved from https://journal.stikeskendal.ac.id/index.php/PSKM/article/view/1110/745. [3]
[3]. Astria Lolo, E. (2018). Evaluasi Sistem Informasi Manajemen Rumah Sakit dengan Menggunakan Metode Hot-Fit di Rumah Sakit Umum Daerah(RSUD) Tora Belo Kabupaten Sigi. Journal of Information Systems for Public Health, Vol. 3, No. 2, Agustus 2018, 69-85.[4]
[4]. Kori Puspita Ningsih, S. (2020). Evaluasi Standar Pelayanan Minimal Rekam Medis. Vol.8, No.2, December 2020(ISSN (Online) : 2655-9129), 92-99.
[5]. Muchtar Adam, E. (2018). EFEKTIVITAS SISTEM INFORMASI PELAYANAN PADA RUMAH SAKIT (Studi Kasus Pada Instalasi Rawat Jalan Rumah Sakit Umum Daerah. Jurnal Administrasi Bisnis (JAB)|Vol. 63 No. 1 Oktober 2018, 58-64.[1]
[6]. Nesdi Evrilyan Rozonda, A. (2017). Perbandingan Metode Hot Fit dan Tam dalam Mengevaluasi Penerapan Sistem Informasi Manajemen Kepegawaian (SIMPEG) (Studi Kasus : Pengadilan Tata Usaha Negara Pekanbaru). Seminar Nasional Teknologi Informasi, Komunikasi dan Industri (SNTIKI) 9 Pekanbaru, 18-19 Mei 2017(ISSN (Online) : 2579-5406), 327-336. Retrieved from http://ejournal.uin-suska.ac.id/index.php/SNTIKI/article/view/3394/2169[5]
[7]. Nurul Ulfah Hayatunnisa,, S. C. (2020). Analisis Penerapan Sistem Informasi Manajemen Rumah Sakit Di Unit Perawatan. Volume 4 no 1, April 2020(E-ISSN: 2865-6583), 53-62.[2]
[8]. Prih Diantono Abda'u, W. H. (2018). Evaluasi Penerapan SIMRS Menggunakan Metode Hot-Fit Di RSUD Dr. Soedirman Kebumen. INTENSIF, Vol.2 No.1 February 2018, 46-56.[5]
[9]. Sabran, A. D. (2020). Pengaruh Human Organization Technology (HOT) Fit Model Terhadap Pemanfaatan Sistem Informasi Manajemen Rumah Sakit di RSD Kalisat. Jurnal Penelitian Kesehatan Suara Forikes --- Volume 11 Nomor Khusus, November-Desember 2020(e-ISSN 2502-7778), 83-88. Retrieved from https://forikes-ejournal.com/index.php/SF/article/view/sf11nk414/11nk412. [5]
[10]. Satriani Head, A. A. (2019). ANALISIS PENERAPAN SISTEM INFORMASI MANAJEMEN RUMAH SAKIT DALAM UPAYA PENINGKATAN PELAYANAN KESEHATAN DI RSUD ANDI MAKKASAU PAREPARE. Vol. 2, No. 2 Mei 2019(eISSN 2614-3151), 293-305.