Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
www.bircu-journal.com/index.php/birci
Budapest Institute

An Analysis of Hospital Management Information Systems Using Acceptance Module Technology at Embung Fatimah Hospital Batam City, Riau Islands

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Abstract

A hospital management information system (SIMRS) is a system that provides information to support decision-making. Embu Fatimah Hospital, Batam City, Riau Islands has implemented SIMRS since January 2022, the delay in implementing this system is because new equipment and infrastructure have been fulfilled. So that the use of SIMRS is not comprehensive, only at the registration counter and laboratory, while in other parts it is still using HMIS. The purpose of this study was to determine the description of the quality of the information system and the factors that hinder the use of SIMRS in Embung Fatimah Hospital, Batam City, Riau Islands. This type of research is descriptive and qualitative with the interview method. The main informants in this study were the director, the head of the SIMRS installation, SIMRS staff, and SIMRS operators while the triangulation informants were the recipients of health services. Data analysis in this study uses the stages of data reduction, data presentation, and conclusions or data verification. The results showed that the unequal supply of computers, connector cables, facilities and infrastructure, lack of programmers, server disturbances, lack of budget, application incompatibility, no routine training, indiscipline of officers, no reward and punishment, SOP and hospital cooperation. with Telkom. From the results of the study, it can be concluded that the lack of quality of SIMRS in terms of infrastructure and human resources. It is recommended that the management allocate special funds to the RBA or collaborate with the APBD in providing all infrastructure deficiencies, recruiting personnel, assertiveness from the management to improve discipline, providing rewards for those who carry out their duties well, and punishment for those who neglect their duties.

Keywords
acceptance; hospital management information system; technology acceptance module

I. Introduction

Information systems are currently very widely used in almost all industrial fields in Indonesia, due to technological developments, dynamic changes in business processes, and the need for accurate data to make decisions quickly and accurately very important at this time. Therefore, it is necessary to have a system that can be integrated with current business processes to support efficiency and effectiveness within the company. Not only companies engaged in manufacturing or others, one of which is a hospital that is engaged in the health sector.

Every hospital in carrying out its functions is required to carry out data management including recording and reporting related to all health service activities carried out, this is by the provisions of Article 52 of Law Number 44 of 2009.

Based on the Regulation of the Minister of Health of the Republic of Indonesia (Minister of Health of the Republic of Indonesia) Number 82 of 2013 article 3 concerning Hospital Management Information Systems (SIMRS), it is explained that all hospitals in Indonesia are required to use SIMRS to facilitate exchange and produce accurate, accurate and up-to-date information. within hospitals, between hospitals, and between hospitals and the ministry of health. Based on the regulation, it is also stated that the SIMRS application used can come from the Ministry of Health which is open-source or can be made by the hospital itself and must comply with the requirements set by the Ministry of Health.

Management Information System (SIM) Embung Fatimah Hospital, Batam City, Riau Islands which is currently being implemented is still not optimally utilized. The less than optimal utilization of the RS SIM has an impact on the information produced being invalid, inaccurate, and not timely so that the decisions taken are not appropriate.

Several hospitals in Indonesia have implemented SIMRS in their operations, in the area of Batam City, Riau Islands, Embung Fatimah Regional General Hospital (RSUD) in Batam City, Riau Islands, is quite appropriate to be used as an object of research because Embung Fatimah Hospital, Batam City, Riau Islands is well known. as a hospital that implements SIMRS well, in its services. For this reason, we want to examine what factors affect the acceptance and barriers to the use of SIMRS by employees of Embung Fatimah Hospital, Batam City, Riau Islands. These factors are very important to be the basis for developing SIMRS for other branches throughout Indonesia from Embung Fatimah Hospital, Batam City, and Riau Islands.

Data management is an important part of an information system in a hospital. A hospital Information System (SIRS) is a system related to data management in hospitals that can integrate information systems from various sub-systems and can process data that functions in the decision-making process. Permenkes No. 1171 of 2011 stipulates that all hospitals in Indonesia are required to hold an RS SIM.

User readiness is an important factor in the successful implementation of SIRS. User readiness is influenced by user attitudes and behavior in utilizing the SIRS. Technology Acceptance Model (TAM) is a concept that can explain user behavior toward the acceptance of a new information system.

The specific purpose of this study is that this study was conducted to determine the description the quality of the information system and the factors that hinder the use of SIMRS in Embung Fatimah Hospital, Batam City, Riau Island.

II. Research Method

A type of research was descriptive qualitative research, a name as research method carried out with the main aim of making a picture or description of a situation objectively, with a semi-structured interview method, namely the type of interview that is included in the in-depth interview category which is recorded using a tape recorder were in its implementation more independent when compared to structured interviews.

Table 1. Definition of Operational Variables

Variables	Definition of Operationed	Tools
Input	Perceived usefulness of using technology (perceived usefulness); a) Effectiveness; b) Makes Job easier; c) Useful.	In-depth Interview, Document Review and Observation
Process	Perceived ease of used (perceived ease of use); a) The system is very easy to learn; b) The system can easily do what the user wants; c) User skills increase by using the system; d) The system is very easy to operate.	In-depth Interview, Document Review and Observation
Output	1. Attitude to use technology (behavioral intention to use): a. consciously or unconsciously, b. overtly (overt) or covertly (covert), c. voluntary or involuntary. 2. Interest in using the system (Actual System Usage): a. Personal Factor: Attitude a. b. Social Factor: Environment	In-depth Interview, Document Review and Observation

III. Results and Discussion

3.1. Research Data Analyst

Collecting data from informants using the in-depth interview method (in-depth interviews). The selection of research subjects was done by first finding informants, namely by submitting a research permit to Embung Fatimah Hospital, Batam City, Riau Islands.

After getting permission, the researcher visited the informant in the director's room, SIMRS installation, registration counter, and inpatient room and started introductions and gave an explanation of the purpose of the researcher's visit. Before conducting in-depth interviews with informants, the researchers asked their names, ages, and professions. Researchers often visit the informant's room to establish intimacy. This is done to build trust so that informants can provide information openly to researchers.

In-depth interviews were carried out in the main informant's room and triangulated informants according to the wishes of the informants. The interview time was adjusted to the free time given by the informant. The time set by informant I Director, informant II SIMRS installation head, informant III SIMRS IT staff, informant IV SIMRS operator, and informant V recipient of health services, interviews were carried out around 14.00 WIB to 16.00 WIB because in the morning the informant was busy with activities than others, therefore the interviews were conducted on different days.

3.2. An Overview of the Quality of Hospital Management Information Systems Using the Technology Acceptance Model

The Hospital Management Information System (SIMRS) is an integrated information system that is prepared to handle the entire hospital management process, starting from

diagnosis and treatment services for patients, medical records, pharmacies, pharmacy warehouses, billing, personnel databases, employee payroll, processing accounting to control by management. Based on the initial survey data, there are several problems with the quality of SIMRS, including the lack of infrastructure and the lack of human resources, especially programmers.

3.3. Characteristics of Main/Key Informants

The informants in this study were 4 (four) people, namely 1 (one) director, 1 (one) installation, 1 (one) SIMRS staff, and 1 (one) SIMRS operator. All informants are in the Embung Fatimah Hospital, Batam City, Riau Islands. Several related health workers mentioned above have direct involvement in the implementation of SIMS. Following are the characteristics of the respondents:

Table 1. Characteristics of the main/key informants

Informant	Name	Age	Position	Education
1	Drg. Ani Dwiyana	60	Director of Embung Fatimah Hospital, Batam City	Bachelor of Dentistry
2	Rudi Gunawan	42	SIMRS Head of Installation	Bachelor of Public Health
3	M. Dicky Ardiansyah	32	SIMRS Staff	Bachelor of Computer Science
4	Prasetyo	32	Operator IT SIMRS	Bachelor of Computer Science

3.4. Characteristics of Supporting Informants/ triangulation.

Table 2. Characteristics of Supporting Informants/ triangulation

Informan	Name	Aged	Position	Education
1	Wahyuni	30	Health care recipient	SMA

The results of in-depth interviews with the Director, Head of SIMRS Installation, SIMRS staff, and SIMRS Operators regarding Infrastructure, HR, and Procedures to support the implementation of SIMRS, are presented in the form of a matrix which is a reduction from the results of the interview, the authors assume and explain that the key informant (director) stated that the planning process in maximizing SIMRS in hospitals by increasing the allocation of funds for the procurement of equipment and other capacities. Inventory budget adjusted to income. If the income is large, of course, the allocation of funds in activity is also large, only for now the hospital is in a budget deficit, so many things are constrained. The planned budget in 2021 is IDR 100,000,000, in 2020 the total budget provided is only IDR 40,000,000, and there are still many shortages in infrastructure procurement, therefore, next year the budget will be added to IDR 60,000,000. The process of adding the budget will be discussed in the hospital management meeting forum in October 2020 along with the formation of the RBA for 2020.

The standard for energy requirements at SIMRS is adjusted to the amount of energy demand in each section. The policy in maximizing the performance of SIMRS is by issuing regulations by the rules, and implementing these policies by the organization of the hospital in the form of a Home Management Information System related to the implementation of SIMRS according to educational needs and standards.

The reduction is continuous with the reduction of key informants (head of SIMRS installation, SIMRS staff, and SIMRS operator) knowing that the provision of computer equipment is not evenly distributed in every room and there are damaged computers that take a long time to repair. The provision of advice and infrastructure, cable connectors, and wifi is adjusted to the number of computers procured from each room. When running SIMRS, server problems often occur, especially if access is congested, and the server is often slow.

The application that is run is not appropriate because all parts of the hospital have not used SIMS. SIMS is only active at registration counters and laboratories, while inpatient and medical support, pharmacy, and other management sections use the Khanza application. The Kanza application is a free application for hospitals or health clinics that was developed by the Indonesian Khanza Foundation and is still based on the old system, so the application needs to be updated every 4 (four) months. However, the current demand is to use a web-based SIMRS application and a database, which is an integrated information system to handle the entire hospital management process, starting from diagnostic and treatment services for patients, medical records, pharmacies, pharmacy warehouses, billing, accounting processes to with control by management. At this time, Embung Fatimah Hospital Batam City is in the process of programming SIMRS so that it does not only run on 2 parts of the hospital, but also hospitals can use the SIMRS application.

This programming delay is due to the obstruction of special funds for the procurement and renewal of computers, and the need for special personnel (programmers). However, SIMRS so far has not functioned optimally. Suggestions from informants that all levels of management (Operational, Technical, and Strategic) are committed to jointly realizing the ideal SIMRS, namely a system that can improve hospital performance and service that is fast and convenient for customers, and by the Regulation of the Minister of Health of the Republic of Indonesia No. 1171/Menkes/ Per/VI/2011.

The obstacle to running SIMRS at the Embung Fatimah Hospital Batam City is the lack of budget so the provision of computers is limited and the SIMRS application programming process takes a long time. In running this system, there is a collaboration between the hospital and PT. Telkom for the provision of wifi. Good hospital standardization in implementing SIMRS has adequate infrastructure, competent human resources, and regular training. The management responded to the problem of SIMRS by providing good solutions to be able to maximize SIMRS in hospitals. In addition, there is a policy from management to improve SIMRS, only because of the budget deficit, everything does not run smoothly.

That triangulation informant (health care recipient) Wahyuni feels the long wait when the data is being entered by the officer, especially if the number of patient visits is crowded so the server is slow.

3.5. Factors that can affect the acceptance of SIMRS use at Embung Fatimah Hospital, Batam City, Riau Islands

Most of the recipients of health services already knew and some patients did not know and did not answer the questions. As for the advantages of online registration

through SIMRS, namely (1) Patients do not have to take a queue number, (2) Shorten the time to get a queue, (3) Practical and can be done by everyone (time-efficient and effective in queues); (4) Easier and no need to queue, (5) Online registration can be done wherever you are. The disadvantages of online registration are (1) People who have not been able to use the online registration application have difficulty registering patients; (2) Parents who cannot use cell phones cannot register online. Application media can only be used by a certain group of people, while there are groups of people who cannot access it; (3) Sometimes it is difficult to get into the system; (4) Must register at 00.00 to get a quote because you don't know the quota in the poly; (5) Not getting a reply via SMS; (6) Can be used for registration with fictitious data..

3.6. Factors that become obstacles or obstacles and what are the solutions in implementing the use of SIMRS at Embung Fatimah Hospital, Batam City, Riau Islands

The obstacle to running SIMRS at Embung Fatimah Hospital Batam City is the lack of budget so the provision of computers is limited and the SIMRS application programming process takes a long time. In running this system, the hospital collaborates with PT. Telkom for the provision of wifi, BPJS Health and Bank Riau Kepri. Good hospital standardization in implementing SIMRS has adequate infrastructure, competent human resources, and regular training. The management responded to the problem of SIMRS by providing good solutions to be able to maximize SIMRS in hospitals. In addition, there is a policy from management to improve SIMRS, only because of the budget deficit, everything does not run smoothly.

Based on the author's analysis in this study, the authors assume that: Perceived Usefulness: (1) Complete computers are available in each room according to their designation; (2) Completeness of other infrastructure facilities such as internet network and printer is already available; (3) The concerns are security issues and server backups, and a separate server room; (4) Cable cables and connectors are available but not neat; (5) Other available applications are partially compatible with SIMRS Khanza; (6) SIMRS has not functioned optimally because the first SIMRS is not perfect and the human resources that use it have not been educated; (7) Because the first SIMRS is not perfect and the human resources that use it have not been educated; (8) Cooperation with YASKI Foundation with the implementation of SIMRS Khanza; (9) Standardization must be by National Accreditation Standards which are related to BPJS.

Perceived ease of use: (1) Not sufficient because they have not been socialized and educated properly; (2) There is no regular training to improve staff competence; (3) The problem is that they have not been educated about the use of SIMS. Behavioral intention to use: (1) SIMRS must run according to SPO, if it is not by SIMRS automatically it is not relevant to use; (2) If it can be run optimally, it can effectively assist services. Actual System Usage: (1) Because it will facilitate service, all staff will feel happy in using SIMRS; (2) some refuse, because they are very new to this technology, which is actually to facilitate a service management process in hospitals.

Based on document review, observation, and in-depth interviews, the authors found that SIMRS has not run optimally. This is evidenced by the delivery of information from informants that the provision of infrastructure is inadequate, computers, connector cables, other facilities, and infrastructure are not evenly distributed in every room, and it is necessary to adjust the computer processor from Dual Core to Core I-V this causes a large amount of budget needed by hospitals, not to mention that several computers must be repaired and the need for additional programmers so that the programming process can

take place more quickly and can be applied in all parts of the hospital to improve the quality of hospital services.

IV. Conclusion

Based on the results of research on Hospital Management Information System Acceptance Analysis Using Technology Acceptance Module at Embung Fatimah Hospital, Batam City, Riau Islands, the following conclusions can be obtained:

1. The quality of SIMRS in terms of infrastructure, it was found that the informant said that the supply of computers, cable connectors, other facilities, and infrastructure in each room was not evenly distributed, there were problems with the server, lack of budget, application incompatibility, but there was cooperation between the hospital and PT. Telkom in procurement wifi. This is due to a lack of concern from the management. Related parties should be more concerned with SIMRS, if the budget for Embung Fatimah Hospital, Batam City, Riau Islands becomes an obstacle or a deficit, then the management must be more critical in inspiring local officials about the importance of SIMRS for hospital services, to assist in the form of allocations. APBD funds to complete all SIMRS infrastructure needs in hospitals.
2. The quality of SIMRS in terms of HR, it was found that the informants said that the number of HR was adequate except for programmers, there was no routine training to improve HR competencies, indiscipline of officers, and no rewards and punishments. Related parties should increase their awareness of SIMRS HR. If SIMRS human resources, especially programmers, are lacking, the hospital can recruit according to educational needs and qualifications.
3. The quality of SIMRS in terms of procedures, it was found that the informants said that there were SOPs in carrying out their duties and the existence of job by the job descriptions of each HR.

References

Abda'u PD, Winarno WW, Henderi H. *Evaluasi Penerapan SIMRS Menggunakan Metode HOT-Fit di RSUD dr. Soedirman Kebumen. INTENSIF*, Ilm Penelit dan Penerapan Teknol Sist Inf. Jakarta, 2018.

Afra IL. *Evaluasi penerapan sistem komputerisasi registrasi dan rawat jalan di RSU Mayjen HA Thalib Kabupaten Kerinci.* Universitas Gadjah Mada, Yogyakarta, 2008.

Akbar MK. *Sistem Informasi Manajemen Pada Rumah Sakit Khusus Paru- Paru Palembang*. Palembang, 2013.

Budi Permana, S.Kom. *Perangkat Keras Komputer*. Komunitas eLearning Ilmu Komputer.Com Copyright, IlmuKomputer.Com, Jakarta. 2017

Gunawan I. *Evaluasi Sistem Informasi Manajemen Rumah Sakit (SIMRS) RSUD Brebes Dalam Kesiapan Penerapan Sistem Informasi Rumah Sakit (Sirs) Online*, Kemenkes RI Tahun 2013. Jakarta, 2013.

Hakam F, Nugroho E, Meliala A. *Analisis SIMRS di Rumah Sakit Umum Daerah Sumatera Selatan*, ISSNPrint : 2085-1588 ISSN Online. Jakarta, 2016.

Hariana E, Sanjaya GY, Rahmanti AR, Murtiningsih B, Nugroho E. *Penggunaan sistem Informasi manajemen rumah sakit (SIMRS)* di DIY. SESINDO 2013. 2013.

Indonesia MK. *Evaluasi Kinerja Sistem Informasi Manajemen Farmasi Di Rs Roemani*

Muhammadiyah Dengan Metode Hot Fit Model Evaluation of the Performance of Pharmacy Management Information System. Jurnal Kesehatan, Jakarta, 2016.

Khafidhoh MS, Setyo N, Hikmah F. *Penilaian Teknologi pada Sistem Informasi Manajemen Rumah Sakit Rawat Inap dengan Metode Teknometrik dan Smart di Rumah Sakit Paru Jember*. J Manaj Inf Kesehat Indones. Jawa Timur, 2014.

Kisdianata W, Pribadi F. *Evaluasi Kinerja Sistem Informasi Manajemen Dalam Mendukung Proses Manajemen di Rumah Sakit Gigi dan Mulut*, UMY. Yogyakarta, 2016.

_____, E, Susanto A. *Evaluasi Penerapan Sistem Informasi Manajemen Rumah Sakit di RSUP Dr. Sardjito Yogyakarta Dengan Menggunakan HOT- Fit*. Universitas Gadjah Mada, Yogyakarta, 2007.

Lexy J. Moeleong, *Metodologi Penelitian Kualitatif*. Bandung : RemajaRosdakarya. 2010.

Notoatmodjo, S. *Metodologi Penelitian Kesehatan*. Jakarta: Renika Cipta. 2010.

Menteri Kesehatan Republik Indonesia nomor 56 tahun 2014

Meirianti W, Palu B, Urip J. *Kualitas Informasi pada Sistem Informasi Manajemen dalam Pelayanan Jaminan Kesehatan Public Health Faculty*, Universitas Muslim Indonesia, Jakarta, 2018.

Mukhtar M. *Penggunaan Aktual Sistem Informasi Manajemen Rumah Sakit (SIMRS) Di RSUD Dr. Adnaan WD Payakumbuh*. Jurnal, Universitas Gadjah Mada, Yogyakarta, 2007.

Rahayu FS. *Analisa Implementasi Sistem Informasi dan Perencanaan Strategis E-Business di RS. X*. Jurnal Kebidanan, Tangerang, 2013.

Rahman W, Alfaizi F. *Mengenal Berbagai Macam Software.* Surya Univ Tangerang. 2014.