JOURNAL LA MEDIHEALTICO

VOL. 05, ISSUE 05 (978-990), 2024
DOI: 10.37899/journallamedihealtico.v5i5.1570

# Factors Influencing the Implementation of the Hospital Management Information System on the Quality of Service

**Markus Sastra Eli Zebua[1], Asriwati Amirah[2], Juliandi Harahap[3]**

[1]*Helvetia Health Institute Master of Public Health Student*
[2]*Lecturers at the Faculty of Public Health, Helvetia Health Institute*
[3]*Lecturers at the Faculty of Medicine, University of North Sumatra*

**Corresponding Author: Markus Sastra Eli Zebua*

Article Info

*Article history:*
Received 16 August 2024
Received in revised form 17 October 2024
Accepted 30 October 2024

*Keywords:*
HR
Software Application
Data Management
LAN Conditions
Service Quality

**Abstract**

*An information system serves as a formal mechanism that supplies management with precise and timely data essential for decision-making, facilitating successful planning, oversight, and operational functions. This research employs a quantitative methodology with a cross-sectional design. The research population comprises employees utilizing computer systems in units linked to SIiMRS, with a sample size of 125 individuals. This research indicates that human resources significantly influence the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli, with a p-value of 0.000, which is less than 0.05. The hardware significantly influences the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli, evidenced by a p-value of 0.001, which is less than 0.05. The implementation of software in SIMRS affects the quality of service at RSU Bethesda Gunungsitoli, evidenced by a p-value of 0.014, which is less than 0.05. Data management significantly influences the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli, evidenced by a p-value of 0.035, which is less than 0.05. The LAN conditions significantly influence the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli, evidenced by a p-value of 0.023, which is less than 0.05. The findings of the multivariate analysis indicated that human resource factors exerted the most significant impact on service quality at RSU Bethesda Gunungsitoli. The continuity variable is indicated as 7.807, signifying that respondents with proficient human resources possess a 7.807 likelihood of enhancing the quality of service at RSU Bethesda Gunungsitoli.*

## Introduction

Hospital is a part comprehensive from organization social and medical works give service complete health to society, fine curative nor rehabilitative, home pain is also a center exercise power health, as well for study biosocial (Haryanto et al., 2018).

The implementation of electronic-based information systems in developed countries such as Canada, the United States and Singapore can be said to be quite effective in helping to improve the quality of hospital services in general. According to Kustanto & Chernovita (2021) and Molly & Itaar (2021) that information systems are very much needed by an agency to achieve successful performance. The purpose of the designed application is to change the way of searching, sorting, storing, accessing patient medical information (files) manually into electronic medical records to solve problems at the North Bank Hospital Makurdi Nigeria. Data management in hospitals has begun to use electronic based systems (SIMRS) especially in supporting decision making (Ardiani et al., 2022; Rohman & Ikshsani, 2020).

*ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)*

Broadly speaking, there are 5 components that underlie the implementation of the Hospital Management Information System (SIMRS), namely Human Resources (HR), Hardware, Software, data, and network (Local Area Network). There are many problems found in these components which will ultimately hinder the operation of SIMRS, for example limitations in the number, capabilities and commitment of human resources, limitations in software programs and other technical limitations (Sugiarti, 2020; Agustina et al., 2024). In its implementation, the government's SIMRS did not run optimally due to problems in each unit, for example a lack of operator staff.

According to Meiser et al. (2020) and Alam (2021), software is a collection of electronic data that is stored and managed by a computer. This data can be in the form of digital programs or instructions. The software is a SIMRS program, namely an active module that has been installed on the computer based on good/bad conditions as a guide for report management operators to fill in the required data. Local Area Network (LAN) is a network that connects TPP, polyclinic and billing units that have activated the SIMRS module (judged based on whether the connection is good/not good) (Fernandes et al., 2022; Siswantoro et al., 2019).

Information systems as a support for management activities are a formal method that can provide accurate and timely information needed by management for the decision-making process (Nespeca et al., 2020; Al-Hattami, 2024). So, that planning and supervision and operational functions can be carried out effectively (Setyaningsih & Suchyadi, 2021; Sono & Suarni, 2012). Information technology is intended to automate various administrative processes that take place in hospital operational activities and also as a means to carry out management functions as well as planning, decision making, assessment and control (Spring et al., 2022; Asadzadeh et al., 2020; Villar & Khan, 2021). Information that is used optimally and a well-planned information system will support the success of hospital management so that hospital management can act appropriately in decision making (Alojail et al., 2023; Djojodibroto, 2019). A computer based management information system is an absolute supporting tool for hospital operations (Kumar et al., 2021; Mulyani, 2017).

In research from Hedima et al. (2021) and Malakoane et al. (2020) explain that the general hospitals have a very vital role in providing health services to the community. The demands of service quality by the community are increasing, so that hospitals are required to provide fast, easy and cheap services. Management is one of the efforts made in organizing and improving the quality of hospitals in order to provide good services to the community (Bragazzi et al., 2020; Alolayyan et al., 2022). To support this, SIMRS is very much needed in achieving hospital efficiency (Mulyani, 2017). RSU Bethesda Gunung Sitoli is a type D private hospital located at Jl. Diponegoro No. 375 Gunungsitoli City, North Sumatra 22815. In carrying out its function of providing services to the community, RSU Bethesda Gunungsitoli is required to be able to provide services optimally and professionally (Telaumbanua et al., 2024). The development of technology, communication and information has touched many layers, including in the health sector (Paul et al., 2023; Haleem et al., 2022; Zeadally & Bello, 2021).

During the initial survey of 15 officers related to SIMRS, many obstacles were found in the implementation of the management information system at RSU Bethesda Gunungsitoli, such as human resource problems, namely the lack of willingness and initiative of officers to learn information technology, the absence of socialization of the use of SIMRS for new employees so that officers lack knowledge in using SIMRS, ignorance of the benefits and effectiveness of SIMRS based on information technology, negligence of officers in running SIMRS when there are many patients so that SIMRS does not run and has an impact on other units, hardware problems such as incomplete computers in each unit, there are computers that are not functioning properly which affects the speed of service in SIMRS input, problems with software applications where there are still rooms that have not installed the SIMRS application on their computers. There are still poly assistants who do not have outpatient access,

application maintenance (Conde-Caballero et al., 2021; Deniati & Annisa, 2022; Ladds et al., 2020). So, that SIMRS cannot be used data management such as incomplete types of procedures, drugs, rates and rooms in SIMRS. So, that officers are constrained in inputting SIMRS, prescriptions for drugs/actions in pharmacies/radiology cannot be read. So, that inputting needs to be done carried out 4-5 times and LAN (Local Area Network) network problems such as damage to the switch/hub, damage to the UTP cable connecting the network to the computer so that every time a problem or trouble occurs on the LAN (Local Area Network), the operator (user) must report to the IT department first so that they have to wait to enter data in SIMRS (Hamidah et al., 2024; Horak et al., 2021; Karovič et al., 2020).

## Methods

The type of research used is a cross-sectoral design analysis design. Where this activity will be carried out at the same time but with different subjects. In a cross sectional design, data collection is carried out at one time. The population in this study is a device connected to a computer in an existing unit, an active SI and MRS module. The population in RSU Beji is the entire RSU Beji with a sampling technique using total sampling, the total sample is 125 people.

## Results and Discussion

### Analysis Univariate

The analysis carried out analyzes each variable from the research results. The purpose of this analysis is to explain/describe the characteristics of each variable studied.

Table 1. Distribution Frequency Respondent Based on Age at RSU Bethesda Gunungsitoli .

| No | Age | f | Percentage |
|---|---|---|---|
| 1 | 20-34 years old | 115 | 92.0 |
| 2 | 35-44 years old | 10 | 8.0 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable age majority respondents aged 20-34 years as many as 115 respondents (92.0%) and minorities aged 35-44 year as many as 10 respondents (8.0%).

### Gender

Table 2. Distribution Frequency Respondent Based on Gender at RSU Bethesda Gunungsitoli

| No | Gender | f | Percentage |
|---|---|---|---|
| 1 | Man | 40 | 32.0 |
| 2 | Woman | 85 | 68.0 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable type sex majority respondents Woman as many as 85 respondents (68.0%) and minorities man as many as 40 respondents (32.0%).

Table 3. Distribution Frequency Respondent Based on education

| No | Education | f | Percentage |
|---|---|---|---|
| 1 | SENIOR HIGH SCHOOL | 2 | 1.6 |
| 2 | DIII Midwifery | 28 | 22.4 |
| 3 | DIII Nursing | 48 | 38.4 |
| 4 | DIII Record Medic | 5 | 4.0 |
| 5 | DIII Pharmacy | 1 | 0.8 |
| 6 | DIII Health Analyst | 4 | 3.2 |
| 7 | DIII Radiology | 1 | 0.8 |

| | | | |
|---|---|---|---|
| 8 | Bachelor of Public Health | 3 | 2.4 |
| 9 | S1 Midwifery | 4 | 3.2 |
| 10 | Bachelor's Degree in Nursing | 1 | .8 |
| 11 | S1 Kep Ns | 17 | 13.6 |
| 12 | S1 Hospital Administration | 3 | 2.4 |
| 13 | S1 Pharmacy | 3 | 2.4 |
| 14 | Pharmacist | 3 | 2.4 |
| 15 | DIV Health Analyst | 1 | 0.8 |
| 16 | Bachelor of Psychology | 1 | 0.8 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable education majority respondents educated at DIII Nursing as many as 48 respondents (38.4%) and were minorities 1 respondent (0.8%) has a Diploma in Pharmacy, Diploma in Radiology, Bachelor of Science in Nursing, Bachelor of Science in Health Analysis and Bachelor of Science in Psychology.

Table 4. Distribution Frequency Respondent Based on length of work

| No | Length of work | f | Percentage |
|---|---|---|---|
| 1 | <1 year | 61 | 48.8 |
| 2 | 1-5 years | 35 | 28.0 |
| 3 | 6-10 years | 26 | 20.8 |
| 4 | 11-15 years | 3 | 2.4 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable length of work majority respondents worked <1 year as many as 61 respondents (48.8%) and minorities 11-15 years as many as 3 respondents (2.4%).

Table 5. Distribution Frequency Respondent Based on Working Unit

| No | Working Units | f | Percentage |
|---|---|---|---|
| 1 | Registration | 9 | 7.2 |
| 2 | IGD | 13 | 10.4 |
| 3 | Record Medical | 4 | 3.2 |
| 4 | Pharmacy | 7 | 5.6 |
| 5 | Laboratory | 5 | 4.0 |
| 6 | Radiology | 1 | 0.8 |
| 7 | OK | 2 | 1.6 |
| 8 | Inpatient | 71 | 56.8 |
| 9 | POLY | 12 | 9.6 |
| 10 | Cashier | 1 | 0.8 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable unit works majority respondents working in care stay as many as 71 respondents (56.8%) and minorities each working in radiology and cashier was 1 respondent (0.8%).

Table 7. Distribution Frequency Respondent Based on HR in the Implementation of SIMRS

| No | HR | F | Percentage |
|---|---|---|---|
| 1 | Good | 54 | 43.2 |
| 2 | Not good | 71 | 56.8 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable HR majority respondents have no human resources Good as many as 71 respondents (56.8%) and minorities own HR Good as many as 54 respondents (43.2%).

Table 8. Distribution Frequency Respondent Based on Hardware

| No | Hardware | f | Percentage |
|---|---|---|---|
| 1 | Good | 57 | 45.6 |
| 2 | Not good | 68 | 54.4 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable hardware majority respondents hardware No Good as many as 68 respondents (54.4%) and were minorities hardware Good as many as 57 respondents (45.6%).

Table 9. Distribution Frequency Respondent Based on Application of Software in Implementing SIMRS

| No | Application Software | f | Percentage |
|---|---|---|---|
| 1 | Good | 55 | 44.0 |
| 2 | Not good | 70 | 56.0 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable Application Software majority respondents Application Software No Good as many as 70 respondents (56.0%) and were minorities Application Software Good as many as 55 respondents (44.0%).

Table 10. Distribution Frequency Respondent Based on Data Management

| No | Data Management | f | Percentage |
|---|---|---|---|
| 1 | Good | 39 | 31.2 |
| 2 | Not good | 86 | 68.8 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable majority data management respondents own data management does not Good as many as 86 respondents (68.8%) and were minorities good data management as many as 39 respondents (31.2%).

Table 11. Distribution Frequency Respondent Based on LAN Conditions

| No | LAN Condition | f | Percentage |
|---|---|---|---|
| 1 | Good | 47 | 37.6 |
| 2 | Not good | 78 | 62.4 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable LAN conditions majority respondents LAN conditions No Good as many as 78 respondents (62.4%) and minorities LAN conditions Good as many as 47 respondents (37.6%)

Table 12. Frequency Distribution of Respondents Based on Service Quality

| No | Quality Service | f | Percentage |
|---|---|---|---|
| 1 | Quality | 47 | 37.6 |
| 2 | Not Quality | 78 | 62.4 |
| **Amount** | | **125** | **100** |

H the results of the research carried out against 125 respondents based on variable quality service majority respondents quality service No Good as many as 78 respondents (62.4%) and minorities quality service Good as many as 47 respondents (37.6%).

**Bivariate Analysis**

Analysis Bivariate done For know connection variable independent and variable dependent through Crosstabs or tabulation cross . Statistical tests were carried out in the analysis Bivariate This is using the Chi-Square test with degrees 95% confidence (α= 0.05). It is said that there is a statistical relationship if a p value <0.05 is obtained.

Table 13. Relationship of HR in the Implementation of SIMRS on Service Quality

| HR | Quality Service | | | | Amount | | p (value) |
|---|---|---|---|---|---|---|---|
| | Quality | | Not Quality | | | | |
| | f | % | f | % | f | % | |
| Good | 30 | 24.0 | 24 | 19.2 | 54 | 43.2 | 0.001 |
| Not good | 17 | 13.6 | 54 | 43.2 | 71 | 56.8 | |
| **Total** | **47** | **37.6** | **78** | **62.4** | **125** | **100** | |

Based on results study of 125 respondents (100%) about influence of human resources in application of SIMRS to quality services at RSU Bethesda Gunungsitoli, shows that Of the 54 respondents (43.2%) who had good human resources, as many as 30 respondents (24.0%) with quality quality service and 24 respondents (19.2%) with quality service no quality. Of the 71 respondents (56.8%) who had no human resources well, as many as 17 respondents (13.6%) with quality quality service and 54 respondents (43.2%) with quality service No quality.

Based on analysis chi square test there is p- value 0.001<0.05. So that can concluded, there is influence of human resources in application of SIMRS to quality services at RSU Bethesda Gunungsitoli. The research results show that hypothesis work (Ha) accepted, This is prove exists influence of human resources in implementation simrs to quality services at RSU Bethesda Gunungsitoli.

Table 14. Hardware Relationship in the Implementation of SIMRS on Service Quality

| Hardware | Quality Service | | | | Amount | | p (value) |
|---|---|---|---|---|---|---|---|
| | Quality | | Not Quality | | | | |
| | f | % | f | % | f | % | |
| Good | 31 | 24.8 | 26 | 20.8 | 57 | 45.6 | 0.001 |
| Not good | 16 | 12.8 | 52 | 41.6 | 68 | 54.4 | |
| **Total** | **47** | **37.6** | **78** | **62.4** | **125** | **100** | |

Based on results study of 125 respondents (100%) about influence hardware in application of SIMRS to quality services at RSU Bethesda Gunungsitoli , shows that of the 58 respondents (46.4%) who have hardware well , as much 31 respondents (24.8%) with quality quality service and 26 respondents (20.8%) with quality service No quality. Of the 68 respondents (54.4%) who have hardware No well , as many as 16 respondents (12.8%) with quality quality service and 52 respondents (41.6%) with quality service no quality.

Based on analysis chi square test there is p- value 0.001<0.05. So that can concluded There is influence hardware in application of SIMRS to quality services at RSU Bethesda Gunungsitoli. The research results show that hypothesis work (Ha) accepted. This is prove exists influence hardware in application of SIMRS to quality services at RSU Bethesda Gunungsitoli.

Table 15. The Relationship between Software Application in SIMRS Implementation and Service Quality at RSU Bethesda Gunungsitoli

| Application Software | Quality Service | | | | Amount | | p (value) |
|---|---|---|---|---|---|---|---|
| | Quality | | Not Quality | | | | |
| | f | % | f | % | f | % | |
| Good | 29 | 23.2 | 26 | 20.8 | 55 | 44.0 | 0.004 |
| Not good | 18 | 14.4 | 52 | 41.6 | 70 | 56.0 | |
| **Total** | **47** | **37.6** | **78** | **62.4** | **125** | **100** | |

Based on the results of a study of 125 respondents (100%) on software applications in the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli, it shows that of the 55 respondents (44.0%) who have good software applications, 29 respondents (23.2%) with quality service and 26 respondents (20.8%) with poor service quality. Of the 70 respondents (56.0%) who have poor software applications, 18 respondents (14.4%) with quality service and 52 respondents (41.6%) with poor service quality.

Based on the chi square test analysis, there is a p-value of 0.004 <0.05. So it can be concluded that there is an influence of software applications in the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli. The results of the study showed that the working hypothesis (Ha) was accepted. This proves that there is an influence of software applications in the implementation of SIMRS on service quality at RSU Bethesda Gunungsitoli.

Table 16. Data Management Relationship in the Implementation of SIMRS on Service Quality at RSU Bethesda Gunungsitoli

| Data Management | Quality Service | | | | Amount | | p (value) |
|---|---|---|---|---|---|---|---|
| | Quality | | Not Quality | | | | |
| | f | % | f | % | F | % | |
| Good | 23 | 18.4 | 16 | 12.8 | 39 | 31.2 | 0.002 |
| Not good | 24 | 19.2 | 62 | 49.6 | 86 | 68.8 | |
| **Total** | **47** | **37.6** | **78** | **62.4** | **125** | **100** | |

Based on the results of a study of 125 respondents (100%) on in-depth data management of the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli, it shows that of the 39 respondents (31.2%) who have good data management, 23 respondents (18.4%) with good service quality and 16 respondents (12.8%) with poor service quality. Of the 86 respondents (68.8%) who have poor data management, 24 respondents (19.2%) with good service quality and 62 respondents (49.6%) with poor service quality. Based on the chi square test analysis, there is a p-value of 0.002 <0.05. So, it can be concluded that there is an influence of in-depth data management of the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli. The results of the study showed that the working hypothesis (Ha) was accepted. This proves that there is an influence of the implementation of in-depth data management of SIMRS on the quality of service at RSU Bethesda Gunungsitoli.

Table 17. LAN ( Local Area Network ) Relationships in the Application of SIMRS Quality Services at RSU Bethesda Gunungsitoli

| LAN ( Local Area Network ) | Quality Service | | | | Amount | | p (value) |
|---|---|---|---|---|---|---|---|
| | Quality | | Not Quality | | | | |
| | f | % | f | % | F | % | |
| Good | 27 | 21.6 | 20 | 16.0 | 47 | 37.6 | 0.001 |
| Not good | 20 | 16.0 | 58 | 46.4 | 78 | 62.4 | |
| **Total** | **47** | **37.6** | **78** | **62.4** | **125** | **100** | |

Based on the results of a study of 125 respondents (100%) on the condition of LAN (Local Area Network) in the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli, it shows that of the 47 respondents (37.6%) who have good LAN (Local Area Network) conditions, 27 respondents (21.6%) with quality service and 20 respondents (16.0%) with poor quality service. Of the 78 respondents (62.4%) who have poor LAN (Local Area Network) conditions, 20 respondents (16.0%) with quality service and 58 respondents (46.4%) with poor quality service. Based on the chi square test analysis, there is a p-value of 0.001 <0.05. So it can be concluded that there is an influence of LAN (Local Area Network) conditions in the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli. The results of the study showed that the working hypothesis (Ha) was accepted. This proves that there is an influence of LAN (Local Area Network) conditions in the implementation of SIMRS on the quality of service at RSU Bethesda Gunungsitoli.

**Analysis Multivariate**

Analysis Multivariate in study This using regression testing logistics multiple namely one mathematical model approach for analyze influence a number of variable independent to variable dependent categorical in nature dichotomous or binary. This analysis is to see the influence of the independent variable on the dependent variable using a type of logistic regression analysis to obtain the independent variable that most dominantly influences the dependent variable.

Table 18. Relationship Between Factors that on Service Quality (Regression Test Stage 1)

| Variable | B | Sig. | Exp(B) |
|---|---|---|---|
| HR | 2,055 | 0,000 | 7,807 |
| Hardware | 1,685 | 0.001 | 5,390 |
| Application Software | 1,163 | 0.014 | 3,198 |
| Data Management | 1,031 | 0.035 | 2,803 |
| LAN Condition | 1,098 | 0.023 | 2,998 |

Based on the results of the logistic regression test of the model together, a sig value of <0.05 was obtained, which means that the five variables used as a model in this study have a significant relationship to the quality of service at RSU Bethesda Gunungsitoli. So it can be concluded that the HR factor has the most dominant influence on the quality of service at RSU Bethesda Gunungsitoli. Where the continuity variable is indicated by a value of 7.807, meaning that respondents with good HR have a 7.807-fold chance of affecting the quality of service at RSU Bethesda Gunungsitoli.

HR (human resources): Components consisting of humans who are responsible for the entire existence of the IS and M process, such as its meaning. The dream of hospital managers and hospital employees who are connected to a computer system that is interrelated with each other in various ways unit research result. This in line with Diantono (2023), from results discussion study, this can known that success implementation of SIMRS in RSUD Dr. Soedirman Kebumen determined by aspect technology, people and organizations can seen that variable satisfaction user own influence positive to benefit (Setiorini et al., 2021; Vantissha et al., 2022; Arif et al., 2024). The results of other studies are in line is Susilo & Halid (2023), from the results of the research it can be concluded that the use of SIMRS at Praya Regional Hospital, Lombok, Central Lombok Regency, West Nusa Tenggara, as a result of the evaluation, has not run optimally. Human, organizational, technological, user knowledge and regulatory factors have a significant partial or simultaneous effect on the net benefit of SIMRS (p-value = 0.000 < level of significance = 0.05) (Suryana et al., 2022; Takain & Katmini, 2021; Nurhayati et al., 2023).

Hardware resources: Resources in the form of peripheral devices used in information systems, not only in the form of content (computers, printers, scanners), but also in the form of machines in the sense of databases (hardware data storage), digital disks, magnetic tapes, optical digital, compact digital, flash digital, or paper form. Software resources (software resources): Is the entirety of the program instruction process , including software systems , paint applications on software i , and process i dur . Software is a collection of electronic data that is stored and managed by a computer. This data can be in the form of digital programs or instructions. The software is a SIMRS program, namely an active module that has been installed on the computer based on good/bad conditions as a guide for report management operators to fill in the required data. Local Area Network (LAN) is a network that connects TPP, polyclinic and billing units that have activated the SIMRS module (judged based on whether the connection is good/not good) (6).

The influence of data management in implementing SIMRS on the quality of service at Bethesda Gunungsitoli Regional Hospital with a p-value of 0.035<0.05. Data management is a data resource / input : Not just the raw material of the content of the information system , but it is a form of various kinds of data that are I arrange it in a structured way and use it as a basic material to create various kinds of information according to needs .

LAN is a Local Area Network (LAN) which is a type of computer network that connects a computer with other network devices (as the meaning of private network, smartphone, and tablet) where the connection is in the form of a cable or wire that can be connected to another network. LAN usually includes a computer and other network devices that are located in one physical area, such as a hospital, private room, residence, school, laboratory, or university or higher education campus.

## Conclusion

Human Resources Process (HR ) in application of SIMRS to quality services at RSU Bethesda Gunungsitoli Already accomplished For fulfil level capability hope (to-be) ie level capabilities targeted by management . The hardware service system influences the quality of RSU Bethesda services by allocating funds to meet software and hardware needs that support the implementation of SIMRS. The use of software applications increases effectiveness by reducing time and improving the quality of health services for patients. The use of data management is one form evaluation as well as evaluation on quality something data systems require procedures for creating and implementing SIMRS quality assessments. Based on LAN Conditions used in hospitals, relates to the data system implemented in accordance with user needs and expertise so that it can be developed, especially access and use, the higher the quality of information produced in the application of SIMRS on Service Quality at Bethesda General Hospital, the greater user satisfaction will be.

## References


Agustina, E., Sihotang, A. T., & Thames, V. (2024). Towards Superior Banking Services Examining Service Strategies and Service Operations Using ITIL as Framework. *IJISIT: International Journal of Computer Science and Information Technology*, *1*(1), 49-61. https://doi.org/10.55123/ijisit.v1i1.18

Alam, T. (2021). Cloud-based IoT applications and their roles in smart cities. *Smart Cities*, *4*(3), 1196-1219. https://doi.org/10.3390/smartcities4030064

Al-Hattami, H. M. (2024). Impact of AIS success on decision-making effectiveness among SMEs in less developed countries. *Information Technology for Development*, *30*(3), 472-492. https://doi.org/10.1080/02681102.2022.2073325

Alojail, M., Alturki, M., & Bhatia Khan, S. (2023). An Informed Decision Support Framework from a Strategic Perspective in the Health Sector. *Information*, *14*(7), 363. https://doi.org/10.3390/info14070363

Alolayyan, M., Al-Rwaidan, R., Hamadneh, S., Ahmad, A., AlHamad, A., Al-Hawary, S., & Alshurideh, M. (2022). The mediating role of operational Flexibility on the relationship between quality of health information technology and management capability. *Uncertain Supply Chain Management*, *10*(4), 1131-1140. http://dx.doi.org/10.5267/j.uscm.2022.8.014

Ardiani, D. F., Putra, D. H., Widodo, A., & Yulia, N. (2022). Literature Review: Overview of Integrated Health Information System Management in Hospitals. *KESANS: International Journal of Health and Science*, *1*(6), 589-602. https://doi.org/10.54543/kesans.v1i6.68

Arif, Z., Susilawaty, A., Khaerana, B. T., Satrianegara, M. F., & Sakka, A. R. (2024). Analyzing the Implementation of the Pharmaceutical Logistics Management Information System in Baubau City, Indonesia: A Hot-Fit Model Approach. *Journal of Health Science and Prevention*, *8*(2), 68-76. https://doi.org/10.29080/jhsp.v8i2.1260

Asadzadeh, A., Pakkhoo, S., Saeidabad, M. M., Khezri, H., & Ferdousi, R. (2020). Information technology in emergency management of COVID-19 outbreak. *Informatics in medicine unlocked*, *21*, 100475. https://doi.org/10.1016/j.imu.2020.100475

Bragazzi, N. L., Mansour, M., Bonsignore, A., & Ciliberti, R. (2020). The role of hospital and community pharmacists in the management of COVID-19: towards an expanded definition of the roles, responsibilities, and duties of the pharmacist. *Pharmacy*, *8*(3), 140. https://doi.org/10.3390/pharmacy8030140

Conde-Caballero, D., Rivero-Jiménez, B., Cipriano-Crespo, C., Jesus-Azabal, M., Garcia-Alonso, J., & Mariano-Juárez, L. (2021). Treatment adherence in chronic conditions during ageing: uses, functionalities, and cultural adaptation of the assistant on care and health offline (acho) in rural areas. *Journal of Personalized Medicine*, *11*(3), 173. https://doi.org/10.3390/jpm11030173

Deniati, E. N., & Annisaa, A. (2022, January). Management of the Medical Record System at the Mother and Child Hospital (RSIA) Puri Bunda Malang City, East Java in 2019. In *3rd International Scientific Meeting on Public Health and Sports (ISMOPHS 2021)* (pp. 172-176). Atlantis Press. https://doi.org/10.2991/ahsr.k.220108.030

Djojodibroto, R. D. (2019). Kiat mengelola rumah sakit.

Fernandes, R. A., Gomes, R. C., Dias, O., Carvalho, C., Torné, I. G., Oliveira, J. P., & Júnior, C. T. (2022). A Retrofit Strategy for Real-Time Monitoring of Building Electrical Circuits Based on the SmartLVGrid Metamodel. *Energies*, *15*(23), 9234. https://doi.org/10.3390/en15239234

Haleem, A., Javaid, M., Singh, R. P., & Suman, R. (2022). Medical 4.0 technologies for healthcare: Features, capabilities, and applications. *Internet of Things and Cyber-Physical Systems*, *2*, 12-30. https://doi.org/10.1016/j.iotcps.2022.04.001

Hamidah, M. N., Tias, R. F., & Zainal, R. F. (2024). Quality of Service (QoS) Analysis using Wireshark on the LAN Network at An Najiyah High School Surabaya. *Jurnal Mandiri IT*, *12*(4), 222-228. https://doi.org/10.35335/mandiri.v12i4.273

Haryanto, J., Kodyat, A. G., & Rahayu, S. (2018). Pengaruh Beban Kerja Dan Budaya Keselamatan Pasien Terhadap Asuhan Keperawatan Risiko Jatuh Di Ruang Rawat

Inap Rumah Sakit X Tahun 2017. *Jurnal Manajemen dan Administrasi Rumah Sakit Indonesia (MARSI)*, *2*(2), 1-17. https://doi.org/10.52643/marsi.v2i2.404

Hedima, E. W., Adeyemi, M. S., & Ikunaiye, N. Y. (2021). Community Pharmacists: On the frontline of health service against COVID-19 in LMICs. *Research in Social and Administrative Pharmacy*, *17*(1), 1964-1966. https://doi.org/10.1016/j.sapharm.2020.04.013

Horak, T., Strelec, P., Huraj, L., Tanuska, P., Vaclavova, A., & Kebisek, M. (2021). The vulnerability of the production line using industrial IoT systems under ddos attack. *Electronics*, *10*(4), 381. https://doi.org/10.3390/electronics10040381

Karovič Jr, V., Kováč, F., Karovič, V., & Veselý, P. (2020). Print Management System Model in a Large Organization. *Applied Sciences*, *10*(12), 4193. https://doi.org/10.3390/app10124193

Kumar, R., Ansari, M. T. J., Baz, A., Alhakami, H., Agrawal, A., & Khan, R. A. (2021). A multi-perspective benchmarking framework for estimating usable-security of hospital management system software based on fuzzy logic, ANP and TOPSIS methods. *KSII Transactions on Internet and Information Systems (TIIS)*, *15*(1), 240-263. https://doi.org/10.3837/tiis.2021.01.014

Kustanto, G. E. A., & Chernovita, H. P. (2021). Perancangan sistem informasi manajemen berbasis web studi kasus: PT Unicorn Intertranz. *Jurnal Teknologi Informasi Dan Ilmu Komputer*, *8*(4), 719-728. https://doi.org/10.25126/jtiik.2021844849

Ladds, E., Rushforth, A., Wieringa, S., Taylor, S., Rayner, C., Husain, L., & Greenhalgh, T. (2020). Persistent symptoms after Covid-19: qualitative study of 114 “long Covid” patients and draft quality principles for services. *BMC health services research*, *20*, 1-13. https://doi.org/10.1186/s12913-020-06001-y

Malakoane, B., Heunis, J. C., Chikobvu, P., Kigozi, N. G., & Kruger, W. H. (2020). Public health system challenges in the Free State, South Africa: A situation appraisal to inform health system strengthening. *BMC health services research*, *20*, 1-14. https://doi.org/10.1186/s12913-019-4862-y

Meiser, L. C., Antkowiak, P. L., Koch, J., Chen, W. D., Kohll, A. X., Stark, W. J., ... & Grass, R. N. (2020). Reading and writing digital data in DNA. *Nature protocols*, *15*(1), 86-101. https://doi.org/10.1038/s41596-019-0244-5

Molly, R., & Itaar, M. (2021). Analisis Pemanfaatan Sistem Informasi Manajemen Rumah Sakit (SIMRS) Pada RRSUD DOK II Jayapura. *Journal of Software Engineering Ampera*, *2*(2), 95-101. https://doi.org/10.51519/journalsea.v2i2.127

Mulyani, S. (2017). *Sistem Informasi Manajemen Rumah Sakit: Analisis dan Perancangan*. Abdi Sistematika.

Nespeca, V., Comes, T., Meesters, K., & Brazier, F. (2020). Towards coordinated self-organization: An actor-centered framework for the design of disaster management information systems. *International Journal of Disaster Risk Reduction*, *51*, 101887. https://doi.org/10.1016/j.ijdrr.2020.101887

Nurhayati, A., Utami, R. T., & Al Qudsi, A. A. (2023). Analysis of Hospital Readiness to Face the'Smart Hospital'Era. *Corona: Jurnal Ilmu Kesehatan Umum, Psikolog, Keperawatan dan Kebidanan*, *1*(4), 30-42. https://doi.org/10.61132/corona.v1i4.53

Paul, M., Maglaras, L., Ferrag, M. A., & Almomani, I. (2023). Digitization of healthcare sector: A study on privacy and security concerns. *ICT Express*, *9*(4), 571-588. https://doi.org/10.1016/j.icte.2023.02.007

Rohman, H., & Ikhsani, D. E. N. (2020). Perancangan Sistem Informasi Manajemen Pendaftaran Pasien Rawat Jalan Berbasis Web Di RSKIA Permata Bunda Yogyakarta: Grafik Pelaporan, Cetak Kartu Identitas Berobat Dan Kuitansi Pembayaran. *Jurnal Kesehatan Indonesia*, *10*(2), 79-90.

Setiorini, A., Natasia, S. R., Wiranti, Y. T., & Ramadhan, D. A. (2021). Evaluation of the application of hospital management information system (SIMRS) in RSUD Dr. Kanujoso Djatiwibowo using the HOT-Fit method. In *Journal of Physics: Conference Series* (Vol. 1726, No. 1, p. 012011). IOP Publishing. https://doi.org/10.1088/1742-6596/1726/1/012011

Setyaningsih, S., & Suchyadi, Y. (2021). implementation of principal academic supervision to improve teacher performance in North Bogor. *JHSS (Journal of Humanities and Social Studies)*, *5*(2), 179-183. https://doi.org/10.33751/jhss.v5i2.3909

Siswantoro, H., Siswoyo, H., Nurhayati, N., Tie, D., Afrilia, A. R., Harso, A. D., & Syarif, A. K. (2019). Pengembangan indeks mutu pelayanan kesehatan puskesmas. *Media Penelitian dan Pengembangan Kesehatan*, *29*(3), 269-284.

Sono, S., & Suarni, L. (2012). Faktor-faktor yang Berhubungan dengan Kinerja Perawat Pelaksana di Rumah Sakit Daerah HM Ryacudu Kotabumi Tahun 2011. *Jurnal Kesehatan Metro Sai Wawai*, *5*(1), 65-71. https://doi.org/10.26630/jkm.v5i1.1410

Spring, M., Faulconbridge, J., & Sarwar, A. (2022). How information technology automates and augments processes: Insights from Artificial-Intelligence-based systems in professional service operations. *Journal of Operations Management*, *68*(6-7), 592-618. https://doi.org/10.1002/joom.1215

Sugiarti, I. (2020, June). Legal protection of patient rights to completeness and confidentiality in management of medical record documents. In *2nd Bakti Tunas Husada-Health Science International Conference (BTH-HSIC 2019)* (pp. 179-191). Atlantis Press. https://doi.org/10.2991/ahsr.k.200523.045

Suryana, A., Adikara, F., Arrozi, M. F., & Taufik, A. R. (2022). Model of improving the utilization of hospital management information system (SIMRS) based on human, organization technology-fit (HOT-FIT) method at rspi prof. Dr. Sulianti Saroso. *Journal of Public Health Education*, *1*(2), 103-116. https://doi.org/10.53801/jphe.v1i02.26

Susilo, B. B. B., & Halid, M. (2023). Development Of Tracer Information System On Medical Record Document. *Jurnal Teknologi Informasi Dan Komunikasi*, *14*(1), 78-85.

Takain, I., & Katmini, K. (2021). The Implementation of Computer-Based administrative Information Systems to Improve the Performance of Services Quality in Hospitals. *Journal for Quality in Public Health*, *5*(1), 203-216. https://doi.org/10.30994/jqph.v5i1.275

Telaumbanua, B., Aslami, N., & Daulay, A. N. (2024). Analysis of The Effect of Service Quality and Health Facilities Patient Satisfaction At Bethesda Hospital Gunungsitoli City. *Dinasti International Journal of Education Management And Social Science*, *5*(4), 435-442. https://doi.org/10.31933/dijemss.v5i4.2459

Vantissha, D., Azizah, A. H., & Arifin, S. (2022). Assessing Hospital Management Information Systems Success Using Human Organization and Technology Fit Model. *Applied Information System and Management (AISM)*, *5*(1), 37-44. http://doi.org/10.15408/aism.v5i1.24738

Villar, A. S., & Khan, N. (2021). Robotic process automation in banking industry: a case study on Deutsche Bank. *Journal of Banking and Financial Technology*, *5*(1), 71-86. https://doi.org/10.1007/s42786-021-00030-9

Zeadally, S., & Bello, O. (2021). Harnessing the power of Internet of Things based connectivity to improve healthcare. *Internet of Things*, *14*, 100074. https://doi.org/10.1016/j.iot.2019.100074