



© Copyright Kemala Publisher  
All rights reserved

Science, Engineering and Social Science Series  
ISSN/e-ISSN: 2541 – 0369/2613 – 988X  
DOI: -  
Vol. 5, No. 2, 2021, Printed in the Indonesia

# SIMRS Implementation Model Using Prism Approach in Medical Record Unit at C Hospital

Sri Rejeki Amelia<sup>1</sup>, \*, Supriyanto<sup>1</sup>, Mus Aida<sup>1</sup>

<sup>1</sup>Hospital Administration, University of Esa Unggul, Jakarta- Indonesia

SIMRS is an integrated information system activity, starting from data collection, data processing, data storage, and reporting or presentation of information on health services in hospitals. C Hospital has implemented SIMRS implementation since early 2019. The objective in this study is develop hospital management information systems in supporting the effectiveness of health services at C Hospital. Due to the importance of factors affecting SIMRS in the medical record unit, it is necessary to analyze the information system. In addition, the status of information systems is already running and the effectiveness of health services in hospitals. Thus, this study aimed to obtain empirical evidence of the influence of stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions to the implementation of SIMRS in the medical record unit and to analyze the factors that inhibit and support the effectiveness of health services. This research method is use mixed method to process the data. Here, the data sources were obtained from primary data and secondary data and collected by distributing questionnaires to 90 respondents and analyzed using multiple linear regression methods. Furthermore, we also use in-depth interviews with six informants to collect the support data. Here, respondents are SIMRS users in the registration unit, outpatient care, emergency room, support, medical records, and IT officers. The results showed that the factors of stakeholder satisfaction, processes, strategies, capabilities, and stakeholder contributions had a significant positive effect on the implementation of SIMRS either partially or simultaneously. The most dominant variable affecting SIMRS implementation is stakeholder satisfaction. Increasing stakeholder satisfaction will further increase the implementation of SIMRS in the medical record unit at RSUD "C".

**Keywords:** Factors that influence SIMRS, Adam and Neely's Prism Model, Effectiveness of health services.

## 1. INTRODUCTION

Hospital Management Information System (SIMRS) is related to medical records. Medical records are a useful source of information in providing the data needed to evaluate the effectiveness of health services [1]. Several hospitals in Indonesia have built an integrated hospital management information system to facilitate health services. Since the beginning of 2019 RSUD "C" has started implementing SIMRS in outpatient care, admission, cashier, emergency unit, pharmacy, laboratory, radiology, and medical records. Outpatient services take advantage of information technology in this digital era to facilitate inputting of patient data, processing and sending reports in a complete, accurate, and timely manner. Regional General Hospital "C" is a class D Government

hospital in DKI Jakarta. Since the beginning of 2019 the Regional General Hospital "C" has been using SIMRS. Based on the data from the results of the review of the Medical Record data input at SIMRS in the last three months (July-September 2019), it was obtained for patient diagnosis and procedures / actions of new doctors entered 70% So that it causes the medical record staff to have difficulty in recapitulating and compiling the data needed in making both external and internal hospital reporting materials [3, 4]. In reviewing outpatient medical record data, there are several indicators that are assessed, namely the completeness of patient data history records (identity, outpatient examinations, diagnoses, procedures or actions, costs and care), authentication (names of doctors and nurses who input SIMRS medical records), and there is no written abbreviation in the notes on the SIMRS

\*Email Address: auliya.moreno@gmail.com

medical record. As an effort to improve the performance of SIMRS implementation in the medical record unit of RSUD C, it is necessary to evaluate the system that has been running to find out the positive aspects that drive the use of the system and identify the factors that cause obstacles [5]. Evaluation includes various aspects such as information system function, information system performance and information system quality on user satisfaction (end user). So that from the SIMRS evaluation it can encourage an increase in the efficiency and effectiveness of services in the hospital in line with the smooth flow of information originating from hospital operational activities.

The problem under study can be formulated in a research question how much factors affect SIMRS in the record unit when analyzed using the Prism Model namely the dimensions of stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions [6, 7]. The main objective of this study is to analyze the factors that influence the implementation of SIMRS in the medical record unit using the PRISM approach. Analyzing whether stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions affect the hospital management information system developed especially in the medical record unit, is said to be successful or successful and has a positive impact on individual and organizational performance using the Prism model. The specific objectives of this study were to analyze the influence of stakeholder satisfaction factors on the implementation of SIMRS in the medical record unit, analyze the effect of process factors on SIMRS implementation, analyze strategic factors on SIMRS implementation, analyze capability factors on SIMRS implementation, analyze stakeholder contribution factors to SIMRS implementation, analyze the five factors on SIMRS implementation, and exploring the effect of SIMRS implementation on the effectiveness of health services through qualitative studies [8, 9, 10].

The first motivation for this research is to make it easier for SIMRS users to input, process, and report data accurately and on time, the second motivation is to make services more effective and efficient, and to get an overview of what factors affect SIMRS implementation in the unit [11, 12]. medical records, with the hope that after knowing the influencing factors it can be a reference for improvement and development of management information systems in RSUD "C". The research objective was to analyze the factors that influence the implementation of SIMRS in the medical record unit with the PRISM approach in RSUD "C". The research contribution is, firstly, it becomes an opportunity to increase knowledge, information, and understanding for the management of RSUD "C" as a whole and in the Medical Record unit in particular, regarding the factors that affect the implementation of SIMRS which in the future can be useful for the development of SIMRS [13, 14, 15]. Second, it becomes an input for the hospital to monitor and evaluate the implementation of the SIMRS

that has been implemented in terms of user satisfaction factors, process factors, strategies, capabilities, and stakeholder contributions [16, 17]. Third, to be able to strengthen the results of studies that discuss the factors that influence SIMRS with the PRISM approach [18, 19].

## 2. METHODOLOGY

### A. Hypotheses

Based on the foregoing, the hypothesis in this study are proposed as follows:

- H<sub>1</sub>: There is a partially significant influence of stakeholder satisfaction variables on the implementation of SIMRS in the medical record unit*
- H<sub>2</sub>: There is a partially significant effect of process variables on the implementation of SIMRS in the medical record unit*
- H<sub>3</sub>: There is a partially significant effect of strategy variables on the implementation of SIMRS in the medical record unit*
- H<sub>4</sub>: There is a partially significant effect of the capability variable on the implementation of SIMRS in the medical record unit*
- H<sub>5</sub>: There is a partial influence of stakeholder contributions to the implementation of SIMRS in the medical record unit*
- H<sub>6</sub>: There is a simultaneous influence of stakeholder satisfaction, process, strategy, contribution, and stakeholder contributions to the implementation of SIMRS in the medical record unit.*

Figure 1 show the interaction between hypotheses and SIMRS implementation. Here, the H<sub>1</sub> to H<sub>6</sub> are targeted as an input while SIMRS as a target.

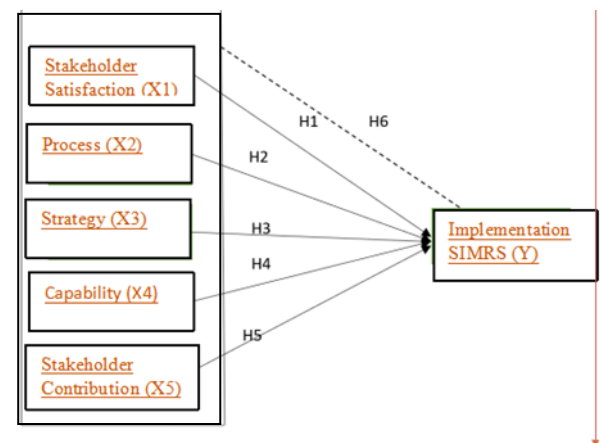


Figure 1. Research Model

The research was conducted at the Regional General Hospital "C" which is a class D hospital that has started using SIMRS since the beginning of 2019. The study was conducted in an outpatient installation using SIMRS. Namely the registration section, polyclinic, emergency room, laboratory, radiology, pharmacy, cashier. The research period starts from March 2020 to May 2020. The

research method used in this research is a combination research or better known as the mixed method. Researchers used mixed research with sequential explanatory methods because to determine the influence of stakeholder perceptions of satisfaction factors, processes, strategies, capabilities, and stakeholder contributions to the implementation of SIMRS in the medical record unit and to find out more about the effectiveness of health services felt by users of management information systems in RSUD "C". This research design intends to determine the data based on quantitative results and to explore more deeply using qualitative data. The data used in this study are primary data and secondary data. The data source comes from primary data obtained from questionnaires and in-depth interviews. The questionnaire was given to 90 respondents who were selected according to the sample selection. The research data were obtained using a questionnaire distributed to all SIMRS operators or users related to the implementation of SIMRS in RSUD "C" and followed by in-depth interviews to complement the results of quantitative research. Respondents in this study were all SIMRS operators in the Regional General Hospital "C" who met the inclusion and exclusion criteria. Data were processed using SPSS version 23 software. Sources of secondary data in this study were books, literature and journals, scientific articles. Other secondary data are previous research and review of medical records.

### 3. RESULT AND DISCUSSION

#### A. Instrument Test

Based on the results of the validity test on the stakeholder satisfaction variable (X1), it was found that all the question items had a value of Pearson Product Moment  $r$  table = 0.361, which means that all questions of stakeholder satisfaction variable question items were valid. The results of the validity test on the process factor variable (X2) obtained that all the question items had a value of Pearson Product Moment  $r$  table = 0.361, which means that all the question items of the process factor variable were valid. Based on the results of the validity test on the strategy factor variable (X3), it was found that all the question items had a value of Pearson Product Moment  $r$  table = 0.361, which means that all question items of the strategy factor variable were valid. Based on the results of the validity test on the capability factor variable (X4), it was found that all question items had a value of Pearson Product Moment  $r$  table = 0.361, which means that all question items of the capability factor variable were valid. Based on the results of the validity test of the stakeholder contribution factor variable (X5), it was found that all question items had a value of Pearson

Product Moment  $r$  table = 0.361, which means that all questions of stakeholder contribution factor variable questions were valid. While the results of the validity test of the SIMRS implementation variable obtained all question, items had a value of Pearson Product Moment  $r$  table = 0.361, which means that all question items of the SIMRS implementation variable were valid. The results of the reliability test in this study obtained Cronbach's Alpha value  $\geq 0.60$ , so it can be said that the instrument used in this study was reliable (see Table I).

Table I. Respondent Profile

| No. | Respondent Characteristic   | Frequency | Percentages (%) |
|-----|---|-----------|-----------------|
| 1   | <b>Gender</b>   |           |                 |
|     | Male  | 19        | 21,1%           |
|     | Female  | 71        | 78,9%           |
|     | <b>Total</b>  | <b>90</b> | <b>100%</b>     |
| 2   | <b>Age</b>  |           |                 |
|     | 20-25 year  | 44        | 48,9%           |
|     | 26-35 year  | 40        | 44,4%           |
|     | 36-45 year  | 3         | 3,3%            |
|     | 46-55 year  | 3         | 3,3%            |
|     | <b>Total</b>  | <b>90</b> | <b>100%</b>     |
| 3   | <b>Last Education</b>   |           |                 |
|     | High School   | 7         | 7,8%            |
|     | Diploma   | 52        | 57,8%           |
|     | Bachelor  | 29        | 32,2%           |
|     | Master/ Specialist  | 2         | 2,2%            |
|     | <b>Total</b>  | <b>90</b> | <b>100,0%</b>   |
| 4   | <b>Profession</b>   |           |                 |
|     | Doctor  | 14        | 15,6%           |
|     | Nurse   | 35        | 38,9%           |
|     | Midwife   | 6         | 6,7%            |
|     | Pharmacy  | 11        | 12,2%           |
|     | Administration  | 5         | 5,6%            |
|     | Etc.  | 19        | 21,1%           |
|     | <b>Total</b>  | <b>90</b> | <b>100,0%</b>   |
| 5   | <b>Years of Service</b>   |           |                 |
|     | < 1 year  | 11        | 12,2%           |
|     | 1-2 year  | 70        | 77,8%           |
|     | >2 year   | 9         | 10,0%           |
|     | <b>Total</b>  | <b>90</b> | <b>100,0%</b>   |
| 6   | <b>In general, your assessment of the use of application on computers</b>   |           |                 |
|     | Less  | 4         | 4,4%            |
|     | Satisfactory  | 36        | 40,0%           |
|     | Good  | 40        | 44,4%           |
|     | Very Good   | 10        | 11,1%           |
|     | <b>Total</b>  | <b>90</b> | <b>100%</b>     |
| 7   | <b>In general, youth's assessment of the role of SIMRS in RSUD Cipayung</b> |           |                 |
|     | Less  | 6         | 6,7%            |
|     | Satisfactory  | 34        | 37,8%           |
|     | Good  | 38        | 42,2%           |
|     | Very Good   | 12        | 13,3%           |
|     | <b>Total</b>  | <b>90</b> | <b>100%</b>     |

#### B. Instrument Test

The tendency of respondents' answers to each variable is processed using the Three Box Method chart, with the average range can be divided into interpretations of poor (18-42), fairly good (43-66), and good (67-90) values.

The results of descriptions of respondents' answers about attitudes in behavior are shown in the behavior matrix in Table II.

Table II. Respondent behavior matrix in the Three Box Method

| No | Variable                 | Position Respondent Response |              |      |
|----|--------------------------|------------------------------|--------------|------|
|    |                          | Less                         | Satisfactory | Good |
| 1  | Stakeholder Satisfaction | -                            | 61,40        | -    |
| 2  | Process                  | -                            | 60,97        | -    |
| 3  | Strategy                 | -                            | 61,53        | -    |
| 4  | Capability               | -                            | 63,73        | -    |
| 5  | Stakeholder Contribution | -                            | 62,47        | -    |
| 6  | SIMRS Implementation     | -                            | 61,54        | -    |

In addition to the observations from the explanation of the Three Box Method regarding the behavior of respondents in implementing SIMRS in the medical record unit with the PRISM approach, it was found that the respondent's behavior towards stakeholder satisfaction was quite good at 61.40 saying they were satisfied with the benefits of the existing system, although there were still several submodules in it. incomplete system. The behavior of respondents who said that the process factor of SIMRS was quite good was 60.97 where the respondent said that the SIMRS process still used an auxiliary book, namely the outpatient register. The behavior of respondents who said that the strategic factor was quite good was 61.53 where the respondents said the strategy was in the form of policies and standard operating procedures related to SIMRS, but it had not been fully supported by the management. The behavior of respondents who said that the capability and contribution of stakeholders were quite good, namely 63.73 and 62.47 where respondents felt that the system that had been built was easy to work with according to the competence and motivation of SIMRS users, the need for assistance and training from IT officers in operating the system periodically. Respondents' behavior towards the SIMRS implementation variable, the highest index is in the relevant information system display indicator with an index value of 61.54 then the system can be learned easily, the system is easily accessed, the system has a simple display, the system is reliable, the system is fast, the system is accurate (see Table III).

Table III. Joint Linear Regression Equation

| Independent Variable (X) | (a)   | B     | t     | P-Value (Significant) |
|--------------------------|-------|-------|-------|-----------------------|
| (Constant)               |       |       | -     |                       |
| Stakeholder Satisfaction |       | 0,717 | 3,858 | 0,000                 |
| Process                  |       | 0,262 | 2,474 | 0,015                 |
| Strategy                 | 2,480 | 0,562 | 2,802 | 0,006                 |
| Capability               |       | 0,410 | 2,162 | 0,033                 |
| Stakeholder Contribution |       | 0,263 | 2,000 | 0,049                 |

*Hypothesis 1 (H<sub>1</sub>):* The relationship between stakeholder satisfaction factors and the implementation of SIMRS in the medical record unit. Here, stakeholder satisfaction

factors have a positive and significant effect on SIMRS implementation. This is indicated by the p-value (sig.) Stakeholder satisfaction in the regression coefficient test is 0.000, this value is less than 0.05, which means that H<sub>0</sub> is rejected and H<sub>1</sub> is accepted, in another sense, there is an influence of stakeholder satisfaction (X<sub>1</sub>) on the implementation of SIMRS (Y). The analysis results show that the more satisfied the SIMRS users are, the better the SIMRS implementation will be. This result is in line with Hartman's theory states that stakeholder satisfaction consists of internal satisfaction, namely management, personnel, users and external stakeholders, namely hospital visitors who feel the impact of the implementation of the information system. A quality system will encourage the successful implementation of the system, the next implication is an increase in overall performance, both regarding employees, leaders, owners, and the organization itself. In this case, a system is considered to be effective, because it can meet the needs and desires of various constituents in the organization, both individually and in groups. Information system development is a very strategic decision. Apart from the sizeable investment involved, there are many other factors that must be considered. The complexity of the system is not a guarantee of performance improvement, it can even be counterproductive if the implementation stage is not supported by the readiness of human resources (HR) controlled by the company. The information systems must be developed to meet the needs and desires of users. Thus, end user satisfaction of information systems can be used as a measure of the success of an information system. The results of this analysis are matched by evaluation of the success of the information system using the Delone and Mclean model approach (a study of the implementation of the billing system in the Sragen District Hospital). The results found are that stakeholder satisfaction affects the implementation of the hospital information system

*Hypothesis 2 (H<sub>2</sub>):* The relationship between process factors and SIMRS implementation. Process factors have a positive effect on the implementation of SIMRS. The p-value (sig.) Of the process factor in the regression test is 0.015, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words, there is an effect of process factors (X<sub>2</sub>) on the implementation of SIMRS (Y). Based on the results, it can be concluded that it is proven that process factors have a significant effect on the implementation of SIMRS. This result is in line with the Development Life Cycle which states that an information system is an integrated framework that has one or more goals. The information system is a group of integrated elements with the same intention to achieve a specific goal. SIMRS implementation requires a process in the form of an algorithm flow so that SIMRS users can easily input data, manage data, and report data into the system. These results are also in line with Tugurejo Hospital Semarang, which states that process factors cannot run without an information system. The process factor alone

is not sufficient and the performance of the SIMRS implementation must be measured.

*Hypothesis 3 (H<sub>3</sub>):* The relationship between strategic factors and SIMRS implementation. Here, the strategic factors have a positive effect on the implementation of SIMRS. This is indicated by the p-value (sig.) Of the strategic factor in the regression test with a value of 0.006, this value is less than 0.05, which means that H<sub>0</sub> is rejected and H<sub>1</sub> is accepted, in another sense, there is an effect of strategic factors (X<sub>3</sub>) on the implementation of SIMRS (Y). Based on these results, it can be concluded that the strategic factors have a significant effect on the implementation of SIMRS. These results are in line with the theory of Stair & Reynolds, namely Fundamentals of Information Systems, business strategy is an important factor in the implementation of effective information systems. Here, the strategy development method has an impact on the quality of information systems. Thus, the strategy as an effort to improve the performance of SIMRS implementation is in the form of policies, SOPs that are made to support the implementation of SIMRS.

*Hypothesis 4 (H<sub>4</sub>):* The relationship between capability factors and SIMRS implementation. The capability factor has a positive effect on SIMRS implementation. This is indicated by the p-value (sig.) Of the capability factor in the regression test with a value of 0.033, this value is less than 0.05, which means that H<sub>0</sub> is rejected and H<sub>1</sub> is accepted, in another sense there is an effect of the capability factor (X<sub>4</sub>) on the implementation of SIMRS (Y). Based on these results, it can be concluded that the capability factor has a significant effect on the implementation of SIMRS. HR is a strategic factor in determining the success of the system. The development of an information system that ignores the readiness of its human resources can result in the system being ineffective and even likely to be counter-productive. In the cases they examined it was found that users were disillusioned and behaved dysfunction ally during system implementation and development because their opinions and expectations were ignored by the developer. Developers in this context ignore the inherent success factors, namely the needs (needs) and other requirements (requirements). The results of this study states that the HR capability factor influences the application of SIMRS in the radiology installation of Tugurejo Hospital Semarang. In this study, the capability factor, human resource motivation in implementing SIMRS implementation in the medical record unit influenced the success of this SIMRS implementation. The officers are enthusiastic about being able to apply this information system to support their daily work.

*Hypothesis 5 (H<sub>5</sub>):* The relationship between stakeholder contribution factors to SIMRS implementation. Stakeholder contribution factors have a positive effect on

SIMRS implementation. This is indicated by the p-value (sig.) Of the stakeholder contribution factor in the regression test with a value of 0.049, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words there is an influence of stakeholder contribution factors (X<sub>5</sub>) on the implementation of SIMRS (Y). The results of this study are in line with Gibson's (2003) theory which states that the system has motivational benefits, participation, is also beneficial for organizational control. Organizational control is aimed at ensuring whether the performance realization is in accordance with the target. User involvement in system development will provide an overview of the target or development objectives and the means / mechanisms to make it happen. Participation will encourage the achievement of individual effectiveness, in turn will encourage the effectiveness of the group and in turn will lead to organizational effectiveness. This is also in line with the SIMRS development planning in radiology installations was carried out because the changes that occurred were very dynamic. These changes can occur from internal and external to the hospital. For planning the maintenance of SIMRS radiological installations have been carried out. The result of the analysis of this research is that the officers have received training by the management.

#### C. T test result to validate partial effects

Based on the results of the simple regression coefficient analysis, it can be concluded that there is a significant influence between stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions to the implementation of SIMRS in the medical record unit. This is indicated by the p-value (sig.) Of the stakeholder satisfaction factor in the regression coefficient test of 0.000, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words there is an effect of stakeholder satisfaction (X<sub>1</sub>) on the implementation of SIMRS (Y). The p-value (sig.) Of the process factor in the regression coefficient test is 0.015, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words, there is an effect of process factors (X<sub>2</sub>) on the implementation of SIMRS (Y). The p-value (sig.) Of the strategic factor in the regression coefficient test is 0.006, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words there is an effect of the strategic factor (X<sub>3</sub>) on the implementation of SIMRS (Y). The p-value (sig.) Of the capability factor in the regression coefficient test is 0.033, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words there is an effect of the capability factor (X<sub>4</sub>) on the implementation of SIMRS (Y). The p-value (sig.) Of the stakeholder contribution factor in the regression coefficient test is 0.049, this value is less than 0.05, which means that H<sub>0</sub> is rejected, in other words there is an influence of stakeholder contribution factors (X<sub>5</sub>) on the implementation of SIMRS (Y). The stakeholder satisfaction factor variable is the most dominant

compared to the process factor variable, strategy, capability, and stakeholder contribution. Therefore, to further improve SIMRS implementation, stakeholder satisfaction needs to be improved (see Table IV).

Table IV. Partial Test (T-Test)

| Independent Variable (X) | T-Count | P-Value |
|--------------------------|---------|---------|
| Stakeholder Satisfaction | 3,858   | 0,000   |
| Process                  | 2,474   | 0,015   |
| Strategy                 | 2,802   | 0,006   |
| Capability               | 2,162   | 0,033   |
| Stakeholder Contribution | 2,000   | 0,049   |

#### D. F-Test to validate simultaneous effect

The F test shows the results of the p-value (sig.) 0.000, this value is <0.05. In other words, the model is appropriate to describe the influence of stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions to the implementation of SIMRS in the medical record unit. The variable of stakeholder satisfaction, process, strategy, capability, and stakeholder contribution simultaneously (together) has a significant effect on the user satisfaction variable. So that H0 is rejected, H1 is accepted (see Table V).

Table V. Simultaneous Hypothesis Test (F-Test)

| Independent Variable (X) | F-Count | P-Value |
|--------------------------|---------|---------|
| Stakeholder Satisfaction |         |         |
| Process                  |         |         |
| Strategy                 | 74,282  | 0,000   |
| Capability               |         |         |
| Stakeholder Contribution |         |         |

#### E. Determination Coefficient Test ( $R^2$ )

The correlation value (R) of the influence of the stakeholder satisfaction factor variable, the process, strategy, capability, and stakeholder contribution are 0.816. Based on the interpretation of the value correlation coefficient, the influence of stakeholder satisfaction, the process, strategy, capability, and stakeholder contribution to the implementation of SIMRS in the medical record unit is strong and positive (unidirectional), meaning that when stakeholder satisfaction, process, strategy, capability, and stakeholder contribution variables increase, the SIMRS implementation variable will increase and vice versa. Furthermore, to see the magnitude of the contribution of the variable stakeholder satisfaction factor, process, strategy, capability, and stakeholder contribution of 0.816 to the implementation of SIMRS, it can be seen from the value of the coefficient of determination (R Square). The magnitude of the R square number is 0.816 or equal to 81.6%. This figure implies that stakeholder satisfaction, processes, strategies, capabilities, and stakeholder contributions simultaneously affect the implementation of SIMRS by 81.6%, while the rest (100% - 81.6% = 18.4%) is influenced by other variables outside this regression equation. or variables not studied (see Table VI).

Table VI. Determination Coefficient

| Independent Variable (X) | R Square | R Square (%) |
|--------------------------|----------|--------------|
| Stakeholder Satisfaction |          |              |
| Process                  |          |              |
| Strategy                 | 0,816    | 81,6%        |
| Capability               |          |              |
| Stakeholder Contribution |          |              |

#### F. Supporting and Inhibiting Factors for SIMRS implementation in the medical record unit

Based on the three-box method and in-depth interviews which are supporting factors for the implementation of SIMRS from stakeholder satisfaction variables, including the system facilitates the work of inputting patient data, patient visit data, RL1-RL5 reporting data, and medical record officers easily pull data in real time. The process variables in SIMRS implementation are through a user module approach, user friendly and straightforward algorithmic flow. The things that support the system are considered quite relevant, complete, and the information generated is convincing. Strategic variables that support the existence of policies made by management and standard operating procedures in implementing SIMRS. The capability variable in SIMRS implementation is in accordance with the user's motivation where data can be retrieved centrally, and the user's competence is appropriate. The variable contribution of stakeholders that supports the benefits of implementing SIMRS is that it makes it easy for hospital staff to input data, process data, and send data so that work becomes effective and efficient. The inhibiting factor for stakeholder satisfaction variables is due to the incomplete submodule in the system so that there is still data inputted manually, the information system has not been triggered into the EIS (Executive Information System) system. The connection is sometimes lost, which slows down the patient registration service in outpatient care. In the process variable, the inhibiting factor is that some modules are incomplete in the system such as the surgical procedure report. Barriers in the strategy variable, if the system crashes, it will take several days for IT personnel to repair the system due to the lack of hospital IT programmers. The barrier to the capability variable is the IT programmer's ability to repair the system takes a long time. In the inhibiting factor of the stakeholder contribution variable is the lack of supervising assistance from IT officers in implementing SIMRS in RSUD "C". Inhibiting factors, the variable of SIMRS implementation was perceived as less satisfied by respondents related to the content of SIMRS, the accuracy of the information, the modules in the SIMRS were not fully as expected.

#### G. The perceived effectiveness of health services on the implementation of SIMRS

Regional General Hospital Policy "C" yes in the implementation of SIMRS implementation of various factors that influence, the hospital is able to support the achievement of hospital service goals. This condition is



due to management support in an effort to create an effective health service information system at the outpatient installation of a General Hospital. The effectiveness of the service information system at the hospital at the outpatient installation of the Regional General Hospital "C" was achieved because in its implementation it had met the program criteria well, namely regarding the accuracy of program targets or service information systems, the existence of program socialization efforts, setting clear program objectives and program monitoring / evaluation activities so that the program can run in accordance with the stipulated provisions. Technology and information have undergone a very rapid development so that to keep up with the progress and development of technology and information, we are required to follow existing developments. Not only us, even the government system must also keep pace with these developments in order to achieve the effectiveness and efficiency of its services. Various ways must be done so that a fast and precise service system can be achieved. One of them is by making new policies through service innovation, especially in terms of acceleration and ease of service that is useful for the community and the institution itself. Furthermore, success should be measured by the effectiveness of supporting information technology. the business strategy of a company, creating its business processes, improving the structure and culture of the organization and increasing the number of customers and the business value of the company. From the data obtained from the interview results, SIMRS users feel quite satisfied with the implementation of SIMRS because the content, accurate, format, easy to use, on time can increase the effectiveness of data entry time, data processing, data reporting, and data transmission. as well as on time delivery of medical record reports.

Furthermore, the test results in this study indicate strong support for the influence of stakeholder satisfaction, processes, strategies, capabilities, and stakeholder contributions to the implementation of SIMRS jointly or partially according to the theory in this study. The most dominant influence partially the most dominant variable is stakeholder satisfaction. Stakeholder satisfaction is the most dominant with a t value of 3.858 with a p-value of 0.000. Increased stakeholder satisfaction, in this case a user-friendly system, a straightforward algorithmic flow and good system responsiveness, will further improve the implementation of SIMRS. For SIMRS users who are in this research, the implementation of SIMRS implementation has helped their work, but from the module side in the system and bridging to the EIS system, it is hoped that it can be further improved. The amount of the R square number is 0.816 or equal to 81.6%. This figure implies that stakeholder satisfaction, processes, strategies, capabilities, and stakeholder contributions simultaneously affect the implementation of SIMRS by 81.6%, while the rest ( $100\% - 81.6\% = 18.4\%$ )

is influenced by other variables in outside of this regression equation or the variables not studied.

In addition, the collecting questionnaires in the midst of the Covid 19 pandemic so it is difficult to meet employees one by one directly. In the process of in-depth interviews, they often experience problems because visiting times are limited in the conditions of the Covid 19 pandemic.

#### 4. CONCLUSION

Based on the results and discussion of hypothesis testing, in-depth interviews and research findings, it can be concluded that stakeholder satisfaction factors have a positive and significant effect on the implementation of SIMRS. This indicates that the maximum implementation of SIMRS can be achieved if stakeholder satisfaction is increased. Process factors have a positive and significant effect on the implementation of SIMRS. The better the resulting reporting process, the higher the SIMRS implementation rate. Strategy factors have a positive and significant effect on SIMRS implementation. Management support, policies and standard operating procedures for implementing SIMRS. The capability factor has a positive and significant effect on the SIMRS implementation. Management support, policies and standard operating procedures for implementing SIMRS. The capability factor has a positive and significant effect on the SIMRS implementation. The better the competence and motivation of SIMRS users, the more accurate and reliable medical record reporting will be. Stakeholder contribution factors have a positive and significant effect on SIMRS implementation. Supervising, mentoring and training from hospital IT programmers is able to improve SIMRS implementation for the better. the influence of stakeholder satisfaction factors on the implementation of SIMRS is the most dominant compared to other independent variables. Stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions collectively or simultaneously have a positive and significant effect on SIMRS implementation. This means that improvements in stakeholder satisfaction factors, processes, strategies, capabilities, and stakeholder contributions will collectively improve the implementation of SIMRS. Factors that support the successful implementation of SIMRS implementation include a system that is easy to learn, flexible, reliable, complete content, relevant to user needs. Factors that hinder the implementation of SIMRS include an incomplete submodule, a system that has not been triggered by EIS, intermittent network connections, management support, accuracy of information and lack of staff skills and compliance. The benefits or impacts of implementing SIMRS are felt at both the individual and organizational levels. Users are satisfied with the implementation of the SIMRS implementation because the benefits are felt, including the work is easier to complete, the reporting time of medical records can be

faster than when reporting is still using the manual system, the efficiency of using paper, the completeness of medical records can be better, save paper usage and improve performance officers and organizations.

Here, the results of the research shows stakeholder satisfaction factors, process factors, strategies, capabilities, and stakeholder contributions affect the implementation of SIMRS in the medical record unit, can be a management reference to improve the implementation of SIMRS in RSUD "C" by adding facilities and infrastructure such as additional submodule needed into the system, through bringing to the EIS system, and develop SIMRS towards electronic medical records, so that services become more effective and efficient.

Thus, the management monitors and evaluates the performance of SIMRS implementation, looks for solutions to problems sometimes disconnects from the network connection so there is no delay in entering patient data and late submission of reports and adding submodules needed by SIMRS users. IT officers make training schedules, regular assistance to SIMRS users and there are additional IT officers to support the implementation of SIMRS in RSUD "C".

### Acknowledgment

On this occasion, I would like to express my deepest gratitude to Dr.dr. Supriyantor, Sp.P., MARS and dr. Mus Aida, Mars as mentor.

### References

- [1]. Anon. 2002. "Business Performance Measurement: Theory and Practice." Choice Reviews Online.
- [2]. Creswell, John W. 2009. Research Design: Qualitative, Quantitative and Mixed Approaches (3rd Edition).
- [3]. Garcia, Victor, and Joan Bruna. 2018. "Few-Shot Learning with Graph Neural Networks." in 6th International Conference on Learning Representations, ICLR 2018 - Conference Track Proceedings.
- [4]. Huffman, Jeff C., Shannon V. Moore, Christina M. Dubois, Carol A. Mastromauro, Laura Suarez, and Elyse R. Park. 2015. "An Exploratory Mixed Methods Analysis of Adherence Predictors Following Acute Coronary Syndrome." Psychology, Health and Medicine.
- [5]. Kemenkes RI. 2009. "UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 44 TAHUN 2009." PERPRES.
- [6]. Neely, Andy, Chris Adams, and Mike Kennerley. 2002. "The Performance Prism: The Scorecard for Measuring and Managing Business Success." Cranfield School of Management.
- [7]. Peraturan Menteri Kesehatan Republik Indonesia. 2008. "Permenkes Nomor 269 Tahun 2008 Tentang Rekam Medis." Permenkes Ri No 269/Menkes/Per/Iii/2008.
- [8]. Prof.Dr.Afrizal, M. .. 2014. Metode Penelitian Kualitatif. Jakarta: PT.Rajagrafindo Persada.
- [9]. Sudaryono, Dr. 2019. Metodologi Penelitian Kuantitatif, Kualitatif, Dan Mix Methode. Kedua. edited by P. R. Persada.
- [10]. (Creswell 2009)(Neely, Adams, and Kennerley 2002)(Huffman et al. 2015)(Garcia and Bruna 2018)(Anon 2002)(Peraturan Menteri Kesehatan Republik Indonesia 2008)
- [11]. Anon. 2002. "Business Performance Measurement: Theory and Practice." Choice Reviews Online.
- [12]. Creswell, John W. 2009. Research Design: Qualitative, Quantitative and Mixed Approaches (3rd Edition).
- [13]. Garcia, Victor, and Joan Bruna. 2018. "Few-Shot Learning with Graph Neural Networks." in 6th International Conference on Learning Representations, ICLR 2018 - Conference Track Proceedings.
- [14]. Huffman, Jeff C., Shannon V. Moore, Christina M. Dubois, Carol A. Mastromauro, Laura Suarez, and Elyse R. Park. 2015. "An Exploratory Mixed Methods Analysis of Adherence Predictors Following Acute Coronary Syndrome." Psychology, Health and Medicine.
- [15]. Kemenkes RI. 2009. "UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 44 TAHUN 2009." PERPRES.
- [16]. Neely, Andy, Chris Adams, and Mike Kennerley. 2002. "The Performance Prism: The Scorecard for Measuring and Managing Business Success." Cranfield School of Management.
- [17]. Peraturan Menteri Kesehatan Republik Indonesia. 2008. "Permenkes Nomor 269 Tahun 2008 Tentang Rekam Medis." Permenkes Ri No 269/Menkes/Per/Iii/2008.
- [18]. Prof.Dr.Afrizal, M. .. 2014. Metode Penelitian Kualitatif. Jakarta: PT.Rajagrafindo Persada.
- [19]. Sudaryono, Dr. 2019. Metodologi Penelitian Kuantitatif, Kualitatif, Dan Mix Methode. Kedua. edited by P. R. Persada..

Received: 10 February 2021, Accepted: 09 April 2021