Factors that Influence the Implementation of Hospital Management Information Systems on the Performance of Registration Officers at RSU Bandung Medan

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Article Info	Abstract
	The Hospital Management Information System used in a hospital must provide operational convenience and must be able to overcome obstacles to patient service in the hospital. The importance of SIMRS was strengthened by the enactment of Law Number 44 of 2009 concerning Hospitals which states that every hospital is obliged to record and report all activities of hospital administrators in the form of SIMRS. The aim of this research is to determine the factors that influence the implementation of a hospital management information system on the performance of registration officers at the Bandung Medan General Hospital in 2023. This research method uses descriptive qualitative methods. The research was conducted at RSU Bandung Medan in 2023. The informants in this research were 1 triangulation informant, 2 main informants, 1 additional informant. Data collection methods use interviews, observation and documentation methods. The research results of the computer hardware factors used are sufficient for the registration officer's needs, the software still has system failures in the application due to the absence of routine maintenance on the SIMRS application, the officer's brainware still has not received formal training, the SIMRS implementation procedure is in accordance with Standard Operating Procedures (SOP) that applies, the Communication Network has problems with the network used, such as a network that is still unstable. Research shows that there is an influence of hardware, software, brainware, procedures, communication network factors on the performance of registration officers. It is hoped that sufficient equipment can support all the work of officers, routine maintenance is carried out on applications, official training is held for officers, officers can carry out their duties in accordance with Standard Operating Procedures (SOP), network maintenance.

Introduction

The world of health and information technology is developing very quickly. Currently, the world of health is very dependent on developments in information technology to speed up the health services provided and improve patient safety services. Hospitals are one of the health service providers currently required by the Ministry of Health to implement a hospital management information system (Handayani et al., 2018).

Based on Law Number 44 of 2009, hospitals are health service institutions for the community with their own characteristics which are influenced by developments in health science, technological advances and the socio-economic life of the community which must continue to

be able to improve services that are of higher quality and affordable for the community in order to be realized. highest degree of health. Therefore, hospitals must be supported by data through the Health Information System (SIK) where the resulting information will be useful for hospital management activities.

The implementation of a hospital information system is expected to encourage hospitals to carry out service activities more productively, quickly, easily, accurately, integrated, safely and efficiently. For hospital management, the information obtained will be used as a basis for making decisions or assessing the performance of a part of the hospital using the hospital management information system (SIMRS) (Susilo & Khabib, 2019).

SIMRS used in a hospital must provide operational convenience and must be able to overcome obstacles to patient service in the hospital. SIMRS can encourage increased efficiency and effectiveness of services in hospitals along with the smooth flow of information between service providers and patients. The importance of hospital information systems was strengthened by the enactment of Law Number 44 of 2009 concerning Hospitals which states that every hospital is obliged to record and report all activities of hospital administrators in the form of SIMRS (Susilo & Khabib, 2019).

The Hospital Management Information System (SIMRS) is a communication information technology system that processes and integrates the entire hospital service process flow in the form of a coordination network precisely and accurately and is part of the health information system. Meanwhile, the aim of holding SIMRS is to improve efficiency, effectiveness, professionalism, performance as well as hospital access and services.

Performance is a result or something that has been achieved by someone. In this case, the definition of employee performance is something that has been achieved by employees based on their role or position in the world of work or organization. A person's performance or achievements can be known from the quality of his performance or the results of his work. This is adjusted to the level of responsibility that has been entrusted to him. Apart from being based on the level of responsibility, performance can also be assessed from a person's education, initiative, inspiration and work motivation. The results of their work will give rise to feedback to their superiors and themselves so that they can continue to be active in carrying out their work and hopefully produce good quality work. This will benefit the organization and will benefit themselves, because it will build their self-image as employees who have high dedication and loyalty to the organization where they work (Eka Putri & Hapzi, 2022). The ineffectiveness of the existing SIMRS is mainly due to the absence of a clear policy formulation regarding the procurement of SIMRS. According to Pressmen and Wildasky in Shanon, implementation failure is mainly caused by policy determination without basis (Roma, 2017).

In reality, until now there are still obstacles in the implementation of the hospital information system used. One of the obstacles faced is that the data produced often does not match actual conditions, so hospitals tend to continue using manual methods. This causes a lack of monitoring of the service process, so that it will directly or indirectly affect the hospital's cash flow and ultimately this will have an impact on the quality of hospital services to patients (Roma, 2017).

The Bandung Medan General Hospital is a private public hospital located in a densely populated residential area, in fact it is a health service industry based on economic principles, but in its implementation it is also inseparable from social and humanitarian services. The social activities carried out by the Bandung General Hospital are in collaboration with several social foundations to help serve underprivileged communities and participate in various social services and free medical treatment. The general medical services available are the doctor on duty in the Emergency Unit and the doctor on duty in the Maternity Room, Maternity Room Unit, General Surgery, Internal Medicine, Pediatrics, Anesthesia in addition to medical

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services. To support these services, clinical and non-clinic supporting facilities are needed. The clinic's supporting facilities include an Inpatient Unit with a capacity of 100 TT, Outpatient Unit, Operating Room Unit, Intensive Care Unit, Laboratory Unit, Pharmacy Unit, Medical Records and Registration Installation. Non-clinical supporting facilities include the Nutrition and Kitchen Unit, Sanitation Unit, Linen and Laundry Unit, Ambulance Unit, Mortuary Unit, Security Guard Unit, General Affairs and Finance. Apart from adding facilities, facilities and infrastructure, the human resource development program at Bandung General Hospital is also implemented by providing education and training (training) in the form of regular internal training for doctors, nurses/midwives, other health workers and non-health workers. The training program, namely internal training, is carried out with the aim of developing the knowledge and skills of human resources in order to improve the quality of quality health services, especially at the Bandung General Hospital.

Based on the results of the initial survey conducted by researchers at RSU Bandung Medan by conducting interviews and observations with 2 registration officers, from the results of these interviews and observations the implementation of the management information system at RSU Bandung Medan is still less than optimal, this can be seen from the hardware the computer often has errors (turns itself off) and from the results of observations the number of computer units used is only 4 computers and it does not support all user work, especially in the registration section, in the process of using the software there are still system failures, this can be seen from the application used Sometimes it comes out on its own, causing service to be slow. Apart from that, there is still a lack of understanding among officers about the use of hospital management information systems due to the lack of socialization related to the use of hospital management information systems so that recording and reporting are still not effective, which causes the performance of registration officers to still not be optimal. The division of work between officers is still not well coordinated, this indicates that there are 5 registration officers who also work in the medical records department and 1 person remains in the coding department. The system operation stage has not yet been implemented in accordance with Standard Operational Procedures (SPO) because one of the officers said that it had been proposed to superiors but nothing had been realized. The network used at RSU Bandung Medan is a LAN (Local Area Network) network, and network errors still frequently occur which cause officers' work to be disrupted because they have to wait for the network to stabilize again.

Based on this background, researchers are interested in conducting research related to "Factors that Influence the Implementation of Hospital Information Systems on the Performance of Registration Officers at the Bandung Medan General Hospital in 2023".

Methods

The research design used is descriptive qualitative research. Qualitative is research that explains phenomena in the form of words and does not use a type of research whose findings are not obtained through statistical procedures or other forms of calculation.

Primary data is data obtained from interviews, observations and documentation with informants to determine the factors that influence the implementation of the hospital management information system on the performance of registration officers. Secondary data is data collection which in this study researchers obtained from the organizational structure, profile of the Bandung Medan General Hospital. Tertiary data is data obtained from books and journals related to this research.

The data collection methods used in this research are interview, observation and documentation methods. The interview method is the process of asking questions and answers in research that takes place orally between two or more people, face to face, hearing information or information directly (Goyena, 2019). The observation or observation method is a way of collecting data by making observations of ongoing activities (Goyena, 2019). The documentation method is data

collection by collecting and analyzing documents, whether written, images or electronic (Goyena, 2019).

Results and Discussion

Hardware

Based on the results of interviews with main informant 1, main informant 2, additional informants, and triangulation informants in hardware factors, researchers found that there were 3 computers used in the registration section, there were problems related to the implementation of SIMRS in the form of unstable networks, computers which often has errors because the computer specifications are still low so it doesn't support the existing SIMRS software, and if there is a problem/problem with the device used, it will be notified to IT and it will take quite a long time. The computer hardware used in the registration section is adequate and meets the user's needs.

This research is in line with research conducted by Fathoni Nugroho et al, namely that hardware is an important component in implementing a hospital management information system which must be planned and managed well and is used to set goals and guidelines in implementing a hospital management information system, so that the implementation of a activities in accordance with applicable regulations.

Hardware is all the physical parts of a computer, and is differentiated from the data that is in it or that operates on it and is differentiated from software or software that provides instructions for the hardware to complete its tasks. Hardware is computer system equipment that can physically be seen and touched. This equipment includes several components, namely input components (input devices), processing components (processing devices), output components (output) and external storage components (storage). The function of hardware is to support computer work, display or receive process input, process data/information, provide output, and store data/information installed inside or outside the computer.

The assumption of this research is that adequate and well-functioning hardware will help the SIMRS implementation process well in all hospital units, especially in the registration section. A computer-based management information system is a very important supporting tool, it could even be said to be absolutely essential for supporting hospital operational management. Efforts are made to select quality hardware that meets specification requirements to support transaction speed and quantity of work completion. Apart from the results of interviews conducted with each informant, the researcher also has comparisons from research conducted by Fathoni Nugroho et al, which shows that research on factors that influence the implementation of hospital management information systems on the performance of registration officers at the Bandung Medan general hospital is in line with their research.

Software

Based on the results of interviews with 2 main informants, 1 additional informant, and 1 triangulation informant, in the software factor, the informant said that the SIMRS application implemented at the Bandung Medan general hospital is the E-Med application, where the application has a user friendly appearance. and easy to understand/understood by users and there is supervision from the hospital management regarding the implementation of SIMRS in the hospital. 2 main informants and 1 triangulation informant said that there were system failure problems in the SIMRS application that was implemented, such as when officers opened the application, sometimes it took a long time to load and sometimes the application suddenly left the website. Researchers also found that there was no routine maintenance of the SIMRS application implemented at the hospital and from year to year it still used the same vendor even though the software problems were still the same from year to year.

This research is in line with the research of Fathoni Nugroho et al, namely that software is an operating system or supporting system that functions to regulate or control and also functions as a translator of each instruction into machine language so that it can be received by the hardware (Nugroho, 2022) .

Software is also referred to as a computer system that does not have a physical form that is installed on a computer or laptop so that it can be operated, for example Microsoft Word, Microsoft Excel, Microsoft Power Point, and many more. This software is a collection of electronic data that is stored and controlled by a computer device. Electronic data includes instructions or programs that will later carry out specific commands. This device has a physical form that is installed on a computer or laptop so that it can be operated. Software functions as an operating system or support system that functions to regulate or control and this software also functions as a translator of each instruction into machine language so that it can be received by the hardware. To run SIM-RS, there is hardware and software that supports SIMRS so that it can produce the output required by the user and this can be influenced by software and hardware that supports the implementation of information system performance. SIM-RS consists of Hardware, Software and Brainware components, in SIM-RS hospital management it is mostly measured by output, namely Software. That the success of an information system is a relationship between the quality of the application software on the SIM-RS, the quality of data information resulting from the use of the SIMRS application and the quality of service from the SIM-RS management at the Hospital. To run the SIM-RS application, there is hardware and software that supports and supports the operations of the SIM-RS. Based on throughput or results indicators, SIM-RS can produce the output required by users and can be influenced by software and hardware that supports the implementation of information system performance..

The assumption of this research is that the success of a SIMRS is a relationship between the quality of the SIMRS application software, the quality of information or data resulting from the use of the SIMRS application and the quality of service from the SIMRS management at the hospital. Hospital institutions are always under pressure to be able to improve medical services, reduce medical errors, access timely information and control operational costs. Apart from the results of interviews conducted with each informant, the researcher also has comparisons from research conducted by Fathoni Nugroho et al which shows that research on the factors that influence the implementation of hospital management information systems on the performance of registration officers at the Bandung Medan general hospital is in line with their research.

Human Resources

Based on the results of interviews with 2 main informants, 1 additional informant and 1 triangulation informant, in the human resources factor (Brainware) researchers found that the total number of registration officers at the Bandung Medan General Hospital was 4 people. From interviews with informants, there was no special training for officers, but IT was the one who provided simple and short training to officers regarding the implementation of SIMRS at the hospital. So officers do not understand the application in depth and there are still many who are proficient in using the application.

This research is in line with the research of Sifa Fauziah et al, namely that human resources are a very vital hospital asset which has an important role in managing and managing it. Human resources are so functional that they cannot be replaced with other resources (Sifa, 2023).

Human resources (Brainware) are people who use, use or operate computer equipment. Examples of brainware are programmers, netters (a term for people who are surfing the internet), and people who are using computer devices. A user is called Brainware if he not only uses a computer but can process computer data. Apart from brainware, there is also hardware

and software which are interconnected where these three components cannot be separated, they must be interconnected and form a unity. If one of these components is missing, then the computer is just an inanimate object that cannot produce anything. Brainware is a person who runs or operates a computer and brainware has a very important role because a computer cannot be used if it is not operated by humans. So Brainware is a person who is involved in an activity using a computer. Brainware factors such as the lack of knowledge of officers regarding the use of hospital management information systems can cause low performance of officers.

The assumption of this research is that the ability of SIMRS users is viewed from knowledge, namely intellectual ability (the ability needed to carry out activities and know their tasks in general) and physical ability (the ability to do work that demands stamina). The service involves HR (Human Resources) who operate and use the inpatient billing system. This HR (Human Resources) factor is the Brainware factor, which is one component of the management information system. Developing human resources as users (Brainware) by providing knowledge about information technology and sufficient training to better understand and be proficient in the use and operation of information technology. Good human resources can also increase organizational capacity through hospital management information systems to improve service quality. health, increasing efficiency and is the most important part of the factors that influence the implementation of SIMRS on the performance of registration officers. In addition to the results of interviews conducted with each informant, the researcher also has comparisons from research conducted by Sifa Fauziah et al which shows that research on the factors that influence the implementation of hospital management information systems on the performance of registration officers at the Bandung Medan general hospital is in line with their research.

Procedure

Based on the results of interviews with 2 main informants, 1 additional informant, 1 triangulation informant in the procedural factor (Procedure), the researcher found that there was an SOP (Standard Operational Procedure) in the activities that regulate the implementation of SIMRS at the Bandung Medan general hospital and the SOP had been stated in detail. written in hardcopy form.

This research is in line with Abd's research. Rohman Taufik, namely the SOP procedure contains information about the time period for carrying out activities, service users, hierarchical organizational structure, and work schedules in implementing an activity. Implementation of SOPs in hospitals has multifunctions, both as a means of detecting potential deviations from main tasks and as a correction tool. Every deviation that occurs is an evaluation tool to improve effective, efficient, professional, transparent and reliable performance. Efficient work unit performance is an absolute requirement for a hospital to achieve its goals and is an important tool for realizing the hospital's vision and mission (Abd, 2019).

SOP (Standard Operating Procedure) in a hospital is a step-by-step activity or procedure that contains things that must be understood as instructions for carrying out work. SOP (Standard Operating Procedure) is one of the important requirements for hospital service standards or hospital accreditation. If officers do not work according to SOP (Standard Operating Procedures) it will have an impact on service standards in the hospital. Standard Operating Procedures (SOP) are a guide that aims to ensure that the work and operational activities of an organization or company run smoothly. SOP as a guideline for carrying out work in accordance with the functions and tools for assessing the performance of government and non-government agencies, business and non-business, based on technical, administrative and procedural indicators in accordance with work procedures, work procedures and work systems in the work unit in question. concerned.

The assumption of this research is that procedures function to form work systems and work flows that are orderly, systematic and accountable. Apart from that, SOPs are also used as

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generally applicable policies and regulations to explain the implementation process of factors that influence the implementation of hospital management information systems on the performance of registration officers. SOP in general is a description of carrying out the rare work required in carrying out a task to achieve hospital goals. Apart from the results of interviews conducted with each informant, researchers also have comparisons from research conducted by Abd. Rohman Taufik who showed that research on the factors that influence the implementation of hospital management information systems on the performance of registration officers at Bandung Medan General Hospital is in line with his research.

Communication network

Based on the results of interviews with 2 main informants, 1 additional informant, 1 triangulation informant in the Communication Network factor, the researcher found that the type of network used at the Bandung Medan General Hospital in implementing SIMRS was a LAN (Local Area Network) network while the internet type used is the ISP. From the results of interviews with 2 main informants and 1 triangulation informant, researchers found that there were disturbances/problems with the network used, such as network errors or long loading times, so the registration officer had to do the recording manually first while waiting for the network to stabilize again, and the department would handle it if this happened. The problem or network disruption is that there is only 1 person in IT, so it becomes an obstacle. The network speed used at the Bandung Medan General Hospital still experiences problems, sometimes it often experiences errors or the network is unstable. From the results of interviews with informants, officers said that the existence of SIMRS could streamline the service system at the Bandung Medan general hospital and improve the performance of registration officers for the better, however this often became an obstacle caused by unstable communication networks or the internet.

This research is in line with research by Agung Wijoyo et al, namely a communication network, a communication information technology system that processes and integrates the entire flow of hospital service processes in the form of a network of coordination, reporting and administrative procedures to obtain information precisely and accurately, and is part of the Information System. Health (Agung, 2023).

A communication network is a network consisting of individuals who are connected to each other by a patterned communication flow. In an organization, the communication network pattern is how a message, including the flow of information and instructions, is conveyed in detail. Information that flows in the communication process between employees in an organization forms a communication pattern. A communication network is an orderly pattern of relationships between individuals that can be identified as the exchange of information that a person experiences in their social system. A communication network is synonymous with connectivity between two or more actors. Communication network studies emphasize the relationships between one actor and other actors in a particular social structure. A communication network consists of a set of actors (nodes) and relationships (ties) between actors. Actors (nodes) can be individuals, groups, organizations or communities. Meanwhile, relationships (ties) may occur between individuals and individuals or between individuals and certain groups and so on.

The assumption of this research is that communication networks are a medium for accessing information systems more quickly and providing information that functions to process and integrate the entire flow of hospital services. Apart from the results of interviews conducted with each informant, the researcher also has comparisons from research conducted by Agung Wijoyo et al which shows that research on the factors that influence the implementation of hospital management information systems on the performance of registration officers at the Bandung Medan general hospital is in line with their research.

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Conclusion

There are 3 computers used in the registration section, there are problems related to the implementation of SIMRS in the form of an unstable network, inadequate computer specifications. There are system failure problems in the SIMRS application that is implemented, such as when officers open the application, sometimes it takes a long time to load and sometimes the application suddenly exits the website. There is no special training for officers, but IT is the one who provides training to officers regarding the implementation of SIMRS at the hospital. There is an SOP (Standard Operating Procedure) in activities that regulate the implementation of SIMRS at the Bandung Medan general hospital and this SOP has been stated in writing in hardcopy form.There are disturbances/problems with the network used, such as network errors or long loading times, so the registration officer must record them first while waiting for the network to stabilize again..

Suggestion

The use of computers in registration should include additional computers so that the task of registering patients can be carried out more quickly by each officer in searching for patient data and to reduce the time that is wasted because there are so many patients seeking treatment every day. It is recommended that the SIMRS application implemented carry out routine maintenance by IT to prevent disruptions/system failures in the application being implemented and evaluate the vendor or software provider (application). If it does not improve, it is hoped that they will replace it with a better vendor. It is recommended that official and regular training be held for registration officers to increase the officers' knowledge and skills in managing medical records so that they can run well. It is hoped that the SOPs that have been implemented related to the implementation of SIMRS at RSU Bandung Medan will continue to be implemented properly in order to successfully implement SIMRS at RSU Bandung Medan. It would be better if WiFi speed is increased and bandwidth management is carried out. With bandwidth management on the hotspot network, internet speed can run evenly for each user so that officers can access the SIMRS application smoothly and speed up the service system at RSU Bandung Medan.

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