Conference Paper

The development of Sijangkrik (Sistem Informasi Jenjang Karir Perawat Klinik) in Supporting the Implementation of a Nurse Career Path System at Islamic Hospital Assyifa, Sukabumi

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Abstract

The application of the Ministry of Health Regulation No. 40 regarding nursing career paths will significantly impact the nursing service system in Indonesia, helping to improve performance and professionalism in this sector. The career path system provides benefits to both the organization and the employees. However, there are at present obstaclessuch as a lack of supporting infrastructure, poor preparation, and a lot of technical work that needs to be carried out in implementing the career path system. This study proposes that an information system would help the application of a career path system to be more efficient and effective.The development of sijangkrik started with data collection using qualitative research to obtain data with the focus group discussion technique, interviews and documentation studies, followed by the information system development stage with the research and development (R and D) approach, of the 10 stages of the R and D process, researchers only until the 3rd stage, this is due to the limited time and resources the researcher has. Phase 3 is executed with the FAST method. In developing this system the researcher is assisted by a programmer.

Keywords: Research and Development, career path systems, employment information systems.

1. Introduction

Minister of Health Regulation No. 40 is a guide for the application of a professional nursing career path, a system to improve the performance and professionalism of nurses.The results of the preliminary study by interviewing several hospital stakeholders in implementing the career path system, it can be concluded that there are several obstacles in the form of a lack of supporting infrastructure, poor preparation and a lot of technical work that needs to be done, this is the reason for the need for tools in the

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form of information systems that can assisting the application of a nurse career ladder system.

There are three factors that encourage the start of the development of an information system, namely: problems that arise in the old system or in service, opportunities, and directions(1). Information systems have roles and functions for efficiency and effectiveness, because human transaction processing is replaced by information system technology and the resulting information functions to assist in decision making(2).

Using of information systems can overcome the problems of availability, completeness, timeliness, easy access and accuracy of information(3), the development of information systems is able to solve problems related to the quality of system information, namely: completeness of data and information, conformity of information, accuracy of information and timeliness of reporting(4)

The significance of this studyis the information system that can assisting the application of a nurse career ladder system.

The aim of this study is can get the information system stable and reliable, which will be used as a supporting tool in implementing nurse career paths at RSI Assyifa.

2. Method

In this study, the type of research used is qualitative research, with a research and development design (R and D). Qualitative research was chosen because in qualitative research it is possible to have more intense interaction between researchers and participants, so that data that can be extracted and obtained can be more complete and comprehensive.

Research and development (R and D) has 10 stages in the process(5), usually used to produce certain products and test the effectiveness of these products, can be seen in Figure 1
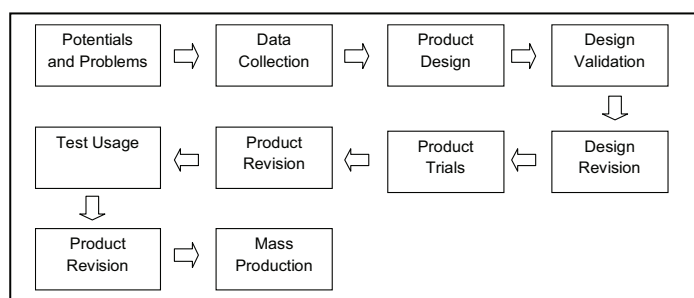

Figure 1: Stages of Research and Development

In the development of this SIM-career path, the researcher only reaches the 3rd stage of the 10 existing stages, this is due to the limited time and resources owned by the researcher.

In Stage 1, to identify potentials and problems, the PIECES approach is used to fulfill the empirical evidence rules. In stage 2, data collection was carried out using 3 methods, namely FGD, interviews and documentation study.Stage 3 is run with the FAST method (Framework for the Application of System Thingking)

This research was conducted at the Assyifa Islamic Hospital in Sukabumi City, conducted from June to August 2019, with the selection of participants using a purposive sampling technique, with the inclusion criteria:

1. Has the authority in the process of making information systems

2. Have experience in using information systems

And the exclusioncriteria:

1. Hospital Non Structural Officials

2. Nurses with a length of service of less than 3 years

total of participants is 10 people, which is divided into 2 groups

1. The group with data collection using interview techniques, consisting of 1 person director, 1 person head of the General Administration, 1 person Head of SIM-RS Sub Division

2. The group with data collection using the FGD technique, consisting of 1 person the Head of the Nursing Section, 1 person chairman of the nursing committee, 5 personrepresentatives of nurses.

Ethics in research is carried out with the principle of maintaining the confidentiality of the participant's identity (anonymity), by means that the researcher does not include the participant's name and address, replaced with code P1 for participant 1, P2 for participant 2, and so on, the principle of benefit is carried out by convincing participants that Research is not only beneficial for the benefit of researchers, but provides maximum benefits for the hospital, and the researcher provides information to participants about the objectives of the study, the benefits of the research, the research process, the possible risks that occur during the research process in carrying out informed consent

Data was collected by FGD, interviews and documentation studies, research aids using FGD guidelines, interview guidelines and a video recorder, the results were analyzed using the Colaiizi method.

3. Results

3.1. Focus Group Discussion

The results of analysis FGD with 7 participants obtained three themes,: 1) Experience in using information systems, 2) Nurses' expectations of information systems and 3) Application of clinical nurse career path systems in hospitals.

3.2. Design of Information system

3.2.1. Preliminary study

The objectives of the preliminary study at RSI Assyifa are to: find out the problem, the scope to be worked on, to know the feasibility of the system.

From the results of interviews and observations it was concluded that it was feasible to be developed.

3.2.2. Problem Analysis

The results of the study and analysis concluded that the development of an information system could be the answer to the problems faced.

3.2.3. Needs Analysis

The documentation study of the attachment PMK No. 40 of 2017 as a technical guide for the application of the clinical nurse career path system, helps researchers in formulating the information needs needed by individuals in the hospital. So that it can produce formats that are adapted and made by researchers to meet the information needs that must be generated by the career path system.

3.2.4. Decision Analysis

The selection of the proposed information system development model is to use a top down approach, namely an approach that starts from the top management level (Hospital Director). The selection of software and operating systems is adjusted to the information system that is already running so that there will be no meaningful changes besides being more efficient for investment costs because they are already available.

3.2.5. System Design Stage

The design includes several steps, namely: designing the Use Case, Input and Output.

3.2.6. Stage of Building a New System

Information systems carried out by researchers assisted by a programmer

4. Disussion

4.1. FGD results

Analysis of the results of the FGD with 7 participants obtained three themes, namely: 1) Experience in using information systems, 2) Nurses' expectations of information systems and 3) Application of clinical nurse career path systems in hospitals.

4.1.1. The nurse's experience in using information systems

The advantages of a product or tool are things that must be present and are the most considered things, including information system products. The positive experiences of nurses can be a factor in the successful development of a career path.The participant's statement above about the advantages of using information systems is in accordance with the theory put forward by Jogiyanto (1), information systems have roles and functions for efficiency, effectiveness, communication, collaboration, and competitiveness.

Research results also state that the development of electronic nursing documentation based on information technology provides benefits for nurses, including: shorter documentation time, ease of reading and access to documents and enabling learning tools(6)but the other research the nursing process was no better in the electronic system than in the paper base system(7). From some of the research results above indicate that the use of information systems is not always better, this must be a consideration in making decisions in the application of information systems so that the expected results can be achieved as desired.

Whereas for deficiencies there is 1 type of participant statement, namely input and data validation carried out by nurses, this can be understood because nurses do directly use the facilities and tools that need to be inputted into the information system, because

the system does not stand alone, the system still requires input that will managed so that it becomes useful information.

This deficiency may still take up part of the nurse's time in the service process, although the quantity is definitely reduced compared to when the information system has not been implemented or used. To eliminate the quantity of time required for the administrative process, other tools can be used so that the process for nurses to input data and validate data can be shorter, for example the use of barcodes and scanners.

4.1.2. Nurse's expectations for information systems

The second theme is the expectations of participants for information systems,

The expectations of the participants for the career paths being developed need to be addressed properly by researchers and programmers. Romney &Steinbert says that a quality information system must have attributes that are relevant, reliable, complete, timely, understandable, verifiable and accessible(8).

4.1.3. The implementation of the clinical nurse care level system that has been implemented

Statements from participants about the benefits of implementing the career path system are in line with the opinion of Marquis and Huston(9), which states that the benefits of implementing a career path system are career development, recognition, rewards, promotions and challenging jobs.

The results of Park's study(10) concluded that nurses who have experience in clinical development and recognition are highly motivated by their professional activities through the career path system, and they consider professional growth possible.

Meanwhile, the research results of Yongi and Li(11) concluded that the nursing career path management system has a major influence on increasing the qualifications of nurses, promoting their career advancement, improving treatment outcomes, and increasing the level of patient satisfaction, and also the others results research show that development factors career is most predominantly related to performance, that the career path system is used to evaluate nurses in service institutions from the perspective of nursing practice and research results, and that nurses in autonomous operated health facilities have higher satisfaction related to with their career paths and financial benefits compared to nurses in the civil service system (12, 13, 15)

4.2. Design of Information system

4.2.1. Preliminary study

The objectives of the preliminary study at Islamic Hospital Assyifa are to: find out the problem, the scope to be worked on, to know the feasibility of the system.

For the feasibility study according to the results of interviews and observations, both for technical feasibility, operational feasibility, schedule feasibility and economic feasibility it is concluded that it is feasible, this can be seen from the pretty good hardware technical specifications. For the availability and readiness of human resources, they are already available and quite familiar with the use of computers and information systems, while for the economy, financing is not a burden on the hospital so that the schedule for developing this SIM career path is on schedule.

4.2.2. Problem Analysis

At the problem analysis stage, there are basic steps that must be taken, namely identifying problems, understanding the system and identifying the information system that is running. Because the information system to be developed previously did not exist, through analysis and analysis it was concluded that the development of an information system could be the answer to the problems faced.

4.2.3. Needs Analysis

This stage is carried out with the aim of identifying the types of information required by system users, namely: Director, Head of Care Section, Nursing Committee and nurses, through documentation studies and interviews. The documentation study at PMK No. 40 of 2017, especially the attachment as a technical guide for the application of the clinical nurse career path system, helps researchers formulate the information needs needed by individuals in the hospital. Although some of the formats are a little confusing, it can be resolved by consulting a supervisor.

The formats adapted and made by researchers are aimed at meeting the information needs that must be generated by the SIM - career path, so it is hoped that the proposed information system can improve data management in terms of presenting data in a timely, accurate, regularly available manner and making it easier for users to access

back data and easy to operate and simple in supporting the application of the career path system.

4.2.4. Decision Analysis

The selection of the proposed information system development model is to use a top-down approach, namely an approach that starts from the top management level (Hospital Director), which then goes down to the lower management level down to the nurse level. This is done because in the development of information systems requires commitment from all parties, so that with the direction of the director it is hoped that there will be no significant obstacles.

The selection of software and operating systems is adjusted to the information system that is already running so that there will be no meaningful changes besides being more efficient for investment costs because they are already available.

4.2.5. System Design Stage

The system design stage is the analysis stage for designing career paths. This design is expected to produce an information system that is easy to use, complete, and produces accurate and fast information, so that the application of the career path system can run efficiently and effectively. Appropriate design will produce an information system as expected by the participants, the design includes several steps, namely: designing the Use Case, Input and Output.

Usecase can describe the system, the system environment, and the relationship between the system and its environment, according to Jogiyanto(2) Use Case is useful for communicating with end users, ensuring proper understanding of system requirements, used to identify who interacts with the system and what to do. system, the interface that the system must have and can be used for verification.

Output and Input design is a product of an information system that can be seen and assessed, so that the right design will produce information that meets expectations.

4.2.6. Stage of Building a New System

This stage aims to convert the results of logic design into coding operations using a programming language so that the logic concepts that have been designed can be translated into program functions that users can use easily and ensure that all functions

or program modules can be made and run. correctly. Career paths are carried out by researchers assisted by a programmer

5. Conclusion

Nurse career path information systemhas been successfully developed and simulated, trials and updating of information systems must be done to obtain a stable information system

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Conflict of Interest

The author have no conflict of interest to declare.

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