

PROPOSED BUSINESS PROCESS USING BUSINESS PROCESS IMPROVEMENT AT EMERGENCY DEPARTEMENT OF DUSTIRA HOSPITAL

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ABSTRACT

Dustira Hospital is one of public hospitals located in Cimahi. Dustira Hospital provides some services. One of the most important services is the Emergency Department (ED). This installation provides initial treatment for patients who are suffering from illness and injury through the quick and accurate action, so that the mortality rate can be minimized and unexpected disability can be prevented. The patients' satisfaction is very important because the majority of existing business processes are associated with patients. Therefore, distributing questionnaire was performed in order to determine the patients' satisfaction in the Emergency Department of Dustira Hospital.

The result from the questionnaire revealed that 60% of patients expressed their dissatisfaction towards patient examination in ED, and 73% of patients expressed their dissatisfaction towards the service cycle time. Based on the above result, one can argue the necessity of performing Business Process Improvement for Dustira Hospital's ED business process so that the process becomes more effective and efficient.

The process improvement in BPI covers the analysis of value-added and the use of streamlining tool that considers some aspects of the availability of facilities, technology, and human resources of the existing business process. By using the result from these improvements, it is expected that one stimulate the data using ARISToolset to see the differences between the proposed business process and the existing business process.

Keywords : Hospital, Business Process Improvement, Simulation

1. INTRODUCTION

The hospital is one of the organizing efforts of health facilities where health by empowering the various unit personnel trained and educated in facing and dealing with medical problems for restoration and maintenance of good health. With the enactment of Decree No. 072 Menkes / yan.Med / RS / 1990 which gives permission to the owners of capital, both domestic and foreign investment to build hospitals, resulting in a growing number of hospitals in Indonesia has increased which in essence is a condition that triggers competition among hospitals. Intense competition is making hospitals are required to further improve the competitiveness in terms of maintaining quality of service with how to run business processes measured and targeted.

No exception Dustira hospital, as health providers, need to maintain and improve the quality of services provided in accordance with the needs of the patient to give satisfaction as well as foster customer loyalty. As one of the most important installations in Dustira Hospital, Emergency, provide initial treatment for patients suffering from illness and injury, which could threaten the survival of patients. This service can provide rapid and appropriate action on a person or group of people for to minimize the mortality and prevent unnecessary disability. Efforts to improve emergency unit is intended to support basic services, so that emergency patients can cope well in everyday circumstances and in a state of disaster. In this installation, patient satisfaction becomes something that is very important because basically most of the

business processes in hospitals will be more often associated directly with the patient. Based on the results interview with Chief Dustira Hospital, Dr. Sutrisno, mentioned that the installation is required to handle and care for patients with swiftly, quickly and precisely this perceived lack of providing good service to patients. Description of the interview above, supported by data from questionnaires distributed to 30 patients who had used the service at Emergency Hospital. Dustira as a medium for treatment. Results of the questionnaire is divided into 2, namely the percentage of patient dissatisfaction against the unit in the emergency unit and the percentage of patient dissatisfaction with time cycles Emergency Installation services. Based on the results of the questionnaire found 60% of patients expressed dissatisfaction with the examination unit in the ER, and 73% were satisfied with the service cycle time. Therefore, with this final study is expected to overcome the problems in Dustira Hospital by improving existing business processes to increase patient satisfaction with the services provided by the ED and the quality of service in units that are in the Installation

Based on the background that had been formulated earlier, can be taken several issues as follows:

1. How can I reduce process cycle time in emergency services?
2. How to design appropriate corrective proposals for ED service process?

This section describes the purpose of the research undertaken. The goal is as follows:

1. Reduce cycle time or process in emergency services.
2. Making suggestions for process improvement in emergency hospital services Dustira able to answer customer complaints.

This section describes the limitations of the research undertaken. Limitation of the research are as follows:

1. This research is only done through the proposal stage, not on until the implementation phase.
2. In this research does not address cost issues.

3. Data used in the observation based on year 2010
4. The analysis was performed based on data and information obtained from observations and questionnaires.

2. THEORETICAL BACKGROUND

The process can be understood as a series of actions, changes, or functions to produce the final result (Yogaswara, HA 2010 in American Heritage, 1978). Business process as one or more activities that transform inputs into outputs a set of (product or service) to another person (the customer) or a process that involves a combination of people, procedures, and tools that can enhance the added value of goods or services (Yogaswara, HA, 2010 in Wesner, Hiatt, Trimble 1994 and Melan 1993).

Business processes can be defined as a group of related decisions and activities required to manage the resources of business (Harrington, IBM-BSP, 1984). Meanwhile, according Manganelli & Kleinn (Grover, 1994), the business process is defined as: "interrelated series of activities that convert business input into business output."

Business process improvement is a continuous phase of the analysis, design, testing, and habituation to make the process more effective and efficient. (Bhishma, A., 2010 in Ken Narotama, 2007).

Business process is a set of tasks or jobs that are interconnected, which began as a response to an event that achieve specific results for the customers of a process. (Bhishma, A., 2010 in Sharp and McDermott, 2001)

Characteristics of Business Process Improvement

1. There is a process owner, the person who is responsible for the passage of a process
2. There is a clear limitation process (process scope)
3. The existence of procedures, work assignments, training needs (training) documented
4. Has the size and targets related to customer
5. The presence of a known cycle time

6. Having a formal procedure changes
7. Can know the results to be achieved by the company

The time it takes an operator to complete one cycle of work including work to perform manual or automatic. Sometimes defined as the time required to produce one unit of product, in this case determined from the longest process (bottleneck), whether it is human or machine work. (K., Eris, 2009) Cycle time is composed of two components, namely the processing time (processing time) and delay time (nonprocessing time). The processing time (processing time) includes all the activities that transform inputs into outputs. Delay time (nonprocessing time) includes activities such as waiting (waiting), save (storing), and these activities are usually classified as non-value added (non-value added) (Tenner, Arthur R., 1997).

1. Real value-added activity (RVA)

Real value-added activity, are all activities of a business process directly are needed to produce the outputs expected by the customer. (Harrington, 1991).

Real value-added activity (RVA) is the activity that will add value to the customer's perspective. (M. Shirot, P. Sanjaya, Jacob, 1999).

Examples of processes that belong to the Real Value Added namely:

- a. product development
- b. Supply of materials (materials)
- c. Design
- d. assembly
- e. finishing
- f. packing
- g. After the sale services

2. Business Value Added (BVA)

Business value-added activity (BVA) is an activity that adds value to the business but not for consumers. For example: a customer's credit rating. (M.Shirot, P.Sanjaya, Jacob, 1999).

Business Value Added the activities of a business process that does not provide added value to the output process directly, but this activity is needed in the business process as a supporter. (Harrington, 1991).

Examples of processes that belong to the Business Value Added (BVA), namely:

- a. scheduling
- b. marketing
- c. career planning
- d. auditing

3. Non-Value Added (NVA)

Activities of a business process that does not add value to the customer and the business processes. (Harrington, 1991).

Non-value-added activity (NVA) is an activity that does not add value for the customer and the business. (M.Shirot, P.Sanjaya, Jacob, 1999)

Examples of processes which belong to the Non-Value Added (NVA), namely:

- a. redundant inspection
- b. filling in form
- c. Rework
- d. transit
- e. waiting
- f. storage

Cycle time formulated as below

$$T_n = \frac{RVA}{T}$$

3. RESEARCH METHOD

In formulating a solution to the problem required a conceptual model. The problem that occurs is the improvement of business processes in the hospital emergency room. Dustira Cimahi.

This study begins with identifying and understanding the existing business processes. Of the existing business process cycle time measurement and classification of each activity that was in the ER (RVA, BVA, NVA). The classification of the activity carried out by the type of the value added of each activity. It is used to perform simulations of the existing business processes in support of the proposed business process analysis. The method used to improve existing business processes is Business Process Improvement. In this method the necessary data is the ability of companies consisting of: Human Resources, Technology and Facilities and specifications of internal and external customer needs. In addition, supported by streamlining existing against any activity that produces optimal

business process proposals. After creating a business proposal process, and performed simulations to compare the results with existing business processes that can ultimately result in the effective and efficient business.

4. DATA COLLECTION AND PROCESSING

4.1 Existing Business Processes

From the emergency department patient flow in mind that this whole service involves several subprocesses of the registration / administration, the examination of patients, the laboratory, radiology, and pharmacy cashier.

4.2 Identification of Input and Output

To make improvements to a process, previously necessary to understand the activities that occur in the implementation of business processes including the identification of inputs and outputs of each activity, so as to facilitate in understanding the flow of data and information transfer.

4.3 Identification of Data Needs for Business Process Simulation

Existing business processes will be simulated by using the help of software ARIS Simulation 6.2 of IDS Scheer, using mapping models in ARIS Toolset 6.2, such as: model extended Event-driven Process Chain (EPEC), a column displays, models of organizational charts, shift model calendar and process instantiation.

4.4 Measurement of Time Activity

Measurement of time in hospital emergency department services business process Dustira done directly by using a stopwatch to 30 patients in the emergency room every activity, from patients coming to the patients completed the process of taking medication at the pharmacy and go home.

4.5 Availability of Human Resources, Facilities and Technology

Human resources are an integral part of the system that make up the organization. HR is the capital or assets for institutions or organizations that value and can be multiplied, developed and also not the other way as liability (expense). In addition to

human resources, availability of technology and facilities also play an important role in the process of this Dustira ER services. Technology and facilities / equipment identified is the technology or facilities that are available and used to support the service process.

4.6 Identification of Internal and External Customer Needs

Internal customers are the perpetrators of the business process itself, which uses the output from the previous processes, while the external customer is a customer outside the company that receives directly the final products or services from business process Identify the needs of internal and external customers carried out to determine the complaints and expectations of existing business processes. The results of this identification will be used fatherly support the design of business process improvement proposal is better.

5. ANALYSIS AND PROPOSED IMPROVEMENT

5.1 Lack of Identification of Existing Business Processes

Based on the stage of collecting and processing data that has been done, it can be done to identify the shortcomings of the existing business processes that exist. Identification is done based on data from internal and external customer complaints and the availability of resources, facilities and technology.

5.2 Analysis of Factors Affecting

To help simplify the analysis it is necessary to identify the conditions that cause the length of time cycles in the existing condition of the company. Causes were grouped into 4 groups, namely the procedures, technology, human resources and facilities. This is illustrated through a fish bone chart.

5.3 Value Added Analysis and Measurement Cycle Time

After mapping existing business processes based on activity - activity, the next step taken is to analyze the value added. Analysis of added value to this by categorizing the activities - these activities into 3 categories of activity, namely: Real

Value Added (RVA), Business Value Added (BVA), and Non-Value Added (NVA). From the analysis of the added value that has been done, it can be calculated from the time efficiency of existing services.

5.4 Analysis of Existing Business Process Simulation Results

Based on the simulation of business processes are conducted, showed that there were 111 patients admitted for one day and only 70 patients can be treated with 41 patients hospitalized. Moreover, it can also see that still there are 18 activities that have not been completed until the simulation ends, are on the check results of consultation activity lab / radiology, giving prescriptions, hospitalization, examining patients, and analysis of patient examination. In addition to the process, there is the utility of human resources (resources) that exist. Utilities lowest (2%) shown by the nurses. Utilities pharmacy staff by 4%. Utilities cashier staff by 7%, as well as laboratory staff who have a utility of 9%, medical records clerks have utility by 14% and 12% of radiology staff. Meanwhile, doctors have the highest utility rates (90%)

5.5 Analysis of Existing Business Process Improvement

After the identification of value-added analysis, time efficiency measurement, and analysis of simulation results, it can further process improvement analysis. In the theory of Business Process Improvement (BPI), the basis of the selection process for service refers to the basics of the selection process for service stated in Chapter 2.3.4, this process improvement is done by way of streamlining, of the results obtained by a proposed improvement of the elimination Duplication recapitalize the activity data of patients in every part of ED unless registration. The proposal that both the process cycle time reduction is performed on some activities that have a long cycle time due to lack of manpower and equipment limitations that are owned, by adding manpower and upgrading or replacing existing equipment with new equipment then such activities can reduced cycle time, the third proposed elimination of bureaucracy in check payments activity laboratory /

radiology. The last proposal is the error proofing that is by giving the display of directions for the patient to reach the desired parts such as laboratory, radiology, and pharmacy cashier. For patients with no difficulty in finding the target. In addition, the analysis carried out improvements to human resources, facilities and technology.

5.6 Analysis of Process Proposed Simulation

Based on analysis of existing results, carried out a simulation of the process of making business proposals. The result of this analysis is that there are 110 patients admitted during one day (24 hours) and there were 69 patients treated with 35 hospitalized patients. From the simulation result of this proposal, there is a reduction in the number of bottleneck from 18 to 3. In addition there are also the result of performance of the existing officers of the utility of human resources (resources) that exist. Utilities lowest (2%) indicated by the nurse. Utilities pharmacy staff is steady in 4%. Utilities cashier staff decreased by 1% to 6%, laboratory staff who have a utility rate of 8% down to 6%, medical records clerks have utility as much as 14% down to 10% and radiology staff rose from 12% to 24%. And, the doctor has the highest utility rates (90%) decreased to 63%.

6. CONCLUSION

Based on research that has been done by using the BPI, the obtained results as follows:

1. Existing business processes Dustira ER RS consists of 37 events, with a total cycle time of 141.95 minutes (2:36 hours) and the efficiency of 2.78.
2. Identification of existing problems can be classified into four categories in terms of procedures, technology, human resources, and facilities. Each activity on existing business processes and then analyzed and categorized into three categories: Real Value Added (15 activities), Business Value Added (22 activities), and Non-Value Added (0 activity).
3. Results improved by using the streamlining proposals made in

designing business processes Dustira ER RS is as follows:

- a. Error Proofing for actions seeking medical records of older patients,
- b. Streamlining is done to reduce the processing time of activity provides the medical records of patients into the examination room, the initial examination, write and analyze the results of examination of patients, write prescriptions, take samples of blood / urine, and prepare medicines.
- c. Simplification and Automation of return made on the activity of medical records.
- d. Bureaucracy Elimination and Duplication Elimination for recap activity data in every part except the registration, write patient data into a new medical record, pay the cost of inspection in the lab / radiology, and write the photo number in the rontgent.

After analyzing the improvement, the obtained decrease in the amount of activity of 24 activities (13 RVA, 11 BVA, 0 NVA) with a reduced cycle time of 53.59 minutes, and increase efficiency value of 33.87%.

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