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Information Quality Improvement Model on Hospital Information System using Six Sigma

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Abstract

Hospital provide a number of health services and proper health facilities for society, one of the healthcare is inpatient. Because of the daily high demand of inpatients healthcare in a day, some hospitals seems too overwhelmed to control the information flow. Mainly, hospital already used Hospital Information System (HIS) for helping managing information flow. But some of it does not really care about the quality of information. Information quality is a key element to determine the level of healthcare in hospital. By the improvement of information quality, the quality of healthcare would improve to support the patient's satisfaction. A method used for information quality improvement is Six Sigma. Six Sigma could be used for reducing information variance in healthcare, especially information that used in Hospital Information System.

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1. Introduction

The availability of health services provided by a hospital is based on the classification of hospital which could be divided into two types which is general hospital and specialty hospital [1]. With the number of health services provided, a hospital ideally should be organized all of the health services to get patient satisfaction aligned with the quality of output data. But the fact is, sometimes a hospital feels overwhelmed when giving over-demand health services from patient but not coupled with a proper health service system. Some hospital has already used Hospital Information Systems (HIS) as an information system which implemented in hospital to manage information, gather information, data storage, data processing, data exchange and extraction in purpose to fulfill the functional requirement of user [2]. The quality of health services depend on the quality of information in hospital and information quality (IQ) is a competitive key element for on-going organization.

Method used in this paper is Six Sigma. Six Sigma is a quality improvement approach which systematically effective to improve organization performance based on the use of various statistic analytic technique [3]. The purpose is to reduce process variance by eliminate defects that bother customer satisfaction [4]. The improvement and enhancement of information quality in the hospital, the health services quality should be increased significantly. The purpose of this paper is to set IQ parameters for hospital and create model of IQ improvement based on the method of Six Sigma.

This paper organized as follow: in section 2 we present about information quality in hospital, in section 3 we explain about Six Sigma as the method used in this paper. In section 4, we present information quality improvement model for Hospital Information System using Six Sigma, tthen at least in section 5 is conclusion statement as the summarize result.

2. Information Quality in Hospital

Information needed is not only seen by the quantity of information, but also the quality [5]. Information quality considered as the determinant of output data process which will be communicate to the user or can be considered as an input for another process. In this case, IQ plays an important role and should be created as a successful indicator of the process course. IQ determined by seven things which is [6]: (1) Accessibility, (2) Completeness, (3) Accuracy, (4) Exactly, (5) Timely, (6) Clearly, and (7) Flexibility. While Eppler (2006) said there is 70 of widely used IQ criteria [7]

In health section, healthcare quality is a level where individual healthcare will improve the probability of wanted health results consistent with the knowledge from health specialist nowadays [8]. There are six IQ dimension related with healthcare on health institution [10]: (1) Safe, (2) Effective, (3) Efficient, (4) Timely, (5) Patient-centered, and (6) Equitable. IQ in hospital becomes a crucial factor in health services to patient, so that the importantly of IQ in hospital; are [9]: (1) To promote accountability between health provider, (2) To inform the focus policy development, and (3) To possibly the provider and functionary to learn about quality improvement between them.

3. Six Sigma

Sigma is a quality improvement approach which systematically effective to improve organization performance based on the use of various statistic analytic technique [3]. The higher sigma level, the smaller probability level of defects occurs in products. However, a number of organizations prefer to use Six Sigma because it has standard of only reproduce 3,4 Defects Per Million Opportunities (3,4 DPMO) [3]. The purpose is to reduce process variance by eliminate defects that bother customer satisfaction [4]. Six Sigma has concern

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