
SIX SIGMA APPLICATIONS IN LIBRARY SERVICE

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Abstract :

The purpose of any library is to be satisfied to all users needs. Users only can evaluate service and quality of the library. But it is difficult to satisfy completely every user needs. To evaluate "users satisfaction" and to develop the "quality" of the library, it is required to bring a new innovation. To develop the library and its service and to provide maximum users' satisfaction, it is necessary to implement Six Sigma in Libraries. This paper helps to apply scientific and systematic upgrading strategy to have a better service to meet the needs of the users. Six Sigma is typically used by large enterprises to eliminate waste, reduce redundancies and ensure quality. But we're applying the same guiding principles to Library to, improve processes and increase both employee and users satisfaction. In such a way this study aims to implement Six Sigma to provide better service and full satisfaction to the library users.

KEYWORDS :

Six sigma, satisfaction, user, quality.

INTRODUCTION

The indispensable goal of any library is "user satisfaction". Six Sigma help us to do continues appraisal and improve the quality of the library to satisfy the library users in an effective manner. This paper is insisting to implement Six Sigma in library field. The purpose of this study is to search for applications of Six Sigma as a solution for efficient knowledge management. It also aims to establish information infrastructure and secure service competitiveness, and finally to improve user satisfaction, the ultimate goal of libraries, through setting up and carrying out Six Sigma projects as well as continuing evaluation.

WHAT IS SIX SIGMA?

Sigma, a Greek alphabet, is used in mathematics and statistics to define standard deviation. The Six Sigma approach identifies and eliminates defects with a structured, data-driven, problem-solving method of using rigorous data-gathering and statistical analysis. The statistical representation of Six Sigma describes quantitatively how a process is performing. To achieve Six Sigma, a process must not produce more than 3.4 defects per million opportunities. Coronado and Antony has pointed that six sigma methodologies have recently gained wide popularity because six sigma has proved to be successful not only at improving quality but also at large cost savings along with these improvements. So, an organization needs to adopt smarter six sigma solutions that are linked to bottom line benefits.

Six Sigma is a disciplined methodology that uses data and statistical analysis to measure and improve a company's operational performance by identifying and eliminating 'defects' in manufacturing and service-related processes. Six Sigma can be defined and understood at three distinct levels: metric, methodology and philosophy. In simple words we can say Six Sigma is a quality improvement.

Benefits of Six Sigma:

Six sigma helps to achieve short-term rather than long-term performance
It helps to minimize library employees work effort and maximize the users' needs
It helps to achieve users' satisfaction and to develop the quality of the library

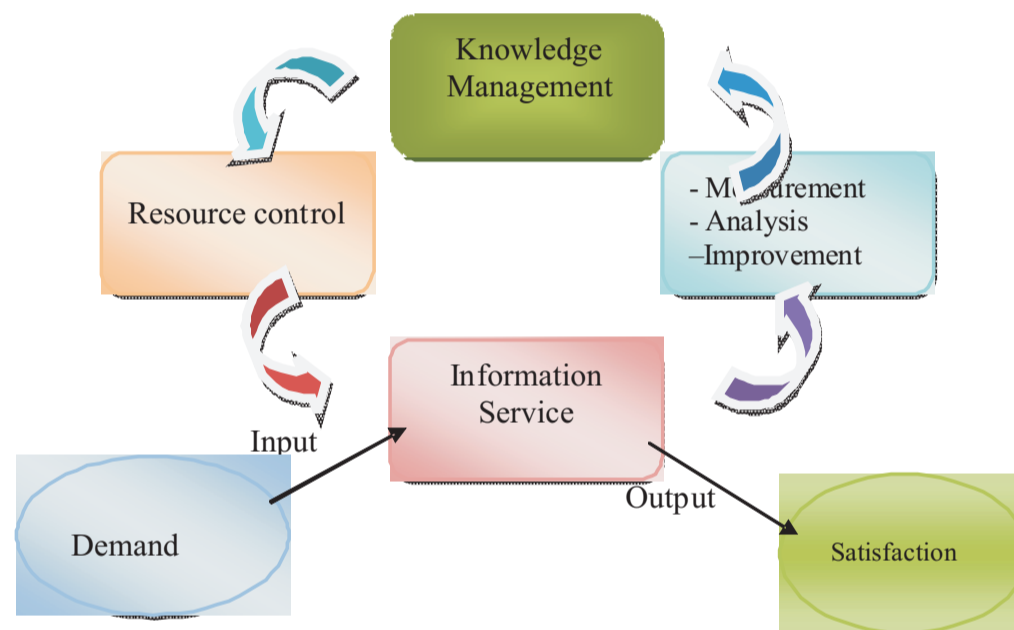
Six sigma guide the employee to work smart rather than work hard
Continues efforts will reduce process variation and help to achieve users' needs and demands

Quality Management process in Libraries:

Generally libraries are giving more attention on quality service to focus on user satisfaction. User demands are defined in accordance with following categories: the degree of satisfaction regarding the current service and any particular demand or suggestion from the user relevant to the library objectives. In short, user satisfaction with the library can be assessed through the quantitative measurement of the difference between user expectation or customer desire and the actual service experienced by the user and production of the measurement index. User satisfaction varies by the degree of pre-expectation and actual service quality.

There are several reasons for the user to recognize a discrepancy between expectation and actual quality of the service provided by the library. The ultimate goal of the library is to satisfy every demand of every user. However, it is impossible to fully and perfectly satisfy each and every user demand. Consequently, it is reasonable to define the categories of the service relevant to the library objectives and reflect immediate demands which realistically maximize the user satisfaction within the limited resources of the current environment.

In general tailor made service will help to satisfy users. Tailor made service can be efficiently done through the process of Six Sigma. The below diagram shows that a very first define the demand of the users then measure it , analyze the same, make in control and improve the quality then serve to users.

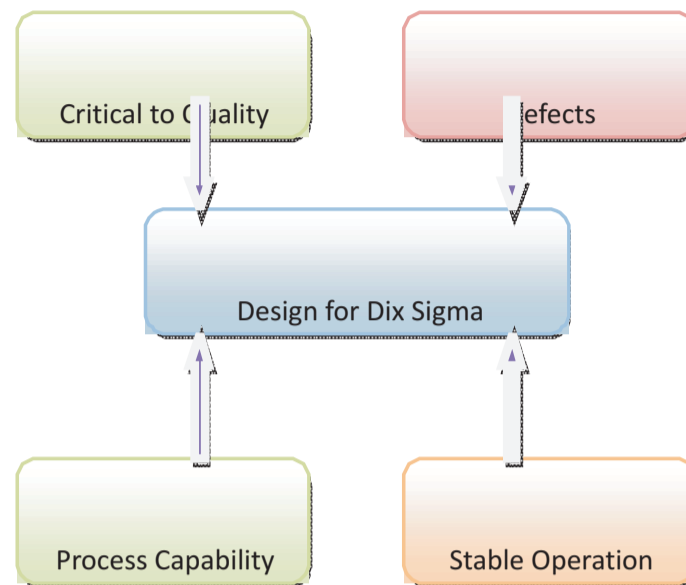


Quality Management Process in Library

Library is a place where enormous of information is acquired, stored, classified and disseminated to its users at the maximum to satisfy their needs. To achieve this task library should have quality management process in libraries. So we have define the actual needs of the library users' by focusing on their demands, measure, analyze, and control over it.

Key Concepts of Six Sigma:

In general Six Sigma has few concepts such as Critical to Quality, Defects, Process capability, and Stable Operations.



Key concepts of Six Sigma

Critical to Quality: This is one of the concepts of Six Sigma which insists to have attachment with customers. In general if you have close relationship and contact with customers you may easily come to know their needs, demands and complaints. The base for the quality is to know the important and significant need of the customers.

The CTQ helps to time management in library i.e., process of user request, updating the library resources such as books, journals, e-resources etc.

Defects: This process helps to overcome the failures as well as reduce the defect level and maximize the user's satisfaction.

Process Capability: This process helps to analysis yourself to know the capability and capacity to service to users. Through this process we can improve our efficiency.

Stable Operations: Every action has its own reaction. Likewise if we follow the above methods we can develop the consistency, can predict, can process and can improve what exactly user expectations.

The above all concepts will guide you to meet customer needs in an easiest way.

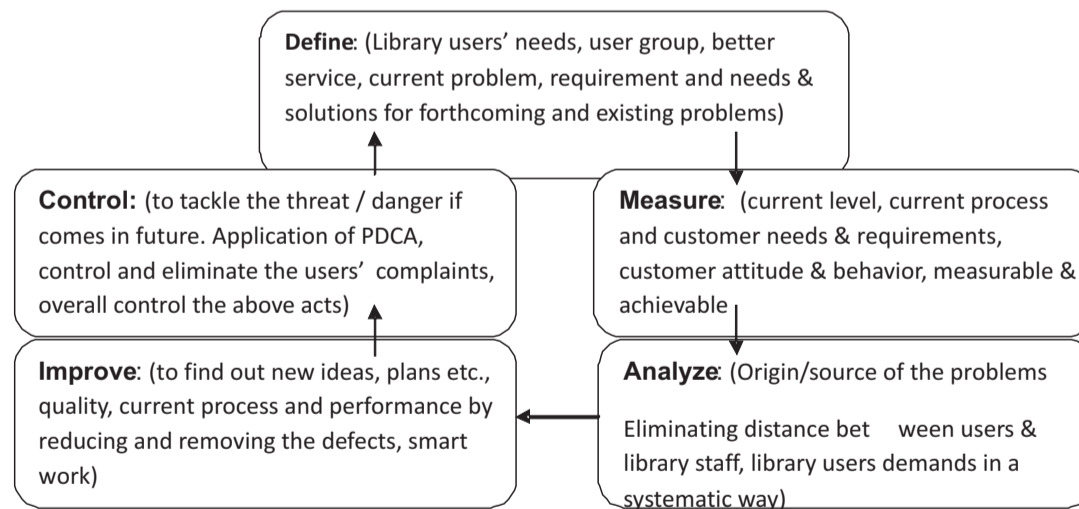
Methodologies of Six Sigma:

There are two types of methodologies in Six Sigma one is DMAIC and another is DMADV.

DMAIC stands for Define, Measure, Analyze, Improve and Control. DMAIC, which is used to improve an existing business process.

DMADV stands for Define, Measure, Analyze, Design and Verify, which is used to create new product designs or process designs.

DMAIC:



DMAIC Cycle Method

First emphasize on “Define” the problems, the opportunity, the process, the projects, the goals and the customers. The second one is “Measure”, which helps you to decide current level, current process and decide customer needs and requirements. “Analyze” is the step which guide you to decide the origin and source of the defects. The fourth step “Improve” is to improve the process by eliminating defects / performance / current procedure / standard of work. At last the finest step is “Control”, which makes you to look and take control all the above acts. DMAIC Cycle method should repeat again and again for continuous improvement.

Define: This is first and foremost stage. We have to find out what is the problem, define it clearly and analyze from where it starts. This phase helps us to make “problem statement”. This problem statement will provide a clear description of the problems and present significant details about the problems.

This 'define' phase provide to know the existing problems, makes us to have our own objectives and users needs and demands. Based on their requirement we can define and set the objectives and goals to meet their needs.

Measure: Measurement will be done based on data collection and analysis, mapping the process and understanding and description of the process. Data collection is one of the important processes before analyzing the situation.

Measure the available sources and services in the library. Measure the attitude and behavior of the library users. Librarian and library staff should have sound knowledge about users' behavior and deeds to serve them in a better manner and to improve library services.

Analyze: In this stage, we have to analyze the origin of the problem. Analyze the structure to make out the ways to eradicate the distance between the library users and library staff. Analyze the root cause of the problem to find the better solution.

Improve: It is a step to improve a few key factors confirmed in the previous Analysis process and pursue a method to improve realistic problems to be ultimately resolved. It is also a phase to explore the solution how to change, fix and modify the process. In this phase, we can improve the procedure and try to find out the new ideas, plans, thoughts, and ways to do better than the previous to attract the library users. This phase will help the library to improve the work quick and fast. Ultimately library employees can save their time and improve their work as well as can serve the library users in fastest and quickest way. Ultimately this helps to minimize the work and maximize service to the library users.

Control: It takes overall control of the above all stages or phases. Here it is mandatory to determine the effectiveness, processes and implementations. In this stage, we can learn how to overcome the threats and dangers and control and eliminate the library users' complaints.

As it is already mentioned, the Six Sigma includes DMAIC cycle. Similarly there is PDCA (Plan-Do-Check-Act) cycle for the quality control. It is a process of creating and capturing, storing and sharing, utilization and evaluation. Each phase can be substantiated and enriched through the DMAIC process.

Advantages of Sig Sigma:

Increase the user's satisfaction by improving the quality of service.

It helps to find the duplication work.

It helps to save the time to users as well as library employees.

It helps to find out the employees plus and minus.

CONCLUSION:

Six Sigma is an integrative management strategy with total quality control that uses statistic measure called 'sigma' to evaluate all the quality levels quantitatively under the strong leadership of CEO, provides efficient quality control environment including problem-solving process and professional training, and promotes quality innovation and customer satisfaction. It evaluates process, determines priority of the quality improvement activities and efficiently controls the process according to the priority.

Libraries in the process of applying Six Sigma must perceive the factor that satisfies users as an ideal quality and try to find key factors that affect quality from users' point of view. Moreover, libraries are made to collect objective and reliable data and employ methods of statistic analysis in order to gather data and information within the organization and use them for decision-making. As a characteristic of library service, however, there are generally distributed factors which are impossible to control or hard to quantify. Therefore, it is necessary to consider the respect that it is difficult to define problems of the current service and users' complaints. Accordingly, in drawing and implementing improvement plans, it is needed to separately prepare a process modeling for the field of library management, which is different from general manufacturing. In this study, Six Sigma theory is used in order to review various aspects of library management, conduct evaluation and find a service process necessary for improvement to raise customer satisfaction. In addition, it suggests what should be done in the future in association with strategies and visions for library management.

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