



'SIX SIGMA' IN ACADEMIC LIBRARIES

1. Mahesh M. Kadbe 2. Rashtrapal N. Dange 3. Suryakant M. Jaulkar

1 & 2 Priyadarshini College of Engineering, Nagpur

mahesh_kadbe@rediffmail.com

2. rdange2008@rediffmail.com

3. Ishwar Deshmukh College of Physical Education, Nagpur

suryakantjaulkar@gmail.com

ABSTRACT :

The purpose of any library is to be satisfied to all users' needs. Quality in library service has become an important aspect of today's most competitive time. To develop the library and its service and to provide maximum users' satisfaction, it is necessary to implement Six Sigma in Libraries. It evaluates process, determines priority of the quality improvement activities and efficiently controls the process according to the priority. This study aims to implement Six Sigma to provide better service and full satisfaction to the library users.

Keywords- *Six Sigma in libraries; Academic Libraries; Total Quality Management; Users Satisfaction*

INTRODUCTION

Six-Sigma is a business marketing strategy which aims to maximize the user satisfaction by minimizing the defects. It was developed by **Motorola**, U.S.A. in 1980's but has its roots in Statistical Process Control (SPC) which first appeared in **1920's**. 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.

DEFINITION OF SIX SIGMA

Six Sigma is a **Greek** word and in its English version implies standard deviation. It is known by σ sign. Six Sigma means the system for removal of defects in the present processes and providing customers with expected specialized products and services. In simple language Six Sigma means a standard for measurement for six deviations from the





mean. It is a standard to completely finish the defects in any constituent in quality. This is world reputed quality system.

Bob Galvin of Motorola, Larry Bossidy of Allied Signal and **Jack Welch** of General Electric developed a framework to make Six-sigma happen.

“**Six-sigma in Motorola** is considered at three different levels:

1. As a Metric,
2. As a Methodology, and
3. As a Management System.

Essentially Six-sigma is All Three at the Same Time.”

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.

NEED OF SIX SIGMA IN LIBRARIES

In the IT influenced environment, libraries are extremely under-pressure to justify their existence as well as their importance for the organisation. For this, libraries must satisfy user's need as well as meet their expectation. Moreover, libraries should constantly strive to provide quality services to users by cutting the costs.

‘Six Sigma’ is a method for improving quality by reducing errors that result in quality service with reducing costs. Using six sigma libraries can improve their service to users by reducing defects and minimising cost involved in library services. This will satisfy users as well as the funding organisation.

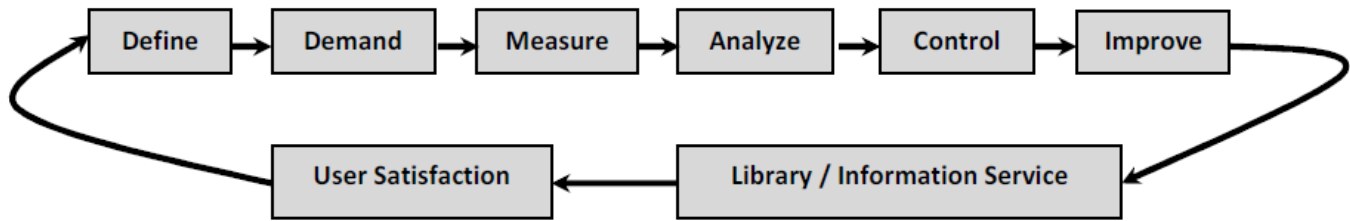
QUALITY MANAGEMENT PROCESS IN LIBRARIES

Generally libraries are giving much attention on quality service to focus on customer satisfaction. Quality service can be delivered if libraries improve its management efficiency. Through below diagram,





Tailor has defined the demand of the user's needs. He also explains of measuring, analysing, controlling and improving the quality of services.



Quality management process in library

Library is known as a information centre which tries to provide the information to users for acquiring, storing, classifying and disseminating to satisfy their needs.

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 you 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.

OBJECTIVE OF SIX SIGMA

1. Making improvement in quality of service.
2. Saving expenses in production or library service

METHODOLOGIES OF SIX SIGMA

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

1. DMAIC METHOD

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

- a. Define:** Library users' needs, user group, better service, current problem, requirement and needs & solutions for forthcoming and existing problems.
- b. Measure:** current level, current process and customer needs & requirements, customer attitude with behaviour, measurable with achievable.
- c. Analyze:** Origin/source of the problems eliminating distance between users & library staff, library user's demands in a systematic way.
- d. Improve:** (to find out new ideas, plans etc., quality, current process and performance by reducing and removing the defects, smart work.
- e. Control:** to tackle the threat / danger if comes in future. Application of PDCA, control and eliminate the users' complaints, overall control the above acts.





2. DMADV METHOD

DMADV stands for Define, Measure, Analyze, Design and Verify which is used to create new product designs or process designs. This is a part of the DFSS “Design for Six Sigma” concepts which place focus on creating processes right the first time.

- a. Define:** This phase of six-sigma identifies, determines and sets the organization’s goals in accordance with the customer needs.
- b. Measure:** At this stage the organization identifies and measures those factors that are critical to quality, exactly determines the customer needs and specifications, product capabilities and risk factors.
- c. Analyze:** Alternative processes are designed and analyzed to meet customer needs along with the existing processes.
- d. Design:** The best design or model implied from above phases is selected and customized for the organization.
- e. Verify:** Performance and ability of the selected design to meet customer need is verified.

PDCA METHOD IN SIX SIGMA

PDCA stand for Plan, Do, Check, Act cycle for the better quality control. It is the most important structure for the overall strategic planning, needs-analysis, curriculum design and collection development, library goal-setting and evaluation, provision for development and enhancement of users’ services and their needs, and library instructions.

- a. Plan:** it is determining a plan for improve the existing library services and sources and find out the solutions for the problems being faced by the library users. Planning is done based on customer needs and their satisfaction.





b. Do: it is the second step to execute the plan. it is process for implementing and reaching the expected standard result. It has a flexible and time-based decision to have all types of solution for all types of problems.

c. Check: it is important step for further proceed. After analyzing and checking thoroughly this step, it can decide to go next step. So, by this check step is ensured the output to give highest and the best service for library users needs.

d. Act: The last step is 'act'. Decide and precede the PLAN -DO-CHECK into action. Decision will be taken in this phase. Act to implement the amendments so far done in the above steps.

CONCLUSION :

'Six Sigma' was introduced for manufacturing process, but for more than two decades its implementation is also seen in service industries. Though, it is not applied in Indian libraries on a wide scale, it would not be justifiable to say that this process in not applicable in libraries.

Six Sigma helps to improve the standard of the library and helps to improve the skills and ability of the library employees. It helps library employees to have a better management to evaluate the services to library users.

The tailored made six-sigma methodology as per the needs and requirements of library and information services may be beneficial but the library and information science professionals are required to be educated at least in Indian scenario if the benefits of Six-sigma are to be reaped.





REFERENCES :

1. Agrawal, Pawan R. (2011). Application of 'Six Sigma' in Libraries for Enhancing Service Quality. *International Journal of Information Dissemination and Technology*, 1(4), 203-206.
2. Rattan, Pardeep and Dr. Lal, Payare (2012). Pro and Cons of Six Sigma: A Library Perspective. *International Journal of Digital Library Services*, 2(4), 24-33.
3. Chinnadurai, D. (2014). Six Sigma Applications in Library Service. *e-Library Science Research Journal*, 2(6), 1-5.
4. Al-Zubi Ahmad Ali and Basha, Imtiaz (2010). Six Sigma in Libraries: A Management perspective. *Canadian Journal on Computing in Mathematics, Natural Sciences, Engineering & Medicine*, 1(3), 86-93.
5. <http://www.managementstudyguide.com/dmadv-methodology.htm>

