

WHY SIX SIGMA IS REQUIRED FOR SERVICE SECTORS?

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ABSTRACT

Six sigma has been a powerful and successful tool in manufacturing industries to reduce rate of rejects and to enhance productivity. The Six Sigma process uses data and rigorous statistical analysis to identify "defects" in a process or product, reduce variability and achieve as close to zero defect as possible. Six sigma defines and estimates the opportunities for error and calculate defects in the same way every time, thus offering a means for measuring improvement. In fact, Six sigma takes its name from the Greek letter "Sigma", which is used in statistics to indicate standard deviation. This paper focuses on key performance indicators of Six Sigma and elements to cover a wider range of service.

Keywords: Six sigma, Service industry

1. INTRODUCTION

Sigma is a letter in Greek alphabet that is statistical symbol and metric of process variation. Six sigma is business strategy used for business excellence. This powerful business management strategy has been implemented by many world class organizations like General Electric (GE), Motorola, Honeywell, Bombardier, ABB, Sony and other. But application of six sigma in service sectors are still limited. Six sigma is a recent strategy used to improve quality and to gain popularity. Six sigma concept was introduced by Bill Smith in 1986, who was a senior Engineer in Motorola's communication Division their focus was on reducing defect rate in processes. In 1988 Motorola was honored with Malcolm Baldrige Award. As result, Motorola saved \$2.2 billions. At beginning, it was developed for manufacturing process, but today its used in almost every sector are almost every sector are using sigma to improve profits and performance. Service sectors like marketing, finance, information systems, legal and human resources process to solve problems.

2. BENEFITS OF SIX SIGMA IN SERVICE SECTOR

Research has shown that most of the service processes like payroll processing, billing, invoicing, shipping, order entry, response to service requests, Baggage handling, etc. are performing at less than 3.5 sigma quality level with defect rate over 23000 ppm or yield 97.7 percent. If we improve the sigma quality level, the defect rate will be dropped significantly to 6210 ppm. This clearly indicates a 3.5-fold improvement in process performance. The process yield will be increased to 99.38 percent. This would bring significant financial returns to the bottom-line of any organizations (due to reduced defect rate, reduced number of customer complaints, improved customer satisfaction, etc.) engaged in powerful business process improvement methodologies such as six sigma.

Many service- oriented companies still conform to the notion that six sigma is confined just to manufacturing companies. The best way to convince a service- oriented company to initiate, develop and implement six sigma strategy is through the three rudimentary principles of statistical thinking advocated by Hoerl and snee (2002).

These are:

- (1) All work occurs in a system of interconnected processes:
- (2) All processes exhibit variability: and
- (3) All processes create data that explains variability and its our responsibility to understand the sources of variability and device effective strategies to reduce or eliminate variability.

Service – oriented companies adopting six sigma will have the following benefits:

- Effective management decisions due to heavy reliance on data and facts instead of gut- feelings and hunches. Hence costs associated with fire- fighting and misdirected problem solving efforts with no structured or disciplined methodology could be significantly reduced.
- Increased understanding of customer needs and expectations, especially the critical- to- quality service performance characteristics which will have the greatest impact on customer satisfaction and loyalty.
- Efficient and reliable internal operations, leading to greater market share and satisfied shareholders.
- Improved knowledge across the organization on various tools and techniques for problem solving, leading to greater job satisfaction for employees.
- Reduced number of non- value added operations through systematic elimination, leading to faster delivery of service.
- Transformation of organizational culture from being reactive to proactive thinking or mindset.
- Improved cross-Functional teamwork across the entire organization.

3.SIX SIGMA METHODOLOGY:

Six Sigma improvement model typically has five phase:-

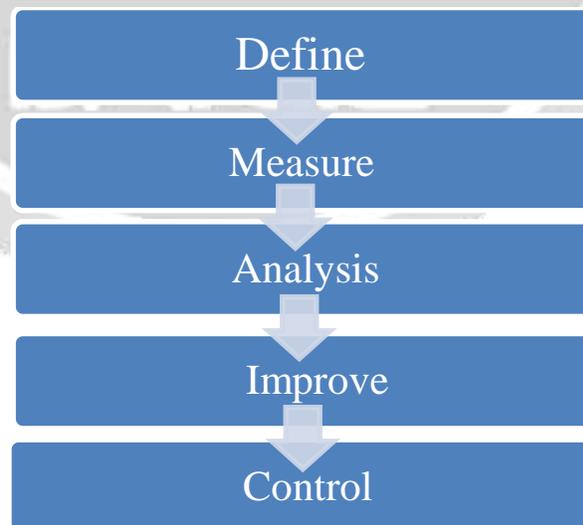


Figure 1: methodology

- Understand the problem that impacts business performance.
- Identify the problem with data and facts.
- Find out a data driven and reliable solution.
- Provide a solution to increase profit, reduce waste.
- Create a system to solution a long term solution.
- Measure and repeat the benefits of financial successes.

4. What makes Six Sigma different from other quality improvement initiatives?

- Six Sigma strategy places a clear focus on achieving measurable and quantifiable financial returns to the bottom-line of an organization .
- Six Sigma strategy places an unprecedented importance on strong and passionate leadership and the support required for its successful deployment.
- Six sigma methodology of problem solving integrates the human elements and process elements of improvement.
- Six sigma methodology utilizes the tool and techniques for fixing problems in business processes in sequential and disciplined fashion.
- Emphasizes the importance of data and decision- making based on the facts and data rather than assumptions and hunches.
- Six Sigma utilizes the concept of statistical thinking and encourages the applications of well- proven statistical tools and techniques for defect reduction through the variability methods.

5. Conclusion

This paper makes attempts to demonstrate the power of six sigma in the service industry. In the case of implementation of six sigma in service sector, it is vital to understand processes and identify opportunities for improvement and setup effective measure of performance before launching Six Sigma projects. This paper briefly presents the potential areas where six sigma could be exploited in service functions. The paper also reveals most critical successes factors which make the success factors which makes the successful deployment of six sigma are discussed, followed by providing some guidelines for six sigma project selection process.

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