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SIX SIGMA IN INFORMATION TECHNOLOGY (IT)

A CASE STUDY OF REDUCING CYCLE-TIME ANDZERO DEFECTS USING QUALITY CIRCLES

BY ABHIJEET MANDLECHA
E-SIX SIGMA
a venture of sAvh Quality Solutions (Pune)

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Introduction

Six Sigma is world-wide renowned quality improvement methodology that mainly works on removing defects from the products, services and the processes across the sectors.

It was invented in 1980's at Motorola company. In its initial application, Six Sigma was limited to Manufacturing & Production industries however with its increasing popularity, it spread to all other sectors.

Today, Six Sigma is considered one of the prominent methods for Quality Management and being used by over 90% of Fortune 500 companies. Almost all National and Multi-National companies use Six Sigma in some or the other way.

Six Sigma has 4 key levels of expertise identified as-

Six Sigma Yellow Belt
Six Sigma Green Belt
Six Sigma Black Belt
Six Sigma Master Black Belt

Every level of expertise has its own roles & responsibilities in Six Sigma Project Implementation and generally lead by a Master Black Belt.

When integrated with Lean, which is, in simple words, a waste removal method, Six Sigma becomes Lean Six Sigma.

e-Six Sigma (www.esixsigma.in)

e-Six Sigma is a cloud-based Six Sigma Training & Certification Platform accredited by 'Council for Six Sigma Certification (USA)'. CSSC operates in over 165 countries across the world.

It has won a National Award for 'Best Online Six Sigma Training & Certification Platform in India 2017' by India Education Awards.

e-Six Sigma is being loved for its unique value of providing 'practical knowledge' through AWYL i.e. 'Apply What You Learn' activities which are meant to free your hands on the key topics being taught in the chapter (the curriculum for Six Sigma Green Belt is divided into 14 distinct chapters).

It is a brand of sAvh Quality Solutions, a sister concern of sAvh Technologies Pvt Ltd, an ISO 9001-2008 certified company based in Pune. sAvh is a venture by IIM-Alumnus & Ex-Infosys Employee.

sAvh has trained over 1800 students and professionals for Six Sigma Training.

Six Sigma and IT & ITeS

This case study is being published with the intention of endorsing the various vistas of Six Sigma implementation, particularly when it is implemented in the IT & ITeS sector.

Information Technology (IT) organizations increasingly are under pressure to improve their Service and Process capabilities. In the quest for improvement methodologies, organizations often adopt 'Six Sigma' being widely favoured choice across the world. However, it is possible to integrate Lean & Six Sigma and reap the full benefits that these methodologies can bring to the table.

Six Sigma, in specific, offers numerous benefits to IT Processes, few are as below:

- Improve Efficiency & Effectiveness
- Reduce SDLC (Software Development Life Cycle) & all other Cycle Times
- Reduce Overall Operating Costs
- Enhance Customer Experience
- Improve Productivity
- Deliver Defect-Free Products/ Services
- Enable Service Capability & many more.

The bottom-line here is that Six Sigma can be successfully used in IT Projects, Automated IT Processes, ERP Solutions, Data Warehousing, Software Designing, UI Designing, Customer Support Operations in all sort of IT companies, BPOs, KPOs, LPOs, etc.

The application of Six Sigma in best practices IT companies has consistently provided a roadmap towards higher performance levels in all aspects of IT. Many big IT Organizations across the globe have demonstrated that IT processes can be Defined, Measured, Analysed, Improved and Controlled (DMAIC- an application methodology in Six Sigma) in a way that helps align projects and assures business results- the Six Sigma way.

Seagate CIO Mark Brewer has relied on Lean Six Sigma since the early 2000s. In a CIO magazine interview, which cited millions of dollars of IT savings, he said, "If I view IT operations as a factory, then Six Sigma applies immediately." In the same article he discussed a server response problem long thought to be an expensive bandwidth problem. Once Six Sigma was used to measure multiple server response times, and the causes of variation were understood, the problem was found to have nothing to do with bandwidth. The solution was basically free (other than the analysis and some tuning) and large savings were realized.

Six Sigma has been becoming selling like hot cakes in IT companies these days because of its proven benefits and huge amount of related cost savings.

Case 1: Reduce Cycle-Time of a Process

Both of the cases we will be discussing, are my personal experiences while working at Infosys however due to data confidentiality, I will not be disclosing any names & real figures.

One of the biggest telecom operators in the UK has been the client of Infosys since long now. It provides various telephonic services to over 200 million people in UK. The entire work is being handled by a centralized software where the executive needs to login after every 60 min. Moreover, there are other scenarios too where they require to login such as computer lock, no activity for 10 min, etc.

This software is integrated with another which also seeks frequent logins. We found it was a very tedious process as it requires to input two login IDs (numeric with 10 digits) and two passwords with min 8 digits. It generally takes around 10-12 sec for every login. The time required for this process can be calculated as-

(10 sec x no of times of logins in a day x no of executives)/ 60 = No of hours

We were a team of 85+ executives who needed to follow this process on a daily basis. The client used to pay 7 Pounds Per Hour Per Executive. One of my friends, developed a macro connecting to these two software platforms and made it automatic- by clicking a single button.

The process of login after being changed took hardly 1 sec to login where the login time was reduced by over 95%. It results into-

10 (sec) x 12 (no of times of logins) x 85 x 265 (days a year) = 27,03,000 seconds

= 750 hours = 5256 Pounds (7 Pounds Per Hour) = INR 4,46,746

The savings of almost INR 4.5 Lacs only because of login automatization. It was really incredible when we received huge appreciations from client and senior management.

The need to login automatization was an output of a Six Sigma Project that were focusing on reducing operating costs for the client. It was led by one the senior member of management who was Master Black Belt and being implemented by other Six Sigma Black Belts & Green Belts.

Identifying the problem is very crucial for any Six Sigma Project. We never thought before that only because of 'Login' that used to take hardly 10-12 sec for an executive would help us save such a huge amount. It was the miracle of Six Sigma!

Case 2: Zero Defects using Quality Circle

Quality Circles, a Japanese Technique popular in 1980's, where a group of employees performing similar tasks come together to identify, analyse & solve their respective work-related problems under the supervision of an expert or manager. These groups are now often better known as Kaizen Groups.

Alike Case 1, Use of Quality Circles' was also an output of a Six Sigma Project driven to reduce the no of fatal errors that lead to high-level escalations from the client, resulting into Customer Dissatisfaction.

We formed 12 Quality Circles to work for a total strength of 85+ executives. Each quality circle consisted of 3 members & a circle leader and was responsible for quality checks/ audits for another pre-assigned quality circle. The main aim was to rectify maximum number of errors before reaching out the client & its end customers.

The same way we designed 2 layers of Quality Checks in a day by different Quality Circles.

Layer 1 : A being checked by B, B being checked and so on (with pre-assigned pair)
Layer 2 : A being checked by D, B being checked by Q and so on (random assignment)

The above process was followed by a regular Quality Check Process offering additional protection for errors to happen.

We practiced it for almost a year until the Project was completed. We witnessed awesome results. We recorded ZERO Fatal Error for continuous 9 months which happened for the first time for any team working on similar assignments. The team was rewarded with a Formal Certification from the COH (Client Operational Head). Most of the team members were received individual performance rewards too. It was a huge success.

Later, the concept was adopted by many other teams serving varied customers across the verticals.

Six Sigma helped to reduce the 'Error Count' to ZERO and boosted the Customer Satisfaction to the highest Level ever.

Training & Mentoring by e-Six Sigma

e-Six Sigma offers Six Sigma Training & Certification Programs accredited by 'Council for Six Sigma Certification (USA)'. It is one of the renowned Accreditation Providers across the world that operates in over 165 countries.

e-Six Sigma is a venture by IIM-Alumnus & Ex-Infosys Employee that won a National Award in Feb 2017 by India Education Awards.

It provides state-of-the-art Virtual Infrastructure and Curriculum to learn Six Sigma at your convenience & pace to earn Globally Trusted Certification with life-time validity and Cross-Industry Applicability.

The main reason why our learners chose 'e-Six Sigma' over others, is that, we offer Practical Exposure through our Mandatory AWYL i.e. Apply What You Learn Activities and use of Real-life Examples for easy understanding.

With an extensive knowledge & experience of almost a decade in Training & Consulting, we partner with Academic Institutes, Corporates, Government Bodies & Individuals to gratify their respective Goals by empowering the way they perform.

You can learn more about its Training & Mentoring Programs at- www.eSixSigma.in.

For any queries, you can call on +91 866 911 32 99 or write to info@esixsigma.in.