

SIX SIGMA TRAINING WORKSHOP

INTRODUCTION

Today, hard work, good products, and growing markets aren't enough to guarantee success: businesses must continually improve their products and services, continually innovate, and continually anticipate, identify, and meet new customer needs.

To achieve these goals, managers and professionals must promote continuous learning and problem solving within their organizations, and apply best practices to improve everything they do. To that end, the Six Sigma Training Workshop offers advanced training in both process improvement and quality-related problem solving.

The Six Sigma Problem Solving Process has a proven track record as a tool for achieving operational excellence. This workshop will provide participants with knowledge of both the theories and techniques utilized in Six Sigma environments to build and sustain superior performance. The workshop can be tailored to any organization's needs, reflecting what employees have already learned, as well as current objectives for improvement.

SIX SIGMA WORKSHOP

This is a highly interactive training workshop that typically runs up to 60 hours, and covers the following Six Sigma methods:

Item	Subject
1	Introduction to Six Sigma DMAIC
2	Understanding Variation, Process Capability
3	Process Mapping (Process Flowcharting)
4	Study of Cycle Time
5	Quality Improvement Tools
6	Process Control Tools
7	Measuring System Evaluation (Gauge R&R)
8	Implementation of Six Sigma



Each of the workshop subjects listed above corresponds to a session that includes objectives and goals, questions and answers, and hands-on exercises and experiments designed to reinforce learning.

The material covered will be as follows:

1. Introduction to Six Sigma

In this session, we review the training plan for the entire workshop, and then present the following topics:

- a. The origins of Six Sigma
- b. What Six Sigma is, and what it is used for
- c. The benefits of Six Sigma

2. Understanding Variation, Process Capability

This module prepares participants for every topic that follows. It introduces all essential terms, equations, calculations, and interpretations of variation and process capability. The following subjects are discussed in detail, and supported by examples and classroom exercises:

- a. Variation, including different types of variation
- b. Normal distribution, mean, and standard deviation
- c. How variation leads to defects and costs
- d. How variation can be measured
- e. Process capability

3. Process Mapping

Process mapping is a vital part of every problem solving and quality improvement effort. This session explains why process mapping is so important, and introduces team flowcharting.

4. Study of Cycle Time

Cycle time studies build on the knowledge gained from value stream mapping, offering powerful insights that can be used to improve productivity and efficiency, and reduce cost. In this session, participants will learn methods used to identify waste and non-value-added activities in a process; and learn how to establish a baseline for improvement efforts.

5. Quality Improvement Tools

Quality improvement tools are the foundation of the problem solving and quality improvement process. Although team-building is not the focus of this workshop, the quality improvement process represents a sizable portion of many team activities. To support teams working on quality improvement, this session reviews best practices for problem solving, as well as tools that teams can use to become more effective throughout every step of the quality improvement process. Discussions include topics such as: how to select a problem or improvement to focus on; how to analyze and understand your challenge more clearly; how to generate ideas for addressing that challenge; how to plan improvement and implementation; and how to overcome common pitfalls to quality improvement.

6. Statistical Process Control

This session will focus on understanding process control charts for both variable and attribute-type data. Topics covered include: how and when to collect data; components of control charts; criteria for control chart selection; mean and control limits calculations; data interpretation; trends; and pitfalls in using control charts.

7. Measurement Capability

This session focuses in detail on variation in the measurement process, and reviews techniques for detecting the sources of this variation. Participants will learn how to use information from Measurement Capability studies to improve the reliability of their measurement processes, as well as overall product quality. *Note: Measurement Capability is also known as “Gauge Repeatability & Reproducibility” (Gauge R & R).*

8. Implementation of Six Sigma

The final part of the workshop begins with a quick review of the material covered during previous sessions. Participants are then grouped into small teams, and each team is assigned a case. Teams will use the knowledge gained from the workshop to analyze their cases, and present solutions and improvement plans.

In some customized courses, groups may already be working on projects throughout the entire training course; in this session, they present their projects.

The session and the workshop conclude with a discussion about successfully implementing Six Sigma thinking within organizations: both “how to implement” *and* “where to start.”

