



Data and Graphical Tools for Six Sigma Analysis

Objectives

The course will explore the value of data and data analysis practices available to a firm to provide provable evidence to support strategic and operational decision-making. Participants will have a comprehensive understanding of different types of variables and how to use graphical tools and tables to describe various data sets. Statistical tools as numeric ways to describe data will also be discussed.

Course Contents

The two primary principles of this training are by using:

1. **Graphical Tools** to visualize data: pie charts, bar charts, histograms, box plots, time series plots, and scatter plots.
2. **Numeric Ways** to describe data measures of central location, distribution and association:
 - Central Location: the Mean and the Median.
 - Variability: the Standard Deviation is utilized as the primary measure.
 - The degree of Association between two variables: the Correlation.



Course Outlines

1. Different Types of Variables
2. Excel PivotTable Report
3. Graphs:
 - One Qualitative Variable: Pie Charts, Bar Charts and Pareto Diagrams.
 - Two Qualitative Variables: Stacked Bar Charts and Side-by-Side Bar Charts.
 - Quantitative Variables: Boxplots, Time Series Plots, and Scatterplots.
 - One Quantitative Variable: Histogram
 - A Quantitative Variable across the categories of a Qualitative Variable: Two-Variable Bar Charts.
4. Frequency Table for a Quantitative Variable
5. Computational Limits of Excel
6. Mean, Median, Quartiles, Percentiles, Interquartile Range, and Standard Deviation
7. Z-score & Correlation
8. Statistical Thinking

Designed For

When first introduced at Motorola, Six Sigma was used extensively to improve product quality, mostly in manufacturing settings. The New Six Sigma is a management system for running the business on a day-to-day basis. **(Source: Motorola University)**. For the common purpose, this training is open for every manager and professional from different departments, businesses and industries as we will exercise the six sigma tools in a variety of business application scenarios.