

Business Analytics I

Length: 2 Days

Summary: This course is designed to help business professionals begin to understand how to make better decisions by applying data. Rather than managing by “gut” feeling, you will learn how to make informed and effective business decisions using historical data as well as predictive models. Using Excel add-ins and open source software, you can simulate business outcomes to predict future results and mitigate risk. Formal analytics experience is not required, but familiarity with Excel is helpful.

Customized Business Problems will be used throughout the course for hands-on learning (data sets based on industry and/or focus of class participants – Finance, Marketing, Manufacturing, etc.)

COURSE CONTENT

1: DEFINING THE BUSINESS PROBLEM

- Defining Input and Output Variables (demand, cost, etc.)
- Defining Objectives (market share, customer requirements, etc.)
- Operational definitions
- Key Performance Indicators

2: GATHERING DATA

- Types of Data
- Voice of the Business, Voice of the Process, Voice of the Customer
- Critical-to-Quality Elements
- Data Collection and Organizationn
 - Sorting, Stratification
 - Samples vs. Populations
 - Special Causes vs. Common Causes
 - Identifying Trends, Seasonality, etc.
- Data Limitation

3: ANALYZING DATA

- Process Capability
 - Control Charts
- Cause and Effect
- Identifying the Vital Few vs. the Trivial Many

- Visualizing Data
 - Histograms
 - Pareto Charts
 - Box Plots

4: SIMULATIONS AND MODELING

- Defining Constraints
- Optimization models
- Monte Carlo simulation
 - Risk Analysis

5: MAKING DECISIONS

- Unexpected Consequences
- Selecting a Solution
 - Decision Trees
 - Decision Analysis
- Monitoring and Control Plans