



## Business Decisions-Making using Data Analysis

17 - 21 Feb 2025  
Rome (Italy)



# Business Decisions-Making using Data Analysis

**Ref.:** 15150\_243054 **Date:** 17 - 21 Feb 2025 **Location:** Rome (Italy) **Fees:** 4900 **Euro**

## Introduction:

This interactive, application-driven 5-days course will highlight the added value that data analytics can offer a professional as a decision support tool in management decision making. It will show the use of data analytics to support strategic initiatives; inform on policy information; and direct operational decision making. The course will emphasize applications of data analytics in management practice; focus on the valid interpretation of data analytics findings; and create a clearer understanding of how to integrate quantitative reasoning into management decision making. Exposure to the discipline of data analytics will ultimately promote greater confidence in the use of evidence-based information to support management decision-making.

## Targeted Groups:

- Professionals in management support roles
- Analysts who typically encounter data / analytical information regularly in their work environment
- Those who seek to derive greater decision making value from data analytics

## Course Objectives:

At the end of this course the participants will be able to:

- Appreciate data analytics in a decision support role
- Explain the scope and structure of data analytics
- Apply a cross-section of useful data analytics
- Interpret meaningfully and critically assess statistical evidence
- Identify relevant applications of data analytics in practice

## Targeted Competencies:

- Discussions on applications of data analytics in management
- The importance of data in data analytics
- Applying data analytical methods through worked examples
- Focusing on management interpretation of statistical evidence
- How to integrate statistical thinking into the work domain

## Course Content:

### Unit 1: Setting the Statistical Scene in Management:

- Introduction: The quantitative landscape in the management
- Thinking statistically about applications in management identifying KPIs
- The integrative elements of data analytics
- Data: The raw material of data analytics types, quality, and data preparation
- Exploratory data analysis using excel pivot tables

- Using summary tables and visual displays to profile sample data

## **Unit 2: Evidence-based Observational Decision Making:**

- Numeric descriptors to profile numeric sample data
- Central and non-central location measures
- Quantifying dispersion in sample data
- Examine the distribution of numeric measures skewness and bimodal
- Exploring relationships between numeric descriptors
- Breakdown analysis of numeric measures

## **Unit 3: Statistical Decision Making - Drawing Inferences from Sample Data:**

- The foundations of statistical inference
- Quantifying uncertainty in data - the normal probability distribution
- The importance of sampling in inferential analysis
- Sampling methods random-based sampling techniques
- Understanding the sampling distribution concept
- Confidence interval estimation

## **Unit 4: Statistical Decision Making - Drawing Inferences from Hypotheses Testing:**

- The rationale of hypotheses testing
- The hypothesis testing process and types of errors
- Single population tests tests for a single mean
- Two independent population tests of means
- Matched pairs test scenarios
- Comparing means across multiple populations

## **Unit 5: Predictive Decision Making - Statistical Modeling and Data Mining:**

- Exploiting statistical relationships to build prediction-based models
- Model building using regression analysis
- Model building process - the rationale and evaluation of regression models
- Data mining overview - its evolution
- Descriptive data mining - applications in management
- Predictive goal-directed data mining - management applications



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