



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:

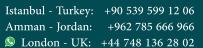
- The foundations of statistical inference
- Quantifying uncertainty in data the normal probability distribution
- The importance of sampling in inferential analysis
- Sampling methods random-based sampling techniques
- Understanding the sampling distribution concept
- Confidence interval estimation

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





Registration form on the : Business Decisions-Making using Data Analysis

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