Effective Business Decisions Using Data Analysis

20 - 24 October 2024
Dubai (UAE)

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Introduction:

Every professionals strives to make quality decisions. Quality decisions result from a careful and thorough evaluation of relevant information. Often such information is generated through statistical manipulation of data, but few professionals possess quantitative reasoning skills to meaningfully and validly interpret such statistical findings themselves or question the interpretations given by others.

The lack of quantitative analytical skills can potentially limit a professionals effectiveness to make quality decisions.

This program aims to develop an appreciation of the role of quantitative methods in management decision making and thereby empower professionals with an additional decision making skill.

Conference Objectives:

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

- Appreciate the role of Data Analysis as a Decision Support tool
- Explain the scope and structure of the discipline of Statistics
- Understand the importance of data quality in data analysis
- Select an appropriate Data Analysis methodology to apply to specific management situations
- Apply a cross-section of Data Analysis tools and techniques
- Meaningful interpret statistical output to inform decision making
- Critically assess statistical findings with confidence
- Interact meaningfully and with confidence with Data Analysts
- Initiate with confidence in their Data Analysis projects
- Learn techniques to support strategic initiatives

Targeted Audience:

- 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

Conference Outlines:

Unit 1: Setting the Scene and Observational Decision Making:

- Setting the Quantitative Scene
- The Decision Support Role of Quantitative Methods in Management
- "Thinking Statistically" about Applications in Business Practice
- The Elements and Scope of Quantitative Management
- Data and the importance of Data Quality

Unit 2: Using Excel to Paint a Picture of your Data:

- Summary Methods Using Tables and Graphs to Profile Data
- One-way, Two-way, and Multi-way Pivot Tables
- Graphic Displays and Breakdown Analysis
- Numeric Descriptors
- Central and non-central locations; Dispersion; Distribution Shapes
- Graphical summary using Box plots

Unit 3: Statistical Inferential Decision Making - by harnessing Uncertainty:

- Using sample evidence to address management issues through statistical inference"
- How to measure and quantify Uncertainty using Probability Distributions
- The importance of Sampling
- Statistical Decision-Making methods
- Approaches: Confidence Intervals and Hypothesis Testing
- Techniques: Z- and T-statistics, Analysis of Variance, Chi-Square
- Addressing Practical Management Issues
- Estimation; Testing for Differences; Multiple Sample Comparisons

Unit 4: Predictive Decision Making - Using Models to Build Relationships:

- Statistical models exploit statistical relationships between measures to prepare forecasts and make predictions".
- The Value of Statistical Modelling
- Modeling Approaches
- Regression Models, Time Series Analysis; Autoregressive Models

Unit 5: Data Mining - A Brief Overview:

- An Overview of Data Mining
- Definition; the Data Mining process; data preparation
- Data Mining Functions
- Prediction / Estimation / Classification / Descriptive
- Purpose; Methodology; Interpretation; Likely Applications
- Cluster Analysis; Discriminant Analysis
- Logistic Regression; Classification Trees; Neural Networks
- Market Basket Analysis; Customer Relationship Management CRM
- Overview of Selected Data Mining Techniques analysis by NCSS
- Descriptive Modeling Segmentation Strategies
- Predictive Modeling Classification; Estimation; Prediction Strategies
- Typical Applications

Unit 6: Decision Analysis for Management Judgement:

- Using Decision Models to structure/evaluate complex decision scenarios
- Multi-Criteria Decision Modelling Illustrations of Two Practical Tools
- SMART Simple Multi-Attribute Rating Technique
- AHP Analytical Hierarchy Process