KTI SEMINARS

DATA AND STATISTICAL ANALYSIS AND PRESENTATION

COURSE DESCRIPTION

Data is the foundation for analysis and decision-making. Data and statistical analysis are a crucial skill set in today's data-driven world. To make data more meaningful and useful, it often undergoes various processes. By applying statistical methods and tools, analysts can uncover patterns, trends, correlations, and dependencies within datasets, enabling them to draw reliable conclusions and make data-driven recommendations.

For the purposes of this training, data and statistical analysis and presentation refers to the process of examining and interpreting data using statistical techniques and methods and the adaptation of effective strategies of communication to stakeholders for dynamic decision making. Effective data and statistical analysis also look at ethical considerations, such as data privacy, confidentiality, and avoiding biases. It is important to ensure that the analysis is conducted in an unbiased and ethical manner, protecting the privacy and rights of individuals and organizations involved in the data analysis process.

Here, your team of analysts will gain insight into all the necessary information to help them identify patterns, trends, and relationships that may not be apparent in raw data and statistics. These insights can then be used to make informed decisions, support research findings, improve processes, and guide strategic planning.

COURSE OBJECTIVES

The objectives of the course are to help you:

- Understand data analysis concepts.
- Apply appropriate data collection and cleaning techniques.
- Perform descriptive and inferential statistical analysis.
- Interpret and draw meaningful conclusions from data analysis results.
- Present data analysis findings in a clear and concise manner.
- Apply critical thinking skills to evaluate and interpret statistical information.

TARGET AUDIENCE: Data Analysts, Directors, Development Managers, Business Analysts, and Planners and Strategists, Financial Analysts and Marketing Professionals, Operations Managers, Quality Control and Process Improvement Specialists

MODE OF WORKSHOP (DELIVERY)

PowerPoint presentation, Case study, Discussions, Training manual and Institutional Visit

COURSE OUTLINE

Module 1 – FUNDAMENTALS of Data Analysis and Statistical Concepts

- Importance of data analysis in decision-making
- Types of data and levels of measurement
- Key statistical concepts and terminology
- Data quality and data cleaning techniques
- Managing missing data and outliers
- Exploratory data analysis techniques

Module 2- Statistical Analysis and VISUALIZATION

- Sampling and probability distributions
- Hypothesis testing and confidence intervals
- Correlation and regression analysis
- Introduction to statistical software (e.g., SPSS, R, Excel)
- Performing basic data analysis using software
- Interpreting and reporting statistical output

Module 3 – Data Visualization and Presentation

- Principles of effective data visualization
- Selecting appropriate charts and graphs
- Presenting data analysis findings
- Concentration risk measurement
- Market and price risk measurement
- Untimely disbursement risk measurement

Module 4 – Advanced Statistical Techniques

- Parametric and non-parametric tests
- Time series analysis and forecasting
- Multivariate analysis techniques
- Hypothesis Testing and Statistical Modeling
- Null and alternative hypotheses
- ANOVA, t-tests, chi-square tests, etc.

Module 5 – ETHICAL CONSIDERATIONS in Data Analysis

- Data privacy and confidentiality
- Avoiding biases in data analysis
- Ethical implications of data presentation
- Ensuring data privacy and security
- Handling sensitive data and ethical implications
- Responsible data analysis practices

Module 6 – Critical Thinking and Interpretation of Statistical Information

- Evaluating the validity and reliability of statistical information
- Interpreting statistical results in context
- Identifying limitations and making informed judgments

Module 7 – Data Visualization and Dashboards

- Selecting appropriate visualization tools
- Creating effective charts and graphs
- Design principles for data visualization
- Communicating Data Analysis Results
- Structuring data analysis reports
- Presenting findings to stakeholders
- Effective storytelling with data