

Business Data Analytics Using MS Excel

Course Overview

Data analytics is commonly employed in big organizations as it helps organizations harness the most out of their data and use these information to identify new opportunities in customer relation management and business growth. That, in return, led to smarter business moves, more efficient operations, higher profit and improved customers' satisfaction. Driven by the benefits of data analytics, many of these organizations are beginning to invest in sophisticated software and hire data analyst in managing their organization's data.

Data analytics will help organizations to not only understand its business, but to drive the business forward. Through analyzing of the business goal, current business performance indicator, customer buying preference, products selling pattern, external environment factors and other internal business factors.

Without heavily investing in expensive data analytics software, this program is positioned to help Small & Medium Enterprise (SME) explore data analytics by using organization's already available MS Excel and its add-ins or/and VBA. The program will cover the complete data analytics process, which includes the ETL process such as how to extract the relevant data from current business operation, integrate the data and transform the data into meaningful representation. Next, participants will explore the use of MS Excel data analytics function to perform various statistical analysis to understand and identify patterns in the data and to predict future trend. Lastly, the program will also cover how to turn the information obtained into attractive visual diagrams for easy presentation and impress the management/customer. The training uses real business data as example, to demonstrate how to perform the data analysis to "mine" information out from your business data.

Let's explore the wonder your data can bring to your business. Hidden within your data is knowledge that could potentially change your business. So don't let your data stay idle! Let us show you how to transform them into valuable information that would help bring your business to the next higher paradigm.

Course Objectives:

This program helps to discover/identify business growth opportunities and hidden business information through analysing current business data which include customers buying preference, products selling pattern, external environment factors and other internal business factors.

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Who should attend this training?

Business owner, Functional head, Sales manager, Finance Manager, Marketer, and professionals involve in market analysis or business growth.

Learning Objectives:

At the end of the program, the participants will able to:

To understand the data science concepts.

To perform ETL process in Excel.

To perform descriptive analytics using various statistical methods.

To construct predictive models for different data applications.

To visualize the data using graphical techniques.

To develop dashboard using ActiveX Control and VBA

Training Methodology:

Hands-on exercise, lecture, group discussion, case study

Pre-requisite:

Experience in using MS Excel

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Course Outline

We will use one of the following case studies to show the application of data analytics.

- Customer relation management (CRM)
- Market performance analysis
- Sale trend analysis
- Any other relevant applications

Module 1: Extract, Transform and Load (ETL) Processes with Excel

- Introduction to data analytics
 - What is data analysis and analytics?
 - Data science process and skill sets
 - Analytics hierarchy and types
 - Basic domains use analytics
 - About big data
 - The CRISP-DM model
- Getting start with Developer, Add-Ins and VBA
 - Enabling Developer tab ad Macros
 - Download Add-Ins for Excel
 - Introducing Visual Basic for Applications (VBA)
- ETL Processes
 - Data sources and types
 - Variables and data sources
 - Data collection methods (registration, questionnaires, interviews, direct observations, reporting)
 - Linkage among variables, sources and methods
 - Structured and unstructured data
 - Ways to record data (table, images, charts, text)
 - Extracting and integrating various data into single worksheet
 - Merge worksheets of active workbook
 - Merge worksheets from different workbooks
 - Extracting data from web (record macro)
 - Extracting data from text
 - Data warehousing and cleaning
 - Pivot and de-pivot table
 - Consolidate data in multiple worksheets
 - Group, ungroup and subgroup data
 - Updating observations
 - Remove duplicates
 - Identify and treatment of outliers
 - Identify and impute missing values
 - Normalization of data

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Module 2: Data Analytics using Excel

- Descriptive Analytics
 - Descriptive statistics, frequency table and cross tabulation
 - Relationship and correlation analysis
- Predictive Modeling
 - Unsupervised data segmentation using k-means clustering and decision tree
 - Supervised learning using logistic regression and neural network for categorical outcome
 - Prediction of continuous outcome using multiple regression
 - Trend analysis using time series models

Module 3: Visualization and Building Dashboard

- Visualization of Data
 - Some good practices in designing charts
 - What is a good graphical representation?
 - Pros and cons of various charts
 - Selection of charts based on purposes and designs
 - Constructing Excel build-in charts
 - Bar chart and histogram
 - Line chart
 - Scatter plot
 - Area chart
 - Doughnut diagram
 - Bubble chart
 - Radar chart
 - Create compound charts
- Building dashboard
 - Controls and ActiveX Controls
 - Command button
 - Combo box
 - Check box
 - List box
 - Text box
 - Scroll bar
 - Spin button
 - Option button
 - Toggle button
 - Data validation
 - Building dashboard for data visualization
 - Principles to make good dashboard
 - Develop your own dashboard using ActiveX Controls and VBA