

# **Learning Event: Excel with PowerPivots Intermediate to Advanced.**

**Duration: 2 days**

## **Description**

### **1. Target participants**

This would include financial analysts, research experts and report writers for complex data arrays. This is for anyone who needs to combine and interpret large bodies of data (powerpivots can extend way beyond the standard 1 million rows) through queries and relationships between tables in different workbooks and worksheets.

### **2. Synopsis**

Do you know the full extent of Excel? There are tools people often gloss over, such as Forecast graphs, Pareto Charts, Histograms and maps. There is data management, subtotals, filtering and sorting. There are what if scenarios, data tables and thousands of functions. This course covers the most essential elements, right up to advanced level.

And then there is powerpivot. Have you ever used Pivot Tables to the fullest extent? This course covers standard pivot tables, with functions such as Getpivotdata and data consolidation, as well as creating pivot charts. It then ventures into powerpivots. Since Excel 2013, using pivot tables on steroids has never been easier. Using Data Models, Tables and Relationships, multiple worksheets and workbooks can be synergized into meaningful and insightful Pivot tables. Data from various sources, including CSV, Oracle and Access sources, can be imported, converted to standard tables and then fused through relationships to provide fascinating pivot tables.

Trends, forecasts and expert analysis becomes much more achievable.

EXAMPLE: Imagine an HR table in one workbook/sheet, with standard information such as names and departments. Then, imagine a sales table in another workbook, which references the names in the first workbook/sheet and performs a calculation of total sales per salesperson. There could be other tables too. That's just the beginning. Analyses of who sells best in what region, who sells best in what season and other complex relationships all become possible through the interrelationships. Instead of using a complex VLOOKUP function, the powerpivot tool not only references the dashboard with the large list, but also relates the fields automatically. It then performs the calculations on sales automatically.

## **2. Outline of course content**

### **1. Advanced Selection Technique**

- Selecting and naming Ranges
- Selecting Non-Contiguous Ranges
- Selecting Very Large Ranges

### **2. Filling Cells**

- Using Fill to Copy
- Using Fill to Delete
- Filling a Series
- Filling a Growth Series
- Filling Backwards
- Filling Using Options
- Creating a Custom List
- Removing a Custom List

### **3. Statistical Functions**

- The SUM Function
- The MAX Function
- The MIN Function
- The AVERAGE Function
- Counting Cells
- Counting Blank Cells
- Counting with Criteria
- Calculating Standard Deviation
- Calculating Variance

### **4. Financial Function**

- Examining the Functions
- The PMT Function
- Using Financial Functions in Formulas
- Optional, provided there is time
  - The FV Function
  - The NPER Function
  - The IRR Function
  - The NPV Function

### **5. Lookup Functions**

- Preparing a Worksheet for Lookup Functions
- Using the Choose Function
- Suppressing Cryptic Error Messages
- Using the Lookup Function
- Testing Lookup Functions
- Using lookup for Exact Matches
- Using the Index Function

**6. Nesting Functions**

- Scoping the Formula
- Creating a Nested Function
- Editing a Nested Function
- Nesting More Functions
- Copying Nested Functions
- Using Concatenation

**7. Excel forecast charts**

- Using data to create the forecast chart
- Creating the forecast chart using certain parameters
- Working out worst case probable case and best case scenarios

**8. Sorting**

- Sorting Rows by a Single Column
- Sorting Rows by Multiple Columns
- Sorting Columns

**9. Lists**

- Adding Records to a List
- Adding Records Using the Data Form
- Updating a Record Using the Data Form
- Updating Groups of Records
- Deleting Records Using the Data Form
- Selecting Records Using autofilter
- Removing a Single Filter
- Finding the Top Values in a List
- Filtering Records Using Multiple Fields
- Removing Multiple Filters
- Using Custom Filters with AND
- Using Custom Filters with OR
- Using Wildcards in Filters
- Adding Numbers in Filtered Lists
- Using an Advanced Filter
- Entering Records with Advanced Filters
- Using Formulas in the Criteria
- Using Database Functions

**10. Modifying Charts**

- Changing the Chart Type
- Changing the 3-D Presentation
- Adding Data to a Chart
- Changing Captions
- Double Axis charts

**11. Formatting Charts**

- Selecting with Chart Objects
- Accessing Object Properties
- Moving Objects
- Resizing Objects
- Changing Text
- Changing Backgrounds
- Changing the Chart Area

- Changing Column Format

**12. Customizing the Work Area**

- Working with Existing Toolbars
- Creating a Toolbar
- Creating and Using Styles
- Creating Templates

**13. Advanced Formula Construction**

- Nested Functions
- TEXT functions, including MID, CONCAT, LEFT, RIGHT
- IFERROR function
- The IF Function and NESTED IFS
- DATA validation
- The VLOOKUP Function and HLOOKUP function
- Error handling and the Auditing Features
- Sparklines

**14. Working with Data and What If Scenarios**

- Creating a data table
- Using scenario manager to map scenarios
- Installing solver add-in
- Using goal seek and solver in order to map possibilities
- Integrating the use of all what if scenarios to provide solutions

**15. Subtotals**

- Sorting which column is necessary before the subtotal is calculated
- Creating the subtotal according to predefined criteria
- Using outline view to concertina the subtotal

**16. Pivot Tables and Slicers**

- Creating Pivot Tables
- Working with Pivot Tables
- Using slicers and filters
- Viewing Pivot Tables at Different Levels

**17. Multiple File Linking**

- Manual and automatic consolidation
- Working with Workbooks
- Linking Individual Cells
- Workbook Versus Links and Workspaces

**18. Consolidating Data and Using Analysis Tools**

- Consolidating Worksheets
- Using the Goal Seek and Solver Utilities
- Creating a Scenario by Using Scenario Manger

**19. Protect and Display Options**

- Using Comments
- Protecting the Worksheet
- Hiding Information
- Custom Views

**20. Introduction to Macros**

- Running a Macro
- Recording a Macro
- Viewing and Editing VBA Code

**21. Visual basic for applications**

- Visual basic for applications: introducing the VBA Editor window; creating procedures; basic principles - syntax, commenting, naming conventions; getting help.
- Macros: recording macros; assigning macros to toolbar buttons, menus and objects; understanding the limitations of recorded macros; editing recorded macros.

**POWERPIVOTS**

- Introduction to powerpivot – including installation of the addin
- Building relationships between different tables in different worksheets and workbooks
- Importing data from different worksheets and workbooks
- Creating effective tables using the PowerPivot MANAGE tool in the PowerPivot window
- Adding data models
- Importing data from alternative sources such as CSV files, Oracle and Access databases
- Linking critical fields between different tables in the PowerPivot window – one to many, many to one and one to one relationships
- Creating KPI's for measures and calculated fields
- Applying the conditional formatting determined by the KPI

**MAPS**

- Create data bin
- Access 3D Maps
- Adding layers
- Using the map in a report