

SMART DATA ANALYSIS IN EXCEL – PIVOT TABLES AND FUNCTIONS

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Module 1: Introduction to Smart Data Analysis

- What is smart data analysis?
- Common data challenges in Excel.
- Overview of analytical tools in Excel (PivotTables, Lookup functions, Tables, and Charts).
- Understanding structured data (Excel Tables vs. normal ranges).
- Convert raw data into an Excel Table.
- Use filters and sorting for quick analysis.

Module 2: Data Preparation and Cleaning

- Working with Power Query for data transformation
- Ensuring data quality: no blanks, duplicates, or mixed data types.
- Using Text to Columns, Remove Duplicates, & Data Validation.
- Applying Conditional Formatting for insights.

Module 3: Pivot Tables – The Core of Smart Analysis

- **Creating PivotTables**
 - ◊ What is a PivotTable?
 - ◊ Inserting PivotTables from structured data.
 - ◊ PivotTable fields: Rows, Columns, Values, Filters.

• Summarizing and Grouping Data

- ◊ Value summaries (Sum, Average, Count, % of Total).
- ◊ Grouping by dates (months, quarters, years) & categories.

• Filtering and Slicing

- ◊ Using filters, slicers, and timelines.
- ◊ Drilling down into data.

• Formatting and Customizing PivotTables

- ◊ PivotTable styles, number formatting, and layout options.
- ◊ Renaming field headers.

• Pivot Charts

- ◊ Creating dynamic visualizations from PivotTables.
- ◊ Customizing Pivot Charts and adding interactivity.

• Refreshing and Updating

- ◊ Refreshing data automatically.
- ◊ Managing source data and named ranges.

Module 4: Lookup and Reference Functions

• VLOOKUP

- ◊ Syntax and structure.
- ◊ Using VLOOKUP for matching values across sheets.
- ◊ Common errors (e.g., #N/A, #REF) and how to avoid them.

• HLOOKUP

- ◊ When to use it vs. VLOOKUP.
- ◊ Horizontal data lookups.

• INDEX and MATCH

- ◊ Combining INDEX and MATCH for flexible lookups.
- ◊ Advantages over VLOOKUP.

• XLOOKUP (Modern Excel)

- ◊ Replacing VLOOKUP with XLOOKUP.
- ◊ Using optional arguments for error handling and approximate matches.

FACILITATOR

MR. IRFAN BAKALY, who got Pakistan's first Microsoft Most Valuable Professional (MVP) award in Excel category, is also having 20+ years of experience in technology training field and served many institutions & organizations of repute. He is also a YouTuber with an active tutorial channel by the name of "Irfan Wazir Ali" which has more than 525+ videos.

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