1

DATA ANALYTICS OVERVIEW

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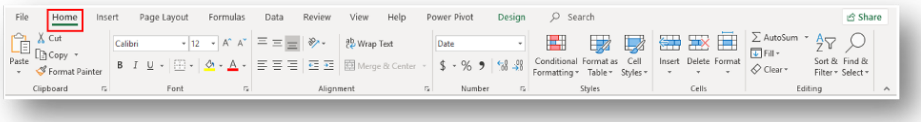
1.1 OVERVIEW

The MS Excel table is a 1985 Microsoft created specifically to help corporations gather all their financial details, annual credit, and annual debit sheets. After 31 years, the software for developing graphs and pivot tables is still the most widely used. Any position in business will practically benefit from those with good Excel expertise in any sector. Excel has been a valuable instrument for the study of shares or issuers, the budgeting, and the organisation of consumer revenue lists of multinational processes.

This chapter provides an overview of Microsoft (MS) Excel 2016, such as how to set up data as a dataset, how to use Power Query in Microsoft Excel 2016, how to rename the header of a column, find errors with Go To Special, how to remove duplicates in a dataset, how to check data types, how to change the text into columns, how to retrieve information using VLOOKUP, and how to use DAX in Power Pivot.

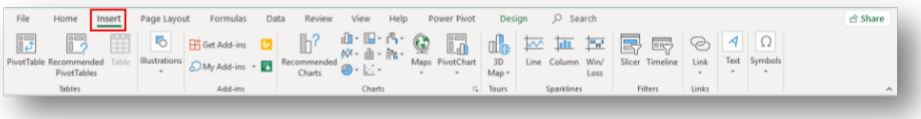
1.1.1 Tabs in Excel

1. Home



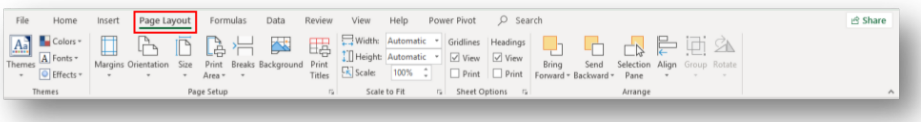
Home tab in Excel has Clipboard, Font, Alignment, Number, Styles, Cells, and Editing features.

2. Insert



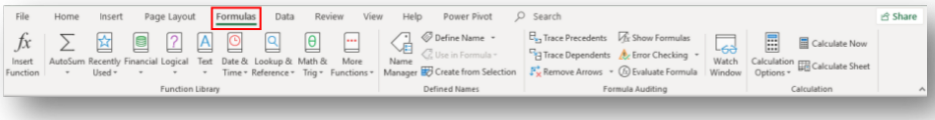
Insert tab in Excel has features to be inserted in the files such as Tables, Add-ins, Charts, Tours, Sparklines, Filters, Links, Text, and Symbols features.

3. Page Layout



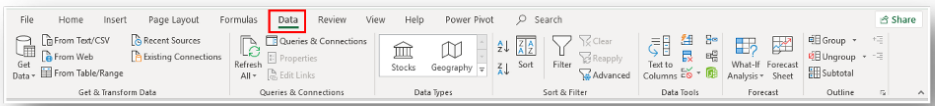
Page Layout has Themes, Page Setup, Scale to Fit, Sheet Options, and Arrange features.

4. Formulas



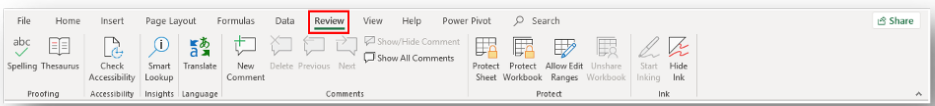
Formulas tab in Excel has Function Library, Defined Names, Formula Auditing, and Calculation features.

5. Data



Data tab in Excel has Get & Transform Data, Queries & Connections, Data Types, Sort & Filter, Data Tools, Forecast, and Outline features.

6. Review



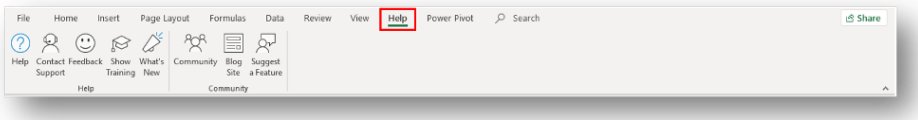
Review tab in Excel has Proofing, Accessibility, Insights, Language, Comments, Protect, and Ink features.

7. View



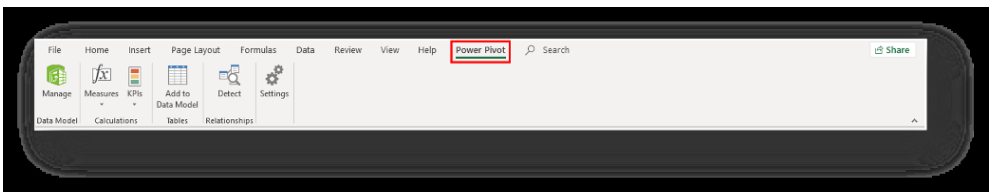
View tab in Excel has Workbook Views, Show, Zoom, Window, and Macros features.

8. Help



Help tab in Excel has Help and Community

9. Power Pivot



Power Pivot in Excel has Data Model, Calculations, Tables, Relationships, and Settings.

1.2 INTRODUCTION

Power BI advanced analytical capabilities of allowing business users to evaluate and exchange data at all organisation levels. Power BI offers a detailed image of critical metrics and key performance measures through insightful and immersive dashboards, all in one location in real-time [5]. Microsoft Power BI provides sophisticated analytics that enables customers to develop valuable knowledge, manipulating data, and solving market challenges. Advanced Power BI analytics enables enterprise customers to track main success metrics in real-time. The goal is to tackle different skills, knowledge of results, statistical applications in Excel, software for business analytics, and R language use in visualisation [6].

Excel and Power BI collaborate well. This collaboration helps users to incorporate all methods to ensure a wide range of business and BI activities. You can post an Excel file to Power BI for sharing, evaluate a Power BI in Excel, and import Excel files to Power BI. Without missing the simplicity and usability of Excel, you can obtain the power and the business focused power of Power BI.

On the other hand, R is a powerful programming language used by many statistics, data researchers, and data analysts. You will use R to build, create and clean data, advanced data formation, and data sets analytics, including missed completion, forecasts, clusters, and more in the Power BI Desktop Power Query Editor.

Python language was introduced in understanding visualisation in Power BI. Python is a common, scalable and influential language of programming. It is outstanding as a first language because it is short and easy to read and it is also a good language that every programmer can use in any programming stack, ranging from web creation to the development of software and science applications.

1.2.1 Excel

Excel is an electronic spreadsheet program used for storing, organising, and manipulating data [7]. Excel spreadsheet contains a formula bar, cell, column, row, and sheet tab. Excel spreadsheet can bemodified in many ways, including background colour, number, date format, size text font, and layout.

1.2.2 Power BI

Power BI is an application that connects the source of data with visually illustrated data into a comprehensive graphical representation and collective insights [8]. The data can be extracted from an excel spreadsheet or cloud-based collection.

1.2.3 R Language

R is a programming language and provides a free environment commonly used for statistical computing, data analytics, and scientific research [9]. It is a well-known language used by statisticians, data analysts, researchers, and marketers to retrieve, clean, analyse, visualise, and present data. This language is similar to Power BI with a straightforward code and is easy to learn and understand.

1.2.4 Python Language

The common language of programming is Python. It was founded in 1991 by Guido van Rossum. On a server it can be used to create web apps and workflows with software. Python can connect to systems in databases. It will read and change files as well. It can be used to manage big data and complex mathematics, quick prototyping or create production-ready applications.