MICROSOFT EXCEL
FOR CFOS

& BUSINESS LEADERS

VIRTUAL TRAINING

EXCEL FOR CFOs
& BUSINESS LEADERS

JoLynn Rihn
Microsoft Master Instructor

ALDRIDGE

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Excel for CFO's and Business Leaders

Excel proficiency is vital for any CFO or Business Leader aiming to improve their analytical and reporting capabilities. Excel continues to be a fundamental resource for financial analysis, budgeting, and forecasting. By using some or all these features covered in the training session, CFOs can fully leverage Excel's capabilities to inform strategic decisions and secure a competitive advantage.

Named Ranges

You can use the labels of columns and rows on a worksheet to refer to the cells within those columns and rows. Or you can create descriptive names to represent cells, ranges of cells, formulas, or constant values. Labels can be used in formulas that refer to data on the same worksheet; if you want to represent a range on another worksheet, use a name.

You can also create 3-D names that represent the same cell or range of cells across multiple worksheets.
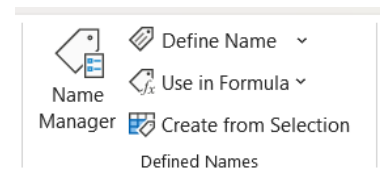
Guidelines for Names

- The first character of a name must be a letter, an underscore character (_), or a backslash (\). Remaining characters in the name can be letters, numbers, periods, and underscore characters.
- Names cannot be the same as a cell reference, such as Z$100 or R1C1.
- You can use multiple words in a name, but spaces are not allowed. Underscore characters and periods may be used as word separators — for example, Sales_Tax or First.Quarter.
- A name can contain up to 255 characters. If a name defined for a range contains more than 253 characters, you cannot select it from the Name box.
- Names can contain uppercase and lowercase letters. Microsoft Excel does not distinguish between uppercase and lowercase characters in names. For example, if you have created the name Sales and then create another name called SALES in the same workbook, the second name will replace the first one.

Name Manager – Use the Name Manager to create, edit, and delete range names. The Name Manager provides a complete list of range names in the workbook.

To Name a Range

1. Select the cell or range of cells. Click in the name box.
2. Type the name. Press Enter

| B4 | NAME BOX | ⌄ | ⋮ |
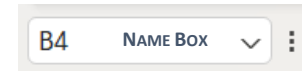
Edit or Delete Named Ranges

Use the Name Manager to create, edit, and delete range names.
- From the Formulas Tab, in the Defined Names Group, click on Name Manager.
- Select the named range you want to modify.
- Make the necessary changes then close when finished.

Essential Excel Functions for Finance

Excel is a vital tool for any chief financial officer. Advanced functions are crucial for data analysis and decision-making. Let's look at essential functions every finance expert should know.

To make sound financial decisions, mastering key Excel formulas is a must. Familiarize yourself with these indispensable tools. Use these formulas to compare investment opportunities, plan budgets, and forecast financial health.

Finance Functions

Excel boasts more than 50 financial functions, making it challenging to predict which ones you'll need. However, here are a few that are frequently used.

- **SUM**: Adding Up Values in a Range of Cells The =SUM function is used to add up the values in a range of cells. ...

- **PMT**: Calculating Payment Amounts for a Loan

- **FV**: Calculating the Future Value of an Investment

- **NPV**: Calculating the Net Present Value of an Investment

- **IRR**: Calculating the Internal Rate of Return for an Investment

For a list of all financial functions in Excel, with descriptions and examples, click this link: Financial functions (reference) - Microsoft Support.

PMT Function

The PMT function of Excel calculates the payments of a loan based on an interest rate, loan amount, and the number of periods.

=PMT(rate, nper, pv, [fv], [type])

The PMT function uses the following arguments:

1. **Rate** (required argument) – The interest rate of the loan.

2. **Nper** (required argument) – Total number of payments for the loan taken.

3. **Pv** (required argument) – The present value or total amount that a series of future payments is worth now. It is also termed as the principal of a loan.

4. **Fv** (optional argument) – This is the future value or a cash balance we want to attain after the last payment is made. If Fv is omitted, it is assumed to be 0 (zero), that is, the future value of a loan is 0.

5. **Type** (optional argument) – The type of day count basis to use.

For example, if you take an auto loan of $50,000 at an annual interest rate of 10%, and you have 4 years to repay – *how much amount will you repay annually?* The PMT function will tell you that.

FV – This means any future value of the loan that would be left back after the last payment is made.

Type – There can be two annuity types.

- **0 (annuity due)**: this is when the payments are to be made at the end of each period.

- **1 (annuity advance)**: this is when the payments are to be made at the beginning of each period.

IRR Function

=IRR(values,[guess])

The IRR function uses the following arguments:

- **Values** (required argument) – This is an array of values that represent the series of cash flows. Cash flows include investment and net income values. Values can be a reference to a range of cells containing values.
- **[Guess]** (optional argument) – This is a number guessed by the user that is close to the expected internal rate of return (as there can be *two solutions* for the internal rate of return). If omitted, the function will take a default value of 0.1 (=10%).

Notes:

1. The argument value should contain at least one positive and one negative value to calculate the internal rate of return.
2. The IRR function uses the order of the values to interpret cash flows. Hence, it is necessary to enter the payments and income values sequentially.
3. If the array or reference argument contains logical values, empty cells or text, those values are ignored.

Everyday Functions for Finance and Other Analysis

The most used functions for **all data analysis** are IF and LOOKUP functions.

If Functions

The IF function is one of the most popular functions in Excel, and it allows you to make logical comparisons between a value and what you expect.

IF Function - Syntax and Usage

The IF function is one of Excel's logical functions that evaluates a certain condition and returns the value you specify if the condition is TRUE, and another value if the condition is FALSE.

The syntax for Excel IF is as follows: IF(logical_test, [value_if_true], [value_if_false])

As you see, the IF function has 3 arguments, but only the first one is obligatory, the other two are optional.

logical_test - a value or logical expression that can be either TRUE or FALSE. Required. In this argument, you can specify a text value, date, number, or any

comparison operator. For example, your logical test can be expressed as or B1="sold", B1<12/1/2014, B1=10 or B1>10.

value_if_true - the value to return when the logical test evaluates to TRUE, i.e. if the condition is met. Optional. For example, the following formula will return the text "Good" if a value in cell B1 is greater than 10: =IF(B1>10, "Good")

	A	B	C	D	E
		IRR ▾ : ✕ ✓ *fx*	=IF(D5<>"","Closed","Open")		
1					
2		IF Function			
3					
4		AGM Preparation list	Status	Remarks	
5		Directors report to be finalised and sent for review	=IF(D5<>"","Closed","Open")		
6		Finalize Annual report	Open		
7		AGM Notice	Closed	01/15/18	
8		Prepare attendance register	Open		
9		Ready the documents needed	Open		
10		Follow up with Auditors	Open		

value_if_false - the value to be returned if the logical test evaluates to FALSE, i.e. if the condition is not met. Optional. So, an IF statement can have two results. The first result is if your comparison is True, the second if your comparison is False. For example, =IF(C2="Yes",1,2) says IF(C2 = Yes, then return a 1, otherwise return a 2).If you need to apply more than one criteria, **use** the **SUMIFS** function.
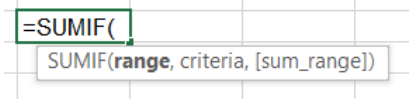
SumIF Function

The SUMIF function is a worksheet function that adds all numbers in a range of cells based on one criteria (for example, is equal to 2000). The SUMIF function is a built-in function in Excel that is categorized as a Math/Trig Function. As a worksheet function, the SUMIF function can be entered as part of a formula in a cell of a worksheet. To add numbers in a range based on multiple criteria, try the SUMIFS function.

=SUMIF(
SUMIF(**range**, criteria, [sum_range])

Using the SUMIF function in financial modeling offers numerous benefits. Firstly, it allows users to isolate specific data points and calculate their cumulative values, enabling thorough analysis. This functionality is particularly useful when dealing with large datasets.

Secondly, SUMIF provides flexibility in handling conditional calculations. With its ability to sum values based on specific criteria, analysts can easily perform calculations for different scenarios and parameters. This versatility enhances the accuracy of financial models and enables users to make informed decisions based on various conditions.

=SUMIF(range, criteria, [sum_range])
- The **range** parameter is actually the range of cells that will be evaluated by the 'criteria' parameter.

- The **criteria** parameter is the condition that must be met in the range parameter. For instance, if our range was a column that listed t-shirt color, a value like red or white could be our criteria. The criteria value can be text, a number, a date, a logical expression, a cell reference, or even another function.
- The **sum_range** parameter is optional as noted by the brackets. This simply means that if omitted, the sum_range will default to the same cells you chose for the 'range' parameter.

Examples of SUMIF

When using criteria in the SUMIF function, you can enter it manually in the formula or have it reference a cell.

Benefits of referencing a cell is if the criteria will change on a regular basis, you can enter the criteria in a cell instead of having to update the formula each time.

Criteria in the formula

Criteria referenced in a cell.

NOTE: The Dept Criteria can also be a data validation drop down list.

Dept	Gross Wages
RevOps ▼	17,207.04
Ops	
RevOps	
G&A	401k/Roth

COUNTIF Function

The Excel **COUNTIF** function in the Excel table determines the number of items, based on the criterion we provide. The function can be used, as an example, for determining the quantity of supplies, stocktaking, etc. The manual assumes that we have basic knowledge of creating formulas in Excel.

Use COUNTIF, one of the statistical functions, to count the number of cells that meet a criterion; for example, to count the number of times a particular city appears in a customer list. =COUNTIF(Where do you want to look?, What do you want to look for?) Syntax =COUNTIF(range, criteria)

AverageIF Function

AVERAGEIF calculates central tendency, which is the location of the center of a group of numbers in a statistical distribution. Returns the average (arithmetic mean) of all the cells in a range that meet a given criteria. Syntax =AVERAGEIF(range, criteria, [average_range])

Use of AVERAGEIF Function with Three Arguments

Name	Gender	Age	State	Score
Alex	Male	23	Alabama	60
Mike	Male	25	Texas	84
Teresa	Female	27	Michigan	66
Miguel	Male	21	Alabama	98
Cummins	Male	26	Colorado	92
Nancy	Female	24	Texas	75
Simon	Male	29	Alabama	84
Jen	Female	23	New York	74
Max	Male	21	Florida	97
Maria	Female	28	Texas	62
Josephine	Female	26	Utah	93
Cris	Male	23	Alabama	93
Richards	Male	27	Colorado	63
Victoria	Female	24	Georgia	74
Noah	Male	29	Texas	90

Criteria	Gender
	Male

| Average | 84.56 | >>> =AVERAGEIF(C5:C19,C22,F5:F19) |

Lookup Functions

XLookup

The XLOOKUP function searches a range or an array, and then returns the item corresponding to the first match it finds. If no match exists, then XLOOKUP can return the closest (approximate) match.

=XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])

Argument	Description
lookup_value Required*	The value to search for *If omitted, XLOOKUP returns blank cells it finds in lookup_array.
lookup_array Required	The array or range to search
return_array Required	The array or range to return
[if_not_found] Optional	Where a valid match is not found, return the [if_not_found] text you supply. If a valid match is not found, and [if_not_found] is missing, #N/A is returned.
[match_mode] Optional	Specify the match type: 0 - Exact match. If none found, return #N/A. This is the default. -1 - Exact match. If none found, return the next smaller item. 1 - Exact match. If none found, return the next larger item. 2 - A wildcard match where *, ?, and ~ have special meaning.
[search_mode] Optional	Specify the search mode to use: 1 - Perform a search starting at the first item. This is the default. -1 - Perform a reverse search starting at the last item. 2 - Perform a binary search that relies on lookup_array being sorted in ascending order. If not sorted, invalid results will be returned. -2 - Perform a binary search that relies on lookup_array being sorted in descending order. If not sorted, invalid results will be returned.

Example 1 looks up employee information based on an employee ID number. Unlike VLOOKUP, XLOOKUP can return an array with multiple items, so a single formula can return both employee name and department from cells C5:D14.

Example 2 adds

an **if_not_found** argument to the preceding example.

Both formulas will return the same result. Notice, however, for XLOOKUP we provided both the lookup column and the result column separately. While for VLOOKUP we needed to provide the whole table and indicate the result column number. The

additional difference we see is that in XLOOKUP we didn't have to provide the exact match parameter – in XLOOKUP the default is an exact match.

This makes the XLOOKUP function a combination of INDEX & MATCH functions. The VLOOKUP had a lot of issues like having to put the lookup column at the front of the table or at least before the result column.

Subtotal Function

The Subtotal function returns a subtotal in a list or database. It is generally easier to create a list with subtotals by using the Subtotal command in the Outline group on the Data tab in the Excel desktop application. Once the subtotal list is created, you can modify it by editing the SUBTOTAL function.

Function_num (includes hidden values)	Function_num (ignores hidden values)	Function
1	101	AVERAGE
2	102	COUNT
3	103	COUNTA
4	104	MAX
5	105	MIN
6	106	PRODUCT
7	107	STDEV
8	108	STDEVP
9	109	SUM
10	110	VAR
11	111	VARP

Syntax

=SUBTOTAL(function_num,ref1,[ref2],...)

The SUBTOTAL function syntax has the following arguments:

Function_num   Required. The number 1-11 or 101-111 specifies the function to use for the subtotal. 1-11 includes manually hidden rows, while 101-111 excludes them; filtered-out cells are always excluded.

3D Formulas

A reference that refers to the same cell or range on multiple sheets is called a 3-D reference. A 3-D reference is a useful and convenient way to reference several worksheets that follow the same pattern and contain the same type of data—such as when you consolidate budget data from different departments in your organization.

In Business, you will most likely use a formula that is referencing cells/data from multiple sheets and or multiple workbooks.

Tips for Understanding Formulas

If someone else creates a formula and you aren't sure how it works, here are some options:

- Double click the cell that contains the formula. This will highlight the cells being used in the formula.
- Click the FX to open the Function Arguments window to see each separate argument.
- From the Formulas tab of the ribbon in the Formula Auditing group, click Evaluate Formula.

fx Evaluate Formula

Forecasting

With historical time-based data, you can generate a forecast. Excel will create a new worksheet that includes both historical and predicted values in a table, along with a chart illustrating the data. This forecast can assist in predicting future sales, inventory needs, or consumer trends.

Create a forecast

1. In a worksheet, enter two data series that correspond to each other:

   - A series with date or time entries for the timeline

   - A series with corresponding values

These values will be predicted for future dates.

Note: The timeline requires consistent intervals between its data points. For example, monthly intervals with values on the 1st of every month, yearly intervals, or numerical intervals. It's okay if your timeline series is missing up to 30% of the data points or has several numbers with the same time stamp. The forecast will still be accurate. However, summarizing data before you create the forecast will produce more accurate forecast results.

2. Select both data series.
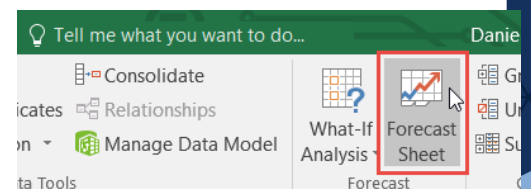
Tip: If you select a cell in one of your series, Excel automatically selects the rest of the data.
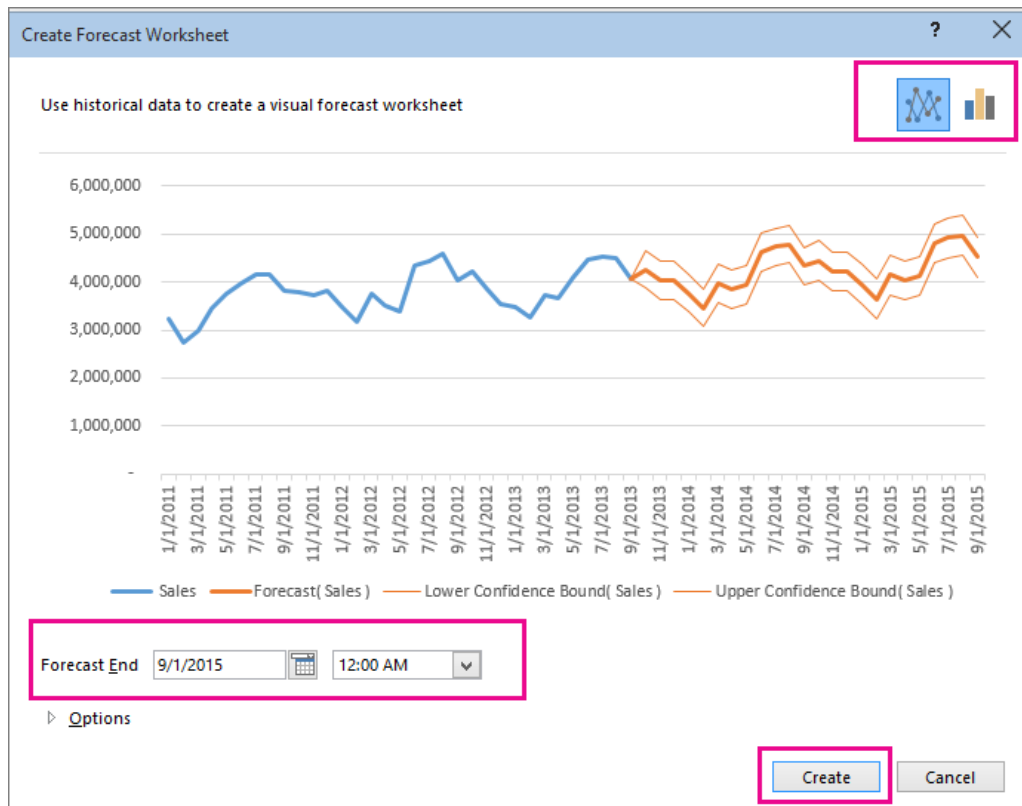
3. On the **Data** tab, in the **Forecast** group, click **Forecast Sheet**.

4. In the **Create Forecast Worksheet** box, pick either a line chart or a column chart for the visual representation of the forecast.

5. In the **Forecast End** box, pick an end date, and then click **Create**.

Excel creates a new worksheet that contains both a table of the historical and predicted values and a chart that expresses this data.

You'll find the new worksheet just to the left ("in front of") the sheet where you entered the data series.

Data Validation

Data validation is an Excel feature that you can use to define restrictions on what data can or should be entered in a cell. You can configure data validation to prevent users from entering data that is not valid. If you prefer, you can allow users to enter invalid data but warn them when they try to type it in the cell. You can also provide messages to define what input you expect for the cell, and instructions to help users correct any errors.

Restrict data entry to text of a specified length.

1. Select one or more cells to validate.
2. On the Data tab, in the Data Tools group, click Data Validation.
3. In the Data Validation dialog box, click the Settings tab.
4. In the Allow box, select Text Length.
5. In the Data box, select the type of restriction that you want. For example, to allow up to a certain number of characters, select less than or equal to.
6. Enter the minimum, maximum, or specific length for the text. You can also enter a formula that returns a number value.

Data Validation can be applied to empty cells or to existing data.

- **Whole Number** - to restrict the cell to accept only whole numbers.
- **Decimal** - to restrict the cell to accept only decimal numbers.
- **List** - to pick data from the drop-down list.
- **Date** - to restrict the cell to accept only date.
- **Time** - to restrict the cell to accept only time.
- **Text Length** - to restrict the length of the text.
- **Custom** – for custom formula.

Data Validation Lists

You can help people work more efficiently in worksheets by using drop-down lists in cells. Drop-downs allow people to pick an item from a list that you create.

1. Select the cell in the worksheet where you want the drop-down list.
2. Go to the Data tab on the Ribbon, and then Data Validation.
3. On the Settings tab, in the Allow box, select List.
4. Select in the Source box, then select your list range. We put ours on a sheet called Cities, in range A2:A9. Note that we left out the header row, because we don't want that to be a selection option:
5. If it's OK for people to leave the cell empty, check the Ignore blank box.
6. Check the In-cell dropdown box.
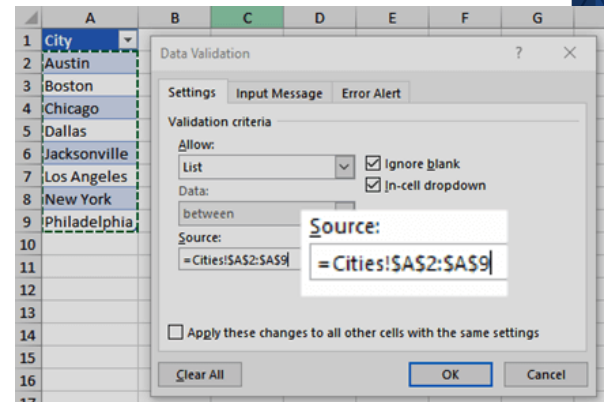
Using Excel Tables

To make managing and analyzing a group of related data easier, you can turn a range of cells into a Microsoft Excel table (previously known as an Excel list). A table typically contains related data in a series of worksheet rows and columns that have been formatted as a table. By using the table features, you can then manage the data in the table rows and columns independently from the data in other rows and columns on the worksheet.

Note: Excel tables should not be confused with the data tables (data table: A range of cells that shows the results of substituting different values in one or more formulas. There are two types of data tables: one-input tables and two-input tables.) that are part of a suite of what-if analysis commands.
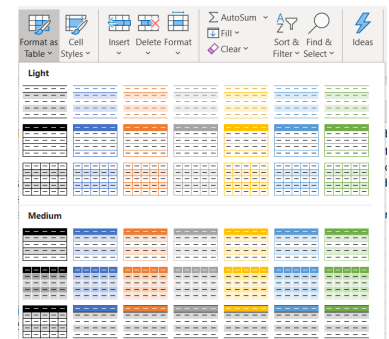
To Apply a Table:
1. Click inside the data range.
2. From the Home Tab in the Styles Group click on Format as Table.
3. Click on one of the preformatted options.
4. Use the Table Tools to make changes to the Table.
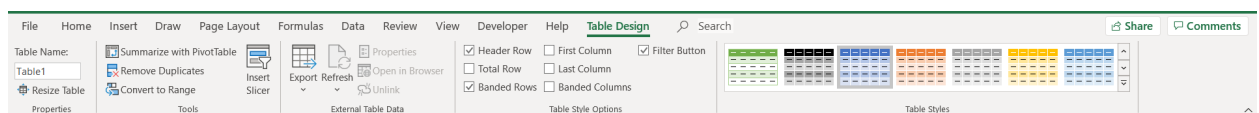
Sorting and filtering

Filter drop-down lists (drop-down list box: A control on a menu, toolbar, or dialog box that displays a list of options when you click the small arrow next to the list box.) are automatically added in the header row of a table.

Formatting table data

You can quickly format table data by applying a predefined or custom table style. You can also choose Table Styles options to display a table with or without a header or a totals row, to apply row or column banding to make a table easier to read, or to distinguish between the first or last columns and other columns in the table.

Formulas Using Table Data

Calculated columns in Excel tables are a fantastic tool for entering formulas efficiently. They allow you to enter a single formula in one cell, and then that formula will automatically expand to the rest of the column by itself. There's no need to use the Fill or Copy commands. This can be incredibly time saving, especially if you have a lot of rows. And the same thing happens when you change a formula; the change will also expand to the rest of the calculated column.

Note: The screen shots in this article were taken in Excel 2016. If you have a different version your view might be slightly different, but unless otherwise noted, the functionality is the same.

Create a calculated column

1. Insert a new column into the table. You can do this by typing in the column immediately to the right of the table, and Excel will automatically extend the table for you. In this example, we created a new column by typing "Grand Total" into cell D1.

2. Type the formula that you want to use, and press **Enter**.

In this case we entered **=sum(**, then selected the **Qtr 1** and **Qtr 2** columns. As a result, Excel built the formula: **=SUM(Table1[@[Qtr 1]:[Qtr 2]])**. This is called a **structured reference** formula, which is unique to Excel tables. The structured reference format allows the table to use the same formula for each row. A regular Excel formula for this would be **=SUM(B2:C2)**, which you would then need to copy or fill down to the rest of the cells in your column

B	C	D	E
Qtr 1	Qtr 2	Grand Total	
$744.60	$162.56	=sum(Table1[@[Qtr 1]:[Qtr 2]])	
$5,079.60	$1,249.20	SUM(**number1**, [number2], ...)	
$1,267.50	$1,062.50		
$1,418.00	$756.00		
$4,728.00	$4,547.92		
$943.89	$349.60		
$14,181.59	$8,127.78	$0.00	

3. When you press Enter, the formula is automatically filled into all cells of the column — above as well as below the cell where you entered the formula. The

formula is the same for each row, but since it's a structured reference, Excel knows internally which row is which.

Slicers in Tables

A slicer is an object in Excel that allows you to filter your data.

It displays all the possible values from a selected column of your data and each value will display as an individual button inside the slicer. The buttons can be used to toggle the active filtering of your data set.

The slicer object floats above the spreadsheet grid and will always be visible and available to use.

To use a Slicer in a Table:

1. Click on a cell in the Table. Then from the Table Design tab of the ribbon, in the Tools group, click Insert Slicer.
2. Choose the column(s) you want to have as Slicers, click OK.
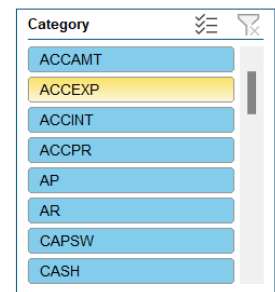
PivotTables

Create a PivotTable from a Local Data Source

Local data is within the same Workbook and can be from any of the Worksheets.

Make sure that the range has column headings or that headers are displayed in the table, and that there are no blank rows in the range or table.

1. Make sure the active cell is part of the data range that you want in the PivotTable.
2. On the Insert tab, in the Tables group, click PivotTable.
3. In the Create PivotTable dialog box, make sure that Select a table or range is selected, and then in the Table/Range box, verify the range of cells.
4. Excel automatically determines the range for the PivotTable report, but you can replace it by typing a different range or a name that you defined for the range. For data in another worksheet or workbook, include the workbook and worksheet name by using the following syntax [workbookname]sheetname!range.

Do one of the following:
- To place the PivotTable report in a new worksheet starting at cell A1, click New Worksheet.

- To place the PivotTable report at a specific location in an existing worksheet, select Existing Worksheet, and then in the Location box, specify the first cell in the range of cells where you want to position the PivotTable report.
5. Click OK.

PivotTable Fields Pane

The windowpane that opens on the right side after you start a PivotTable can be used to select the fields you want to filter, add, rearrange the fields in the table and work with values.

When you select a field from the field list, it will add it to one of the 4 areas. If it is a number field, it goes to the Values area, if it is text it goes to the Rows area.

Add Fields to the PivotTable

- To place a field in the default area of the layout section, select the check box next to the field name in the field section.
- To place a field in a specific area of the layout section, right-click the field name in the field section, and then select Add to Report Filter, Add to Column Label, Add to Row Label, or Add to Values.
- To drag a field to the area that you want, click and hold the field name in the field section, and then drag it to an area in the layout section.
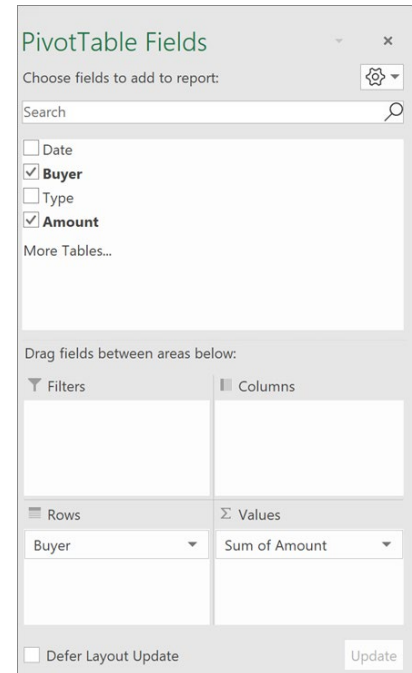
PivotTable Formula in Excel

In Excel, once we create a pivot table, we can add formulas as calculated fields.

To Create a PivotTable Formula

1. First, create a pivot table with relevant fields we want to keep and then after selecting or putting the cursor on it,
2. From Analyze tab on the ribbon, select **Calculated Fields** from the drop-down list of **Fields, Items & Sets**.
3. There we will be able to see all the fields used in the pivot table along with the section Name and Formula section. Type a Name for the calculated field.

Filter PivotTable Data

Filter your data to focus on a smaller portion of your PivotTable data for in-depth analysis.

There are several ways to filter the data to only see the records of information you want.

- From the Row Labels at the top of the PivotTable, click the down arrow.
- From the Field List hesitate on the name of a field, click the down arrow.

Filter with a Slicer

First introduced in Excel 2010 as an interactive way to filter PivotTable data, slicers can now also filter data in Excel tables, query tables, and other data tables. Simpler to set up and use, slicers show the current filter, so you'll know exactly what data you're looking at.

Slicers are easy-to-use filtering components that contain a set of buttons that enable you to quickly filter the data in a PivotTable report, without the need to open drop-down lists to find the items that you want to filter. When you use a regular PivotTable report filter to filter on multiple items, the filter indicates only that multiple items are filtered, and you have to open a drop-down list to find the filtering details. However, a slicer clearly labels the filter that is applied and provides details so that you can easily understand the data that is displayed in the filtered PivotTable report.
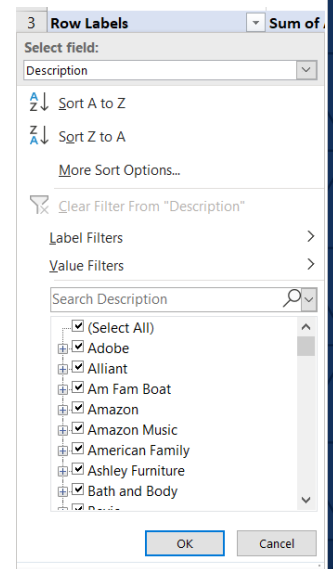
Add Slicers
To add a Slicer to a Pivot Table:

1. From the Filter Group on the Analyze tab of the Ribbon, click on the Insert Slicer Icon.
2. Select the fields you want to filter by then click OK. This will open a separate window for each field you choose.
3. Click on entries from each of the Slicer windows to filter by that item. Use the CTRL key to select multiple items.
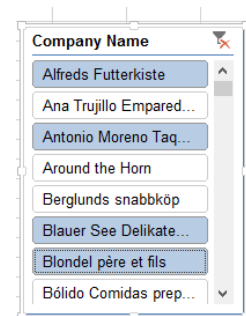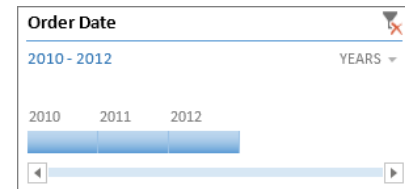
Filter with Timeline

Instead of adjusting filters to show dates, you can use a PivotTable Timeline—a dynamic filter option that lets you easily filter by date/time and zoom in on the period you want with a slider control.

Much like a slicer for filtering data, you can insert a Timeline one time, and then keep it with your PivotTable to change the range of time whenever you like.

1. Click anywhere in a PivotTable to show the PivotTable Tools ribbon group,
2. Click the Analyze tab then Insert Timeline.
3. Choose one or more "date" fields from the list then click OK.

With your Timeline in place, you're ready to filter by a time period in one of four-time levels (years, quarters, months, or days).

Drag the Timeline scroll bar to the time period you want to analyze.

Consolidate Multiple Worksheets into One PivotTable

Consolidating data is a useful way to combine data from different sources into one report. For example, if you have a PivotTable of expense figures for each of your regional offices, you can use data consolidation to roll up these figures into a corporate expense report. This report can contain sales totals and averages, current inventory levels, and highest selling products for the whole enterprise.

PivotTables are great for analyzing and reporting on your data. And when your data happens to be relational—meaning it's stored in separate tables you can bring together on common values—you can build a PivotTable.

Create a PivotTable using Data Model

1. Prepare the data in each worksheet. Each sheet should have a primary key (unique identifier) for each record.
2. Turn each range into a Table.
3. Name the Tables on each sheet.
4. Create a PivotTable and choose Add this data to the Data Model.
5. In the PivotTable Field List on the right, click All.
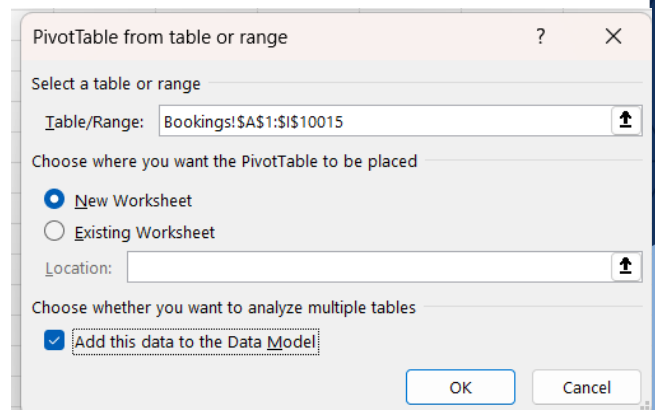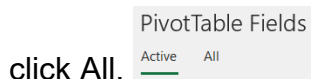
6. From the PivotTable Analze tab of the ribbon, click Relationships.
7. Create New and choose the table and field for each sheet you want to connect.
8. Add fields from any of the tables.

Visualizing Data with Charts

Using visual aids like financial charts and graphs can simplify complex data and make it more accessible. But with so many types of visuals available, it can be difficult to know which is the best fit for your needs.

Bar chart - A bar chart uses rectangular **bars** to represent different **categories of data**. The height or length of the bars signifies the **values**.

- Best for: Comparing metrics across different categories like revenue by product line, expense by department, or financial KPIs over time.

Line graph - A line chart, one of the commonly used financial graphs, displays data as points connected by straight-line segments. It is ideal for showing trends and changes over time.

- Best for: Visualizing time-series financial data as an expense graph such as revenue, profit/loss, cash flow, or other metrics over a period. Allows you to see increases, decreases, and anomalies. Great for illustrating trends and time-series data.

Pie chart - A pie chart divides data into proportional slices of a circular "pie" to represent percentages or proportions of a whole.

- Best for: Pie charts are useful for depicting changes over time. They're also widely used to show the breakdown of a whole into parts, like revenue by region, expense categories, or allocation of a budget. Helps see the size of components and their relationship to the whole.

Waterfall chart - A waterfall chart shows how positive and negative values contribute to a final total through cascading levels.

- Best for: Understanding the incremental buildup or breakdown of a financial metric like analyzing sources of net income changes from one period to the next. Excellent for visualizing the cumulative effect of sequentially introduced positive or negative values, typically used for understanding the incremental contribution of different factors to a final value.

Box and whisker plot - This chart plots statistical distributions by showing the median, quartiles, extremes and outliers of the dataset.

- Best for: Understanding the distribution, spread and skew of financial data like revenue per customer. Allows you to see central tendencies and anomalies. Ideal for displaying the distribution of data, highlighting outliers, and showcasing the central tendency and dispersion of a dataset.

Best to use Recommended Charts to make sure you are seeing the best options for your data set.

Create Charts

To create a professional-looking chart that displays the details that you want, you can modify the chart, apply predefined styles and layouts, and add eye-catching formatting. You can also reuse a favorite chart by saving it as a chart template.

To create a Chart:
1. Select your data
2. Go to the Insert Tab and choose one of the Chart Types in the Chart Group.
3. Once your chart has been created you now can use the contextual tools for formatting the chart.

PivotChart

If your data is in a PivotTable, you can create a chart by going to the PivotTable

Analyze tab of the ribbon, in the Tools group, click PivotChart .

The Chart will have the same options as a regular chart with the exception of the data connected directly to the PivotTable. If you filter the PivotTable, it will also filter the PivotChart.

Using Sparklines

A Sparkline is a tiny chart in a worksheet cell that provides a visual representation of data. Use Sparkline to show trends in a series of values, such as seasonal increases or decreases, economic cycles, or to highlight maximum and minimum values. Position a Sparkline near its data for greatest impact. Unlike charts on an Excel worksheet, Sparkline are not objects. A Sparkline is actually a tiny chart in the background of a cell.

Because a Sparkline is a tiny chart embedded in a cell, you can enter text in a cell and use a Sparkline as its background.

You can quickly see the relationship between a Sparkline and its underlying data, and when your data changes you can see the change in the Sparkline immediately. In addition to creating a single Sparkline for a row or column of data, you can create several Sparkline's at the same time by selecting multiple cells that correspond to underlying data.

Create a Sparkline

1. Select an empty cell or group of empty cells in which you want to insert one or more Sparkline's.
2. On the Insert tab, in the Sparkline's group, click the type of Sparkline that you want to create: Line, Column, or Win/Loss.
3. In the Data box, type the range of the cells that contain the data on which you want to base Sparkline's.
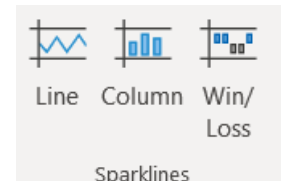
Creating Dynamic Financial Dashboards

Dashboards provide a comprehensive snapshot of your company's financial health. They help in making swift, informed decisions. Here's how to build one:

- **Use PivotTables:** Organize large data sets with dynamic filters.

- **Incorporate Charts:** Choose the right chart types for your data.

- **Implement Slicers & Timelines:** Create interactive elements for quick data navigation.

Keep the design **clean and user-friendly**. Focus on key metrics that matter most to the business.

Visualizing Trends and Performances

Understanding data patterns is crucial. **Excel charts** are great for this. Here's how you can visualize data effectively:

1. **Choose The Right Chart:** Match your visualization to the story you want to tell.

2. **Customize Your Charts:** Use colors and labels for better clarity.

3. **Use Conditional Formatting:** Highlight critical data points automatically.

This approach transforms rows of data into visual trends that prompt action and strategic planning.

Data Management Strategies

Data management strategies are crucial for Chief Financial Officers (CFOs) who juggle vast amounts of financial data daily. Mastering these strategies in Excel can streamline the process, saving time and reducing errors. This guide dives into efficient strategies for handling large datasets, alongside ensuring data validation and security.

Handling Large Data Sets Efficiently

Large data sets can be intimidating. Here are some tips to manage them with ease:

- **Use Pivot Tables:** Summarize your data for quick analysis.

- **Opt for Data Models:** Combine different data sources efficiently.

- **Apply Conditional Formatting:** Highlight key figures instantly.

Remember to sort and filter your data. This helps you focus on important details.

New Excel Features

New Check Box

Checkboxes make our files interactive and easier to use, and they're also a lot of fun! This new way of adding checkboxes is much easier compared to the old Form/ActiveX controls.

When combined with conditional formatting or integrated into formulas, checkboxes can open a lot of possibilities for creating useful spreadsheet-based applications.

Add a Checkbox

1. Select the cell where you want to insert it.
2. From the Insert tab, click Checkbox.

If you have multiple cells selected, they will each have a checkbox.

When you add a checkbox, it is unchecked by default, and the value of the cell is FALSE. When you check the box, the value changes to TRUE.

New Navigation

Microsoft introduced the Navigation pane to provide a better Excel experience to those with disabilities, those using an unfamiliar workbook, and those who have tons of sheets in a workbook. The tool offers a way to quickly move to a sheet, chart, table, or object as well as a search to find exactly what you need in a flash.

To open the Navigation pane, go to the View tab and click Navigation in the Show section of the ribbon.
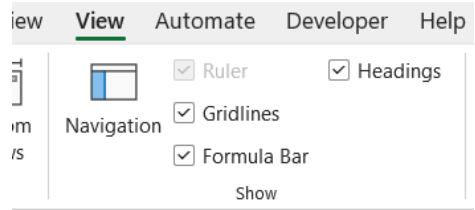
You'll then see the pane on the right side of the Excel window.

New Sheet View

Have you ever collaborated with someone else in a worksheet, looking at a large data set, and suddenly the table shrinks and you're unable to finish your work? Often, this happens when someone adds filters to or sorts a column in a table of your worksheet. We love all the benefits of collaboration, but it does mean that when collaborating, everyone's changes are immediately seen in the document by you. We realize that our users want to collaborate in a document, but also accomplish their own tasks while sorting or filtering data in a table.

Sheet View on Excel is a new way of letting you create customized views in an Excel worksheet to sort and filter your data. You can filter to display only the records that are important to you without being affected by others collaborating in the document. All your cell level edits propagate through the file regardless of your view, so you can make all your in-cell edits in your Sheet View, too.

Sheet Views are temporary initially, so once you're done with your work, you can choose to save the view to reuse later or discard it. To discard, simply exit Sheet View. Views can be accessed again in the document later once saved. All you need to do is click on the View tab and find the Sheet View you saved in the drop-down list on the left side of the ribbon.