Excel 2013 What's New and Different

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1. Introduction

Excel 2013 has been out for a couple of years and more and more people are now using it. Excel 2016 is due out in the second half of 2015 and many organisations have a policy of updating to the version before the latest version. So it is likely Excel 2013 will start to get rolled out even more.

I must admit I don't use it much, I still prefer Excel 2010 and do all of my work with it. This will be the first webinar that I use Excel 2013. This is not meant as a complete review of all the new features or changes but just a run though of the ones I see as useful or worthy of mention.

Downside

I have heard stories of Excel 2013 running a lot slower than Excel 2010 for some files. I have experienced more lock ups / freezes with 2013 than 2010.

Interface Changes

The Excel screen has been modified slightly to make it more user friendly for tablets and touch screens. This has meant it is now squarer and lines are vertical or horizontal rather than on an angle – eg the sheet tabs at the bottom of the screen. The icon colours have also been changed and have a more washed out appearance.

Charts

Unfortunately there are no new charts in Excel 2013 but they have added a chart help feature to assist you in choosing the right chart. Excel 2016 does have new charts. Most notably a waterfall chart has been added.

Power to the People (Users)

Microsoft sees Excel as the interface between the user and their data. To enable this it has included a number of "Power" features. Some of these are free add-ins to Excel 2010.

PowerPivot

The most impressive new feature is PowerPivot. PowerPivot was a free add-in for Excel 2010 but it is included with Excel 2013. This allows you to report on huge data sets and work with multiple relational data bases in one report.

Power Query

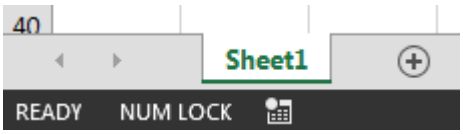
This works with PowerPivot but it can be used as a standalone feature and is a separate free downloadable Add-in.

The other Power features are Power View and Power Map.

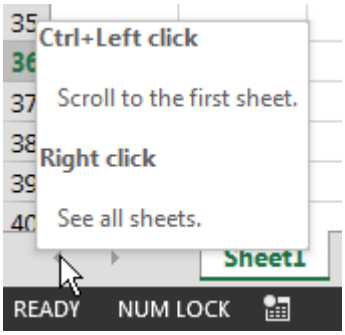
These new Power features are extensive and I only plan to demonstrate one aspect of PowerPivot.

Screen Interface – Sheets

How you navigate around the sheets has changed slightly. There are only 2 buttons on the bottom left of the screen - left of the sheet tabs.



To select the first sheet, or last sheet, you must hold the Ctrl key down whilst using the mouse to click the left arrow icon or right arrow icon respectively.



Right clicking will bring up a list all the sheets. Previously it would list 15 of them with a more option.

To add a new sheet click the plus icon in the circle to the right of the last sheet tab.

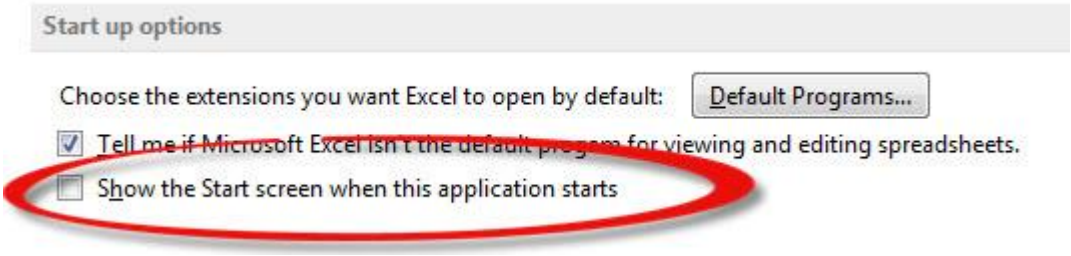
Multi-Screen Support

It has been requested for many years and Excel 2013 finally provides the ability to display separate files on separate screens (like Microsoft Word has done for years).

Start Screen

One annoying option that is turned on when you install the new Excel is the displaying of the Start Screen each time Excel opens. This screen lists built-in templates. If you don't want it displayed you can turn it off via a setting.

To get to Excel Options quickly, press in sequence Alt t o (not held down). At the bottom of the dialog untick the Start screen option and click OK. It won't show again.



2. New Functions

There are a number of new functions, many of them statistical or engineering based, but there are a few useful ones for accountants.

IFNA Function

This function tests for #N/A errors. #N/A errors are returned by lookup functions like VLOOKUP or MATCH, when they can't find what they are looking for. Oftentimes you need to handle #N/A errors differently to other function errors and this function now makes that easier.

The example to the right has the existing technique to handle #N/A errors differently in cell E2 and the new way in cell E3.

The two formulas are shown below

	A	B	C	D	E
1	**Code**	**Price**		**Input Code**	**Price**
2	1234	16			Missing Code
3	1235	15			Missing Code
4	1236	22			
5	1237	23			
6	1238	24			
7	1239	20			
8	1240	25			
9	1241	17			
10	1242	16			

Cell E2
=IF(ISNA(VLOOKUP(D2,$A$2:$B$10,2,0)),"MissingCode",IFERROR(VLOOKUP(D2,$A$2:$B$10,2,0), "Error"))

Cell E3
=IFERROR(IFNA(VLOOKUP(D3,$A$2:$B$10,2,0),"Missing Code"),"Error")

The IFNA function is used within an IFERROR function to create an error handler for #N/A errors separately to general errors. This leads to a much shorter formula.

NOTE: The IFERROR function was added in Excel 2007.

ISFORMULA Function

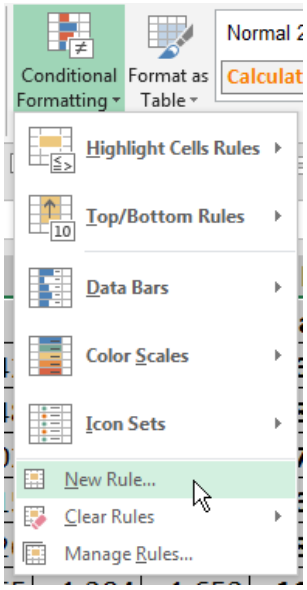
This function returns TRUE when a cell contains a formula eg starts with a = sign. It returns FALSE for all other cell types. This can be useful when applying a conditional format for formula cells.

You can use Excel's Goto Feature to identify formula cells, but this is not dynamic. Let's say you wanted to highlight all the formula cells in a range with a light grey.

Looking at the report below you might think you will know where all the formula cells are – eg row 9 and column N.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
2	Product 1	1,169	1,253	1,231	1,542	1,348	1,124	1,180	1,244	1,902	1,542	1,391	1,183	**16,109**
3	Product 2	1,848	1,305	1,591	1,404	1,210	1,278	1,780	1,770	1,324	1,848	1,747	1,658	**18,763**
4	Product 3	1,177	1,507	1,014	1,890	1,625	1,968	1,125	1,258	1,757	1,102	1,217	1,432	**17,072**
5	Product 4	1,119	1,045	1,122	1,782	1,848	1,997	1,382	1,061	1,060	1,015	1,613	1,708	**16,752**
6	Product 5	1,613	1,467	1,406	1,517	1,349	1,719	1,738	1,840	1,105	1,126	1,911	1,407	**18,198**
7	Product 6	1,403	1,880	1,716	1,001	1,380	1,089	1,567	1,224	1,380	1,265	1,204	1,652	**16,761**
8	Product 7	1,746	1,219	1,975	1,371	1,456	1,858	1,012	1,508	1,857	1,157	1,988	1,117	**18,264**
9	**Total**	**10,075**	**9,676**	**10,055**	**10,507**	**10,216**	**11,033**	**9,784**	**9,905**	**10,385**	**9,055**	**11,071**	**10,157**	**121,919**

Let's apply a conditional format to see if that is correct.



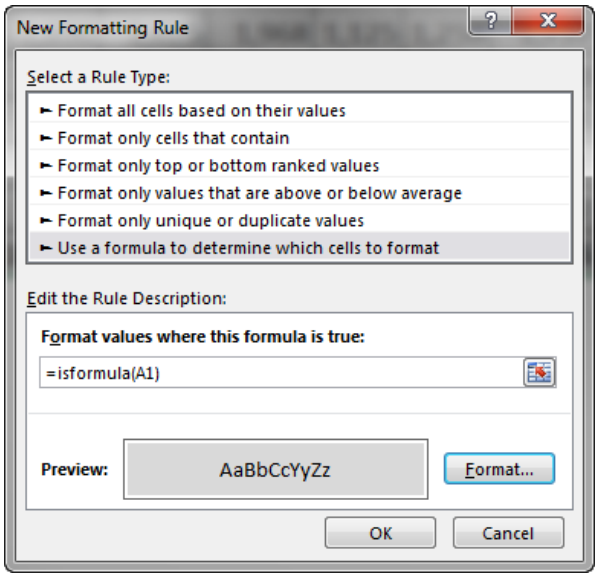
1. Select the report range A1:N9 and click the Conditional Formatting icon on the Home Ribbon tab and select New Rule.

2. Select the last option in the top section of the dialog and type the following formula as shown below.

   =ISFORMULA(A1)

3. Click the Format button and then the Fill tab and select the light grey colour and click OK.

4. Click OK once the dialog looks the same as the one below.



You should see some grey cells highlighted in the body of the report and some cells in row 9 and column N are not grey as they contain values.

Note cell L3. This has a formula but the formula just adds two numbers together. Even though this cell won't change when Excel calculates it is still treated as a formula as it starts with the = sign.

NOTE: I used cell A1 (relative reference) in the above formula so that the condition is applied correctly to the whole range. You need to refer to the top left cell of the range selected.

FORMULATEXT Function

This function displays the formula from a cell. It returns the #N/A error if the cell doesn't contain a formula. Again this can be useful for applying specific conditional formats to different formula types eg SUBTOTAL functions. It is also useful for training and documentation purposes.

The table on the right shows its results.

The formula in cell D2 that has been copied down is

=FORMULATEXT(C2)

Note: cell C7 is blank. The FORMULTEXT function return #N/A for blank cells and cells that don't contain a formula.

	A	B	C	D
1	**Values**	**Values**	**Formulas**	**FORMULATEXT**
2	102	121	223	=+B2+A2
3	707	88	795	=SUM(A3:B3)
4	64	862	453.25	=AVERAGE(A2:B7)
5	686	799	1485	=+A5+B5
6	593	650	12	=COUNTA(A2:B7)
7	565	202		#N/A

Again this can be used with a Conditional Format to format specific functions with a format.

The ISFORMULA function allowed us to identify formulas, but using the FORMULATEXT function with the FIND function can allow us to identify certain functions and apply a format.

See the image on the right.

There are SUM formulas in column J and row 6.

We can use a Conditional Format to make all the SUM function cells bold.

	E	F	G	H	I	J
1			**Jan**	**Feb**	**Mar**	**Total**
2		Product 1	1,169	1,253	1,231	3,653
3		Product 2	1,848	1,305	1,591	4,744
4		Product 3	1,177	1,507	1,014	3,698
5		Product 4	1,119	1,045	1,122	3,286
6		Total	5,313	5,110	4,958	15,381

1. Select the report range F1:J6 and click the Conditional Formatting icon on the Home Ribbon tab and select New Rule.

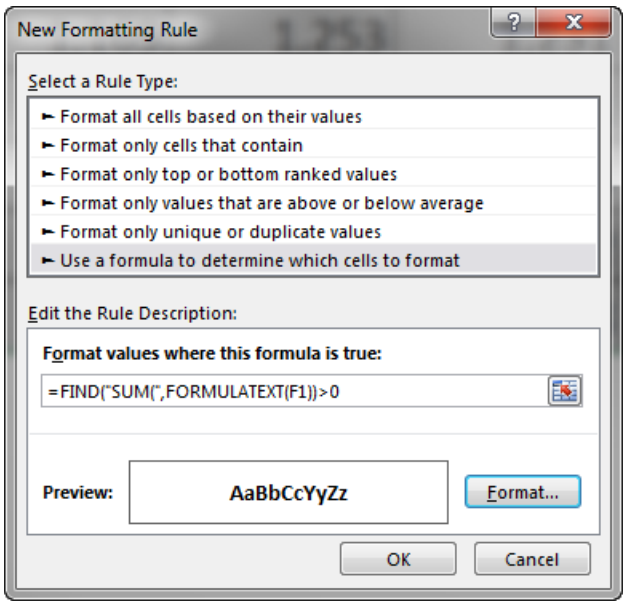
2. Select the last option in the top section of the dialog and type the following formula as shown below.

   =FIND("SUM(",FORMULATEXT(F1))>0

3. Click the Format button and then the Font tab and select Bold and click OK.

4. Click OK once the dialog looks the same as the one on the right

	E	F	G	H	I	J
1			**Jan**	**Feb**	**Mar**	**Total**
2		Product 1	1,169	1,253	1,231	**3,653**
3		Product 2	1,848	1,305	1,591	**4,744**
4		Product 3	1,177	1,507	1,014	**3,698**
5		Product 4	1,119	1,045	1,122	**3,286**
6		Total	**5,313**	**5,110**	**4,958**	**15,381**



NOTE: The FIND function returns a number that is the character positions of the text being searched for. It is case sensitive. The SEARCH function does the same, but is case insensitive.

3. Flash Fill

I heard a story that the idea behind Flash Fill started on a plane trip where two Microsoft employees were seated next to each other. One from the Excel team and one from the Artificial Intelligence (AI) team. The Excel guy was on his laptop, in Excel extracting first names and last names using formulas. The AI guy asked what he was doing, the Excel guy explained and the AI guy said AI can do that pretty easily – so the idea of Flash Fill was born.

Flash Fill watches what you are doing and it tries to figure out rules and then apply those rules to similar cells, usually in a table layout.

Unfortunately it is not perfect and you may not want to use it for mission critical work. It can save time and effort for ad-hoc reports.

One downside is that whilst it will populate a large range it doesn't automatically extend if extra entries are added, you must extend entries manually.

Another problem is that because it doesn't use formulas, it is not obvious if the user needs to make extra inputs, which may lead to more errors.

Example

See the image on the right.

	A	B	C	D	E
1	**First**	**Middle**	**Last**	**Full Name**	**First and Last**
2	Fred	John	Tan		
3	Mary	Joan	Smith		
4	Susan	May	Jones		
5	John	George	Brown		
6	Jessica	Susan	Ng		

If you type the first entry in cell D2 and then type M in D3 see what happens.

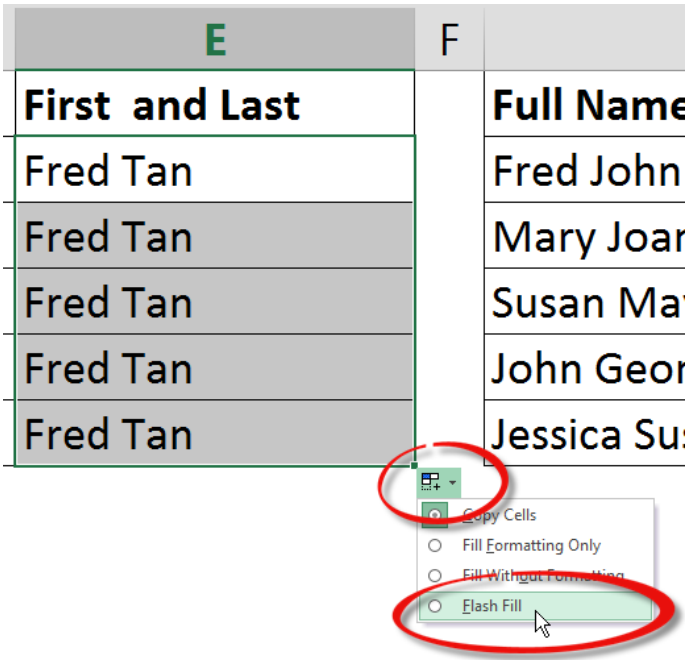
	A	B	C	D	E
1	**First**	**Middle**	**Last**	**Full Name**	**First and Last**
2	Fred	John	Tan	Fred John Tan	
3	Mary	Joan	Smith	Mary Joan Smith	
4	Susan	May	Jones	Susan May Jones	
5	John	George	Brown	John George Brown	
6	Jessica	Susan	Ng	Jessica Susan Ng	

Press Enter to populate the rest of the range.

In cell E2 type the first entry and type M in cell E3 and again Excel fills in the other cells when you press Enter.

	A	B	C	D	E
1	**First**	**Middle**	**Last**	**Full Name**	**First and Last**
2	Fred	John	Tan	Fred John Tan	Fred Tan
3	Mary	Joan	Smith	Mary Joan Smith	Mary Smith
4	Susan	May	Jones	Susan May Jones	Susan Jones
5	John	George	Brown	John George Brown	John Brown
6	Jessica	Susan	Ng	Jessica Susan Ng	Jessica Ng

You can also enter the first entry and drag the Fill Handle (small black cross on the bottom right of the cell) and use the paste options at the bottom to select Flash Fill – see image on right.



You can also extract entries from a text string see example below.

G	H
Full Name	**Middle**
Fred John Tan	John
Mary Joan Smith	joan
Susan May Jones	May
John George Brown	George
Jessica Susan Ng	Susan

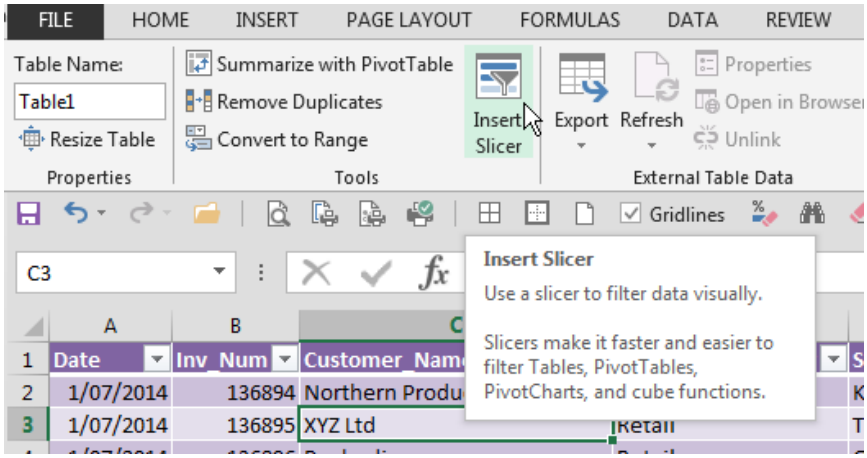
You needed to type joa to get the Flash Fill to work because "jo" matches the first two letters of "John" from the cell above.

NOTE: If there are missing entries in the tables you may experience unreliable results.

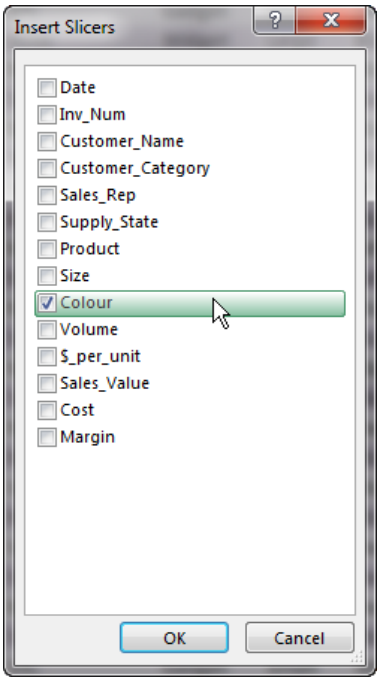
4. Slicers

Slicers were added in Excel 2010 to enable better filtering with Pivot Tables. Their use has been extended in Excel 2013 to Tables and a new type of Slicer has also been added.

When a cell in a Table is selected you can click the Design ribbon tab and click the Insert Slicer icon.

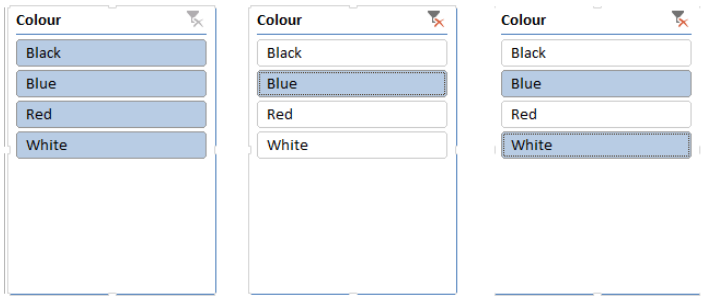


You then choose the field to filter with the Slicer and click OK.



You can select single or multiple entries via the Slicer - see examples below.

To select multiple entries hold down the Ctrl key whilst clicking the icons.

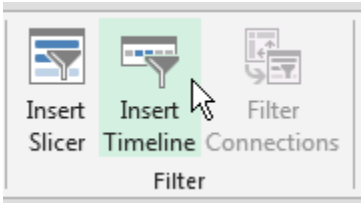


You can also use the Shift key and mouse to select multiple entries in the Slicer. Click the first entry, hold the Shift key down and click the last entry. This will fill in all the entries in between.

The small icon in the top right of the Slicer clears the Filter.

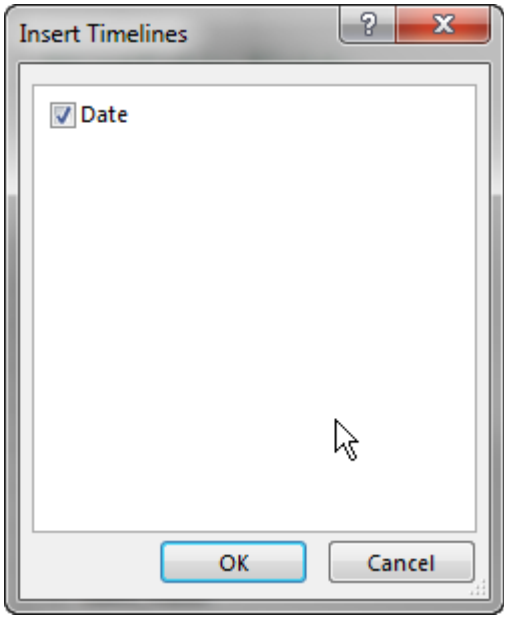
Timeline Slicer

The new type of Slicer that has been added for use on Pivot Tables (not Tables) is a Timeline.



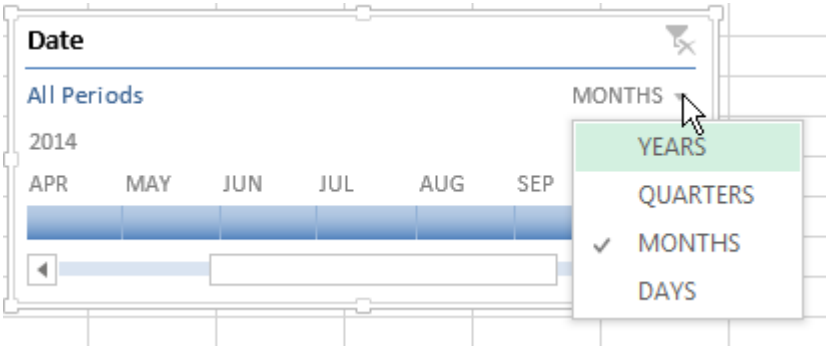
When a Pivot Table is selected the Analyze tab has the Insert Timeline icon.

All the date fields in the data will be listed to choose from – there is only one in this case.



This interface makes filtering by dates much easier than the traditional date based Filter.

The Months drop down at the top allows you to select how to filter.



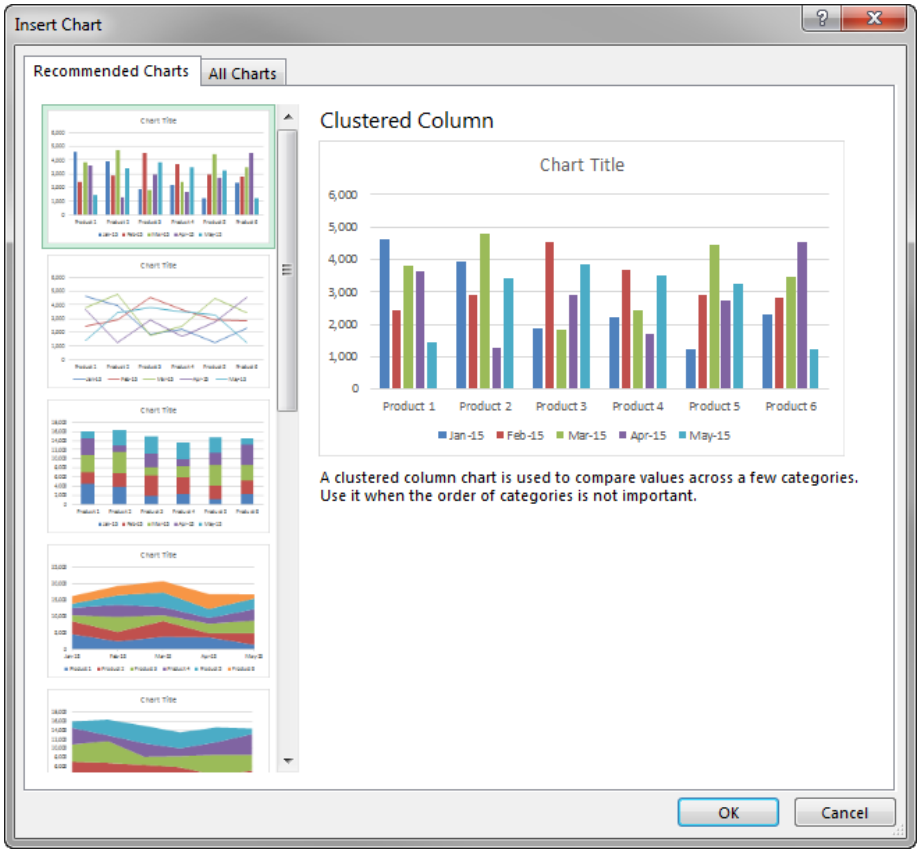
5. Charts

Another area where Artificial Intelligence (AI) has been applied is in the creation of charts and other reports.

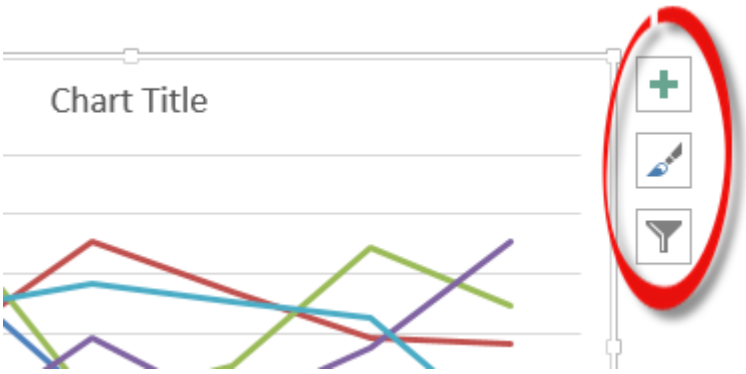
Excel now assists in the selection process by recommending charts and reports.

On the left you can see small examples of the recommended chart types.

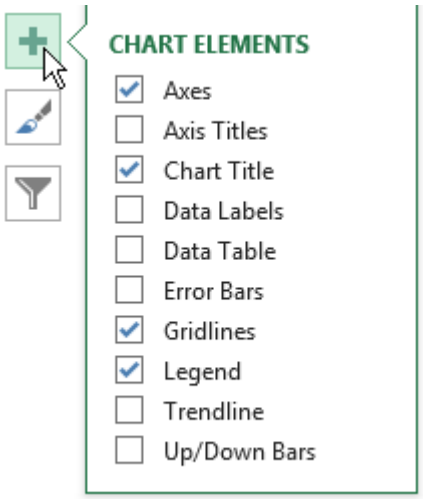
Selecting it on the left displays a bigger image on the right.

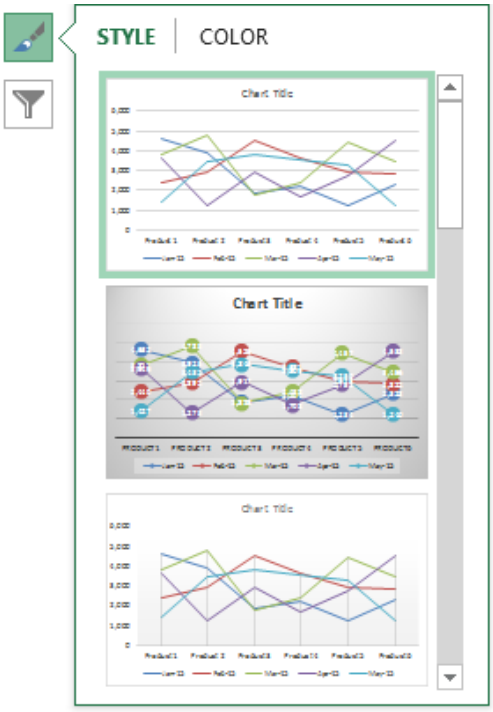


Once you have created the chart there are three new icons shown on the top right of the chart to help you amend the chart.



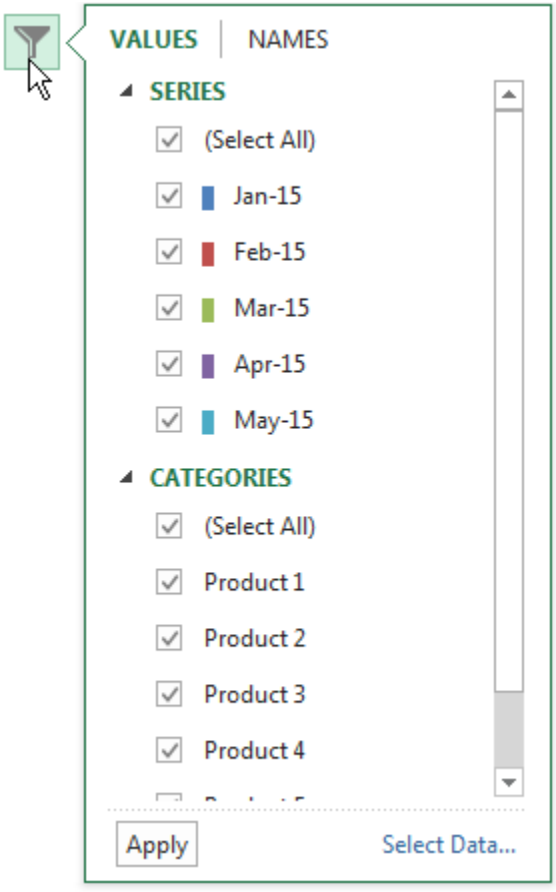
The menus of the three icons are shown on the following page.





There are now only two ribbon tabs to modify charts. The Design and Format ribbon tabs.

Click the Apply button to use the changes in the dialog below.



6. PowerPivot

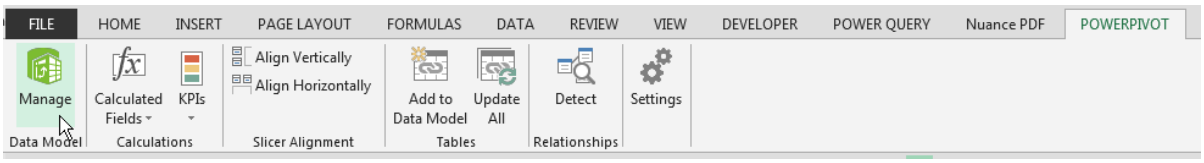
This is now the most powerful aspect of Excel's reporting features. It has taken Pivot Tables to a whole new level and allows Excel to produce reports just like a relational database.

You can use SQL (Structured Query Language) and there are new formula functions called Data Analysis Expression (DAX) functions which include many functions that work just like Excel's functions. DAX has many more functions that work specifically with databases and have built-in business logic like month to date; year to date and quarter to date.

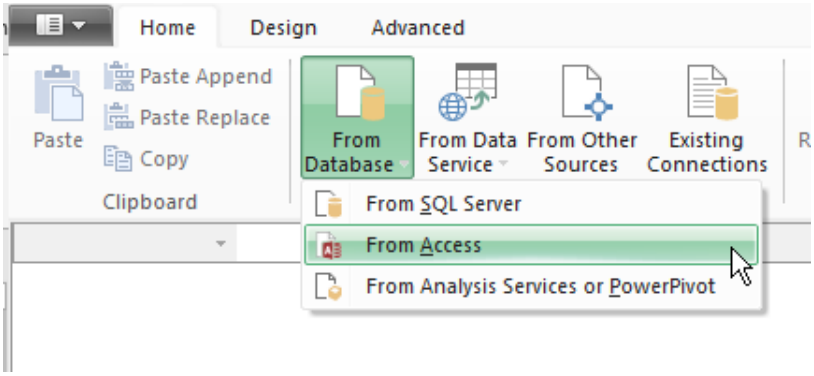
I will demonstrate one aspect of PowerPivot. This demonstrates the power of relational databases.

I will use the AdventureWorks relational database that Microsoft has created for training and demonstration purposes. It is an Access database, so it is simple to link to.

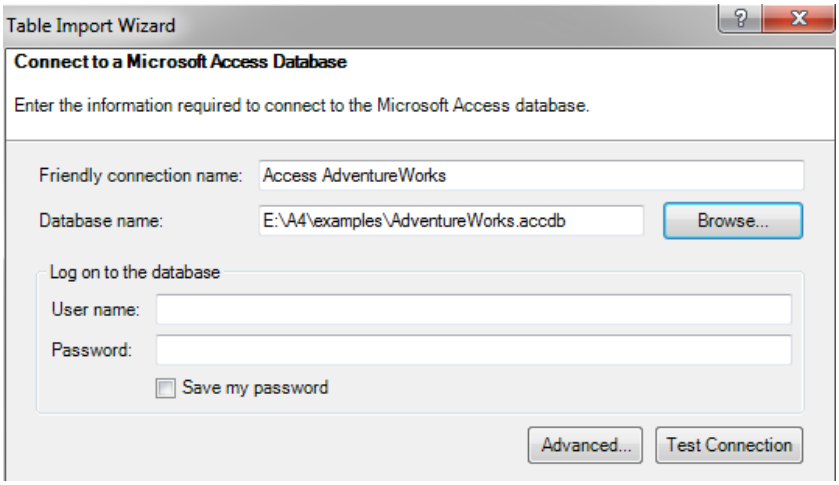
In the PowerPivot Tab click the Manage icon on the far left.



Use the From Database icon and select From Access



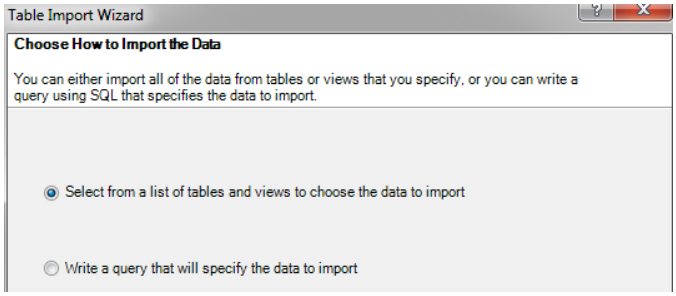
Use the Browse button to navigate to the database.



Click the Next button at the bottom of the dialog.

Use the top option to select multiple tables from the database.

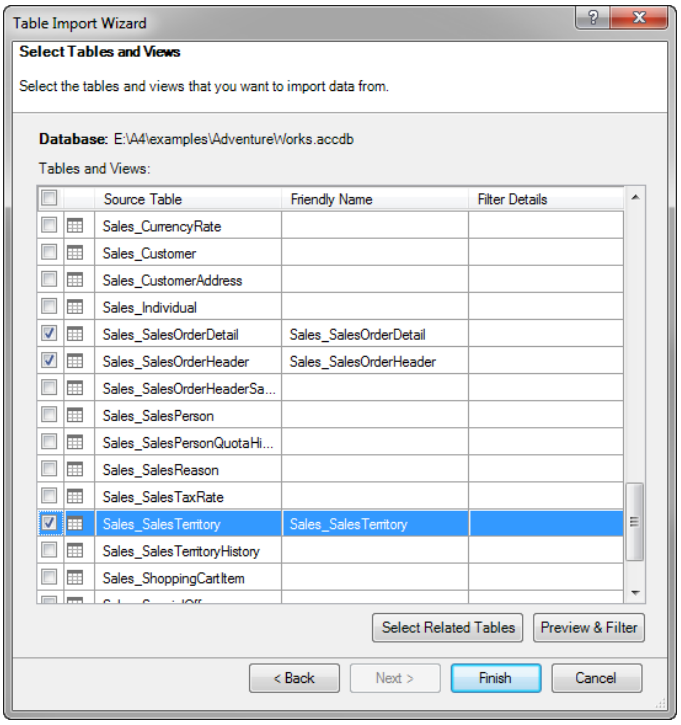
Click Next at the bottom.



I will select 4 tables.

The Product_Product table (not shown in the image) and the three ticked tables shown in the image on the right.

Click Finish to import the tables.

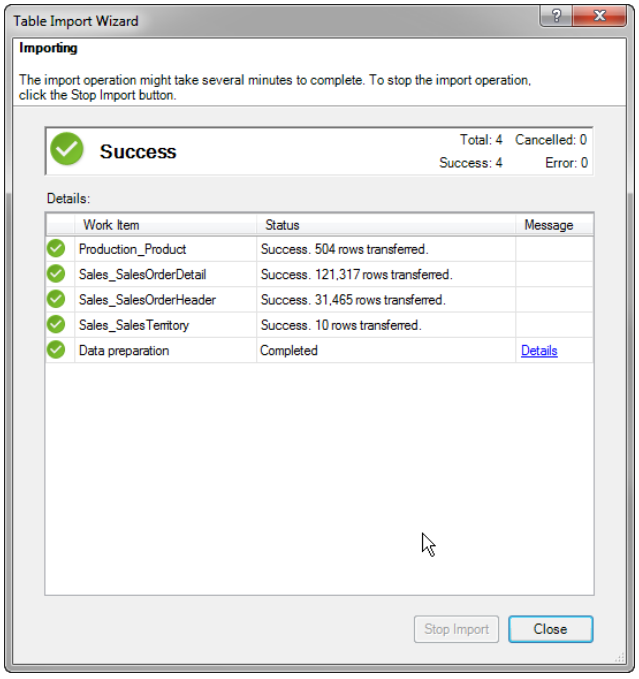


In the past you would have needed to have the database administrator create a View in the database to allow you to report on four tables.

Powerpivot puts the power back in your hands.

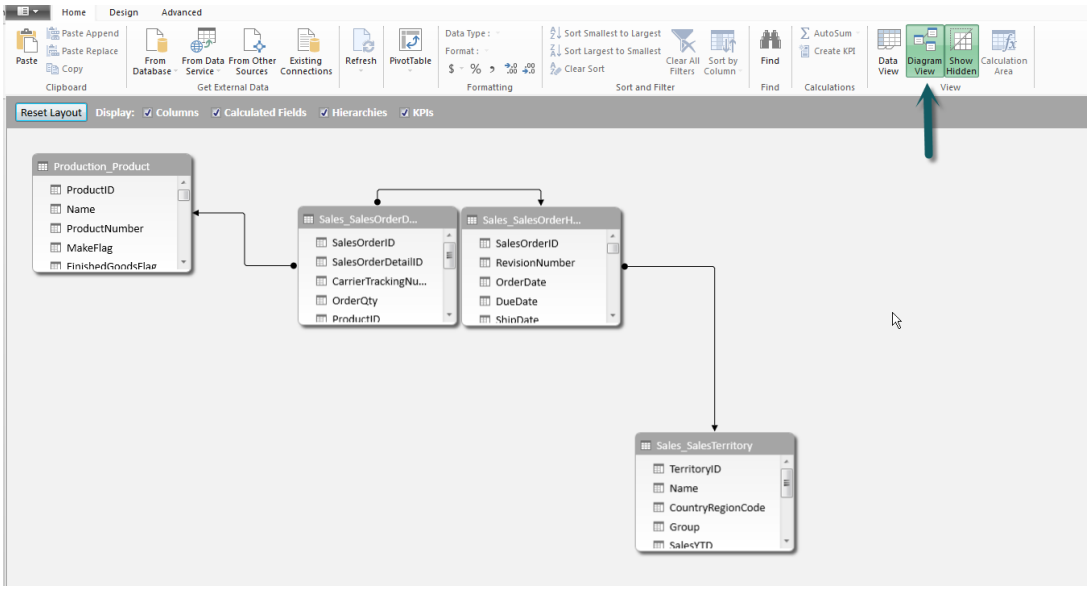
A dialog confirms the import.

Click Close to continue.



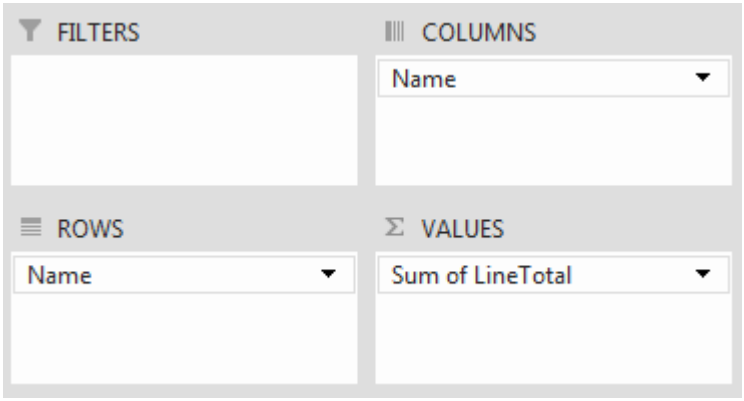
The tables are all imported and ready to report on.

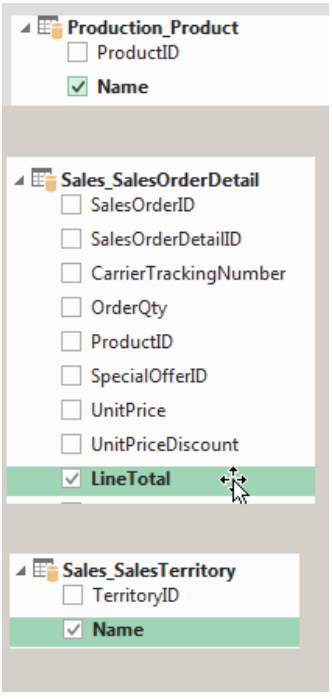
I prefer the Diagram View– see top right of screen shot below. This shows the field names in all the tables. The lines between the tables represent relationships. A relationship means the table shares a field.



I will create a pivot table report based on three of the tables and report on sales by product and territory.

The field selections from the tables are shown on the right. The layout is shown below, as is part of Pivot Table report.





Sum of LineTotal	Column Labels		
Row Labels	Australia	Canada	Central
All-Purpose Bike Stand	10335	5088	
AWC Logo Cap	4828.75375	9326.738185	3015.188214
Bike Wash - Dissolver	2286.42	3268.595595	816.16608
Cable Lock		4210.24	1620
Chain	850.08	1141.536	534.336
Classic Vest, L	2794	2044.7	38.1
Classic Vest, M	6803.7964	17620.3483	5578.6274
Classic Vest, S	11467.82695	28437.04625	10446.4231