OE Training Session

Using MS Excel to Enhance Data Visualization

BE BAT IE OE C

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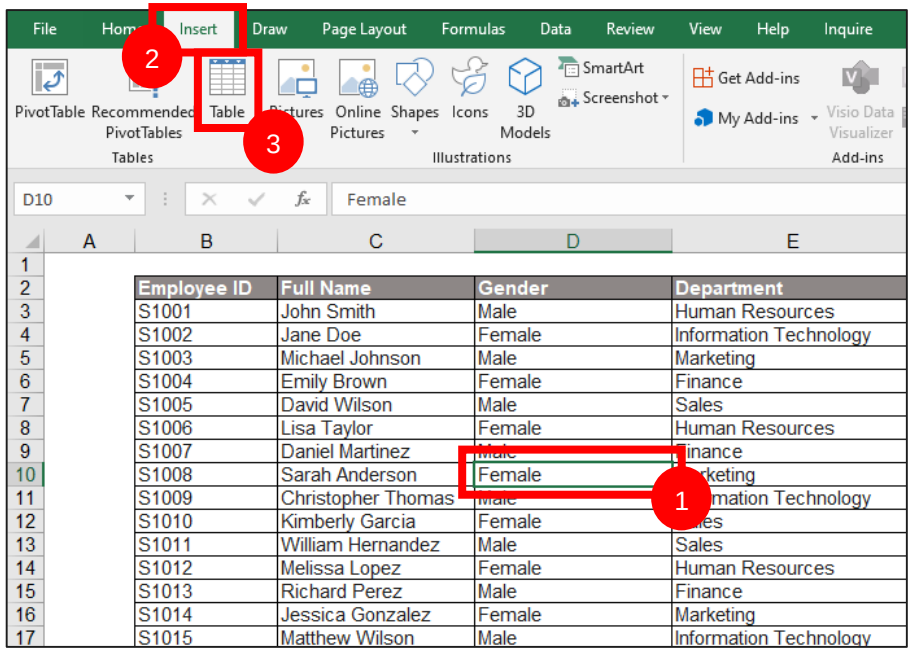
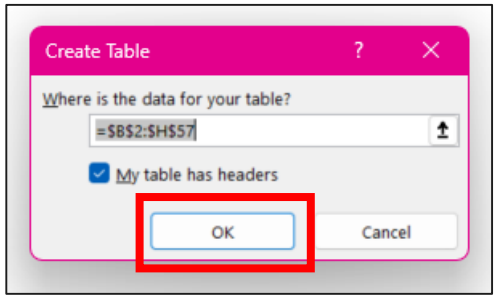
Step 1 of creating a pivot table or pivot chart: make a smart table!

1. Click on your table → click “Insert” → click “Table”:



Employee ID	Full Name	Gender	Department
S1001	John Smith	Male	Human Resources
S1002	Jane Doe	Female	Information Technology
S1003	Michael Johnson	Male	Marketing
S1004	Emily Brown	Female	Finance
S1005	David Wilson	Male	Sales
S1006	Lisa Taylor	Female	Human Resources
S1007	Daniel Martinez	Male	Finance
S1008	Sarah Anderson	Female	Marketing
S1009	Christopher Thomas	Male	Information Technology
S1010	Kimberly Garcia	Female	Sales
S1011	William Hernandez	Male	Sales
S1012	Melissa Lopez	Female	Human Resources
S1013	Richard Perez	Male	Finance
S1014	Jessica Gonzalez	Female	Marketing
S1015	Matthew Wilson	Male	Information Technology

2. Click “Ok” when this option appears:

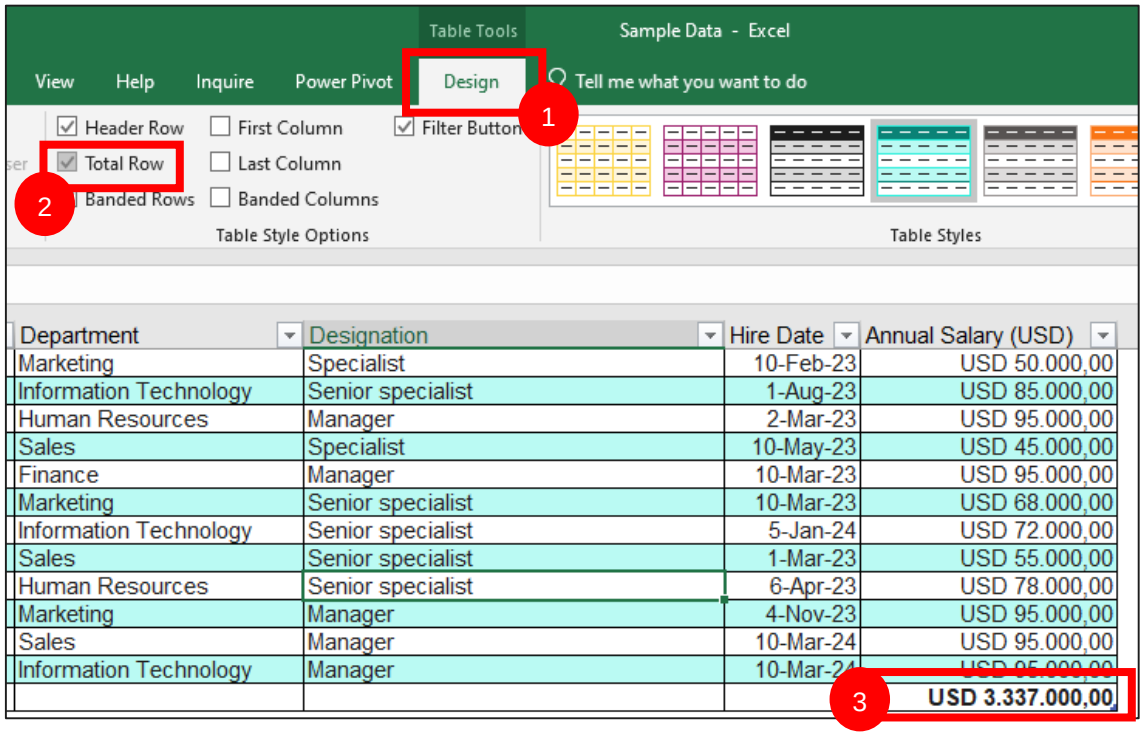


3. Well done! You have your smart table now!

Employee ID	Full Name	Gender	Department	Designation	Hire Date	Annual Salary (USD)
S1001	John Smith	Male	Human Resources	Senior specialist	1-Mar-23	USD 60.000,00
S1002	Jane Doe	Female	Information Technology	Specialist	10-Mar-24	USD 50.000,00
S1003	Michael Johnson	Male	Marketing	Senior specialist	10-Jan-23	USD 55.000,00
S1004	Emily Brown	Female	Finance	Specialist	10-Oct-23	USD 48.000,00
S1005	David Wilson	Male	Sales	Senior specialist	6-Apr-23	USD 60.000,00
S1006	Lisa Taylor	Female	Human Resources	Senior specialist	8-Sep-23	USD 65.000,00
S1007	Daniel Martinez	Male	Finance	Specialist	8-Sep-23	USD 45.000,00
S1008	Sarah Anderson	Female	Marketing	Senior specialist	10-Oct-23	USD 58.000,00
S1009	Christopher Thomas	Male	Information Technology	Senior specialist	2-Mar-23	USD 52.000,00
S1010	Kimberly Garcia	Female	Sales	Senior specialist	4-Dec-23	USD 56.000,00
S1011	William Hernandez	Male	Sales	Specialist	10-May-23	USD 48.000,00
S1012	Melissa Lopez	Female	Human Resources	Senior specialist	1-Mar-23	USD 65.000,00
S1013	Richard Perez	Male	Finance	Senior specialist	10-May-23	USD 70.000,00
S1014	Jessica Gonzalez	Female	Marketing	Senior specialist	3-Dec-23	USD 72.000,00
S1015	Matthew Wilson	Male	Information Technology	Senior specialist	3-Dec-23	USD 75.000,00
S1016	Amanda Martinez	Female	Sales	Specialist	1-Dec-23	USD 48.000,00
S1017	James Johnson	Male	Sales	Senior specialist	5-Jul-23	USD 68.000,00
S1018	Laura Brown	Female	Human Resources	Senior specialist	10-Mar-23	USD 70.000,00
S1019	Daniel Smith	Male	Marketing	Senior specialist	1-Mar-23	USD 72.000,00
S1020	Jennifer Davis	Female	Finance	Senior specialist	3-Dec-23	USD 75.000,00
S1021	Michael Garcia	Male	Information Technology	Specialist	10-Feb-23	USD 42.000,00
S1022	Amy Hernandez	Female	Marketing	Specialist	4-Nov-23	USD 48.000,00
S1023	Christopher Rodriguez	Male	Sales	Senior specialist	5-Jan-24	USD 60.000,00
S1024	Jessica Martinez	Female	Human Resources	Senior specialist	10-May-23	USD 55.000,00
S1025	David Wilson	Male	Sales	Senior specialist	10-May-23	USD 70.000,00
S1026	Sarah Smith	Female	Finance	Senior specialist	1-Mar-23	USD 55.000,00
S1027	Matthew Johnson	Male	Information Technology	Specialist	5-Jan-24	USD 50.000,00
S1028	Emily Davis	Female	Sales	Specialist	10-May-23	USD 48.000,00
S1029	Daniel Wilson	Male	Marketing	Senior specialist	29-Sep-23	USD 60.000,00
S1030	Jennifer Martinez	Female	Human Resources	Senior specialist	10-Jan-23	USD 62.000,00
S1031	Michael Smith	Male	Marketing	Specialist	4-Nov-23	USD 50.000,00
S1032	Jessica Johnson	Female	Finance	Specialist	3-Jun-23	USD 42.000,00
S1033	David Brown	Male	Information Technology	Specialist	10-May-23	USD 48.000,00
S1034	Sarah Garcia	Female	Sales	Specialist	10-May-23	USD 50.000,00
S1035	Matthew Hernandez	Male	Information Technology	Specialist	10-Jan-23	USD 48.000,00
S1036	Emily Rodriguez	Female	Human Resources	Specialist	10-May-23	USD 42.000,00
S1037	Daniel Davis	Male	Information Technology	Specialist	8-Sep-23	USD 40.000,00
S1038	Jennifer Smith	Female	Finance	Specialist	10-Oct-23	USD 42.000,00
S1039	Michael Johnson	Male	Marketing	Specialist	15-Dec-23	USD 40.000,00
S1040	Jessica Martinez	Female	Information Technology	Specialist	10-Jan-23	USD 42.000,00

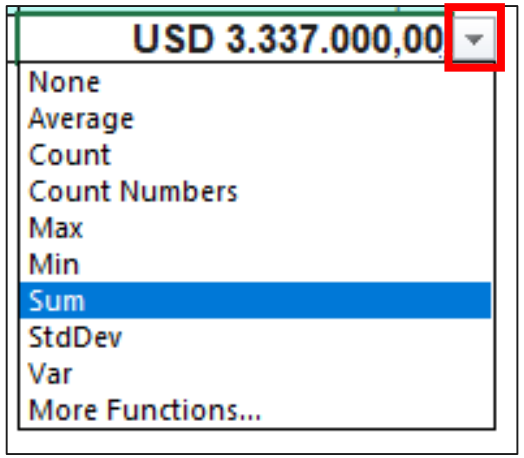
Step 1: smart table features

1. No more manual formulas and functions! Show the grand total of each column by clicking on your smart table first → click “Design” → tick the “Total Row” menu, and the “Total” row will automatically appear!



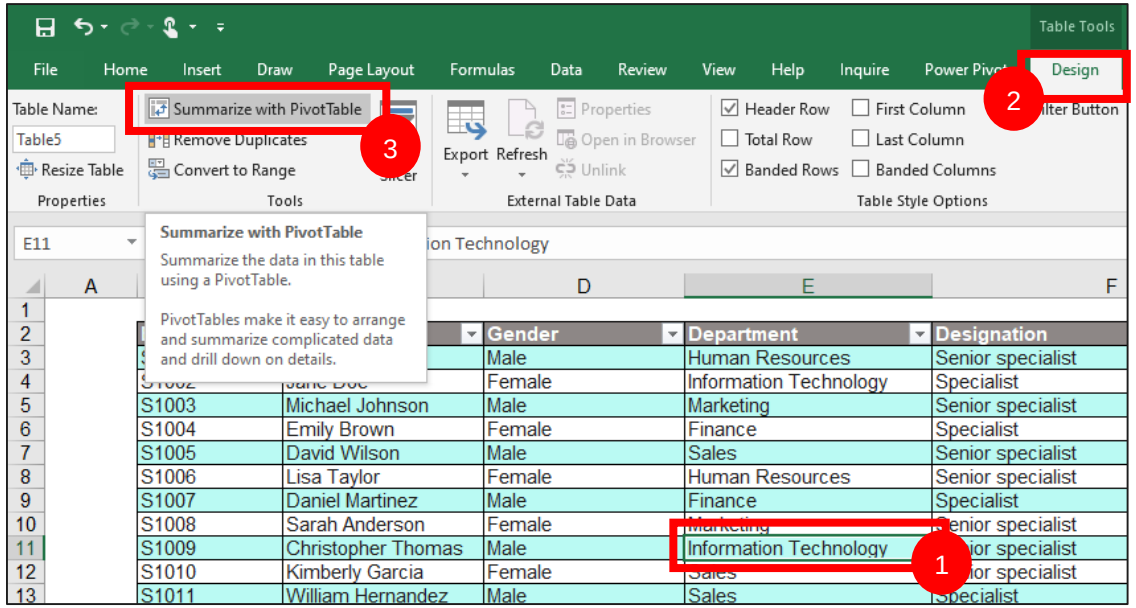
Department	Designation	Hire Date	Annual Salary (USD)
Marketing	Specialist	10-Feb-23	USD 50.000,00
Information Technology	Senior specialist	1-Aug-23	USD 85.000,00
Human Resources	Manager	2-Mar-23	USD 95.000,00
Sales	Specialist	10-May-23	USD 45.000,00
Finance	Manager	10-Mar-23	USD 95.000,00
Marketing	Senior specialist	10-Mar-23	USD 68.000,00
Information Technology	Senior specialist	5-Jan-24	USD 72.000,00
Sales	Senior specialist	1-Mar-23	USD 55.000,00
Human Resources	Senior specialist	6-Apr-23	USD 78.000,00
Marketing	Manager	4-Nov-23	USD 95.000,00
Sales	Manager	10-Mar-24	USD 95.000,00
Information Technology	Manager	10-Mar-24	USD 95.000,00
			USD 3.337.000,00

2. To choose your preferred functions, you can click on the dropdown triangle and click on your preferred functions. The cell will automatically calculate it!

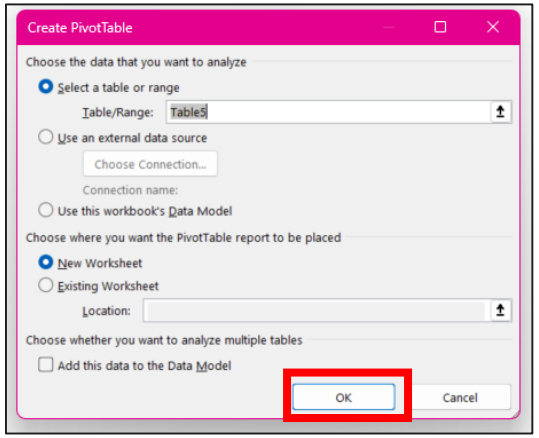


Step 2: start to build your pivot table

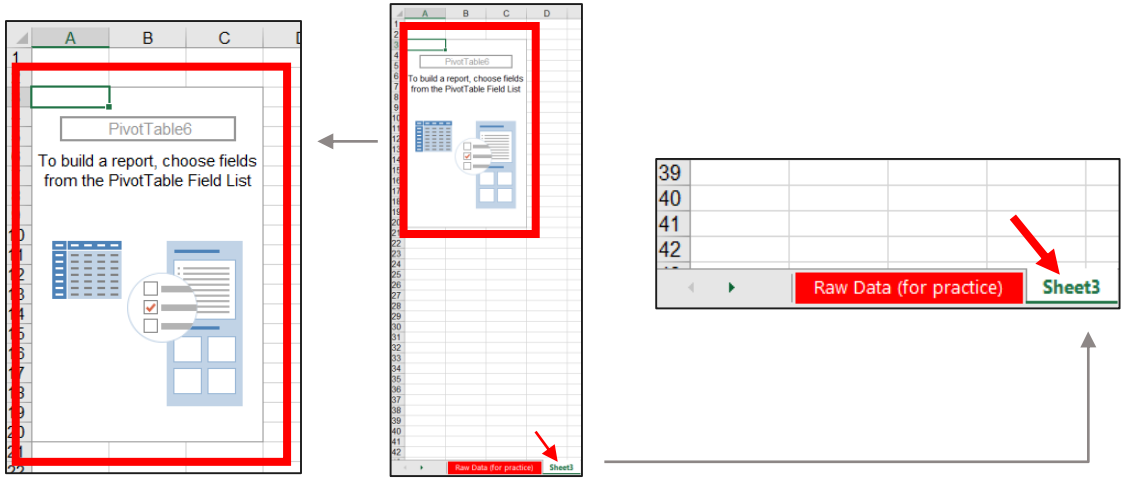
1. Click on your smart table → click “Design” → click “Summarize with PivotTable”



2. Before you click “Ok,” you can choose where you want to place your PivotTable. In this case, I want to put it in the “New Worksheet!

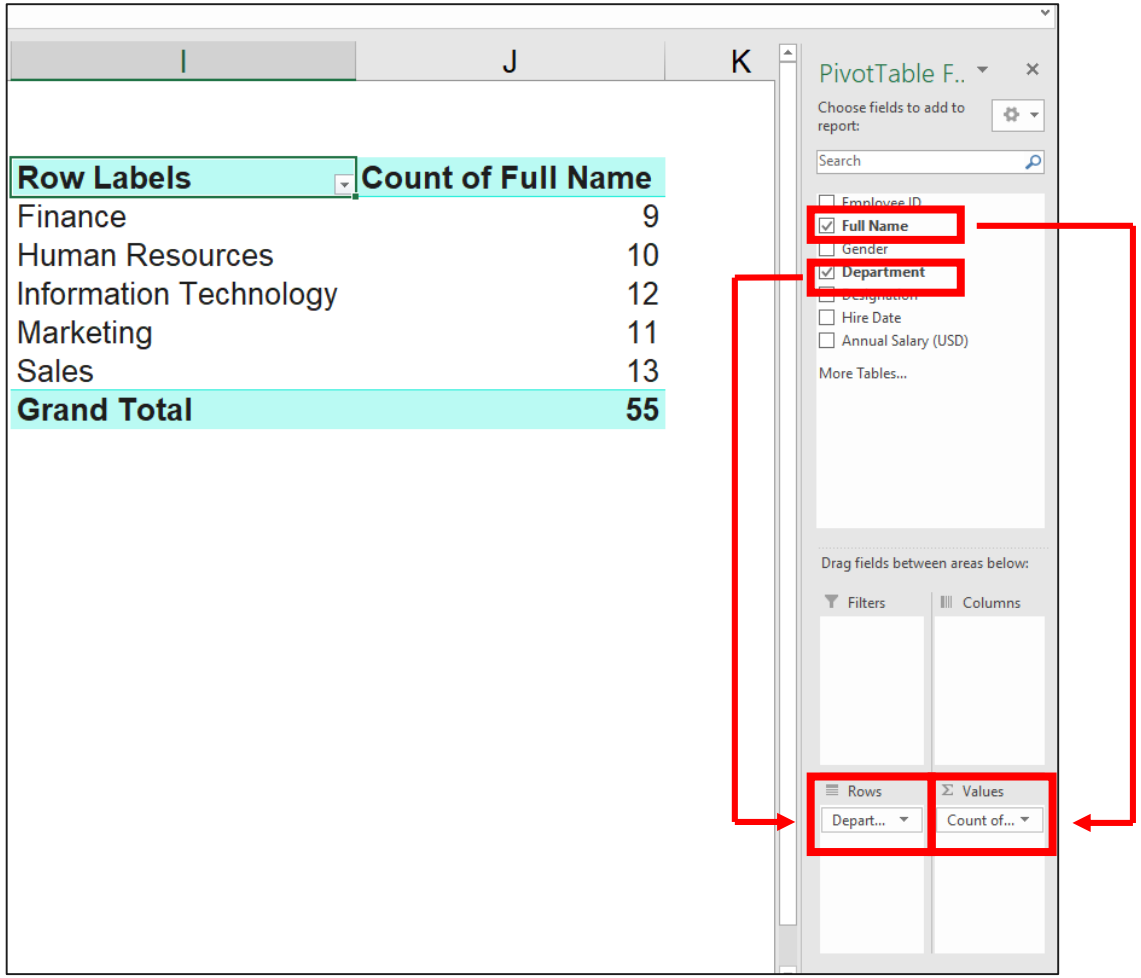


3. The PivotTable area will appear on the new worksheet!



Step 2: start to build your pivot table

4. Drag “Department” to “Rows” and “Full Name” to “Values” to summarize the PivotTable by the total of employee per department

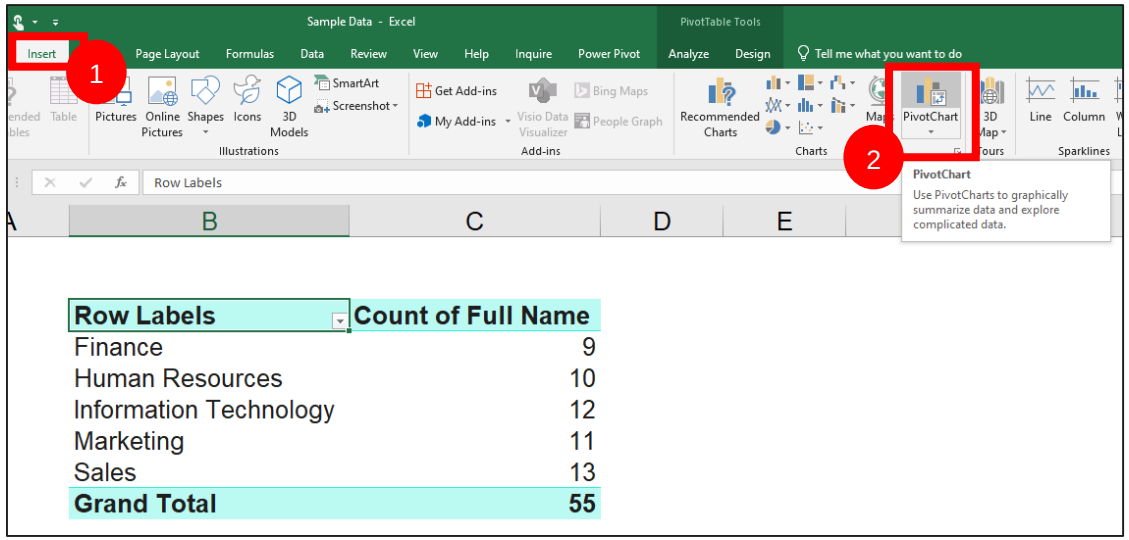


5. Done! Your PivotTable has been built successfully!

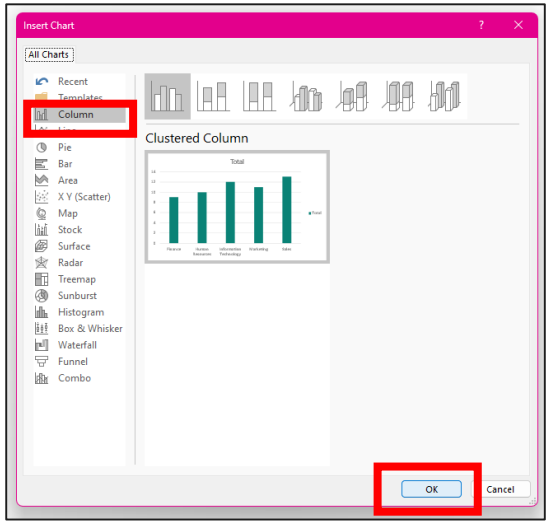
Row Labels	Count of Full Name
Finance	9
Human Resources	10
Information Technology	12
Marketing	11
Sales	13
Grand Total	**55**

Step 3: it's time to build your pivot chart!

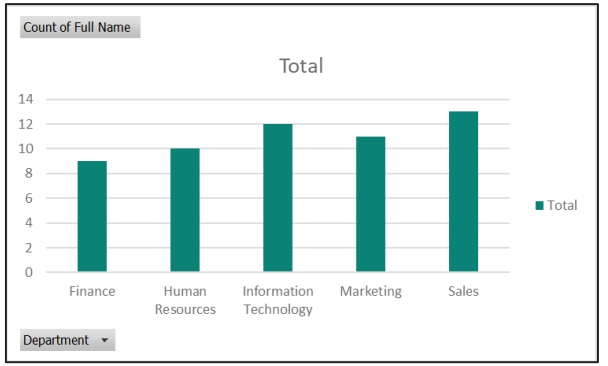
1. Click on your PivotTable → click "Insert" → click "PivotChart"



2. This "Insert Chart" menu will appear and you can choose your preferred chart types! I love to use column chart so I click on "Column" menu and choose the "Clustered Column" chart, and then click "Ok"

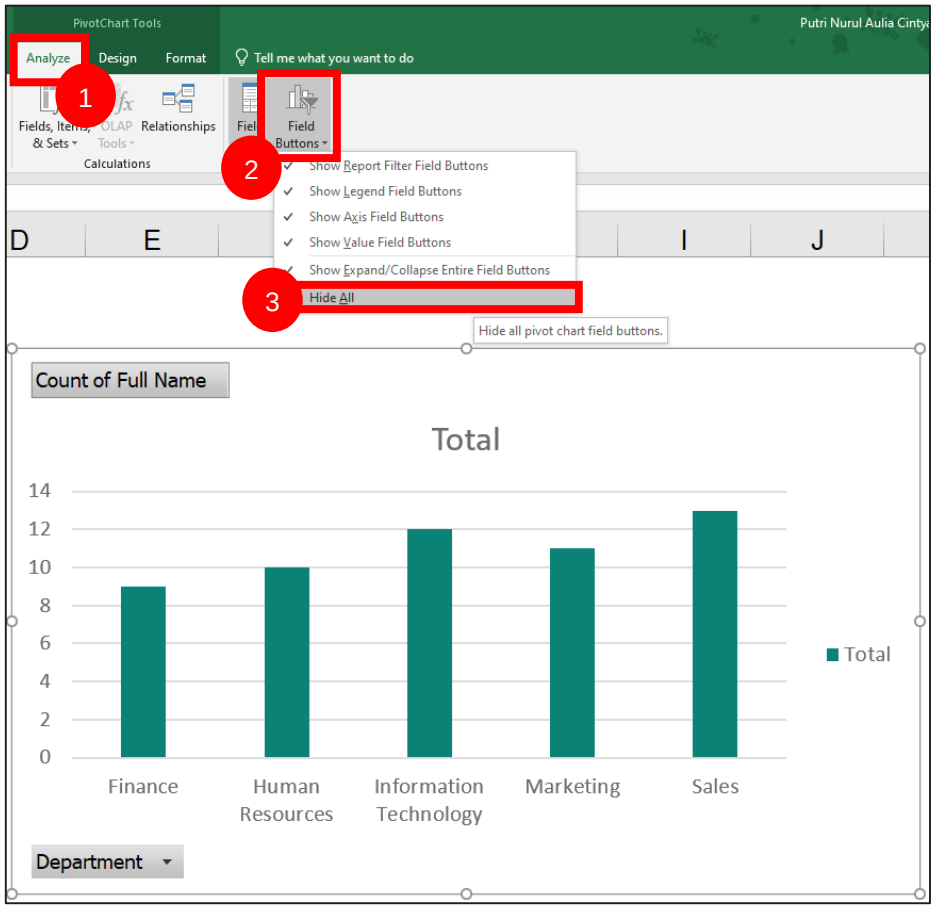


3. Done! Good job! 😇 You have successfully build your pivot chart!

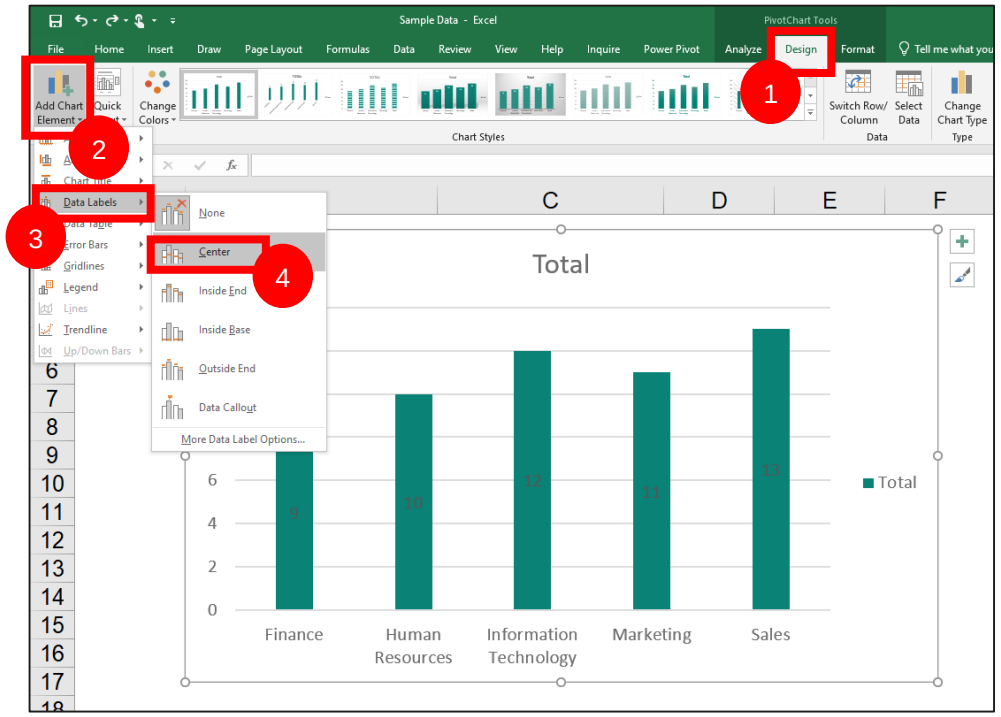


Step 4: fun part, design part!

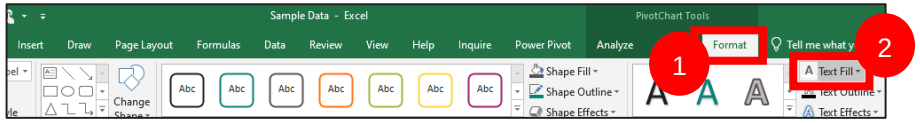
1. Want to get rid of the grey button on the chart? Just click on the chart → click “Analyze” menu → click “Field Buttons” → choose “Hide All” and then the grey button will disappear!



2. To view each value on the bar, you can click on the chart → click “Design” → click “Add Chart Element” → choose your preferred label alignment. In this case, I love to use “Center” alignment

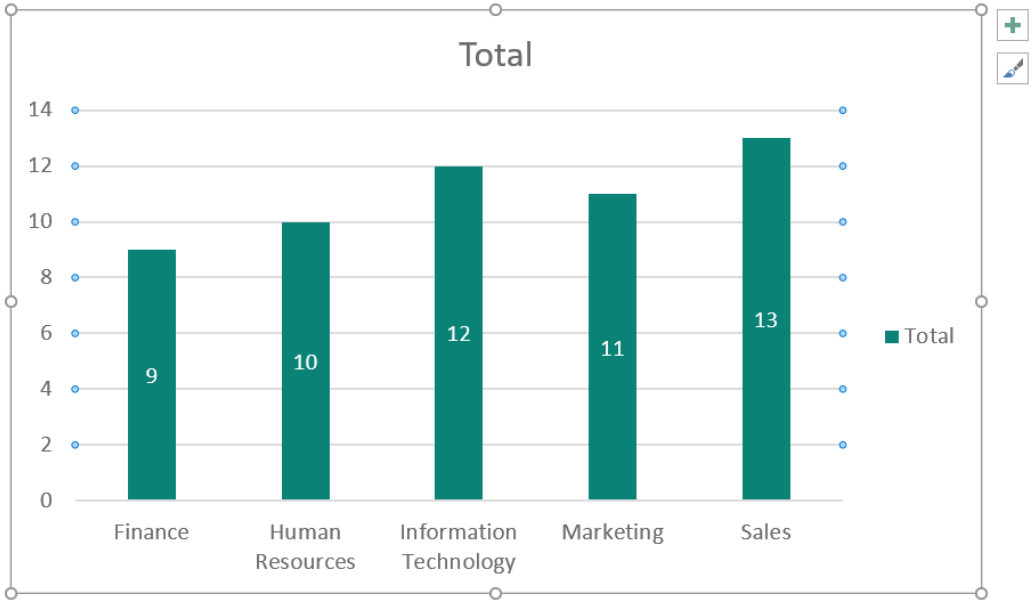


3. To change the color font of the labels, click on the numbers → click “Format” → choose your preferred color on “Text Fill”

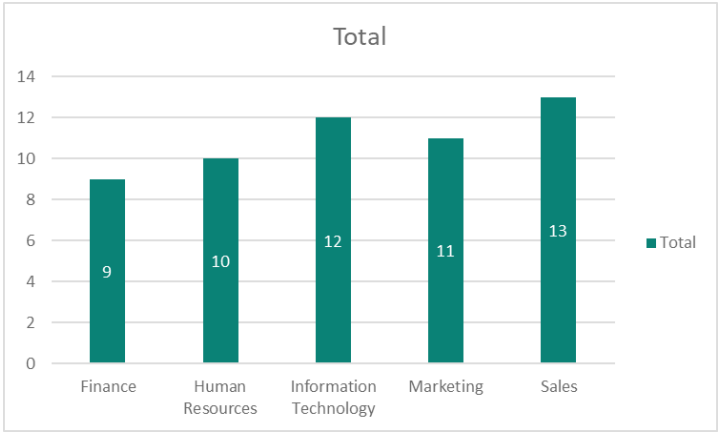


Step 4: fun part, design part!

4. I love to make my chart clean! To get rid of some elements on the chart, just click which one you want to delete and click “Delete” on your keyboard. For example I want to get rid of these horizontal lines. Just click the lines and “Delete” button on your keyboard, and the lines will disappear!



5. Comparison:
   - Before



   - After

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Difference between formula and function in Excel

Formula	Function
Formula is an expression that calculates values in a cell or in a range of cells.	Function is a predefined formula already available in Excel. Functions perform specific calculations in a particular order based on the specified values, called arguments, or parameters.
Anything you enter in a cell after an equal to sign would be considered a formula.	A Function is a predefined formula that takes several arguments and returns a result.
One cell can only have one formula in it.	The formula in the cell in Excel can have multiple functions.
A formula may or may not use any of the functions in Excel.	If you use a function in a cell in Excel, it will always be a part of the formula.
A user can design a formula that can use multiple operators as well as multiple functions.	A function has a predefined syntax, which specifies the number of mandatory and optional arguments as well as the type of arguments that can be used.

Tips:

- =A1+A2+A3+A4 is a formula.
- =SUM(A2:A4) is a function.

Excel basic functions

SUM

(Adds up a range of numbers)

- Example:
  =SUM(A1:A10) → adds up the numbers in cells A1 to A10.

MAX & MIN

(Returns the largest or smallest value in a range of numbers)

- Example:
  =MAX(A1:A10) → returns the largest number in cells A1 to A10, while =MIN(A1:A10) → returns the smallest number.

IF

(Tests a condition and returns one value if true and another value if false)

- Example:
  =IF(A1>10; "Greater than 10“; "Less than or equal to 10") → checks if the value in cell A1 is greater than 10, and returns the corresponding message.

AVERAGE

(Calculates the average of a range of numbers)

- Example:
  =AVERAGE(A1:A10) → calculates the average of the numbers in cells A1 to A10.

COUNT & COUNTA

(Counts the number of cells in a range that contain numbers or any value)

- Example:
  =COUNT(A1:A10) → counts the number of cells in A1 to A10 that contain numbers only, while =COUNTA(A1:A10) → counts all cells in A1 to A10 that contain any value.

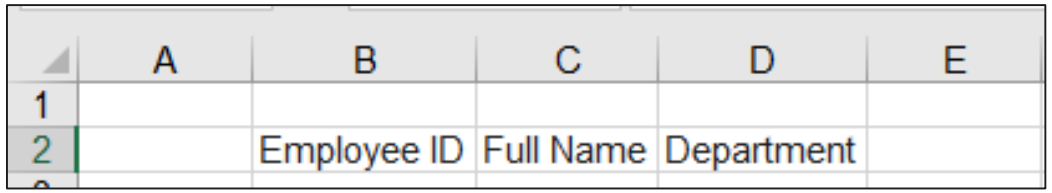
VLOOKUP

(Allows searches across columns)

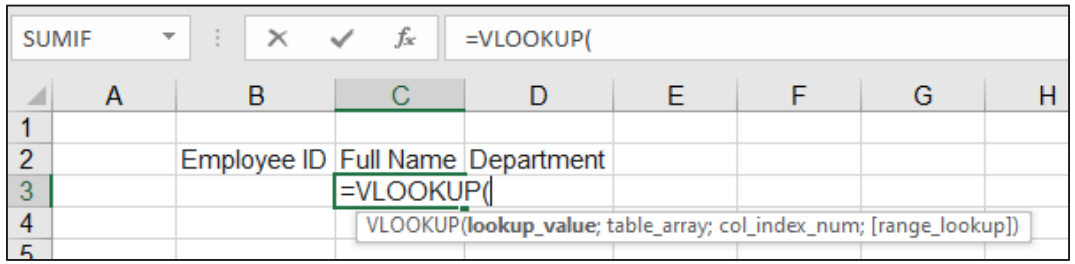
- Syntax:
  =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

VLOOKUP example

1. Let's say we don't need all column, we only need "Employee ID," "Full Name," and "Department" columns. When we input ID in "Employee ID," the full name and department of employee will automatically filled. The first step we will do is to make a new worksheet and type all of the three column's title like this:

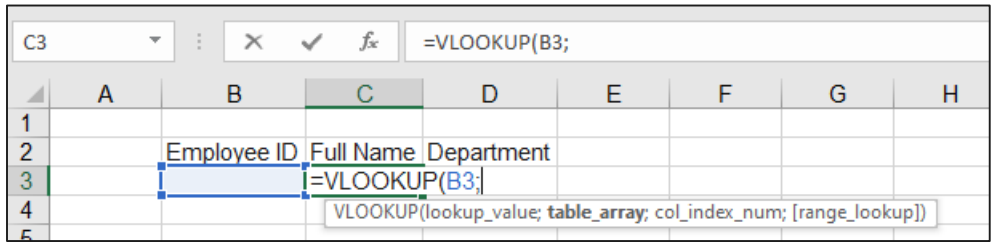


2. Next, we put the cell under the "Full Name" cell (C2) and start to type the function → =VLOOKUP(

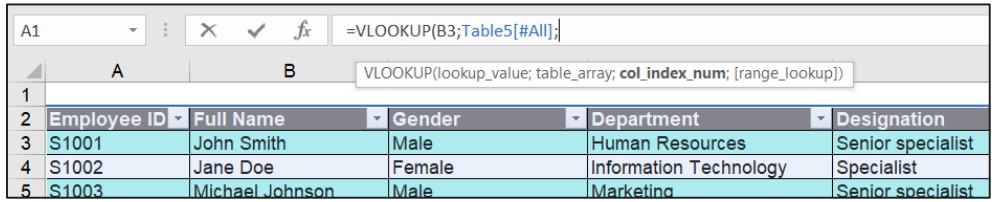


It says that we need to put the "lookup_value" in the function. This is the value you are searching for in the first column of the table. In this case, we click the cell (B3) and type ";" because it requires us to do so. Therefore, the function should be → =VLOOKUP(B3;

3. "table_array" is the next element we have to input in the function. This is the range of cells that contains the data you want to search through. It should include the column with the "lookup_value" and the column from which you want to retrieve the value.

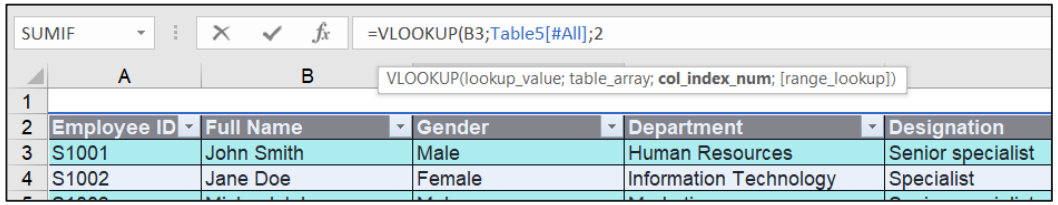


In this case, we're gonna use the "Raw Data (for practice)." Therefore, we block all the data and the function should be like this → =VLOOKUP(B3;Table5[#All];

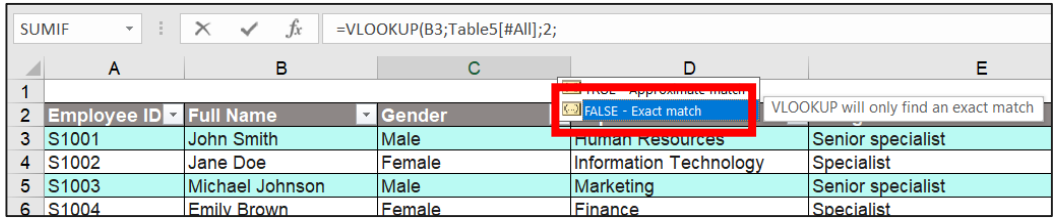


VLOOKUP example

4. “col_index_column” is the next element we have to input in the function. This is the column number in the “table_array” from which to retrieve the value. The first column of the “table_array” is 1, the second is 2, and so on. In this case, “Full Name” column is located on the third column (column C), so we’re gonna input “2” and type “;” in the function. The function should look like this → =VLOOKUP(B3;Table5[#All];2

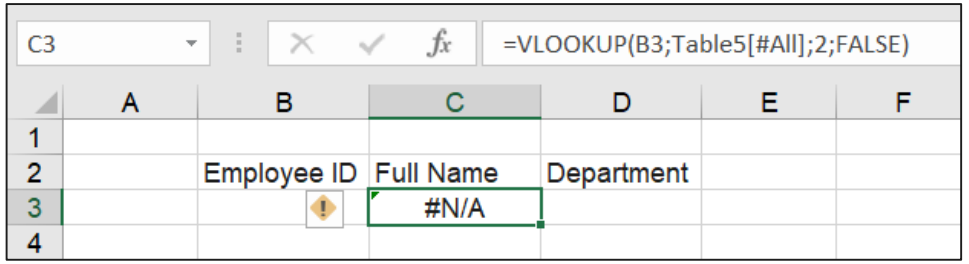


5. The last element of the function is “[range_lookup].” This defines whether you want an exact match or an approximate match. You use TRUE (or 1) for an approximate match and FALSE (or 0) for an exact match. I recommend to use FALSE (or 0) so the result will be as the same as the raw data.

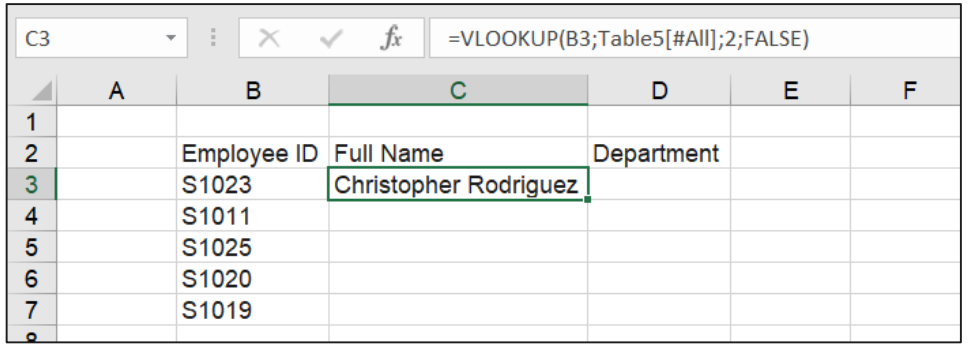


6. Double click on “FALSE” option and type “)” to close the function. The function should look like this → =VLOOKUP(B3;Table5[#All];2;FALSE)

7. Oops, the result is “#N/A”

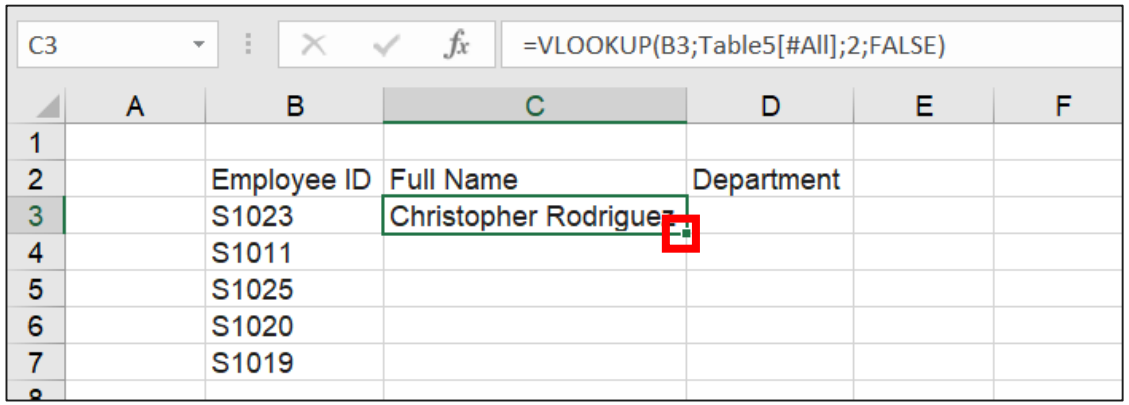


Don’t worry about it! Try to put the ID on “Employee ID” column (cell B3). For example if I input “S1023,” the “Full Name” on cell C3 should automatically filled with “Christopher Rodriguez” because the ID belongs to him on the raw data.



VLOOKUP example

8. Let's say we have random employee ID and we want to fetch employee's full name. You can put your cursor on the little square and drag to the last cell of your data or you can simply double click:



After you drag the cursor or double click, the cells will automatically fetch the data according to the inputted ID!

Before:

Employee ID	Full Name	Department
S1023	Christopher Rodriguez	
S1011		
S1025		
S1020		
S1019		

After:

Employee ID	Full Name	Department
S1023	Christopher Rodriguez	
S1011	William Hernandez	
S1025	David Wilson	
S1020	Jennifer Davis	
S1019	Daniel Smith	

9. You can repeat the same step-by-step to fetch the data for "Department." If you succeed, the table will look like this:

Employee ID	Full Name	Department
S1023	Christopher Rodriguez	Sales
S1011	William Hernandez	Sales
S1025	David Wilson	Sales
S1020	Jennifer Davis	Finance
S1019	Daniel Smith	Marketing

Tips:
When you convert a regular table in Excel into a smart table (Excel Table), it simplifies your work. Instead of manually dragging or double-clicking to copy a formula to other cells in a column, Excel does it automatically. Once you enter a formula in one cell, Excel applies it to the entire column and updates it dynamically as you add more rows. This feature saves time and reduces errors by automating the process of applying formulas.

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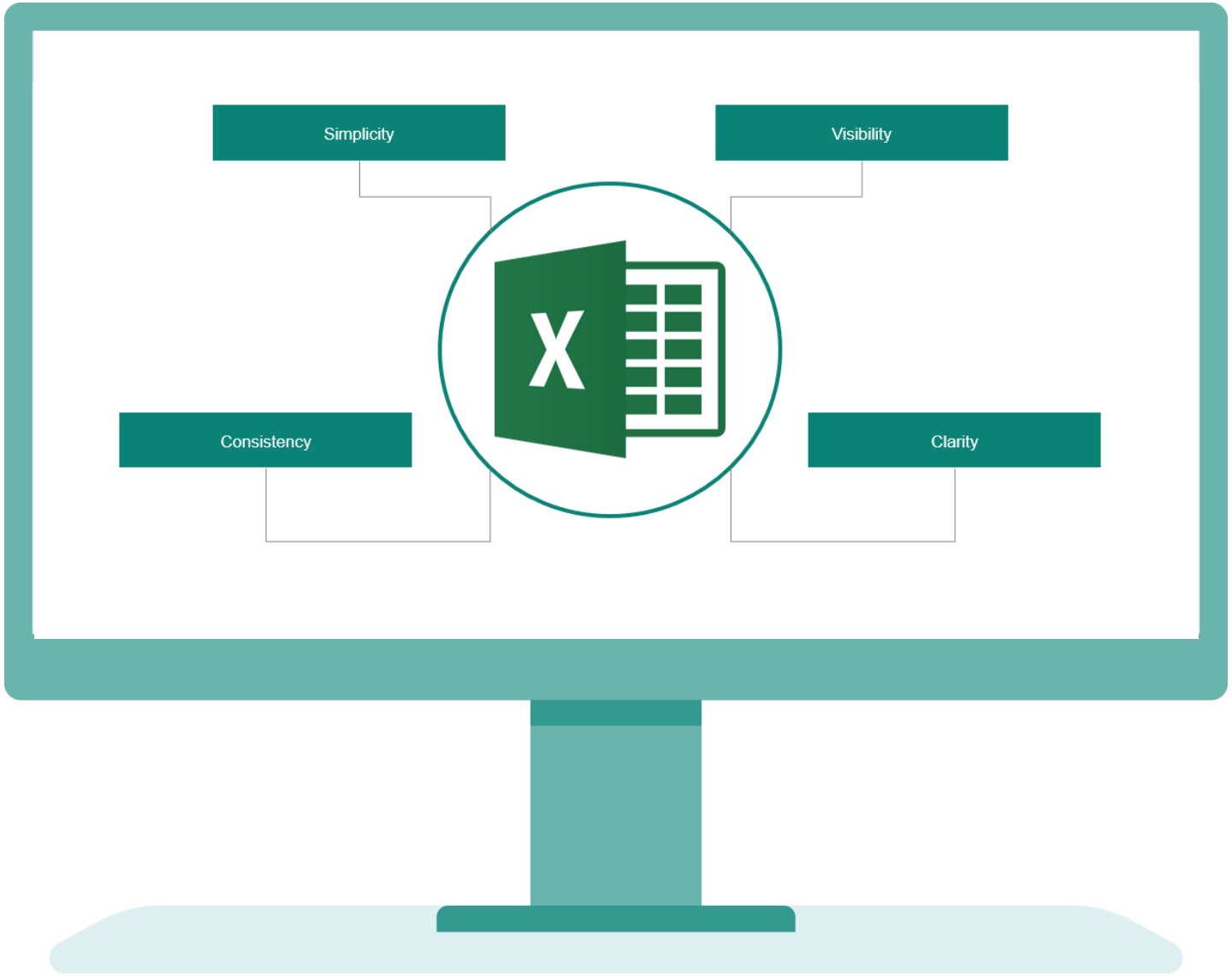
UI design principles



UI design principles

Simplicity

Simplicity is essential in UI design. The interface should be **easy to use and navigate**, requiring minimal effort from the user. This involves using clear and concise language, simple layouts, and intuitive controls.

Visibility

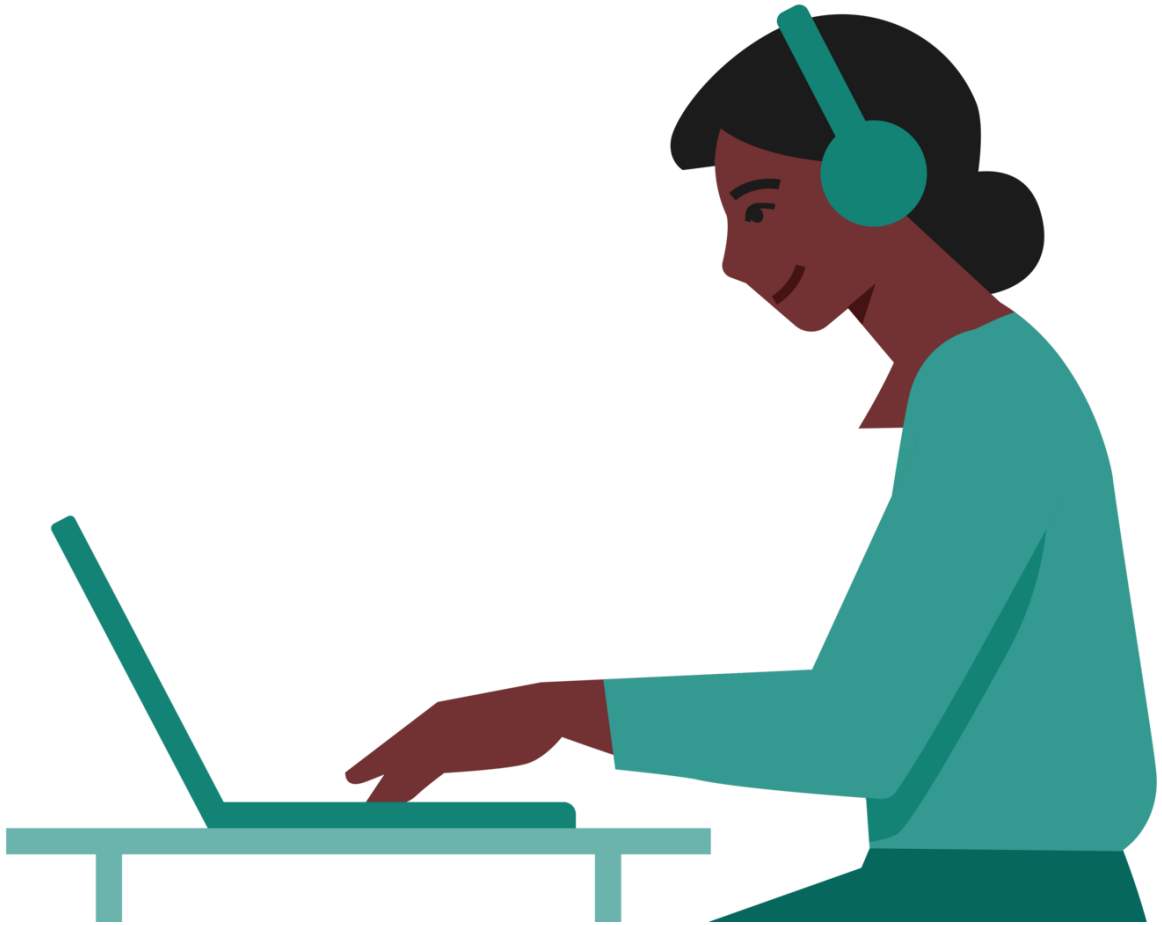
The interface should provide a **clear and visible layout**, highlighting important tasks and information. This helps users understand what actions they need to perform and where to find essential features.

Consistency

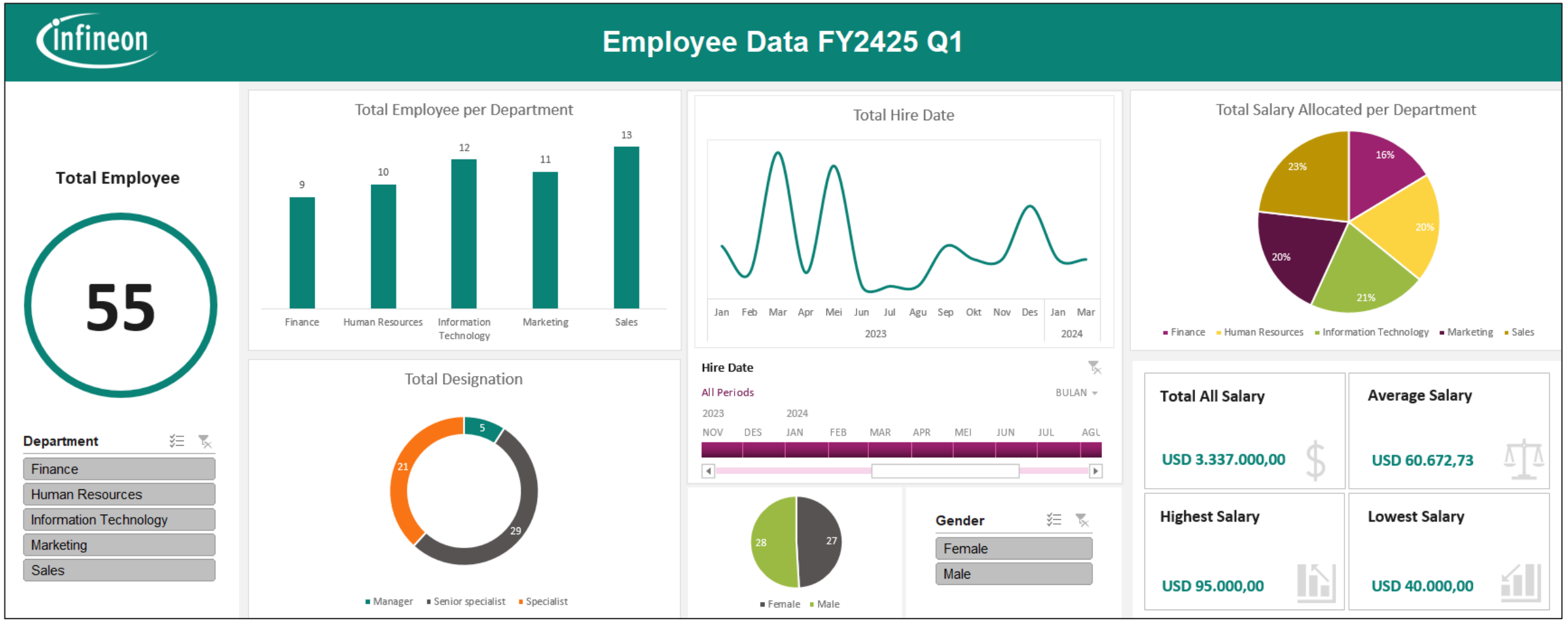
Consistency in design elements such as colors, typography, and layout is crucial. It helps users navigate the interface more easily and enhances the brand's authority. Consistent design creates a cohesive and professional look.

Clarity

Clarity is fundamental in UI design. **The interface should be clear and straightforward**, allowing users to complete their tasks efficiently. Clarity should be prioritized over visual appeal to ensure usability.



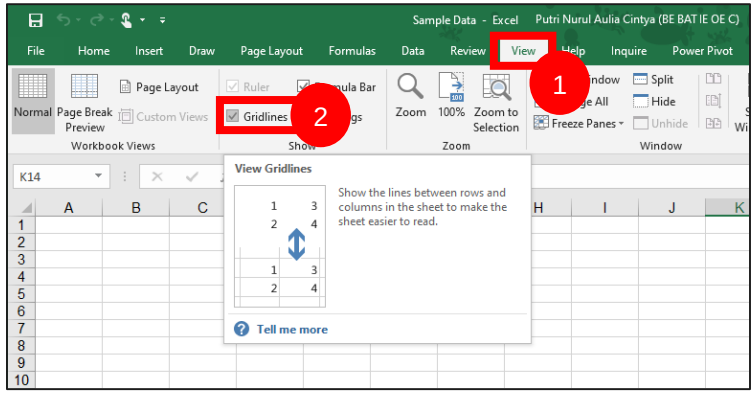
How do we make a simple dashboard for data visualization like this?



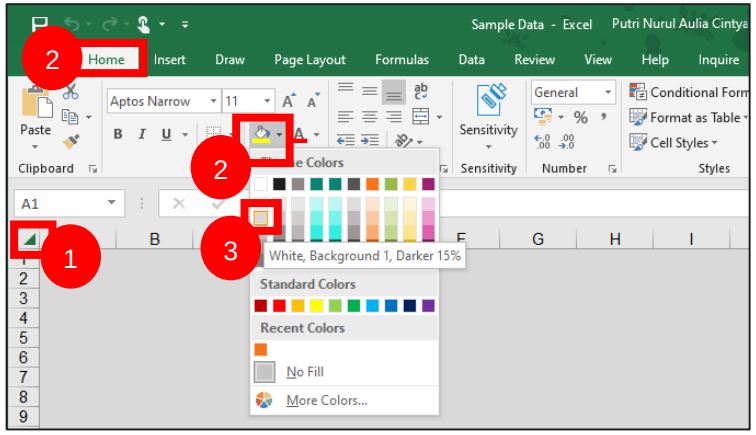
Build your data analytic dashboard

Step 1: Make a blank page

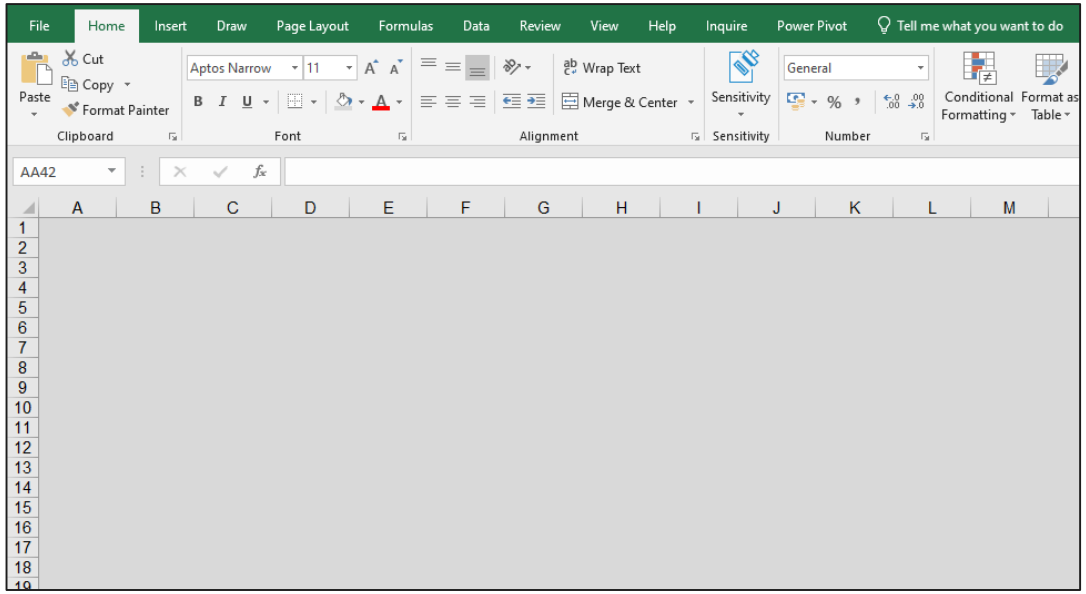
1. On your new worksheet, you first need to get rid of the gridlines of the cells. Click the "View" menu and uncheck "Gridlines."



2. Your new worksheet should now look like a blank page. To change the color of the page, click the small triangle in the upper left corner of the cells to select all cells → click "Fill Color" in the "Home" menu → choose your desired color.

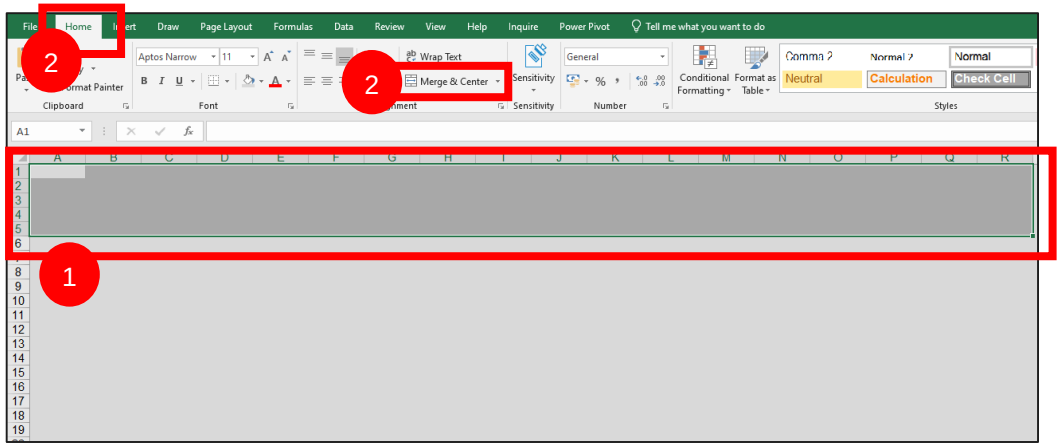


3. All set! Now you've got a clean slate to create your dream dashboard design!

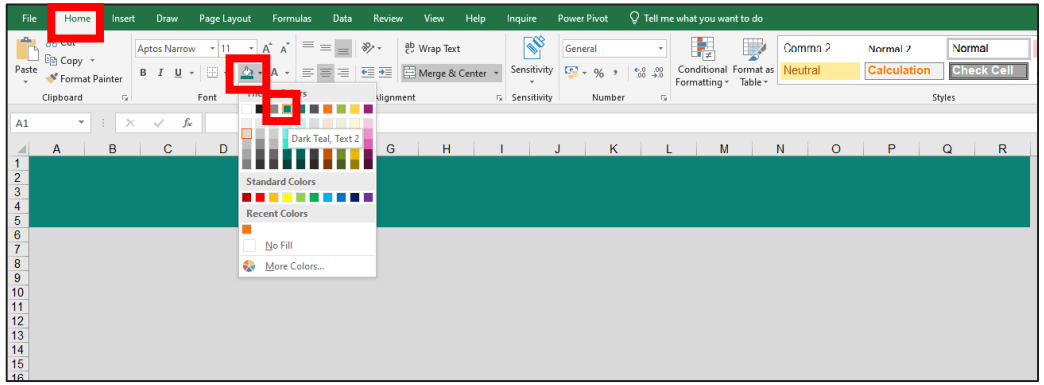


Build your data analytic dashboard
Step 2: Make the dashboard area

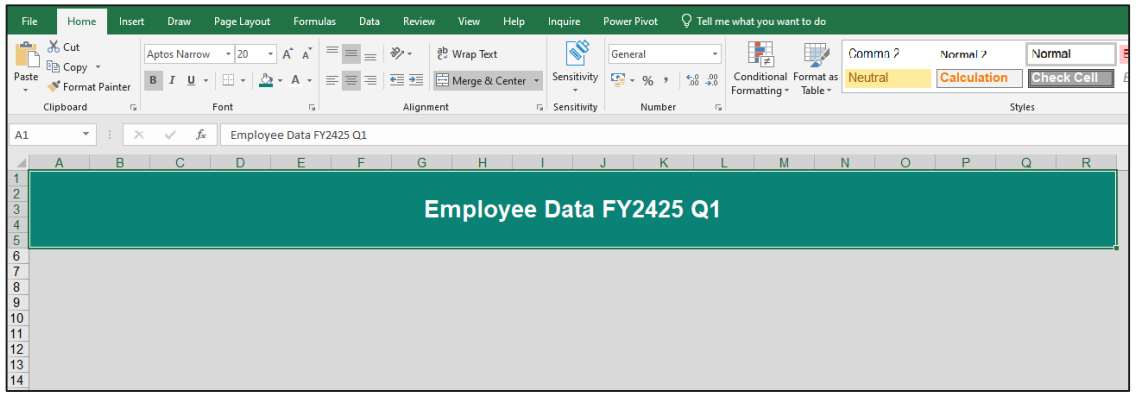
1. To make a header area for the dashboard, you can start by selecting the area you want and then click "Merge & Center" to merge the selected cells.



2. To change the color, click "Fill Color" in the "Home" menu → choose your desired color.

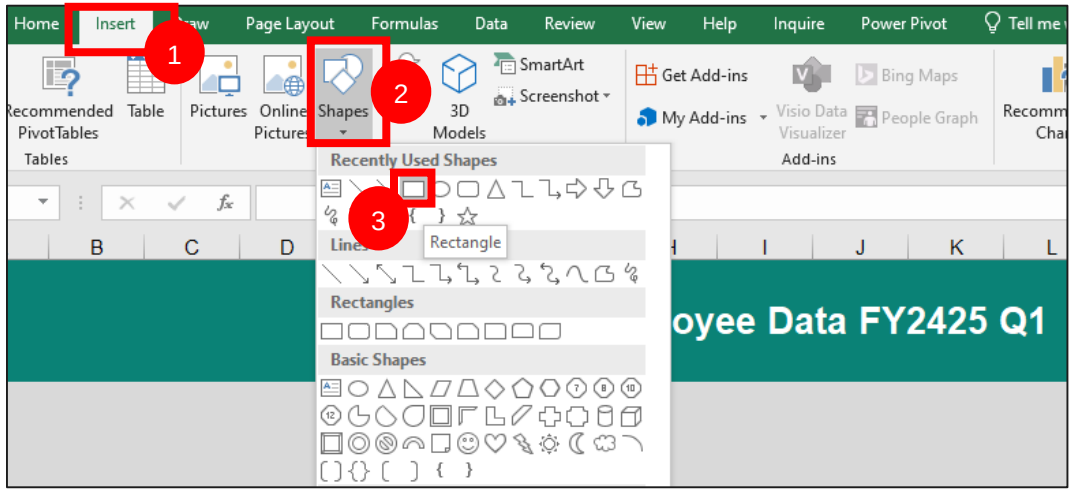


3. To add the title, type it into the cell. To adjust the font color, click "Font Color" in the "Home" menu → choose your desired color. You can also adjust other font settings such as font size, bold, the alignment, etc. Your header area should look like this:



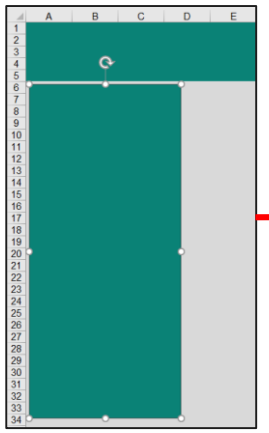
Build your data analytic dashboard
Step 2: Make the dashboard area

1. Next we make the area for the chart and other elements for the dashboard. This time, we can use shapes to make the area. Start to click “Insert” → click “Shapes” → choose your preferred shape. I’d like to use the rectangle one.

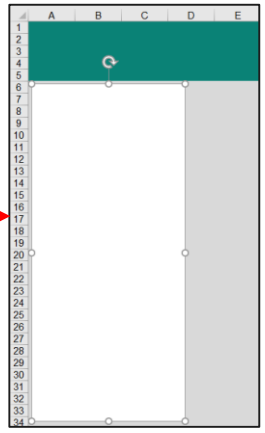


2. Adjust your shape’s area and adjust your design in “Format” menu for “Shape Fill,” “Shape Outline,” etc. I’d like to make my shape in white color and no outline, so the comparison of before and after will look like this:

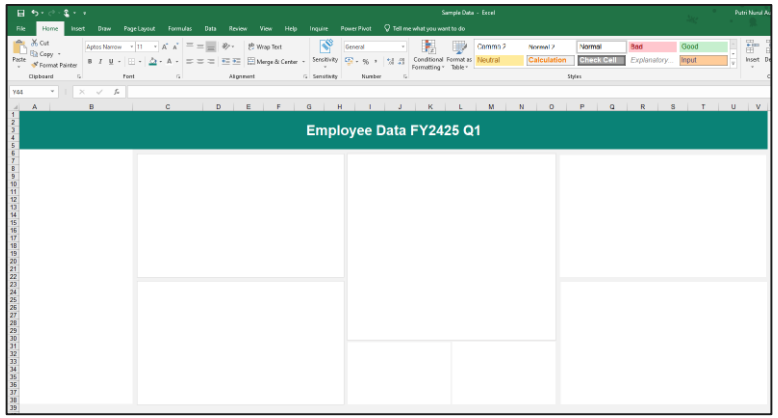
Before:



After:

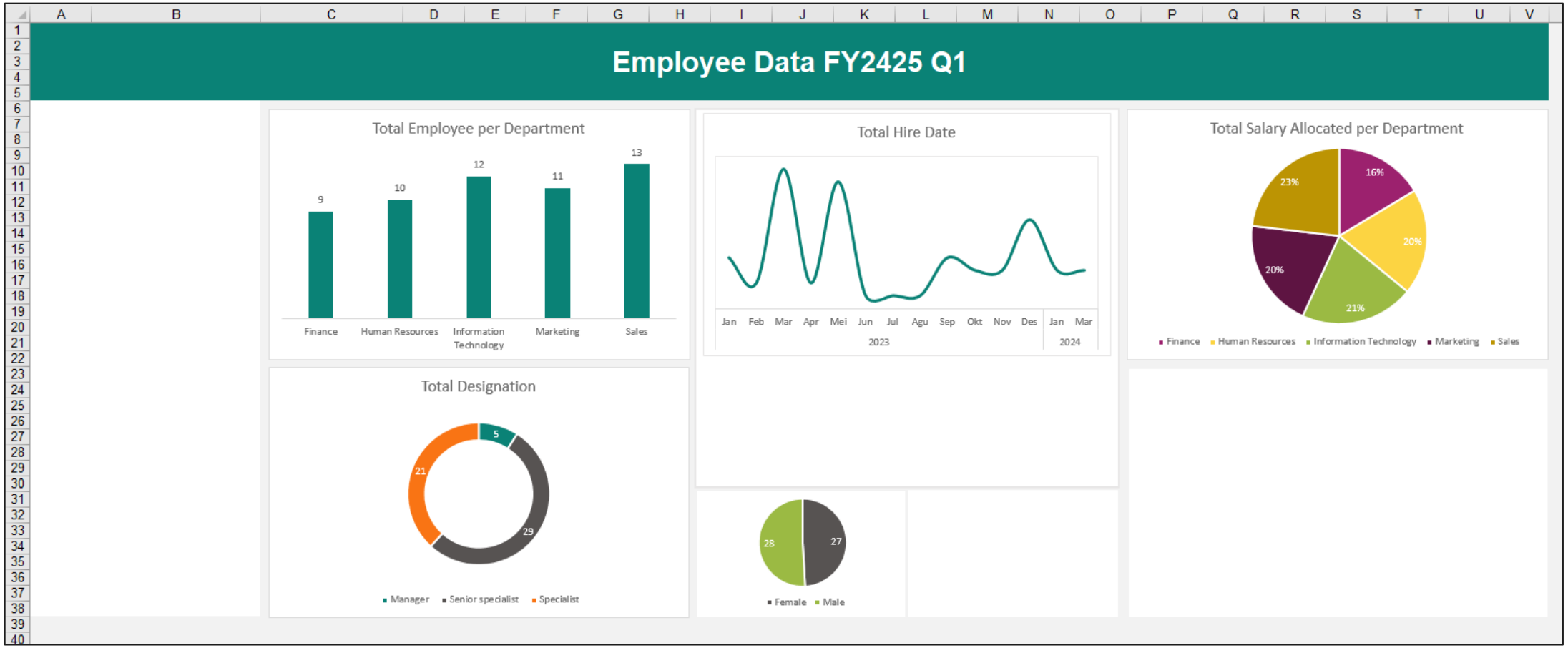


2. Copy and adjust your shapes so the dashboard area will look like this:



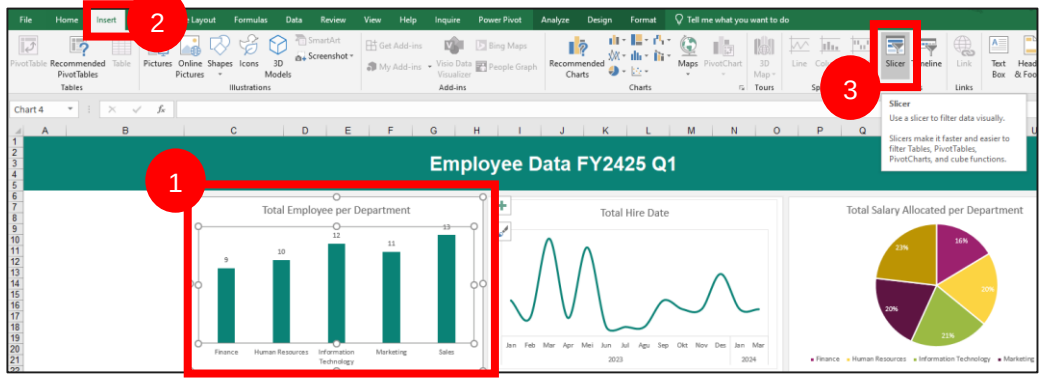
Build your data analytic dashboard
Step 3: Copy the elements!

Let's copy the pivot chart we have created to our dashboard area. First, create a pivot chart based on the chart type and the data you prefer to display. Then, copy and adjust each chart one by one to fit into your dashboard area. It will look like this:

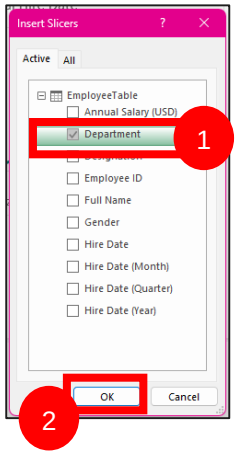


Build your data analytic dashboard
Step 4: Insert slicer

1. Want to see just the data you care about in your charts? Easy-peasy! Use a slicer to filter the data. It's like magic for your dashboard! Start by clicking on one of your chart → click “Insert” menu → click “Slicer”

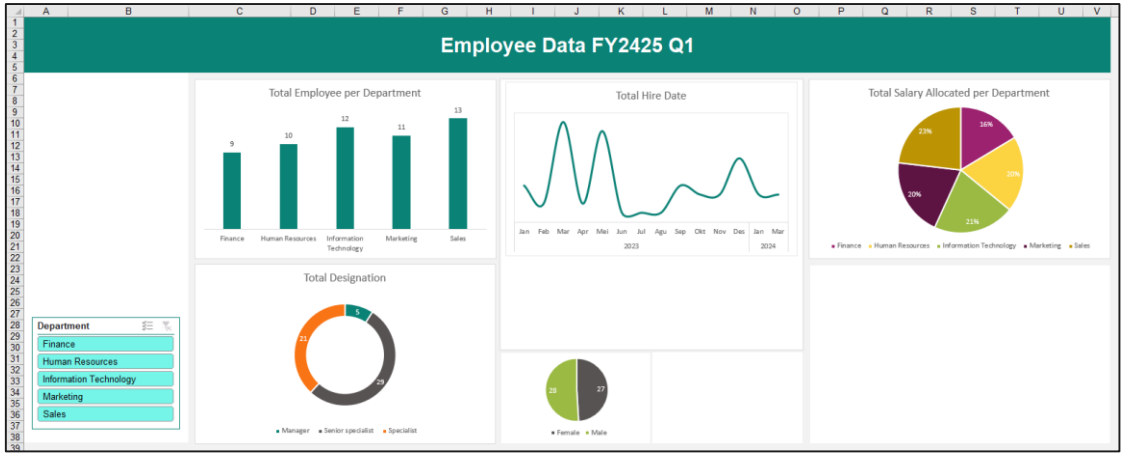


2. This option will appear. Click on the data you want to filter; in this case, I choose “Department” because I want to filter the data based on department. Then, click “OK”.



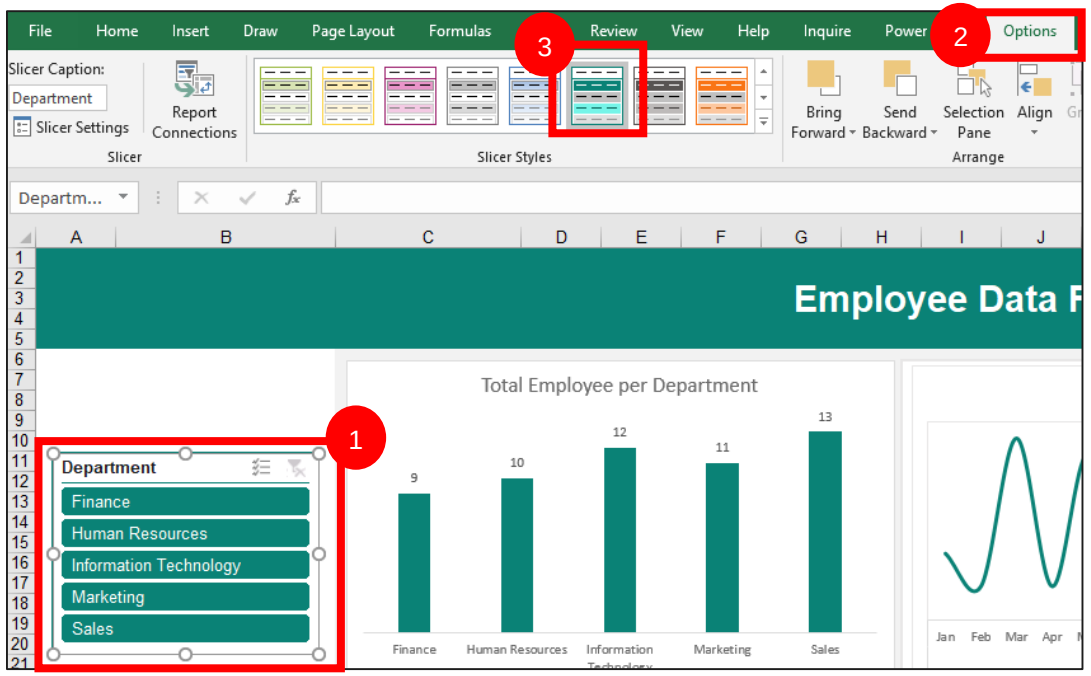
3. Your have finally built a slicer!

4. Adjust the position of the slicer in your dashboard area:

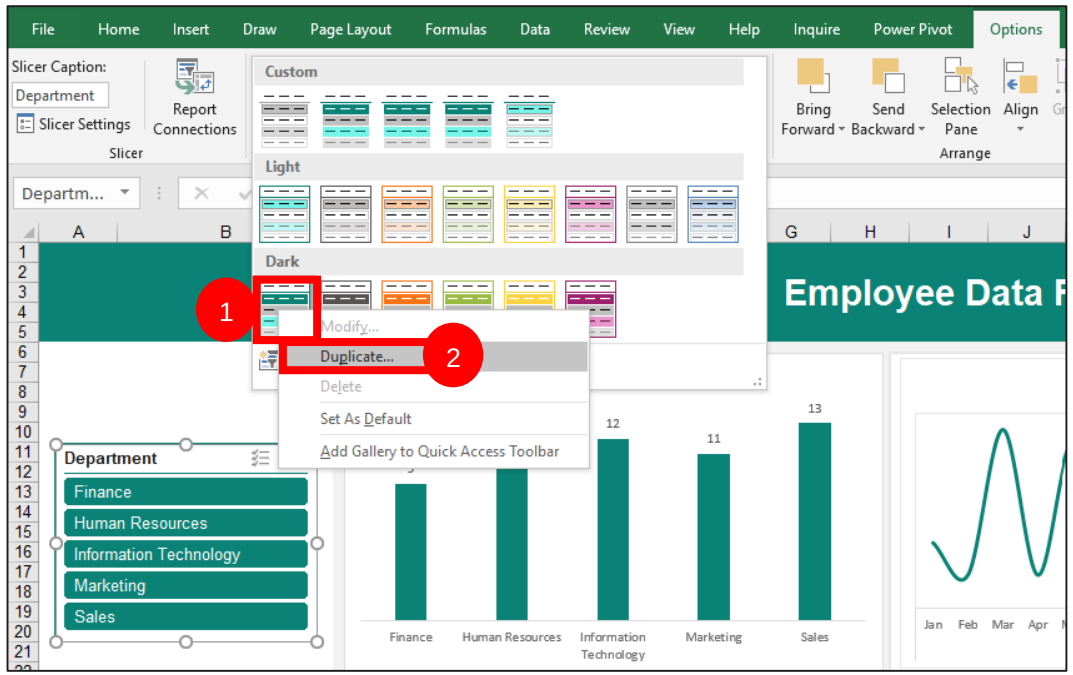


Build your data analytic dashboard
Step 4: Insert slicer – slicer design

5. If you want to change the slicer color, click on your slicer → click “Options” → click on which color you preferred.

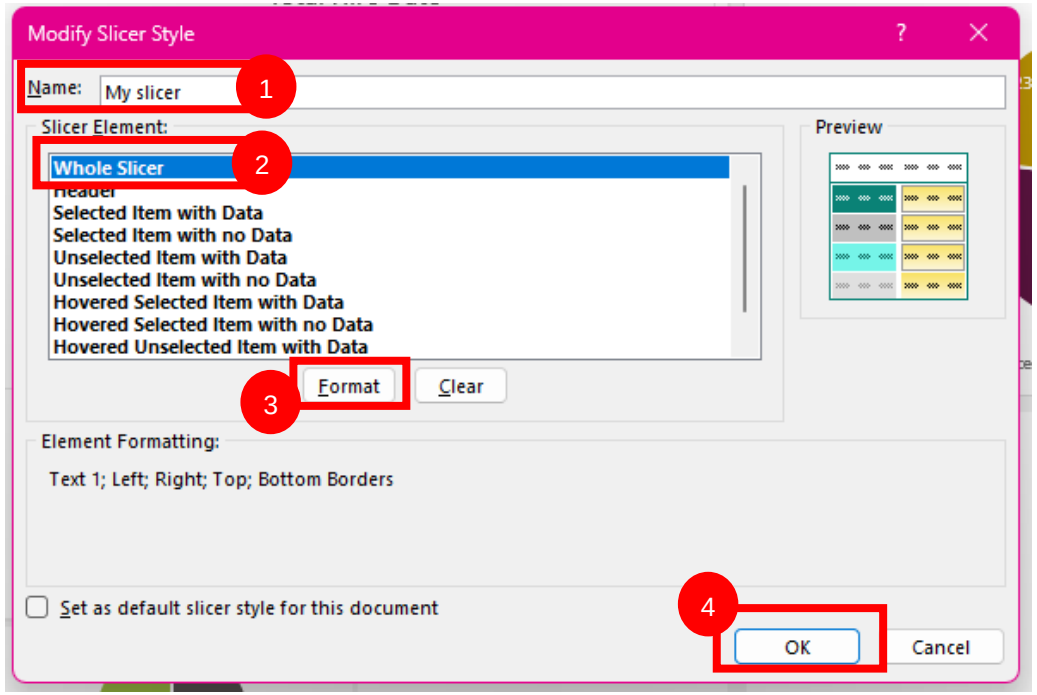


6. To get rid of the slicer outline, right click on your current slicer color → click “Duplicate”

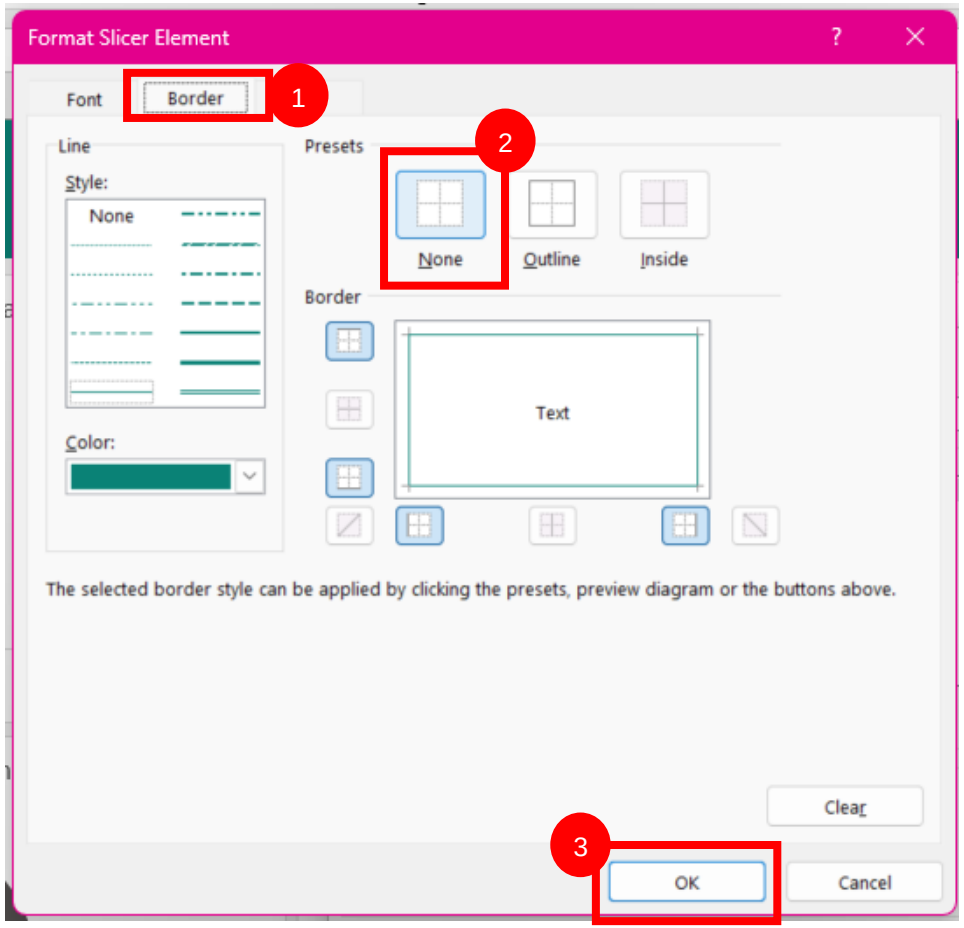


Build your data analytic dashboard
Step 4: Insert slicer – slicer design

7. After this window pop-up, rename your slicer design → click on “Whole Slicer” → click “Format” → click “OK”

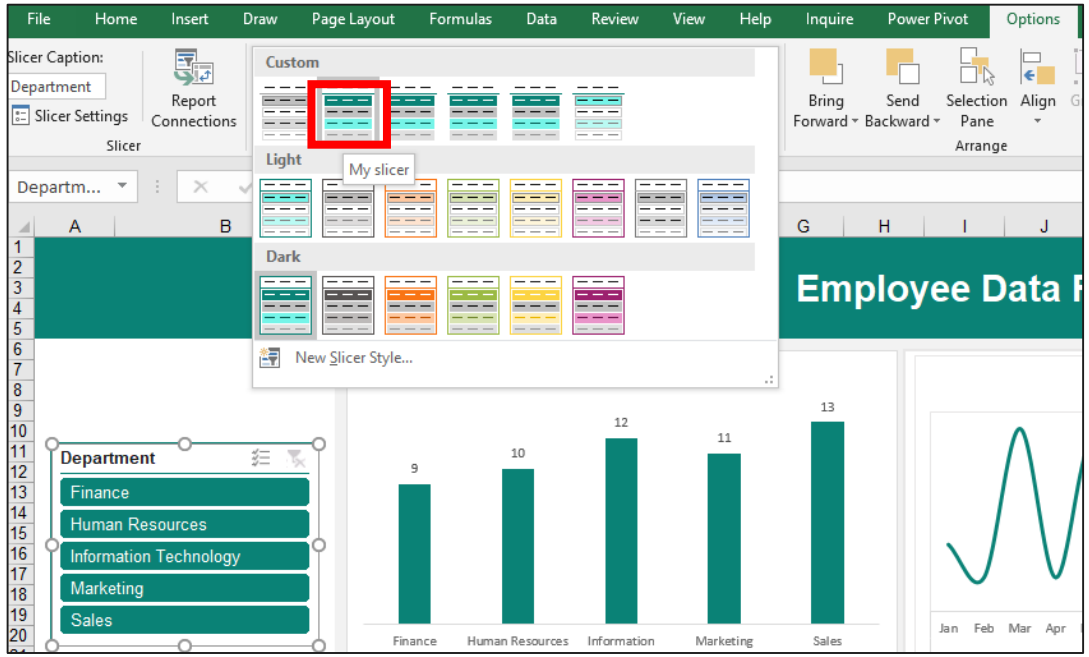


8. The format window will pop up. Click “Border” → click “None” to get rid of the slicer outline → click “OK”



Build your data analytic dashboard
Step 4: Insert slicer – slicer design

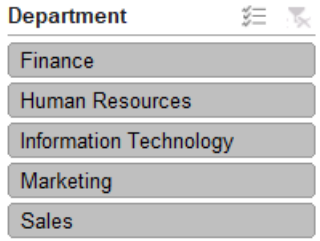
9. After you click “OK,” the slicer design will not automatically change to your edited design. To apply your edited design, click the down arrow to view your designs in the “Slicer Styles” menu. In the “Custom” menu, select your edited slicer design by the name you have given it. Your slicer without an outline design has now been successfully applied!



10. The slicer without an outline looks cleaner and blends seamlessly with the rectangles in your dashboard area!

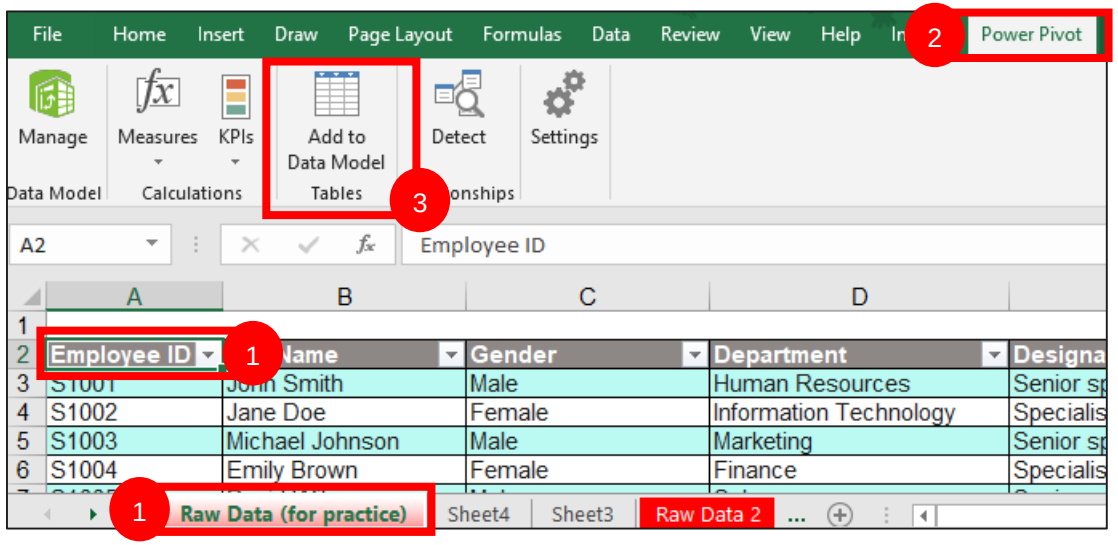
Before:

After:

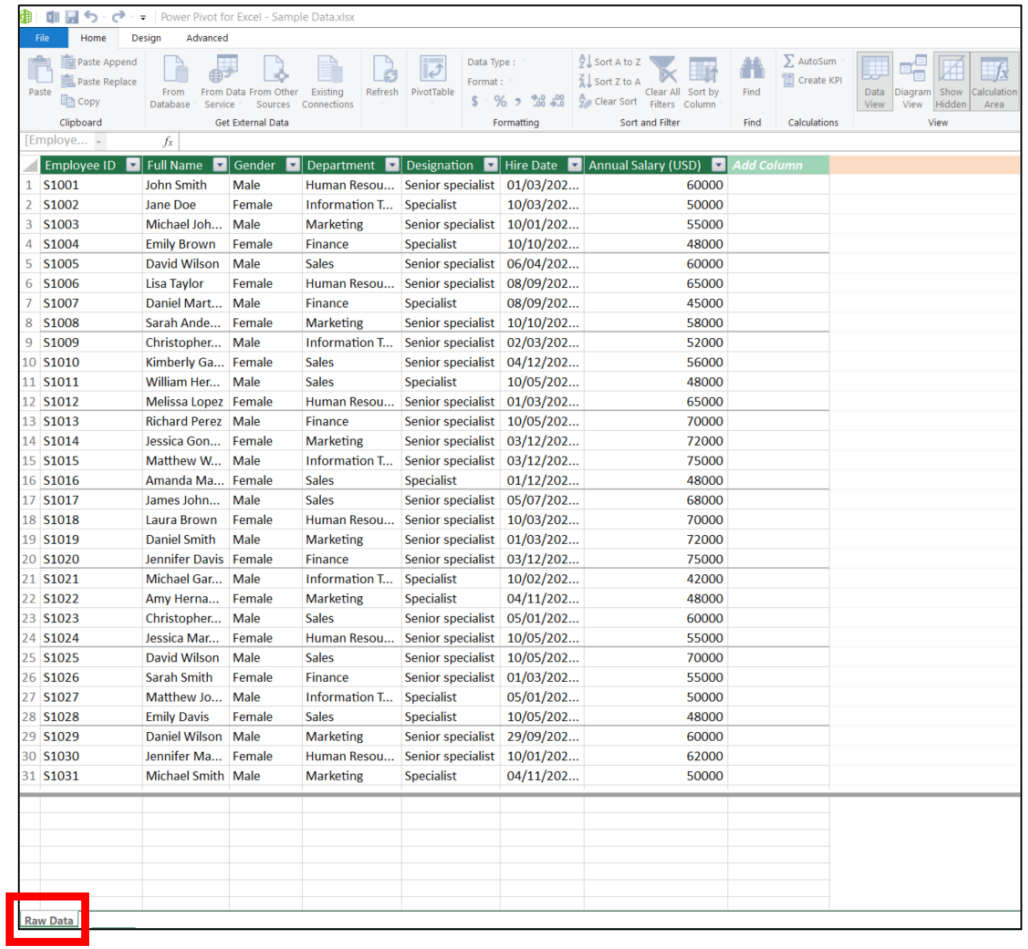


Build your data analytic dashboard
Step 4: Insert slicer – slicer connection

11. If you try to click the slicer to filter the data, you can only filter one chart. To make one slicer filter all charts, you need to connect the data via the Data Model. Start by clicking your “Raw Data” table → click the “Power Pivot” menu → click “Add to Data Model”

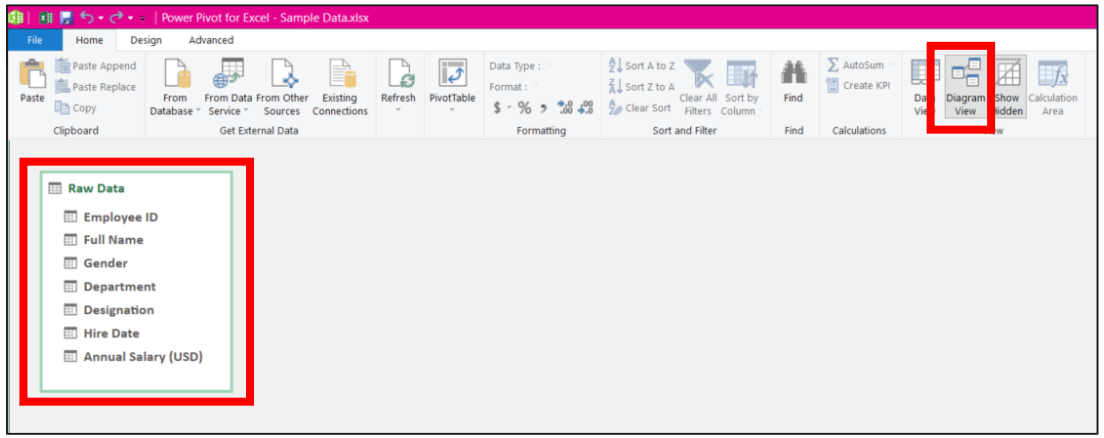


12. The Data Model window will appear and you have successfully made it! You can also rename your data model table.



Build your data analytic dashboard
Step 4: Insert slicer – slicer connection

13. If you click on “Diagram View,” you will only see the Raw Data diagram, and we still don't have any other diagrams to connect to.

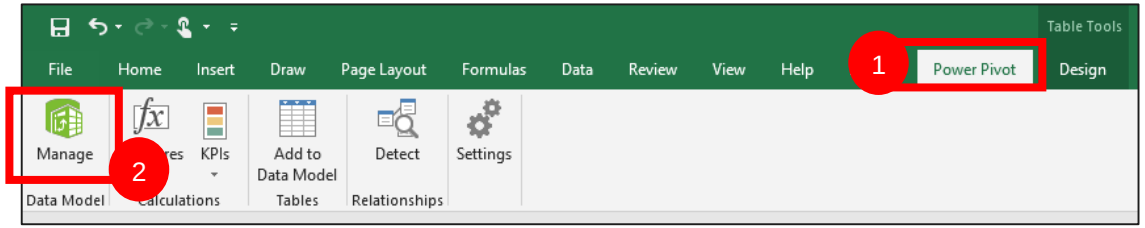


To establish a connection, you need to create a new table that contains the menu items you want to connect. In this case, I want to connect “Department” and “Designation” to “Raw Data,” so I created a new table in a new worksheet.

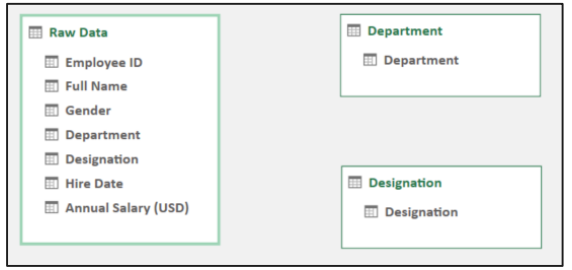
Department
Finance
Human Resources
Information Technology
Marketing
Sales

Designation
Manager
Senior specialist
Specialist

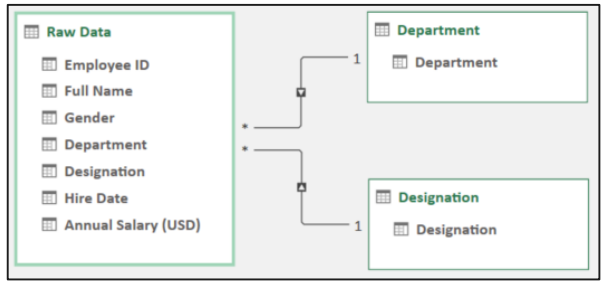
14. Next, add these two table to the Data Model like before. If you succeed, open the “Data Table” again by click “Power Pivot” → click “Manage”



You will see these diagrams if you click on “Diagram View”

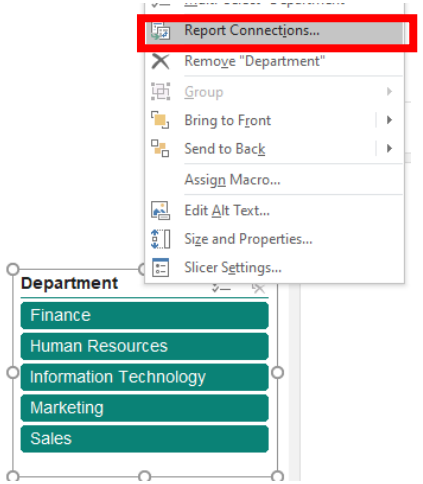


15. Drag “Department” in “Department” diagram into “Department” in “Raw Data” diagram and drag “Designation” in “Designation” diagram into “Designation” in “Raw Data” and you have connected the data to each other.

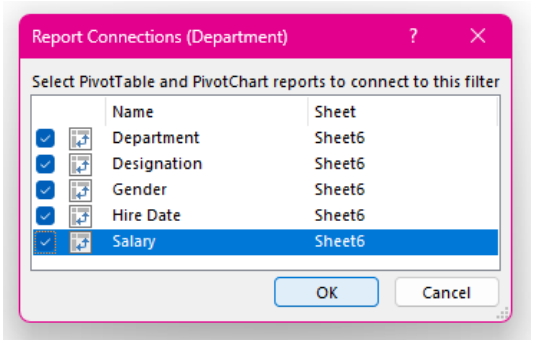


Build your data analytic dashboard
Step 4: Insert slicer – slicer connection

16. Right click on your slicer and click “Report Connections…”



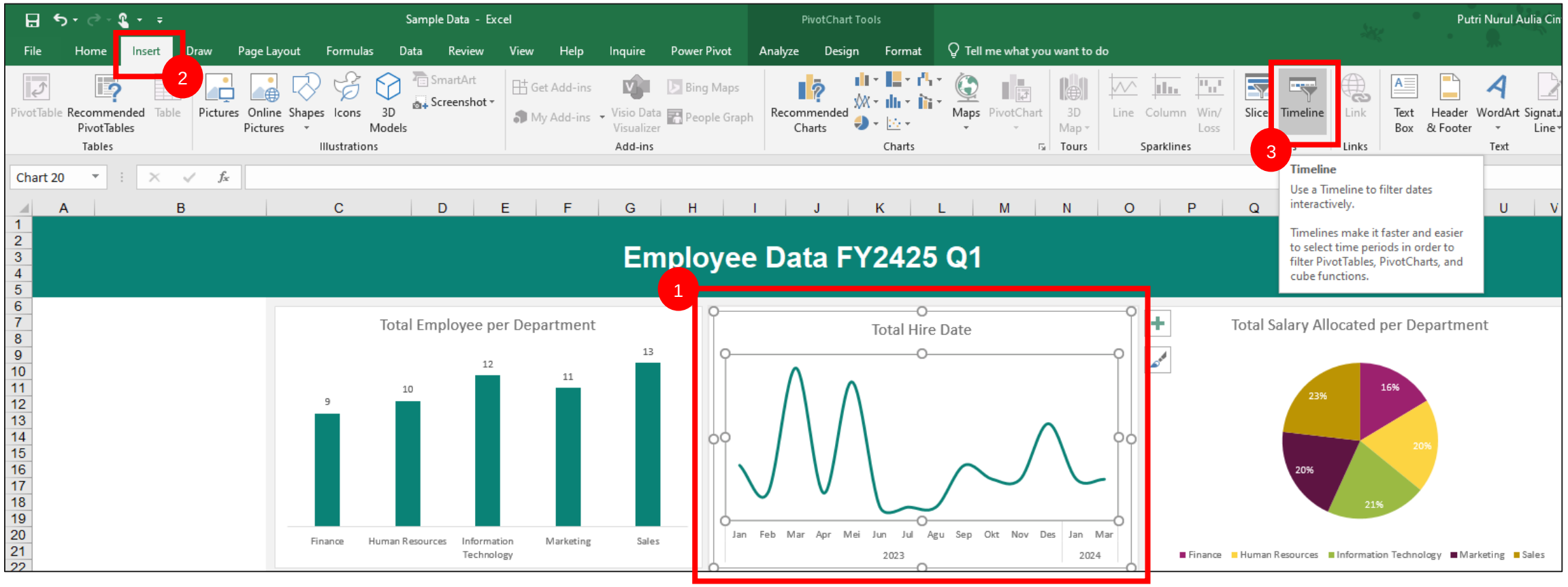
17. If you have successfully add the data to Data Model, these options should appear → check all the boxes → click “OK”



18. Well done! If you click the slicer to filter the data, all charts should be filtered based on your selection!

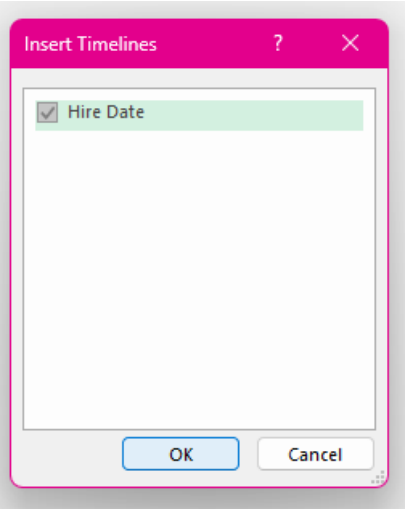
Build your data analytic dashboard
Step 5: Insert timeline

1. A timeline in Excel is used to filter data in a PivotTable or PivotChart by date. It allows you to quickly and easily filter the data to display information for specific time periods, such as days, months, quarters, or years. This makes it easier to analyze trends and patterns over time. To add a timeline, click on your data that has time range → on “Insert” menu, click “Timeline”

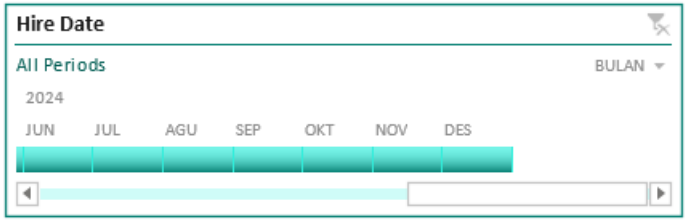


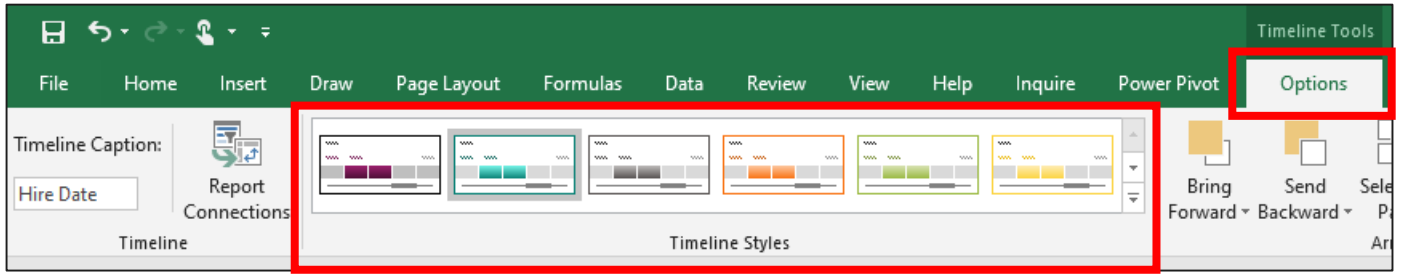
Build your data analytic dashboard
Step 5: Insert timeline

2. This window will appear, check “Hire Date” → click “OK”



3. The timeline will appear and you have successfully added your timeline! You can also design the timeline, click timeline → click “Options” → choose your preferred design in “Timeline Styles”

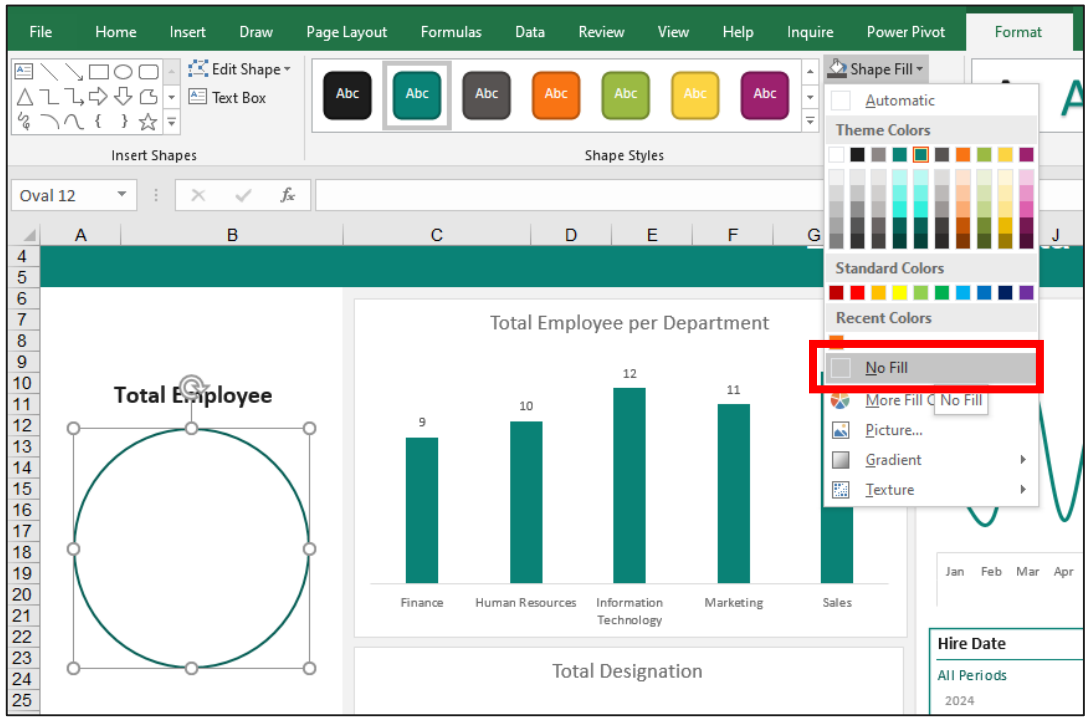




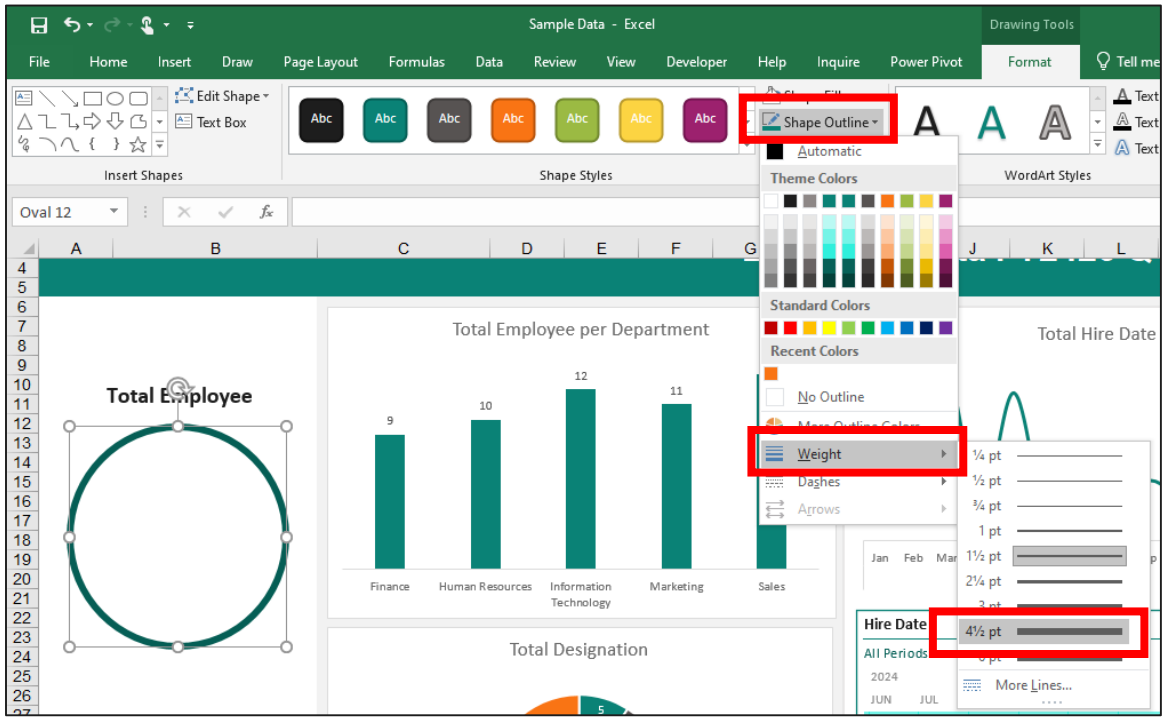
Build your data analytic dashboard

Step 6: Add total employee

1. Start by adding a “Text Box” and type “Total Employee.” Place it in your dashboard area.
2. Add circle shape → remove the fill.



3. Increase the shape outline by clicking on “Shape Outline” → “Weight” → choose your preferred line weight.

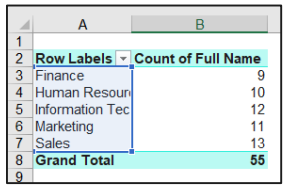


Build your data analytic dashboard
Step 6: Add total employee

4. The goal of adding a dashboard is to avoid manually searching through tables to find total data. To create a comprehensive view of the data that updates whenever we filter using the slicer, start by inserting a rectangle shape to create a box for inputting functions. It's important to note that we use shapes for this purpose, not text boxes.

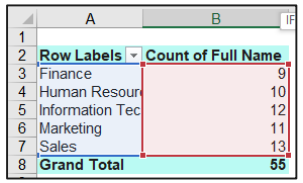
5. Insert shape (I choose rectangle) and make it no fill and no outline to have a clear box.

6. In the new worksheet, start by typing the function: =IF(COUNT(and select your pivot table that contains the list of department:



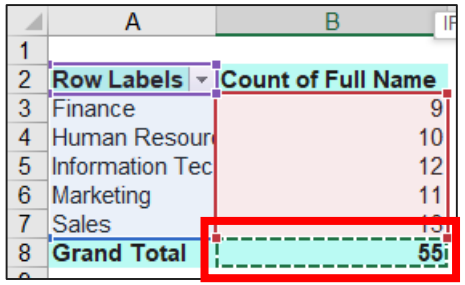
	A	B
1		
2	Row Labels	Count of Full Name
3	Finance	9
4	Human Resour	10
5	Information Tec	12
6	Marketing	11
7	Sales	13
8	Grand Total	55
9		

Your function should look like this: =IF(COUNT(A3:A7). A3:A7 is the cell which contains the departments. Continue the function and type: =IF(COUNT(A3:A7)>1;SUBTOTAL(109; and drag “Count of Full Name” column like this:



	A	B
1		
2	Row Labels	Count of Full Name
3	Finance	9
4	Human Resour	10
5	Information Tec	12
6	Marketing	11
7	Sales	13
8	Grand Total	55

Your function should look like this: =IF(COUNT(A3:A7)>1;SUBTOTAL(109;B3:B7); B3:B7 is the cell which contains the count of names in each departments. Continue the function by clicking on the “Grand Total” like this:



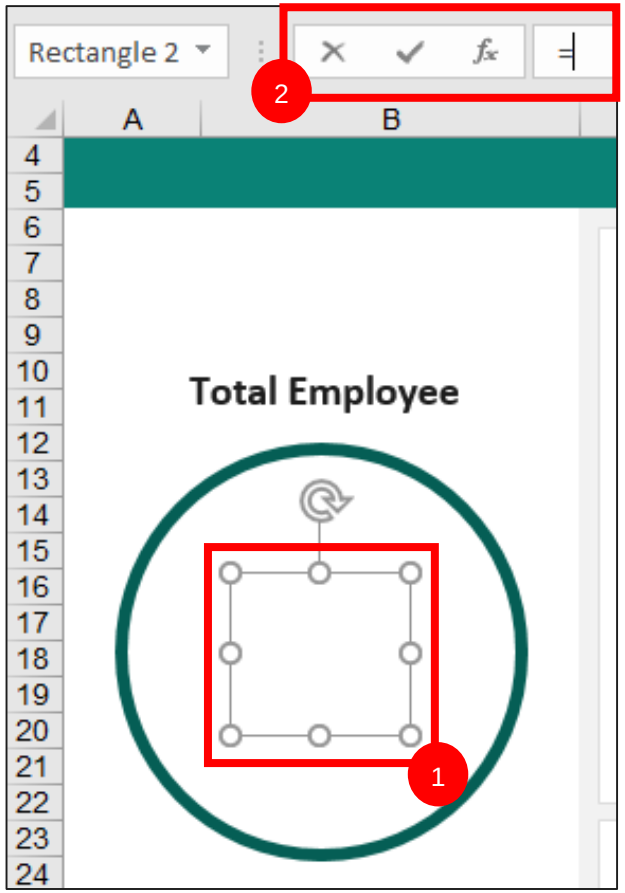
	A	B
1		
2	Row Labels	Count of Full Name
3	Finance	9
4	Human Resour	10
5	Information Tec	12
6	Marketing	11
7	Sales	13
8	Grand Total	55

Add a closing parenthesis ")" at the end of your function and press "Enter." Now you have successfully created the grand total, which will automatically change based on the grand total in the pivot table whenever we filter using the slicer. The overall function should look like this:

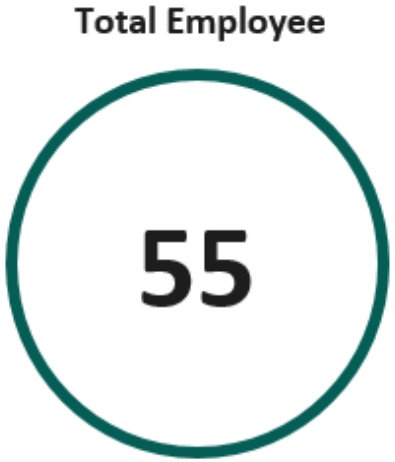
```
=IF(COUNT(A3:A7)>1;SUBTOTAL(109;B3:B7);GETPIVOTDATA("Full Name";$A$2))
```

Build your data analytic dashboard
Step 6: Add total employee

7. Click the rectangle → click the formula bar → type “=“

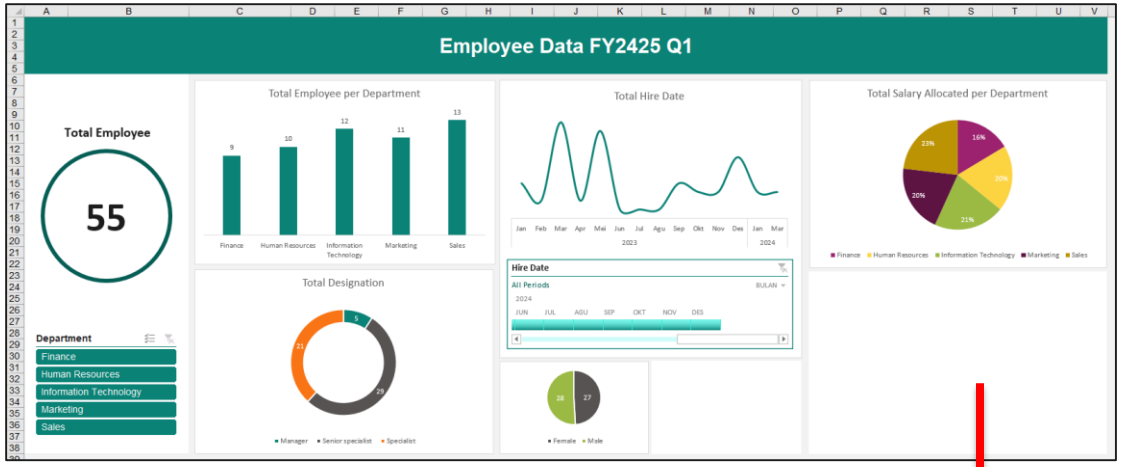


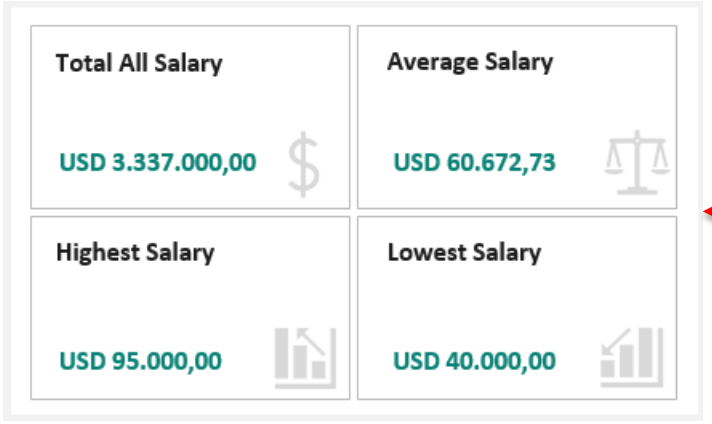
8. Click the function that you have made and press “Enter.” The rectangle now displaying the result of the function! Adjust the size and bold the font. Now if you filter in the slicer, it will automatically display the grand total.



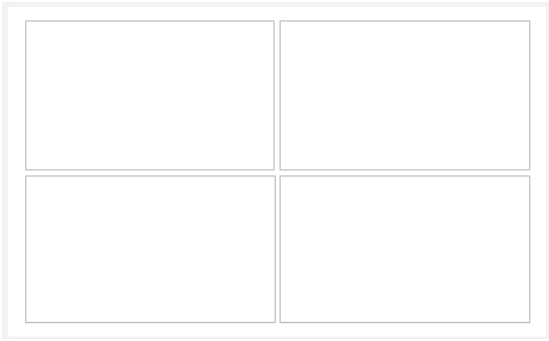
Build your data analytic dashboard
Step 6: Salary area

1. In the blank space, we want to display total all salary, average salary, highest salary, and lowest salary and it will display based on the selected department

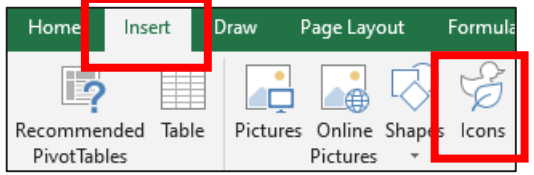




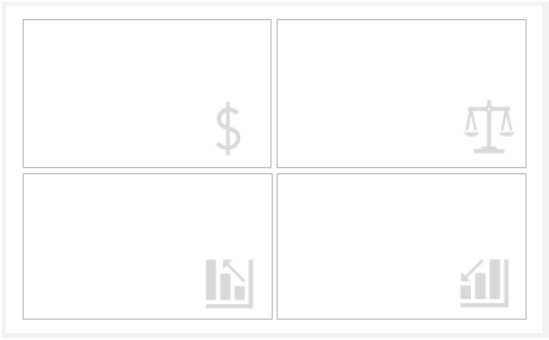
2. Start by inserting rectangles, and it will look like this:



3. Add the icon by clicking on “Icons” in “Insert” menu and adjust the size and color.



It will look like this:



Build your data analytic dashboard
Step 6: Salary area

4. Add text box to add titles by clicking on “Text Box” in “Insert” menu. Adjust the font and the position of the titles and it will look like this:

5. To display the total that updates whenever we filter using the slicer, start by making this table:

Total all employee:	55
Total all salary:	
Average salary:	
Highest salary:	
Lowest salary:	

6. First, we're going to fetch the total salary. Input the function in the same way we displayed the grand total, using the pivot table that contains the list of salaries:

Salary:

Row Labels	Sum of Annual Salary (USD)
Finance	USD 547.000,00
Human Resource	USD 650.000,00
Information Techr	USD 699.000,00
Marketing	USD 668.000,00
Sales	USD 773.000,00
Grand Total	**USD 3.337.000,00**

The function will look like this and we finally fetch the grand total.

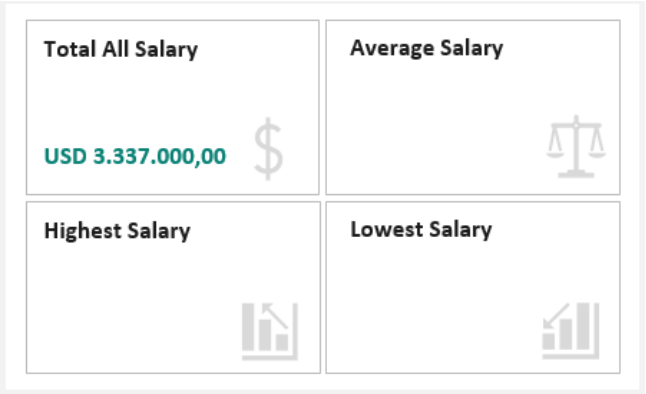
```
=IF(COUNT(B44:B48)>1;SUBTOTAL(109;C44:C48);GETPIVOTDATA("[Measures].[Sum of Annual Salary (USD)]";$B$43))
```

7. Insert rectangle shape and place it on your dashboard area. Type “=“ and click on the “Total all salary” cell:

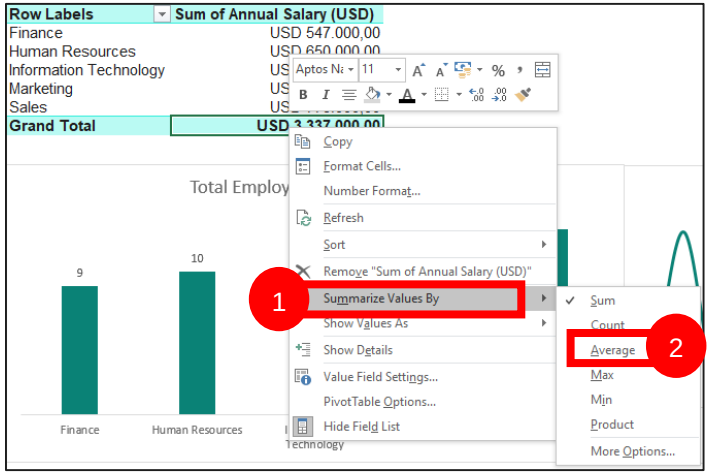
Total all employee:	55
Total all salary:	USD 3.337.000,00
Average salary:	
Highest salary:	
Lowest salary:	

Build your data analytic dashboard
Step 6: Salary area

8. The salary area will look like this:

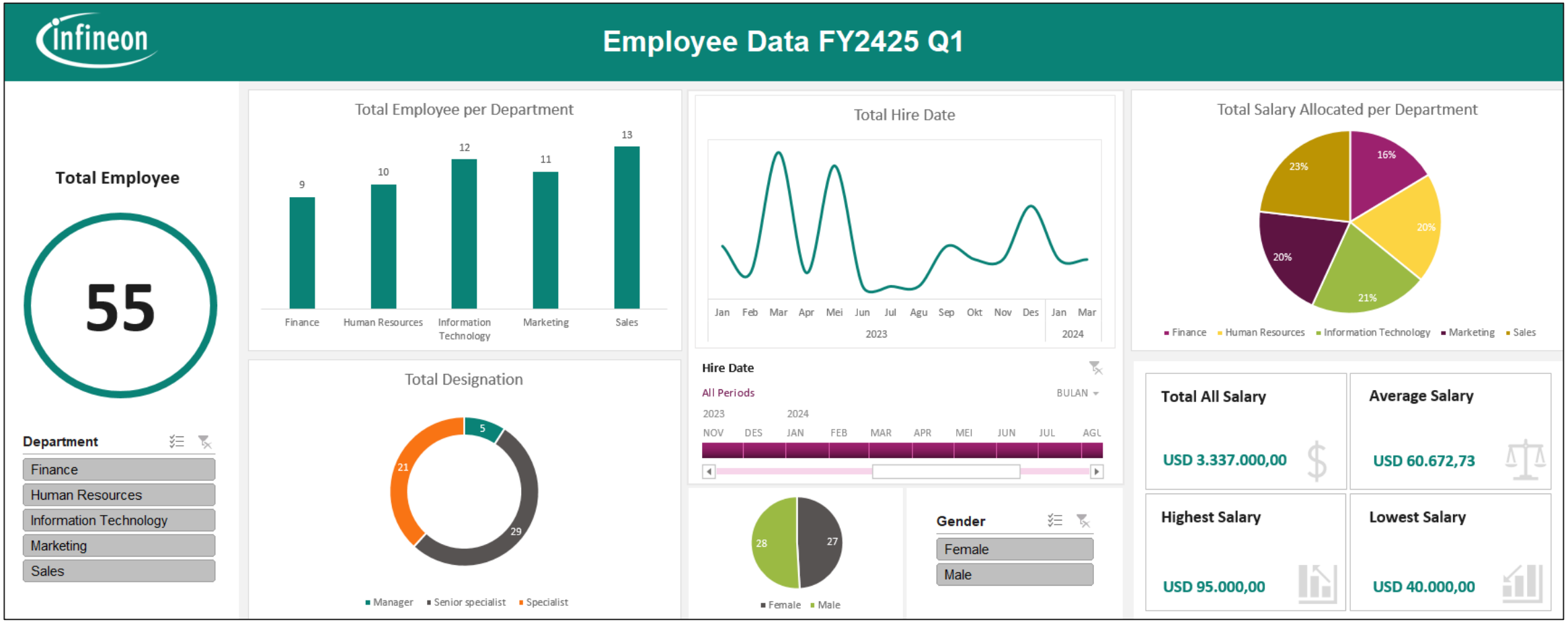


9. To display the average salary, highest salary, and lowest salary, you need to follow similar instructions. However, you need to create new pivot tables for each different calculation. If you want to display the grand total by average, right-click on your grand total, select "Summarize Values By," and then choose "Average." To display the highest salary, select "Max," and for the lowest salary, select "Min."



Build your data analytic dashboard
Done!

If you follow all steps. Your dashboard will look like this!

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