Prepared by Mohammad Umer

Power BI Tutorial

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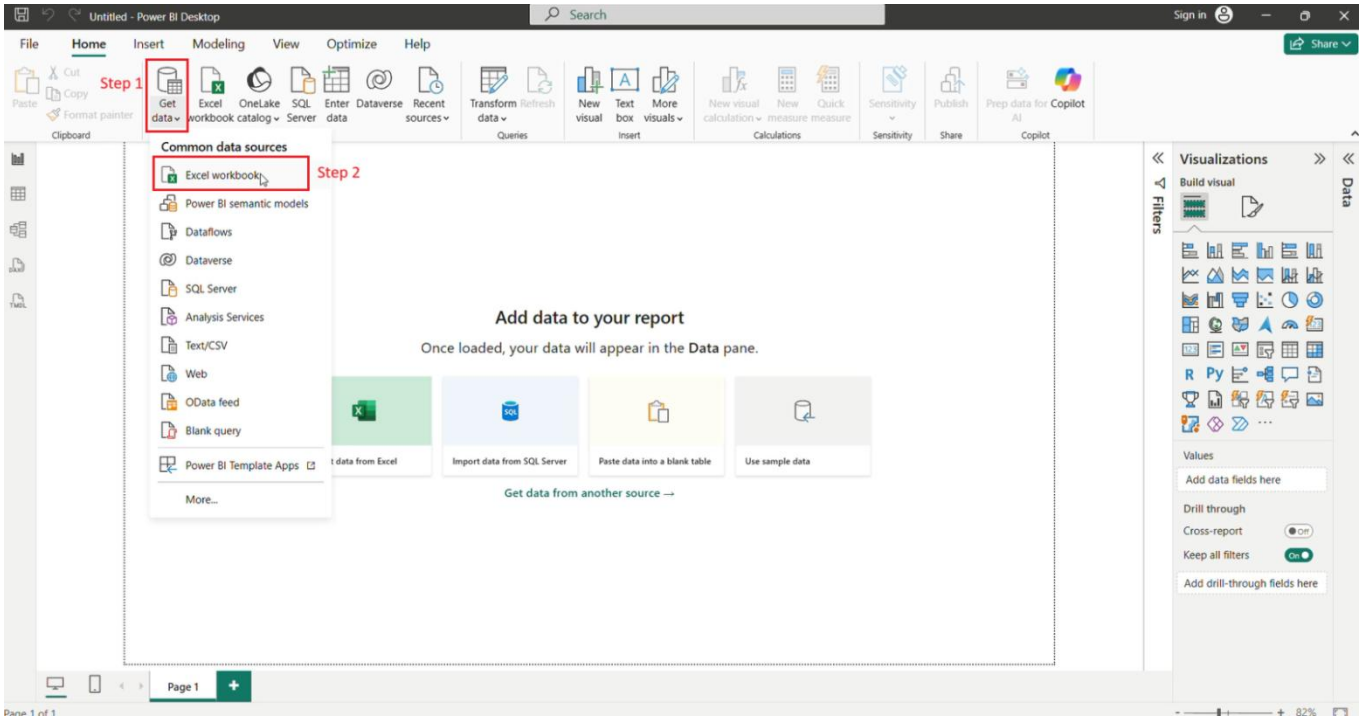
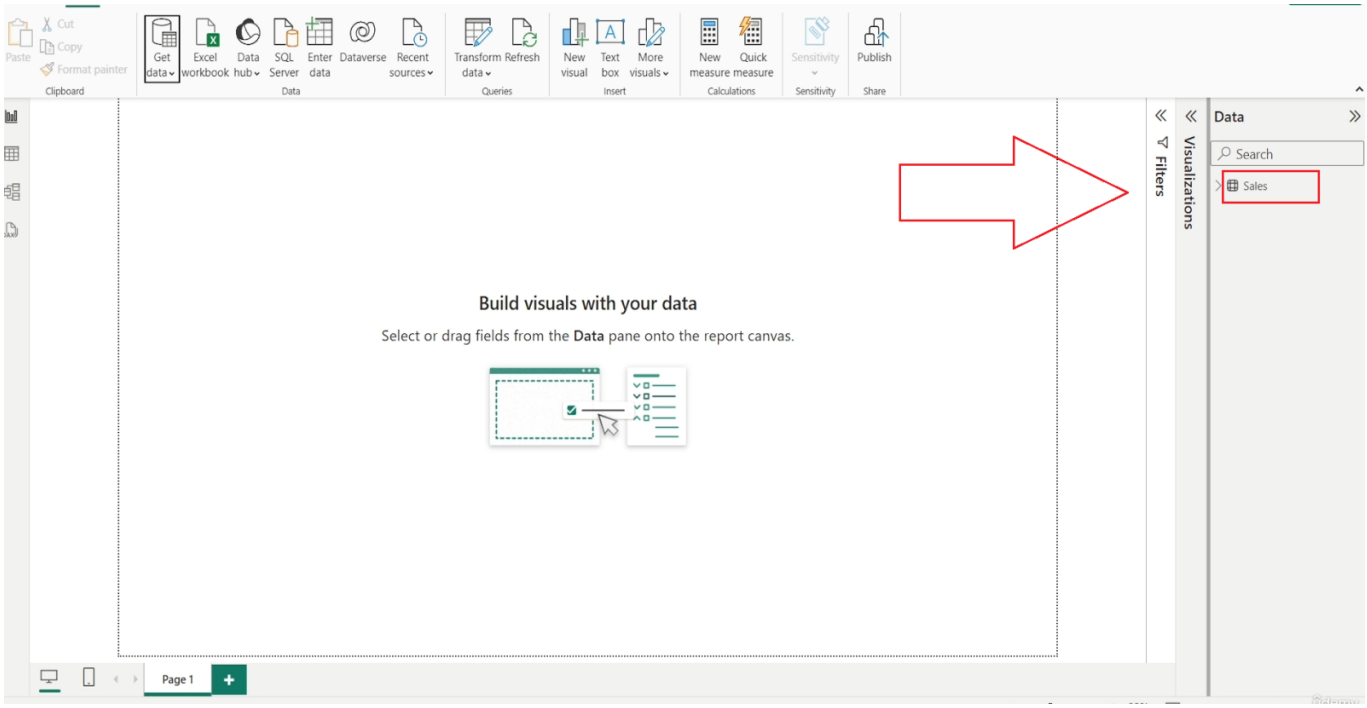
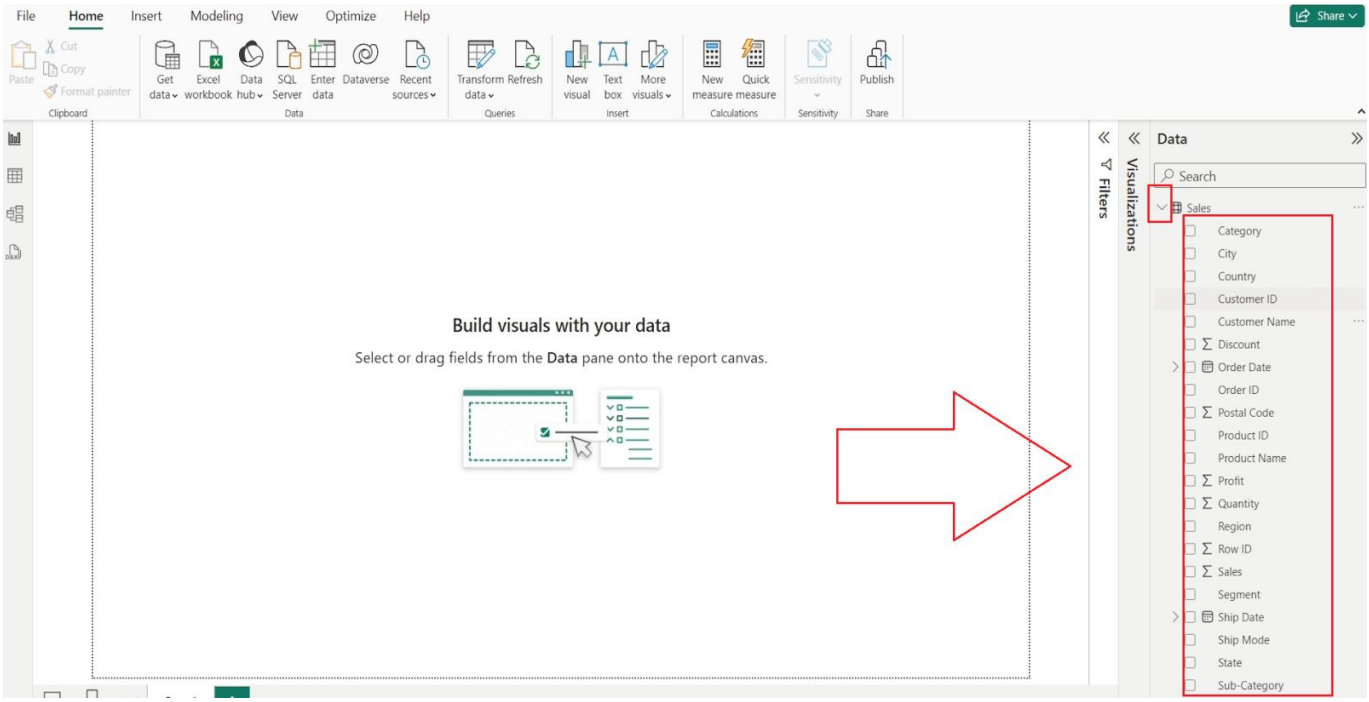
- Import the data



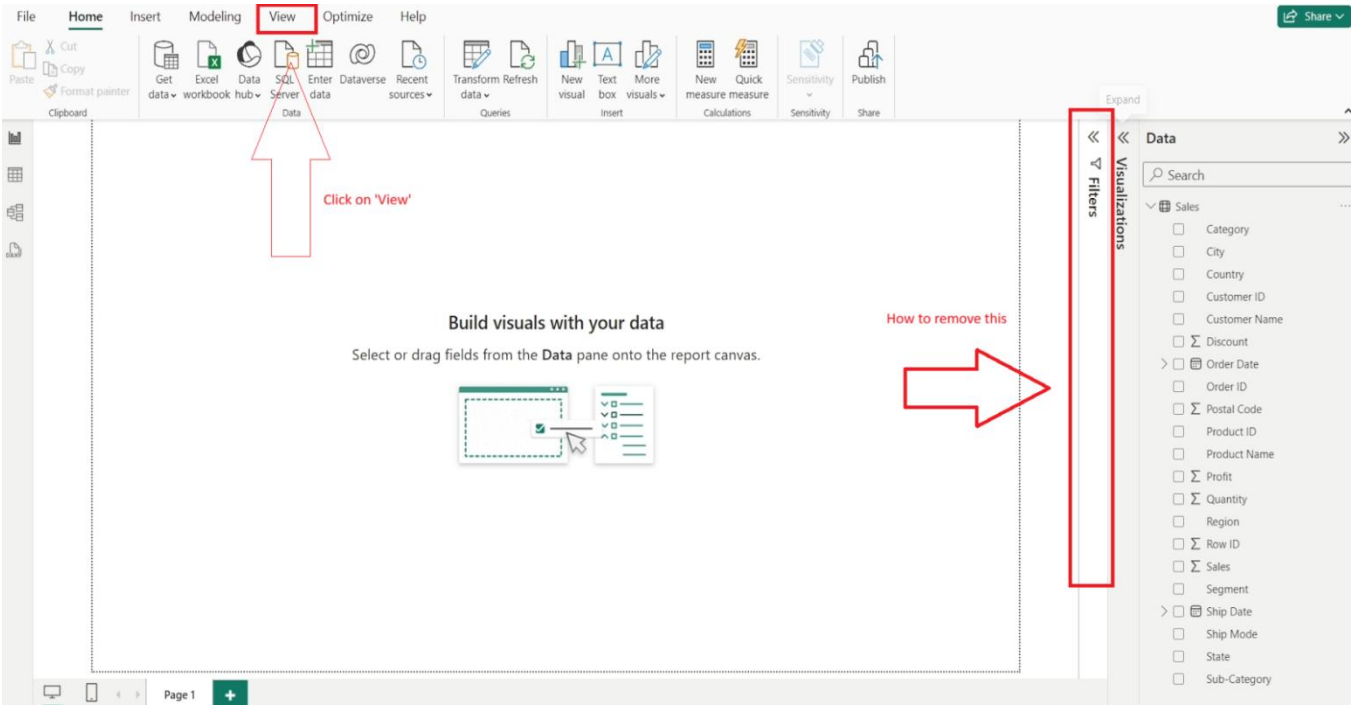
- Dataset loaded



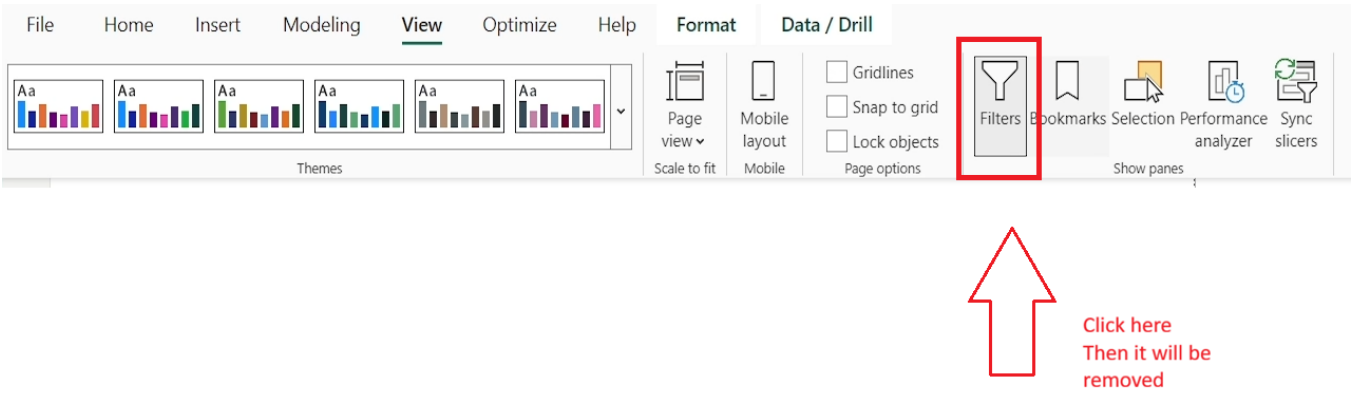
- Various columns of the data



- How to remove the 'Filters' (As we don't need this now)

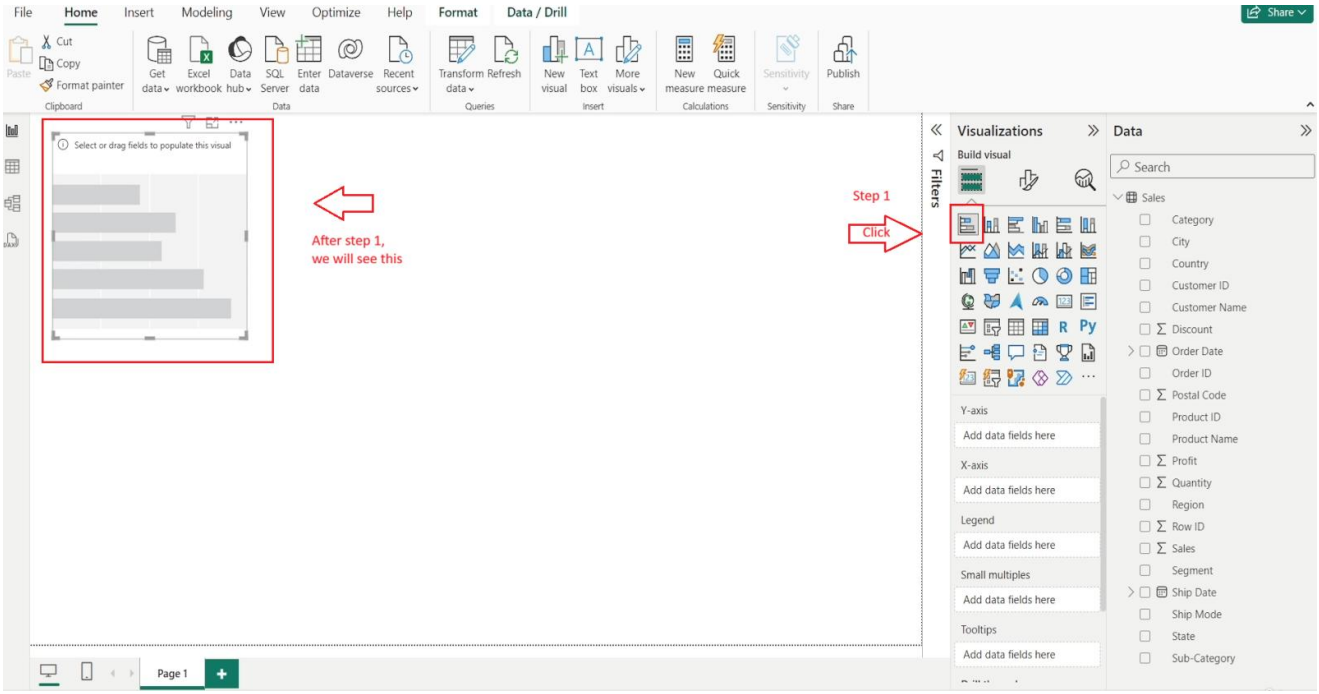


Step 2:

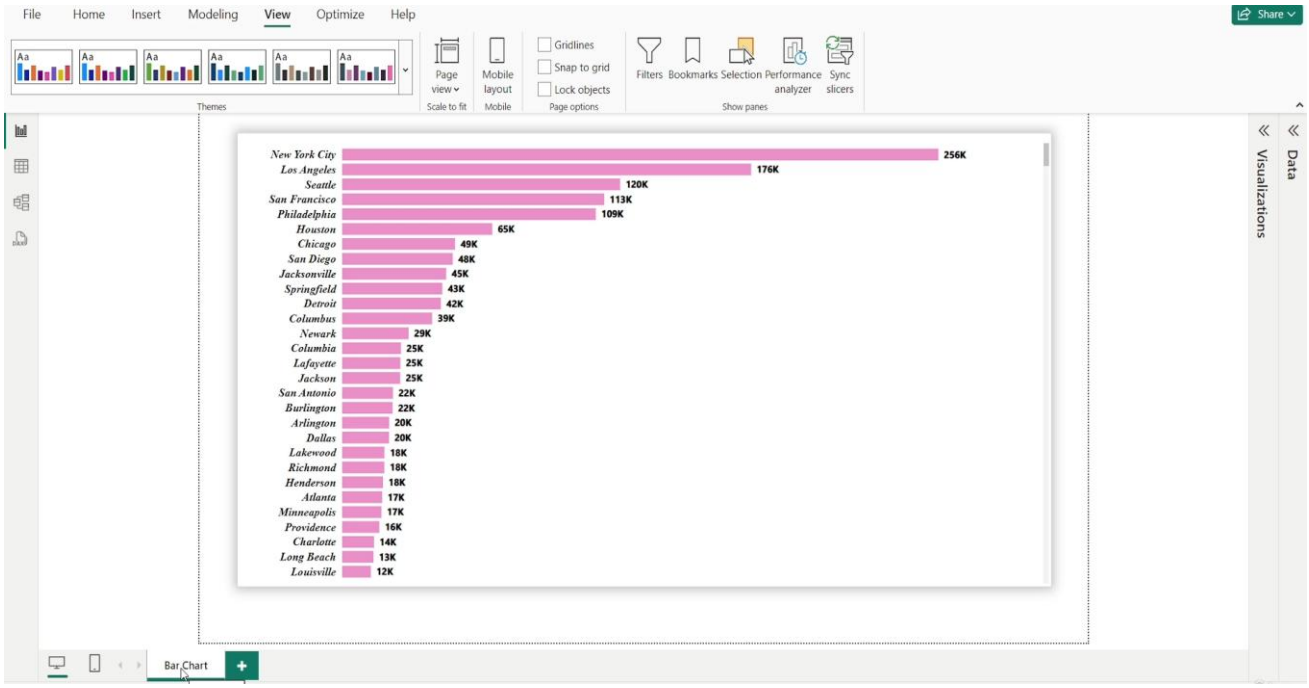


- Various Charts

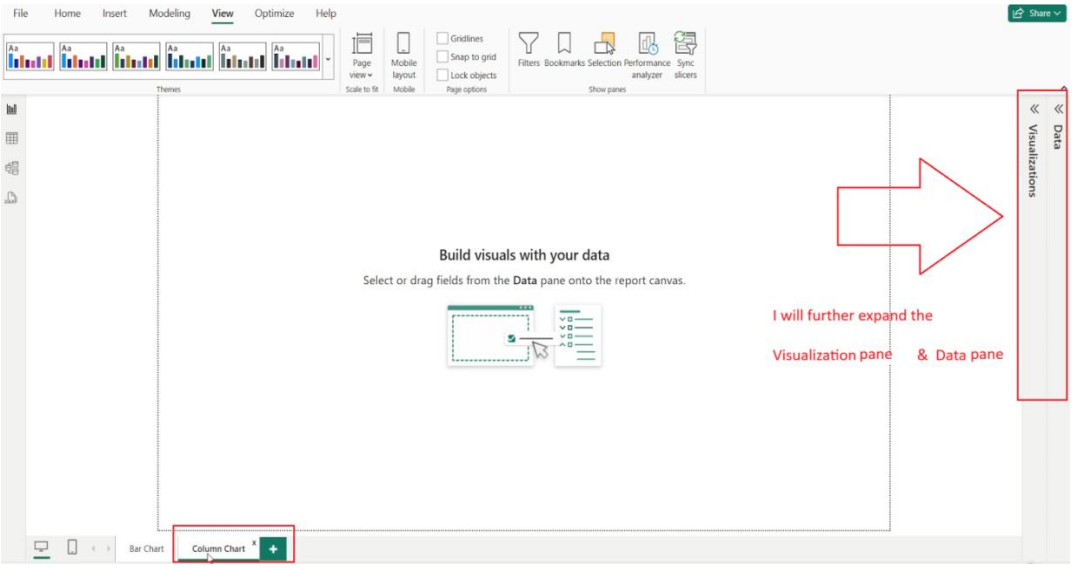
1. Creating a Bar chart



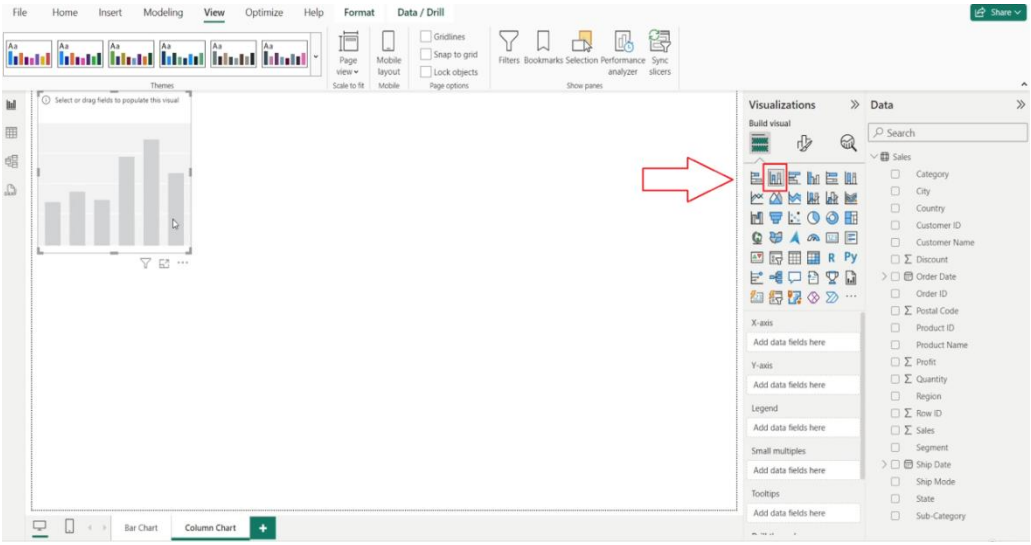
RESULTS: (Y – X) → (Sales – City)



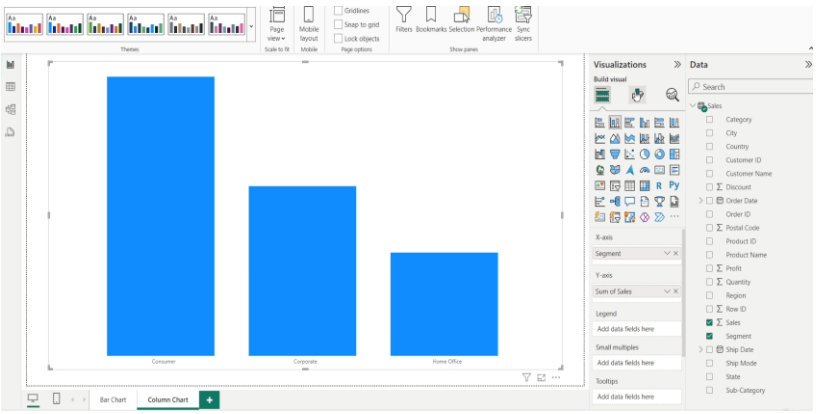
2. Stack Column Chart



Step 2

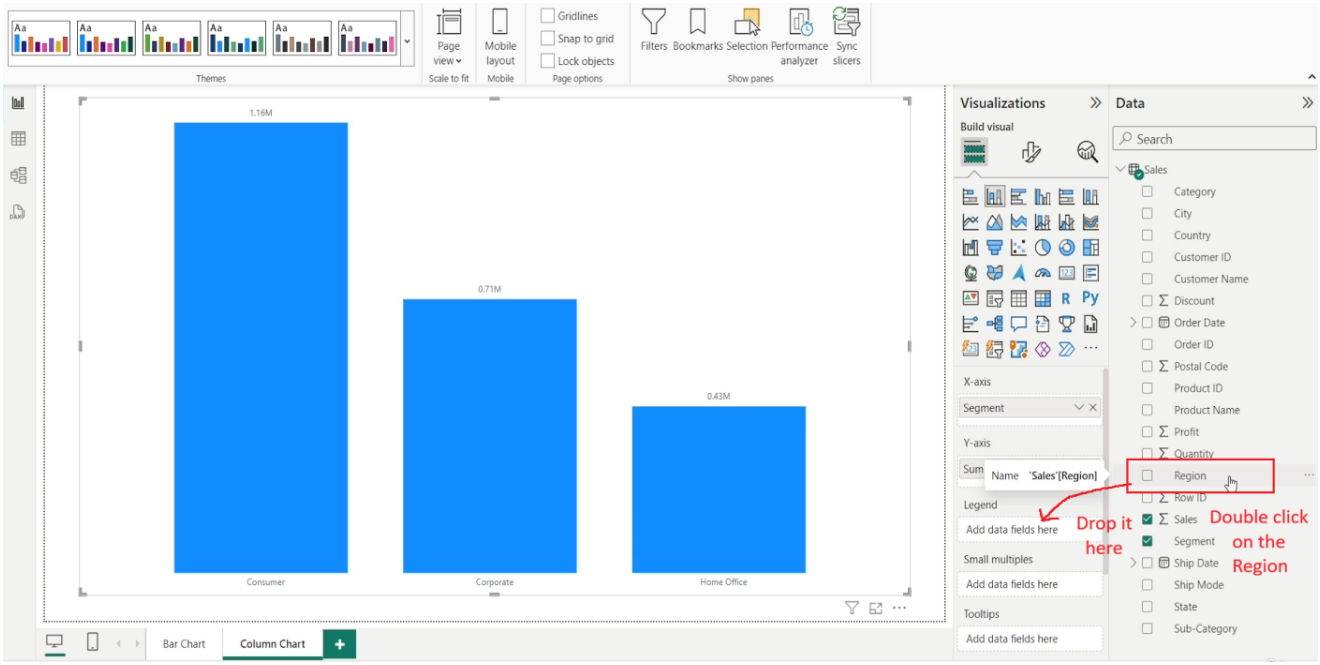


RESULTS: (X – Y) → (Segment – Sales)

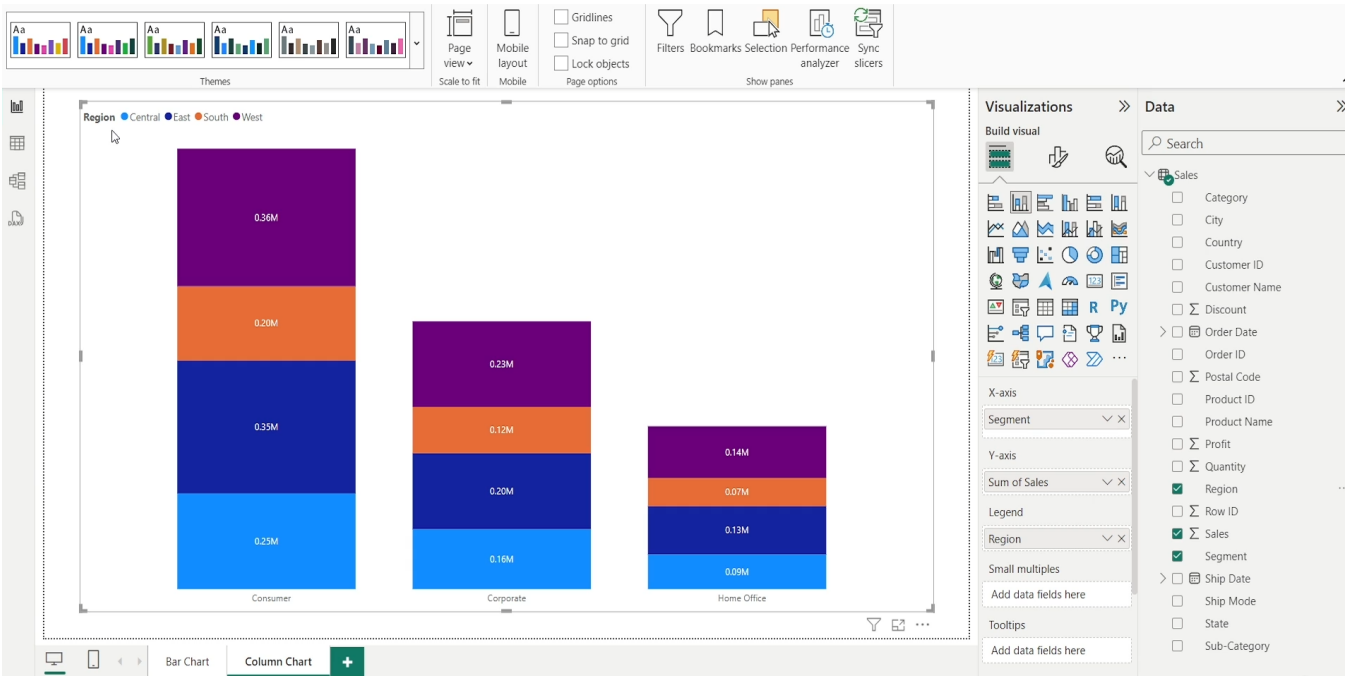


Lets say we are interested in representing the sales not by just using different segments,

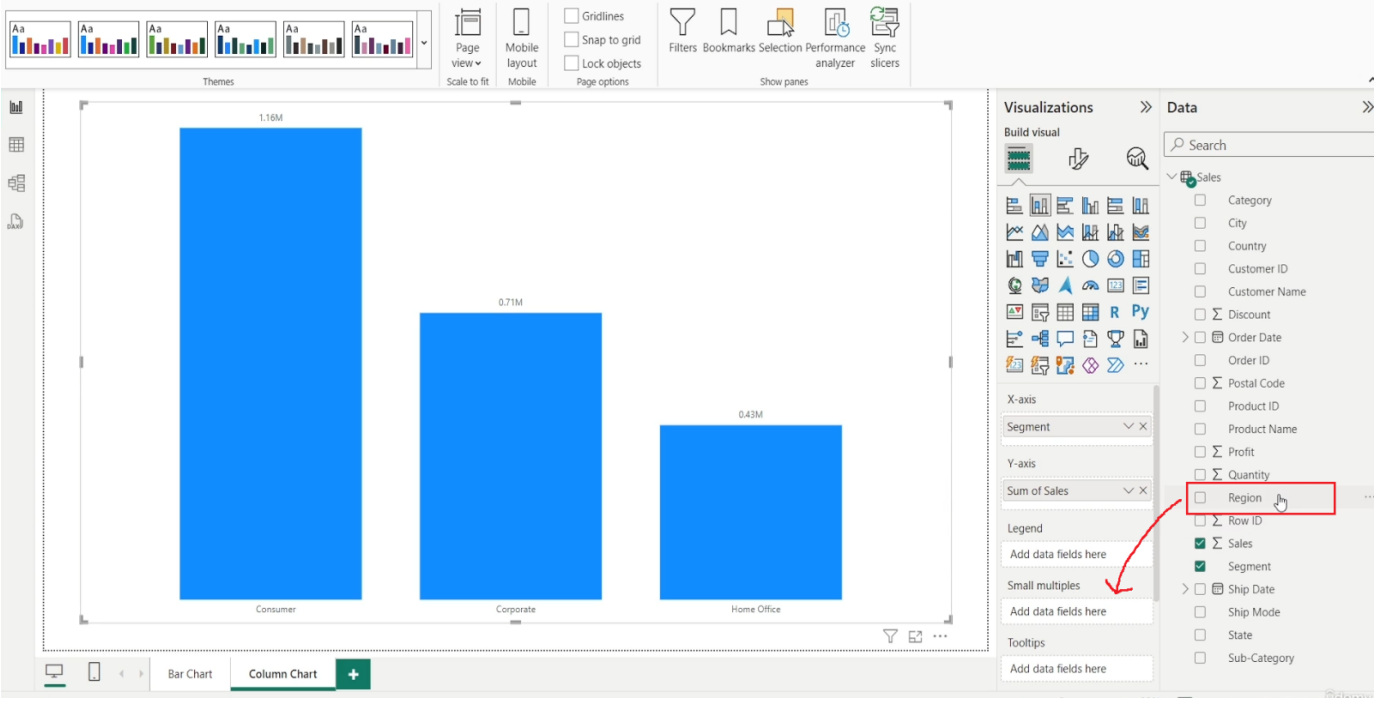
But also by different '**Segments**' & '**Regions**' as well.



RESULTS



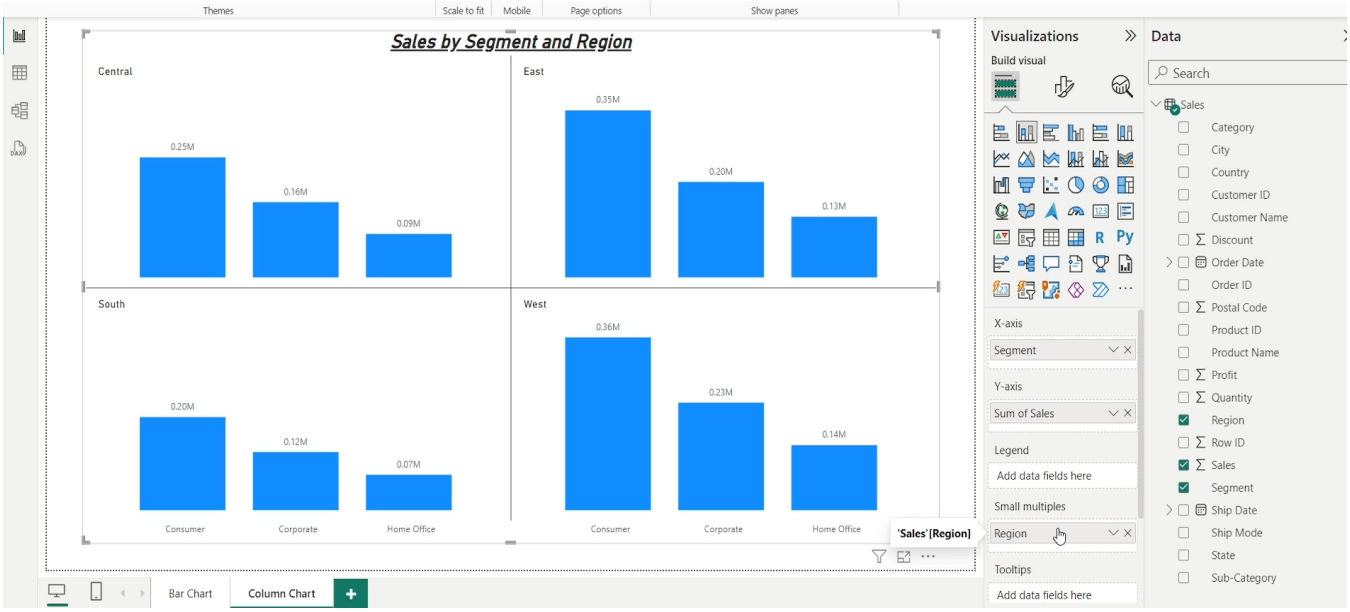
What if we will move **'Region'** to '**Small multiples section'.**



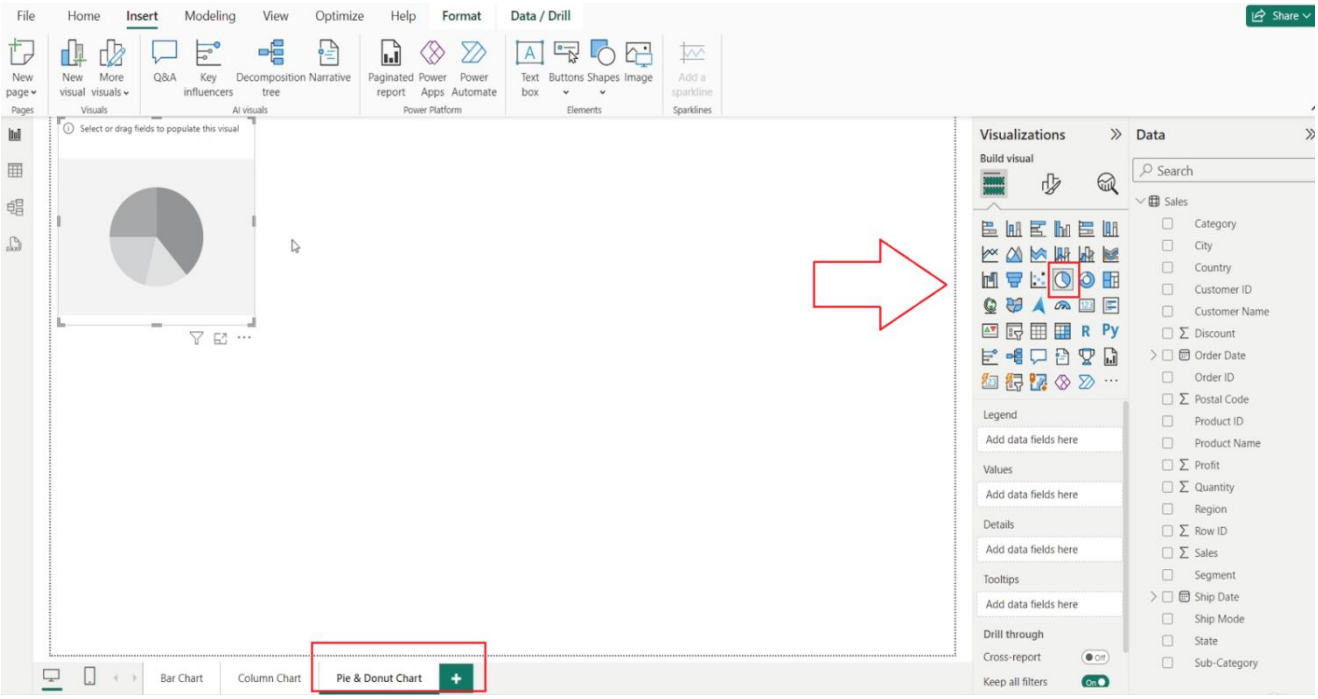
RESULT

In this case we can see that 4 different column charts have been created for each Region,

And these charts are now representing the **sales for each segment**.

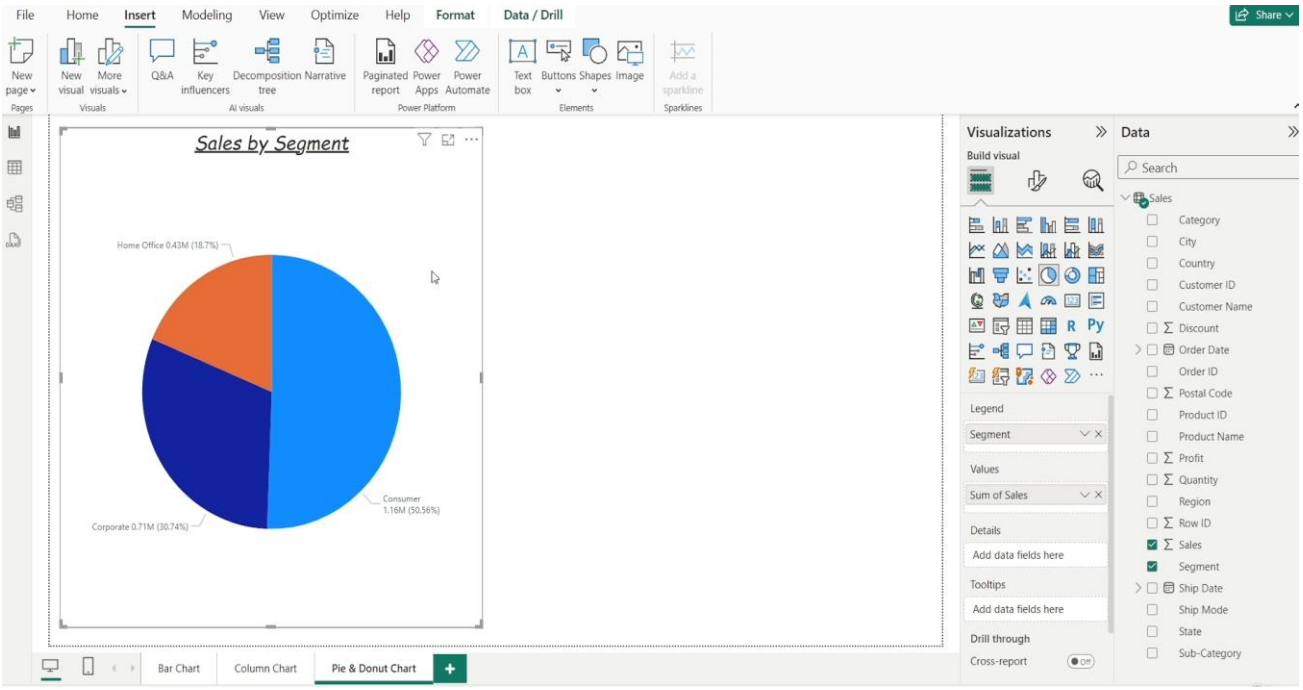


3. Pie Chart & Donut Chart

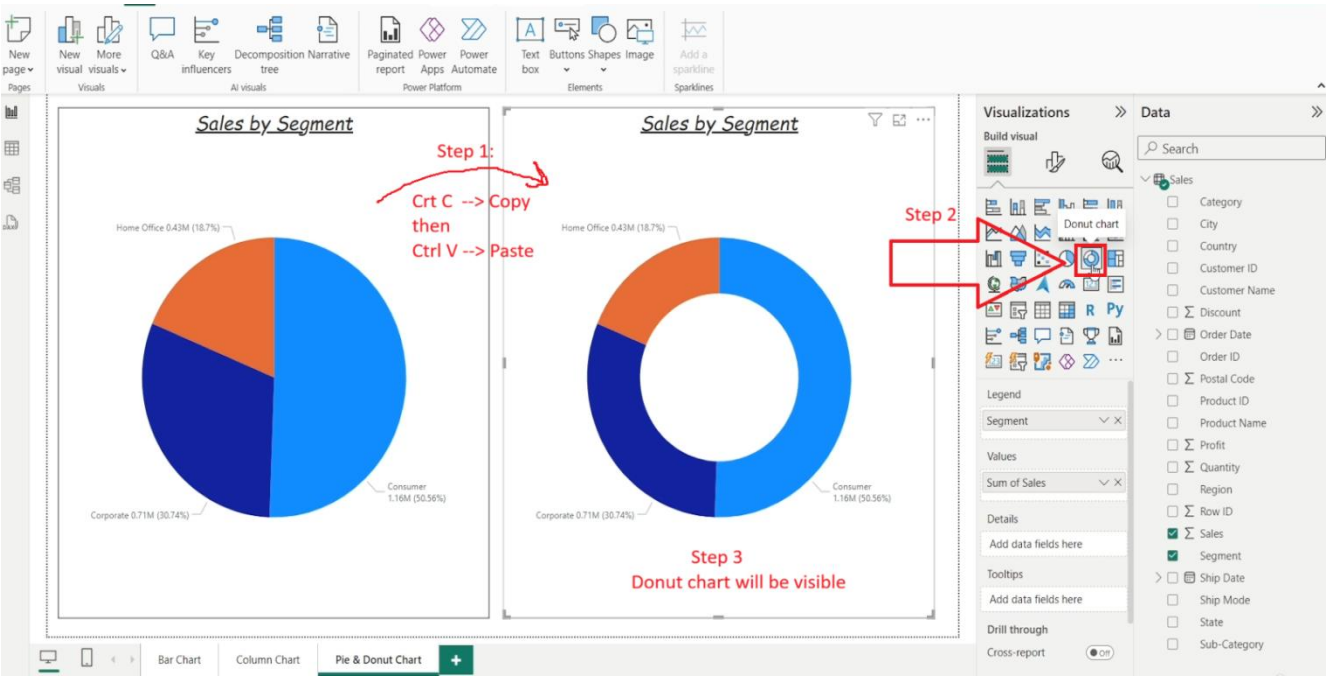


RESULT: (Legend - Values) → **(Segment – Sales)**

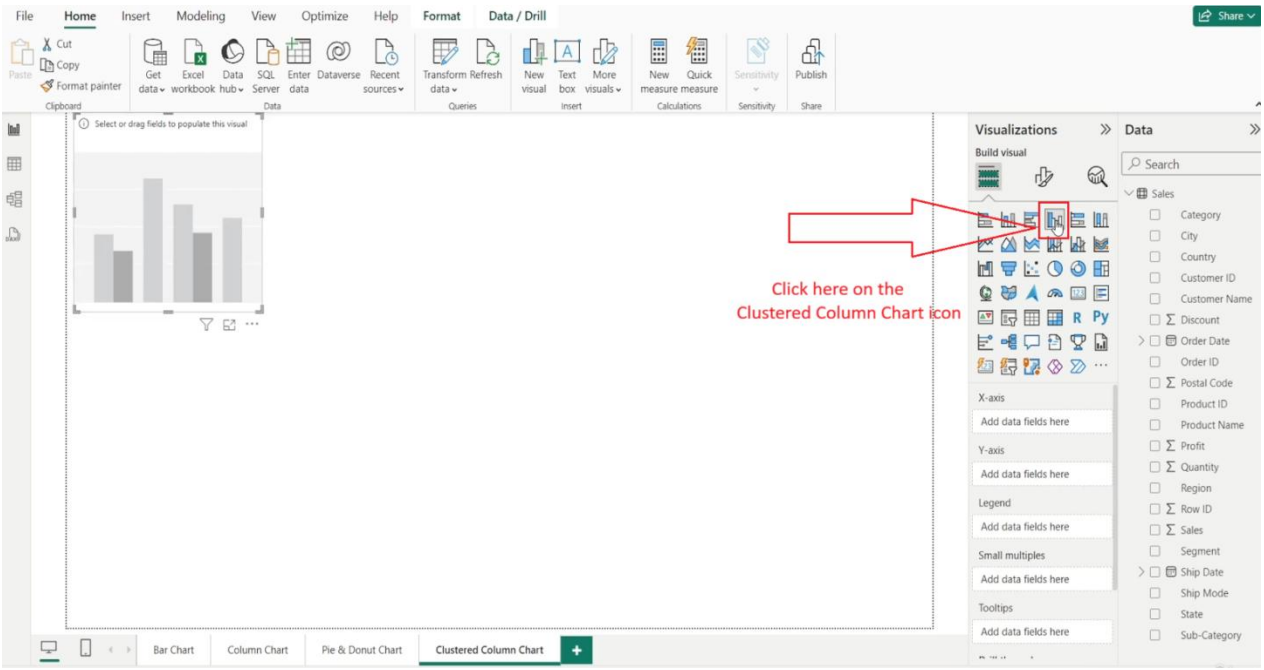
It is generally recommended to use these Pie & Donut charts when we don't have more than 3 or 4 catogories, because if we will have more catogories that it might have **impact the readability of the chart**.



- Donut Chart


Sales by Segment
Step 1:
Crt C --> Copy
then
Ctrl V --> Paste
Home Office 0.43M (18.7%)
Consumer 1.16M (50.56%)
Corporate 0.71M (30.74%)
Sales by Segment
Step 2
Step 3
Donut chart will be visible
Visualizations
Build visual
Donut chart
Legend
Segment
Values
Sum of Sales
Details
Add data fields here
Tooltips
Add data fields here
Drill through
Cross-report
Data
Search
Sales
Category
City
Country
Customer ID
Customer Name
Discount
Order Date
Order ID
Postal Code
Product ID
Product Name
Profit
Quantity
Region
Row ID
Sales
Segment
Ship Date
Ship Mode
State
Sub-Category
Bar Chart
Column Chart
Pie & Donut Chart

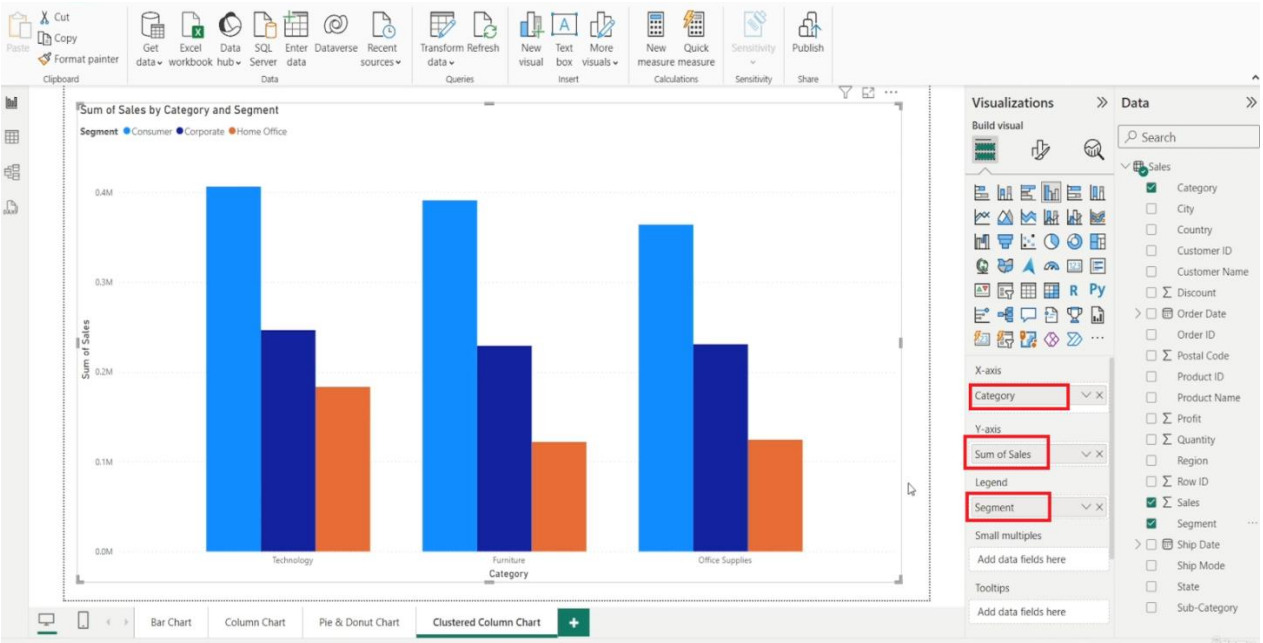
4. Clustered Column Chart



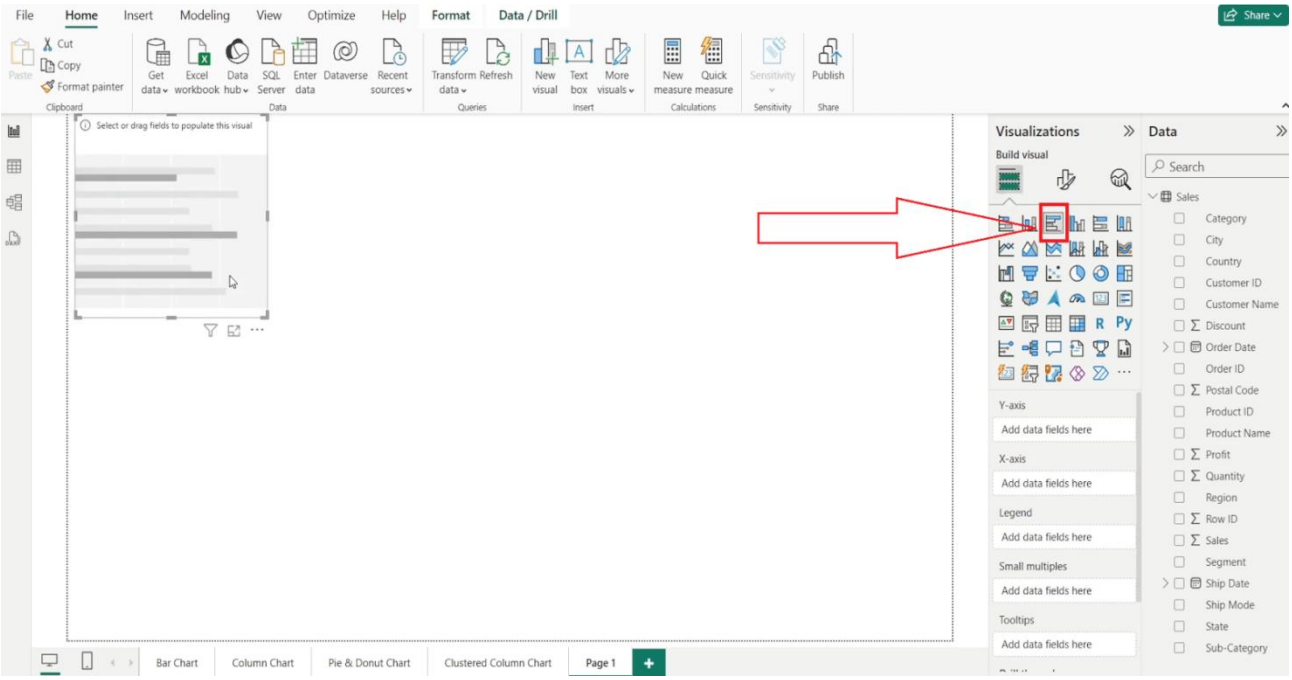
Now lets suppose we wanna represent a **'Sales'** for different **'Categries' & 'Segments'.**

RESLUTS:

- (X – Y) → (Category – Sales) → Till now simple column chart has been created
- 'Segment' field on the 'Legend section' → Now the clustered column chart is created fr each od the category.



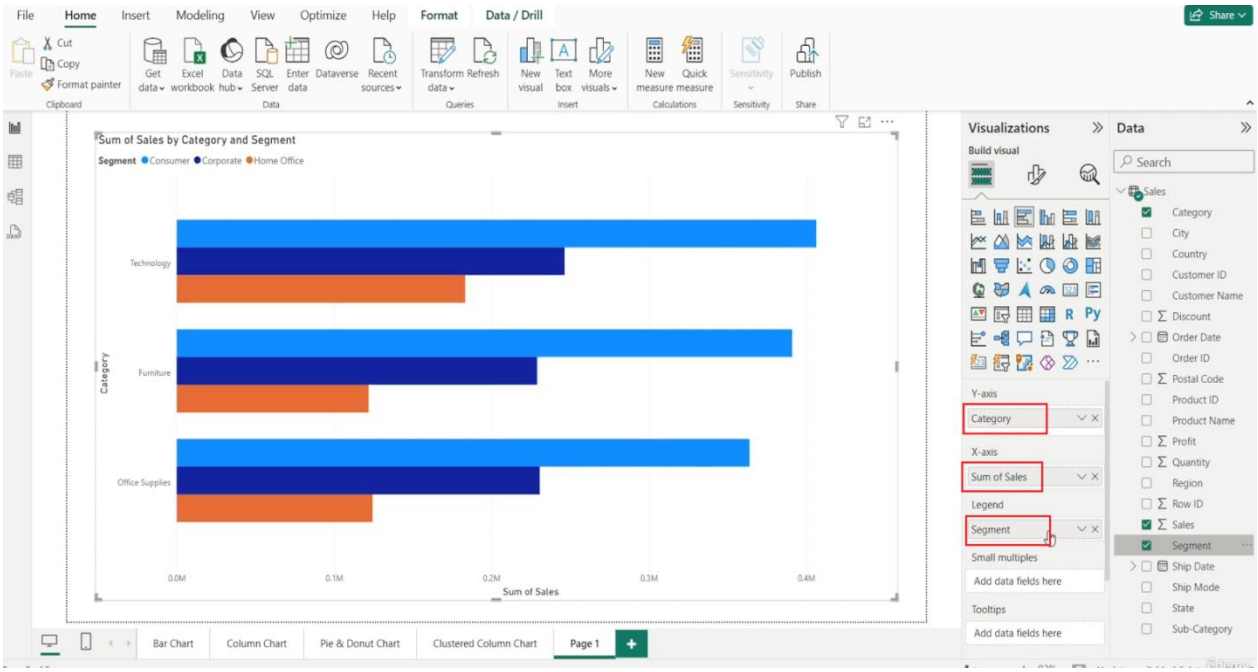
5. Clustered Bar Chart



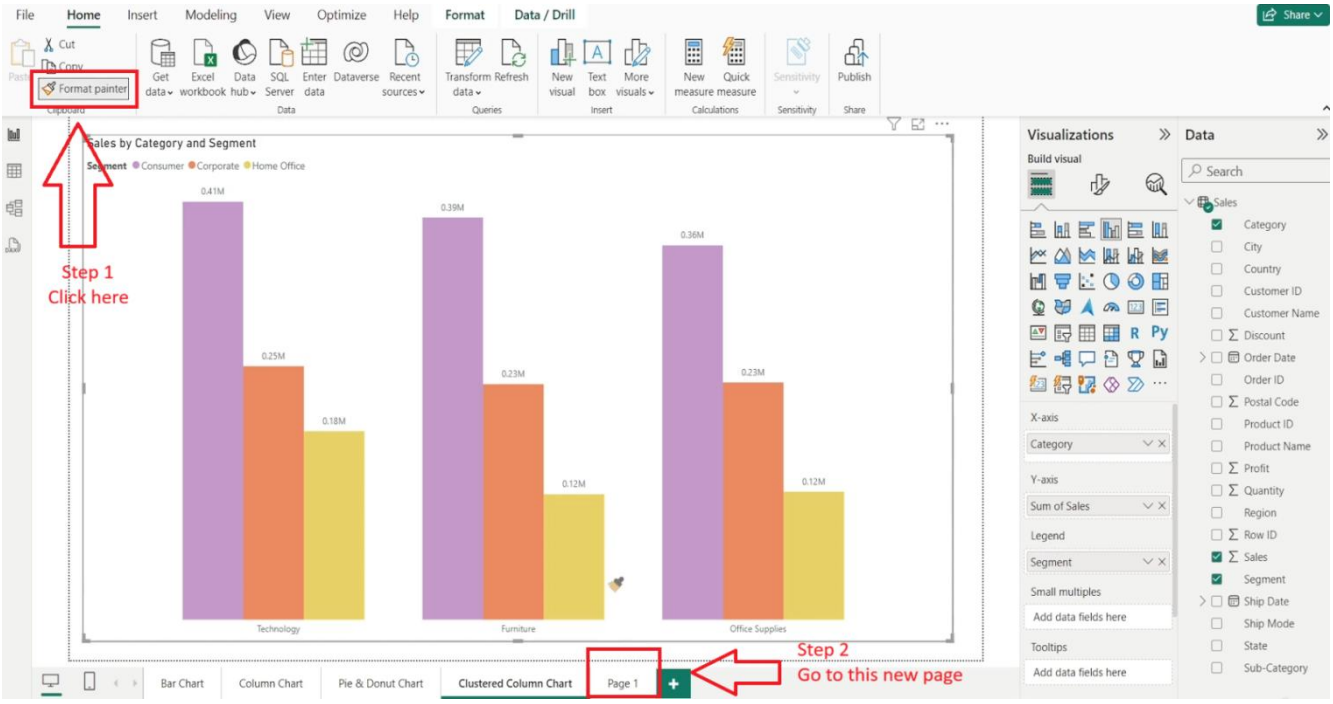
Now lets suppose we wanna represent a **'Sales'** for different **'Categries' & 'Segments'.**

RESLUTS:

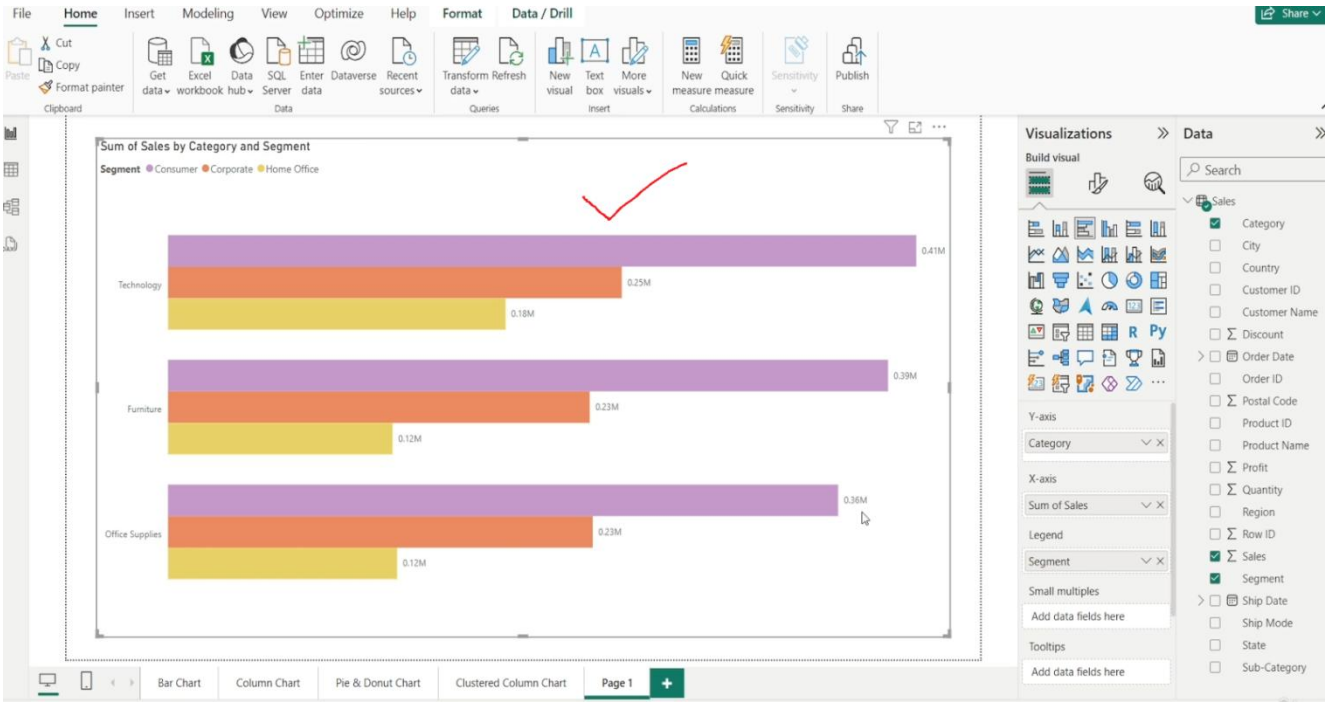
- (Y – X) → (Category – Sales) → Till now simple bar chart has been created
- 'Segment' field on the 'Legend section' → Now the clustered bar chart is created fr each od the category.



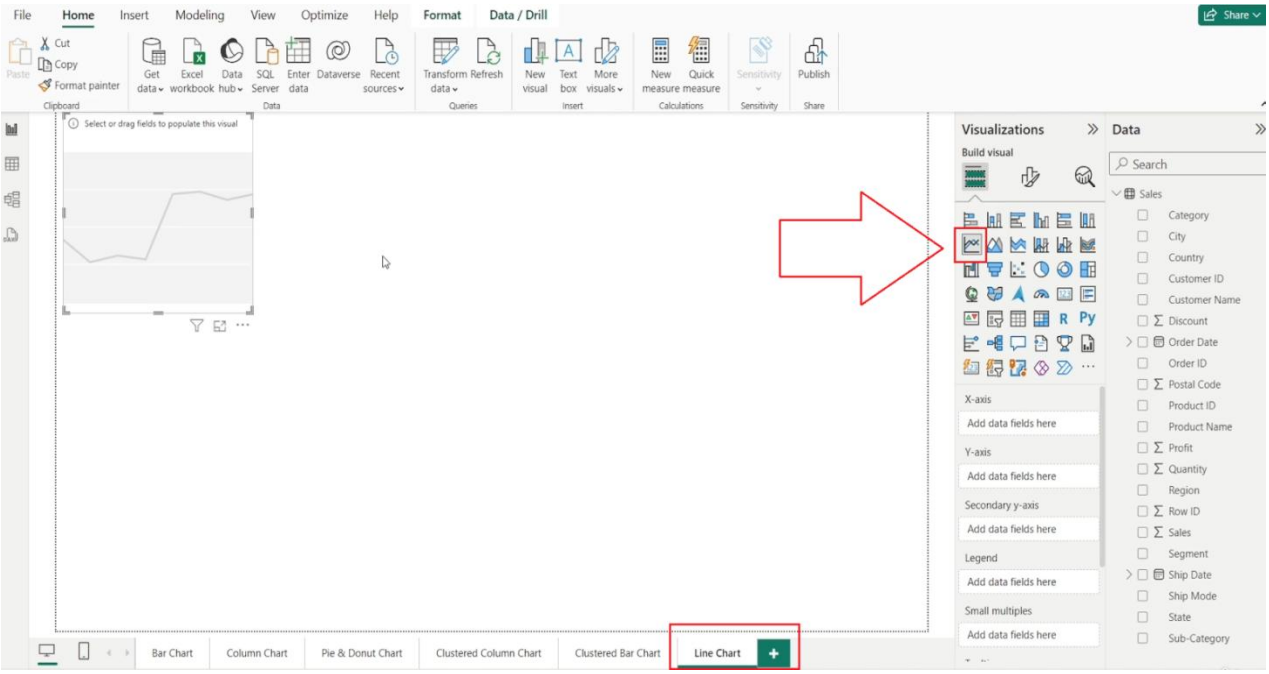
NOTE: If we want **same formatting** like the 'Custom Column Chat', then do this



And click on the next page , the formatting will be changed.



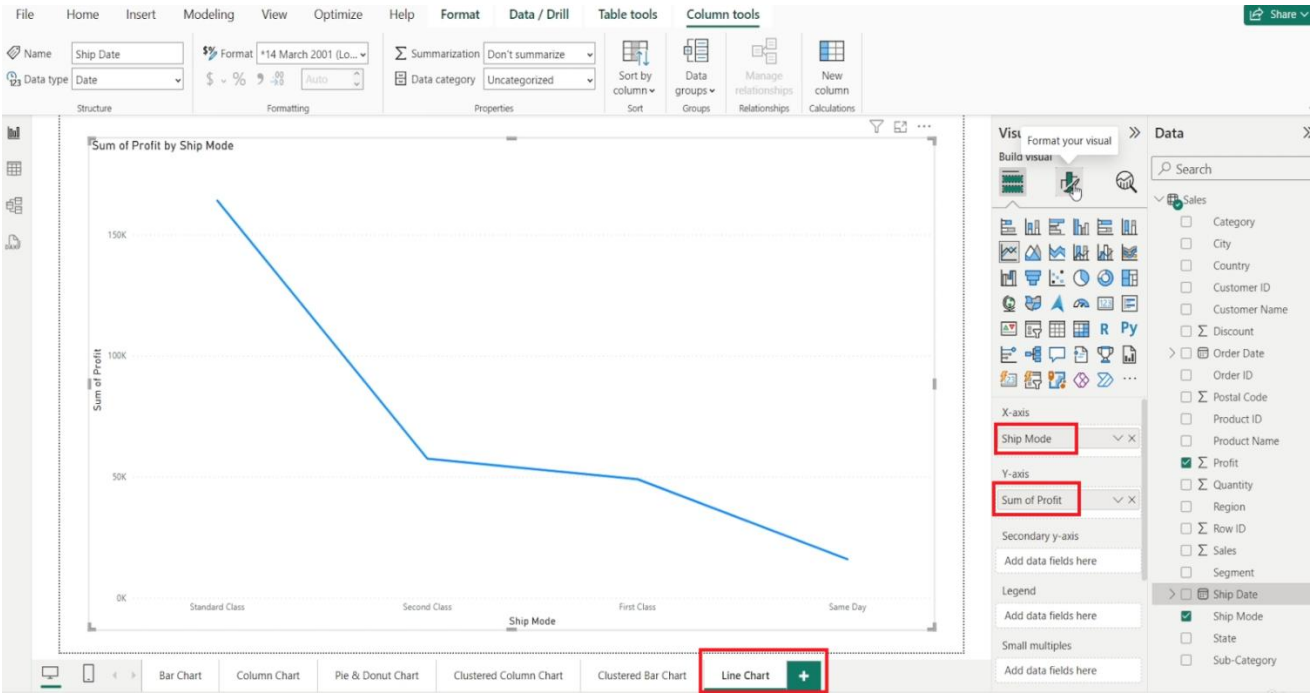
6. Line Chart & Area Chart



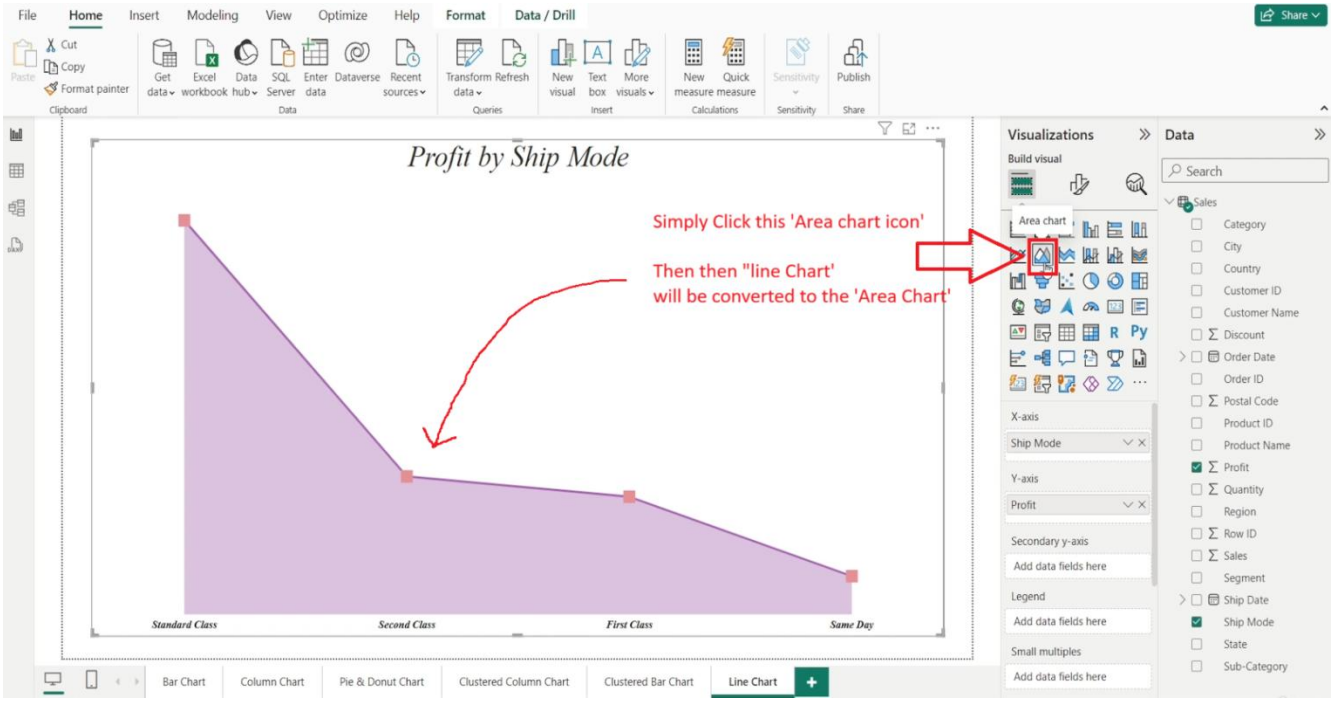
Now lets suppose we wanna represent a **profit** of different **shipping modes**.

RESLUTS:

- (X - Y) → (Ship Mode - Profit) → Till now simple line chart has been created

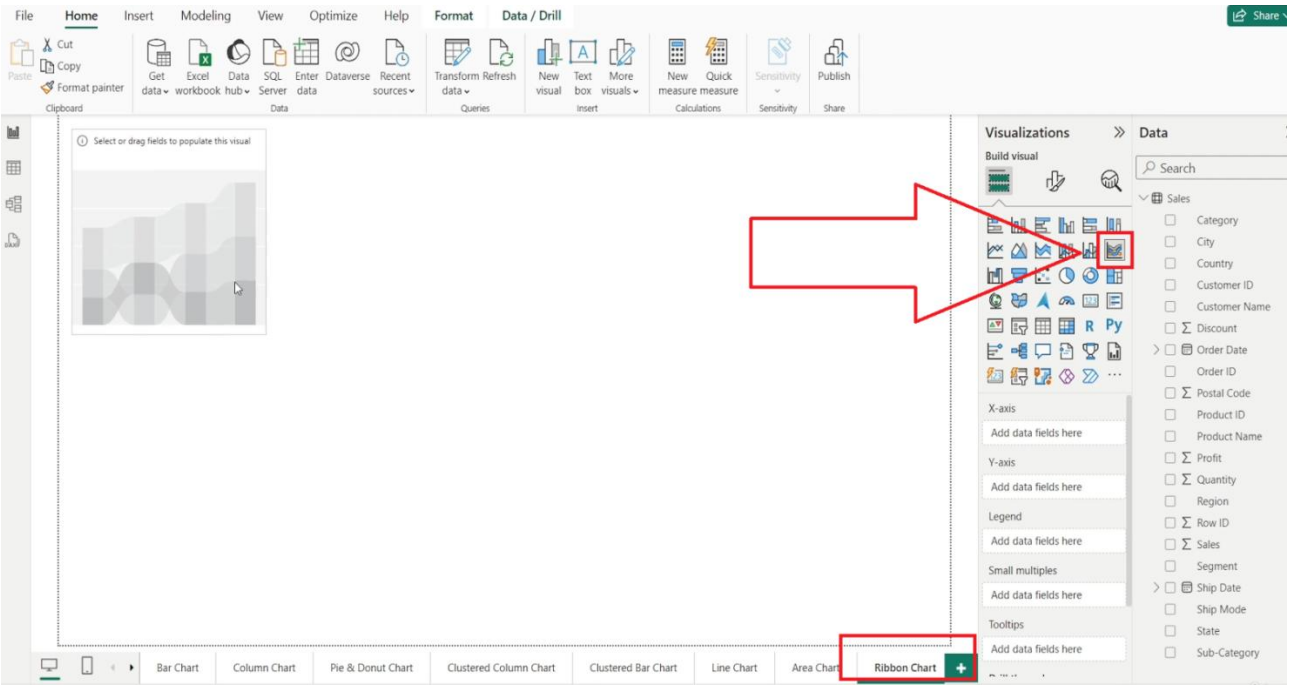


- Area Chart



If it is not working, then simply create a new 'Area Chart'

7. Ribbon Chart

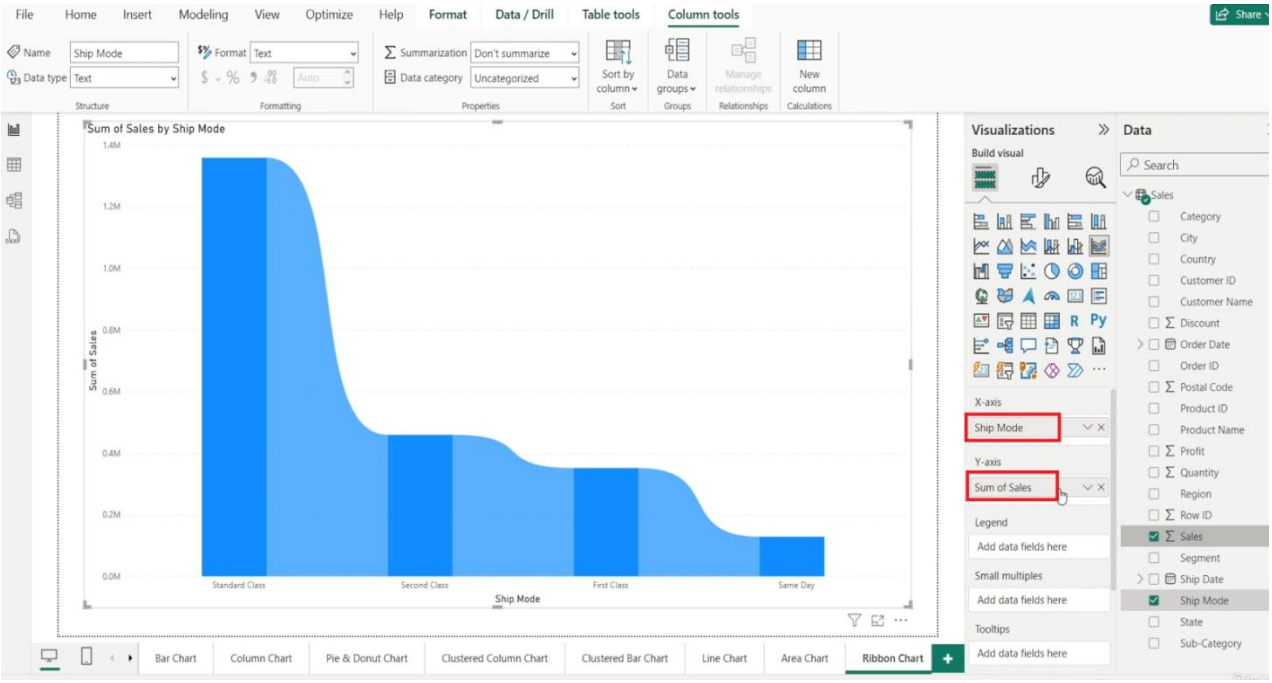


We prefer to use this Ribbon chart when we want to represent the data based on **Ranks for different categories.**

Now lets suppose we wanna represent a **profit** of different **shipping modes**.

RESLUTS:

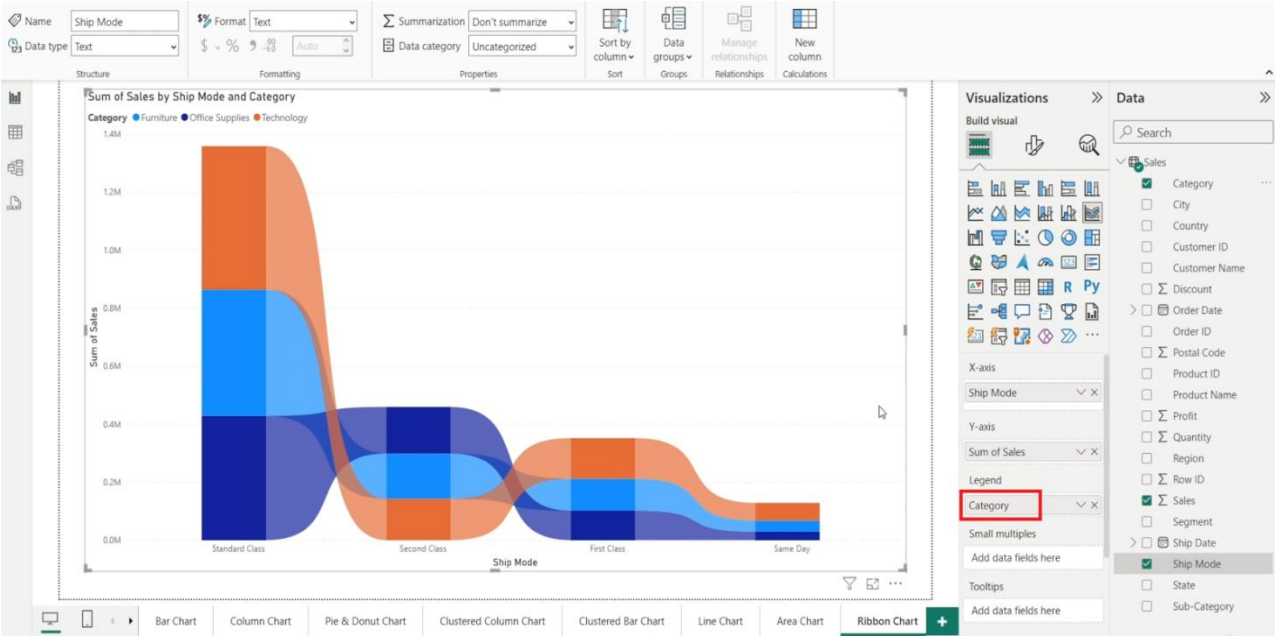
- (X - Y) → (Ship Mode - Sales) → Till now simple Ribbon chart has been created



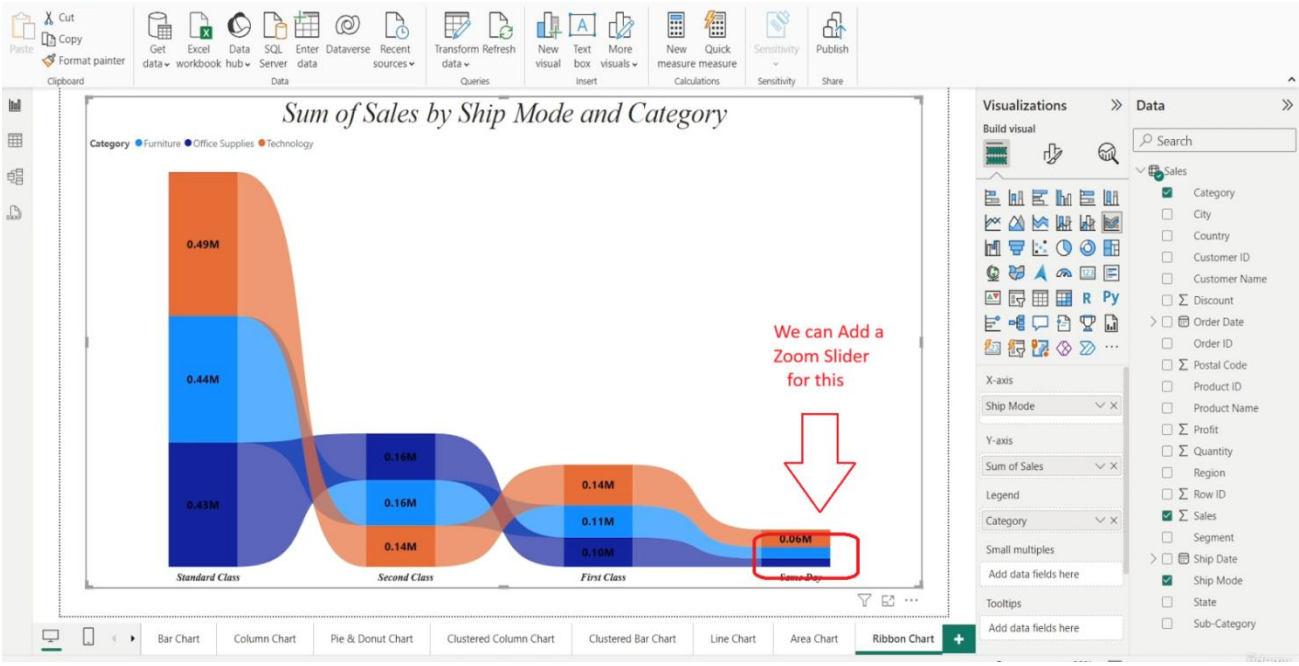
Since we want to represent the **data** to be **ranked according to categories**

and then we want to represent it in the Ribbon Chart.

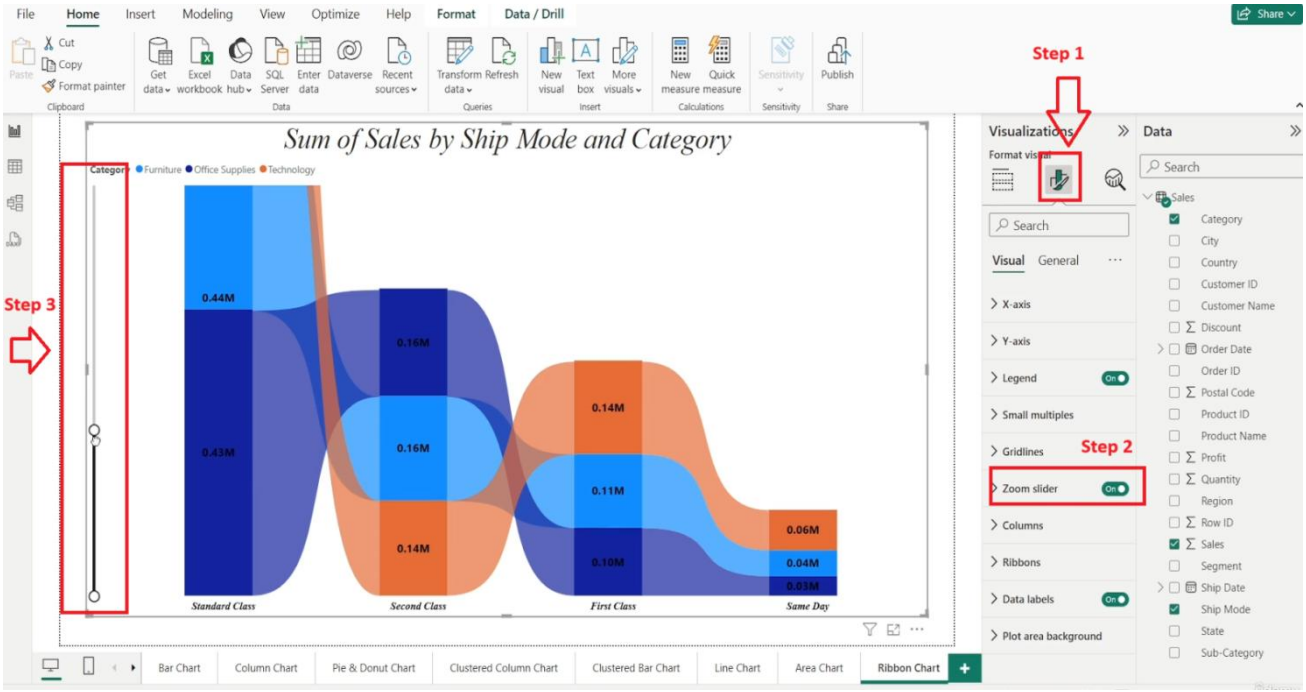
- ‘Category’ field on the ’Legend section’ → Now we can see that **based on the Rank** different **categories** are represented for each **ship mode**.



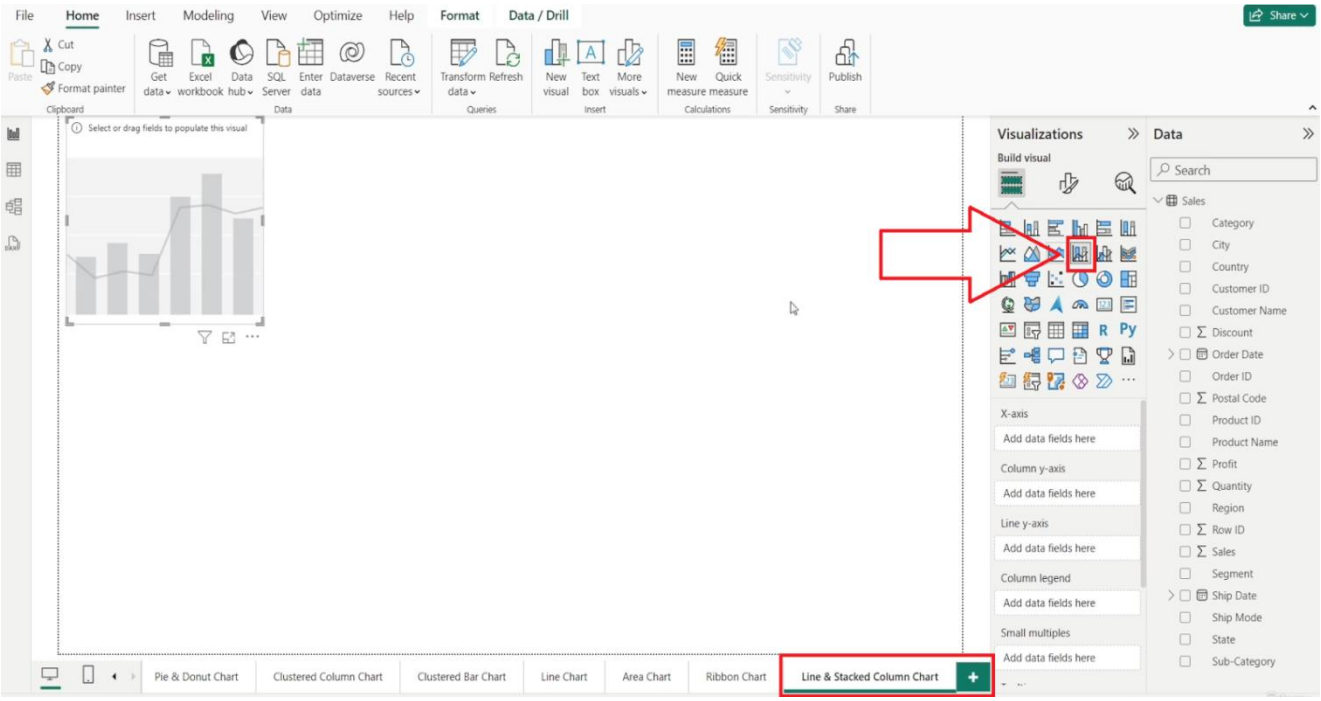
After Copying the **Formatting**,



Zoom Slider


Step 1
Step 2
Step 3
Sum of Sales by Ship Mode and Category
Category
Furniture
Office Supplies
Technology
0.44M
0.43M
0.16M
0.16M
0.14M
0.14M
0.11M
0.10M
0.06M
0.04M
0.03M
Standard Class
Second Class
First Class
Same Day
Visualizations
Format visual
Visual
General
X-axis
Y-axis
Legend
Small multiples
Gridlines
Zoom slider
Columns
Ribbons
Data labels
Plot area background
Data
Sales
Category
City
Country
Customer ID
Customer Name
Discount
Order Date
Order ID
Postal Code
Product ID
Product Name
Profit
Quantity
Region
Row ID
Sales
Segment
Ship Date
Ship Mode
State
Sub-Category
Bar Chart
Column Chart
Pie & Donut Chart
Clustered Column Chart
Clustered Bar Chart
Line Chart
Area Chart
Ribbon Chart

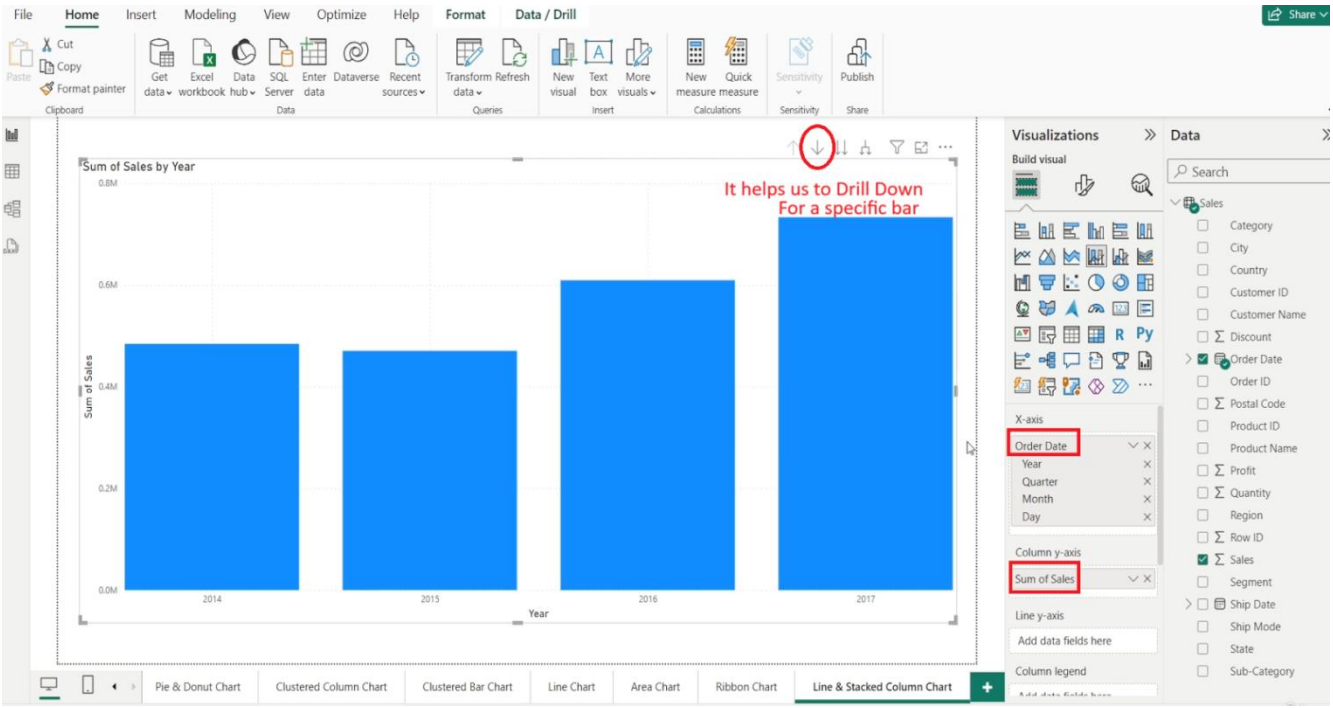
8. Line & Stacked Column Chart



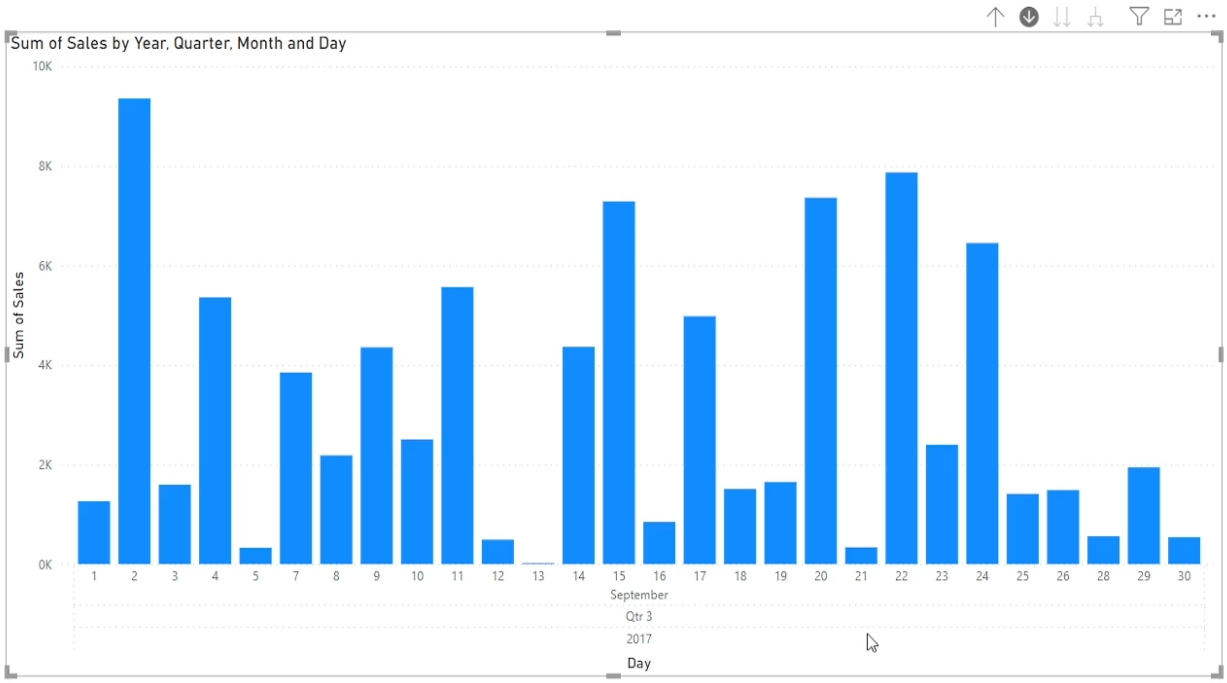
It is a combination of both 'Line Chart' + 'Column Chart'.

RESLUTS:

- (X – Column Y) → (Order Date - Sales) → Till now simple Ribbon chart has been created

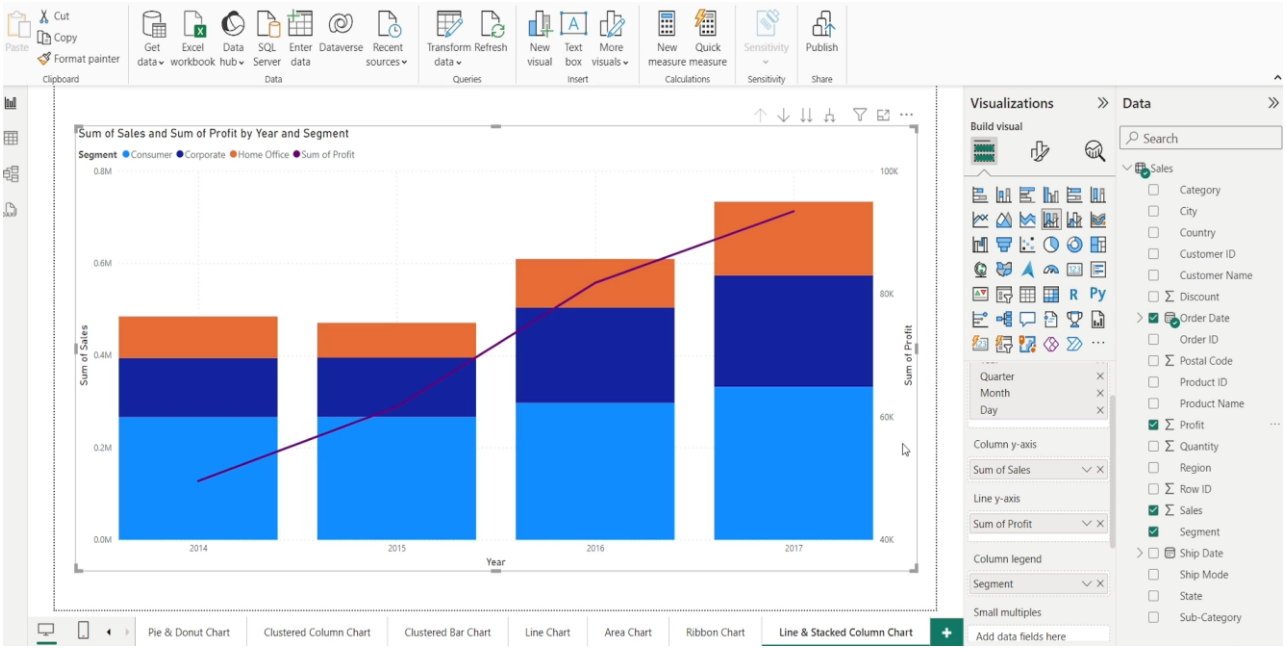


Example of Drill Down



Now we will add more

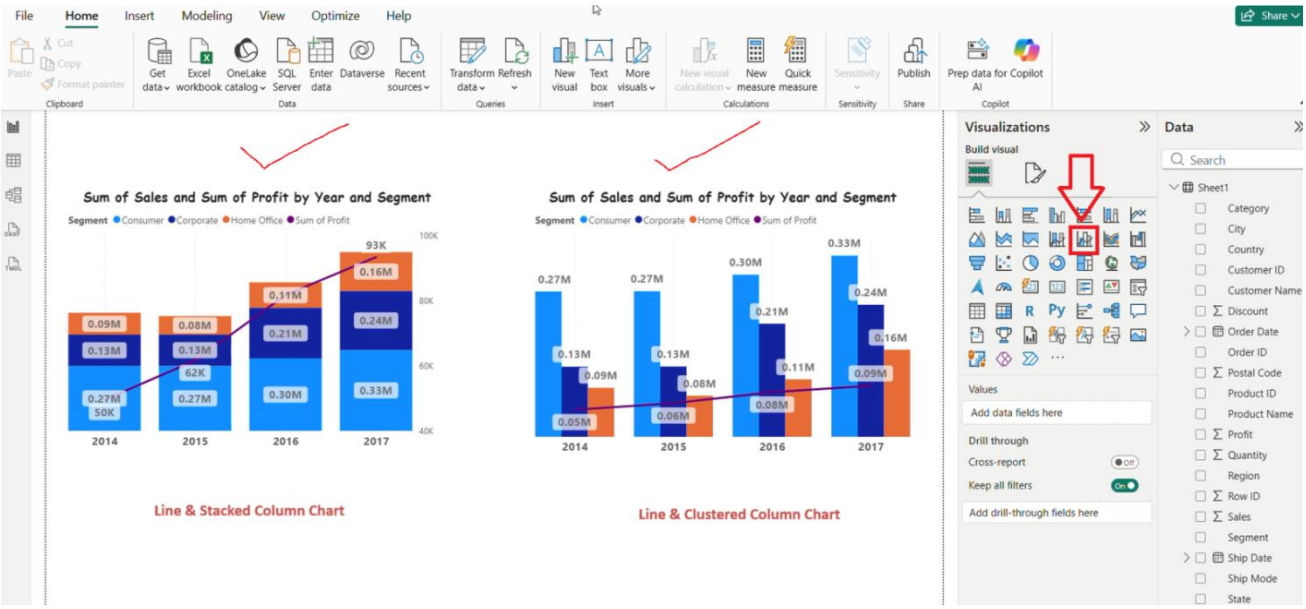
- 'Legend section' : 'Segment' field
- **Line y-axis :** Profit → This will add line chart



Here we have two charts combined in in chart.

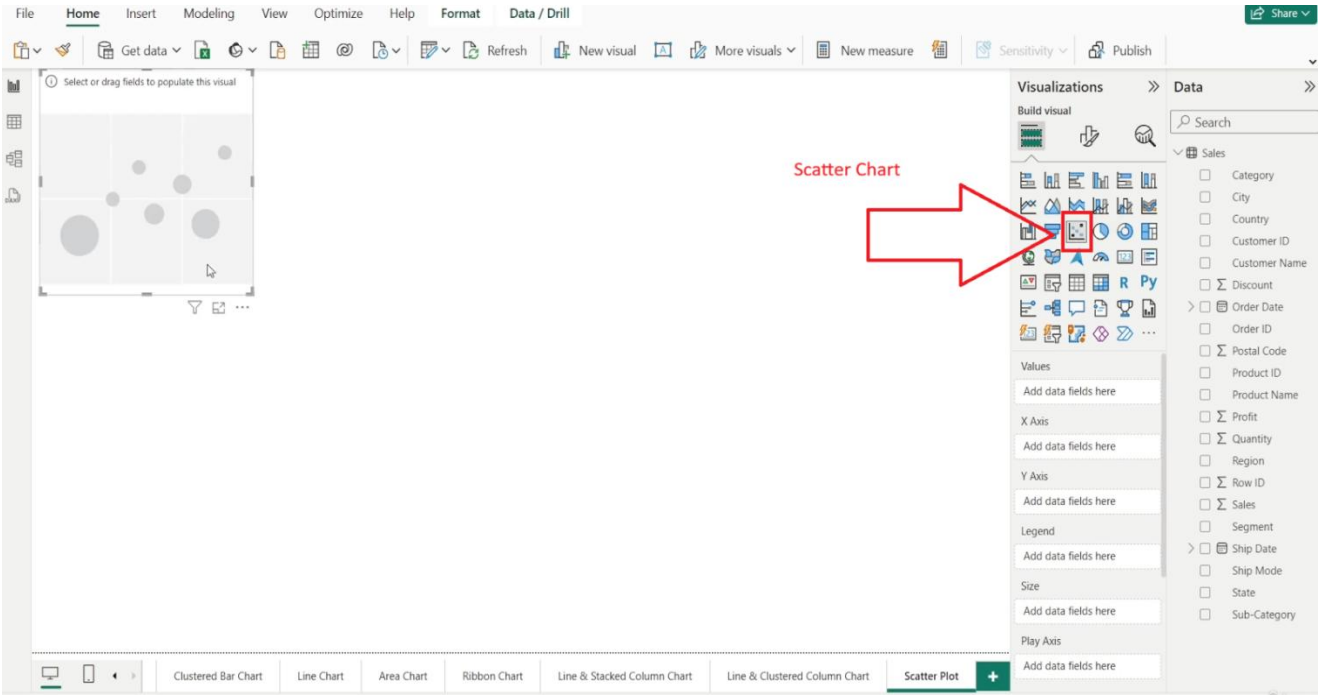
9. Line & Clustered Column Chart

Simply click on the 'Line & Clustered Column chart' icon, it will be converted to it



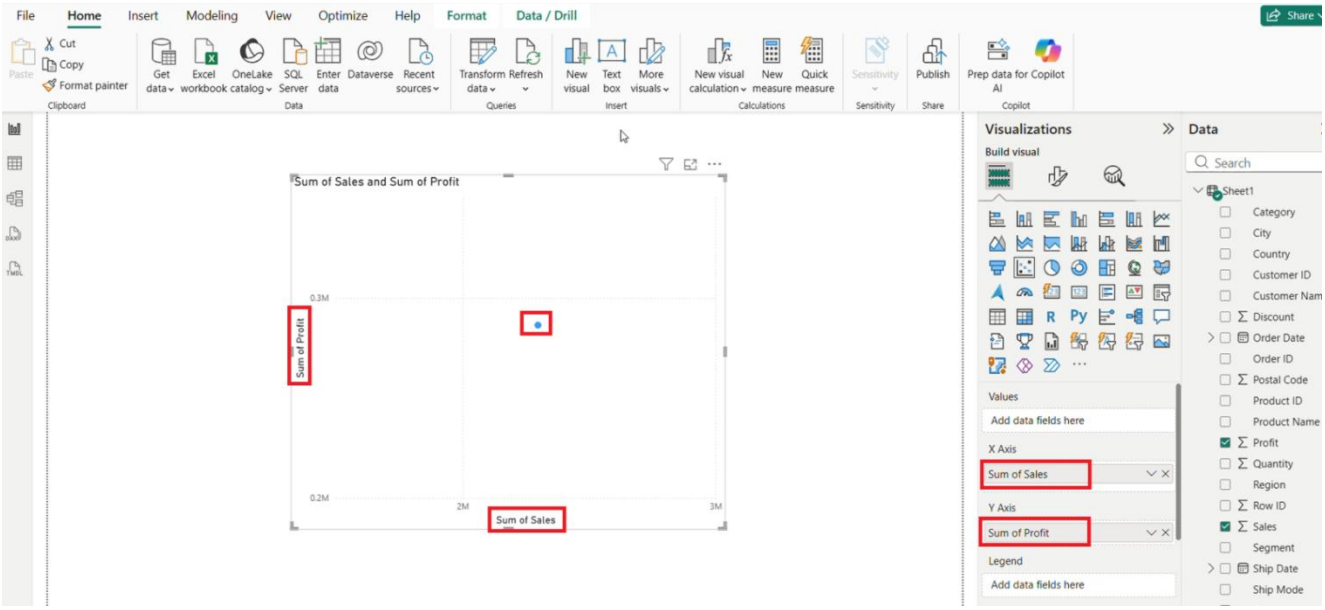
10. Scatter Chart

Whenever there is a situation we want to show the **relationship between two Numerical Quantities** , we prefer Scatter Chart.



RESLUTS:

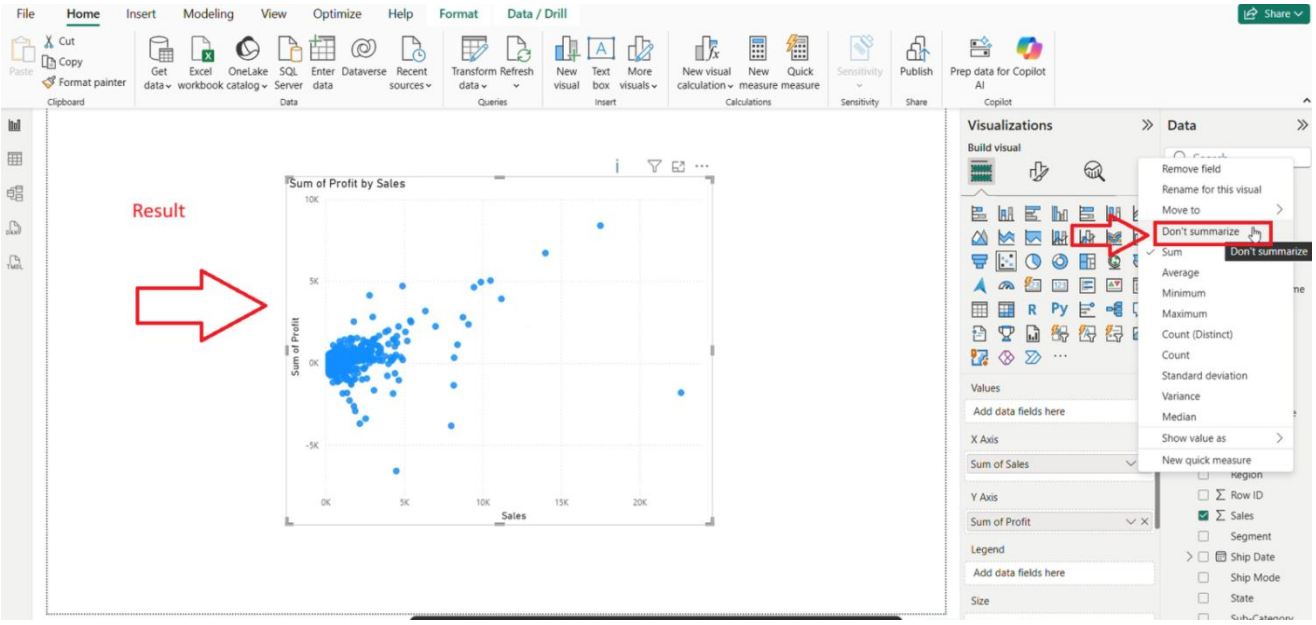
- (X – Y) → (Sales- Profit) → Till now simple Scatter chart has been created



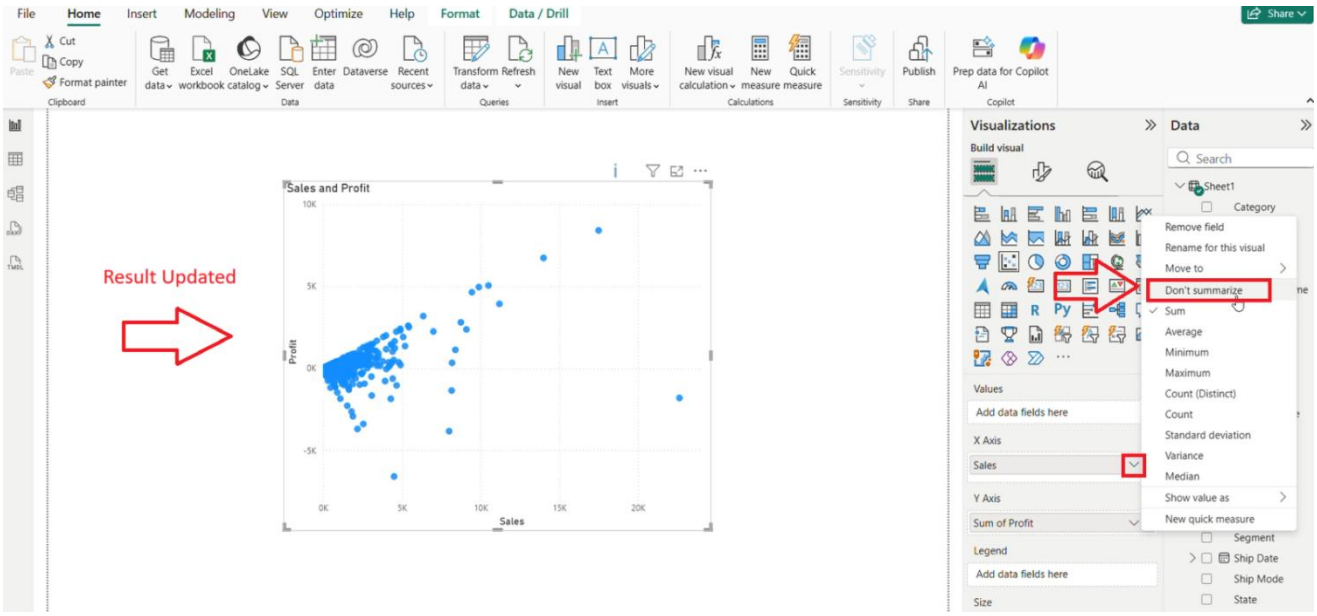
This is the Summarized data.

- Now I do not want to summarize the data. Rather I want details of all the individual points.

So in that case under this dropdown for both X & Y.



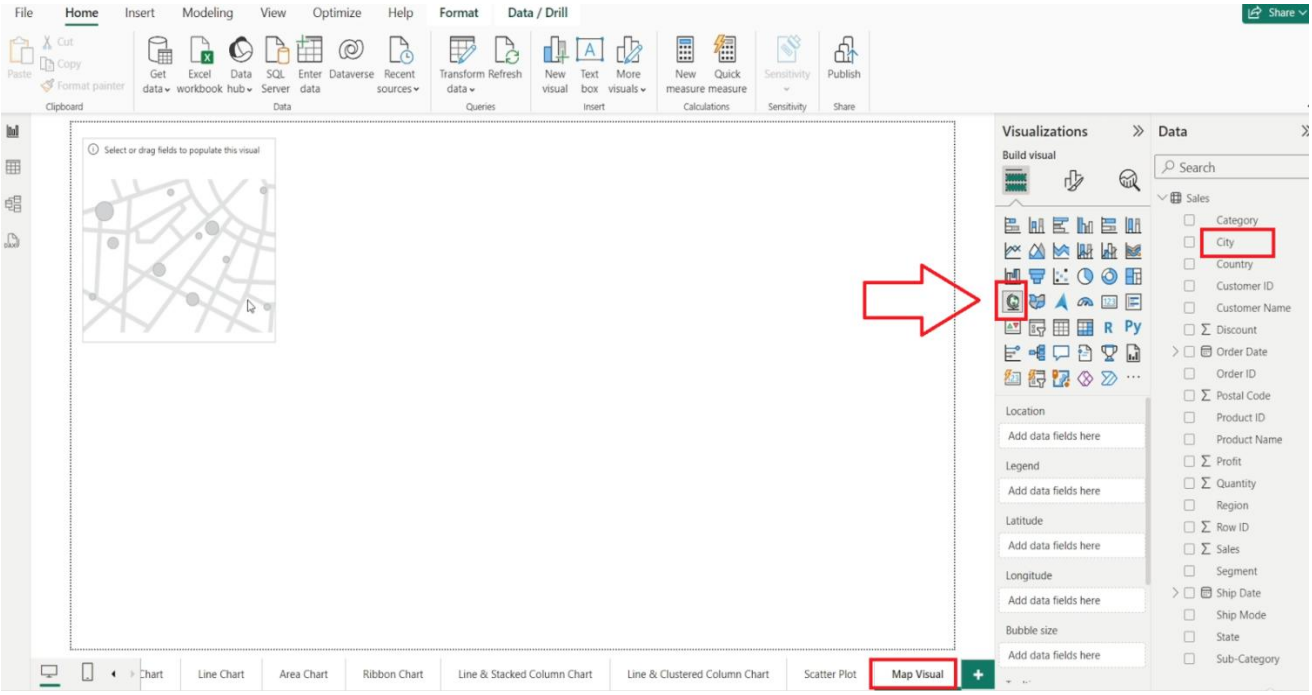
Similarly for Y



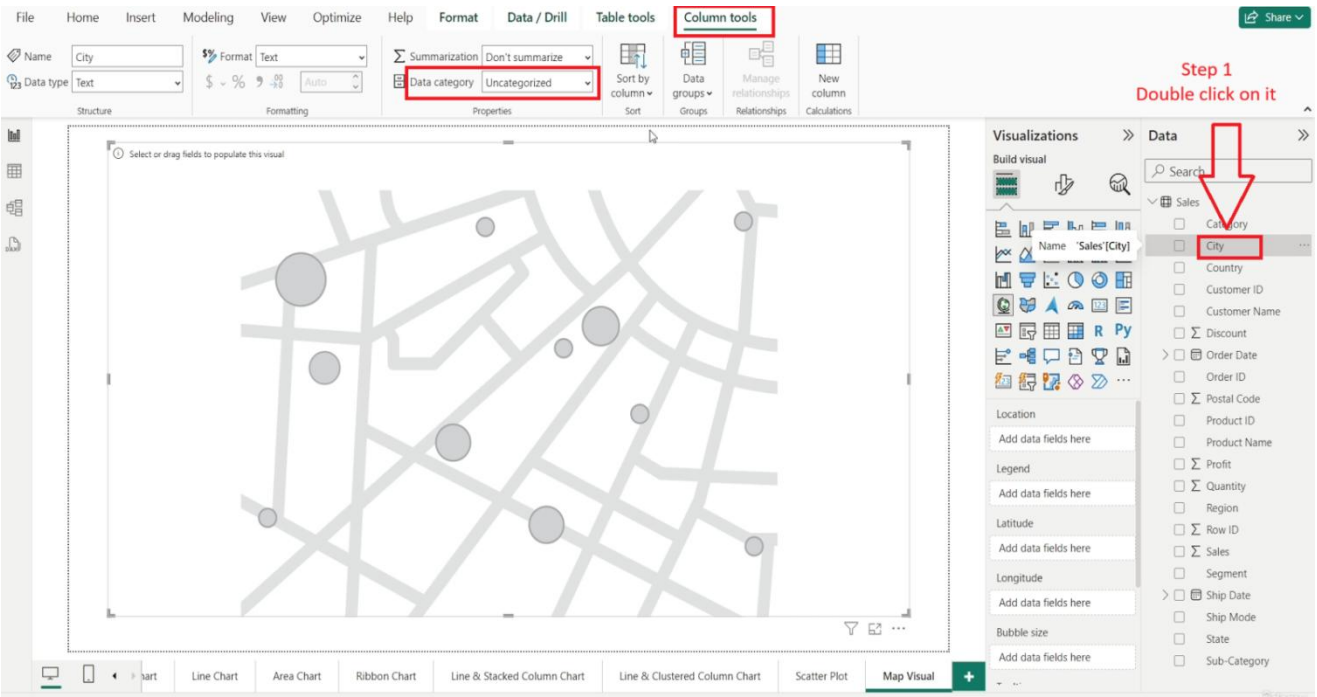
Rest we can do more formatting on it.

11. Bubble map visual

We will use 'City' column for the data visualization for creating the map visual.

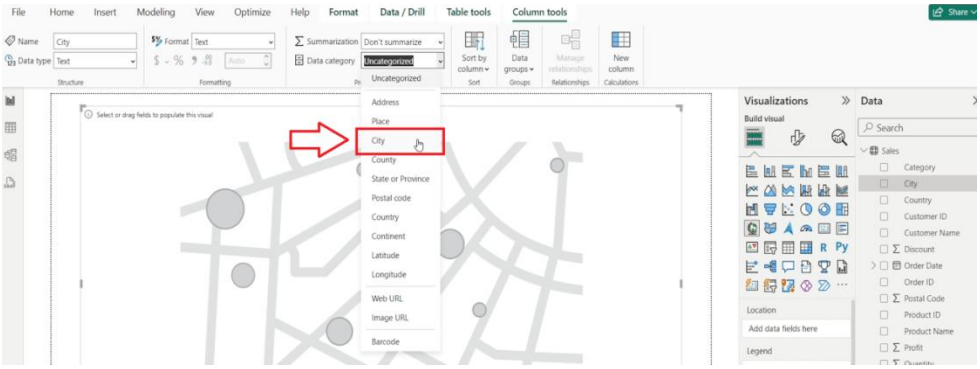


Right now 'City' column is 'Uncategorized' → We cannot use it for the Map Visual.

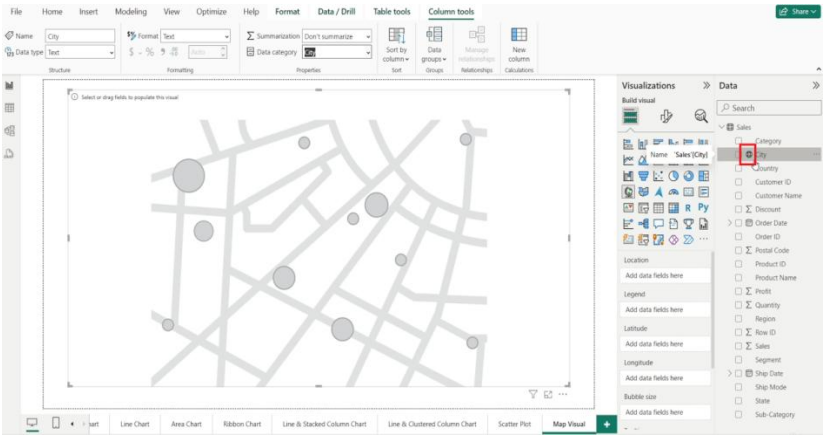


Since we are going to use this ‘city column’ for a geographical location,

We will have to select the suitable data category → We will select the ‘city category’

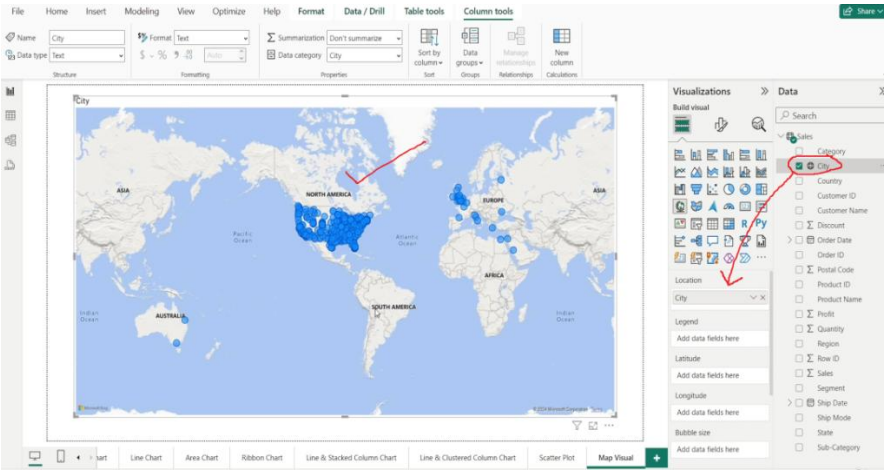


Now we can see a **‘Globe icon’** is available before the city column.



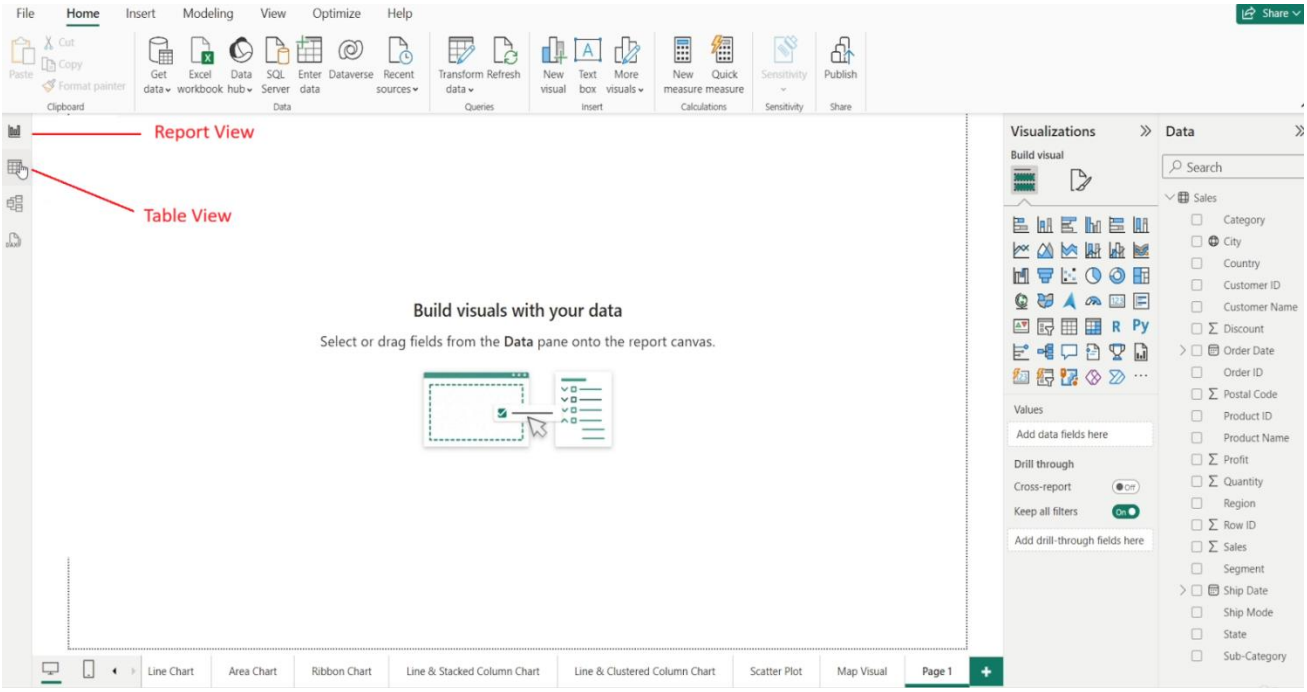
RESLUTS:

- (Cocation) → (City)

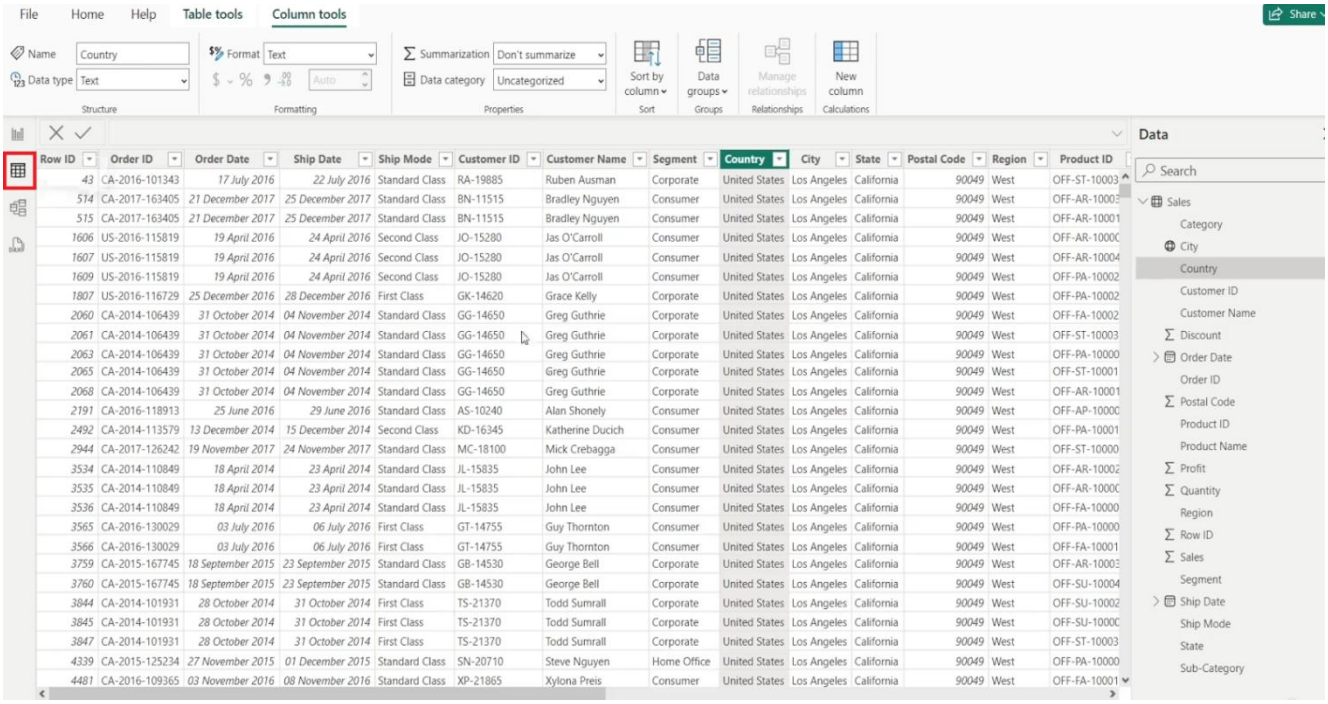


12. Table & Matrix visual

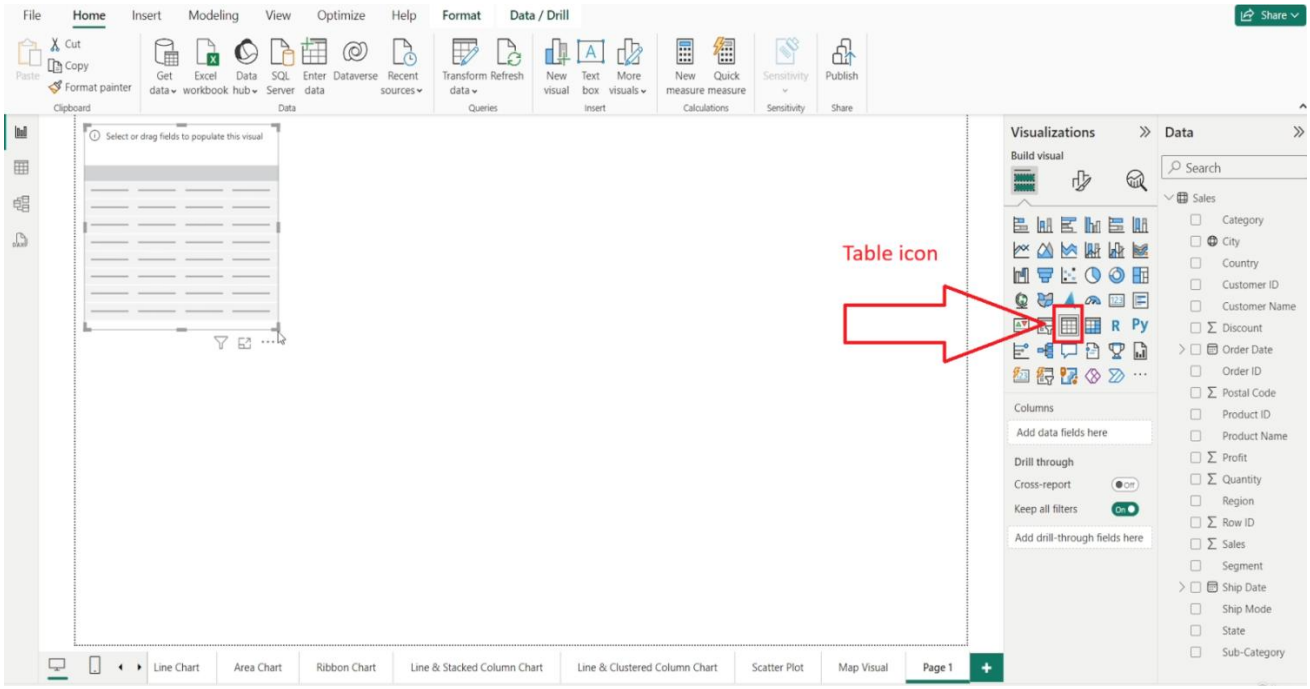
There are two Views



In **'Table View'** we can see our whole Dataset.



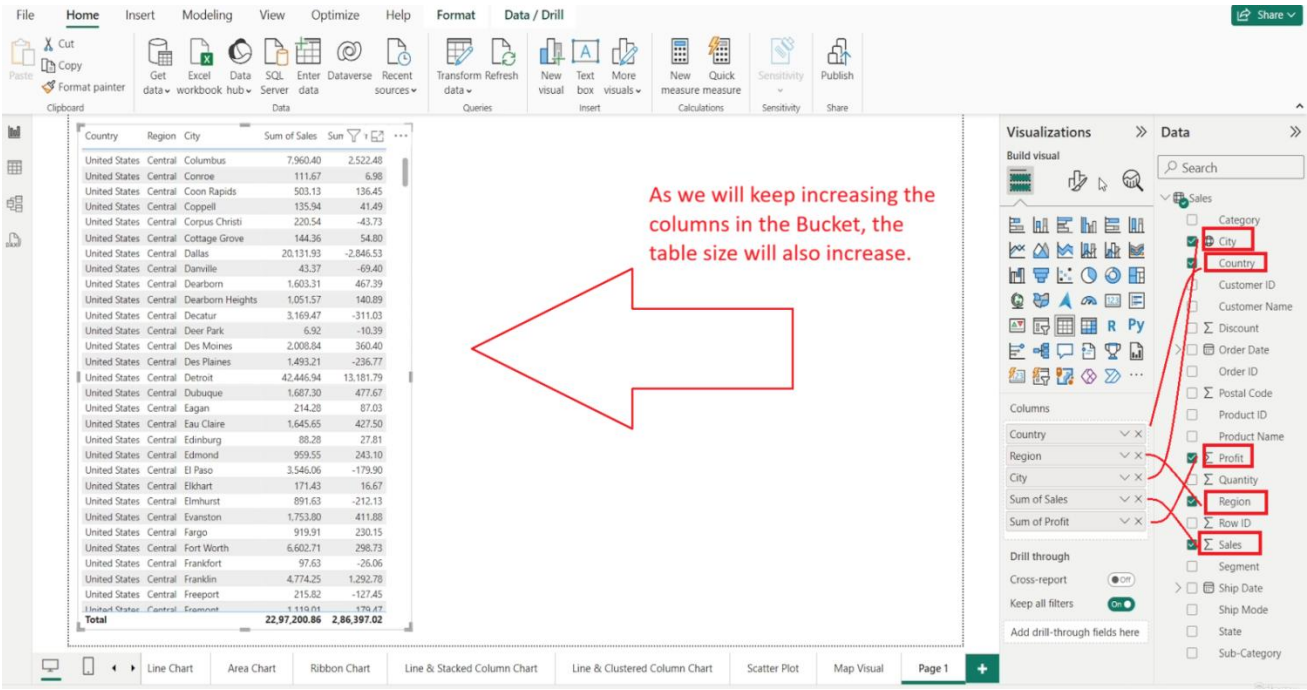
- Table Visual



Result:

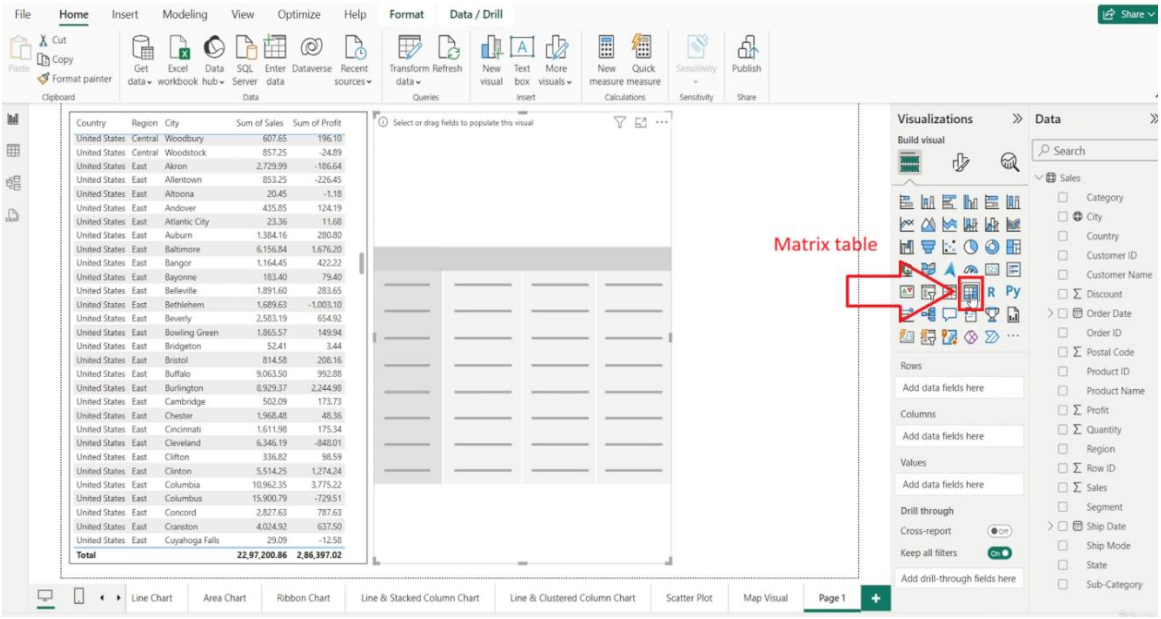
There is only one Bucket i.e 'Column Bucket'.

- 'Column Bucket': Simply Drag & Drop the columns.



- Matrix Visual

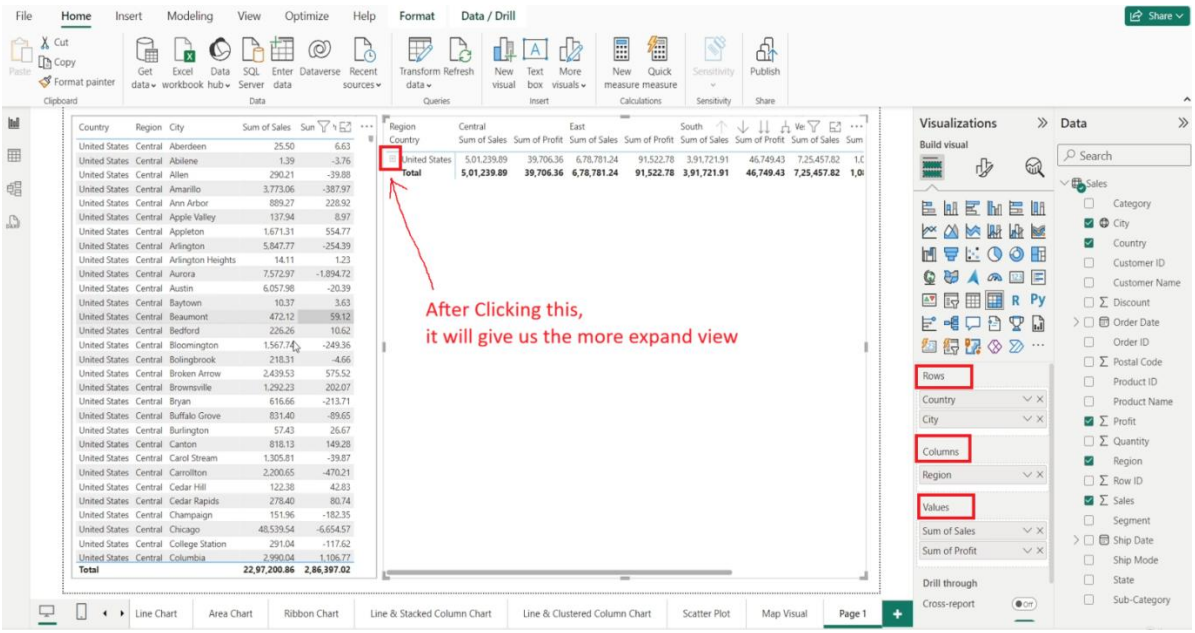
The benefit is with matrix visual is that when we want to view & Summaries the data at different grain levels, i.e we are interested in knowing about the exact values, exact gaps, differences, offsets in those numbers. So matrix visuals becomes important, it gives the better view.



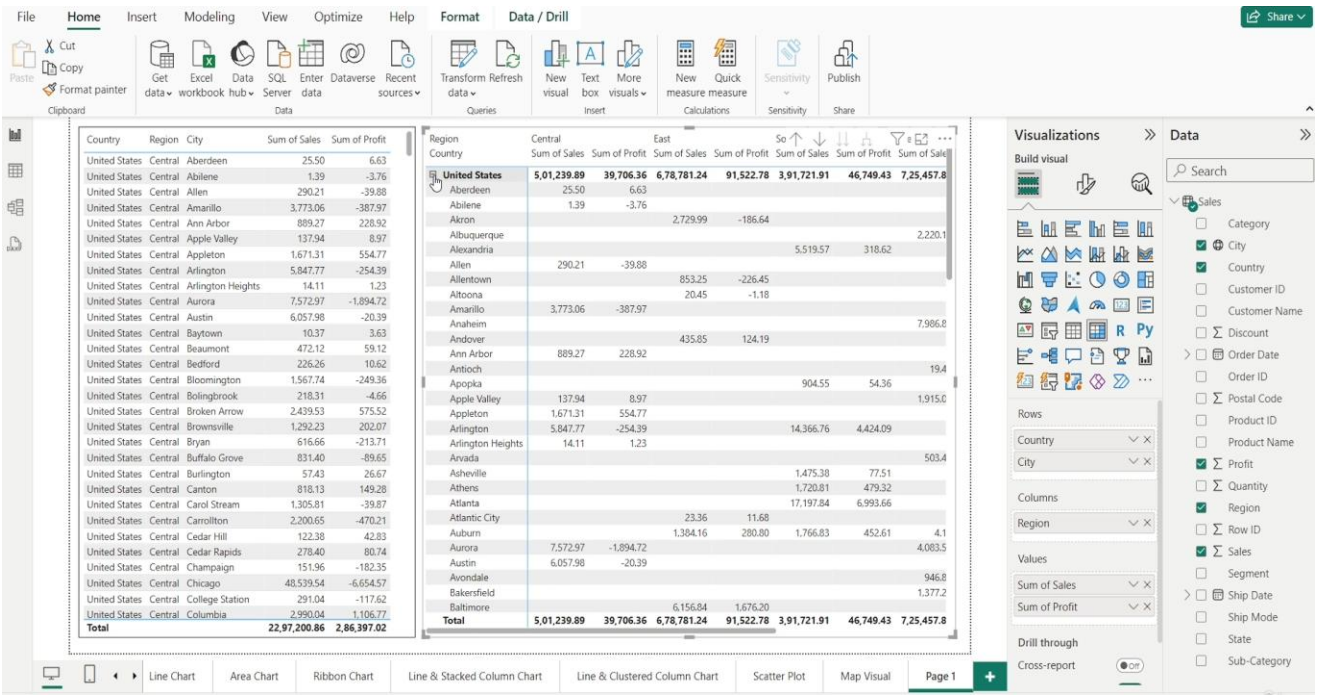
Result:

There are 3 Bucket i.e .

- 'Rows': Country, City
- 'Columns': Region
- 'Values': Sales, Profit



After clicking it,



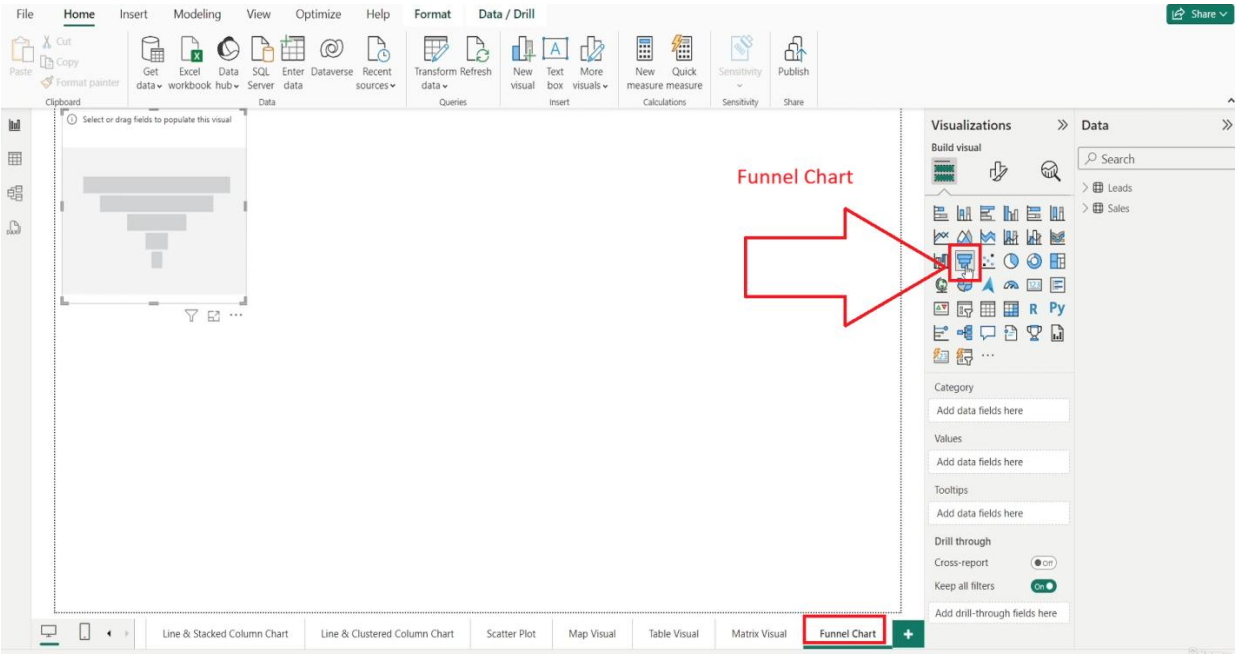
So,

- when there are multiple grains,
- when we want to view the data at multiple dimension levels,

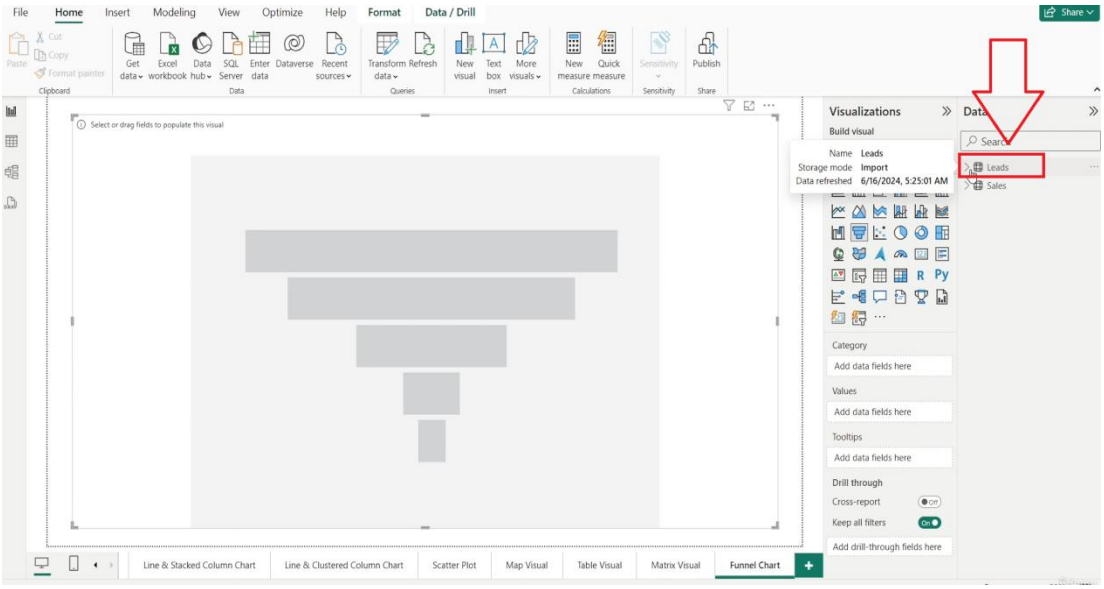
It is recommended to use a matrix visual.

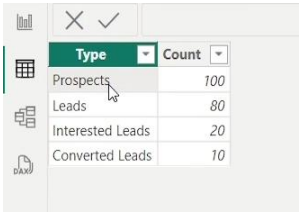
13. Funnel Chart

Whenever there is a situation when we have sequential data

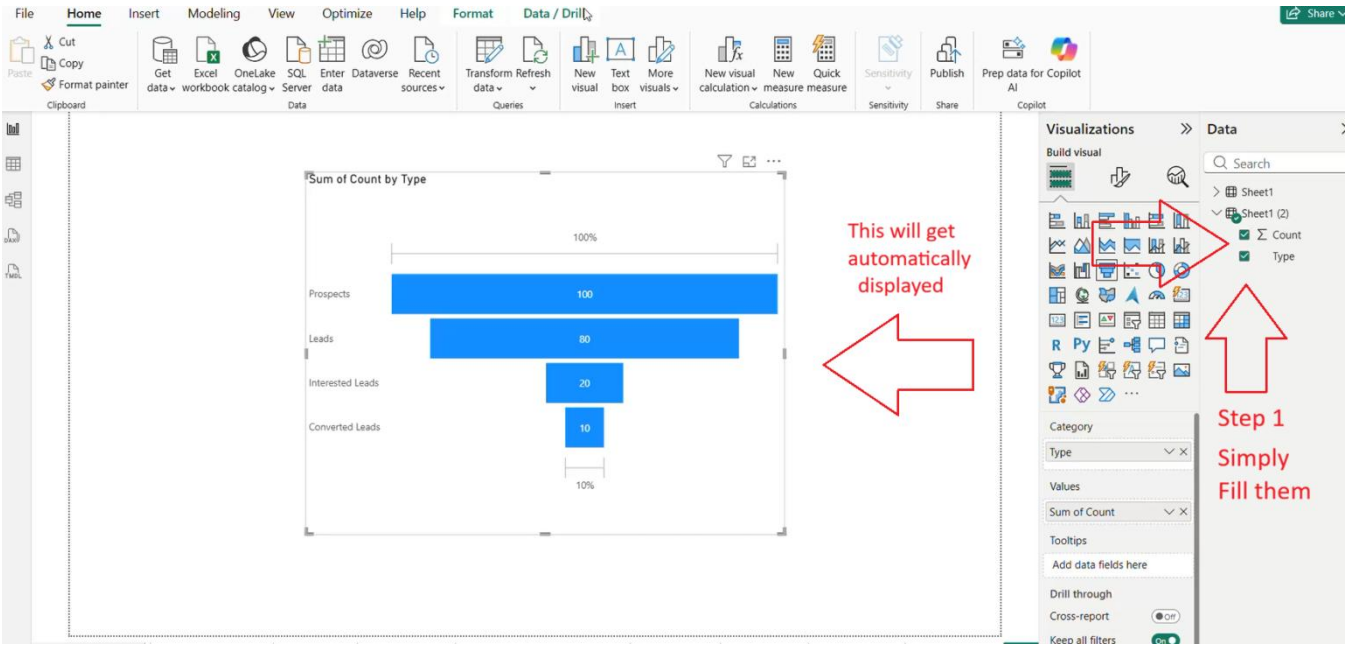


This time we are going to use 'Leads' Data. Because it is an example of a Sequential data.

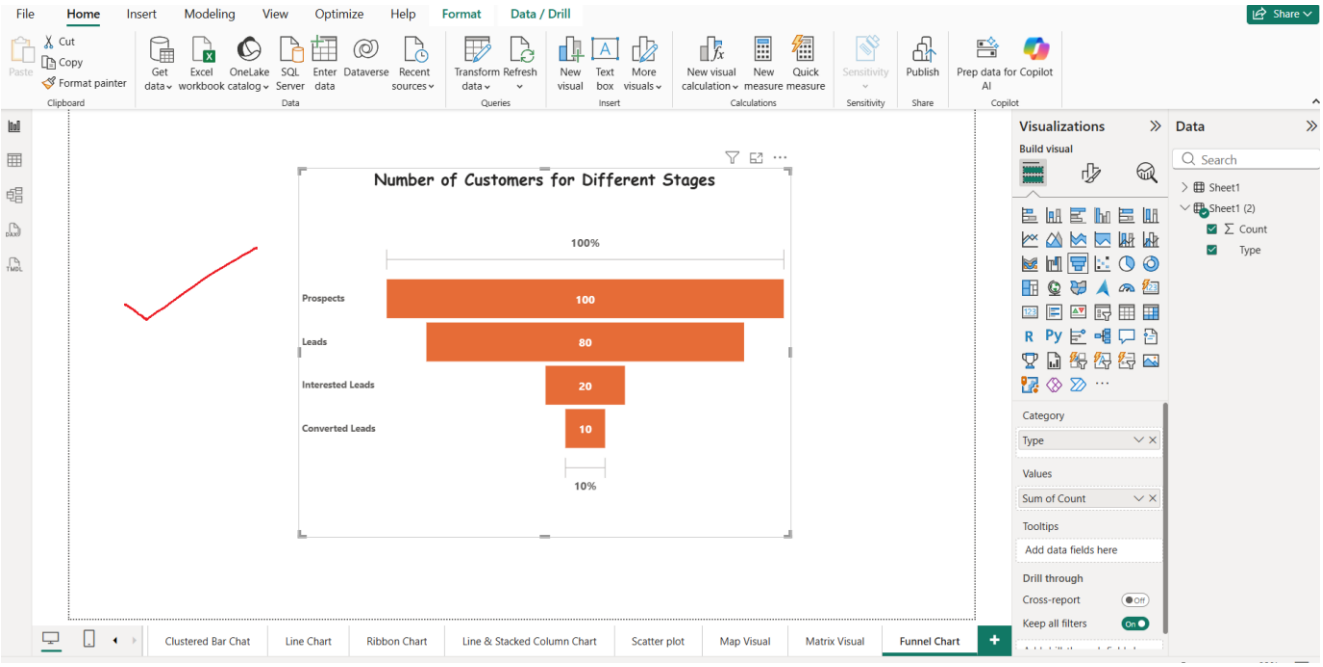




Type	Count
Prospects	100
Leads	80
Interested Leads	20
Converted Leads	10

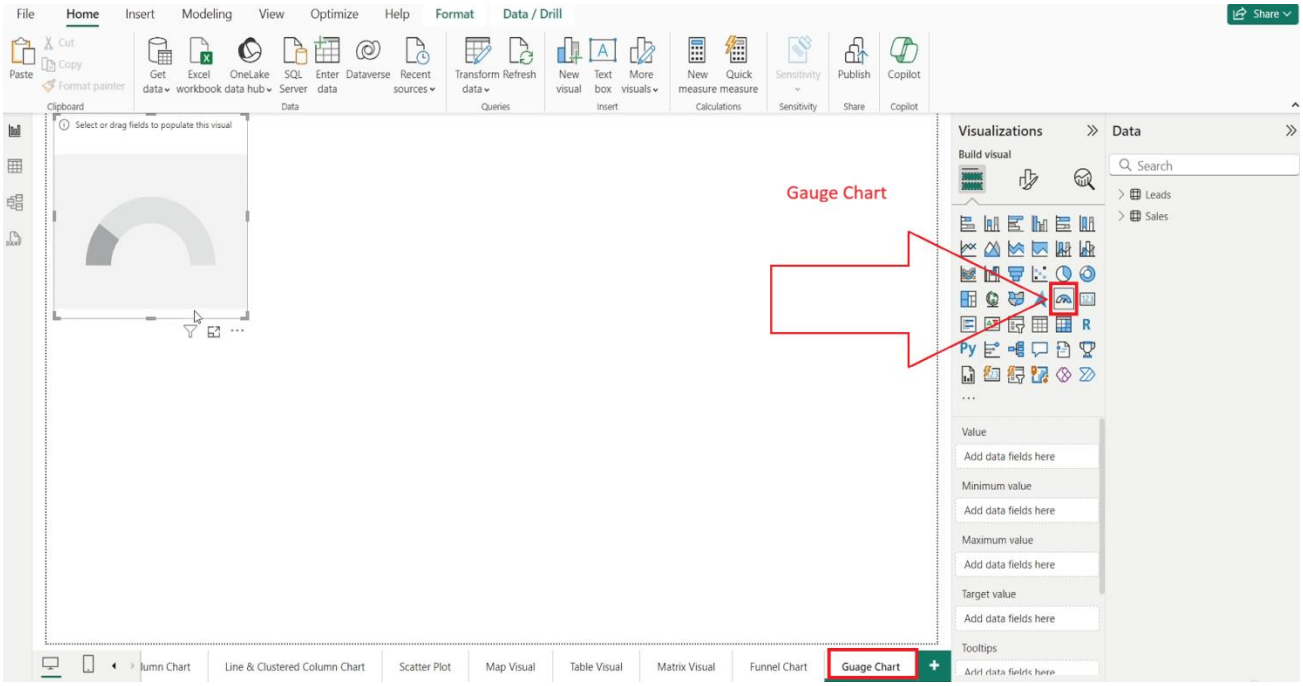


After Basic Formating:



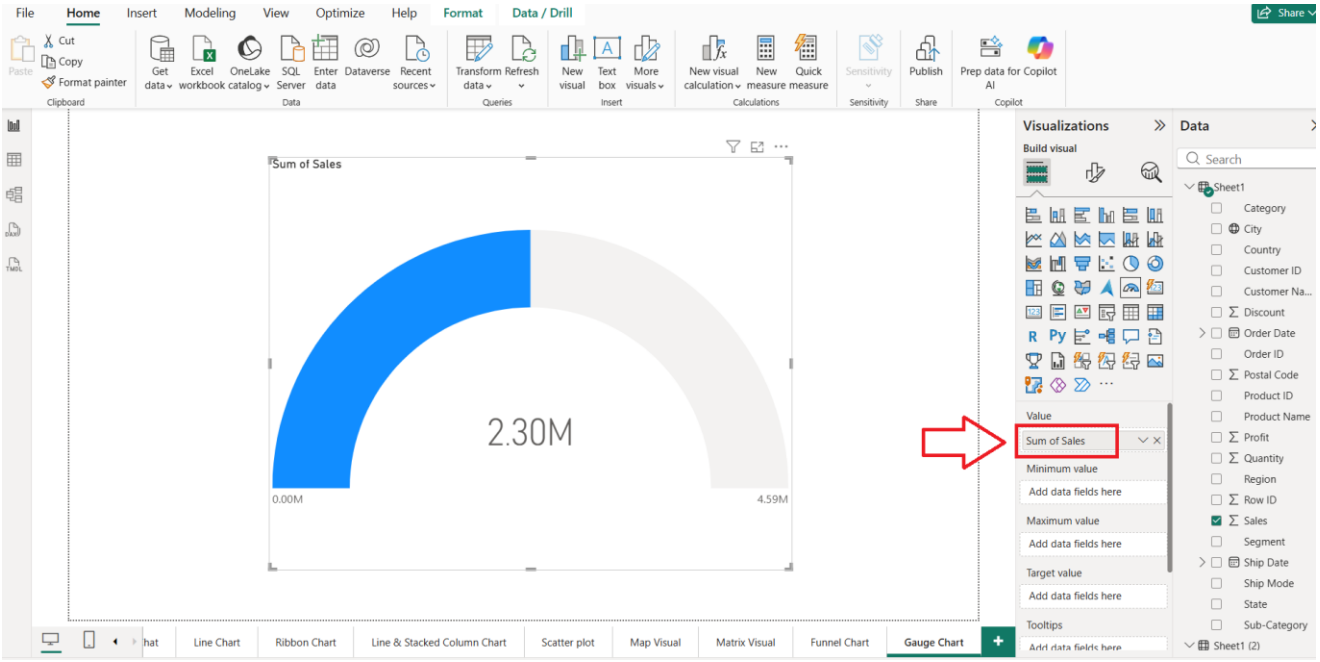
14. Gauge Chart

Whenever there is a situation when we have sequential data



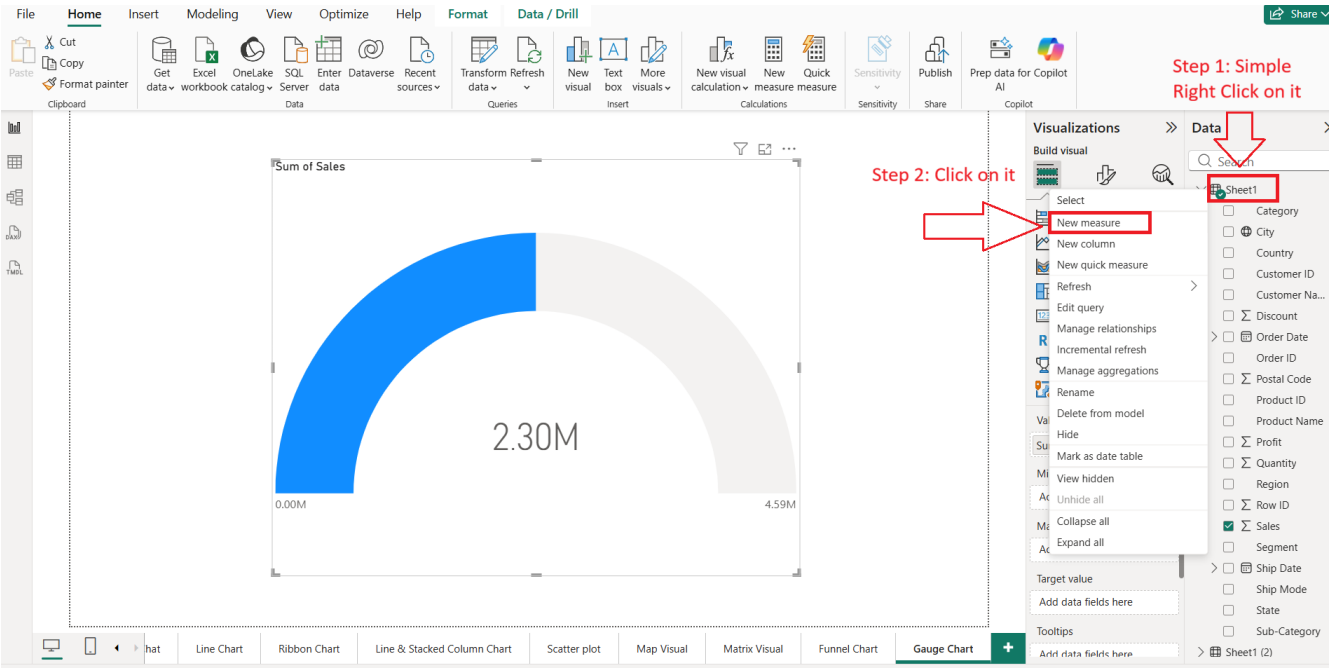
Result:

- **Value:** Profit → We can see the SImple Gauge chart has been created



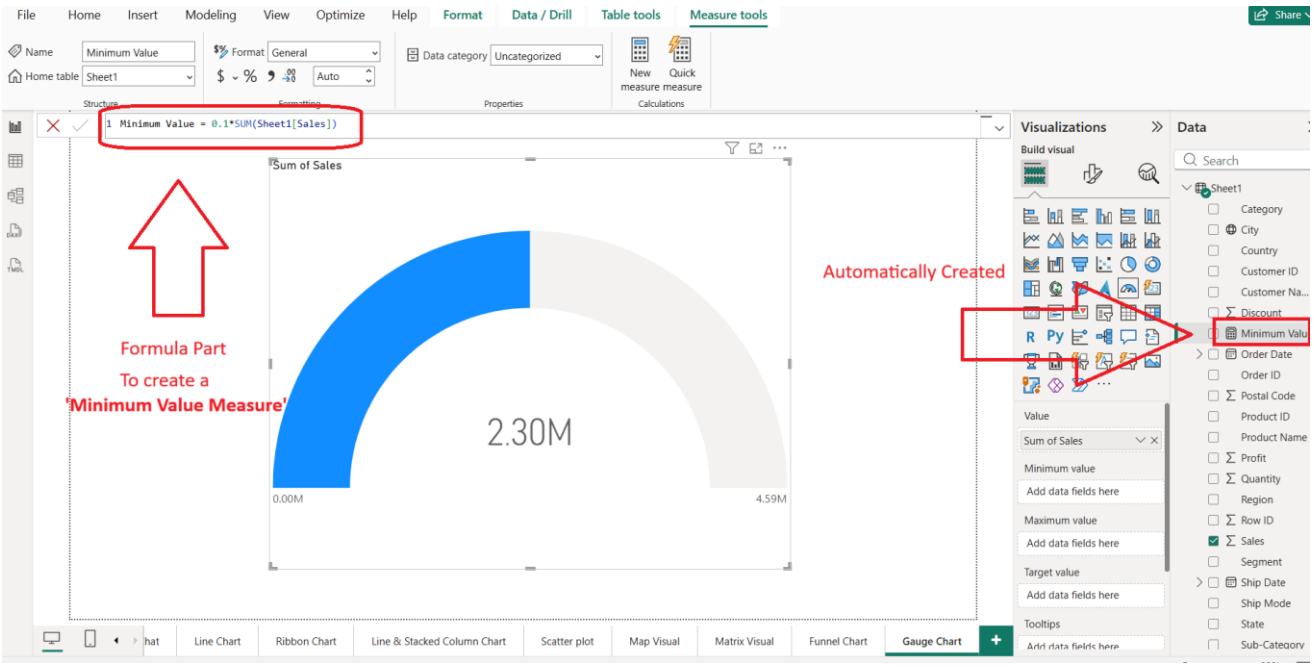
Now we can also fill the other two Buckets i.e **Minimum Value** , **Maximum Value** & **Target Value**.

But for that we don't have column in our dataset, so we have to create them.

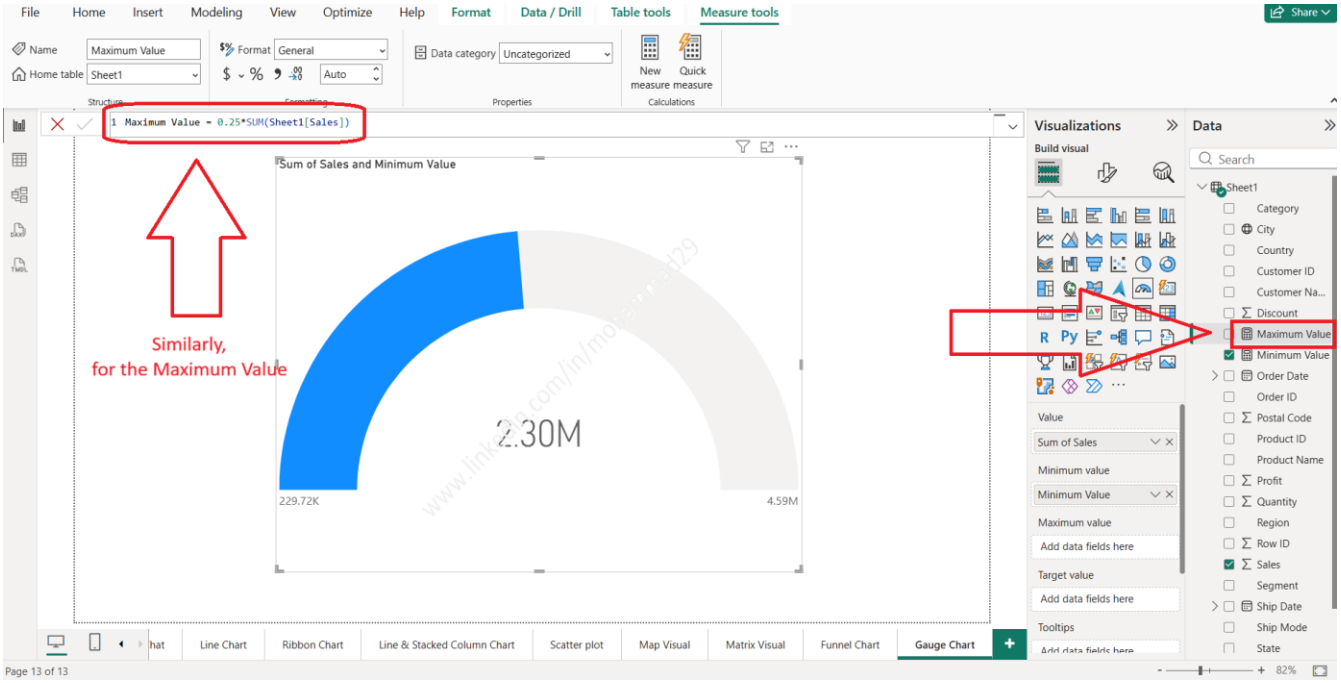


After that the 'Formula Part' will open,

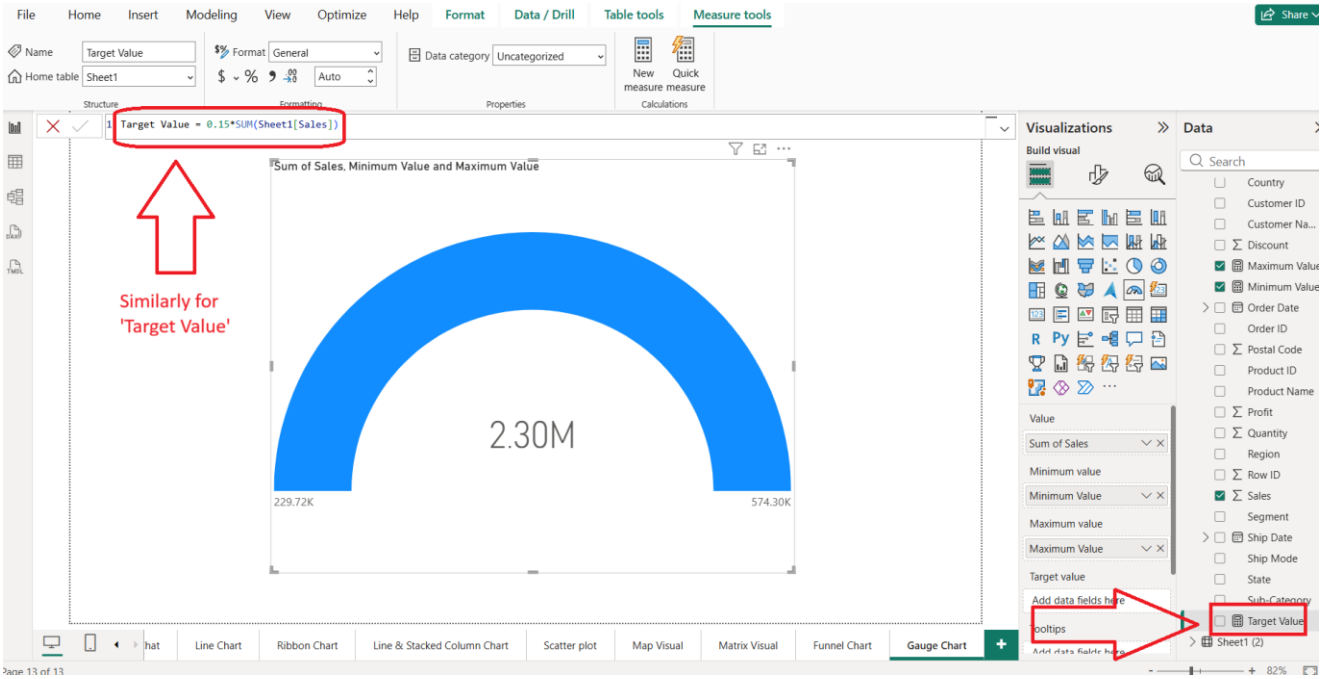
Lets say, we know the *Minimum value has to be equal to 10% of the total sales value*.



Lets say, we know the *Maximum value can be equal to 25% of the total sales value*.

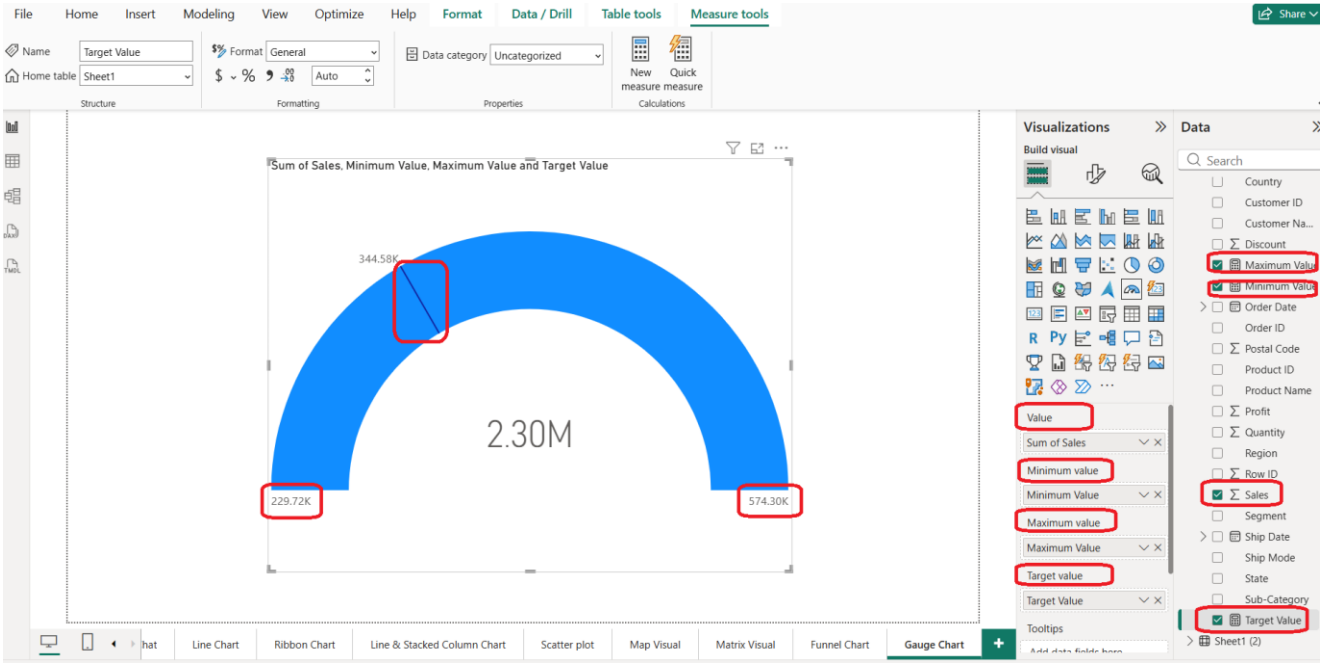


Lets say, we know the *Target value is 15% of the total sales value*.

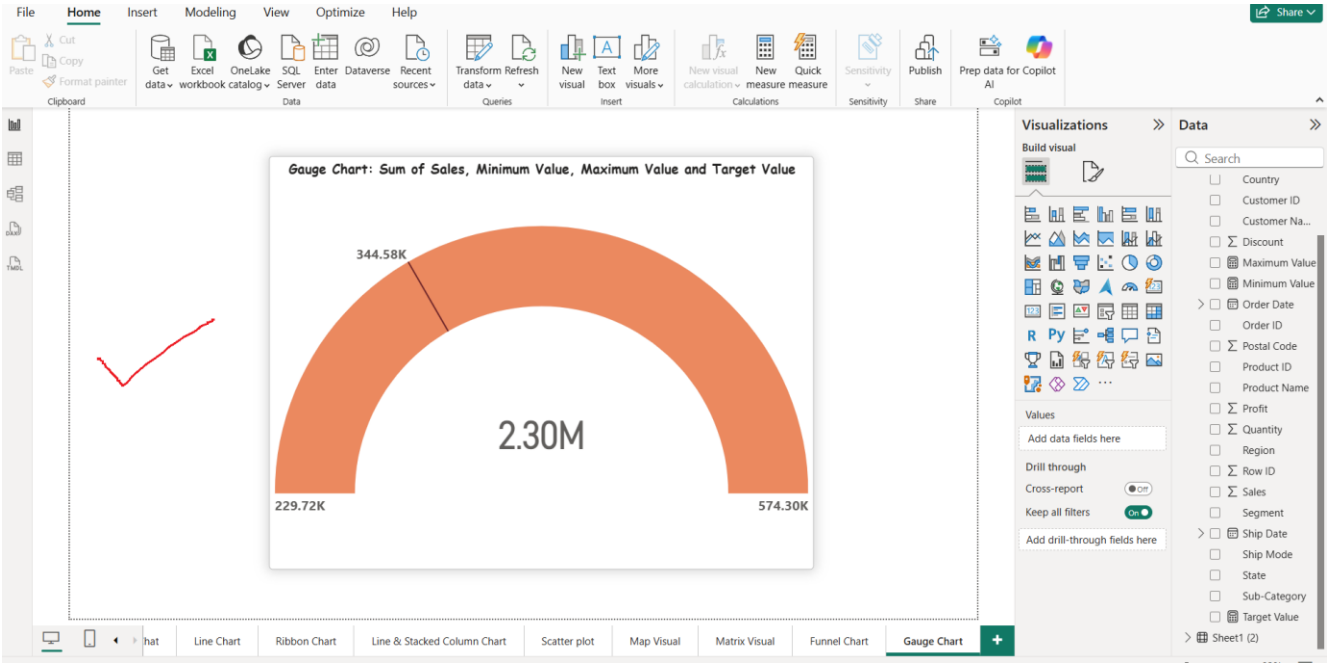


Finally After Filly all 4 Buckets, our Gauge Chart will look like this:

- **Value:** Sales → This will display the basic Gauge Chart
- **Minimum Value:** Minimum Value
- **Maximum Value:** Maximum Value
- **Target Value:** Target Value

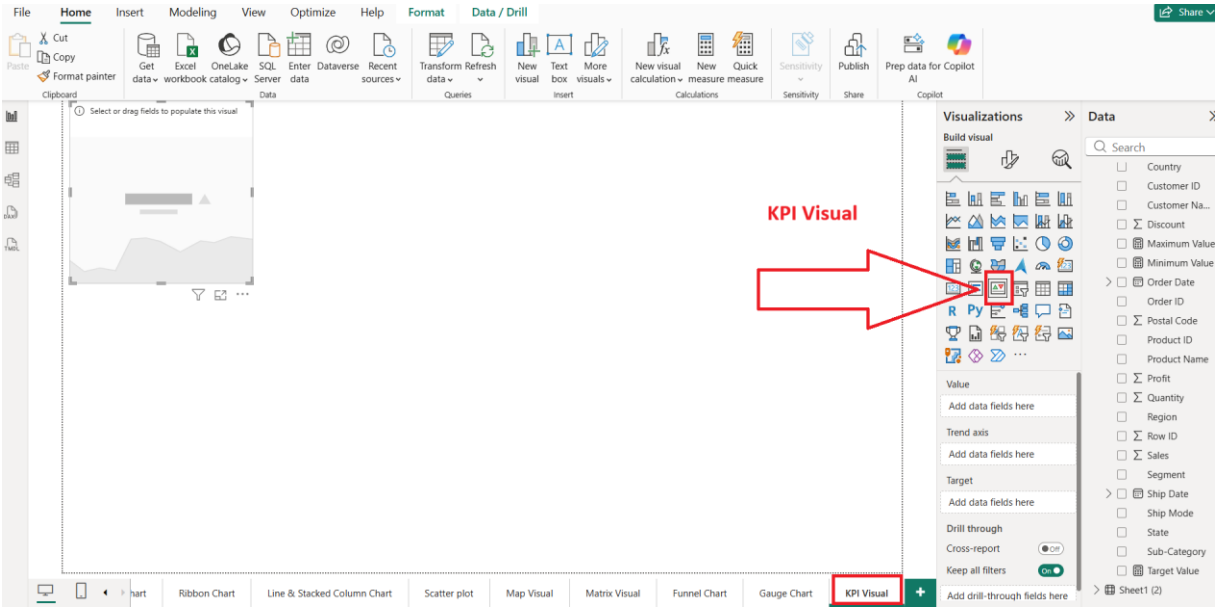


After that we can do formatting



15. KPI Visual

Whenever there is a situation when we have sequential data



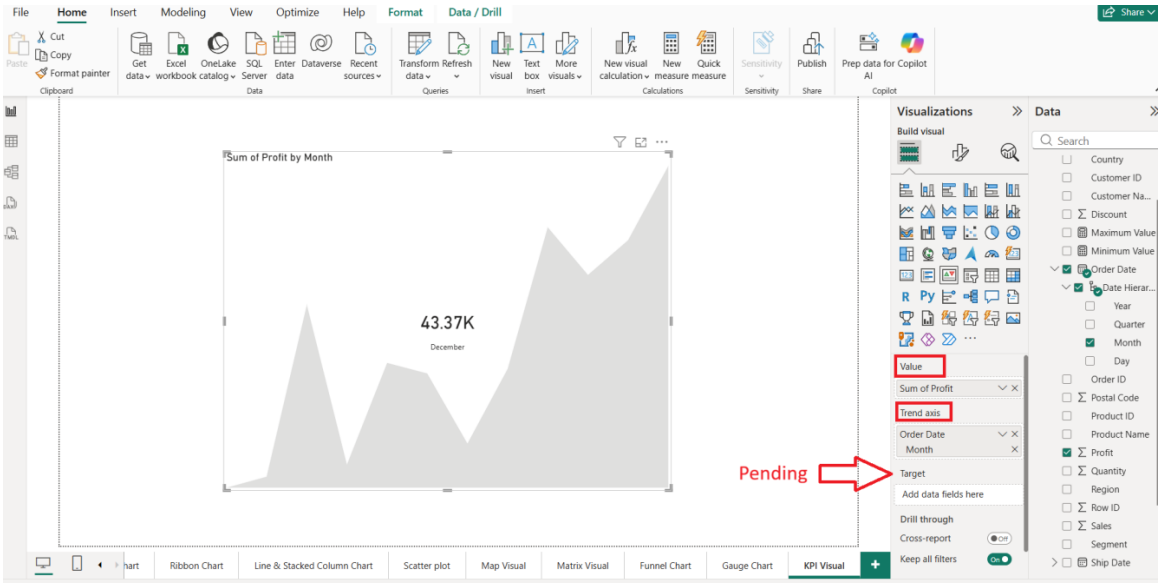
let's say for this particular KPI visual:

- we want to represent the profit value
- we further want to represent a trend for different months according to the order date.

RESULT:

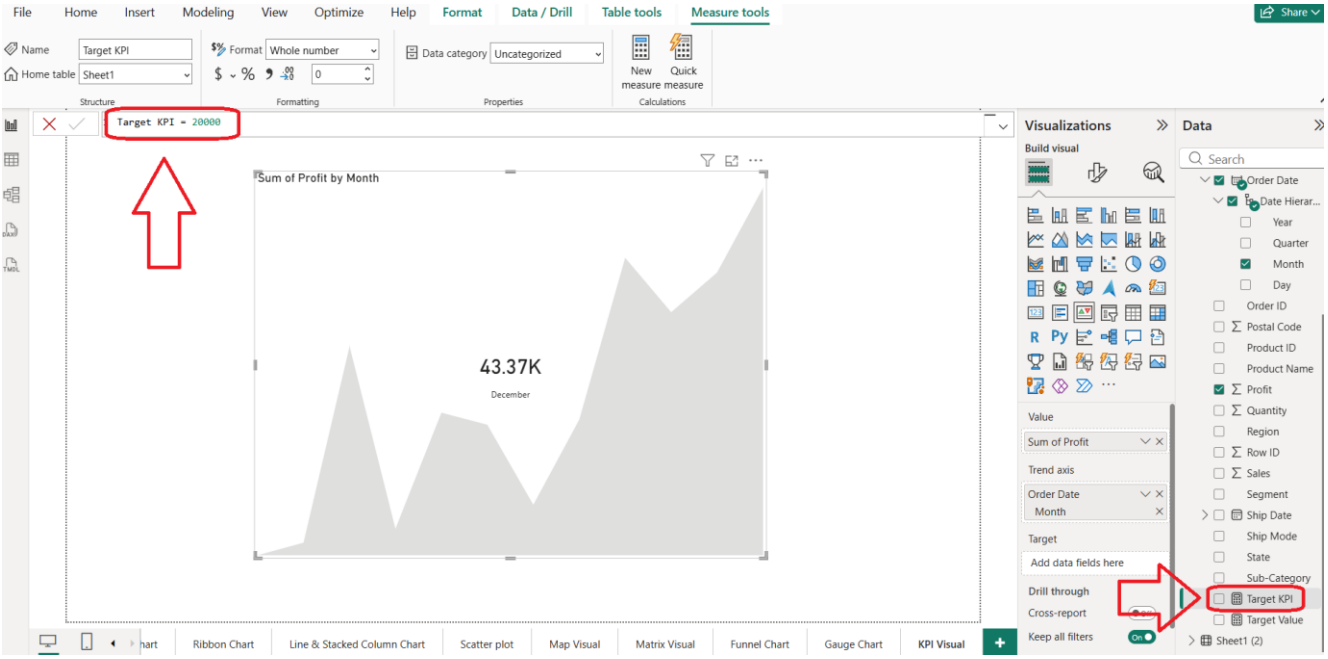
- **Value:** Profit
- **Trend Axis:** Month → From the 'Order Date'

Till now we will get the Basic KPI Visual



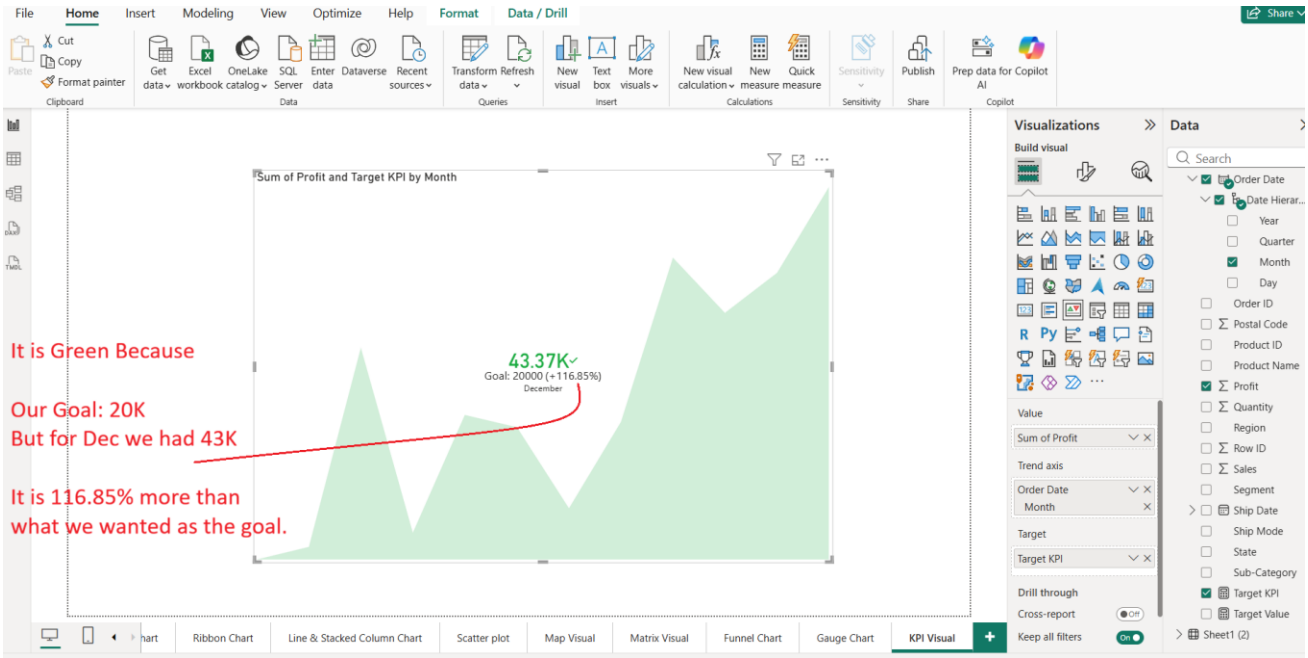
Now we will create a ‘Target column’ using ‘Formula Box’.

- Target column: Lets say it is 20k



After fill them in the Bucket, we will get the KPI Visual

- **Value:** Profit
- **Trend Axis:** Month → From the ‘Order Date’
- Target column: Lets say it is 20k



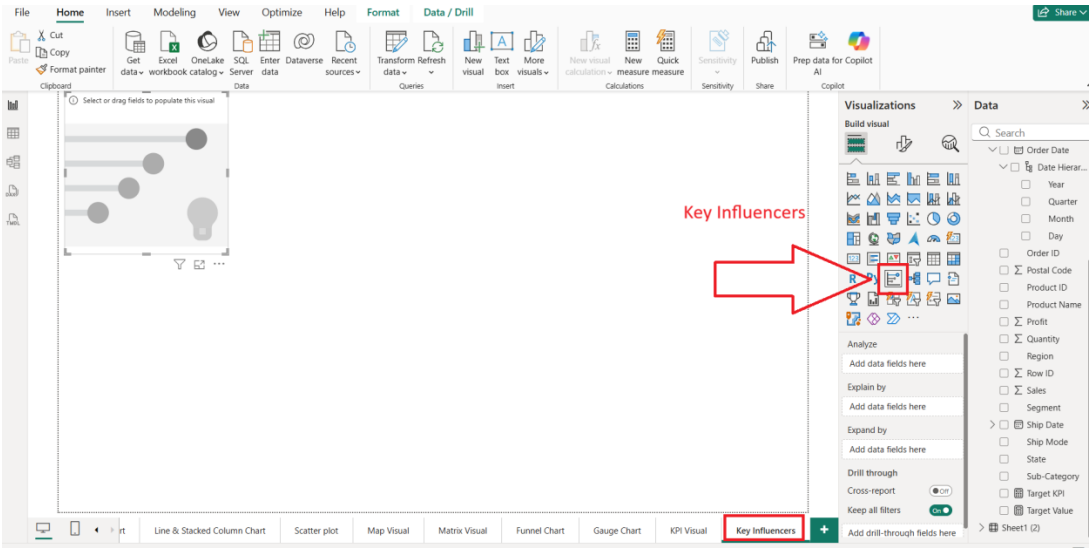
After that we can do further Formatting.

16. AI Visual

These AI visuals are default visuals in power BI, they basically use machine learning, they can be used to show useful insights in a report.

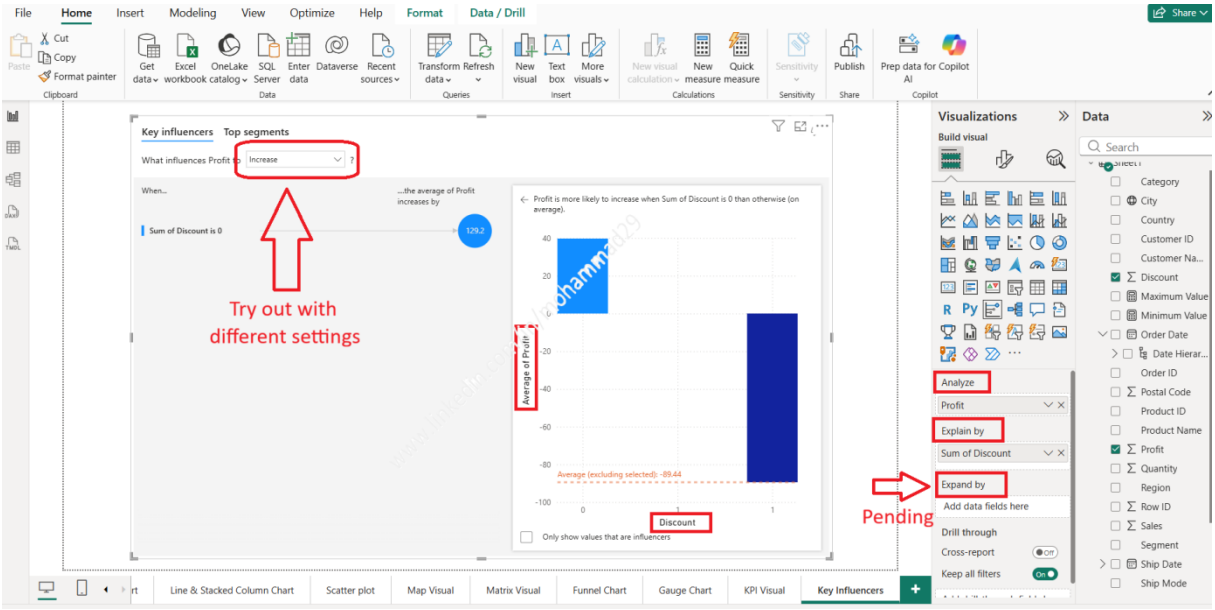
- Key Influencer Visual

let's say in this particular key influencer visual, we want to analyze the profit by discount percentage or the discount that was given.

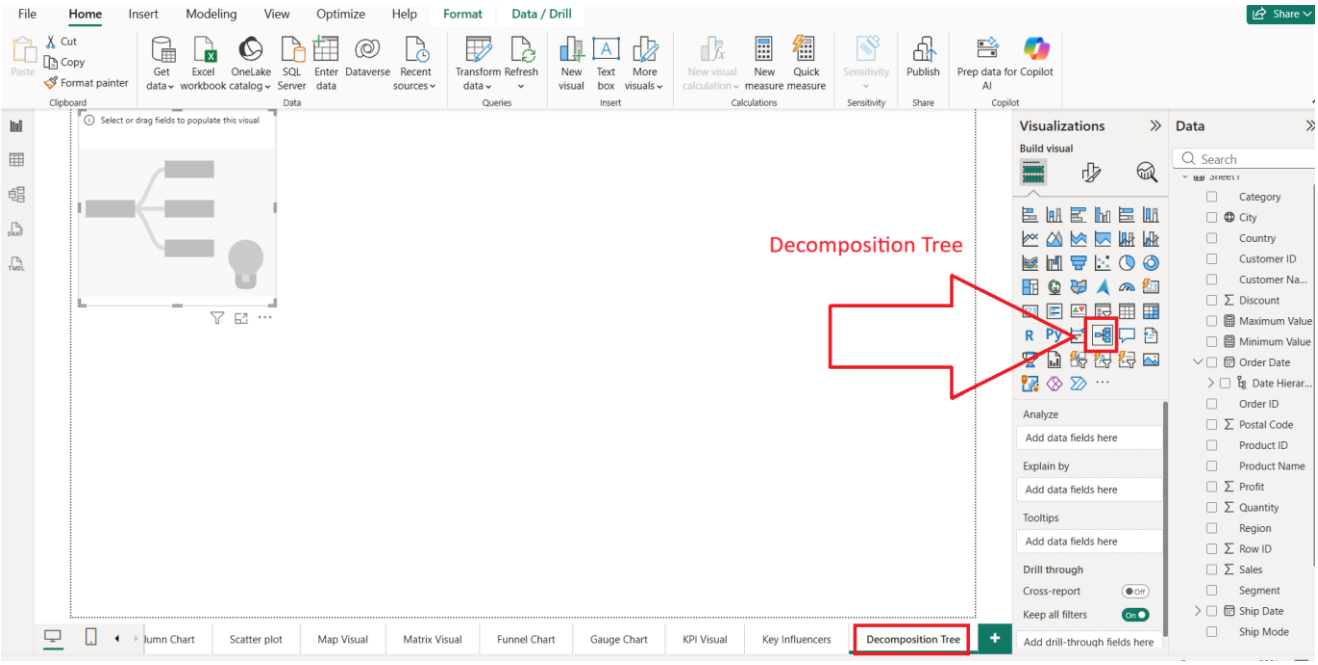


RESULTS:

- **Analyze:** Profit
- **Explain By:** Discount → Till now basic Key influencer visual is created.

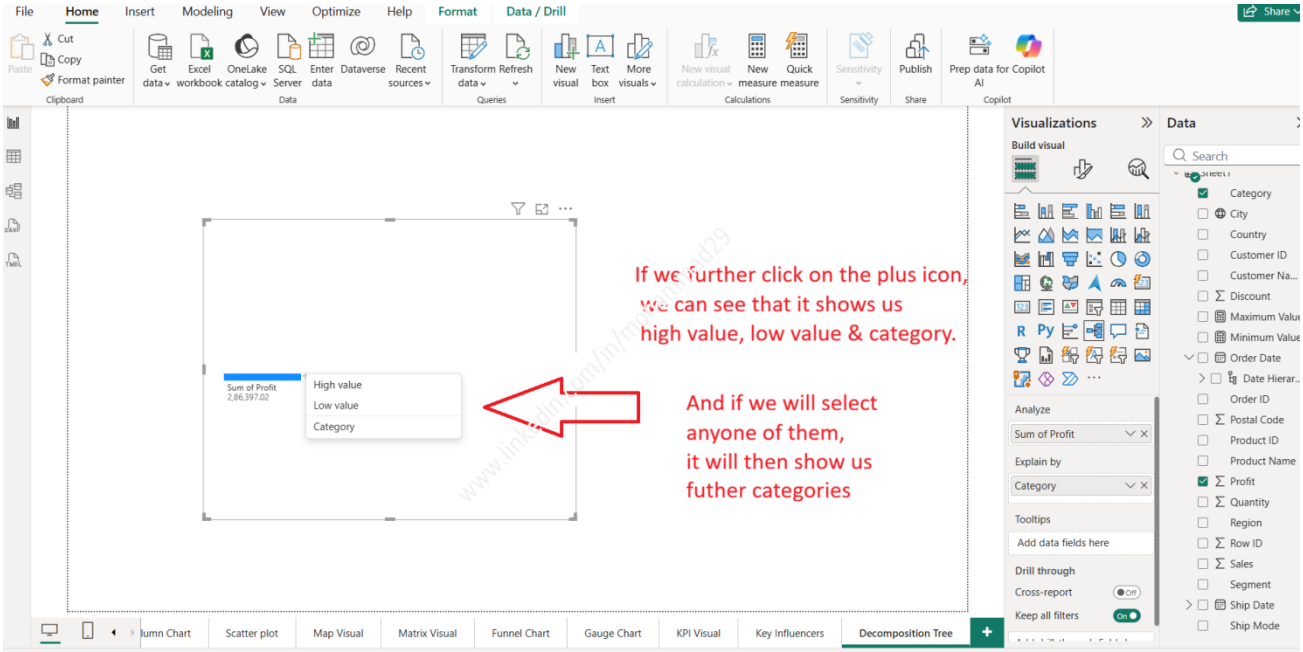


- Decomposition Tree



RESULTS:

- **Analyze:** Profit
- **Explain By:** Category → Till now basic Decomposition Tree is created.

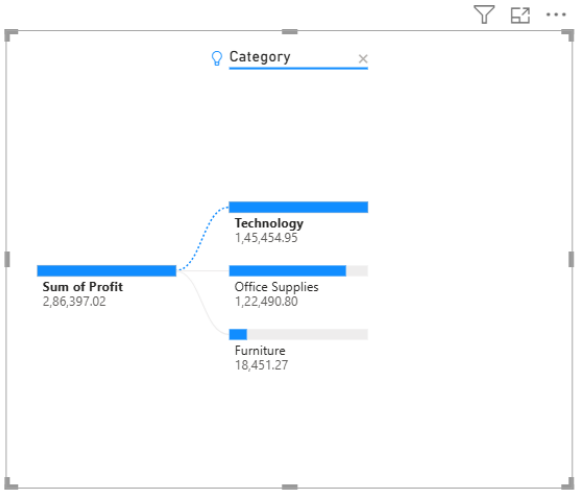


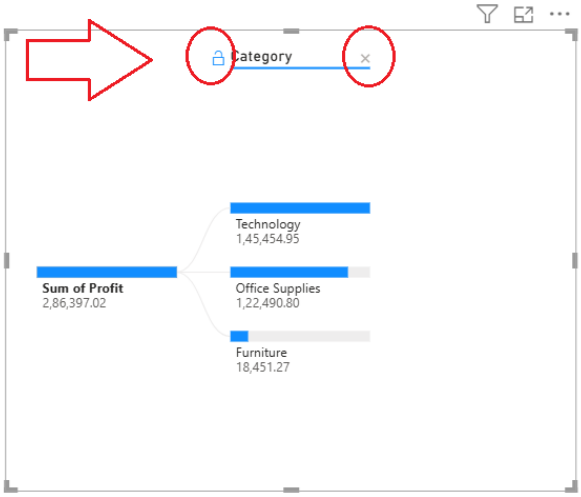
- If we will click on **'High value'**

It will again show us different categories with different Profit values.

If I will further hower my mouse over the top, we can see the

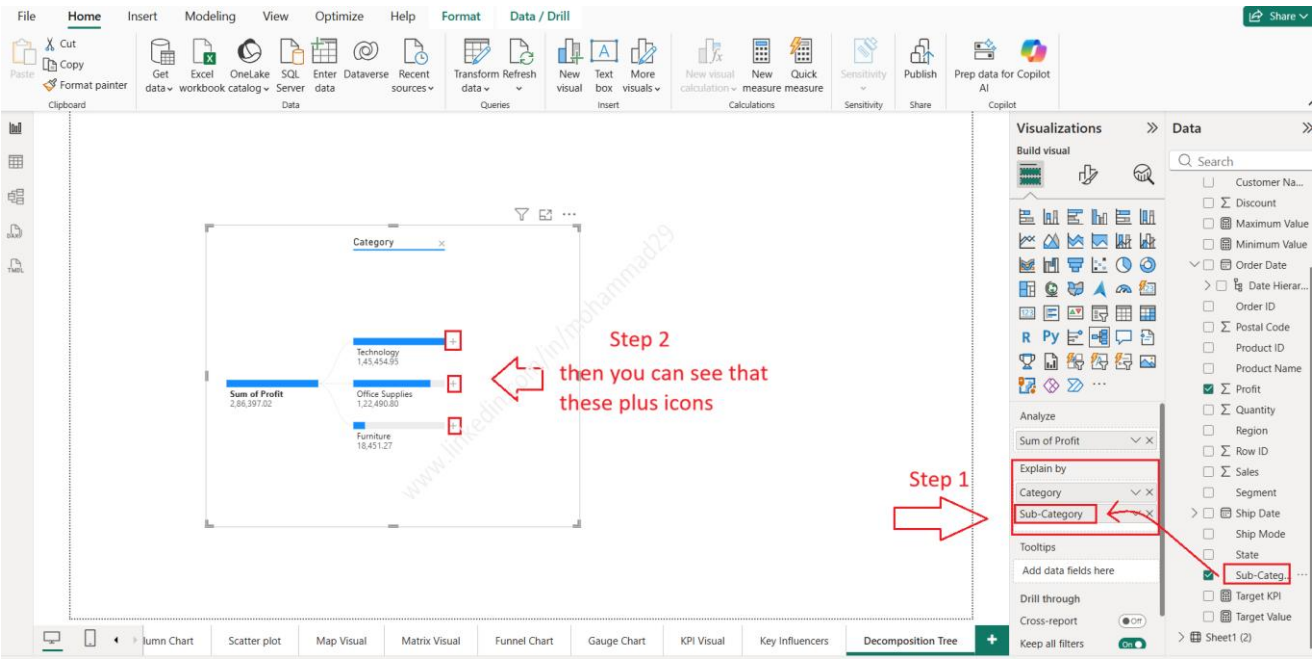
- **unlocked option** as of now,
- and a **cross icon** so that we can remove it.



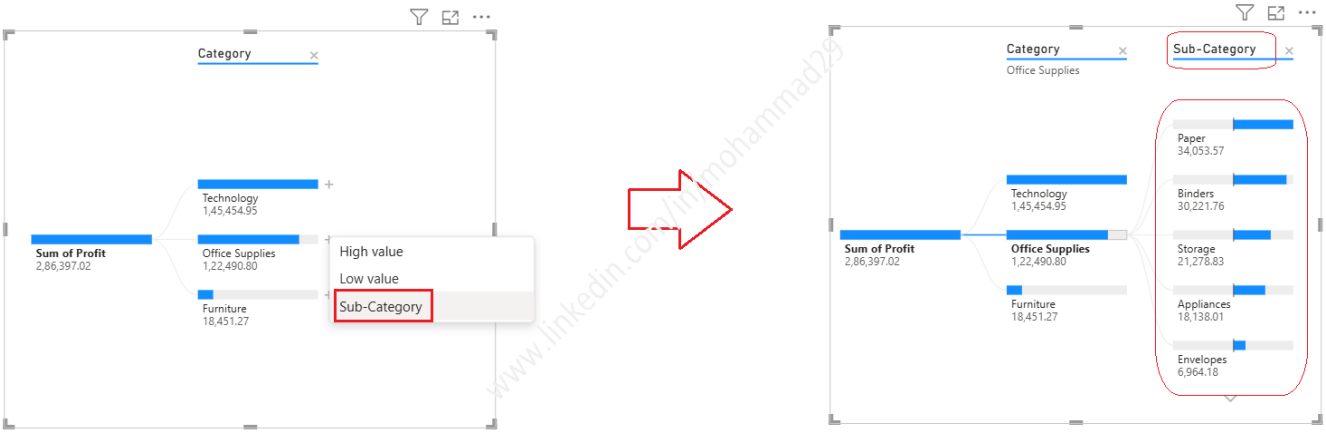


Let's say we further want to analyze

- the **profit by category** and **subcategory** as well.

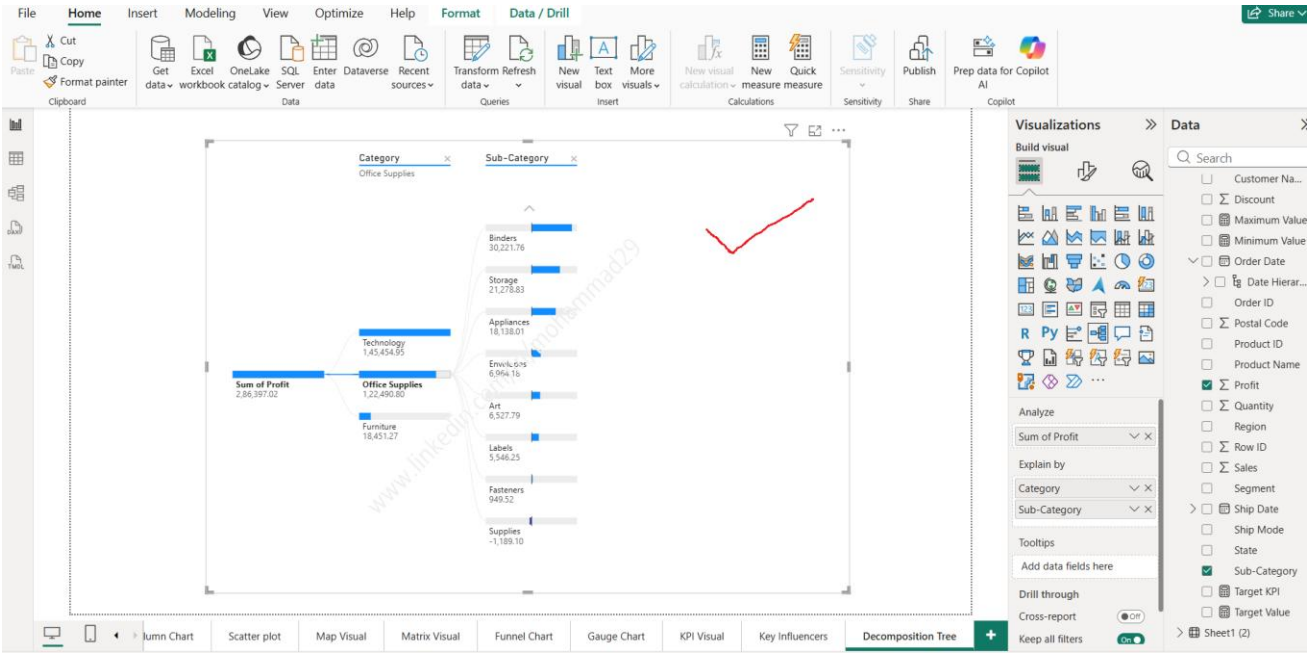


Let's say I will click on 'Office Supplies'



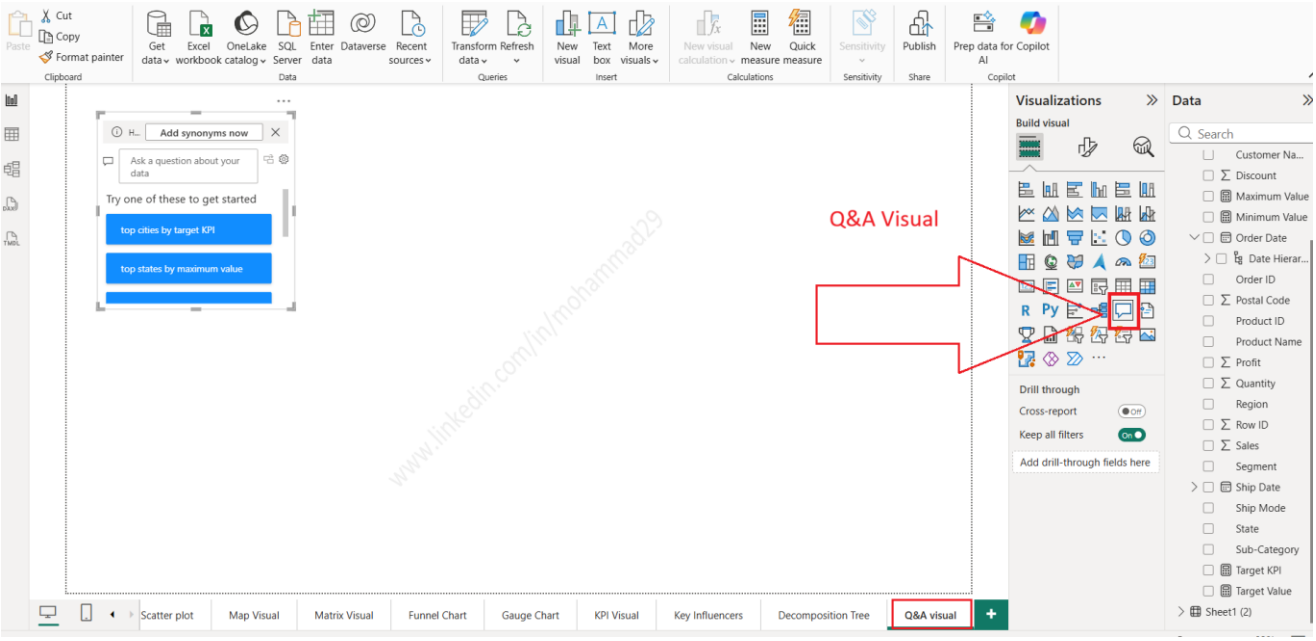
As it will further helps us to analyze the data by **helping us to drill down** between **different categories** and then analyze a given field.

After that we can do further Formating.



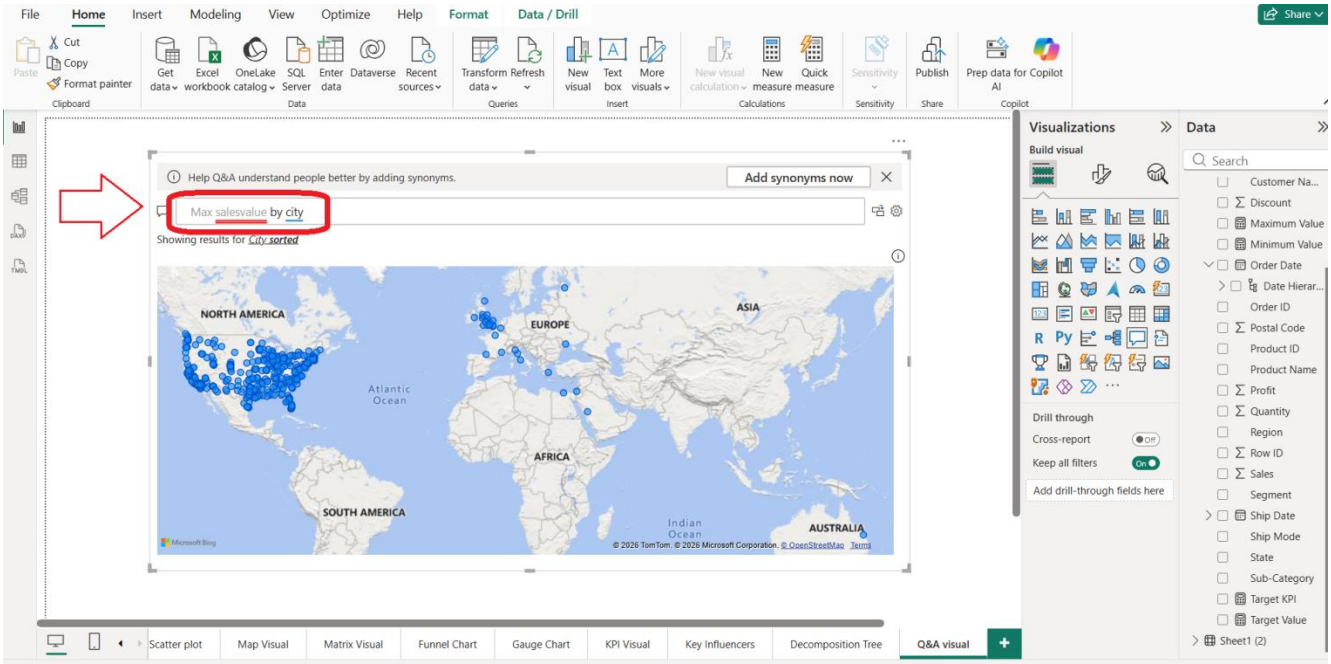
- Q&A Visual

In this we can basically ask certain questions and power BI will answer those questions.

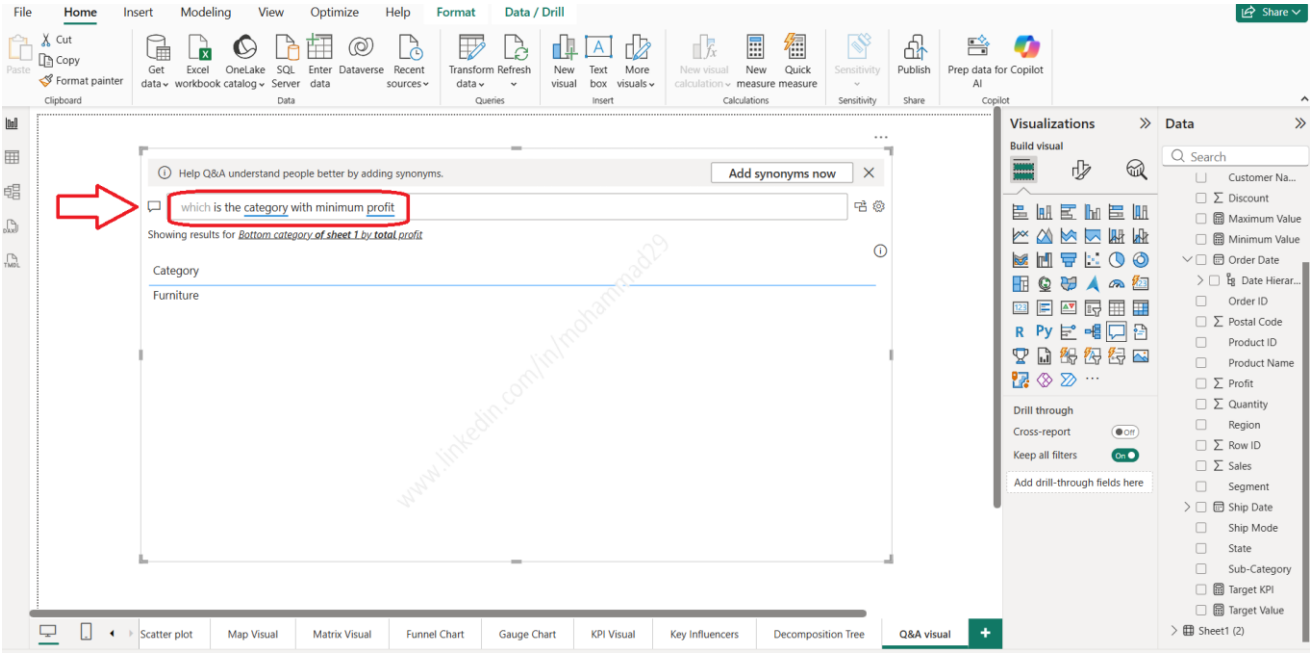


We can ask any Questions,

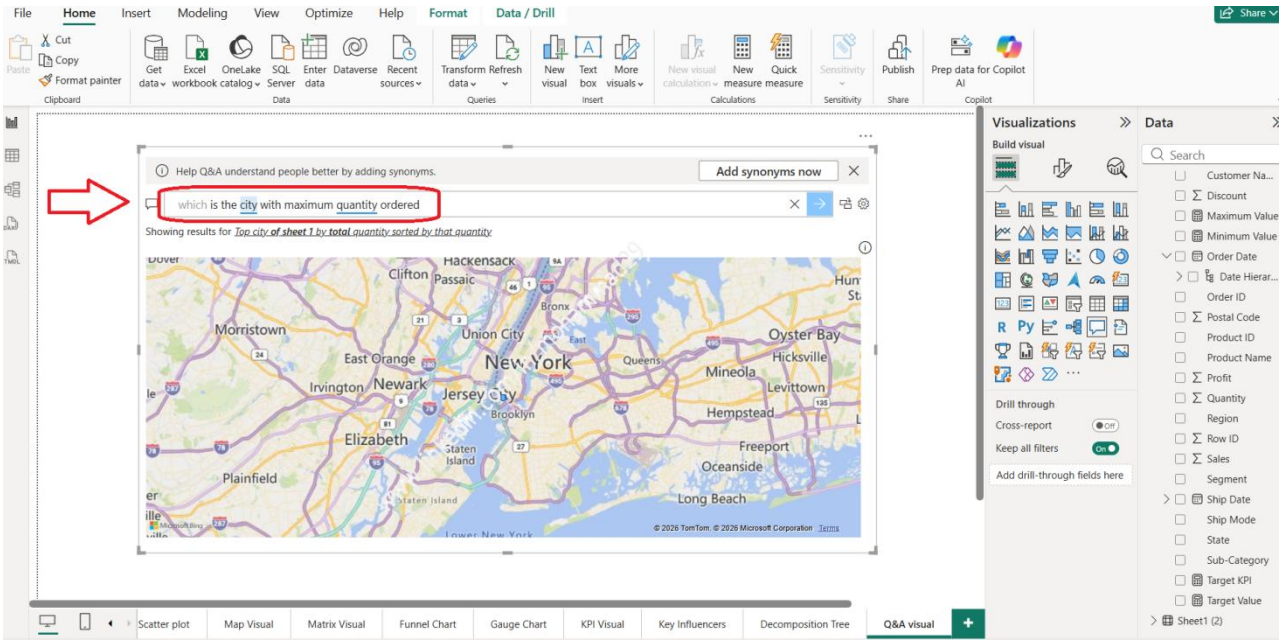
Q1.



Q2.


Help Q&A understand people better by adding synonyms.
Add synonyms now
which is the category with minimum profit
Showing results for Bottom category of sheet 1 by total profit
Category
Furniture
Visualizations
Build visual
Data
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Scatter plot
Map Visual
Matrix Visual
Funnel Chart
Gauge Chart
KPI Visual
Key Influencers
Decomposition Tree
Q&A visual

Q3.


Help Q&A understand people better by adding synonyms.
Add synonyms now
which is the city with maximum quantity ordered
Showing results for Top city of sheet 1 by total quantity sorted by that quantity
Visualizations
Build visual
Data
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Scatter plot
Map Visual
Matrix Visual
Funnel Chart
Gauge Chart
KPI Visual
Key Influencers
Decomposition Tree
Q&A visual