Power BI

A Business Intelligence tool

Power BI

Power BI is a Data Visualization and Business Intelligence tool that converts data from different data sources to interactive dashboards and BI reports.

Power BI

Power BI is a is a collection of components:

- Power Query - For Cleaning the data
- Power Pivot – creating relationship between multiple data sources
- Power View – to create different type of charts
- Power BI Service – to share

Why Power BI?

- Speed
- User Friendly
- Eye-catching and Interactive Dashboards
- Maximum Features (functions , visuals)
- Cost – cheapest tool
- Data connectivity – can connect to ~ 100 data sources

How Power BI works ?

- Power BI Desktop – used to create reports
- Power BI Service – used to publish the reports

Power BI & Tableau- A Comparison

Feature	Tableau	Power BI
Data Visualization	Tableau the main data visualization tool in the market which provides strong data visualization.	Power BI provides a strong backend data manipulation feature with access to simple visualizations.
Size of Dataset	Tableau can connect much larger datasets	1 GB data limit in free version
Data Sources	Tableau connects to a wide range of data sources, we select the dataset first and then visualizations are used	Power BI covers most of the data sources available in Tableau. Its online version also supports direct visualization on Search Engine (Bling)

Power BI & Tableau- A Comparison

Feature	Tableau	Power BI
Costing	Tableau is expensive as compared to Power BI. Tableau Desktop Profession: USD70/user/month and it can connect to hundreds of data sources.	Power BI provides a free version with 1GB limit on dataset. Power BI Pro is also a cheaper solution when compared with any other BI tool Power BI Pro: USD9.99/user/month (10 GB Storage)

Installing Power BI

(Free)

To download the latest version, use the following link:

https://powerbi.microsoft.com/en-us/downloads/

Click on download – You will be prompted to open the MS store click Open
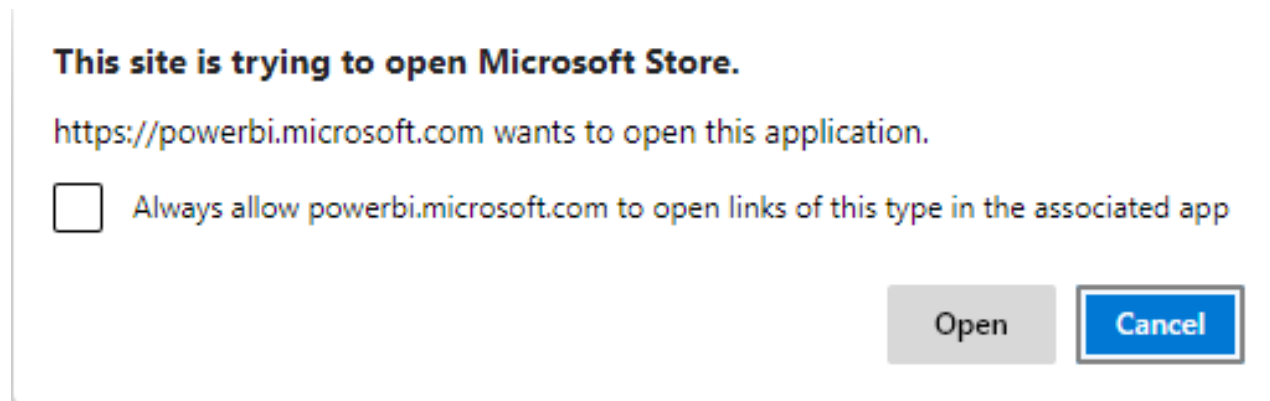
Installing Power BI

(Free)

Once Downloaded you will be getting the launch button
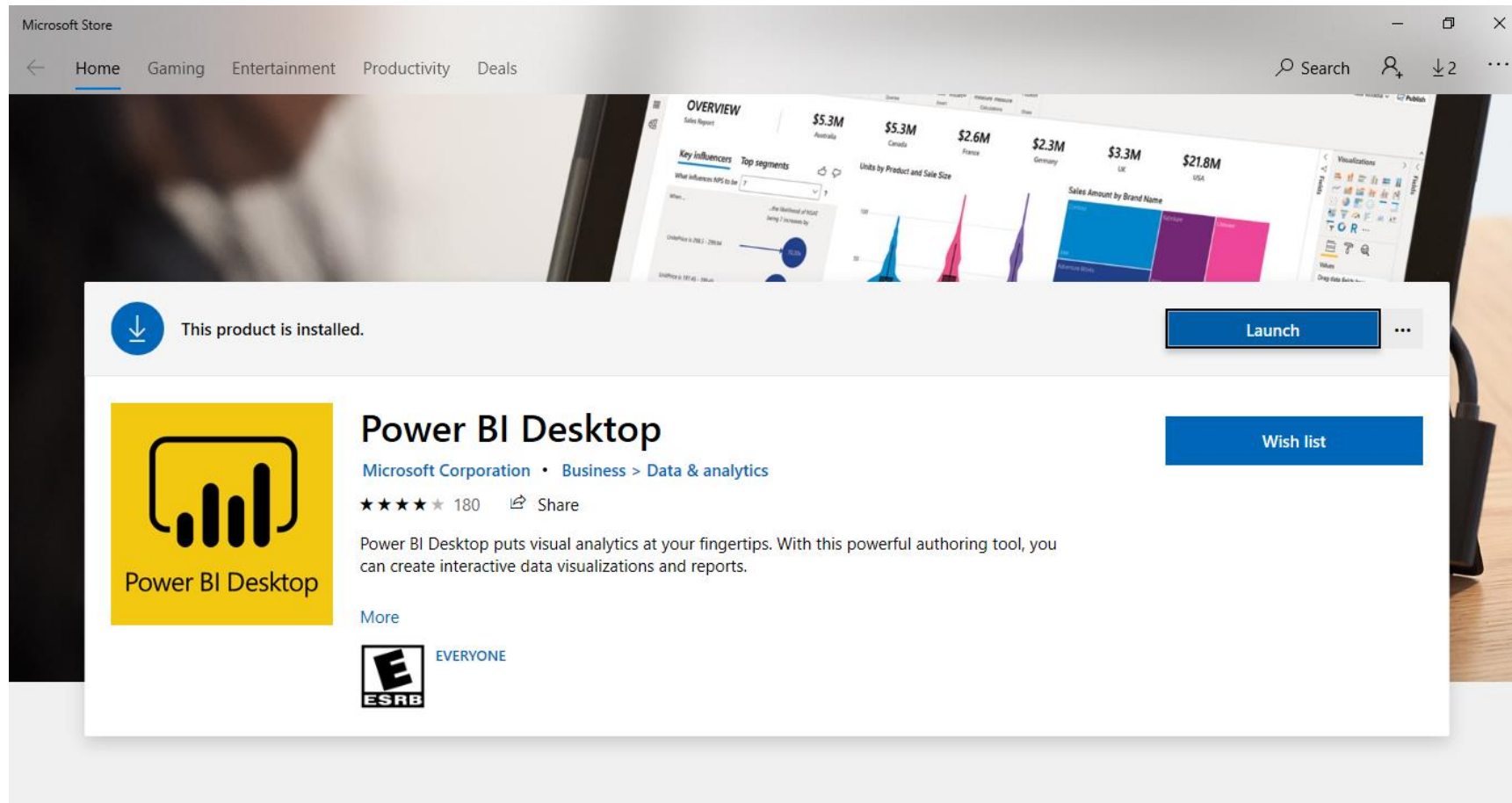
Power Bi upgrades every month

Upgrading Power BI

Use Preview Features (File -> Options) to update Power BI

Power Bi upgrades every month

Sign in

Paste   Cut   Copy   Format painter
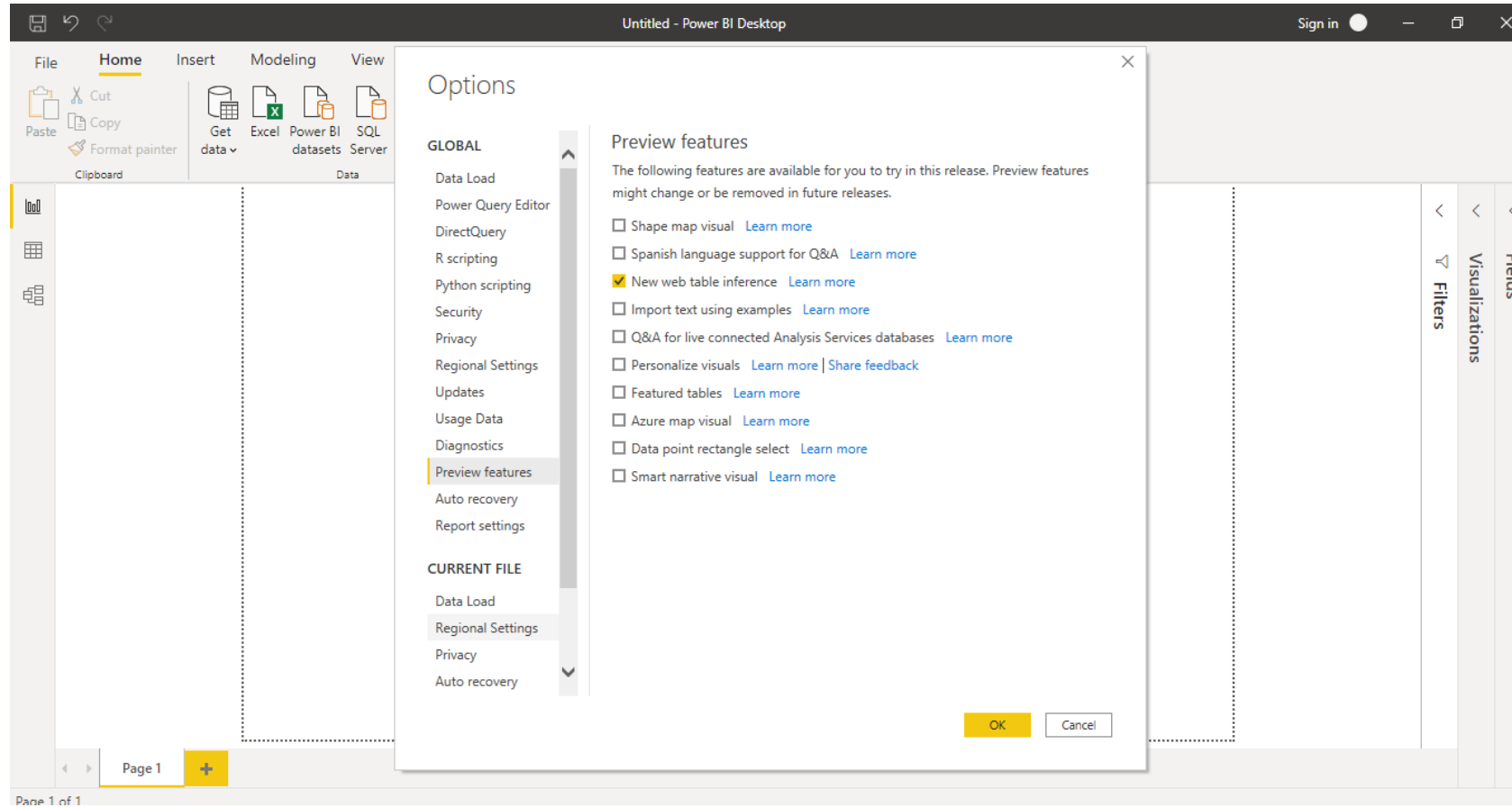
Get data   Excel   Power BI datasets   SQL Server   Enter data   Recent sources   Transform data   Refresh   New visual   Text box   More visuals   New measure   Quick measure   Publish

Clipboard   Data   Queries   Insert   Calculations   Share

Filters

Search

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Visualizations

Fields

Search

Search

Values

Add data fields here

Drill through

Cross-report

Off

Keep all filters

On

Add drill-through fields here

Page 1

Page 1 of 1

Three Steps in Power BI

- **Get the Data in Power BI**– It involves locating the data and using an appropriate type of connection to read the data.

- **Choose the visualization** – This involves selecting the chart type to be created.

- **Select the fields to be worked on** – This involves moving the fields to the desired area.
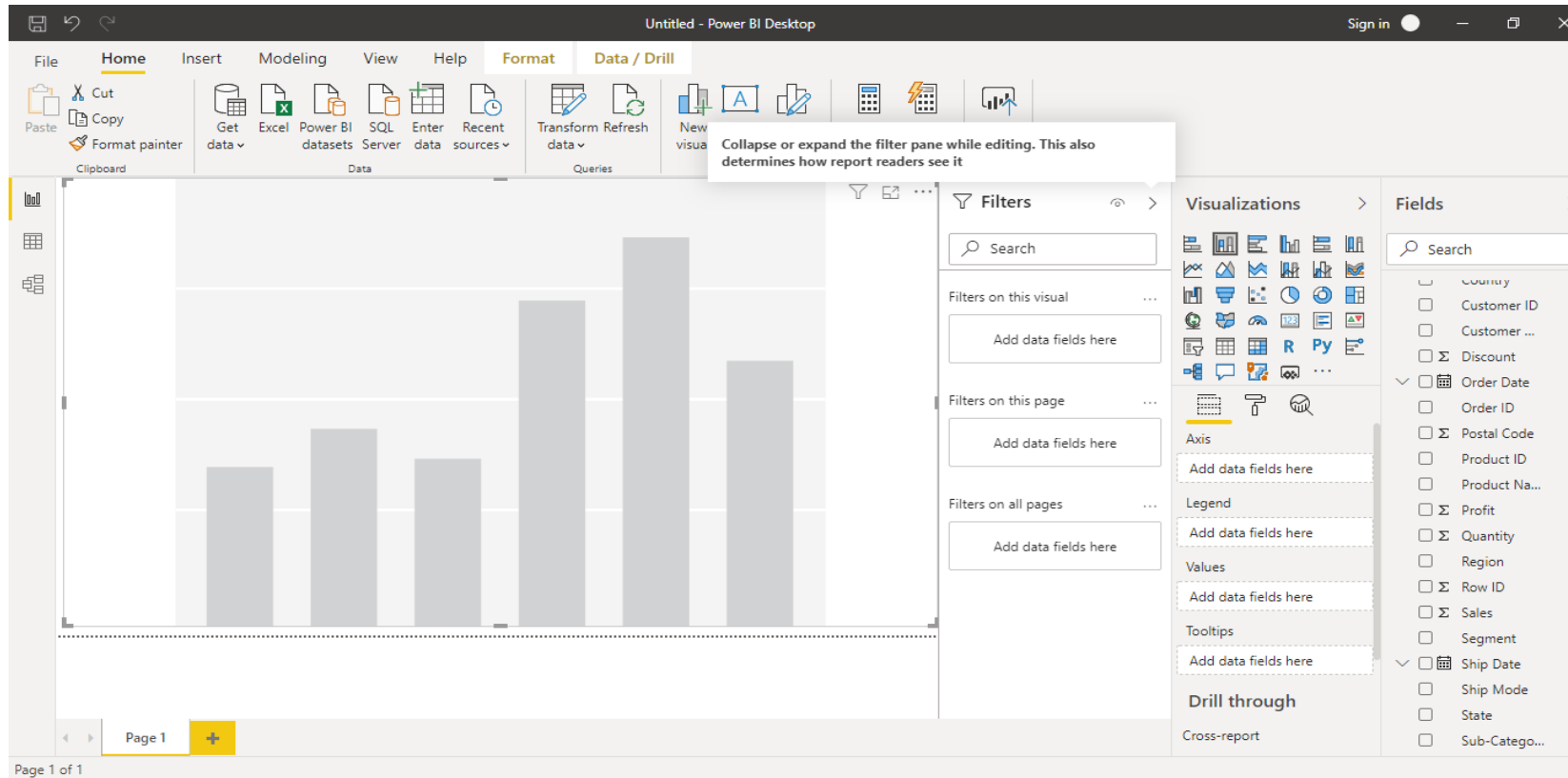
Basic Charts in Power BI

- **Connect to a data source** – It involves locating the data and using an appropriate type of connection to read the data.

  Power BI supports large range of data sources. You can click Get data and it shows you all the available data connections.
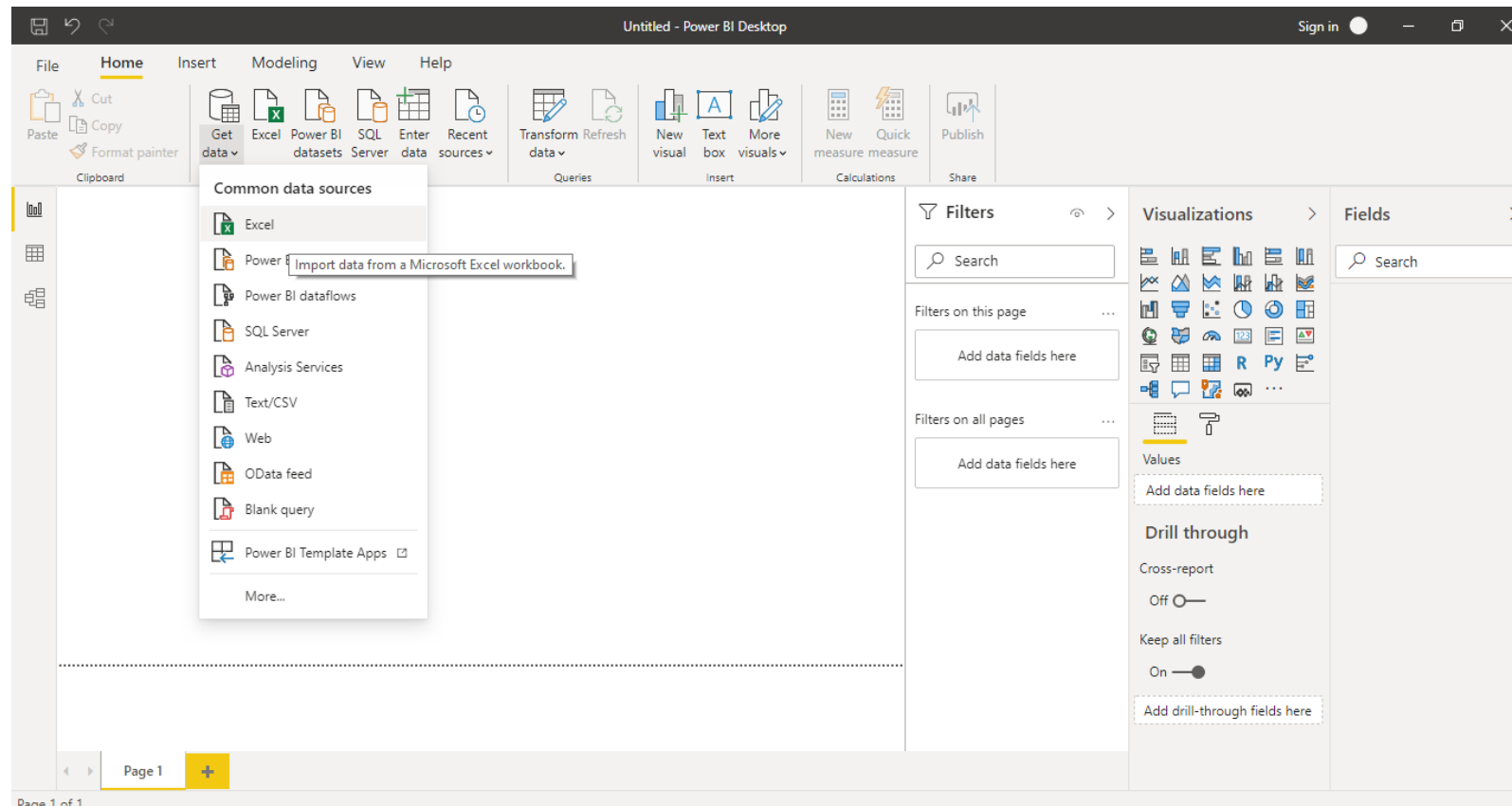
Basic Charts in Power BI

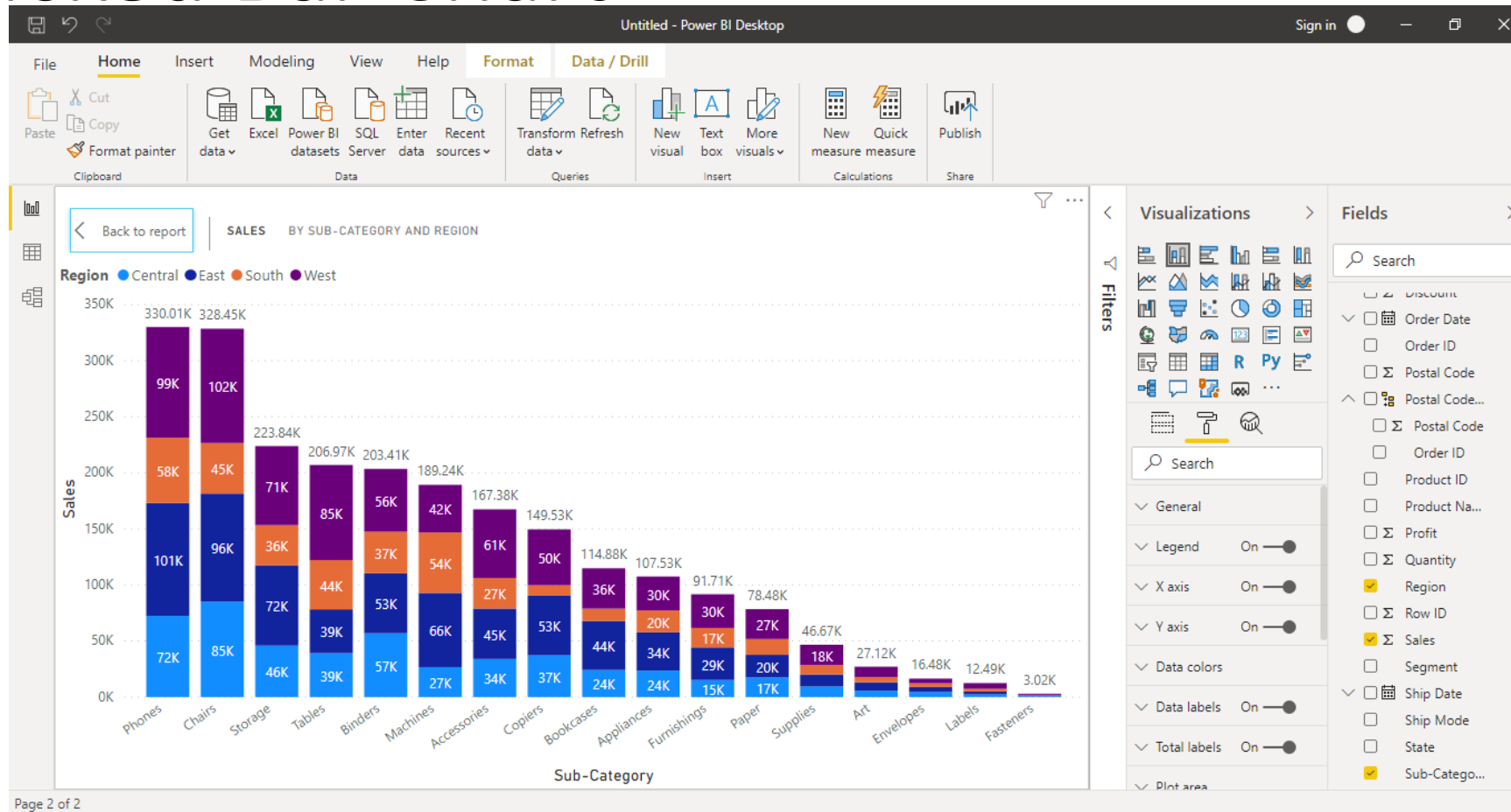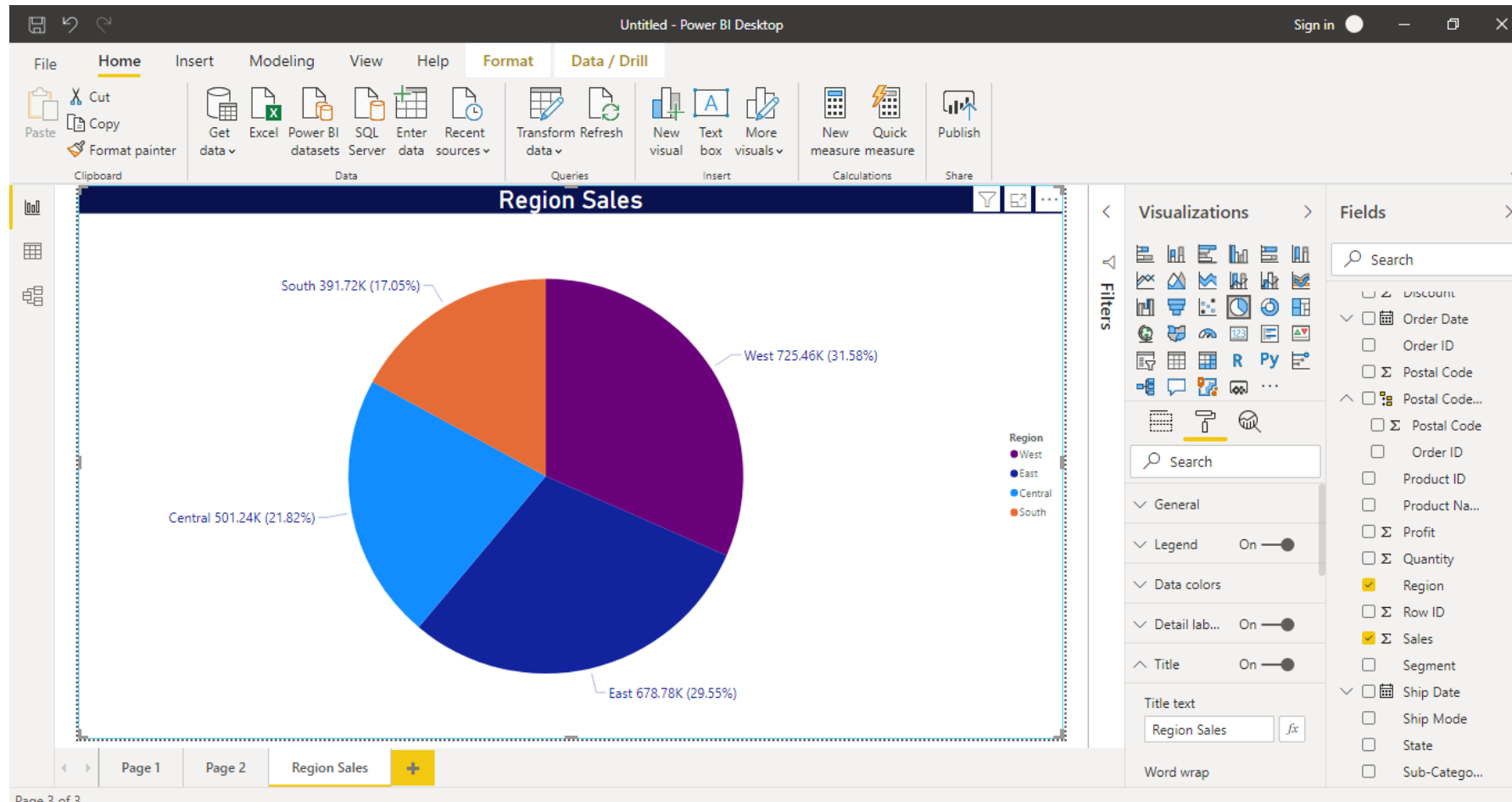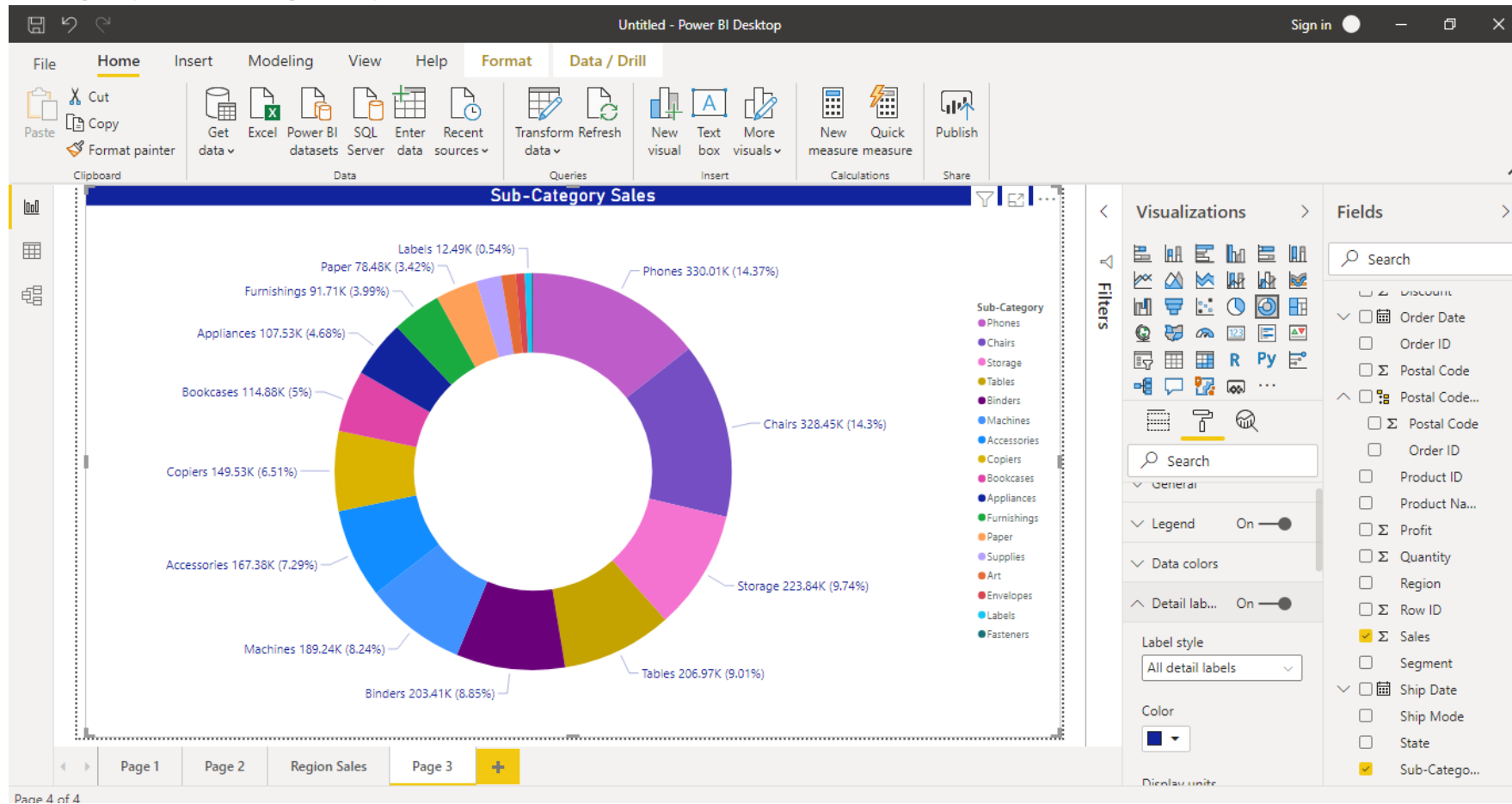- **Choose the visualization** – This involves selecting the chart type to be created.

Basic Charts in Power BI – Bar Chart

- **Select the fields to be worked on** – This involves moving the fields to the desired area.
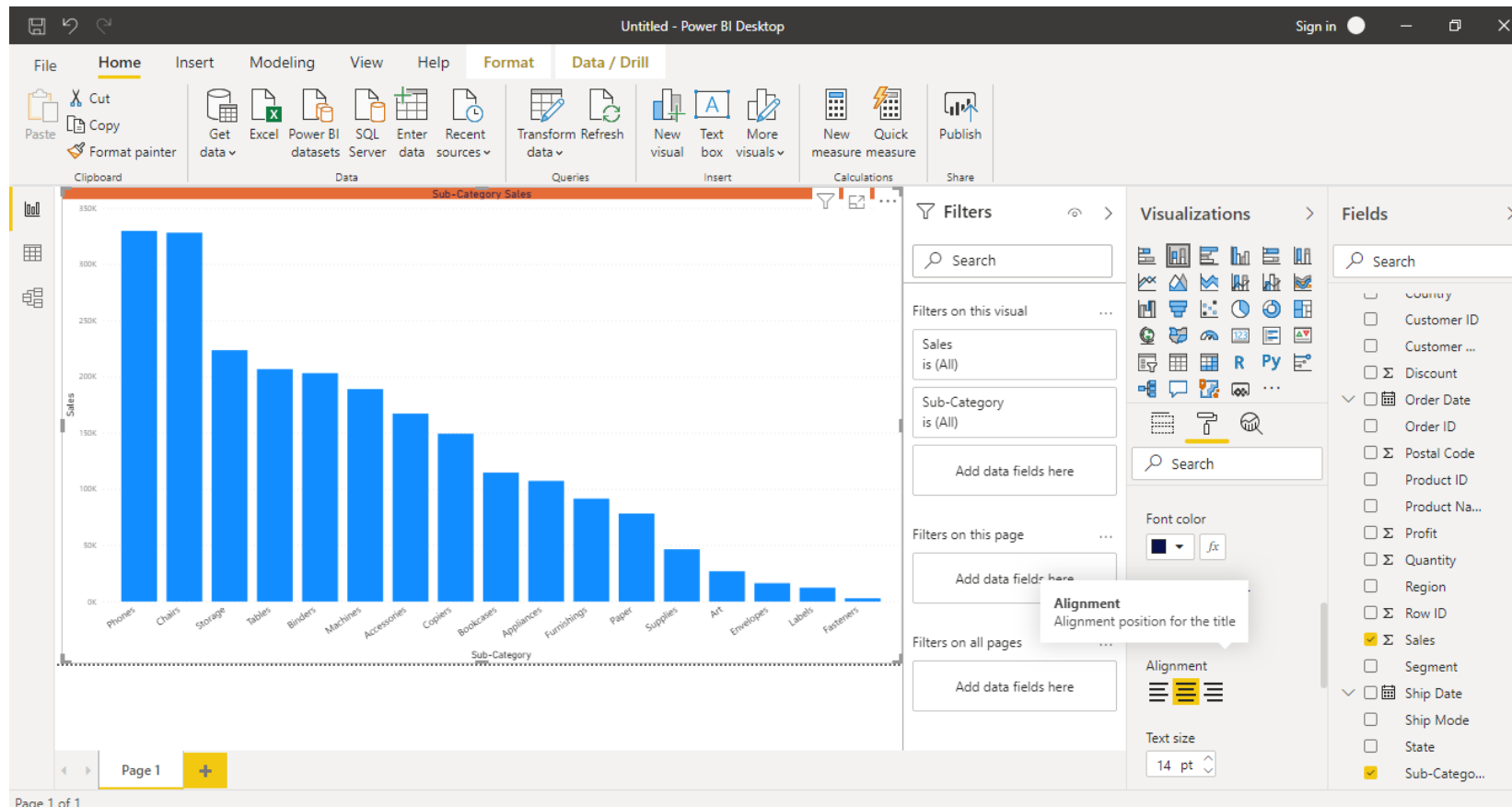
Basic Charts in Power BI – Stacked Bar Chart

Basic Charts in Power BI – Pie Chart

Basic Charts in Power BI – Donut Chart

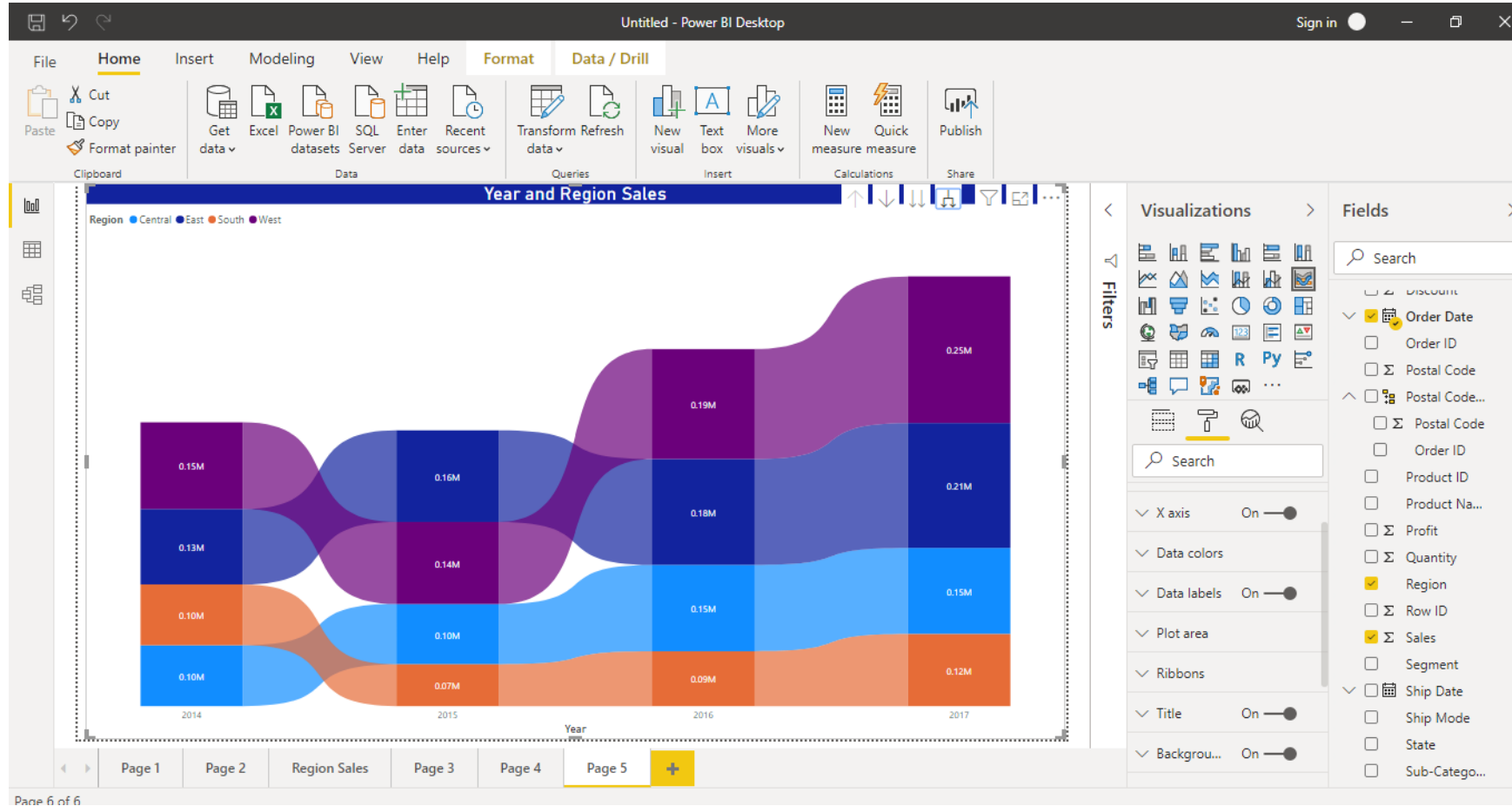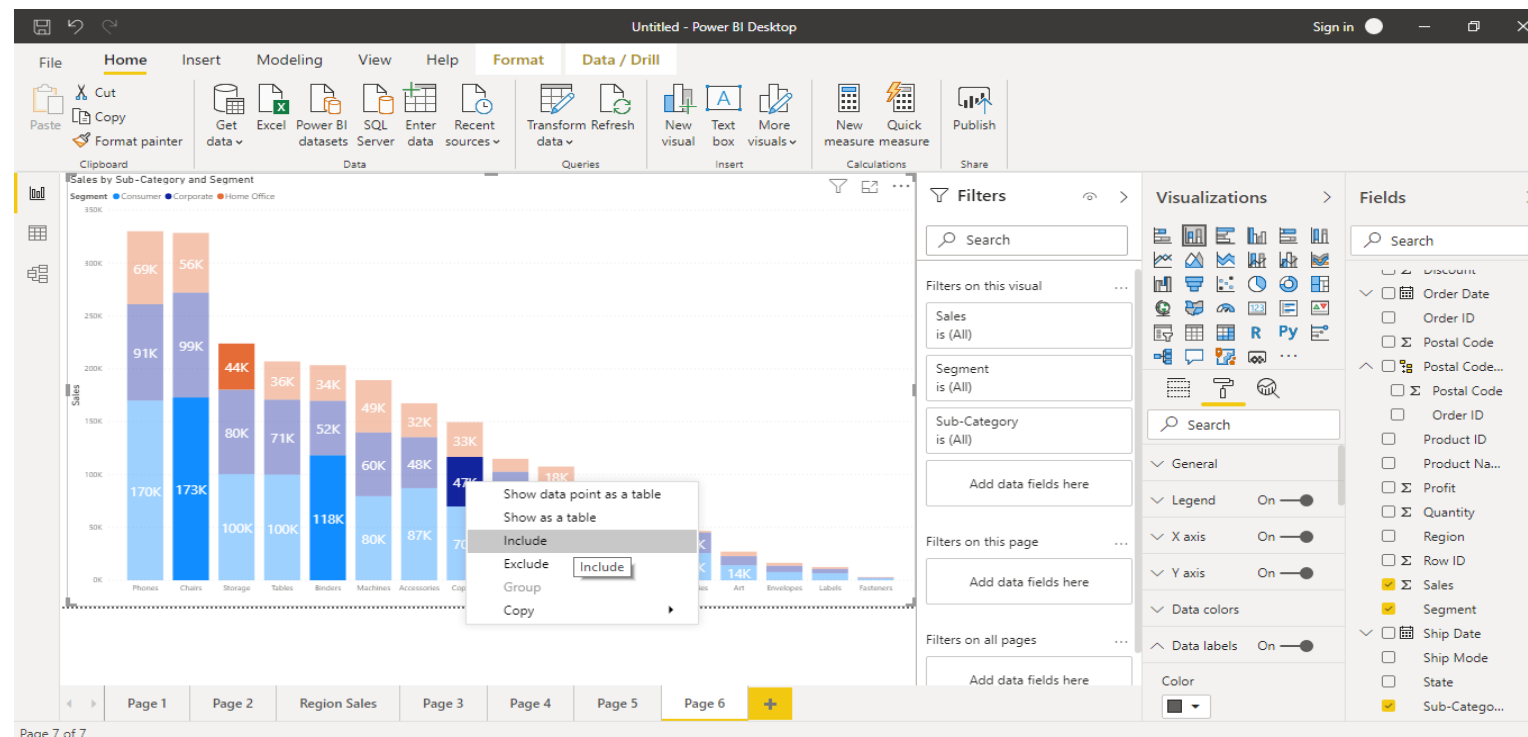# Basic Charts in Power BI – Funnel Chart
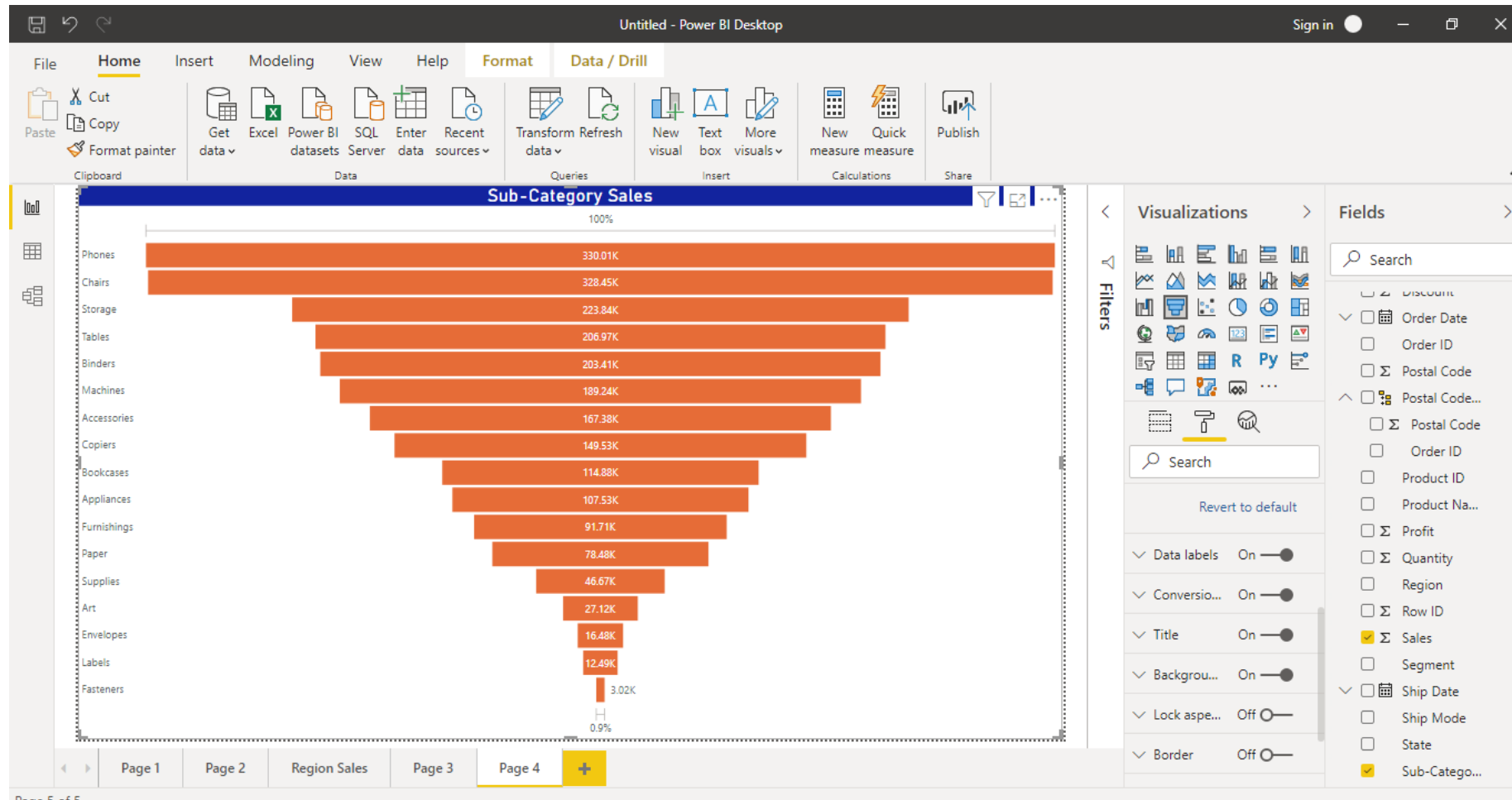
Basic Charts in Power BI – Ribbon Chart

Basic Charts in Power BI – Include / Exclude

In order to focus on a specific set of points you can now select one or more points and right click to include or exclude points in your visual.

Include will filter out all points except for those you've chosen to include. Exclude will filter out the points you've chosen to exclude.

Basic Charts in Power BI – Export Data from Chart

This feature allows you to export the detailed data directly from the chart
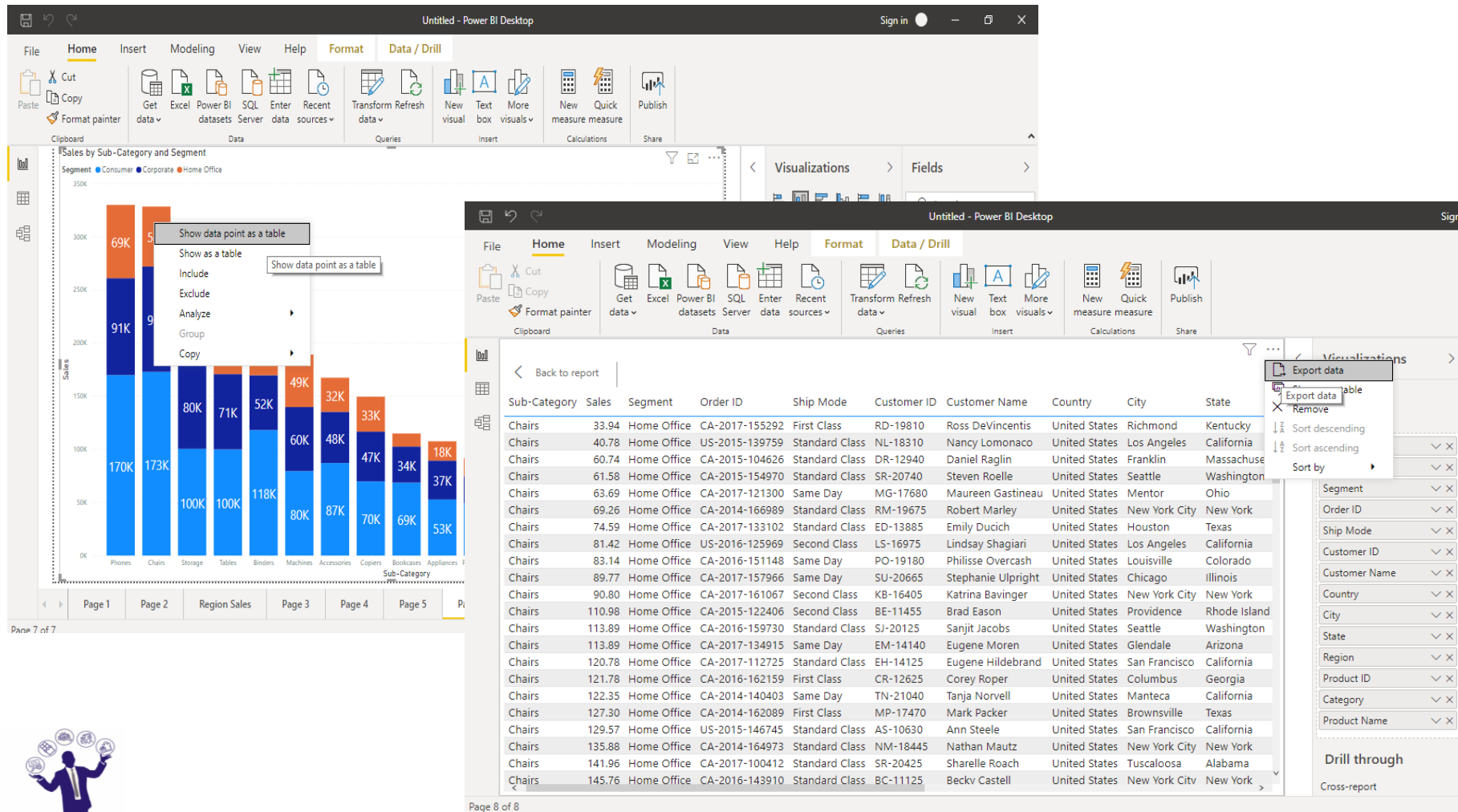
Basic Charts in Power BI – Export Data from Chart

This feature allows you to export the detailed data directly from the chart
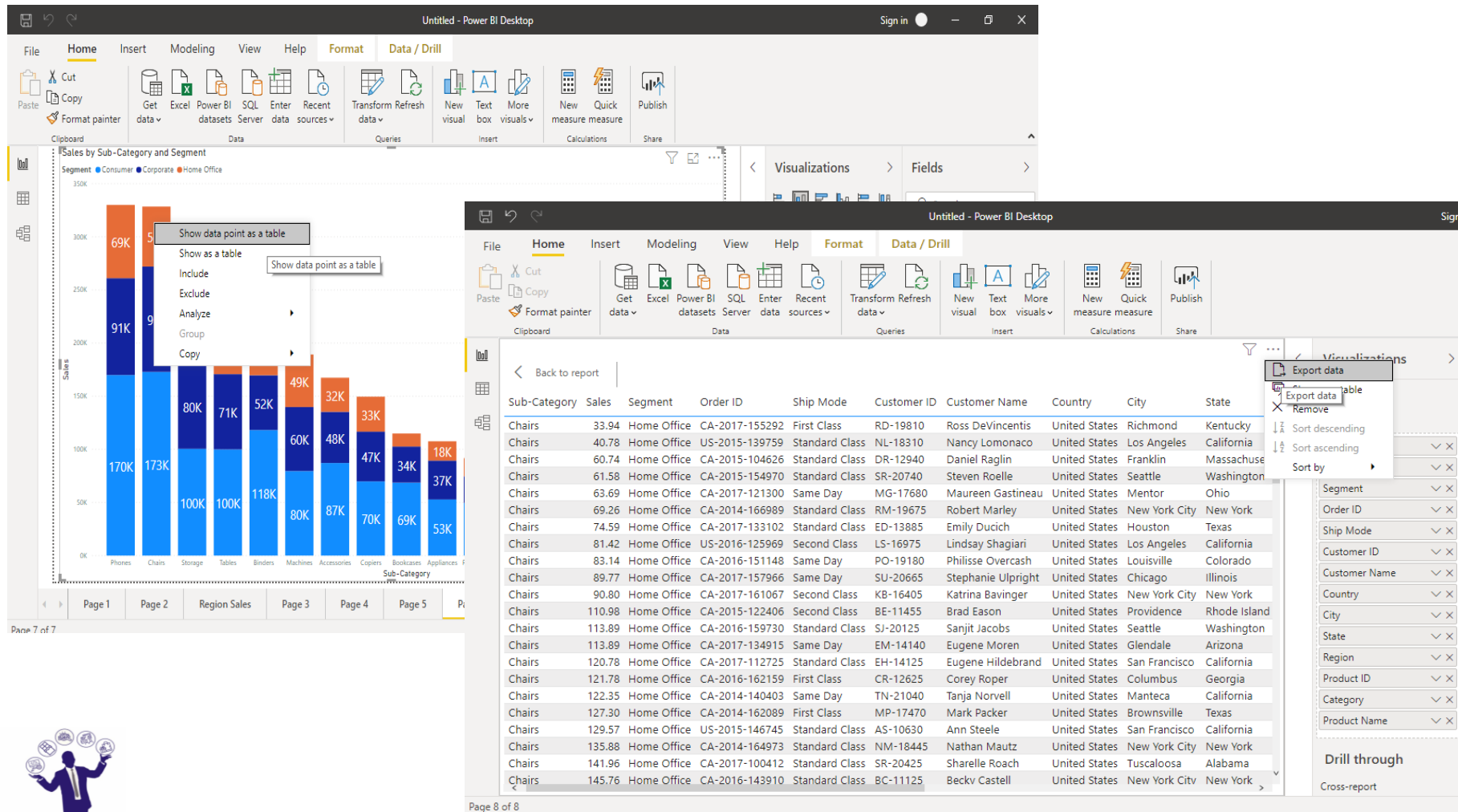
Map in Power BI

Power BI provides two types of map visualization - bubble maps and shape maps. To create a Map you need some geographical Data type such as Country , State, City , Postal code , Latitude, longitude etc..
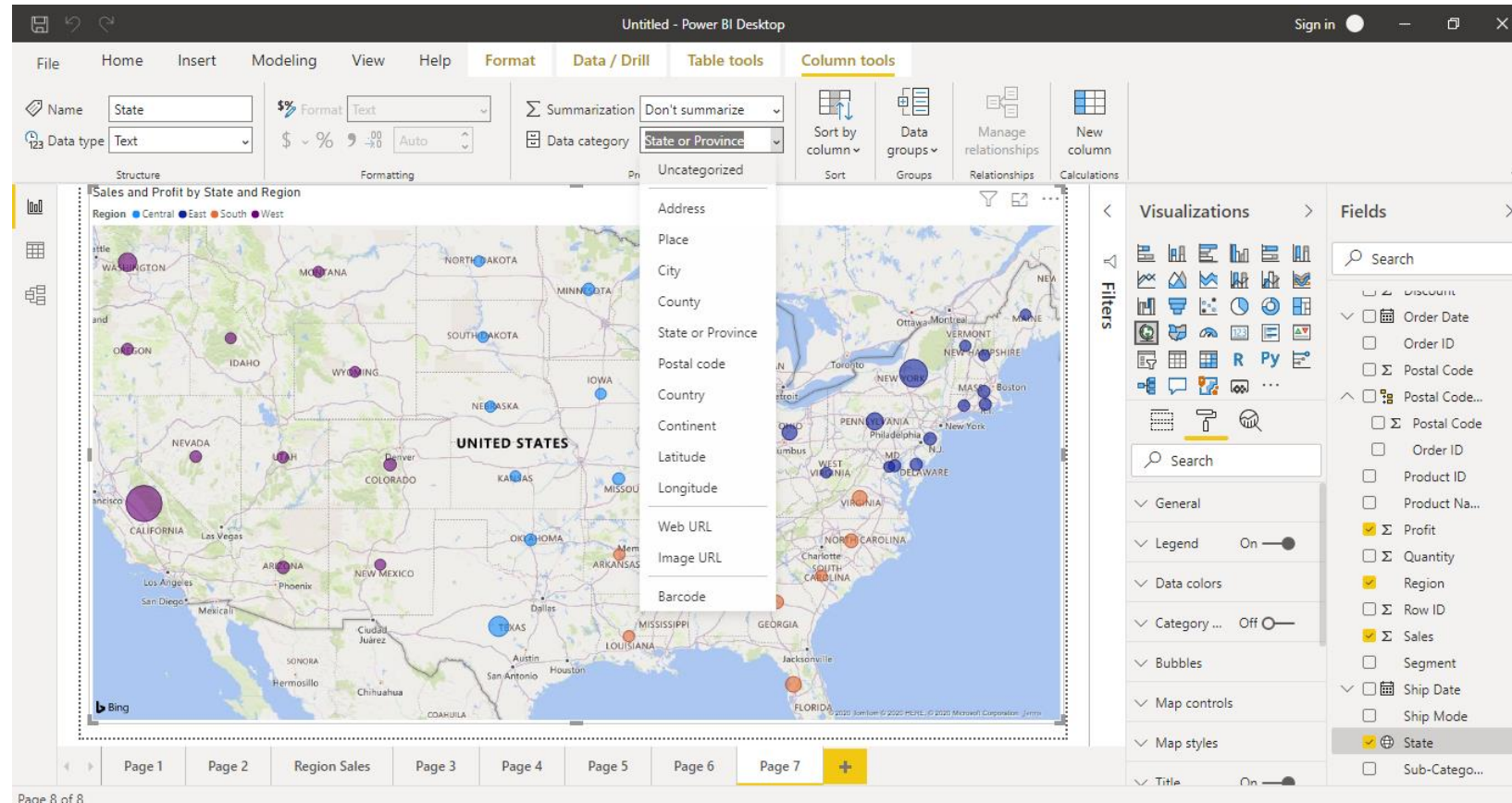
Map in Power BI - Filed Map

A filled map uses shading [from light (less-frequent/lower) to dark (more-frequent/more)] to display how a value differs in proportion across a geography or region.
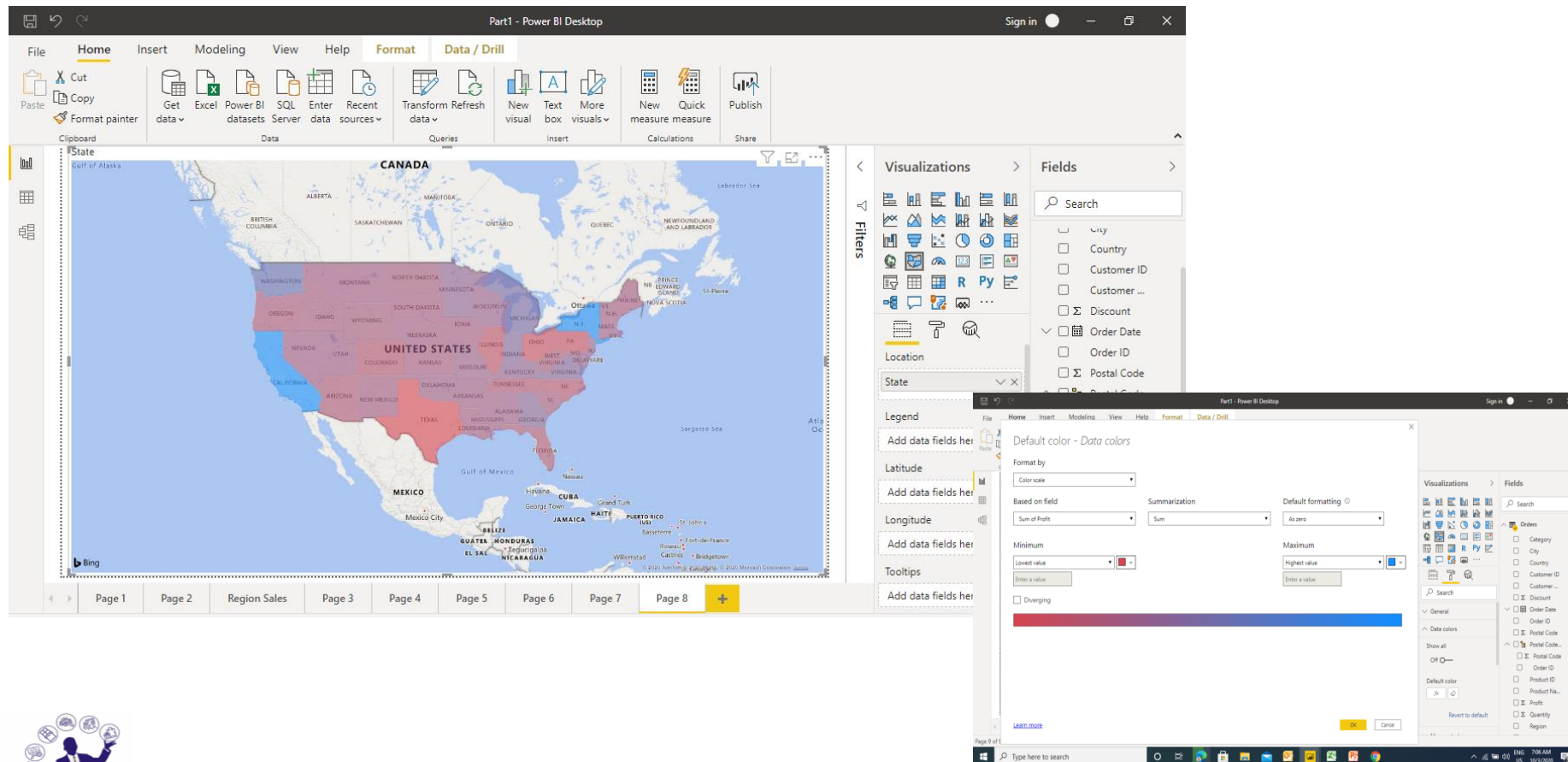
Map in Power BI - Map with Pie

It a blend of Map & Pie where no. of Pie chart are plotted on the map
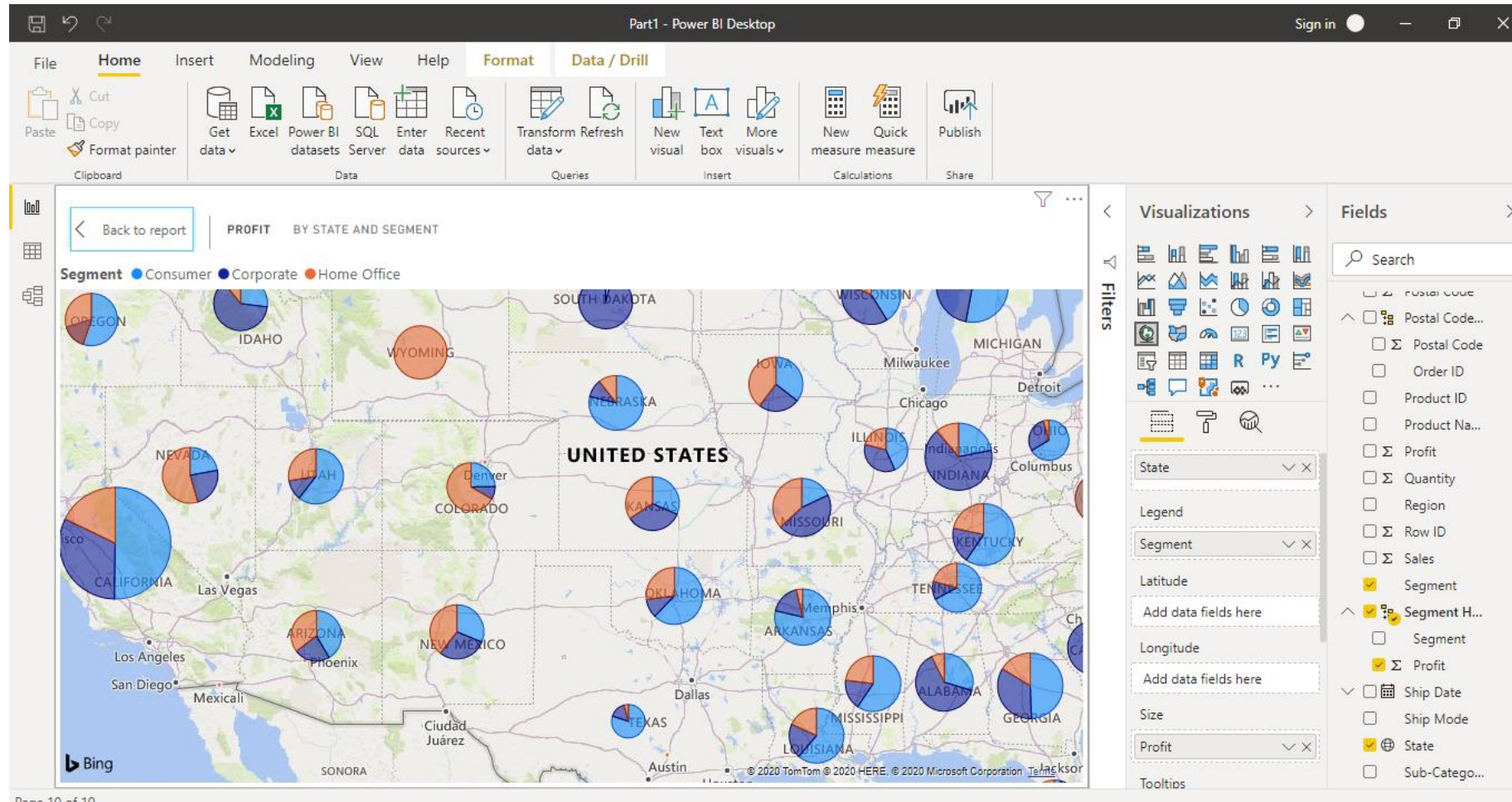
Map in Power BI - Formatting

Map Formatting options are available under Map controls
to enhance the Map

- Data Colors – change the color of data bubble
- Category – get the name of states
- Bubbles – change size of bubble
- Map Controls – Zoom in & Zoom Out Buttons
- Title – Map Title
- Tool Tip – format tool tip box
- Map Styles – change the map background

Map in Power BI - Formatting
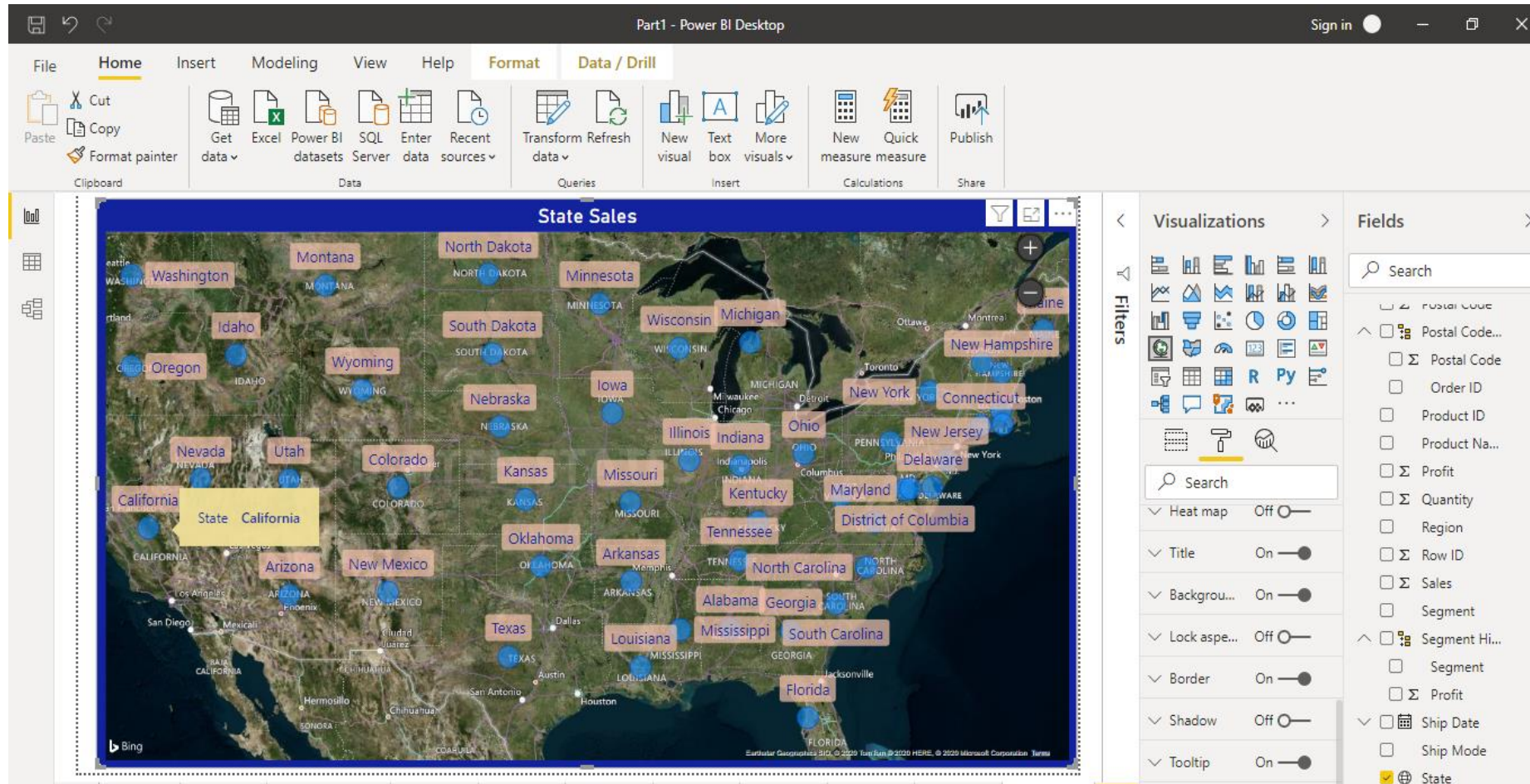
Map in Power BI - India Map

Tabular Data in Power BI
- Tables

Use the Table under Visualizations and add the required fields in the Value box

Tabular Data in Power BI
- Tables

Use the Table under Visualizations and add the required fields in the Value box

Tabular Data in Power BI -Formatting Tables

- Changing the Font size : Values –> Text Size
- Changing the Column Header Size : Column Headers –> Text Size
- Adding Grid : Grid - > Vertical Grid / Horizontal Grid
- Table Auto Format : Style -> Bold Header
- Field Formatting
- Back Ground Color
- Add title

			Category Sub Category Details		
Category	Sub-Category	Profit	Sales	Quantity
Furniture	Bookcases	-3,472.56	114,880.00	868
Furniture	Chairs	26,590.17	328,449.10	2356
Furniture	Furnishings	13,059.14	91,705.16	3563
Furniture	Tables	-17,725.48	206,965.53	1241
Office Supplies	Appliances	18,138.01	107,532.16	1729
Office Supplies	Art	6,527.79	27,118.79	3000
Office Supplies	Binders	30,221.76	203,412.73	5974
Office Supplies	Envelopes	6,964.18	16,476.40	906
Office Supplies	Fasteners	949.52	3,024.28	914
Office Supplies	Labels	5,546.25	12,486.31	1400
Office Supplies	Paper	34,053.57	78,479.21	5178
Office Supplies	Storage	21,278.83	223,843.61	3158
Office Supplies	Supplies	-1,189.10	46,673.54	647
Technology	Accessories	41,936.64	167,380.32	2976
Technology	Copiers	55,617.82	149,528.03	234
Technology	Machines	3,384.76	189,238.63	440
Technology	Phones	44,515.73	330,007.05	3289
Total		286,397.02	2,297,200.86	37873

Tabular Data in Power BI
-Conditional Formatting

Formatting the data based on the condition is known as Conditional Formatting

Sub-Category	Sales	Profit	Discount
Copiers	149,528.03	55,617.82	11.00
Phones	330,007.05	44,515.73	137.40
Accessories	167,380.32	41,936.64	60.80
Paper	78,479.21	34,053.57	102.60
Binders	203,412.73	30,221.76	567.00
Chairs	328,449.10	26,590.17	105.00
Storage	223,843.61	21,278.83	63.20
Appliances	107,532.16	18,138.01	77.60
Furnishings	91,705.16	13,059.14	132.40
Envelopes	16,476.40	6,964.18	20.40
Art	27,118.79	6,527.79	59.60
Labels	12,486.31	5,546.25	25.00
Machines	189,238.63	3,384.76	35.20
Fasteners	3,024.28	949.52	17.80
Supplies	46,673.54	-1,189.10	14.60
Bookcases	114,880.00	-3,472.56	48.14
Tables	206,965.53	-17,725.48	83.35
Total	**2,297,200.86**	**286,397.02**	**1,561.09**

Profit

Background color

Off

Font color

Off

Data bars

Off

Icons
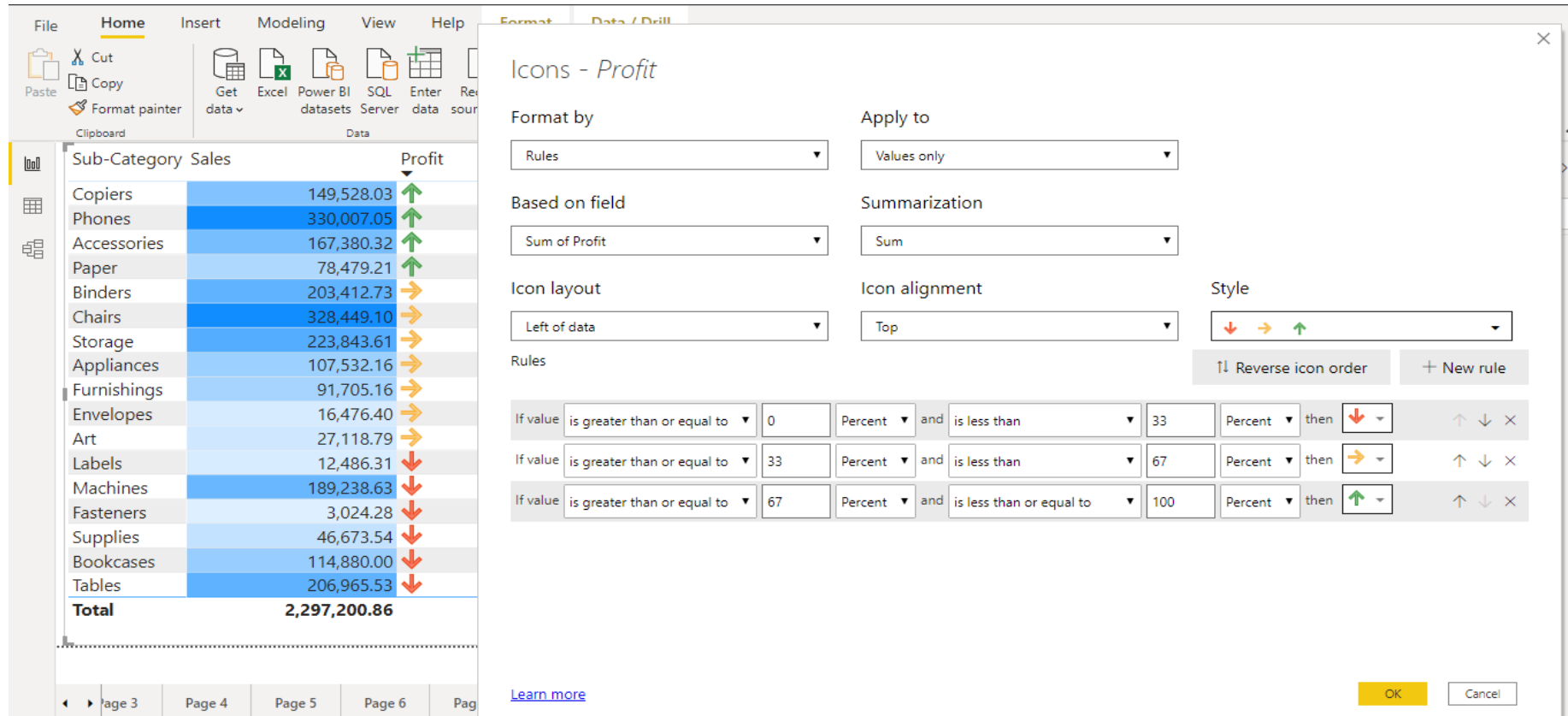
Off

Tabular Data in Power BI -Conditional Formatting

Getting Icons
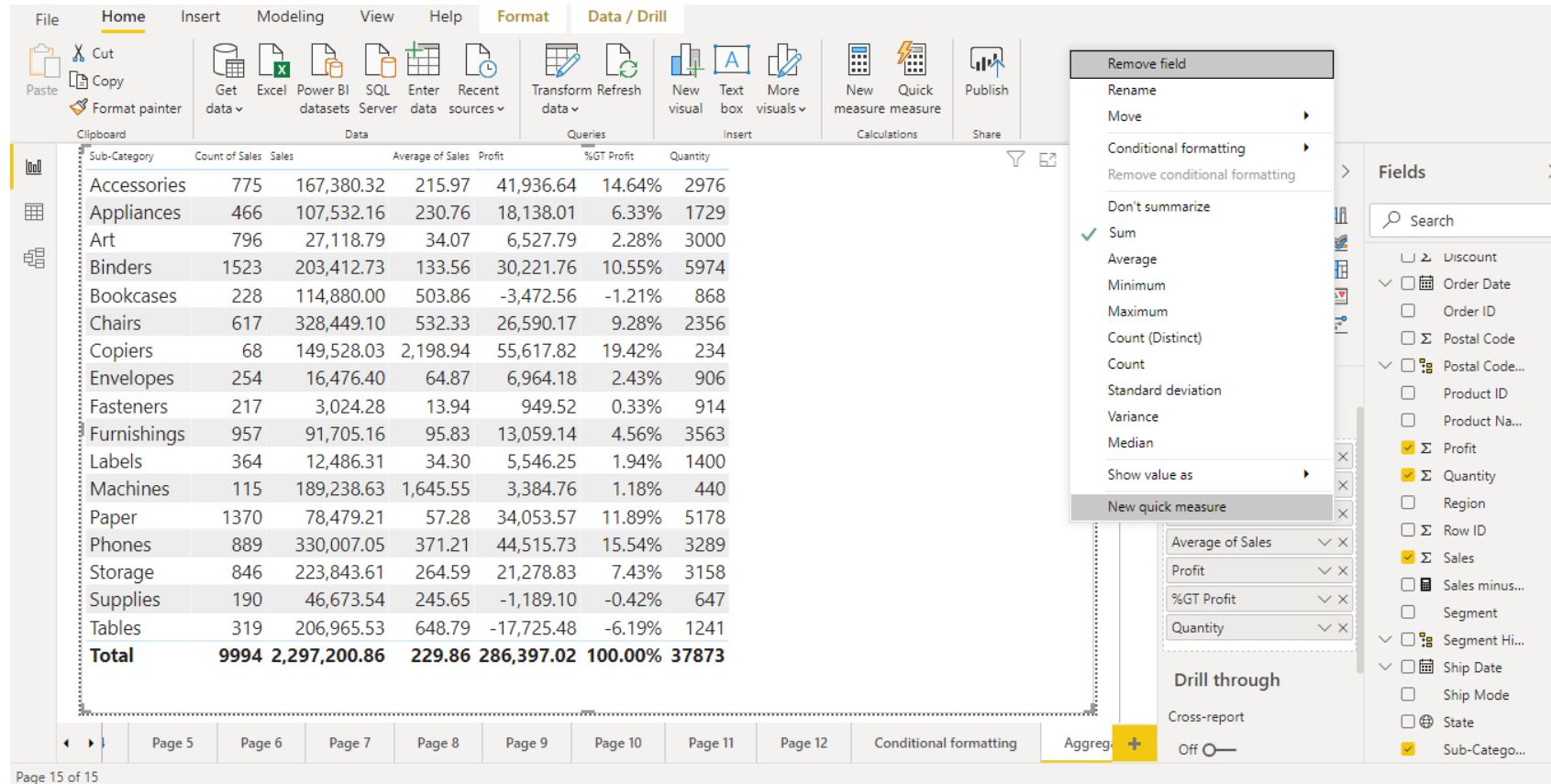
Tabular Data in Power BI
-Table Aggregation

The default aggregation is sum, which can be changed to Avg, Count, etc.

Tabular Data in Power BI-Matrix

The matrix is similar to a table. In table duplicate values are displayed and not aggregated. A matrix makes it easier to display data meaningfully across multiple dimensions -- it supports a stepped layout. The matrix automatically aggregates the data and enables drill down.
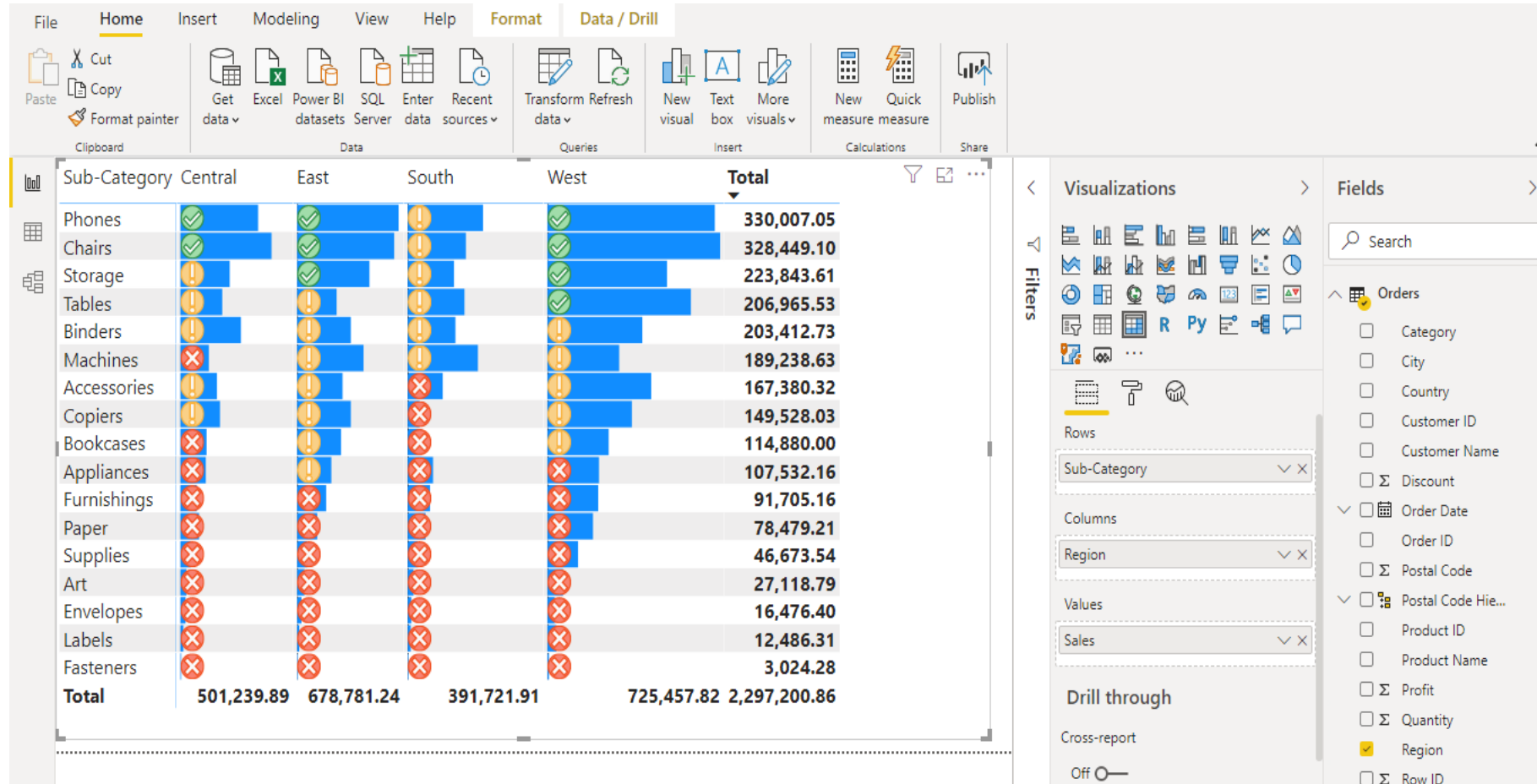
Tabular Data in Power BI-Matrix

Conditional formatting matrix.

Tabular Data in Power BI-
Matrix Hierarchies

Hierarchies gives expand & collapse feature to a field. You just need to drop one field over another to get the hierarchy

Tabular Data in Power BI- Matrix Formatting Totals
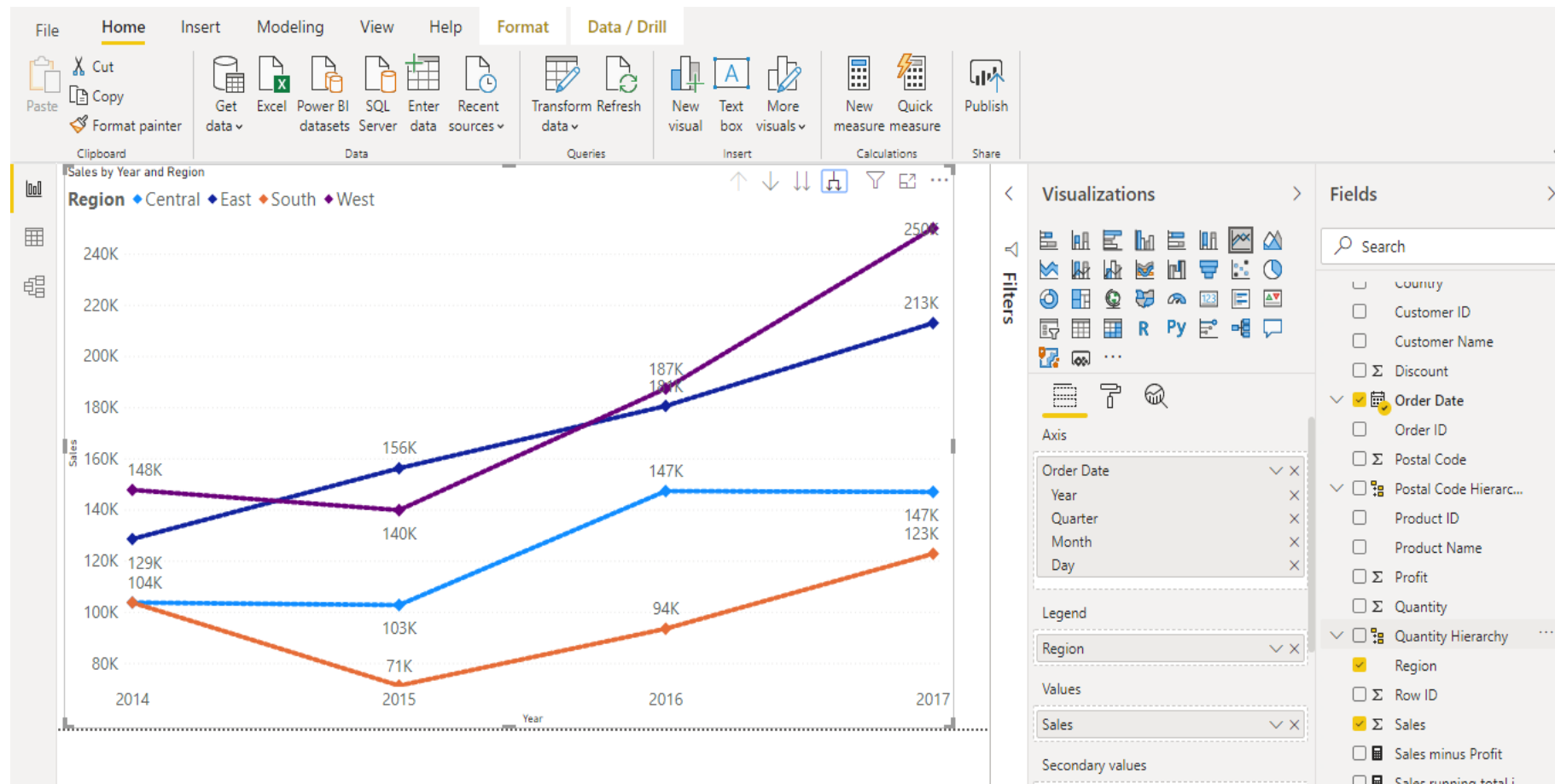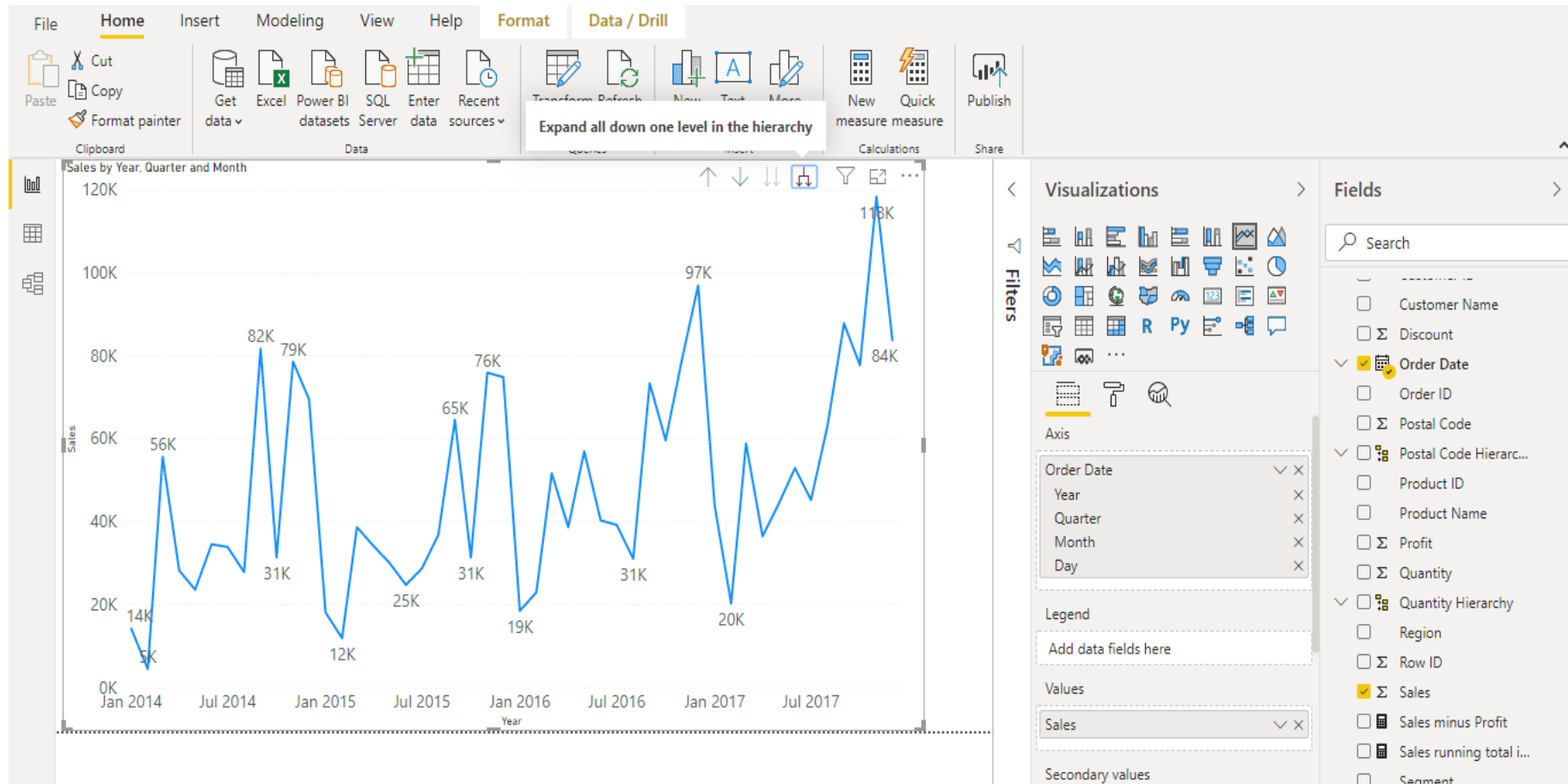
Line Chart in Power BI

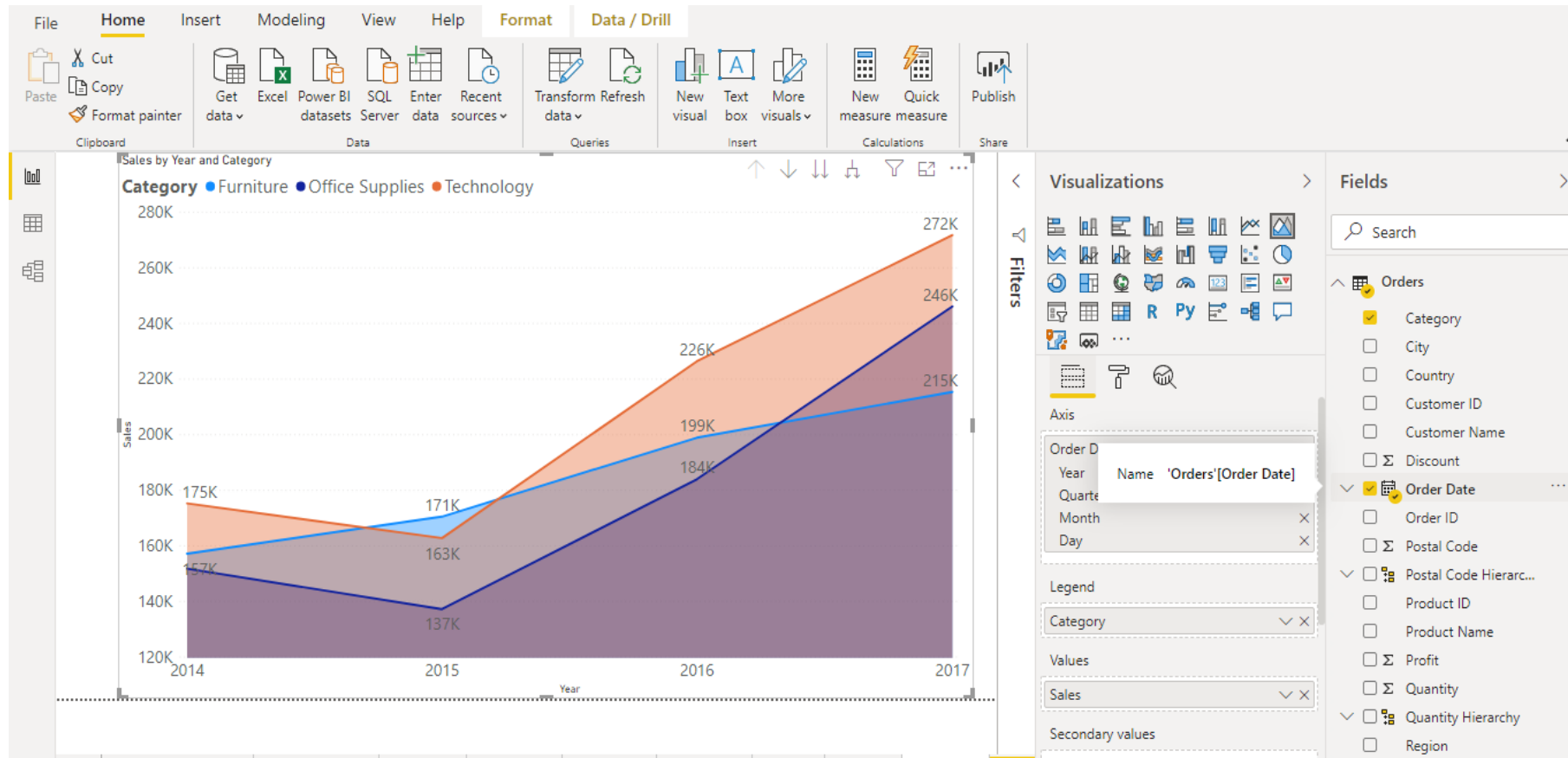To create a line chart we need to have a date field

Line Chart in Power BI

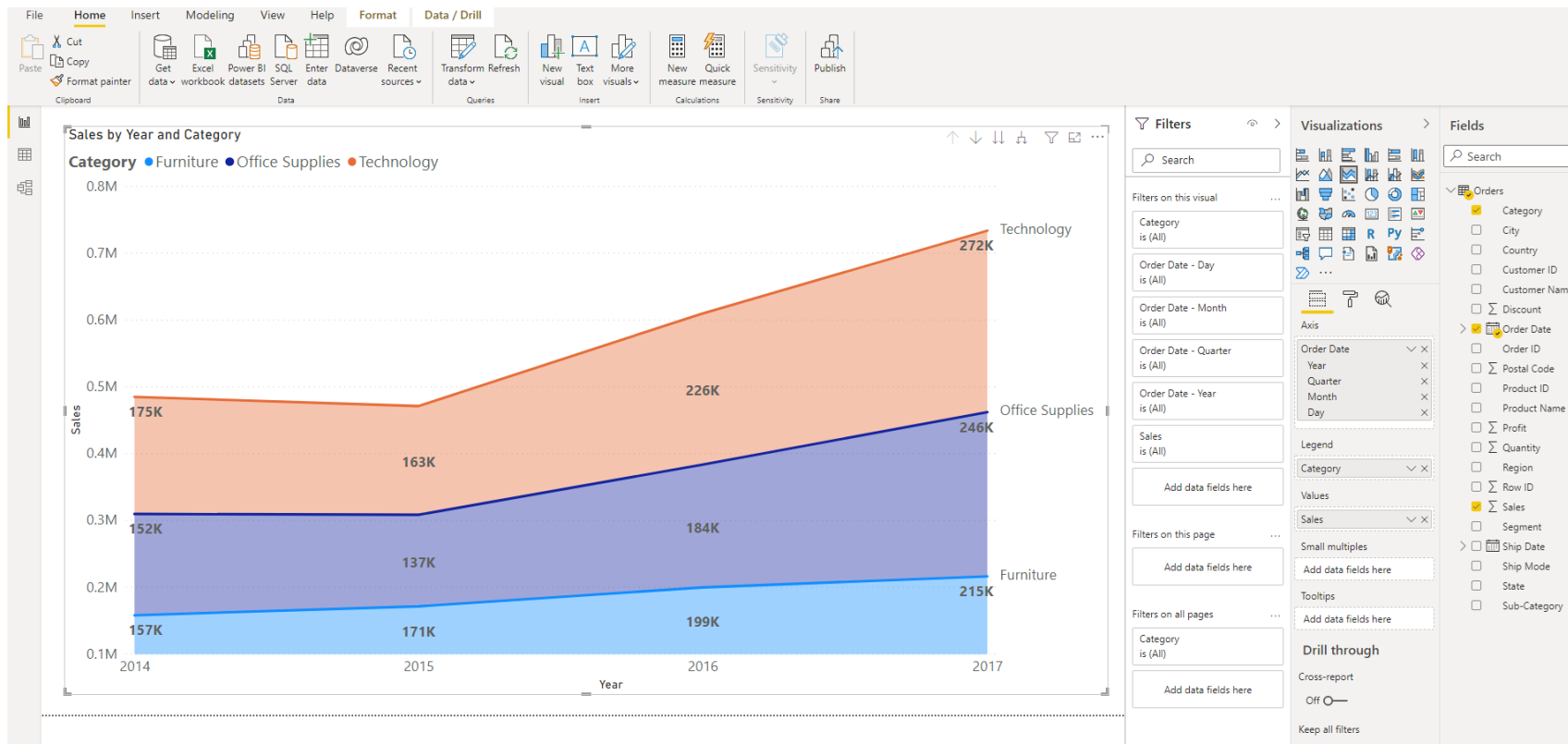As the date field has been used in Line Chart it also gives the feature of Auto Hierarchy

Area Chart in Power BI

Area Chart is the enhancement of line chart where the area below the line is filed

Stacked Area Chart in Power BI

Area Chart is the enhancement of line chart where the area below the line is filed

Basic Charts in Power BI –100% Stacked Bar Chart