

# Power BI



## Microsoft Power BI Essentials



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# Welcome to Power BI Essentials Workshop

Instructor: Amit Agarwal

E-Mail: amitprabhash73@gmail.com

**Class will start promptly at:  
9:00 AM IST**

**Please put your Cell Phones in Silent Mode**

# Everyone Ready – Let's Get Started!

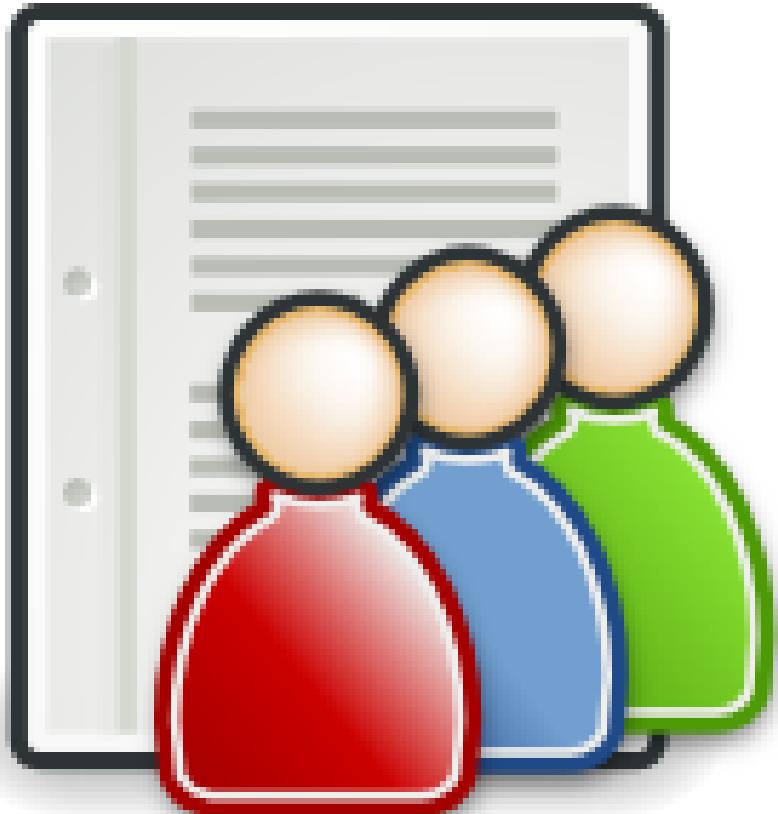
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## Instructor Introduction



- 25 + years of Industry Experience
- Microsoft & SAP Certified
- Trained more than 500+ BI Consultants
- Conducted Business Intelligence & Enterprise Information Management Workshops for Kraft, Kellogg, Whirlpool, Verizon, DOI – USA, Sap North America, Accenture, HP, HOLCIM, TCS, ...

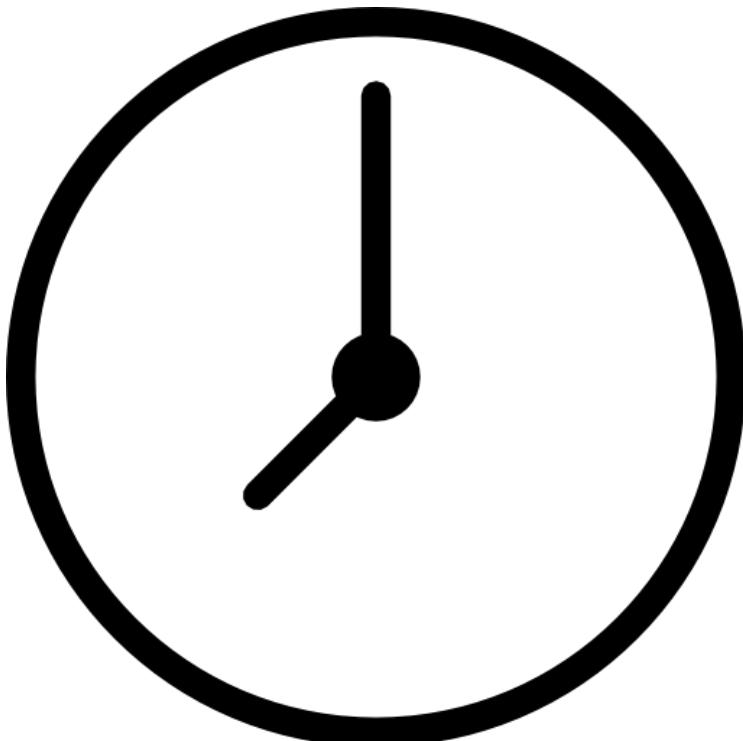
# Participants Introduction



- Kindly enter the following details in your chat box:
- Your Name
- Industry/Work Experience
- Business Intelligence, Excel, Reporting & Dashboarding Experience
- Expectation from Course

# Course - Time

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**All Times Shown Are IST**

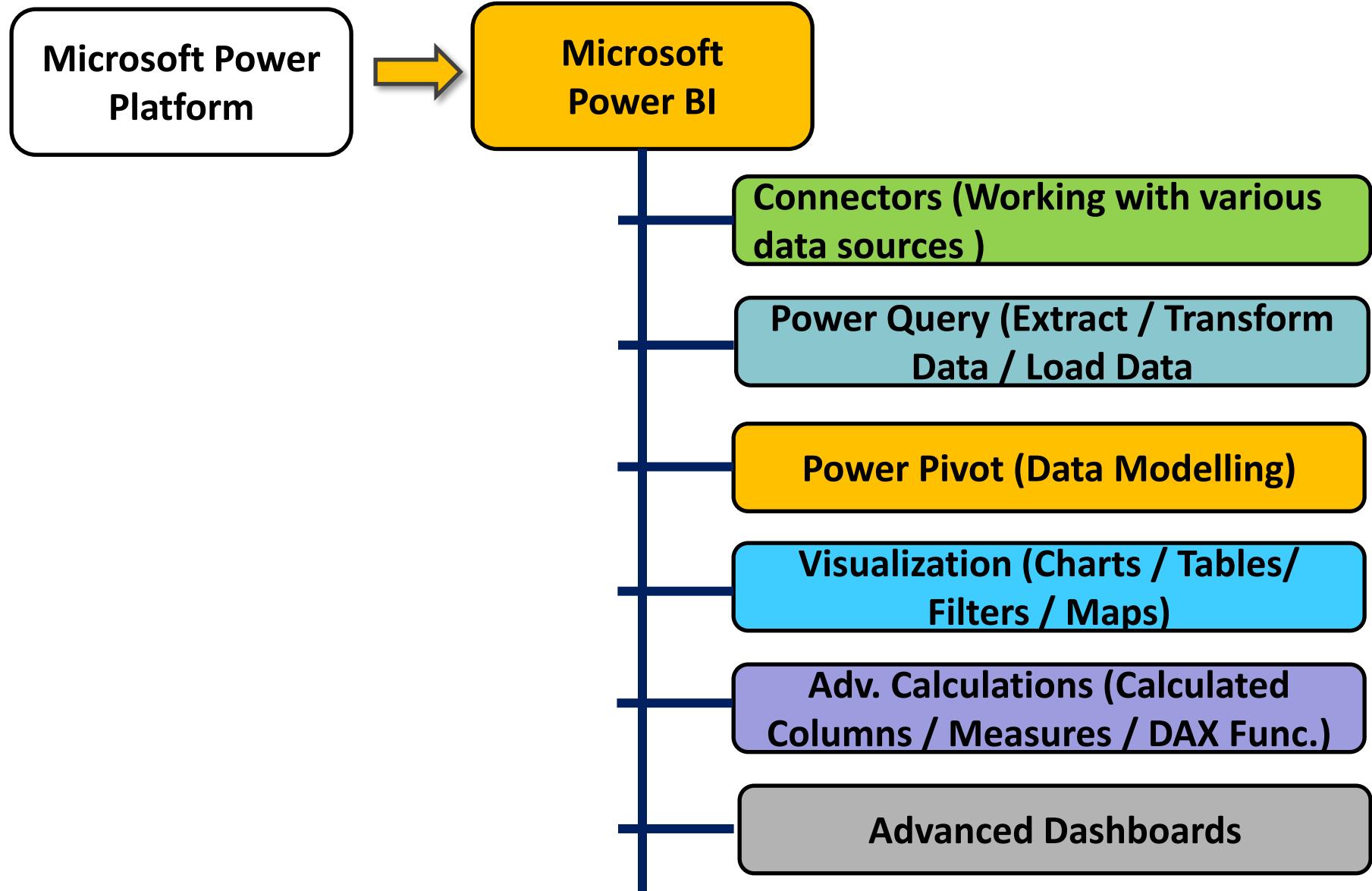
**Delivery Schedule: Mon, Wed & Fri:**

- Daily Start: 9:00 AM
- Breaks: 11.00 AM, 11:15 AM
- Finish: 1:15 PM



# Power BI Essentials

# Course Modules



# Agenda – Day - 1

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## Microsoft Power Platform Solution Overview

- Power Platform Components
- Power BI Components & Architecture
- Power BI desktop (Install) & Power BI Service (Cloud)

## 1. Getting Started with Power BI, Create PBI Documents

- Understanding Reports & Dashboards & Decision Tree
- Connecting to Data
- Create a Document, Save the Document
- Modify the Document
- Working in the Query Panel
- Query Properties & Data Tab

# Day – 1 Contd...

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## 2. Restricting Data Returned by a Query

- Creating a Table with data.
- Create Column, Stacked Column, Pie, Donut, Funnel & Ribbon Charts
- Analyze data using options: Keep Only and Exclude
- View Data & Export options

# Day - 2

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- Maps & Filled maps
- Create Tables
- Create Matrix (Cross Tabs)
- Changing Aggregation in Table
- Formatting Tables & Cross Tabs (Conditional Formatting / Using Bars / Using Icons)
- Auto Hierarchies in Tables
- Adding Totals & Sub Totals
- Line Charts
- Combo Charts
- Area Charts
- Scatter Chart
- Cards & Filters
- Slicers

# Day – 2 Contd...

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- Refreshing Data in Reports & Delta Refresh
- Paginated Reports
- Line Chart
- Drill Down Line Chart
- Area Chart
- Line Vs Column Chart
- Scatter Plot
- Waterfall Chart
- TreeMap
- Gauge Chart
- Cards
  - Number Cards
  - Text Cards
  - Date Cards
  - Multi-Row Card

# Day – 2 (Contd...)

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- Filter on Visual
- Filter on Page
- Filter on All Pages
- Drill Through
- Slicer
  - For Text & Format Text Slicer
  - Date Slicer & Format Date Slicer
  - Number Slicer
- Animated Bar Chart Race
- Word Cloud
- Sankey Chart
- Infographic
- Play Axis
- Scroller

# Day - 2 (Contd...)

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- **Drill Down**
  - Donut Chart
  - Column Chart
- **Insert**
  - Images
  - Text
  - Shapes
  - Buttons
- **Actions**
  - Web URL
  - Pages Navigation
  - Back
  - BookMark

# Day - 3

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- **Basic Stats with Power BI (45 Min)**
- **Connecting to Data Sources (30 Min)**
  - Introduction to Power BI Connectors
  - Connecting to a Website to pull Data
  - Connecting to SQL Server (Demo)
  - Import vs. Directquery vs. Live Connection
- **Transforming Data & Data Modelling (120 Min)**
  - Basic Transformation
  - Changing Data Types
  - Remove Column & Add Column
  - Remove Rows and Add Rows
  - Splitting Column

- 
- Combining Column
  - Conditional Columns
  - Working with Dates
  - Connecting to a Folder (Auto refresh report with new data)
  - Merge Queries
  - Append Queries
  - Directquery vs. Live Connection vs. Import
  - Basic of M-Language
- **Data Modelling**
    - Managing Data Relationship
    - Creating Calculated Columns
    - Creating Calculated Measures
    - Time Intelligence

# Day - 4

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- **Dax Overview**
  - Understanding & using DAX in your reports (Basics)

# Day - 5

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- **Working with Dashboards**
  - Dashboard Ex.1. Create a Basic Dashboard
  - Dashboard Ex.2. Creating a Dashboard for Stock Analysis & Future Price Behaviour
  - Dashboard Ex.3. Dashboard for Trading Portfolio Analysis
  - Dashboard Ex.4. Dashboard for in-depth data analysis of Superstore
  
- **Security Features in Power BI**

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# Microsoft Power Platform

# Microsoft Power Platform

<https://powerplatform.microsoft.com/>

- **Intuitive, Collaborative and Extensible** platform of Low-Code Tools that makes it easy to create **efficient and flexible solutions.**

## Power to Innovate

### Analyze

Discover intelligent insights in diverse data.

[\*\*Power BI\*\*](#)

### Act

Build low-code solutions to business challenges.

[\*\*Power Apps\*\*](#)

### Automate

Streamline process with low-code / no-code automation

[\*\*Power Automate\*\*](#)

### Assist

Handle routine inquiries at scale with conversational AI

[\*\*Power Virtual Agents\*\*](#)

# Microsoft Power Platform Components

The low-code platform that spans Office 365, Azure, Dynamics 365, and standalone applications



**Power Apps**  
for  
web and mobile  
application  
development



**Power Automate**  
for  
process  
or workflow  
automation



**Power Virtual Agents**  
for  
chatbots and  
conversational  
agents



**Power Pages**  
for  
building secure,  
data-centric  
business websites



**Power BI**  
for  
data exploration,  
analytics and  
reporting



**Data  
connectors**



**AI Builder**



**Microsoft  
Dataverse**

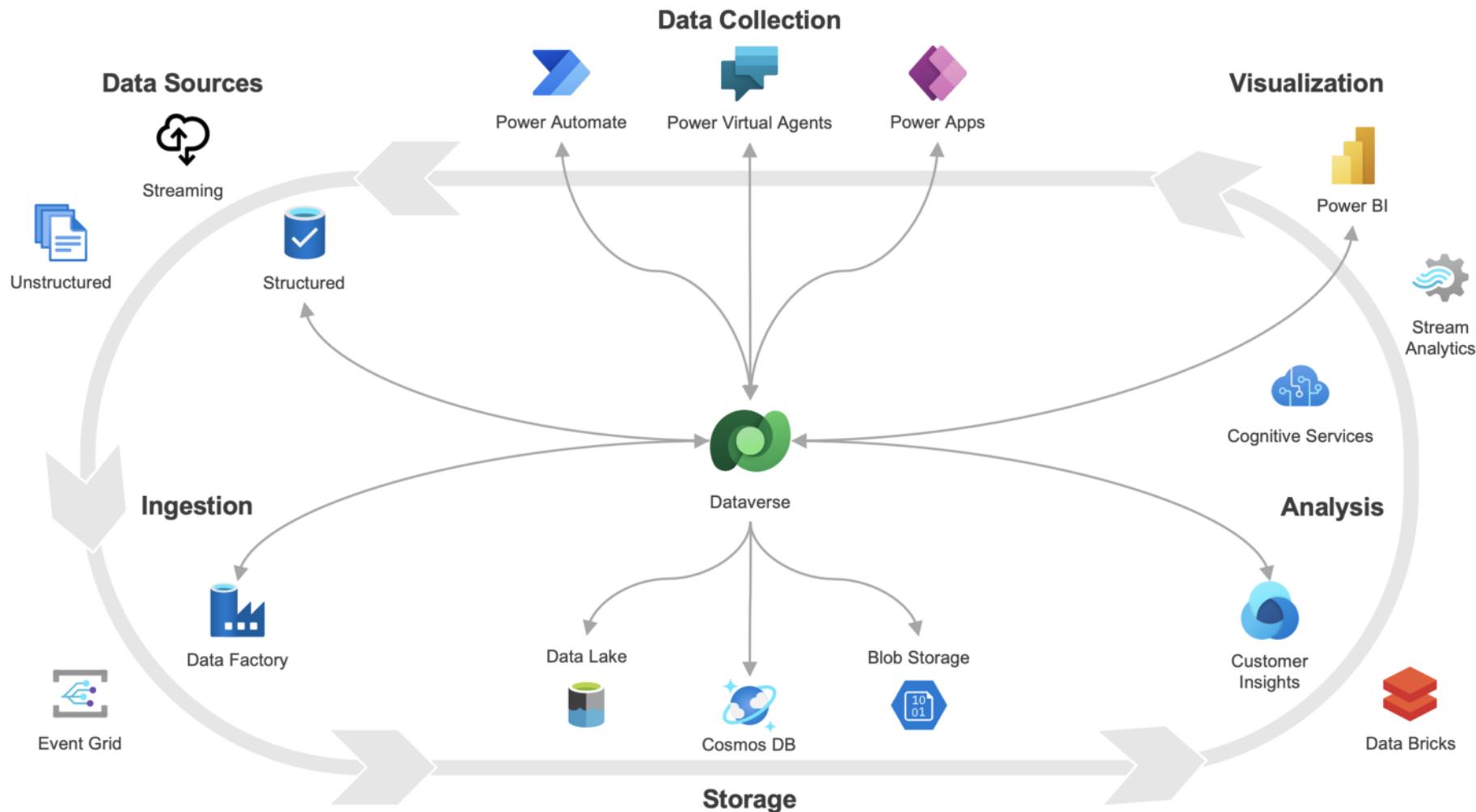


**Power Fx**



**Managed  
Environments**

# Microsoft Power Platform High Level Architecture



# What is Business Intelligence ?

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- Simplest Definition:
  - Answering a Business Question...

# What is Microsoft Power BI

1. Business Intelligence Tool
2. Cloud-based Business Analytics
3. Fast and easy access to your data
4. Can give live 360º view of your business
5. Data Discovery and Exploration
6. Insights from any device
7. Collaboration across your organization
8. Users can visualize and analyze data

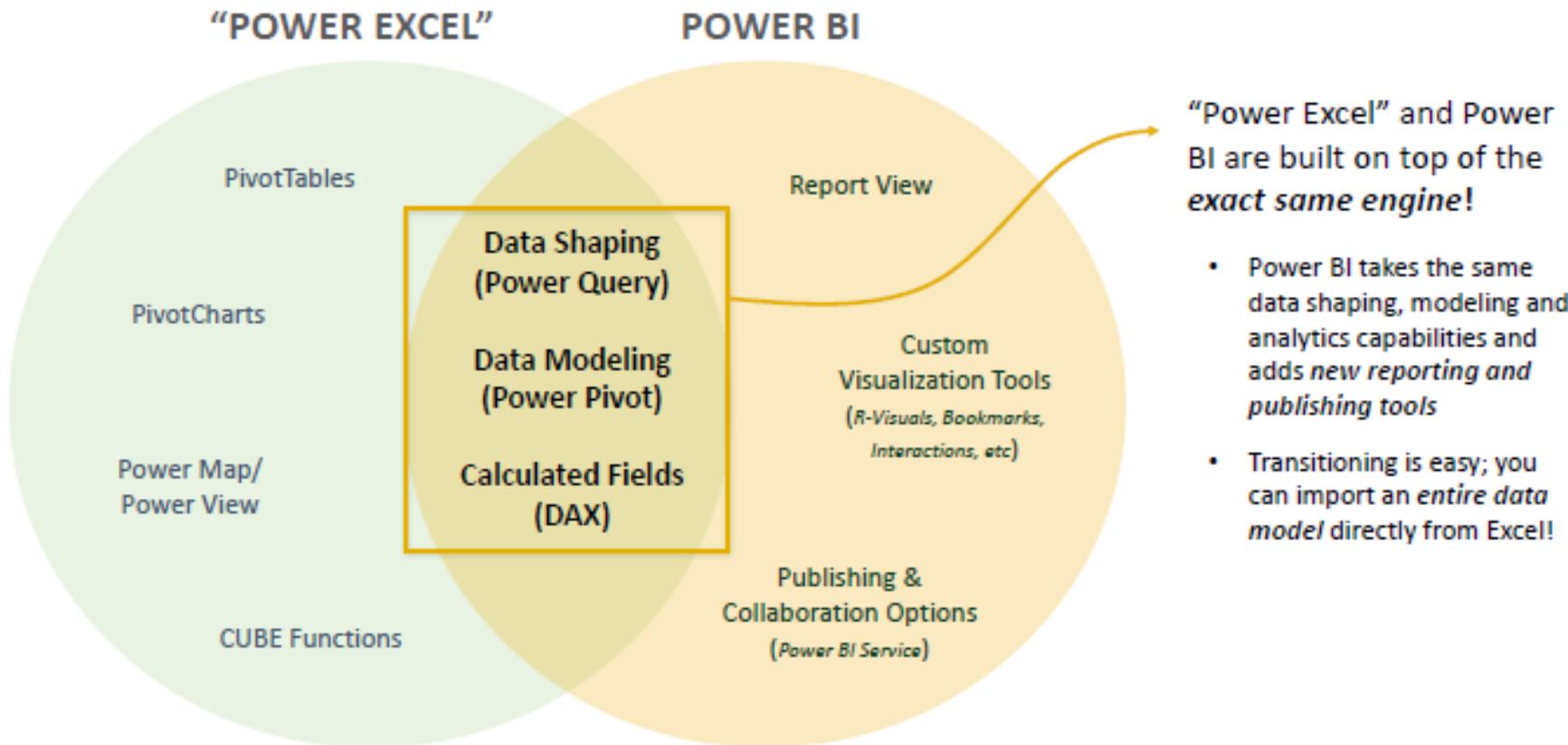


# Why Power BI ?

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- **Connect, transform and analyze *millions* of rows of data**
  - *Access data from virtually anywhere (database tables, flat files, cloud services, folders, etc), and create fully automated data shaping and loading (ETL) procedures*
- **Build relational models to blend data from multiple sources**
  - *Create table relationships to analyze holistic performance across an entire data model*
- **Define complex calculations using Data Analysis Expressions (DAX)**
  - *Enhance datasets and enable advanced analytics with powerful and portable DAX expressions*
- **Visualize data with interactive reports & dashboards**
  - *Build custom business intelligence tools with best-in-class visualization and dashboard features*
- **Power BI is the industry leader among BI platforms**
  - *Microsoft Power BI is intuitive, powerful and absolutely FREE to get started*

# Power BI vs. Power Excel



# Power BI Key Components

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## Power BI Desktop

The Windows-desktop-based application for PCs and desktops.

## Power BI (Service)

The SaaS (software as a service) based online service (formerly known as Power BI for Office 365, now referred to as PowerBI.com or simply Power BI).

## Power BI Mobile Apps

The Power BI Mobile apps for Android and iOS devices, as well as for Windows phones and tablets.

## Power BI Gateways

Gateways used to sync external data in and out of Power BI.

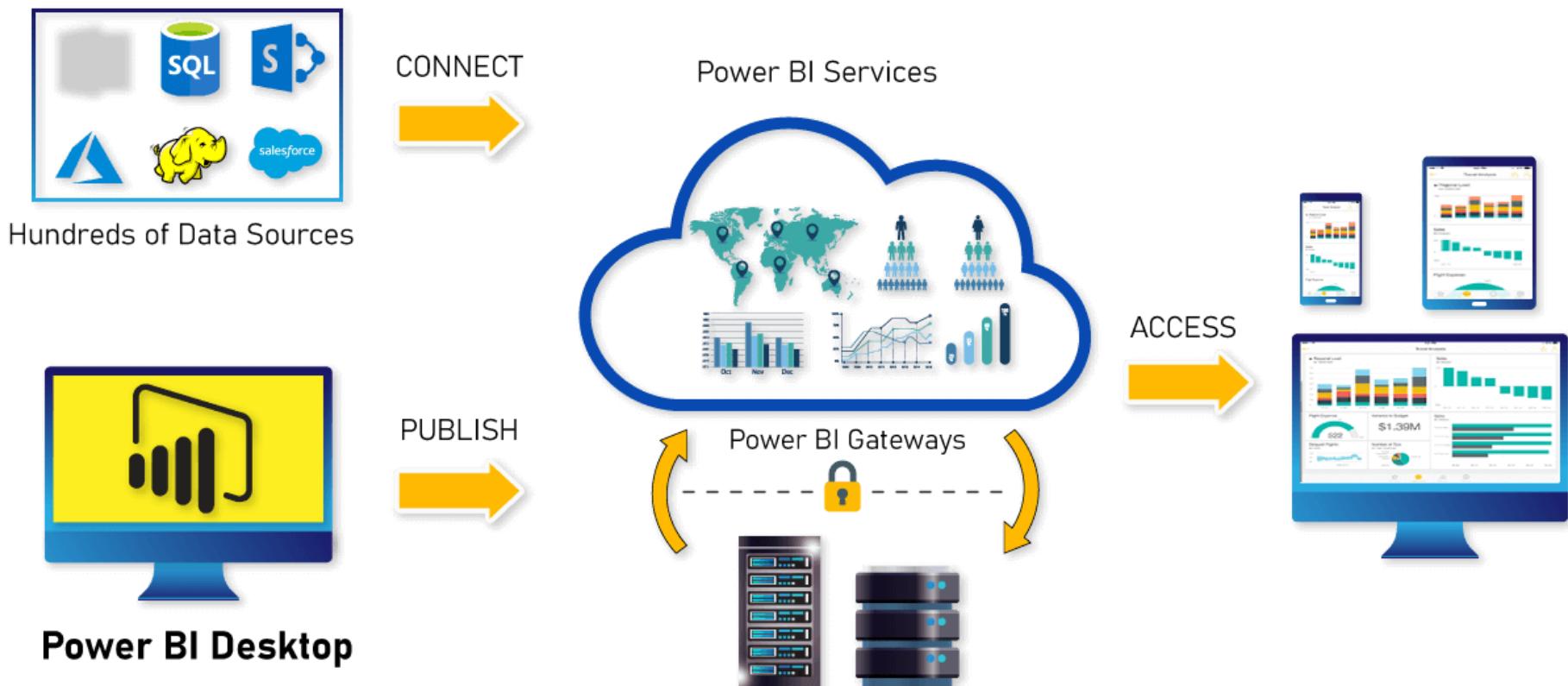
## Power BI Embedded

Power BI **REST API** can be used to build dashboards and reports into the custom applications that serve Power BI users, as well as non-Power BI users.

# Power BI Architecture



# Power BI Architecture



# PBI – Collection of Components

Power Query

ETL

PowerPivot

Data Modelling

Power View

Visualization  
250+ Chart Types

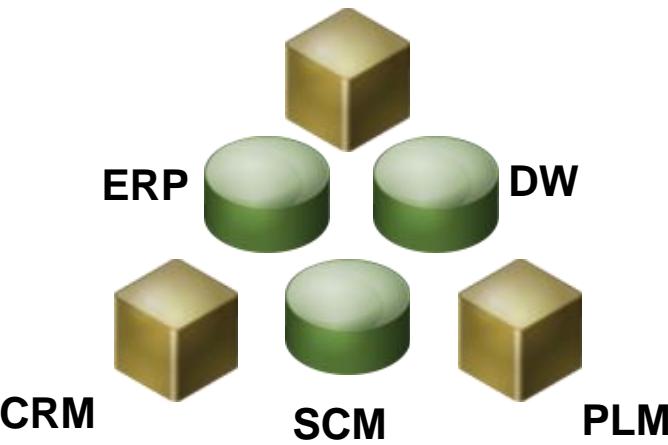
Power BI Service

Cloud Based (Sharing)

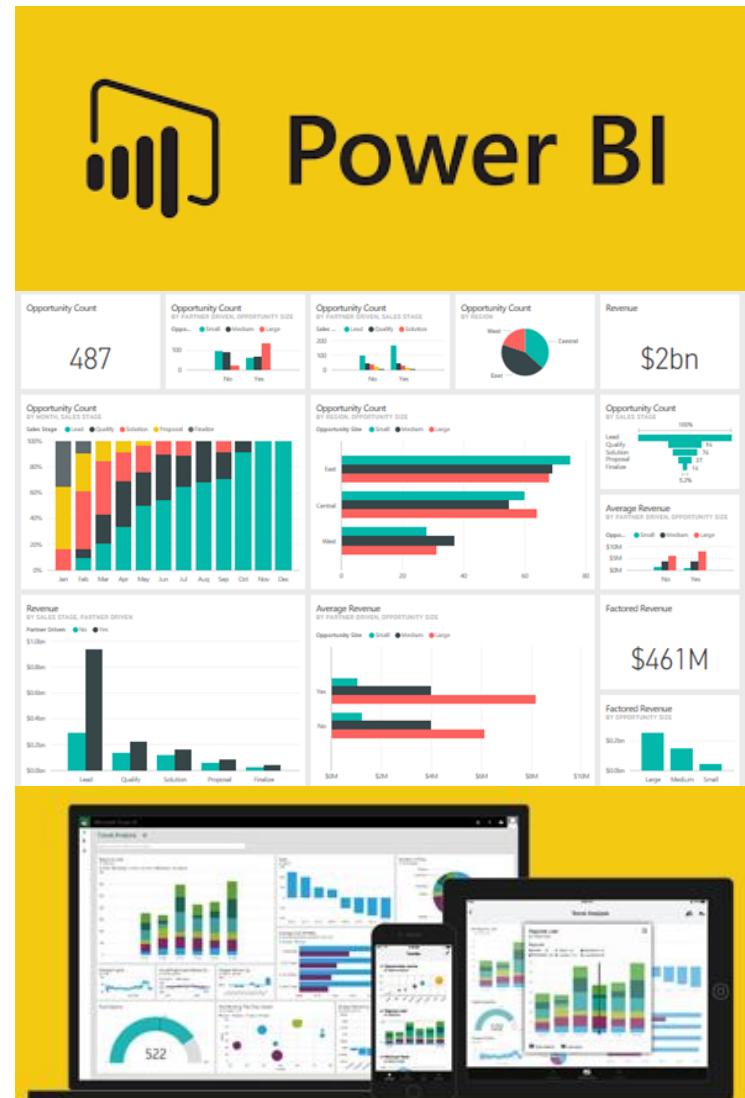
# Microsoft Power BI

Any Data Source  
(Single / Multisource)

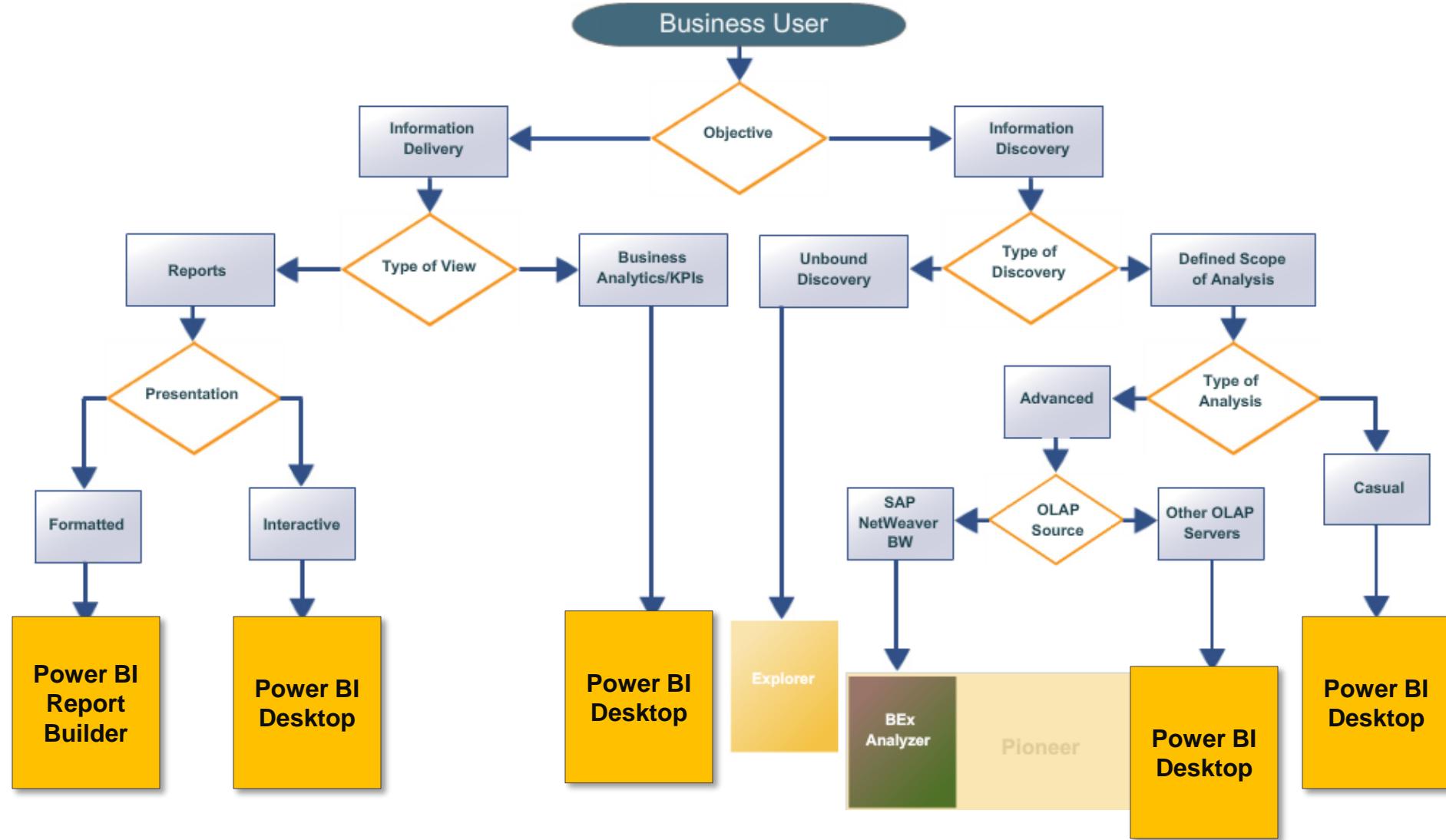
DataMart



**ORACLE®**  
Applications



# Decision Tree



# Power BI Desktop

<https://www.microsoft.com/en-us/download/details.aspx?id=58494>

The screenshot shows a web browser window displaying the Microsoft download details page for Power BI Desktop. The URL in the address bar is <https://www.microsoft.com/en-us/download/details.aspx?id=58494>. The page title is "Choose the download you want". There are two download options listed:

File Name	Size
PBIDesktopSetup_x64.exe	463.6 MB
PBIDesktopSetup.exe	422.5 MB

The checkbox next to "PBIDesktopSetup\_x64.exe" is checked. On the right side of the page, there is a "Download Summary" box containing the following information:

Download Summary:  
KBMBGB

1. PBIDesktopSetup\_x64.exe

Total Size: 463.6 MB

A blue "Next" button is located at the bottom right of the summary box.

Install the software on your laptop/desktop (follow on screen instruction to install)

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# Power BI Service

# Power BI Services (Cloud)

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- **Key Objectives**
  - Entry Point to Power BI Service
  - Used to View and Manage Content on Power BI Server
  - Provides Role Based access to content on Server
  - Key Power BI Service Tabs
    - Home Tab
    - Create Tab
    - Browse Tab
    - DataHub Tab
    - Metrics Tab
    - Workspaces
    - Apps Tab
    - Learn Tab

# Power BI Services Portal

The screenshot shows the Power BI Services Portal homepage. At the top, there is a navigation bar with links for Gmail, YouTube, Maps, KSec OneView, KSec Pass Reset, and OneTab. Below the navigation bar is a main menu with categories: Microsoft, Power BI, Overview, Products, Pricing, Solutions, Partners, Resources, and Community. A red callout box with the text "Login using your work email id" points to the "Sign in" button, which is highlighted with a red box and has a red arrow pointing to it. To the right of the "Sign in" button are links for "Try free" and "Buy now". A search bar labeled "Search" is also present. The central part of the page features a large headline: "Turn your data into immediate impact". Below the headline is a subtext: "Do more with less using an end-to-end BI platform to create a single source of truth, uncover more powerful insights, and translate them into impact." At the bottom left is a "Start free >" button, and at the bottom right is a "Have an account? Sign in >" button. On the far right edge of the screen, there is a vertical yellow sidebar with three icons: a speech bubble, a pencil, and a telephone receiver.

powerbi.microsoft.com/en-us/

Gmail YouTube Maps KSec OneView KSec Pass Reset OneTab

Microsoft | Power BI Overview Products Pricing Solutions Partners Resources Community

Search Sign in Try free Buy now

Turn your data into immediate impact

Do more with less using an end-to-end BI platform to create a single source of truth, uncover more powerful insights, and translate them into impact.

Start free > Have an account? Sign in >

Login using your work email id

# Power BI Services Your Workspace (on Cloud)

The screenshot shows the Power BI Home page. On the left, a vertical sidebar menu includes: Home, Create, Browse, Data hub, Metrics, Workspaces, My workspace, and More... At the top, the URL is app.powerbi.com/home, and the browser toolbar shows links to Gmail, YouTube, Maps, KSec OneView, KSec Pass Reset, and OneTab. The main area displays a greeting "Good morning, Amit" and a subtitle "Find and share actionable insights to make data-driven decisions". A "Recommended" section features five cards: "You frequently open this" (My workspace), "You frequently open this" (Reserving Triangles\_Ins...), "Getting started with Power BI" (Explore basic Power BI conce...), "Explore this data story" (Explore the 100 most useful ...), and "Explore" (Cancer statist...). At the bottom, buttons for Recent, Favorites, My apps, Filter by keyword, and Filter are visible.

## **Getting Started with Power BI (PBI)**

### **Creating & Saving PBI Documents**

# Unit 1. Creating & Saving PBI Documents

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## Objectives

- Unit Presents Key Concepts and Vocabulary required to understand Power BI desktop Tool
  
- **We will cover the following -**
  - Launching Power BI
  - Brief look at welcome screen
  - Power BI Menus
  - Get Data option
  - Load Data, Save PBI Document, Reopen, Modify & Save Again

# Launch Power BI

- Welcome Screen

The screenshot shows the Power BI Desktop application window. On the left, a dark sidebar lists 'Get data' and 'Recent sources'. Below a separator line are 'Open other reports' and a 'Collaborate and share' section. This section features a large circular icon with a user silhouette, the text 'Collaborate and share', a description about signing in to publish reports, and a 'Get started' button. At the bottom, there's a link to buy a license.

Power BI  
Desktop

Get data

Recent sources

Open other reports

Collaborate and share

Sign in to publish your reports, access certified datasets, and share insights on organizational content in the Power BI service.

Get started

Want to buy a Power BI license? [Buy now](#)

**NEW UPDATE AVAILABLE**  
You can now download the latest version of Power BI Desktop. Learn more about the latest features.

**POWER BI BLOG**  
Keep up to date with the latest news, resources, and updates from the Power BI team.

**FORUMS**  
Visit the Power BI Forum to ask questions or interact with other users in the Power BI community.

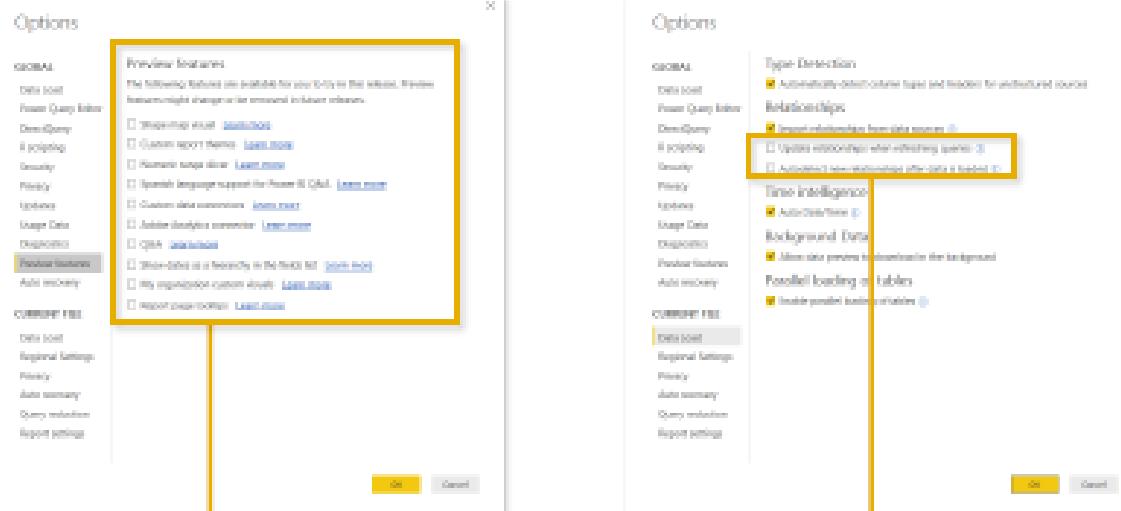
**TUTORIALS**  
Ready to learn more about Power BI?

# Power BI – Home Screen

The screenshot shows the Power BI Desktop application window. The ribbon at the top has tabs: File, Home (selected), Insert, Modeling, View, Help, and External tools. The Home tab contains icons for Paste, Cut, Copy, Format painter, Get data from Excel workbook hub, Data from SQL Server, Enter data from Dataverse, Refresh recent sources, Transform data, New visual, Text box, More visuals, New measure, Quick measure, Sensitivity, and Publish. On the left, there's a ribbon icon bar with icons for list, grid, and hierarchy. The main area displays the message "Add data to your report" and "Once loaded, your data will appear in the Data pane." It includes four buttons: Import data from Excel (green), Import data from SQL Server (blue), Paste data into a blank table (orange), and Try a sample dataset (grey). Below these is a link "Get data from another source →". The bottom navigation bar shows "Page 1" and a green plus sign button. The right side features a "Visualizations" pane with a "Build visual" section containing a chart icon and a document icon, followed by a list of visualization icons (Bar chart, Line chart, etc.). Below that is a "Values" section with a "Add data fields here" button, and "Drill through", "Cross-report", and "Keep all filters" settings. The bottom status bar shows "Page 1 of 1", zoom controls (70%), and a download link "Update available (click to download)".

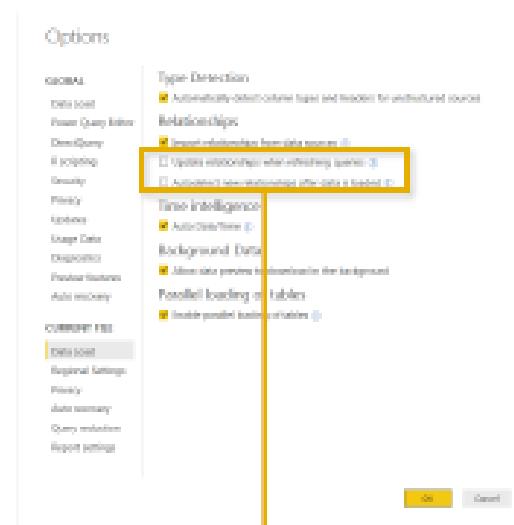
# Power BI “File -> Options & Settings”

## PREVIEW FEATURES



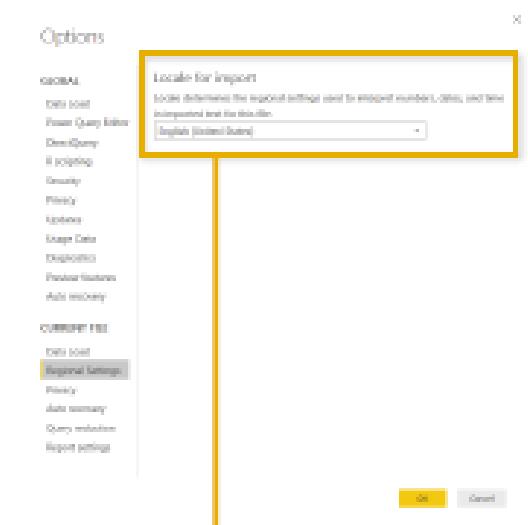
- 1) In the “Preview Features” tab, deselect any active features while you are taking the course

## DATA LOAD



- 2) In the “Data Load” tab, deselect the “Update relationships” and “Autodetect new relationships after data is loaded” options

## REGIONAL SETTINGS



- 3) In the “Regional Settings” tab, make sure to use the “English (United States)” locale for import

*NOTE: You may need to update settings in both the Current File and Global sections*

# Power BI Interface

## Three Core Views:

**Report**



**Data**



**Relationships  
(aka Model)**



The screenshot displays the Power BI Desktop application window titled "AdventureWorks\_Report - COMPLETE - Power BI Desktop".

**Report View (Left):** Shows a stacked bar chart titled "TOTAL Orders by Category" and a horizontal bar chart titled "TOTAL Orders by Subcategory".

**Data View (Middle):** Displays a table of "Produced" products with columns for Product ID, Product Name, Total Orders, and Return Rate.

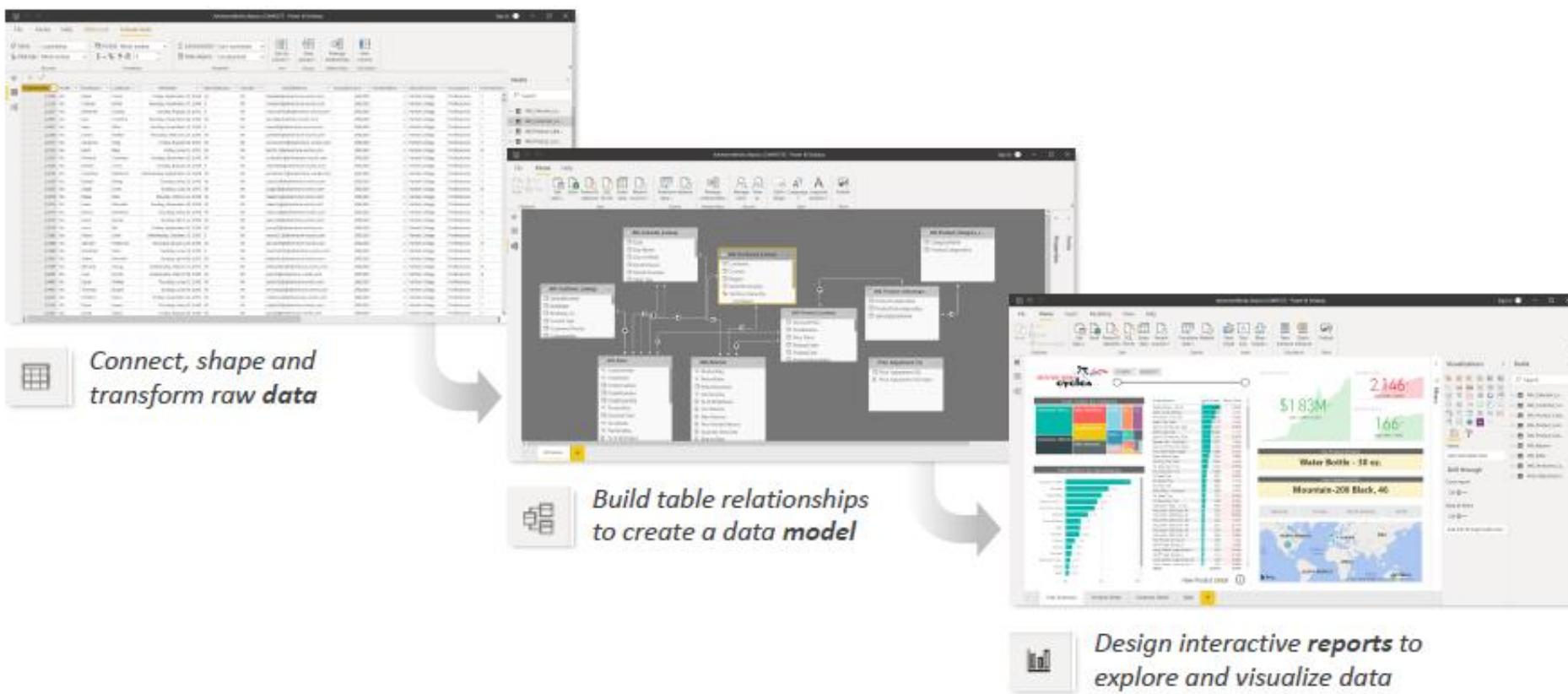
**Relationships View (Right):** Features a large green area chart with the value "\$1.83M" and a smaller chart below it showing "166" sales. A map of the world highlights North America, Europe, and Asia. A callout box points to a specific product entry: "Water Bottle - 30 oz. Mountain-200 Black, 46".

**Power BI Home View (Top):** Shows a summary card with the value "2,146" and a link to "View Product Detail".

**Navigation Bar (Bottom):** Includes tabs for "Exec Summary", "Product Detail", "Customer Detail", "Q&A", and a plus sign for "New visual".

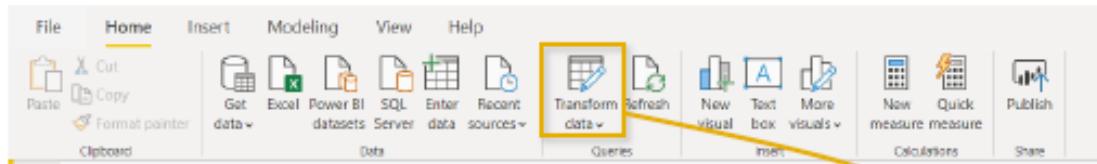
**Toolbars and Side Panels:** The top toolbar includes File, Home, Insert, Modeling, View, Help, and various data import and visualization tools. The right side features the "Visualizations" and "Fields" panes, and the bottom right has "Add drill-through fields here" and "Add drill-through fields here" buttons.

# Power BI Workflow



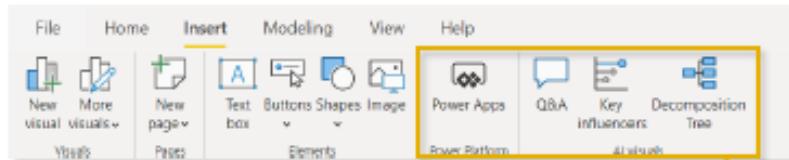
# Power BI Menus

HOME\*:



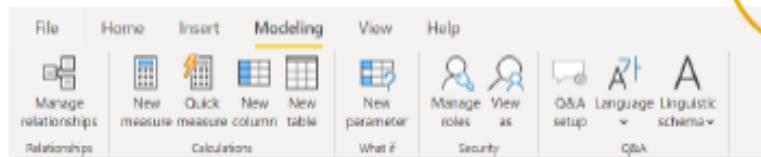
The original Home tools are now split across Home & Insert

INSERT:



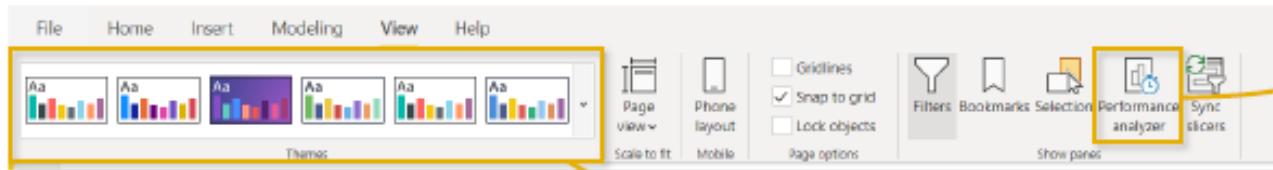
"Edit Queries" is now "Transform Data"

MODELING:



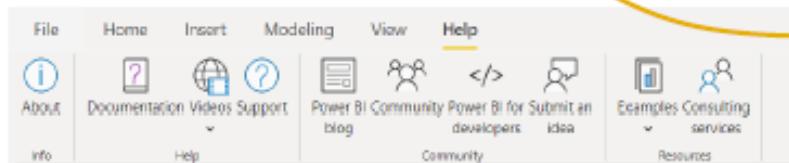
Power Apps and AI Visuals are now featured in the Insert menu

VIEW:



Performance analyzer to tune & optimize reports

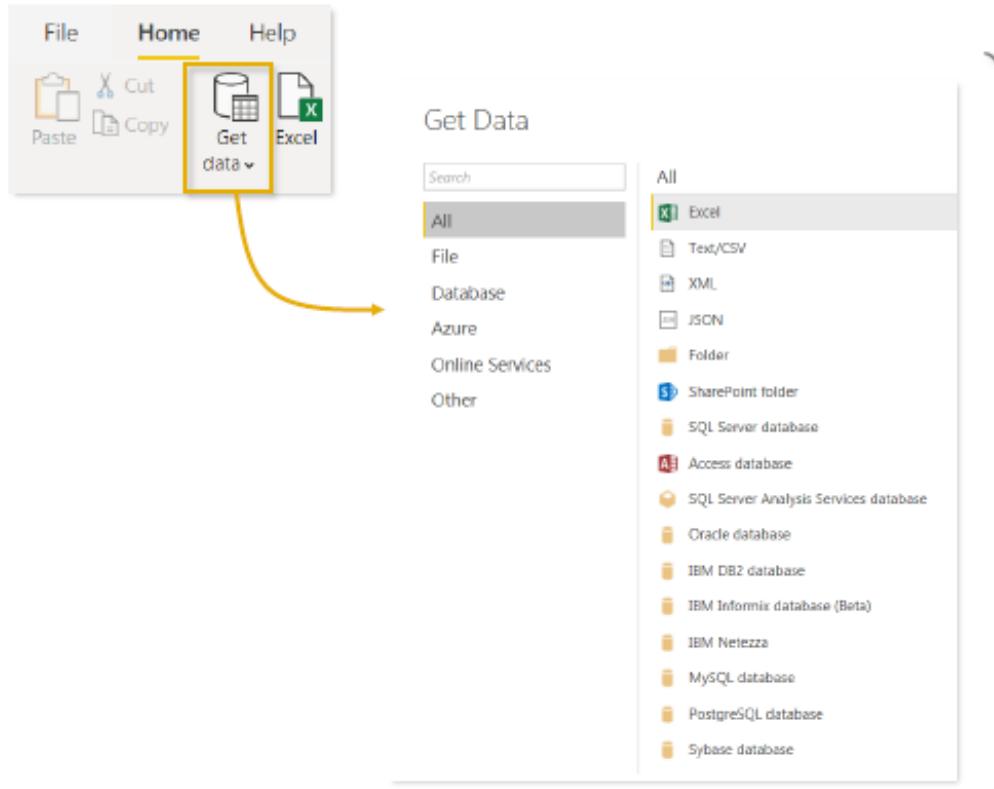
HELP\*:



New report Theme designs & previews

\*The Home and Help menus are accessible across ALL views (Report, Data & Model)

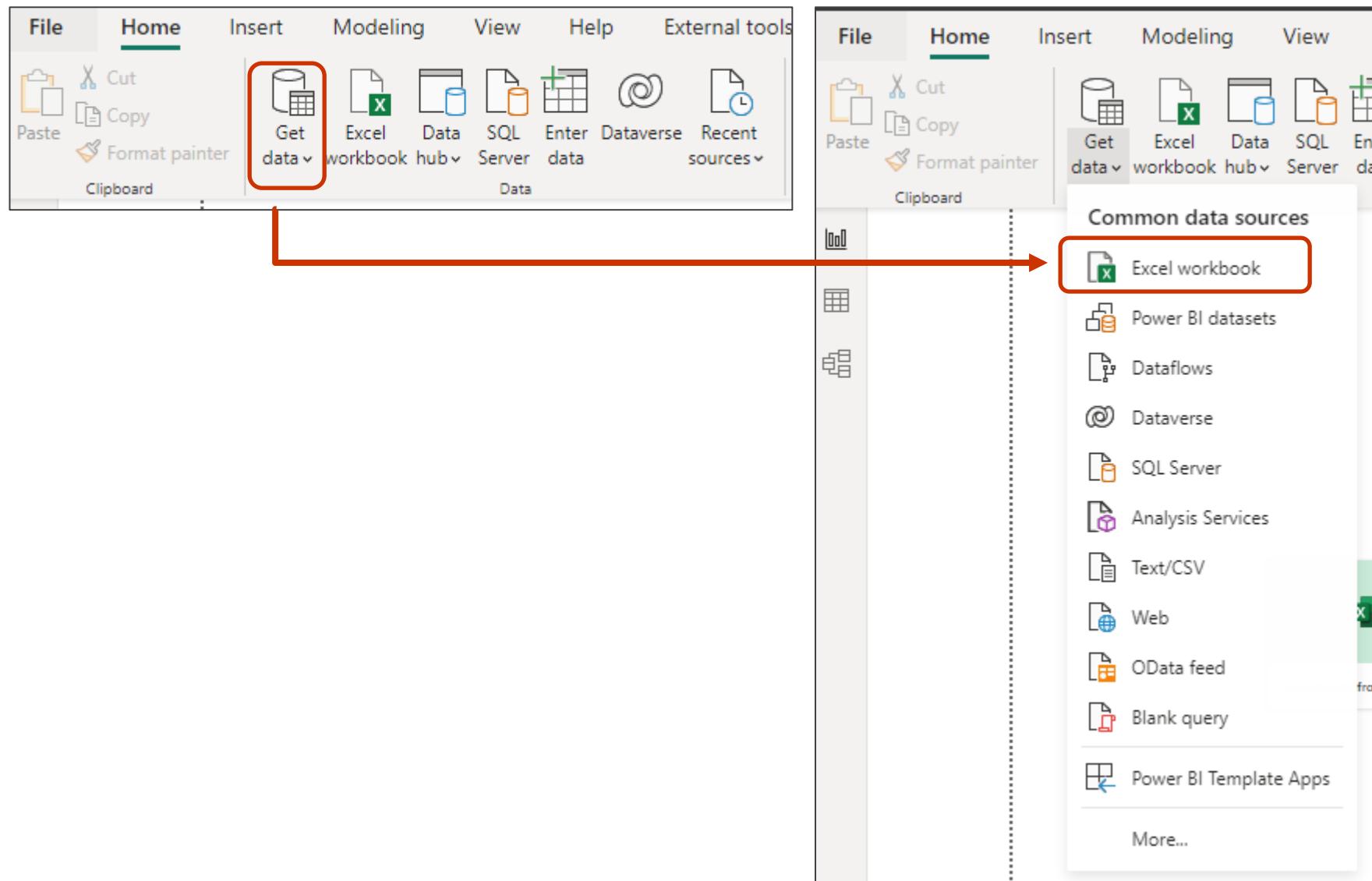
# Types of Data Connectors

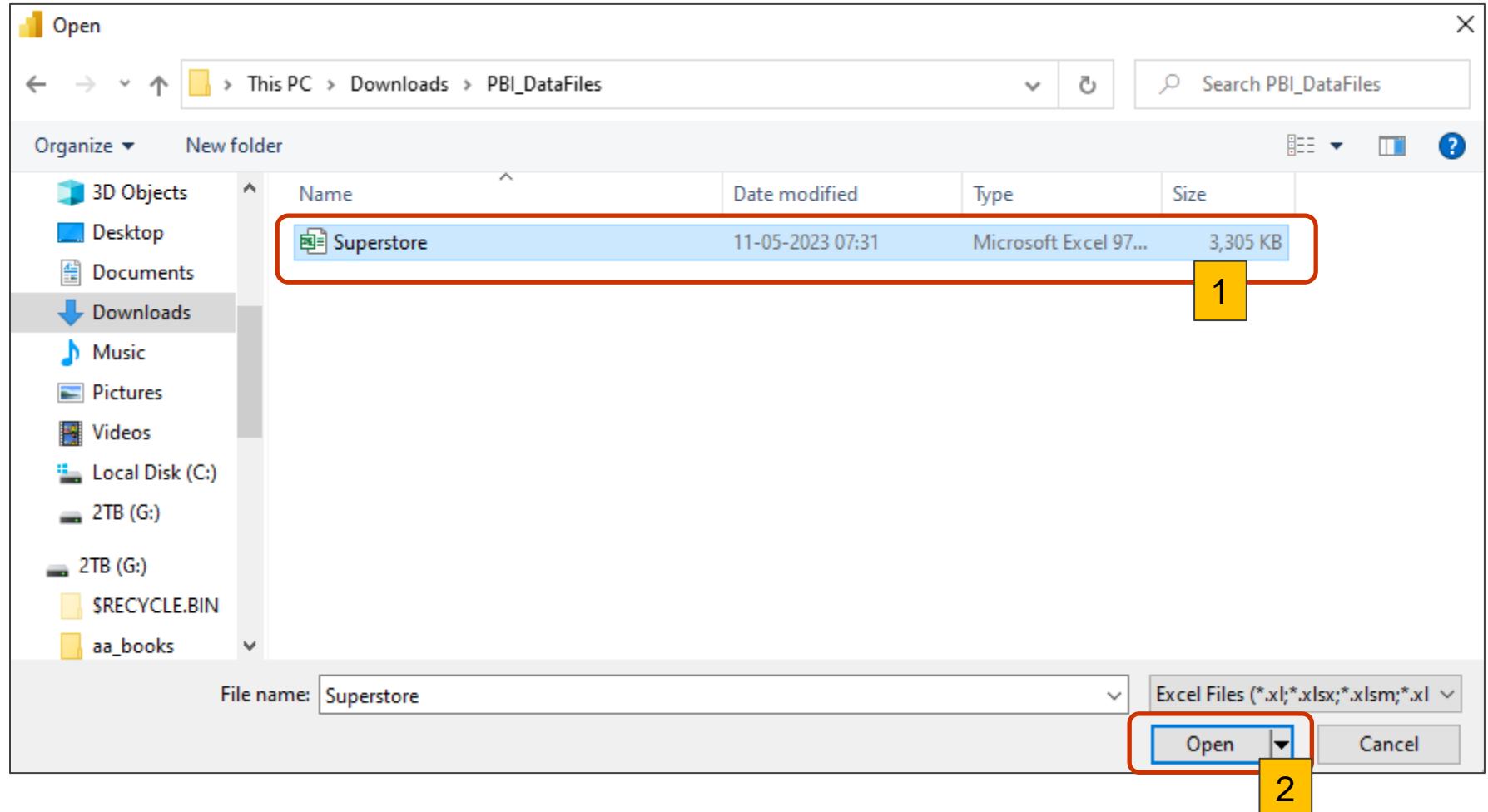


Power BI can connect to virtually **any** type of source data, including (*but not limited to*):

- **Flat files & Folders** (csv, text, xls, etc)
- **Databases** (SQL, Access, Oracle, IBM, Azure, etc)
- **Online Services** (Sharepoint, GitHub, Dynamics 365, Google Analytics, Salesforce, Power BI Service, etc)
- **Others** (Web feeds, R scripts, Spark, Hadoop, etc)

# Load Excel Data (Superstore.xls)





### Navigator

Display Options

Superstore.xls [6]

- Orders
- Orders2
- People
- People2
- Returns
- Returns2

### Orders

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Cu
1	CA-2018-152156	08-11-2018	11-11-2018	Second Class	
2	CA-2018-152156	08-11-2018	11-11-2018	Second Class	
3	CA-2018-138688	12-06-2018	16-06-2018	Second Class	
4	US-2017-108966	11-10-2017	18-10-2017	Standard Class	
5	US-2017-108966	11-10-2017	18-10-2017	Standard Class	
6	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
7	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
8	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
9	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
10	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
11	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
12	CA-2016-115812	09-06-2016	14-06-2016	Standard Class	
13	CA-2019-114412	15-04-2019	20-04-2019	Standard Class	
14	CA-2018-161389	05-12-2018	10-12-2018	Standard Class	
15	US-2017-118983	22-11-2017	26-11-2017	Standard Class	
16	US-2017-118983	22-11-2017	26-11-2017	Standard Class	
17	CA-2016-105893	11-11-2016	18-11-2016	Standard Class	
18	CA-2016-167164	13-05-2016	15-05-2016	Second Class	
19	CA-2016-143336	27-08-2016	01-09-2016	Second Class	
20	CA-2016-143336	27-08-2016	01-09-2016	Second Class	
21	CA-2016-143336	27-08-2016	01-09-2016	Second Class	
22	CA-2018-137330	09-12-2018	13-12-2018	Standard Class	
23	CA-2018-137330	09-12-2018	13-12-2018	Standard Class	

< >

As we have clean data, we can simply load data → Load Transform Data Cancel

# Power BI – Model & Data View

## Model View

Untitled - Power BI Desktop

File Home Help External tools

Paste Cut Copy Get Excel Data SQL Enter Data

Clipboard Data

Orders

- Category
- City
- Country/Region
- Customer ID
- Customer Name
- Discount
- Order Date
- Order ID
- Postal Code

Collapse ^

## Data View

Row ID	Order ID	Order Date
43	CA-2018-101343	17 July 2018
514	CA-2019-163405	21 December 2019
515	CA-2019-163405	21 December 2019
1606	US-2018-115819	19 April 2018
1607	US-2018-115819	19 April 2018
1609	US-2018-115819	19 April 2018
1807	US-2018-116729	25 December 2018
2060	CA-2016-106439	31 October 2016
2061	CA-2016-106439	31 October 2016
2063	CA-2016-106439	31 October 2016
2065	CA-2016-106439	31 October 2016
2068	CA-2016-106439	31 October 2016
2101	CA-2019-110012	25 June 2019

Data

Search

Orders

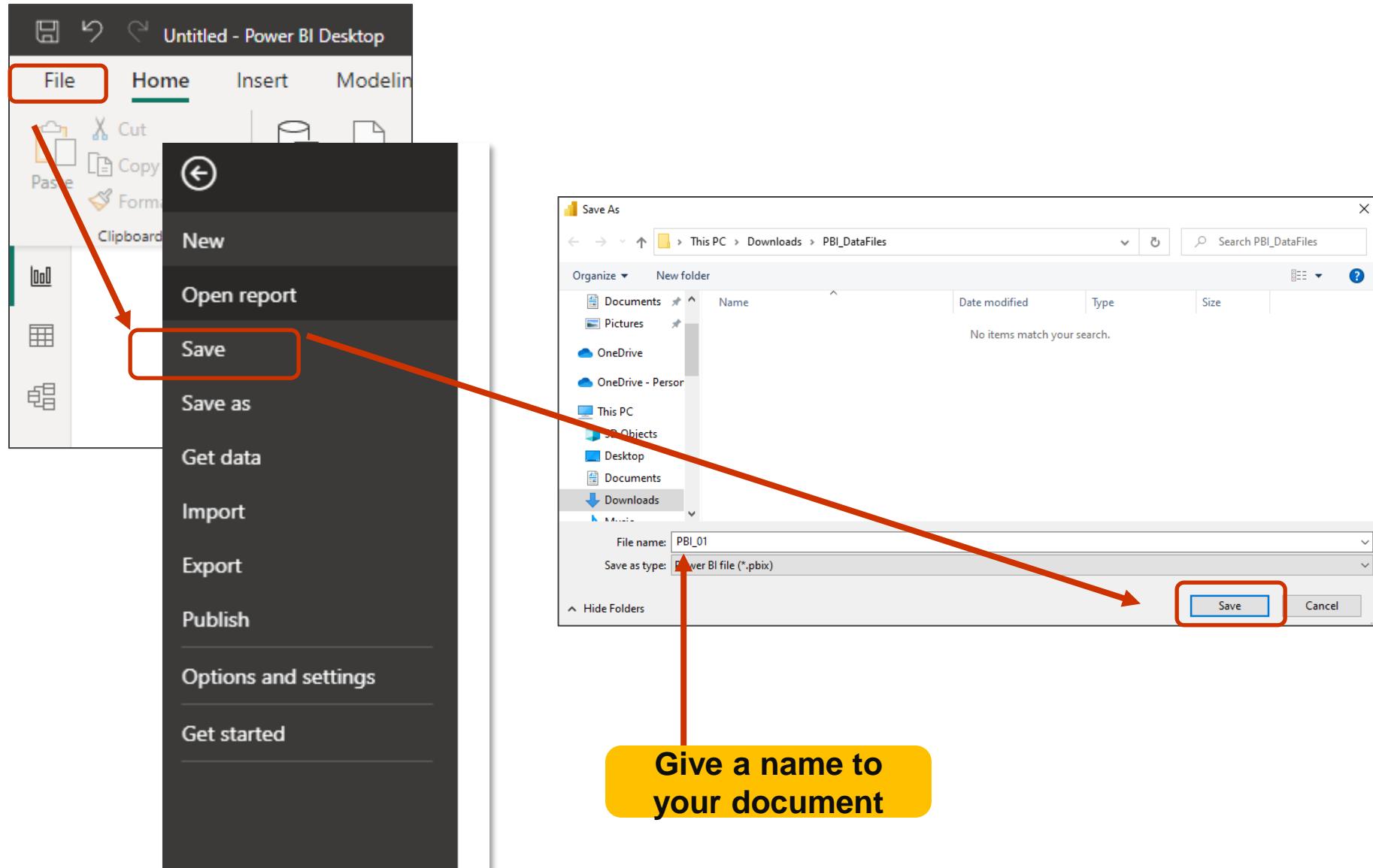
# Power BI – Report View

The screenshot shows the Power BI Desktop application window. Several key components are highlighted with yellow callout boxes:

- PBI File Name**: A yellow box highlights the title bar area.
- Sign Details**: A yellow box highlights the top right corner where sign-in information is displayed.
- Menu**: A yellow box highlights the top ribbon menu area.
- Data Objects**: A yellow box highlights the Data pane on the right side.
- Viz Elements**: A yellow box highlights the Visualizations pane on the right side.
- Filter Pane**: A yellow box highlights the Filters pane on the right side.
- Canvas Sheets**: A yellow box highlights the main workspace area.
- Views**: A yellow box highlights the Views icon in the left sidebar.

The application window includes a ribbon menu at the top with tabs like File, Home, Insert, Modeling, View, Help, and External tools. The Home tab is currently selected. The main workspace is labeled "Build visuals with your data" and "Select or drag fields from the Data pane onto the report canvas". The right side features panes for Visualizations, Data, Filters, and a central workspace for building visualizations.

# Save Power BI Document Locally



# Close Power BI Document

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- Close Power BI
- Launch Power BI Again
- Open the document you saved in previous step.
- Modify the document and save again

# End of Unit 1

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# **Power BI (PBI) Designer**

# Unit 2. PBI Designer

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## Objectives

- Get Basic understanding of PBI Designer by creating simple charts & tables.
  
- **We will cover the following -**
  - Creating a Table with data.
  - Create Column, Stacked Column, Pie, Donut, Funnel & Ribbon Charts
  - Analyze data using options: Keep Only and Exclude
  - View Data & Export options

# Add a Table with data to Report View

- Add Table element from Visualization, add Category and Sales from Data
- Add Text Box from Insert Menu
- Arrange each element as shown below. Rename the sheet as “Table”.

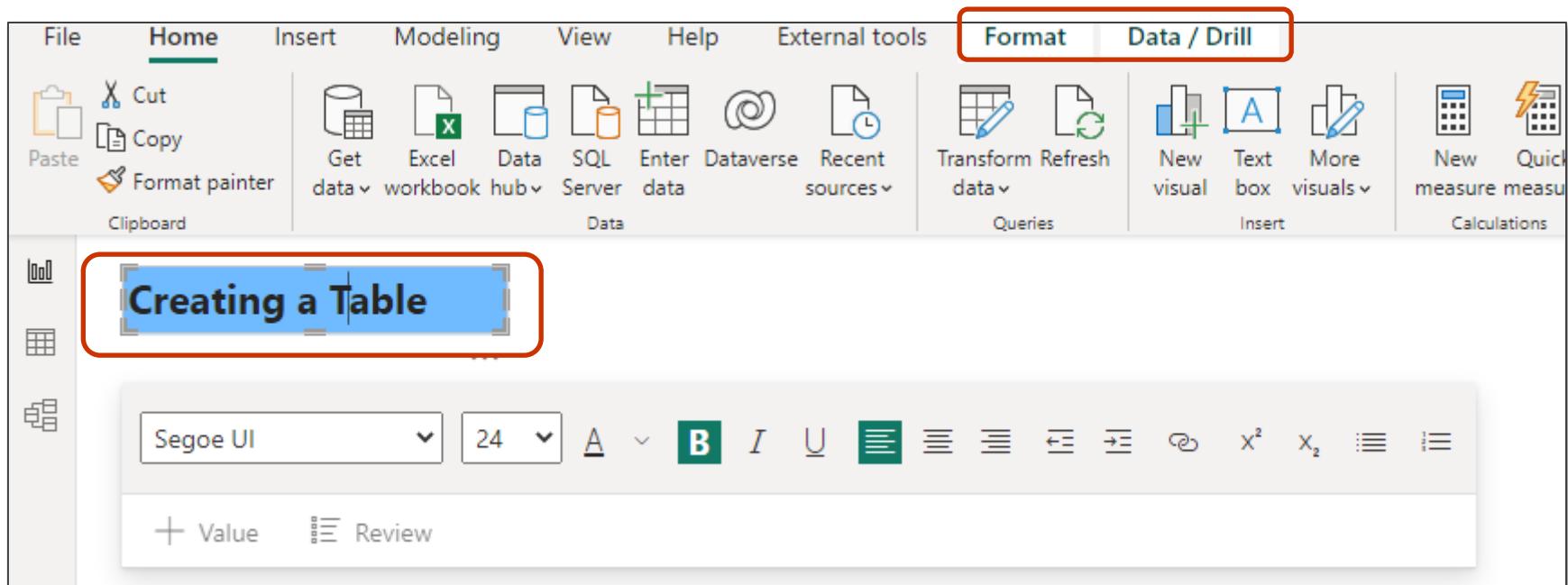
The screenshot shows the Microsoft Power BI Report View interface. The ribbon at the top has 'Insert' selected. On the left, there's a 'Creating a Table' placeholder with a red box around it. To its right is a table visualization showing sales data:

Category	Sum of Sales
Furniture	7,41,999.80
Office Supplies	7,19,047.03
Technology	8,36,154.03
Total	22,97,200.86

The 'Visualizations' pane on the right lists various chart types, with a red box highlighting the grid icon. The 'Data' pane shows the data source structure. Under 'Orders', 'Category' is checked with a red box. Under 'Sales', 'Σ Sales' is checked with a red box. The 'Columns' section shows 'Category' and 'Sum of Sales' selected.

# Note: Selecting Text Box or Table

- Notice the Menu Change in the Menu Ribbon when you select the Text Box or Table. Format & Data/Drill are displayed



# REPORT VIEW TABS (CONTEXTUAL)

## FORMAT:

A screenshot of the Power BI Report View interface. The top navigation bar shows tabs: File, Home, Insert, Modeling, View, Help, Format, and Data / Drill. The 'Format' tab is highlighted with a yellow box. Below the navigation bar, there are several toolbars and a main content area. On the left, there's a ribbon of icons for interactions, show/hide, and alignment. In the center, there's a chart titled 'Total Orders by Category' and a table titled 'Total Orders by Category'. The table has columns: ProductName, Total Orders, and Return Rate. The data in the table is as follows:

ProductName	Total Orders	Return Rate
Water Bottle - 30 oz.	3,985	1.55%
Patch Kit/B Patches	2,552	1.61%
Mountain Tire Tube	2,545	1.64%
Road Tire Tube	2,173	1.55%
Sport-100-Helmet, Red	2,099	2.33%
Sport-100-Helmet, Blue	1,985	2.21%
Fender Set - Mountain	1,975	1.36%
Sport-100-Helmet, Black	1,940	2.68%
Mountain Bottle Cage	1,895	2.02%
Road Bottle Cage	1,885	1.65%
Touring Tire Tube	1,364	1.64%
Hil. Mountain Tire	1,175	5.75%

## DATA/DRILL:

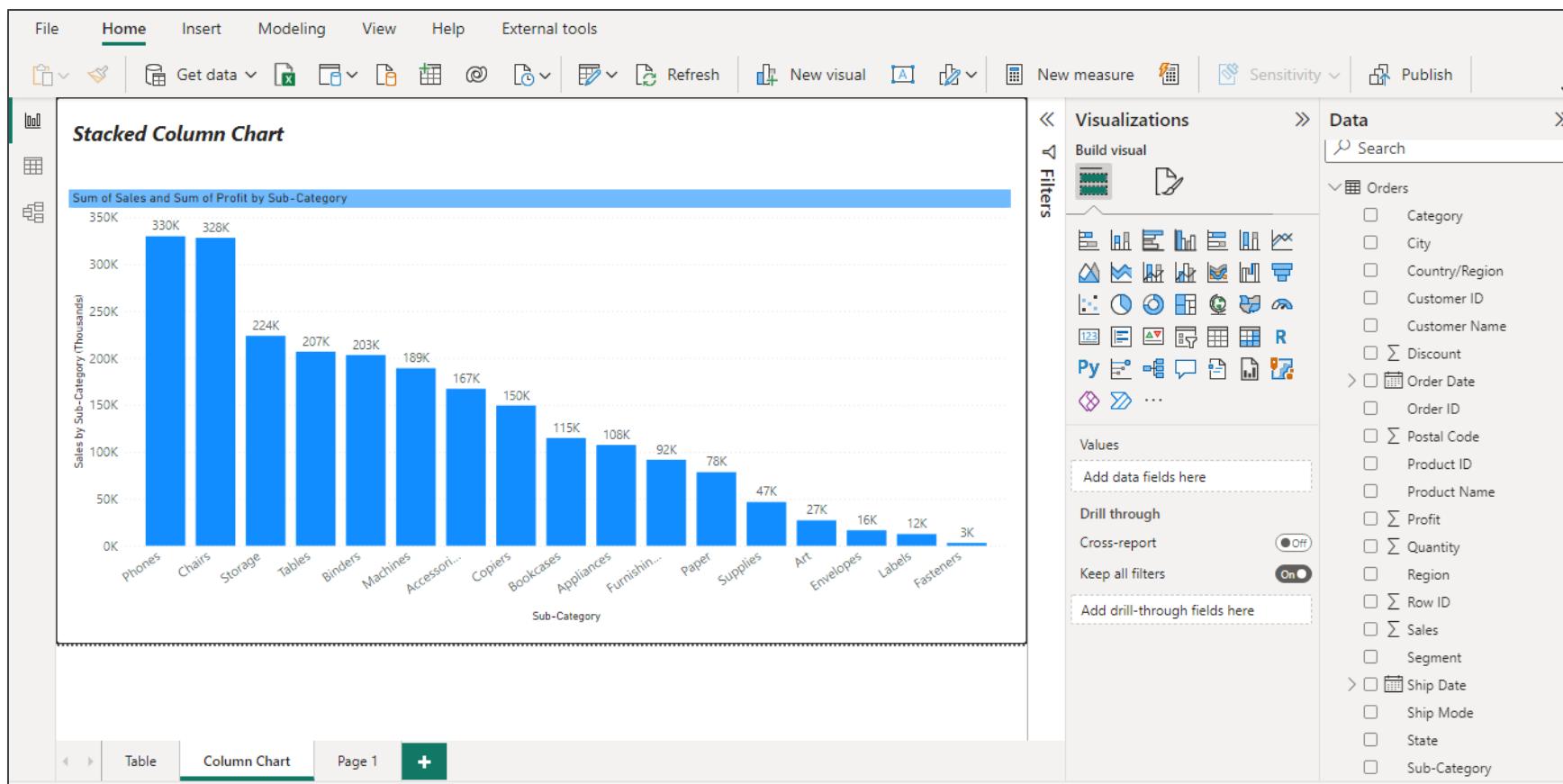
A screenshot of the Power BI Report View interface, similar to the previous one but with the 'Data / Drill' tab highlighted with a yellow box. The main content area shows the same 'Total Orders by Category' chart and table. The table data is identical to the one in the 'Format' view. A yellow arrow points from the 'Format' view screenshot down to this 'Data / Drill' view screenshot, indicating that both views are contextually aware of the selected visual.

Select a visual in the Report View to access the Format and Data/Drill menus, where you can access alignment tools, edit interactions, and configure drill down and drill through functionality

NOTE: You can also access contextual Table Tools, Column Tools and Measure Tools menus by selecting items from the Fields pane while in Report View

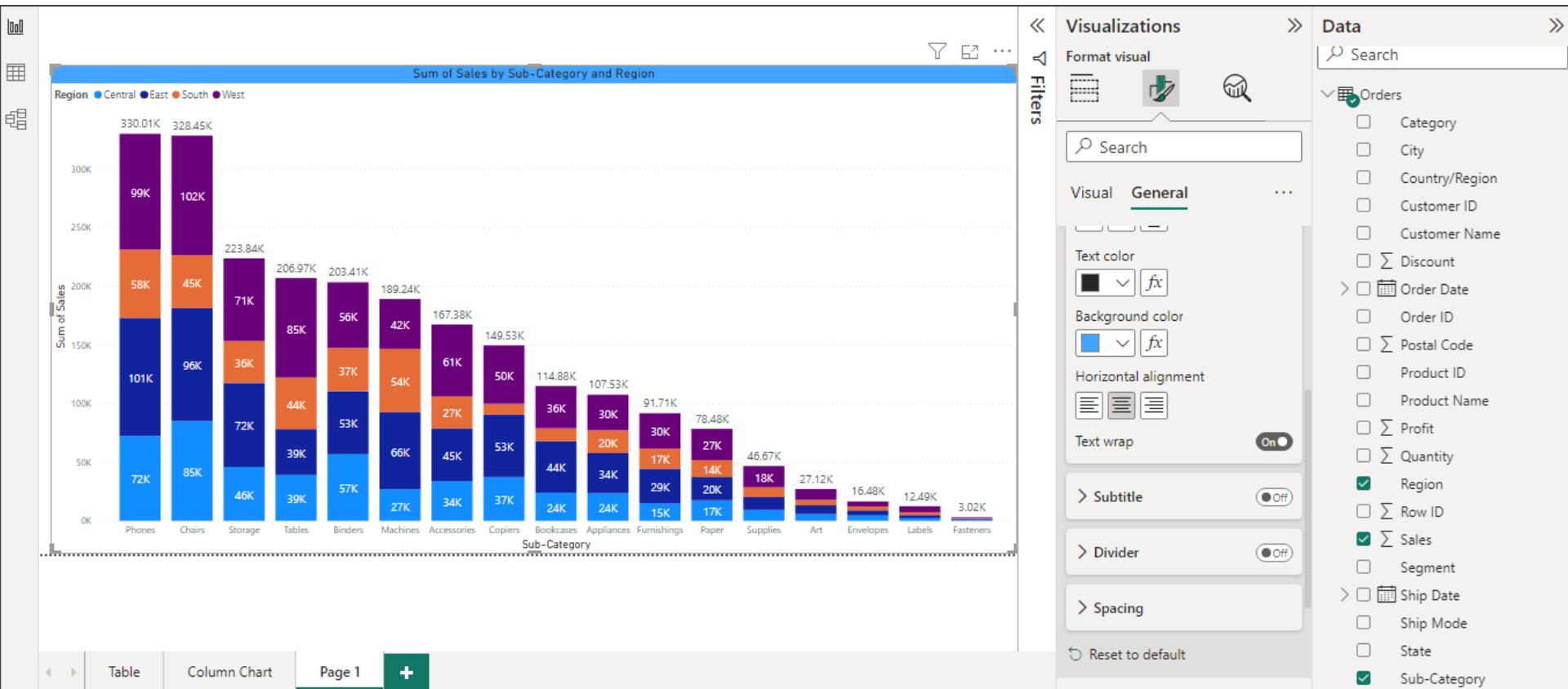
# Create a Column Chart

- Select Stacked column chart, select data fields Sub-Category and Sales into X-Axis & Y-Axis. Add Text Label, Format the chart using various parameters. **Check Focus Mode.**



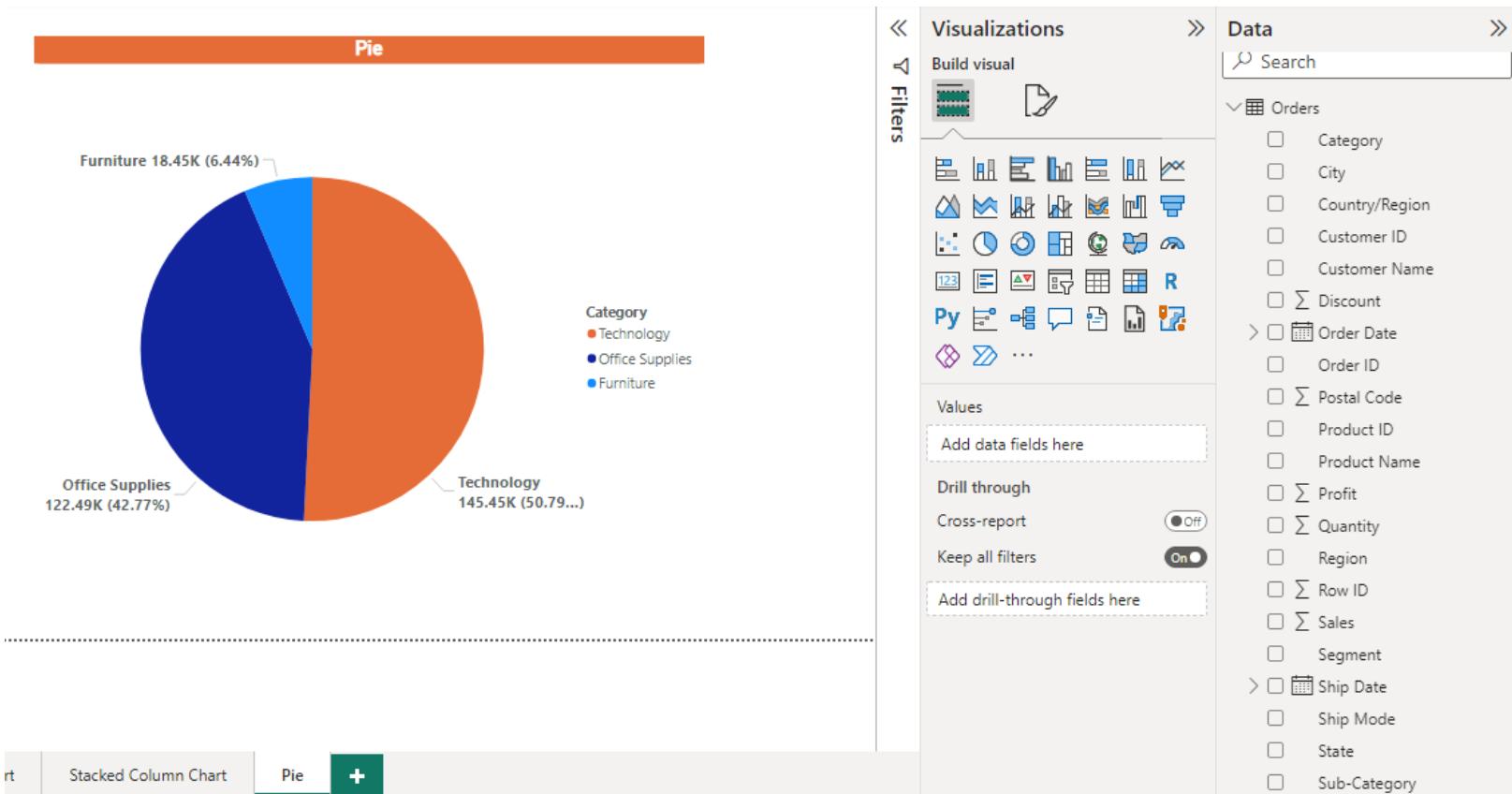
# Create a Stacked Column Chart

- Select Stacked column chart, select data fields Sub-Category and Sales into X-Axis & Y-Axis. Add Region to Legends. Now do the formatting to enhance data labels, Title, etc. Explore various options.



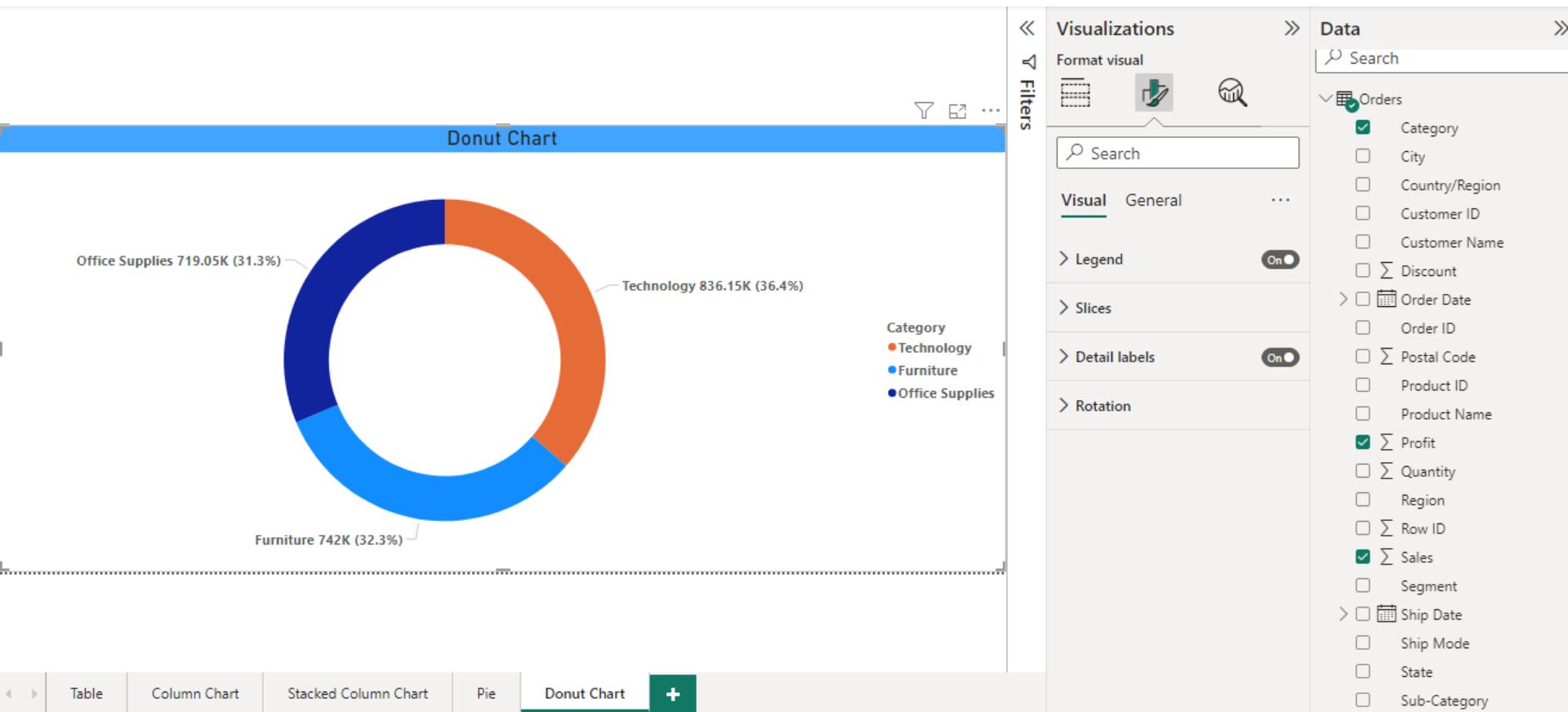
# Pie Chart

- Select Pie Chart, add data fields Category to Legends and Profit to Values. Add Sales field to ToolTip. Change formatting of Title, data labels, title, legends, etc. Explore various options.



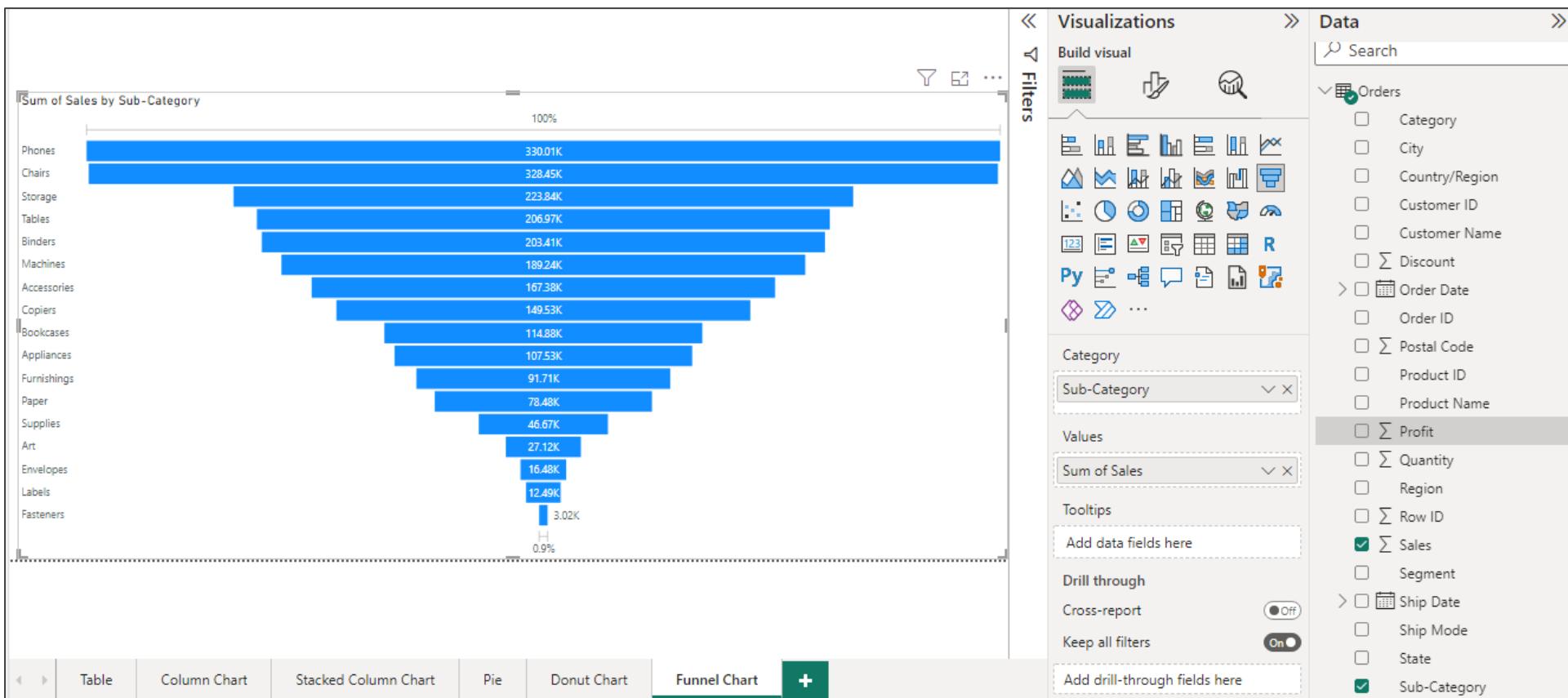
# Donut Chart

- Select Donut Chart, add data fields Category to Legends and Sales to Values. Add Profit field to ToolTip. Change formatting of Title, Data labels, legends, Donut Radius, etc. Explore various options.

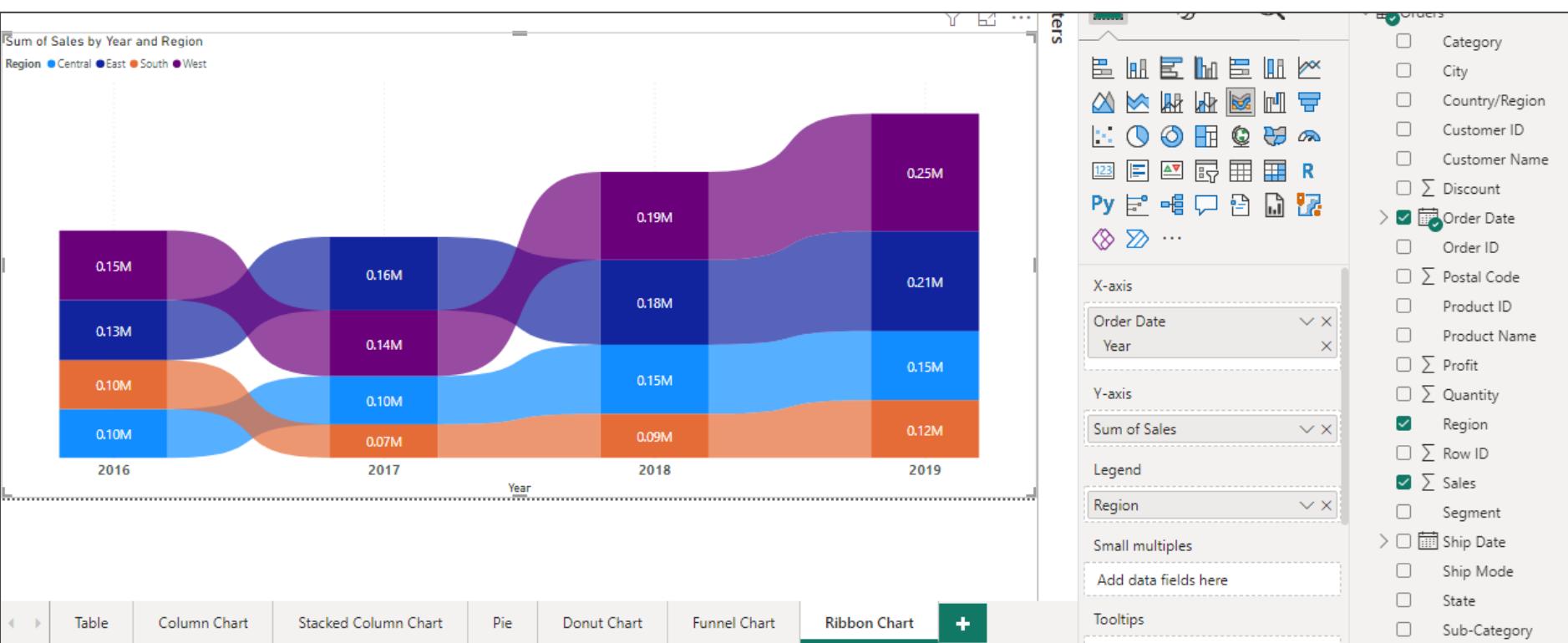


# Funnel Chart

- Select Donut Chart, add data fields Sub-Category to Category and Sales to Values, Add Profit field to ToolTip. Change formatting of Title, Data labels, legends, etc. Explore percentage options in tooltip.

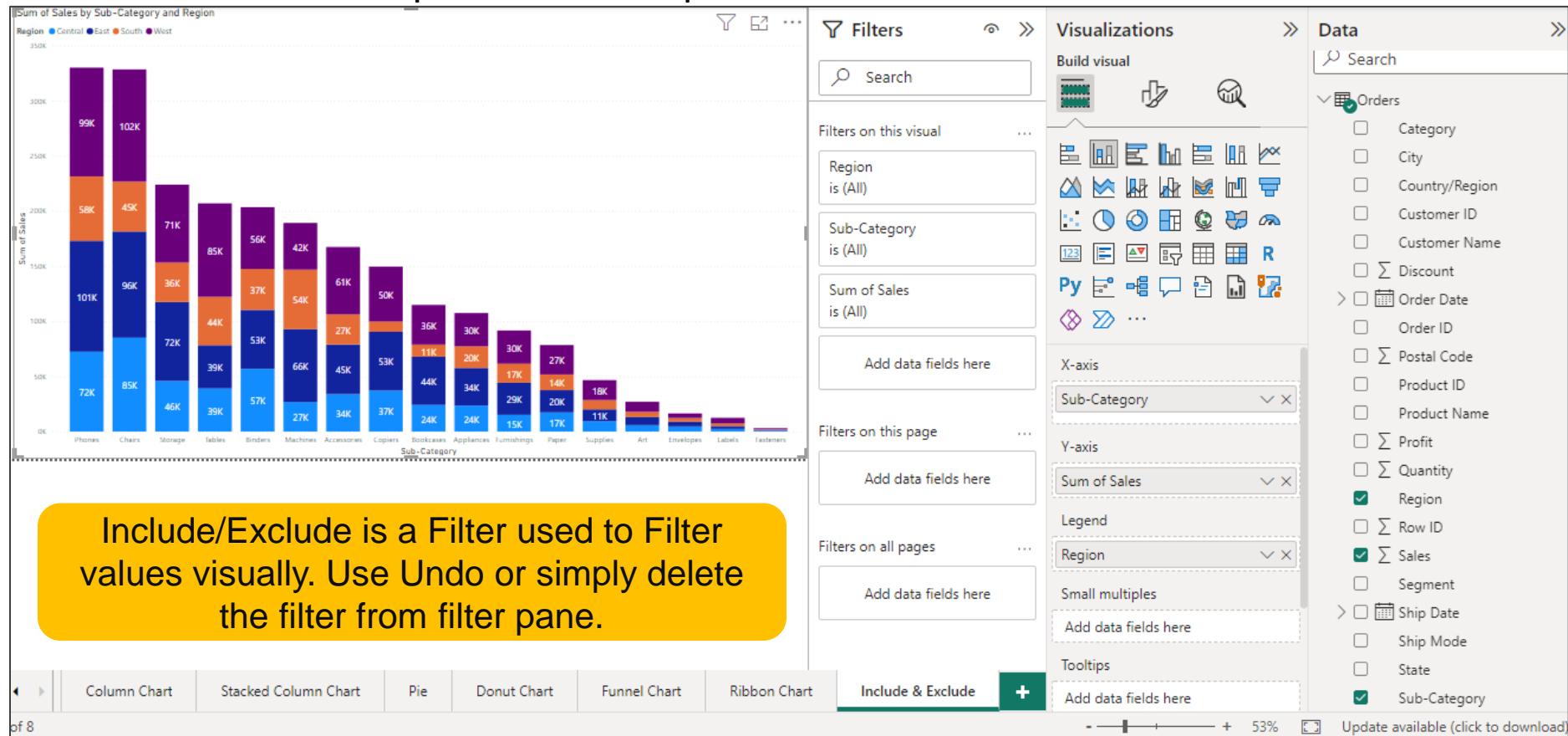


- Select Ribbon Chart, add data fields Order Date (only Year) to X-Axis, Sales to Y-Axis and Region to Legends. Without legends this will look like a column chart. Change formatting of Title, Data labels, legends, etc. Explore various options.



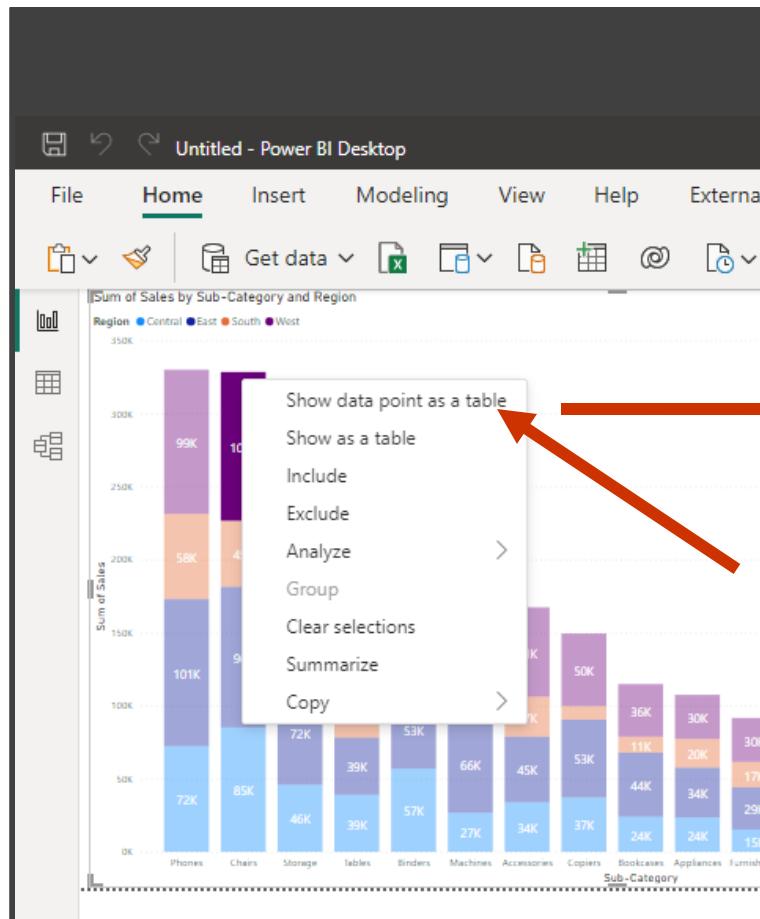
# Include & Exclude (Use Ctrl + Left Click to Select)

- Select Stacked column chart, select data fields Sub-Category and Sales into X-Axis & Y-Axis. Add Region to Legends. Now use Ctrl + Left Click to select bars you want to compare, then use right click to include / exclude those fields. Explore various options.



# View Data & Export Data

- Select a bar from stack column chart, right click and select show data point as a table.



Back to report

Sub-Category	Sales	Region	Order ID	Ship Mode	Customer ID	Customer Name	Segment
Chairs	40.78	West	US-2017-139759	Standard Class	NL-18310	Nancy Lomonaco	Home Office
Chairs	41.57	West	CA-2018-137204	Standard Class	BO-11350	Bill Overfelt	Corporate
Chairs	42.62	West	US-2019-110604	Standard Class	JF-15295	Jason Fortune	Consumer
Chairs	47.97	West	CA-2018-109827	Standard Class	LW-16825	Laurel Workman	Corporate
Chairs	48.71	West	CA-2016-156587	First Class	AB-10015	Aaron Bergman	Consumer
Chairs	61.58	West	CA-2017-154970	Standard Class	SR-20740	Steven Roelle	Home Office
Chairs	63.94	West	CA-2017-137302	Standard Class	BW-11110	Bart Watters	Corporate
Chairs	71.99	West	CA-2019-123491	Standard Class	JK-15205	Jamie Kunitz	Consumer
Chairs	72.78	West	CA-2019-140186	First Class	PG-18820	Patrick Gardner	Consumer
Chairs	81.42	West	CA-2018-146325	First Class	DS-13180	David Smith	Corporate
Chairs	81.42	West	US-2018-125969	Second Class	LS-16975	Lindsay Shagiari	Home Office
Chairs	81.57	West	CA-2019-137428	Second Class	AY-10555	Andy Yotov	Corporate
Chairs	83.14	West	CA-2018-151148	Same Day	PO-19180	Philisse Overcash	Home Office
Chairs	97.18	West	CA-2019-137428	Second Class	AY-10555	Andy Yotov	Corporate
Chairs	97.57	West	CA-2017-100146	Standard Class	CB-12535	Claudia Bergmann	Corporate
Chairs	97.57	West	CA-2019-142622	First Class	JK-15625	Jim Karlsson	Consumer
Chairs	104.78	West	CA-2018-163328	Second Class	TP-21565	Tracy Poddar	Corporate
Chairs	108.61	West	CA-2019-129378	First Class	NS-18505	Neola Schneider	Consumer
Chairs	112.65	West	CA-2016-105270	Standard Class	AP-10915	Arthur Prichep	Consumer
Chairs	113.57	West	CA-2019-117457	Standard Class	KH-16510	Keith Herrera	Consumer
Chairs	113.89	West	CA-2018-144092	Second Class	LH-17155	Logan Haushalter	Consumer
Chairs	113.89	West	CA-2018-159730	Standard Class	SJ-20125	Sanjit Jacobs	Home Office
Chairs	113.89	West	CA-2019-134915	Same Day	EM-14140	Eugene Moren	Home Office
Chairs	120.71	West	CA-2016-102295	Second Class	EH-13990	Erica Hackney	Consumer

# Export Data

- To export data right click on three dots and select export data option.

The screenshot shows the Power BI Desktop interface with a data grid displaying sales data for chairs. A context menu is open over the data grid, with a red circle highlighting the three-dot ellipsis icon. A red box highlights the 'Export data' option in the menu, which is part of a larger group labeled 'Filters'. The menu also includes options like 'Show as a table', 'Remove', and sorting. Below the menu, several filter cards are visible, each showing a dropdown menu with '(All)' selected for various filters like 'City', 'Country/Region', 'Customer ID', and 'Customer Name'.

Sub-Category	Sales	Region	Order ID	Ship Mode	Customer ID	Customer Name	Segment
Chairs	40.78	West	US-2017-139759	Standard Class	NL-18310	Nancy Lomonaco	Home Office
Chairs	41.57	West	CA-2018-137204	Standard Class	BO-11350	Bill Overfelt	Corporate
Chairs	42.62	West	US-2019-110604	Standard Class	JF-15295	Jason Fortune	Consumer
Chairs	47.97	West	CA-2018-109827	Standard Class	LW-16825	Laurel Workman	Corporate
Chairs	48.71	West	CA-2016-156587	First Class	AB-10015	Aaron Bergman	Consumer
Chairs	61.58	West	CA-2017-154970	Standard Class	SR-20740	Steven Roelle	Home Office
Chairs	63.94	West	CA-2017-137302	Standard Class	BW-11110	Bart Watters	Corporate
Chairs	71.99	West	CA-2019-123491	Standard Class	JK-15205	Jamie Kunitz	Consumer
Chairs	72.78	West	CA-2019-140186	First Class	PG-18820	Patrick Gardner	Consumer
Chairs	81.42	West	CA-2018-146325	First Class	DS-13180	David Smith	Corporate
Chairs	81.42	West	US-2018-125969	Second Class	LS-16975	Lindsay Shagiari	Home Office
Chairs	81.57	West	CA-2019-137428	Second Class	AY-10555	Andy Yotov	Corporate
Chairs	83.14	West	CA-2018-151148	Same Day	PO-19180	Philisse Overcash	Home Office
Chairs	97.18	West	CA-2019-137428	Second Class	AY-10555	Andy Yotov	Corporate

# Q & A

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## Objectives

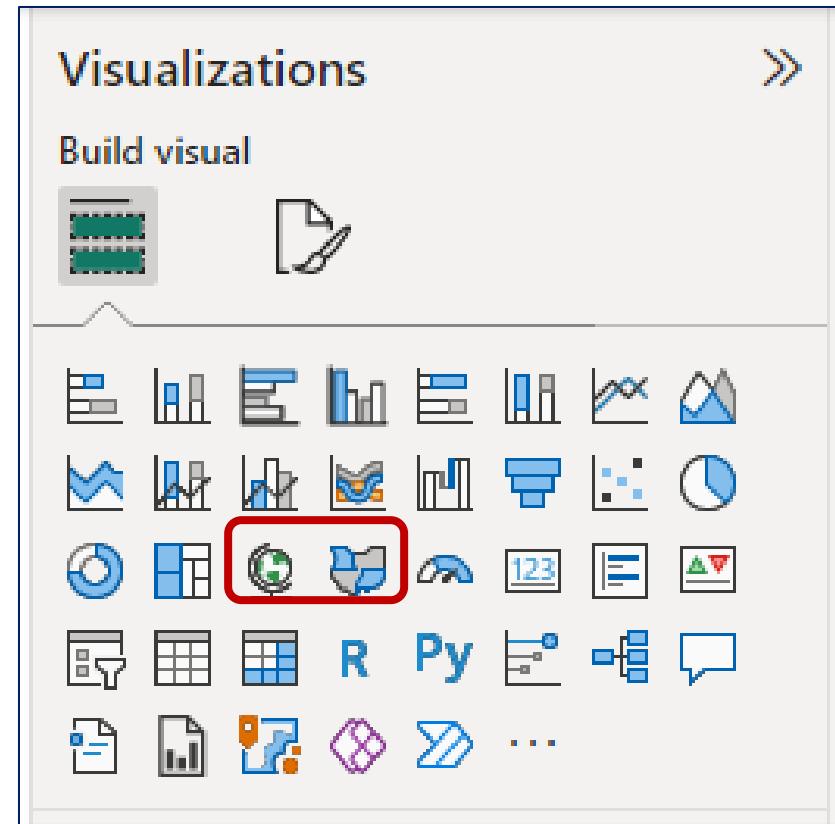
- Get understanding of PBI Designer by creating MAPs, Charts, Tables, Matrix, Filters, Slicers, etc.
  
- **We will cover the following -**
  - Creating Maps, Charts, Tables, Matrix, Filters, etc.
  - Understand Formatting Elements
  - Understand Slicers
  - Animated Charts
  - Drill Downs
  - Insert Option & Actions

# Inserting Maps

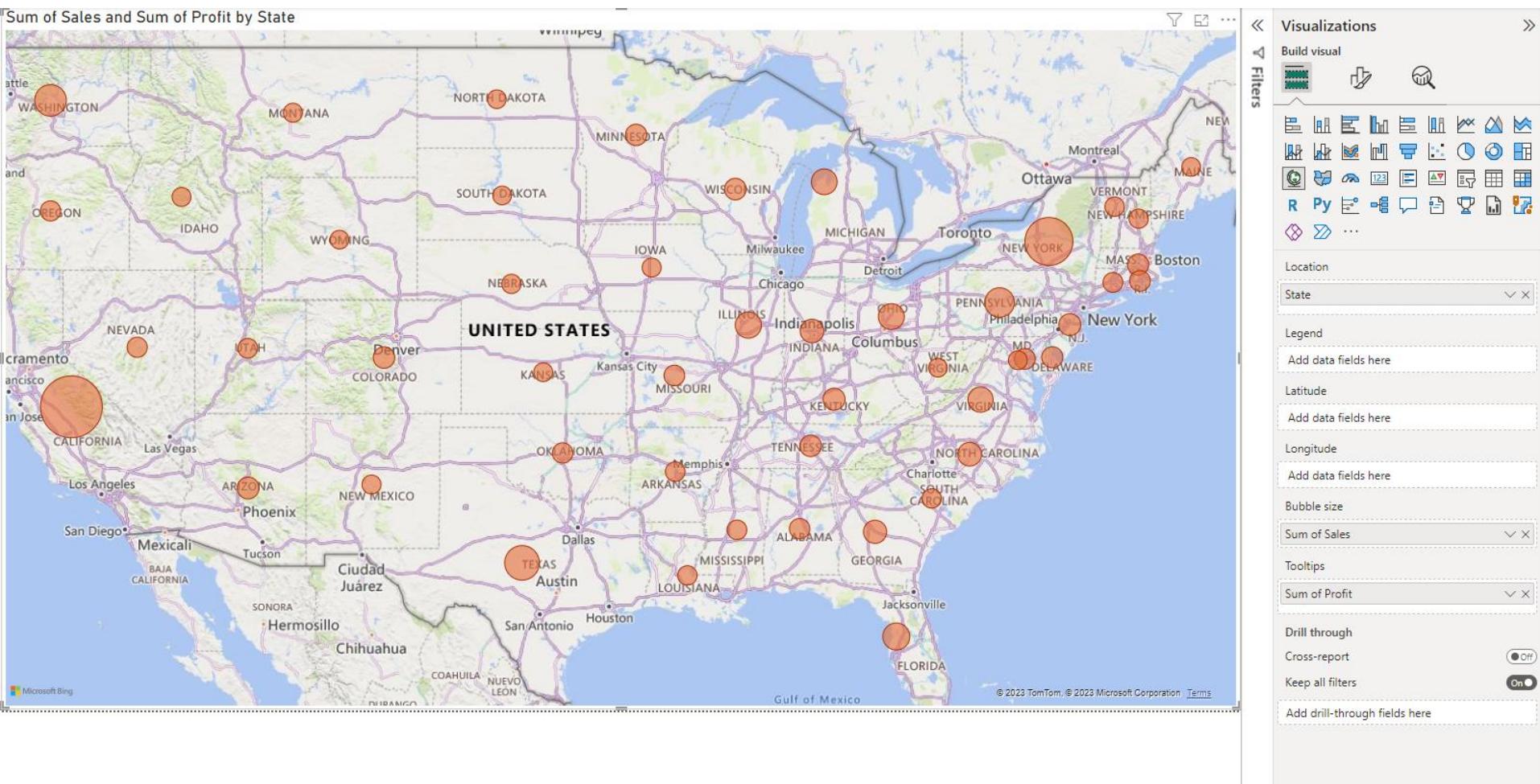
- Two Types Maps are available

1. Simple Maps
2. Filled Maps

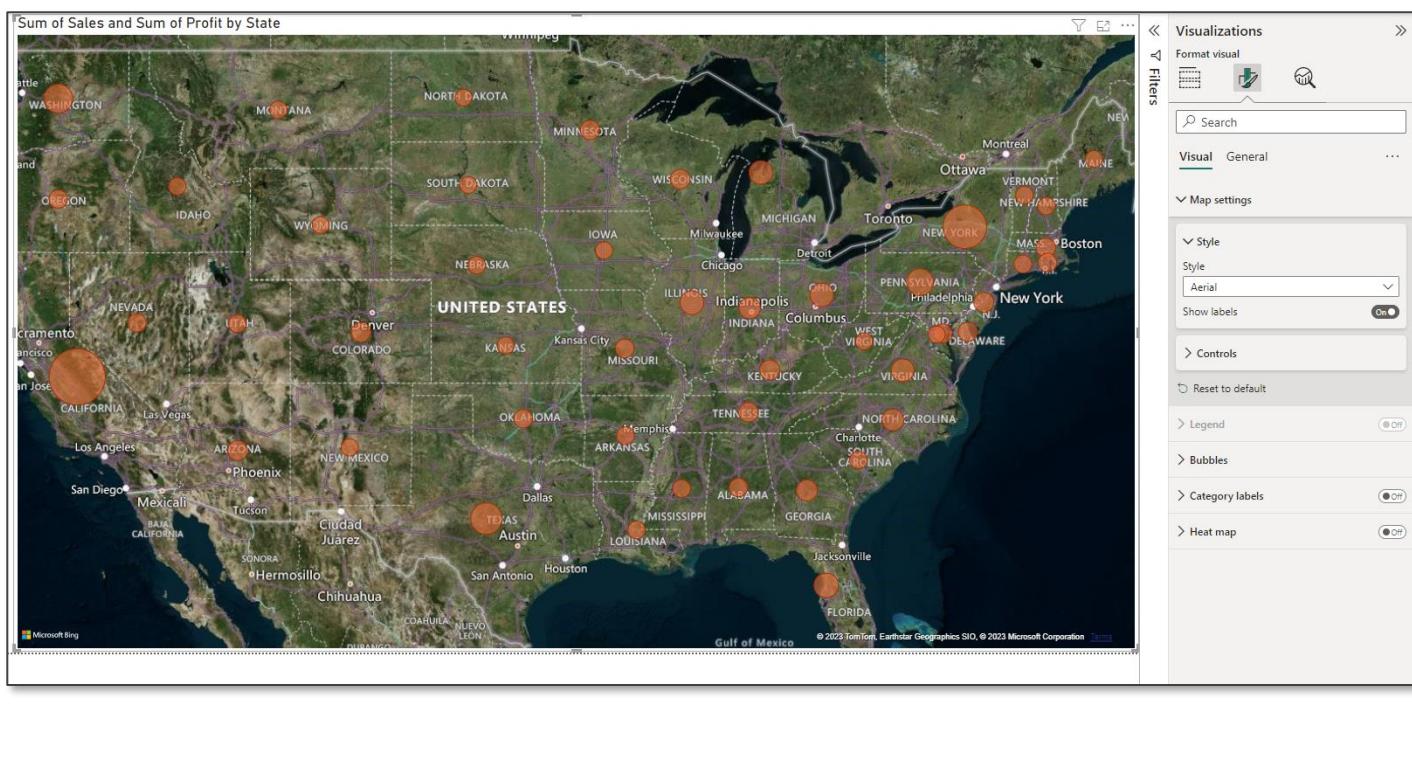
1. Click on Map to add them to canvas.
2. Resize to match your need.



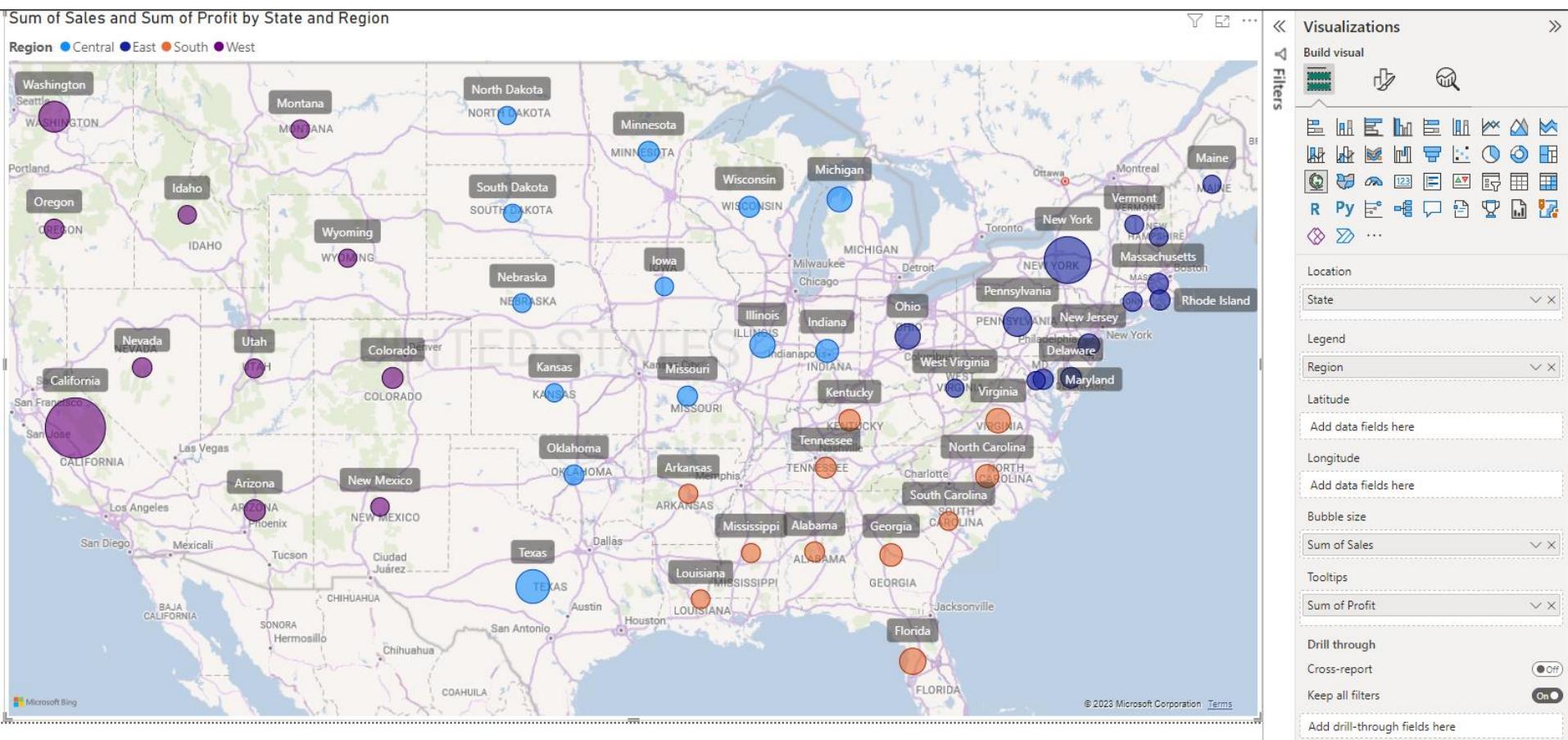
# Creating a simple Map



- Change the Formatting Features & see the impact:
  - Style
  - Colors
  - Category labels

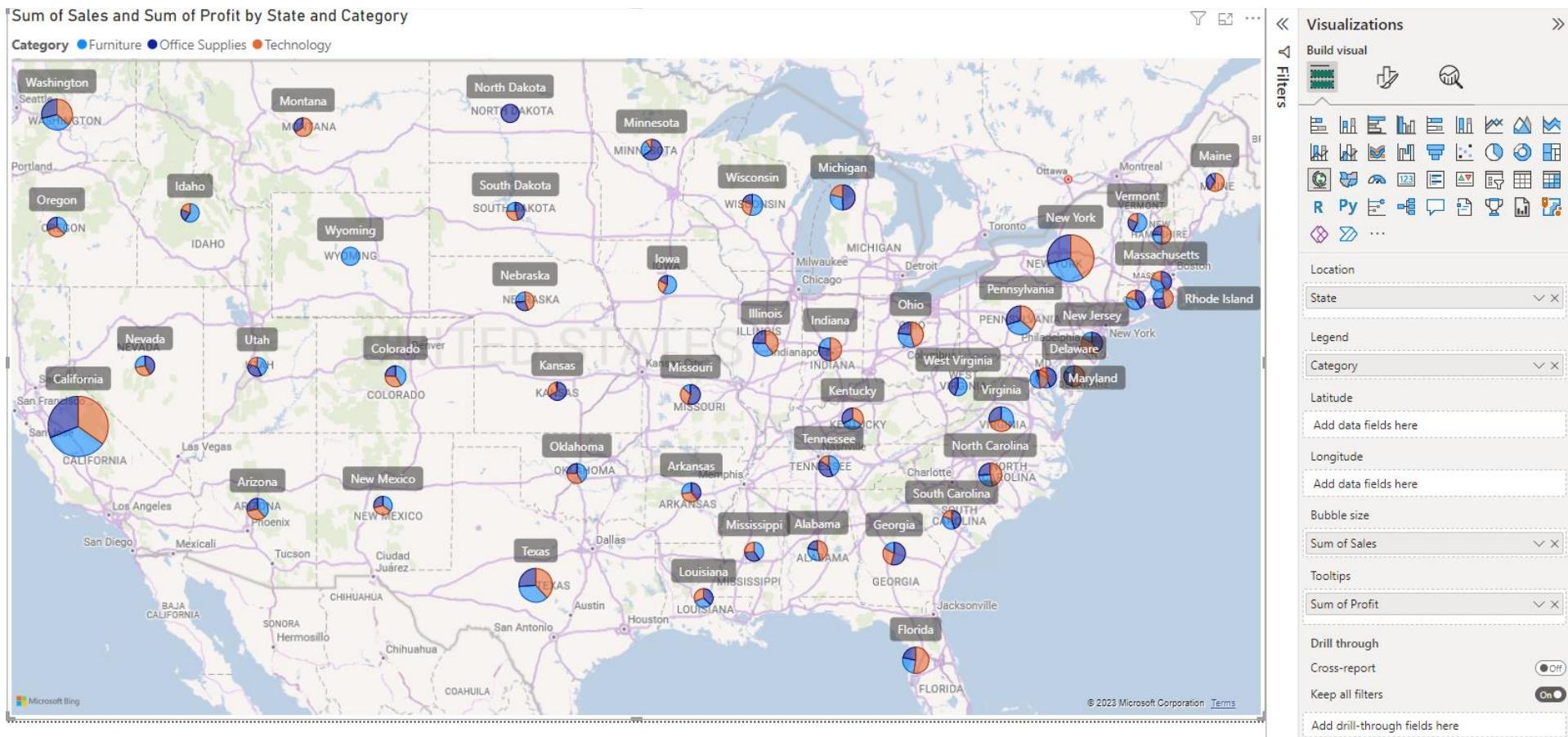


# Map with Region as a parameter in Legend



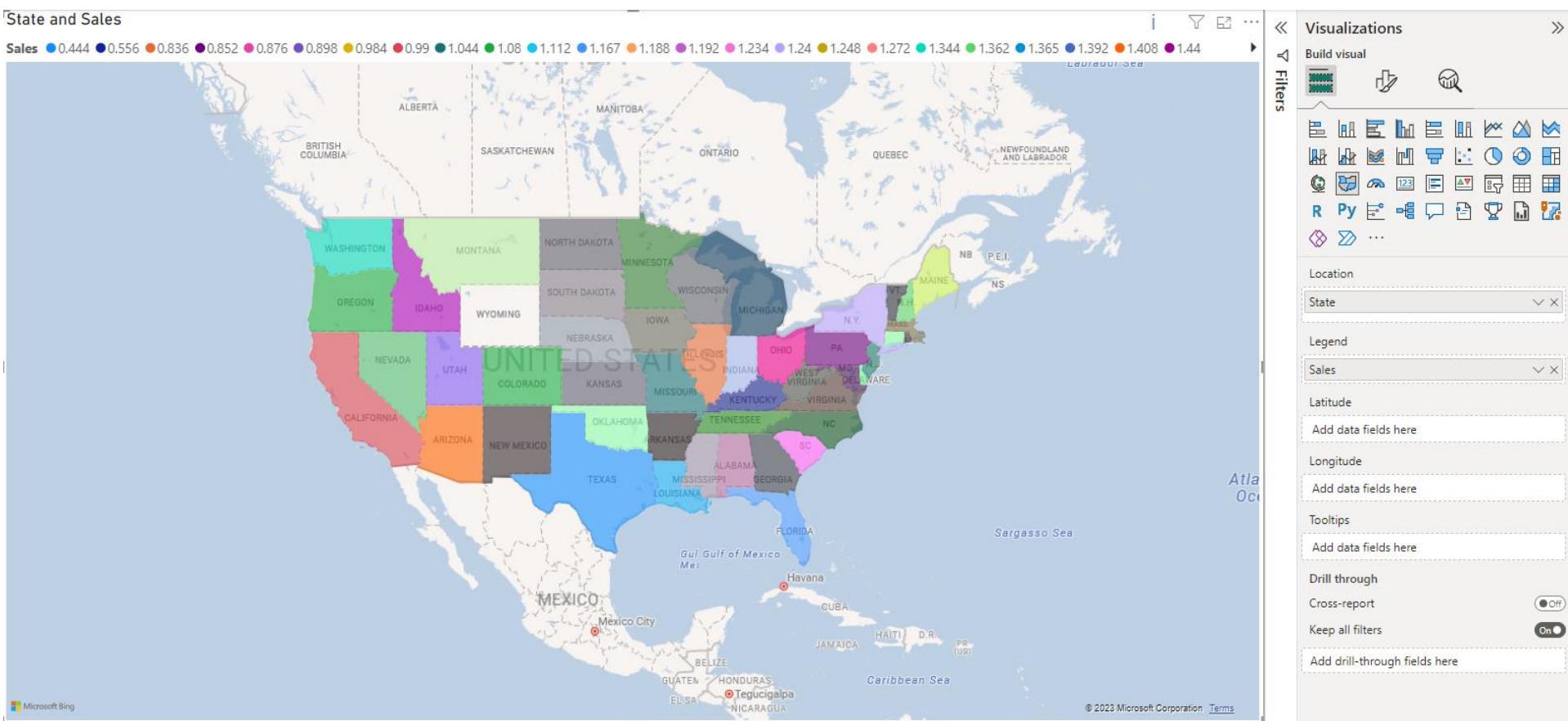
# Map with Pie Chart

- Increase the bubble size
- Add Categories to Legend



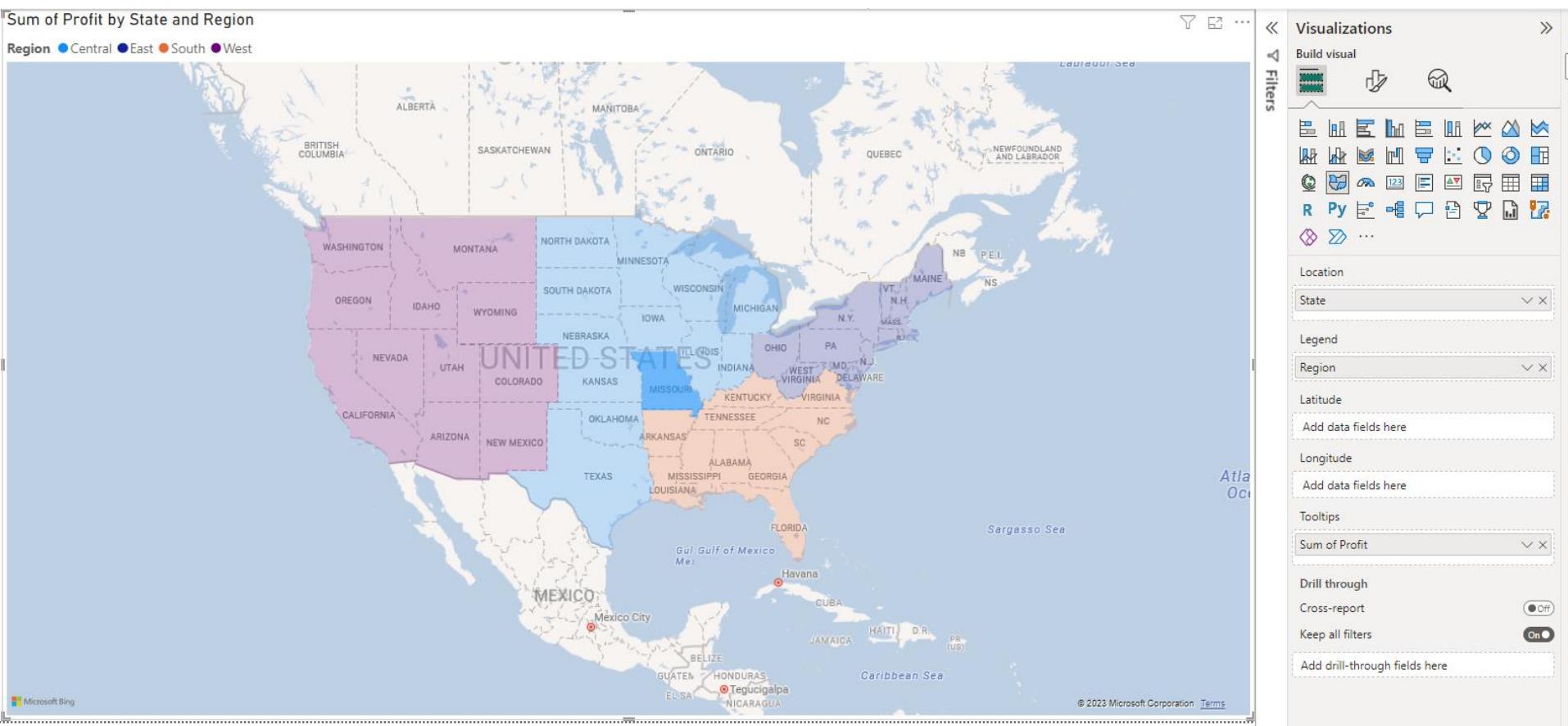
# Filled Map

- Add States to Location & Sales to Legend



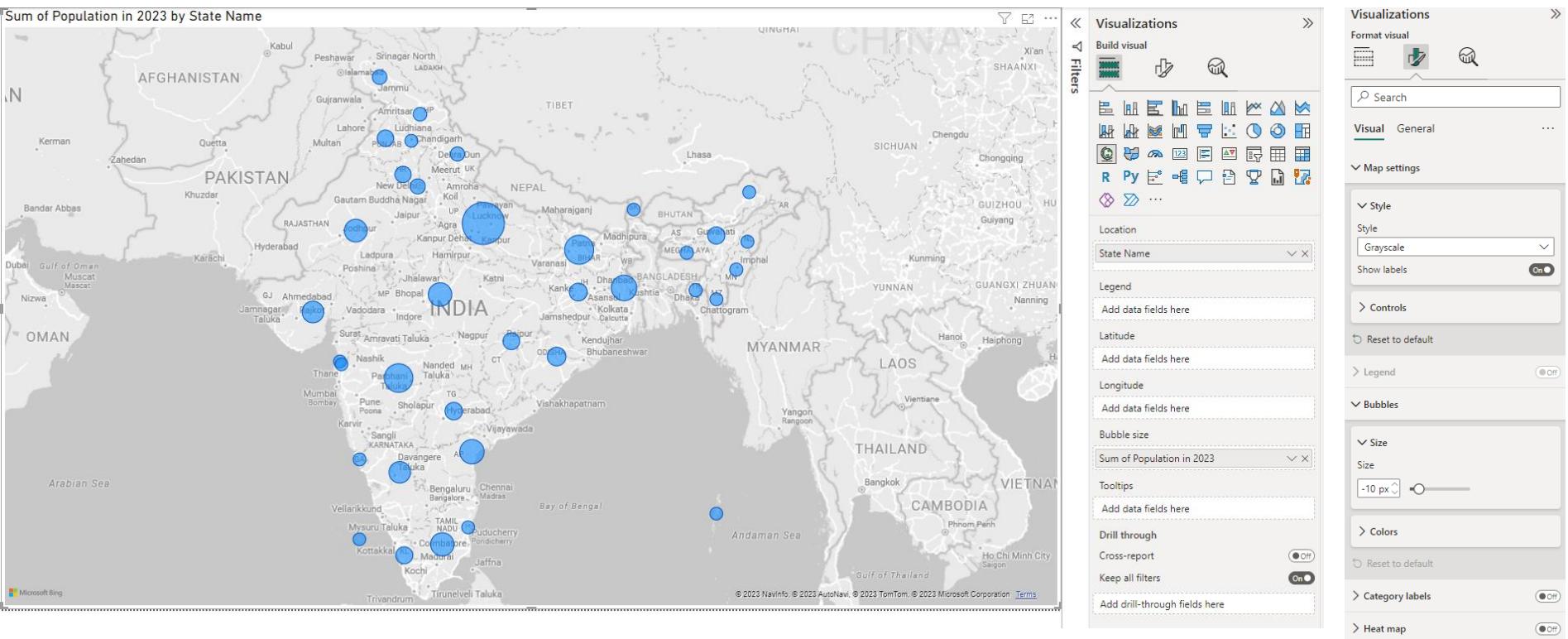
# Filled Map

- Add States to Location
- Region to Legend &
- Profit to ToolTip



# Map of India

- Connect to India\_Population.xlsx workbook, use sheet1
- Add State Name, Population in 2023 as shown and
- Format Visual Parameters



# Simple Table with Basic formatting

- Basic Table with Font, Header, Totals & Header Icons Formatting. Use Format Visual Pane & Themes from View Menu

The screenshot shows a Power BI interface with a table visualization on the left and the 'Format visual' pane on the right.

**Table Data:**

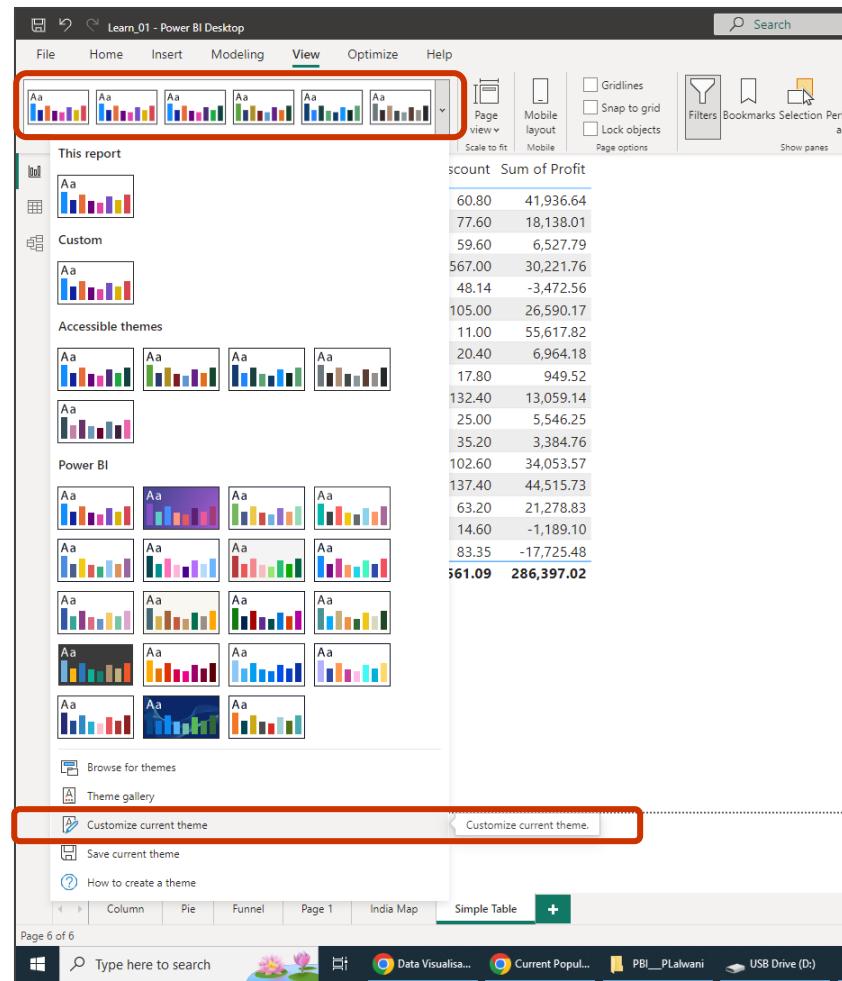
Sub-Category	Sum of Sales	Sum of Quantity	Sum of Discount	Sum of Profit
Accessories	167,380.32	2976	60.80	41,936.64
Appliances	107,532.16	1729	77.60	18,138.01
Art	27,118.79	3000	59.60	6,527.79
Binders	203,412.73	5974	567.00	30,221.76
Bookcases	114,880.00	868	48.14	-3,472.56
Chairs	328,449.10	2356	105.00	26,590.17
Copiers	149,528.03	234	11.00	55,617.82
Envelopes	16,476.40	906	20.40	6,964.18
Fasteners	3,024.28	914	17.80	949.52
Furnishings	91,705.16	3563	132.40	13,059.14
Labels	12,486.31	1400	25.00	5,546.25
Machines	189,238.63	440	35.20	3,384.76
Paper	78,479.21	5178	102.60	34,053.57
Phones	330,007.05	3289	137.40	44,515.73
Storage	223,843.61	3158	63.20	21,278.83
Supplies	46,673.54	647	14.60	-1,189.10
Tables	206,965.53	1241	83.35	-17,725.48
<b>Total</b>	<b>2,297,200.86</b>	<b>37873</b>	<b>1,561.09</b>	<b>286,397.02</b>

**Format Visual pane (right):**

- Visualizations:** Format visual, Visualizations icon, Search bar.
- General:** Style presets, Grid, Values.
- Column headers:** Text, Options.
- Totals:** Values (Total label: Total, Font: Segoe UI, 12pt, Bold, Text color: black, Background color: yellow). On button is turned on.
- Reset to default:** Buttons for both Text and Background colors.

# Using Themes

- Click on View Menu
- Select Themes
- Click Customize Current Theme

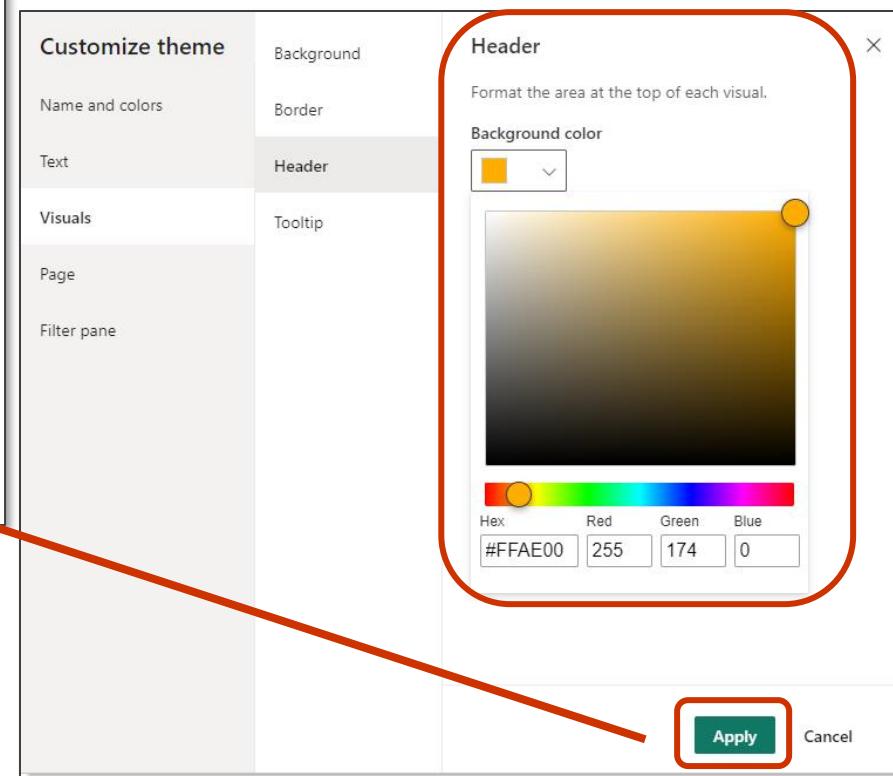


The screenshot illustrates the 'Customize theme' feature in Microsoft Power BI. It shows two windows side-by-side:

- Left Window (Name and colors):** This window is used for defining the overall color scheme of the theme. It includes sections for "Name and colors" (with a "Name" field and "Advanced" tab), "Text" (highlighted by a large red arrow pointing to the right), "Visuals", "Page", and "Filter pane". The "Theme colors" section contains eight color swatches labeled Color 1 through Color 8. Below it are sections for "Sentiment colors" (Negative, Positive, Neutral) and "Divergent colors". At the bottom are "Apply" and "Cancel" buttons.
- Right Window (General):** This window is used for setting general font properties. It includes sections for "General" (highlighted by a large red arrow pointing from the left), "Title", "Cards and KPIs", "Tab headers", "Text" (highlighted by a red box), "Visuals", "Page", and "Filter pane". The "Text" section contains fields for "Font family" (set to "Segoe UI"), "Font size" (set to "12 pt"), and "Font color" (set to black). A "Reset to default" button is also present. At the bottom are "Apply" and "Cancel" buttons.

# Simple Table with Basic Formatting

Sub-Category	Sum of Sales	Sum of Quantity	Sum of Discount	Sum of Profit
Accessories	167,380.32	2976	60.80	41,936.64
Appliances	107,532.16	1729	77.60	18,138.01
Art	27,118.79	3000	59.60	6,527.79
Binders	203,412.73	5974	567.00	30,221.76
Bookcases	114,880.00	868	48.14	-3,472.56
Chairs	328,449.10	2356	105.00	26,590.17
Copiers	149,528.03	234	11.00	55,617.82
Envelopes	16,476.40	906	20.40	6,964.18
Fasteners	3,024.28	914	17.80	949.52
Furnishings	91,705.16	3563	132.40	13,059.14
Labels	12,486.31	1400	25.00	5,546.25
Machines	189,238.63	440	35.20	3,384.76
Paper	78,479.21	5178	102.60	34,053.57
Phones	330,007.05	3289	137.40	44,515.73
Storage	223,843.61	3158	63.20	21,278.83
Supplies	46,673.54	647	14.60	-1,189.10
Tables	206,965.53	1241	83.35	-17,725.48
<b>Total</b>	<b>2,297,200.86</b>	<b>37873</b>	<b>1,561.09</b>	<b>286,397.02</b>



# Simple Table Formatting

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- Play around with various options available in Visual Format & Themes and see the impact on your visual elements on the canvas.

# Conditional Formatting

The screenshot shows a Microsoft Power BI interface with a data grid on the left and a 'Visualizations' pane on the right.

**Data Grid:**

Sub-Category	Sum of Sales	Sum of Quantity	Sum of Discount	Sum of Profit
Phones	330,007.05	3289	137.40	44,515.73
Chairs	328,449.10	2356	105.00	26,590.17
Storage	223,843.61	3158	63.20	21,278.83
Tables	206,965.53	1241	83.35	-17,725.48
Binders	203,412.73	5974	567.00	30,221.76
Machines	189,238.63	440	35.20	3,384.76
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Supplies	46,673.54	647	14.60	-1,189.10
Art	27,118.79	3000	59.60	6,527.79
Envelopes	16,476.40	906	20.40	6,964.18
Labels	12,486.31	1400	25.00	5,546.25
Fasteners	3,024.28	914	17.80	949.52
<b>Total</b>	<b>2,297,200.86</b>	<b>37873</b>	<b>1,561.09</b>	<b>286,397.02</b>

**Visualizations pane:**

- Visualizations:** Format visual, Search bar.
- Filters:** Visual, General, Totals, Specific column, Cell elements.
- Cell elements settings for 'Sum of Profit':**
  - Apply settings to: Series (Sum of Profit).
  - Background color: On (fx icon).
  - Font color: Off (radio button).
  - Data bars: Off (radio button).
  - Icons: Off (radio button).
  - Web URL: Off (radio button).
- General settings:**
  - Reset to default.
  - URL icon.
  - Image size.

Visualizations

Format visual

Visual General ...

> Totals

> Specific column

Cell elements

Apply settings to

Series Sum of Profit

Background color  On

Font color  Off

Data bars  Off

Icons  Off

Web URL  Off

Reset to default

> URL icon

> Image size

> Accessibility

Search

Background color - Background color

Format style Gradient

Apply to Values only

What field should we base this on? Sum of Profit

Summarization Sum

How should we format empty values? As zero

Minimum Lowest value   Enter a value

Maximum Highest value   Enter a value

Add a middle color

Learn more about conditional formatting

OK Cancel

A red arrow originates from the 'Background color' section in the left-hand pane and points to the 'Background color' dialog box. The dialog box is titled 'Background color - Background color'. It contains settings for 'Format style' (Gradient), 'Apply to' (Values only), 'What field should we base this on?' (Sum of Profit), 'Summarization' (Sum), and 'How should we format empty values?' (As zero). The 'Minimum' section shows 'Lowest value' selected and a color swatch. The 'Maximum' section shows 'Highest value' selected and a color swatch. A checkbox for 'Add a middle color' is present. A color gradient bar is displayed below the controls. At the bottom right of the dialog are 'OK' and 'Cancel' buttons, with 'OK' being highlighted by a red border.

Themes Scale to fit Mobile Page options

Sub-Category	Sum of Sales	Sum of Quantity	Sum of Discount	Sum of Profit
Phones	330,007.05	3289	137.40	44,515.73
Chairs	328,449.10	2356	105.00	26,590.17
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<b>Total</b>	<b>2,297,200.86</b>	<b>37873</b>	<b>1,561.09</b>	<b>286,397.02</b>

Filter Reset More

Visualizations >

Format visual

Search Visual General ...

Totals

Specific column

Cell elements

Apply settings to Series Sum of Quantity

Background color Off

Font color Off

Data bars On

Icons Off

Web URL Off

Reset to default

URL icon

Image size

Accessibility

Sub-Category	Sum of Sales	Sum of Quantity	Sum of Discount	Sum of Profit
Fasteners	3,024.28	914	17.80	949.52
Labels	12,486.31	1400	25.00	5,546.25
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Accessories	167,380.32	2976	60.80	41,936.64
Machines	189,238.63	440	35.20	3,384.76
Binders	203,412.73	5974	567.00	30,221.76
Tables	206,965.53	1241	83.35	-17,725.48
Storage	223,843.61	3158	63.20	21,278.83
Chairs	328,449.10	2356	105.00	26,590.17
Phones	330,007.05	3289	137.40	44,515.73
<b>Total</b>	<b>2,297,200.86</b>	<b>37873</b>	<b>1,561.09</b>	<b>266,397.02</b>

Visualizations

Format visual

Filters

Search

Visual General

Totals

Specific column

Cell elements

Apply settings to

Series: Sum of Sales

Background color: Off

Font color: Off

Data bars: Off

Icons: On

Web URL: Off

Reset to default

**Icons - Icons**

Format style      Apply to

Rules      Values only

What field should we base this on?      Summarization

Sum of Sales      Sum

Icon layout      Icon alignment

Left of data      Top

Style

↓ ↴ → ↵ ↑

↑↓ Reverse icon order      + New rule

Rules

If value	$\geq$	0	Percent	and	$<$	20	Percent	then	⬇️	⬆️	⬇️	⬆️
If value	$\geq$	20	Percent	and	$<$	40	Percent	then	⬇️	⬆️	⬇️	⬆️
If value	$\geq$	40	Percent	and	$<$	60	Percent	then	➡️	⬅️	⬇️	⬆️
If value	$\geq$	60	Percent	and	$<$	80	Percent	then	➡️	⬅️	⬇️	⬆️
If value	$\geq$	80	Percent	and	$\leq$	100	Percent	then	⬆️	⬇️	⬇️	⬆️

Learn more about conditional formatting

OK      Cancel

The screenshot shows the 'Icons - Icons' dialog box from Microsoft Power BI. It allows users to define icons based on specific conditions. The 'Style' section at the top right contains five icons: a red downward arrow, a yellow left arrow, an orange right arrow, a green up arrow, and a blue double-headed vertical arrow. The 'Rules' section below defines five conditions for icon placement:

- If value  $\geq$  0 Percent and < 20 Percent then ⬇️
- If value  $\geq$  20 Percent and < 40 Percent then ⬇️
- If value  $\geq$  40 Percent and < 60 Percent then ➡️
- If value  $\geq$  60 Percent and < 80 Percent then ➡️
- If value  $\geq$  80 Percent and  $\leq$  100 Percent then ⬆️

The entire 'Rules' section is circled in red, as is the 'Style' section above it. The 'OK' button at the bottom right is also circled in red.

# Simple Matrix

Sub-Category	Region	Sum of Sales
Accessories	Central	33,956.08
Accessories	East	45,033.37
Accessories	South	27,276.75
Accessories	West	61,114.12
Appliances	Central	23,582.03
Appliances	East	34,188.47
Appliances	South	19,525.33
Appliances	West	30,236.34
Art	Central	5,765.34
Art	East	7,485.76
Art	South	4,655.62
Art	West	9,212.07
Binders	Central	56,923.28
Binders	East	53,498.00
Binders	South	37,030.34
Binders	West	55,961.11
Bookcases	Central	24,157.18
Bookcases	East	43,819.33
Bookcases	South	10,899.36
Bookcases	West	36,004.12
<b>Total</b>		<b>2,297,200.86</b>

Sub-Category	Central	East	South	West	Total
Accessories	33,956.08	45,033.37	27,276.75	61,114.12	<b>167,380.32</b>
Appliances	23,582.03	34,188.47	19,525.33	30,236.34	<b>107,532.16</b>
Art	5,765.34	7,485.76	4,655.62	9,212.07	<b>27,118.79</b>
Binders	56,923.28	53,498.00	37,030.34	55,961.11	<b>203,412.73</b>
Bookcases	24,157.18	43,819.33	10,899.36	36,004.12	<b>114,880.00</b>
Chairs	85,230.65	96,260.68	45,176.45	101,781.33	<b>328,449.10</b>
Copiers	37,259.57	53,219.46	9,299.76	49,749.24	<b>149,528.03</b>
Envelopes	4,636.87	4,375.87	3,345.56	4,118.10	<b>16,476.40</b>
Fasteners	778.03	819.72	503.32	923.22	<b>3,024.28</b>
Furnishings	15,254.37	29,071.38	17,306.68	30,072.73	<b>91,705.16</b>
Labels	2,451.47	2,602.93	2,353.18	5,078.73	<b>12,486.31</b>
Machines	26,797.38	66,106.17	53,890.96	42,444.12	<b>189,238.63</b>
Paper	17,491.90	20,172.60	14,150.98	26,663.72	<b>78,479.21</b>
Phones	72,403.28	100,614.98	58,304.44	98,684.35	<b>330,007.05</b>
Storage	45,930.11	71,612.58	35,768.06	70,532.85	<b>223,843.61</b>
Supplies	9,467.37	10,760.12	8,318.93	18,127.12	<b>46,673.54</b>
Tables	39,154.97	39,139.81	43,916.19	84,754.56	<b>206,965.53</b>
<b>Total</b>	<b>501,239.89</b>	<b>678,781.24</b>	<b>391,721.91</b>	<b>725,457.82</b>	<b>2,297,200.86</b>

The screenshot illustrates the Microsoft Power BI interface. On the left, a PivotTable visual displays sales data categorized by Sub-Category (rows) and Region (columns). The regions include Central, East, South, West, and Total. The values represent Sum of Sales, displayed in bold black text. A red bracket on the right side of the table points to the 'Values' section in the Visualizations pane.

**PivotTable Data:**

Sub-Category	Central	East	South	West	Total
Accessories	33,956.08	45,033.37	27,276.75	61,114.12	<b>167,380.32</b>
Appliances	23,582.03	34,188.47	19,525.33	30,236.34	<b>107,532.16</b>
Art	5,765.34	7,485.76	4,655.62	9,212.07	<b>27,118.79</b>
Binders	56,923.28	53,498.00	37,030.34	55,961.11	<b>203,412.73</b>
Bookcases	24,157.18	43,819.33	10,899.36	36,004.12	<b>114,880.00</b>
Chairs	85,230.65	96,260.68	45,176.45	101,781.33	<b>328,449.10</b>
Copiers	37,259.57	53,219.46	9,299.76	49,749.24	<b>149,528.03</b>
Envelopes	4,636.87	4,375.87	3,345.56	4,118.10	<b>16,476.40</b>
Fasteners	778.03	819.72	503.32	923.22	<b>3,024.28</b>
Furnishings	15,254.37	29,071.38	17,306.68	30,072.73	<b>91,705.16</b>
Labels	2,451.47	2,602.93	2,353.18	5,078.73	<b>12,486.31</b>
Machines	26,797.38	66,106.17	53,890.96	42,444.12	<b>189,238.63</b>
Paper	17,491.90	20,172.60	14,150.98	26,663.72	<b>78,479.21</b>
Phones	72,403.28	100,614.98	58,304.44	98,684.35	<b>330,007.05</b>
Storage	45,930.11	71,612.58	35,768.06	70,532.85	<b>223,843.61</b>
Supplies	9,467.37	10,760.12	8,318.93	18,127.12	<b>46,673.54</b>
Tables	39,154.97	39,139.81	43,916.19	84,754.56	<b>206,965.53</b>
<b>Total</b>	<b>501,239.89</b>	<b>678,781.24</b>	<b>391,721.91</b>	<b>725,457.82</b>	<b>2,297,200.86</b>

**Visualizations Pane:**

- Build visual:** Includes icons for Filter, Sort, and Refresh.
- Filters:** Shows the current filters applied to the visual.
- Visualizations:** A grid of icons representing different visualization types, with the Grid icon (containing a 3x3 grid) highlighted with a red box.
- Rows:** Set to "Sub-Category".
- Columns:** Set to "Region".
- Values:** Set to "Sum of Sales".
- Drill through:** Off.
- Cross-report:** Off.
- Keep all filters:** On.
- Add drill-through fields here:** Placeholder text field.

ters

The screenshot displays a Microsoft Power BI interface. On the left is a data grid showing sales data across three regions: Central, East, and South. The data is categorized by Sub-Category (e.g., Accessories, Appliances, Art) and includes columns for Year (2016, 2017, 2018, 2019) and Total sales. The data is color-coded by value. On the right side, there is a ribbon of icons, followed by filter panels for Rows, Columns, and Values, and a section for Drill through and Cross-report.

Region	Central				East				South			
Sub-Category	2016	2017	2018	2019	Total	2016	2017	2018	2019	Total	2016	2017
Accessories	4,438.97	7,795.23	10,802.21	10,919.66	33,956.08	6,053.77	17,911.44	6,231.38	14,836.79	45,033.37	5,595.29	4,141.53
Appliances	3,659.21	4,974.51	6,015.01	8,933.31	23,582.03	5,779.20	6,691.25	9,426.58	12,291.43	34,188.47	2,119.72	3,850.34
Art	821.95	1,132.16	1,519.95	2,291.28	5,765.34	1,290.20	1,707.37	1,882.57	2,605.63	7,485.76	566.13	1,362.32
Binders	15,870.94	5,890.59	14,056.38	21,105.38	56,923.28	6,346.63	14,206.68	18,955.55	13,989.14	53,498.00	8,307.45	13,467.32
Bookcases	1,834.04	8,297.72	8,384.94	5,640.48	24,157.18	10,863.45	19,653.44	5,964.22	7,338.22	43,819.33	794.28	1,238.60
Chairs	20,754.05	17,908.51	23,349.62	23,218.47	85,230.65	22,008.27	20,009.27	23,010.48	31,232.66	96,260.68	13,072.28	10,116.74
Copiers	3,269.93	12,809.77	17,499.95	3,679.93	37,259.57	4,099.93	4,959.90	19,759.77	24,399.87	53,219.46	479.98	899.97
Envelopes	1,598.69	870.86	970.80	1,196.53	4,636.87	1,347.62	876.84	1,304.75	846.66	4,375.87	251.85	1,409.05
Fasteners	121.82	88.61	247.37	320.23	778.03	96.91	191.65	344.17	186.98	819.72	165.79	125.41
Furnishings	2,536.10	2,528.56	5,115.69	5,074.02	15,254.37	3,757.32	5,269.91	9,587.14	10,457.01	29,071.38	3,160.50	5,377.81
Labels	1,048.47	304.51	511.25	587.24	2,451.47	516.14	516.26	779.16	791.37	2,602.93	401.04	1,118.04
Machines	16,292.16	1,851.87	2,658.79	5,994.57	26,797.38	14,636.39	14,426.64	25,215.94	11,827.20	66,106.17	27,594.73	3,112.99
Paper	2,346.78	3,544.24	5,365.61	6,235.28	17,491.90	3,917.15	3,967.68	4,926.12	7,361.66	20,172.60	3,184.58	2,303.25
Phones	9,925.75	19,363.92	19,902.45	23,211.16	72,403.28	20,688.65	22,561.41	21,290.36	36,074.57	100,614.98	17,248.96	7,848.38
Storage	11,093.39	8,331.47	12,811.51	13,693.74	45,930.11	16,207.26	13,309.21	22,096.06	20,000.06	71,612.58	6,715.01	7,487.23
Supplies	440.46	324.45	4,294.91	4,407.56	9,467.37	467.87	1,188.31	2,086.26	7,017.68	10,760.12	4,247.31	130.34
Tables	7,785.48	6,857.26	13,922.93	10,589.31	39,154.97	10,603.70	8,884.81	7,825.33	11,825.97	39,139.81	9,940.94	7,370.67
<b>Total</b>	<b>103,838.16</b>	<b>102,874.22</b>	<b>147,429.38</b>	<b>147,098.13</b>	<b>501,239.89</b>	<b>128,680.46</b>	<b>156,332.06</b>	<b>180,685.82</b>	<b>213,082.90</b>	<b>678,781.24</b>	<b>103,845.84</b>	<b>71,359.98</b>

# Hierarchies in Matrix

- Can only be created in Matrix
- Add a Matrix to canvas
- Add Category to Rows
- Add Sales to Values
- Add Sub-Category to Rows
- You see a + symbol, use it to navigate in report

The screenshot shows the Power BI desktop interface with a matrix visual on the left and a data pane on the right.

**Matrix Visual Data:**

Category	Sum of Sales
Furniture	741,999.80
Bookcases	114,880.00
Chairs	328,449.10
Furnishings	91,705.16
Tables	206,965.53
Office Supplies	719,047.03
Appliances	107,532.16
Art	27,118.79
Binders	203,412.73
Envelopes	16,476.40
Fasteners	3,024.28
Labels	12,486.31
Paper	78,479.21
Storage	223,843.61
Supplies	46,673.54
Technology	836,154.03
Accessories	167,380.32
Copiers	149,528.03
Machines	189,238.63
Phones	330,007.05
Total	2,297,200.86

**Data Pane:**

- Visualizations: A grid of icons representing different visualization types.
- Filters: A section for defining filters, currently showing "Category" and "Sub-Category" as selected rows.
- Rows: A section for defining rows, currently showing "Category" and "Sub-Category" as selected rows.
- Columns: A section for defining columns, currently showing "Add data fields here".
- Values: A section for defining values, currently showing "Sum of Sales".
- Drill through: A section for defining drill-through paths, currently off.
- Cross-report: A section for defining cross-report relationships, currently off.
- Keep all filters: A switch for keeping all filters applied, currently on.
- Add drill-through fields here: A section for defining additional drill-through fields.

The data pane also lists various data fields and their status (e.g., checked or unchecked boxes) under categories like Orders, Order Date, and Sheet1.

Drill on Rows

Category	2016	2017	2018	2019	Total
<b>Furniture</b>	<b>157,192.85</b>	<b>170,518.24</b>	<b>198,901.44</b>	<b>215,387.27</b>	<b>741,999.80</b>
Bookcases	20,036.68	38,543.57	26,275.47	30,024.28	<b>114,880.00</b>
Chairs	77,241.58	71,734.53	83,918.65	95,554.35	<b>328,449.10</b>
Furnishings	13,826.23	21,089.71	27,874.12	28,915.09	<b>91,705.16</b>
Tables	46,088.37	39,150.42	60,833.20	60,893.54	<b>206,965.53</b>
<b>Office Supplies</b>	<b>151,776.41</b>	<b>137,233.46</b>	<b>183,939.98</b>	<b>246,097.18</b>	<b>719,047.03</b>
Appliances	15,313.63	23,241.29	26,050.32	42,926.93	<b>107,532.16</b>
Art	6,057.98	6,236.83	5,960.91	8,863.07	<b>27,118.79</b>
Binders	43,488.27	37,453.10	49,683.33	72,788.05	<b>203,412.73</b>
Envelopes	3,855.75	4,512.19	4,729.89	3,378.57	<b>16,476.40</b>
Fasteners	661.33	545.22	960.13	857.59	<b>3,024.28</b>
Labels	2,841.39	2,956.46	2,827.24	3,861.22	<b>12,486.31</b>
Paper	14,834.96	15,287.64	20,661.89	27,694.72	<b>78,479.21</b>
Storage	50,329.04	45,048.25	58,788.70	69,677.62	<b>223,843.61</b>
Supplies	14,394.07	1,952.48	14,277.58	16,049.41	<b>46,673.54</b>
<b>Technology</b>	<b>175,278.23</b>	<b>162,780.81</b>	<b>226,364.18</b>	<b>271,730.81</b>	<b>836,154.03</b>
Accessories	25,014.27	40,523.96	41,895.85	59,946.23	<b>167,380.32</b>
Copiers	10,849.78	26,179.45	49,599.41	62,899.39	<b>149,528.03</b>
Machines	62,023.37	27,763.70	55,906.89	43,544.68	<b>189,238.63</b>
Phones	77,390.81	68,313.70	78,962.03	105,340.52	<b>330,007.05</b>
<b>Total</b>	<b>484,247.50</b>	<b>470,532.51</b>	<b>609,205.60</b>	<b>733,215.26</b>	<b>2,297,200.86</b>

Drill up and drill down will only work in one direction, either rows or columns

The screenshot shows a Microsoft Power BI interface. On the left is a data grid with sales data categorized by Year (2016, 2017, 2018), Category (Furniture, Office Supplies, Technology), and Sub-Category. The data includes various products like Bookcases, Chairs, and Computers, with detailed sales figures for each quarter. On the right is the 'Visualizations' pane, which contains a 'Filters' section and a list of available visualizations. A red arrow points from the text 'Drill up and drill down will only work in one direction, either rows or columns' to the 'Drill on Rows' button in the 'Filters' section of the Visualizations pane.

Year	2016				2017				2018			
	Category	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total	Qtr 1
<b>Furniture</b>	<b>22,656.14</b>	<b>28,063.75</b>	<b>41,957.88</b>	<b>64,515.09</b>	<b>157,192.85</b>	<b>27,374.10</b>	<b>27,564.83</b>	<b>49,586.04</b>	<b>65,993.28</b>	<b>170,518.24</b>	<b>24,349.39</b>	<b>41,402</b>
Bookcases	2,716.50	1,708.70	4,676.42	10,935.05	<b>20,036.68</b>	4,714.19	3,275.47	17,350.56	13,203.36	<b>38,543.57</b>	3,571.37	4,153
Chairs	10,091.30	13,341.78	22,804.37	31,004.13	<b>77,241.58</b>	9,446.91	13,891.44	18,272.50	30,123.68	<b>71,734.53</b>	9,348.73	18,979
Furnishings	1,584.88	2,196.96	4,861.34	5,183.06	<b>13,826.23</b>	2,912.18	7,022.31	4,457.99	6,697.24	<b>21,089.71</b>	4,198.19	5,269
Tables	8,263.46	10,816.31	9,615.76	17,392.84	<b>46,088.37</b>	10,300.82	3,375.61	9,504.99	15,969.00	<b>39,150.42</b>	7,231.10	13,000
<b>Office Supplies</b>	<b>14,528.68</b>	<b>31,243.74</b>	<b>53,923.97</b>	<b>52,080.03</b>	<b>151,776.41</b>	<b>23,059.39</b>	<b>32,320.04</b>	<b>35,760.81</b>	<b>46,093.21</b>	<b>137,233.46</b>	<b>29,440.96</b>	<b>34,584</b>
Appliances	905.46	3,726.42	4,591.76	6,089.98	<b>15,313.63</b>	2,119.80	6,610.73	3,321.59	11,189.17	<b>23,241.29</b>	3,274.50	4,327
Art	663.92	1,542.25	1,219.56	2,632.25	<b>6,057.98</b>	700.19	1,567.87	1,756.82	2,211.95	<b>6,236.83</b>	846.00	1,468
Binders	2,679.45	9,633.85	19,929.50	11,245.48	<b>43,488.27</b>	11,269.45	11,218.13	6,295.61	8,669.91	<b>37,453.10</b>	3,541.99	4,687
Envelopes	547.56	718.11	721.57	1,868.52	<b>3,855.75</b>	597.35	841.79	1,180.74	1,892.31	<b>4,512.19</b>	1,081.94	416
Fasteners	97.65	159.55	205.70	198.43	<b>661.33</b>	74.24	72.27	136.43	262.29	<b>545.22</b>	88.12	151
Labels	255.21	744.16	617.70	1,224.32	<b>2,841.39</b>	781.71	423.49	676.60	1,074.66	<b>2,956.46</b>	132.37	572
Paper	1,580.83	2,194.73	4,259.07	6,800.32	<b>14,834.96</b>	2,316.83	2,432.76	4,028.16	6,509.88	<b>15,287.64</b>	2,734.22	6,710
Storage	7,541.36	8,242.43	13,585.69	20,959.57	<b>50,329.04</b>	5,077.50	8,621.95	17,307.25	14,041.56	<b>45,048.25</b>	8,848.10	13,805
Supplies	257.24	4,282.24	8,793.43	1,061.16	<b>14,394.07</b>	122.32	531.05	1,057.62	241.49	<b>1,952.48</b>	8,893.72	2,445
<b>Technology</b>	<b>37,262.97</b>	<b>27,231.28</b>	<b>47,751.37</b>	<b>63,032.62</b>	<b>175,278.23</b>	<b>18,418.25</b>	<b>29,239.32</b>	<b>44,912.73</b>	<b>70,210.52</b>	<b>162,780.81</b>	<b>39,446.83</b>	<b>60,095</b>
Accessories	3,057.81	3,908.52	7,705.98	10,341.95	<b>25,014.27</b>	3,149.73	4,600.25	11,973.88	20,800.10	<b>40,523.96</b>	4,890.93	7,222
Copiers		2,999.93	4,109.93	3,739.92	<b>10,849.78</b>	4,269.91	6,379.83	5,119.91	10,409.79	<b>26,179.45</b>	959.97	10,439
Machines	25,314.66	979.73	22,420.28	13,308.70	<b>62,023.37</b>	3,107.98	4,824.76	4,973.28	14,857.69	<b>27,763.70</b>	17,744.49	24,273
Phones	8,890.50	19,343.10	13,515.17	35,642.04	<b>77,390.81</b>	7,890.63	13,434.48	22,845.65	24,142.94	<b>68,313.70</b>	15,851.45	18,159
<b>Total</b>	<b>74,447.80</b>	<b>86,538.76</b>	<b>143,633.21</b>	<b>179,627.73</b>	<b>484,247.50</b>	<b>68,851.74</b>	<b>89,124.19</b>	<b>130,259.58</b>	<b>182,297.01</b>	<b>470,532.51</b>	<b>93,237.18</b>	<b>136,082</b>

# Total & Sub Total in Matrix

Category	Sum of Sales
<b>Furniture</b>	
Bookcases	114,880.00
Chairs	328,449.10
Furnishings	91,705.16
Tables	206,965.53
<b>Total</b>	<b>741,999.80</b>
<b>Office Supplies</b>	
Appliances	107,532.16
Art	27,118.79
Binders	203,412.73
Envelopes	16,476.40
Fasteners	3,024.28
Labels	12,486.31
Paper	78,479.21
Storage	223,843.61
Supplies	46,673.54
<b>Total</b>	<b>719,047.03</b>
<b>Technology</b>	
Accessories	167,380.32
Copiers	149,528.03
Machines	189,238.63
Phones	330,007.05
<b>Total</b>	<b>836,154.03</b>
<b>Total</b>	<b>2,297,200.86</b>

Visualizations

Format visual

Filters

Search

Visual General ...

Subtotal label: Total

Position: Bottom

Values

Reset to default

Column grand total

Row grand total

Values

Font: Segoe UI, 12pt, bold, italic, underline

Text color: black

Background color: black

Apply to labels: Off

Reset to default

Specific column

# Number Formatting

- Select the number object and you will get Column Tools, Select Data Type and Change to the format you want

The screenshot shows the Microsoft Power BI interface. The ribbon at the top has the 'Column tools' tab selected, indicated by a red arrow. On the far left, there is a vertical pane with a tree view of data objects. Below this, a dropdown menu is open under 'Data type', with 'Fixed decimal number' highlighted, also indicated by a red arrow. The main area displays a data visualization titled 'Sum of Sales' with a hierarchical breakdown of categories and their sales figures. To the right of the visualization is the 'Visualizations' pane, which contains various chart and report icons. At the bottom right of the interface, there is a 'Data' pane containing a search bar and a list of fields under the heading 'Orders'. One field, 'Σ Sales', has a checked checkbox next to it.

Category	Sum of Sales
Furniture	11,999.80
Office Supplies	107,533.36
Appliances	27,118.79
Art	203,412.73
Binders	16,476.40
Envelopes	3,024.28
Fasteners	12,486.31
Labels	78,479.21
Paper	223,843.61
Storage	46,673.54
Supplies	719,047.03
Total	2,297,200.86
Technology	
Accessories	167,380.32
Copiers	149,528.03
Machines	189,238.63
Phones	330,007.05
Total	836,154.03
Total	2,297,200.86

The screenshot shows the Microsoft Power BI Data Editor interface. At the top, there's a ribbon with tabs for Structure, Formatting, Properties, and a set of data management tools (Summarization, Data category, Sort by column, Data groups, Manage relationships, New column, Calculations). Below the ribbon is a table visualization titled "Sum of Sales".

**Table Data:**

Category	Sum of Sales
Furniture	742003
Office Supplies	107537
Appliances	27136
Binders	203425
Envelopes	16477
Fasteners	3024
Labels	12505
Paper	78475
Storage	223860
Supplies	46679
Total	719118
Technology	836219
Accessories	167400
Copiers	149530
Machines	189242
Phones	330047
Total	2297340

To the right of the table is the "Visualizations" pane, which contains a grid of visualization icons. Below it are sections for "Filters", "Rows", "Columns", "Values", "Drill through", "Cross-report", and "Keep all filters".

The "Data" pane on the far right lists various fields from the "Orders" table, each with a checkbox indicating its status. The field "Sales" is checked.

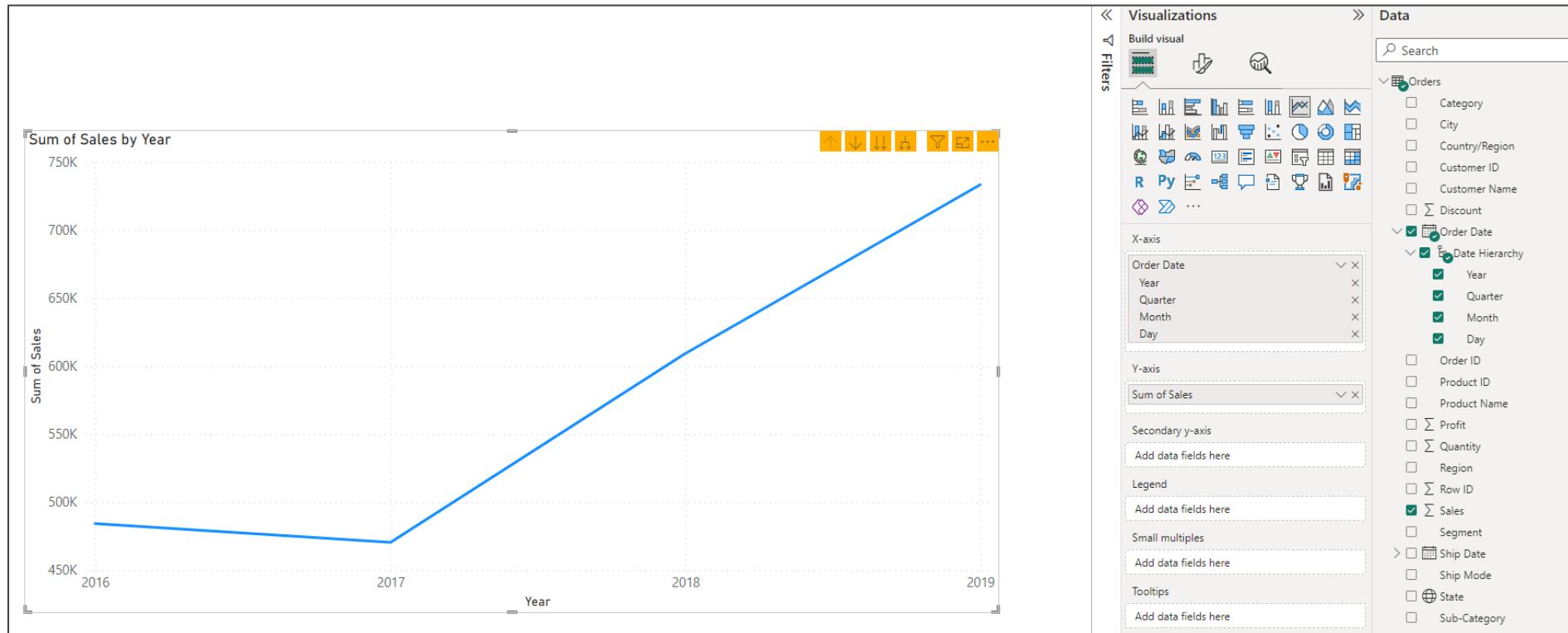
# Number Formatting

The screenshot shows the Power BI desktop interface with a table visualization. The table has columns: Category, Sum of Sales, Sum of Profit, and Sum of Quantity. The 'Sum of Quantity' column is highlighted with a red box. The 'Table tools' ribbon is open, specifically the 'Column tools' tab, which includes sections for 'Structure' and 'Formatting'. In the 'Formatting' section, the 'Name' is set to 'Quantity', 'Data type' is 'Whole number', and the 'Format' dropdown is set to 'Decimal number' with 2 decimal places. The 'Sum' summarization is selected. The 'Data' pane on the right shows various fields like Category, City, Country/Region, etc., with a red box highlighting the 'Σ Quantity' field under the 'Sum' category.

Category	Sum of Sales	Sum of Profit	Sum of Quantity
<b>Furniture</b>			
Bookcases	114879	-3,472.56	868.00
Chairs	328453	26,590.17	2,356.00
Furnishings	91704	13,059.14	3,563.00
Tables	206967	-17,725.48	1,241.00
<b>Total</b>	<b>742003</b>	<b>18,451.27</b>	<b>8,028.00</b>
<b>Office Supplies</b>			
Appliances	107537	18,138.01	1,729.00
Art	27136	6,527.79	3,000.00
Binders	203425	30,221.76	5,974.00
Envelopes	16477	6,964.18	906.00
Fasteners	3024	949.52	914.00
Labels	12505	5,546.25	1,400.00
Paper	78475	34,053.57	5,178.00
Storage	223860	21,278.83	3,158.00
Supplies	46679	-1,189.10	647.00
<b>Total</b>	<b>719118</b>	<b>122,490.80</b>	<b>22,906.00</b>
<b>Technology</b>			
Accessories	167400	41,936.64	2,976.00
Copiers	149530	55,617.82	234.00
Machines	189242	3,384.76	440.00
Phones	330047	44,515.73	3,289.00
<b>Total</b>	<b>836219</b>	<b>145,454.95</b>	<b>6,939.00</b>
<b>Total</b>	<b>2297340</b>	<b>286,397.02</b>	<b>37,873.00</b>

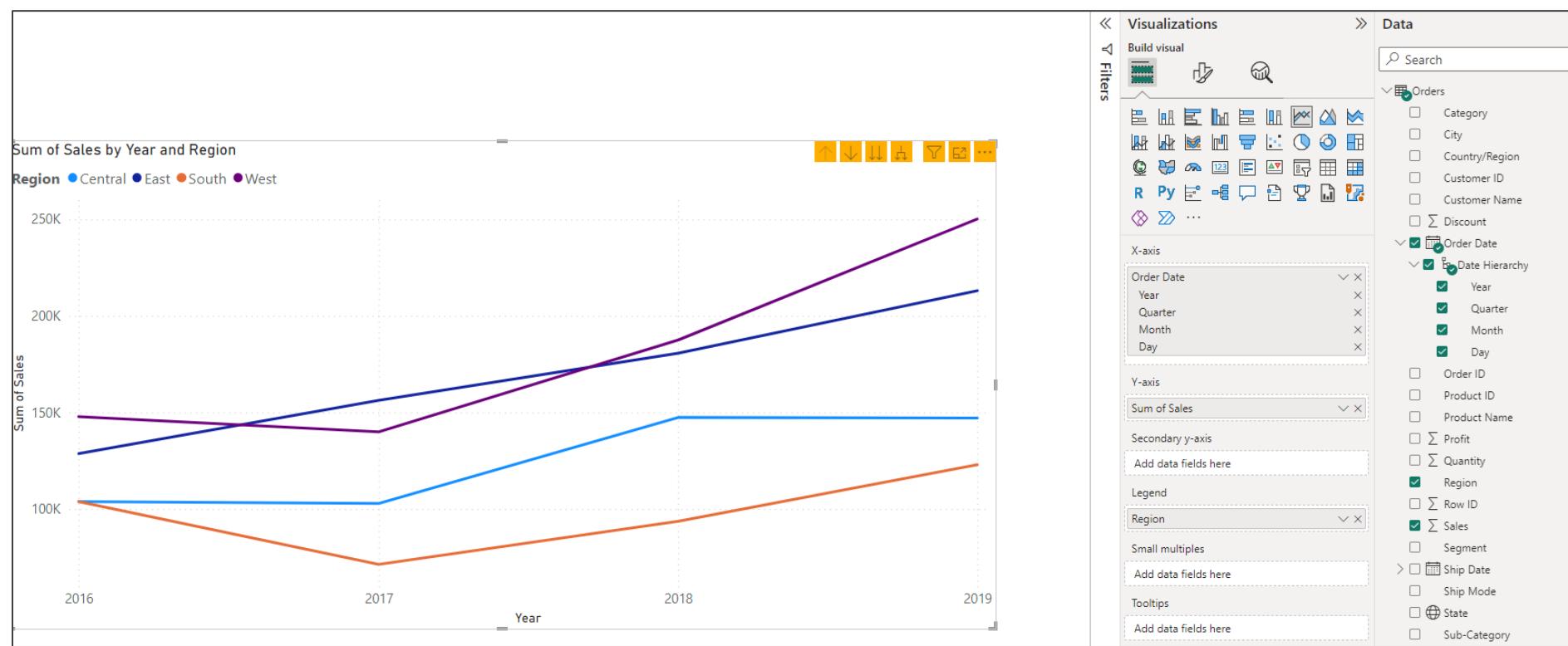
# Line Chart

- Ideally we should have date to use this chart type.
- Select Line Chart, Add Order Date & Sales as shown to get line chart

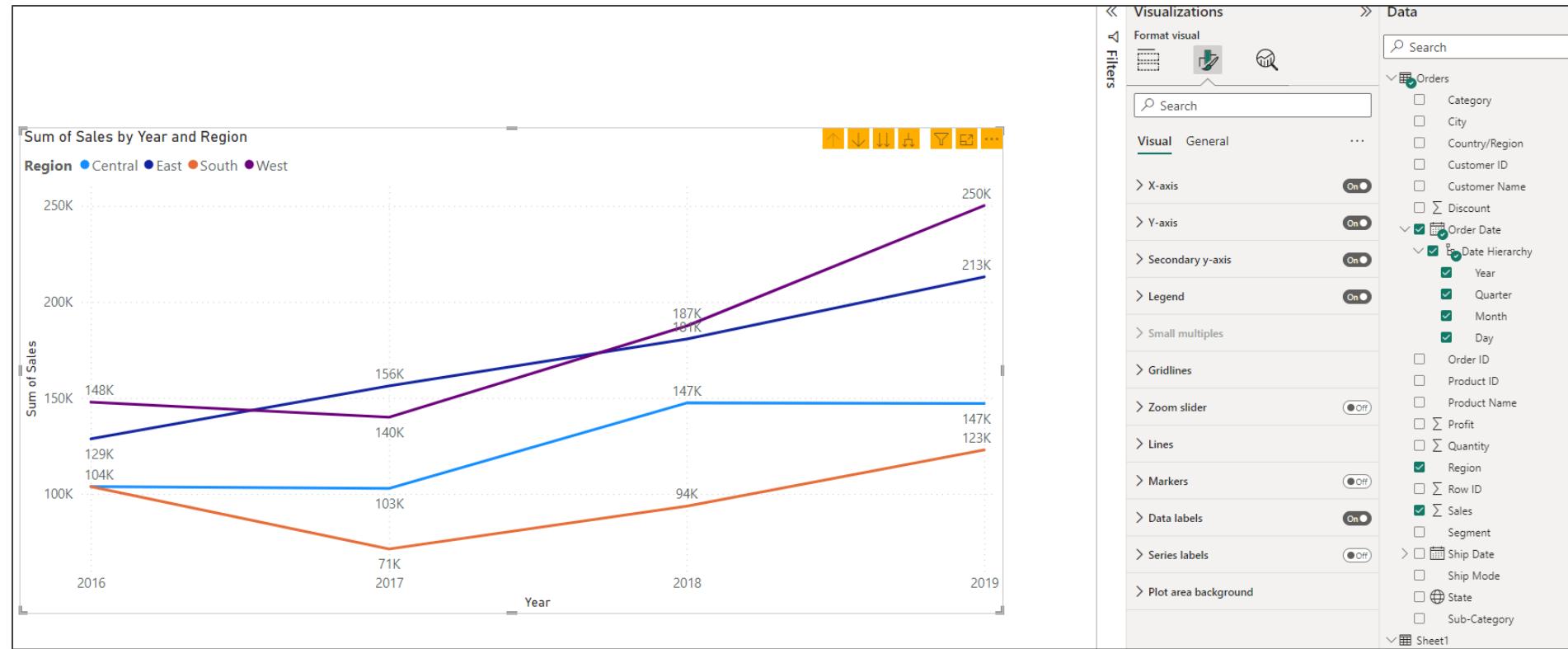


# Line Chart with Legends

- Add Region to Legends.

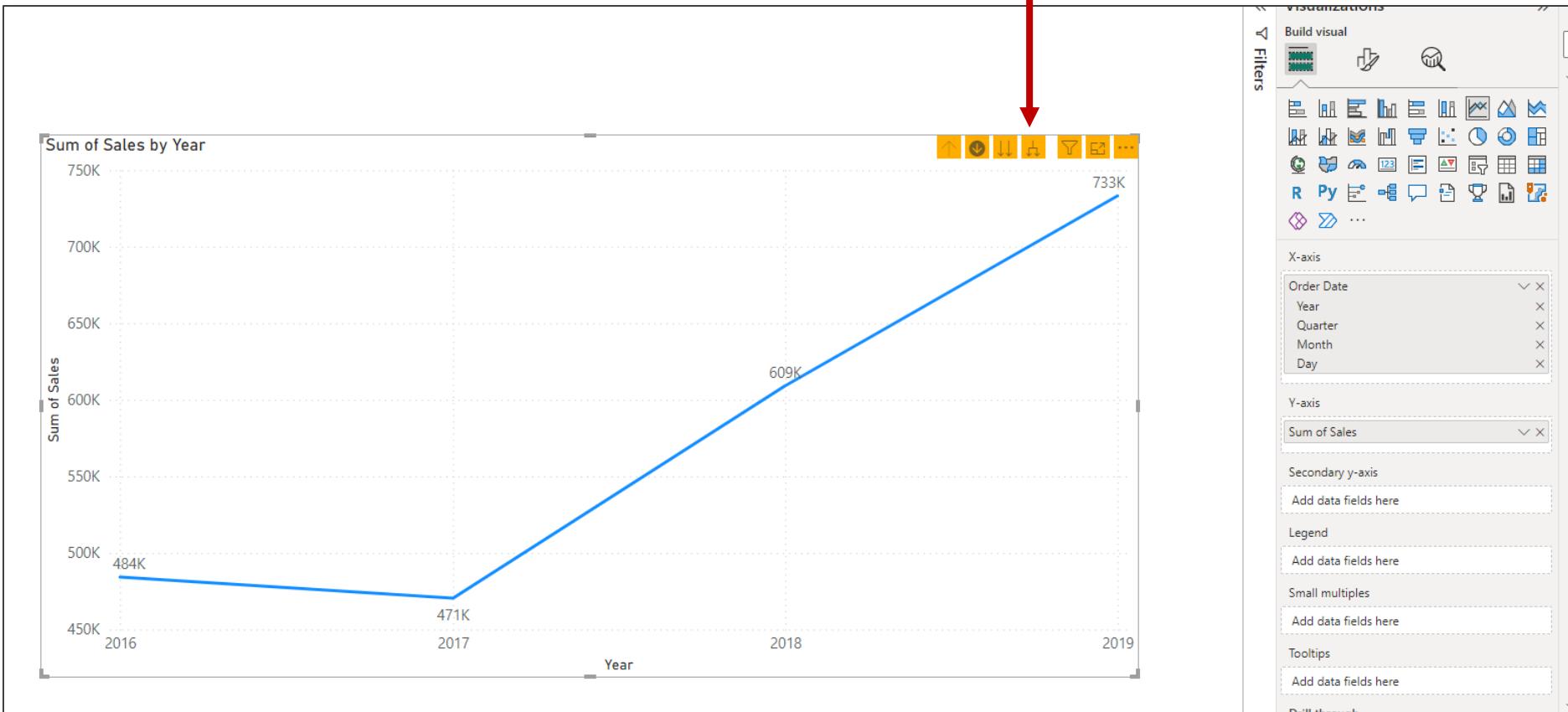


# Line Chart – Explore Formatting Option

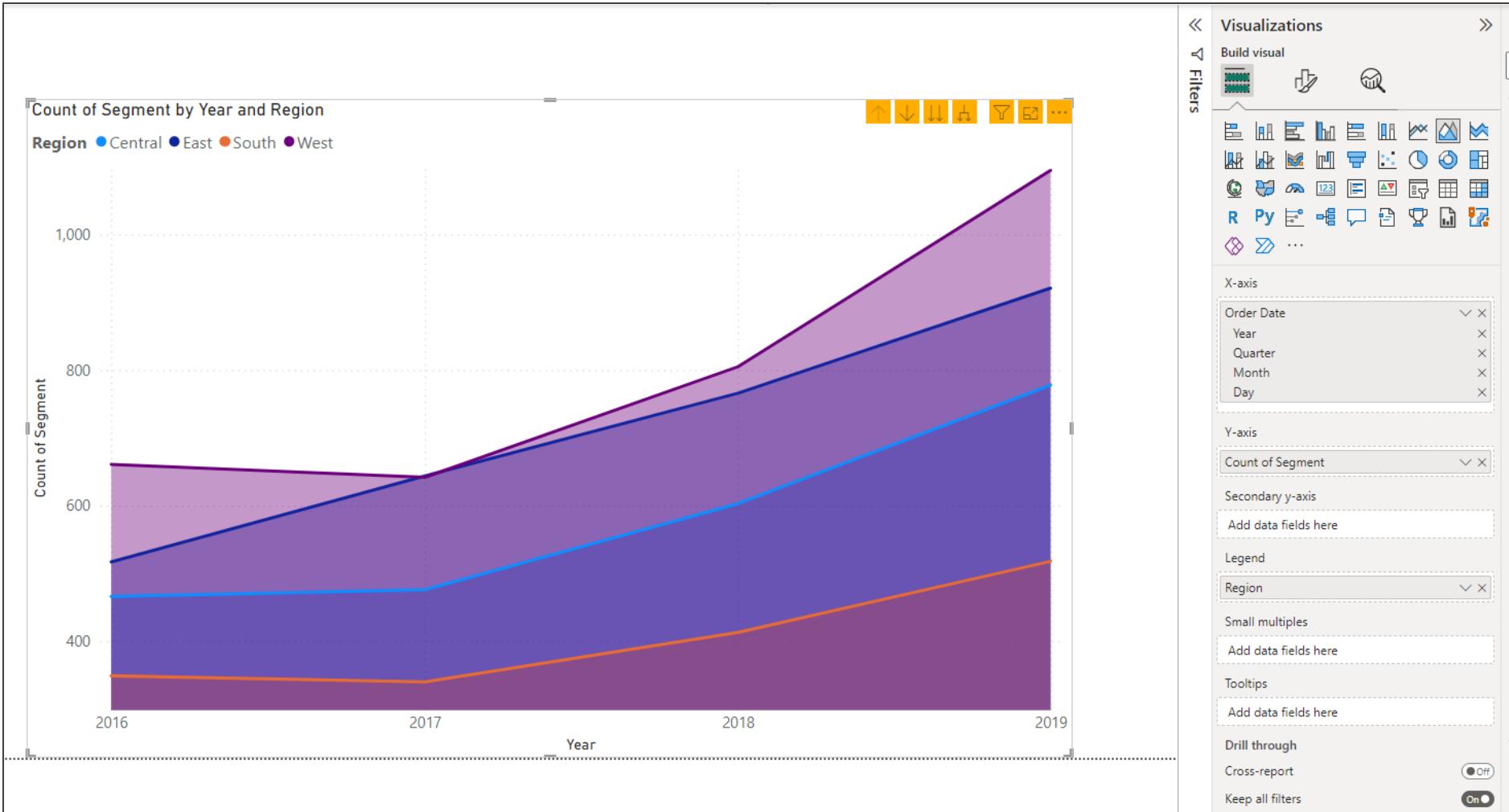


# Drill Down on Line Chart

Drills one level down each time it is clicked



# Area Chart

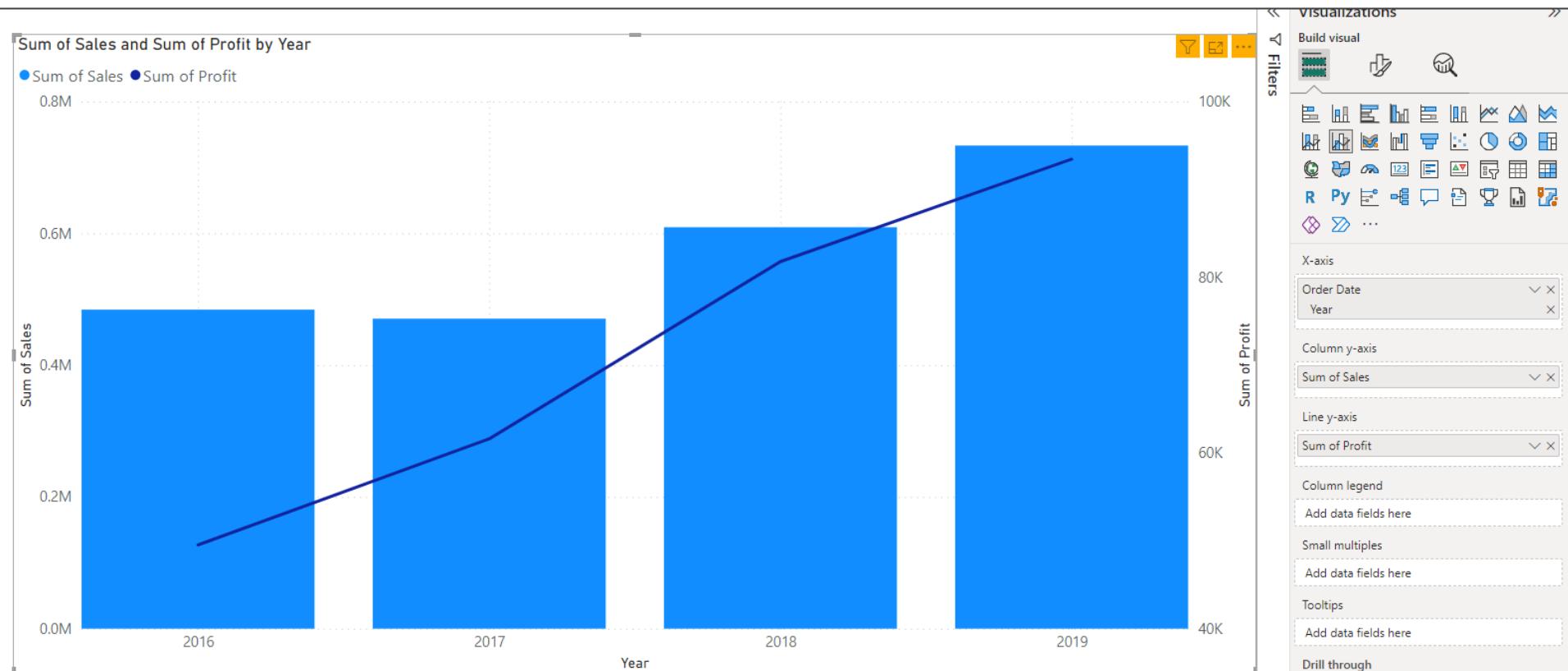


# Note

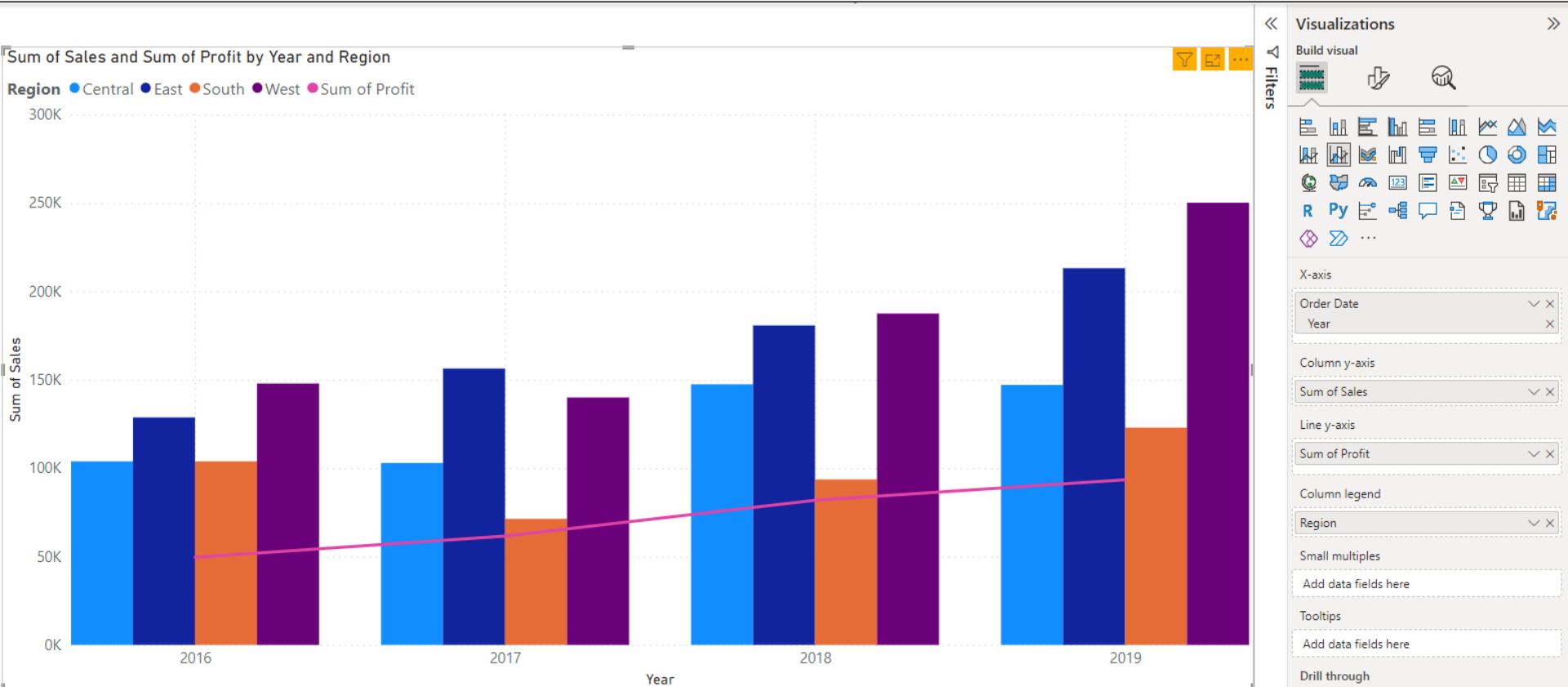
---

- Different Charts will have different sections
- These sections depend on the type of values or context that a particular charts caters.
- Eg.
  - Pie – Distribution
  - Line – Trend
  - Column - Comparision

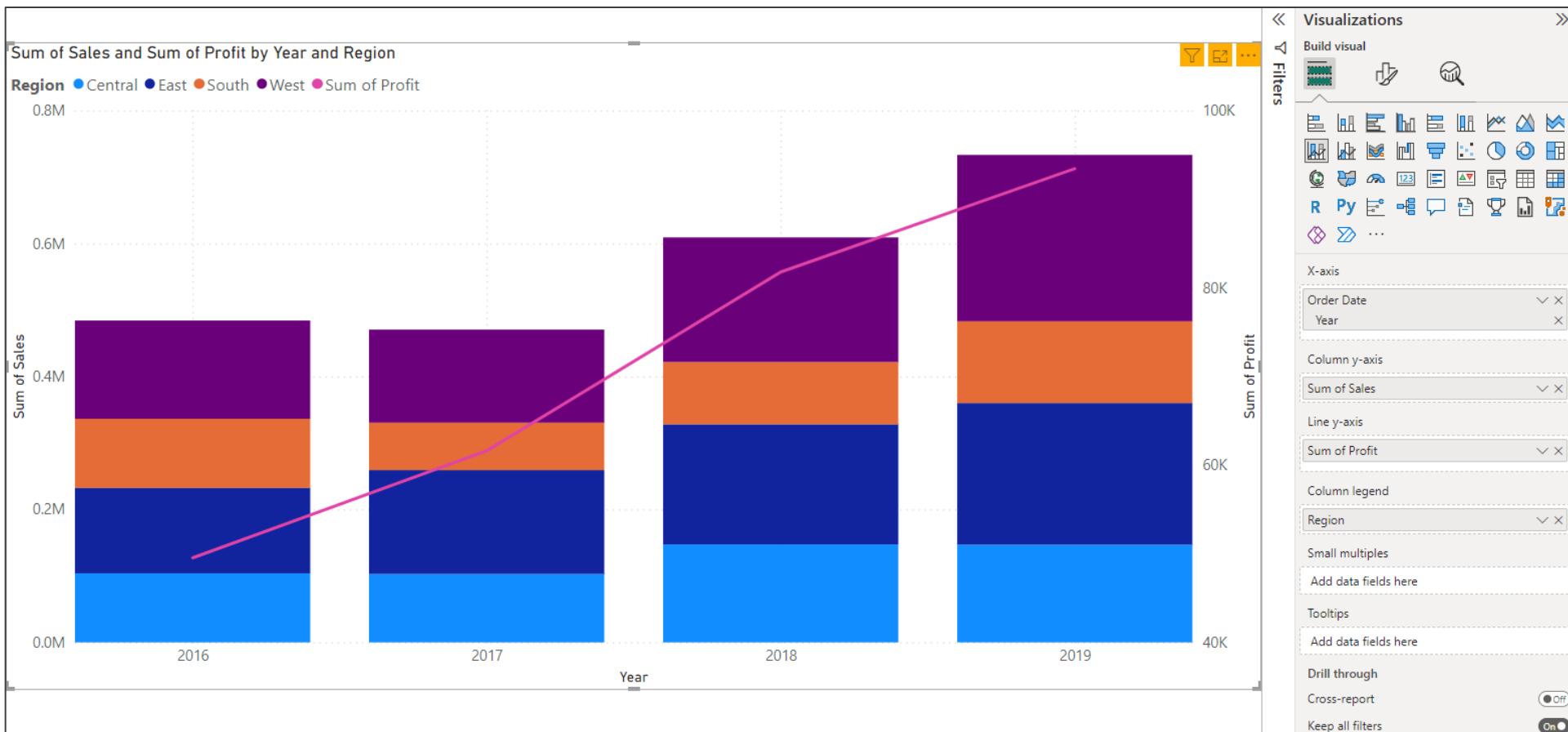
# Line Vs Column Chart



# Line Vs Column Chart

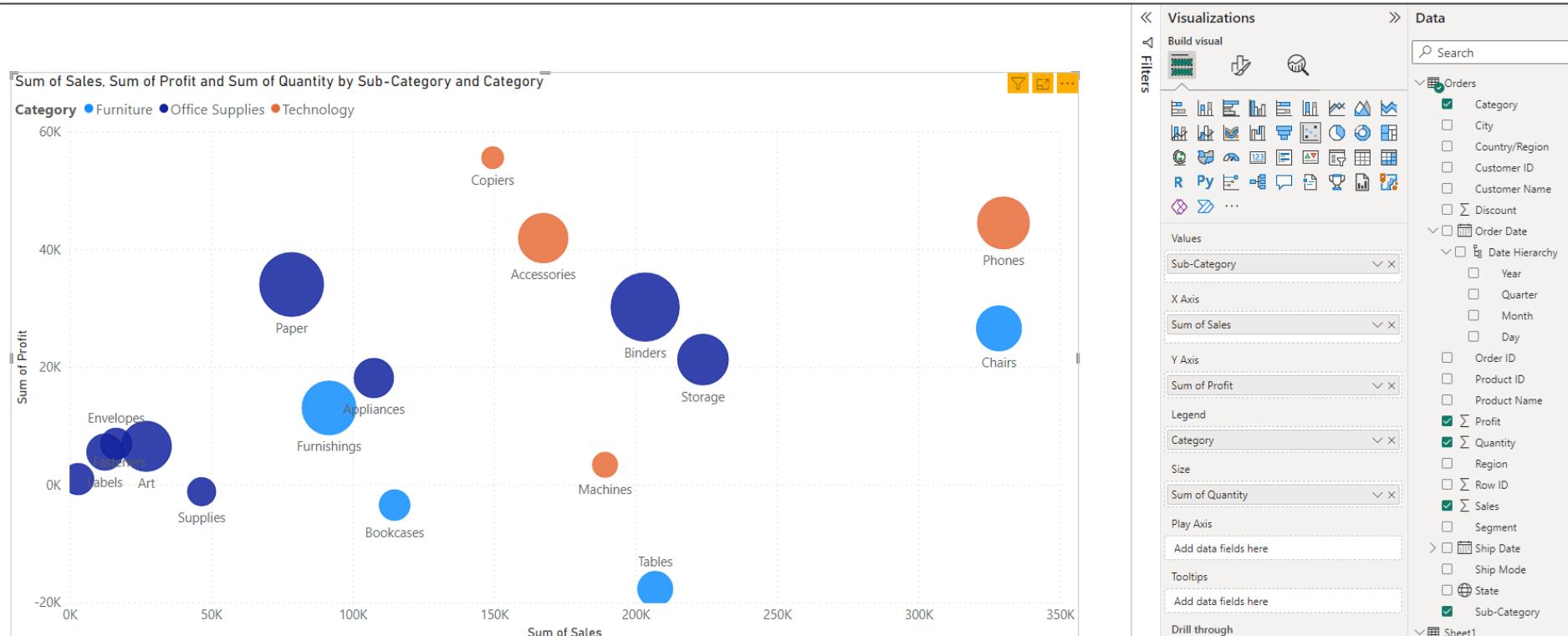


# Line Vs Column Chart (Stacked Column)



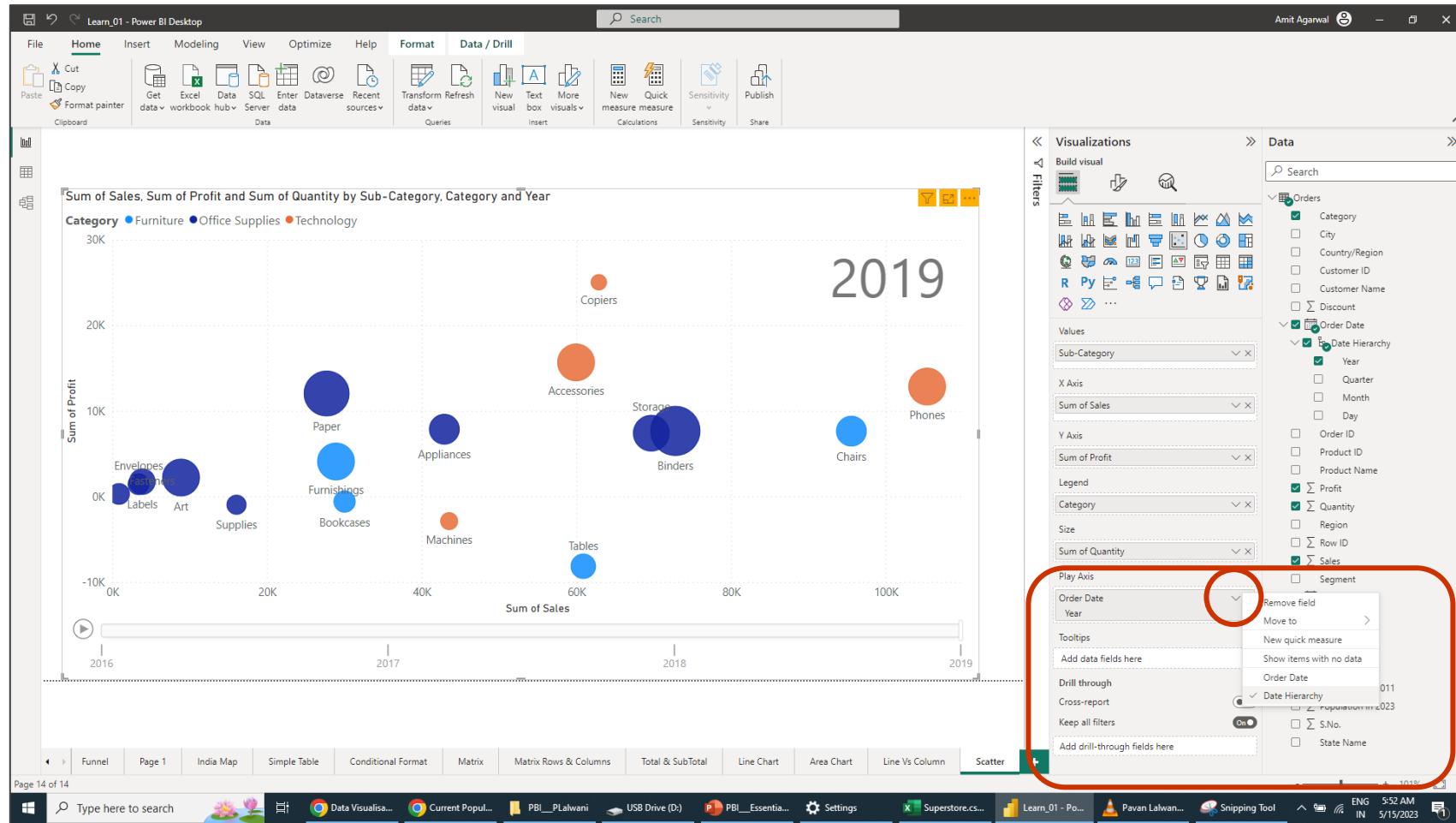
# Scatter Plot

- Only Animated Chart by Default



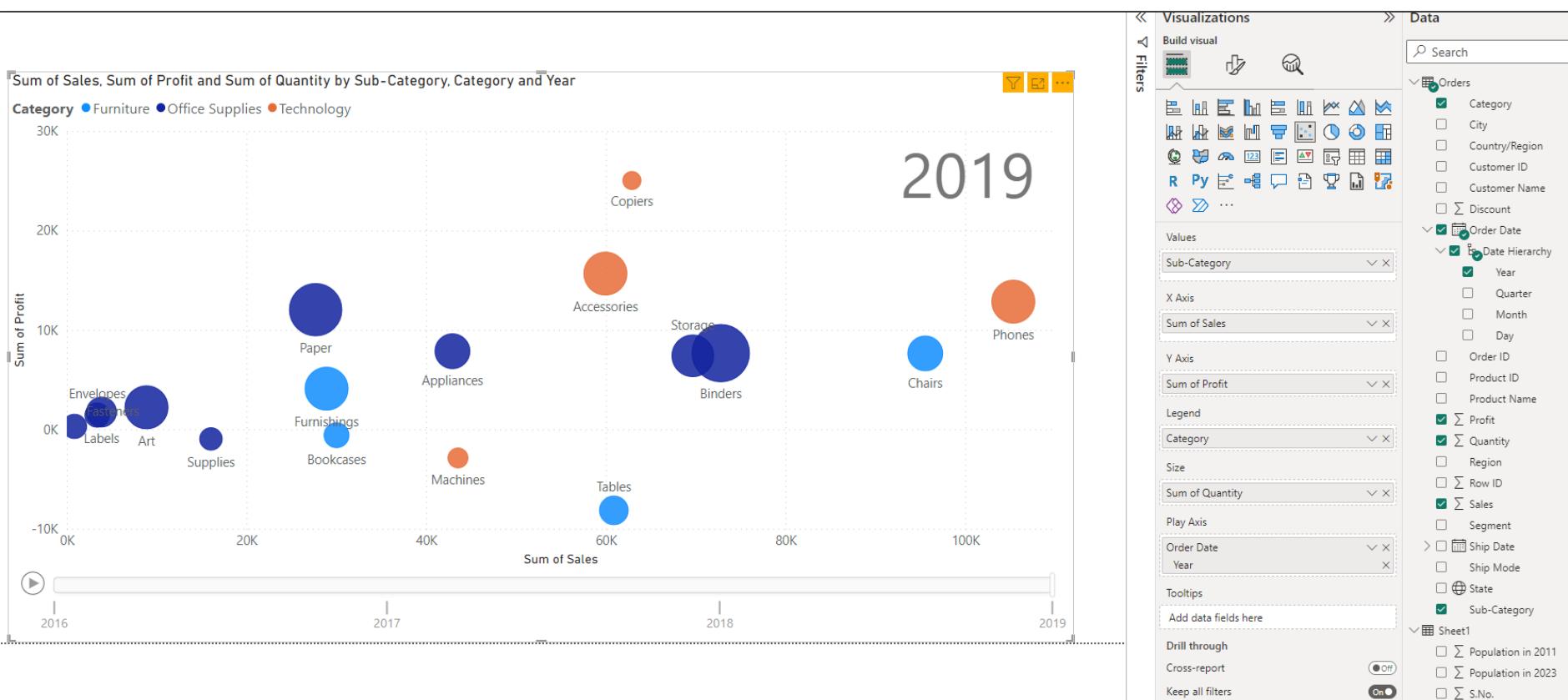
# Adding Animation

- Add Order Date to Play Axis (Only Year) and select Date Hierarchy.

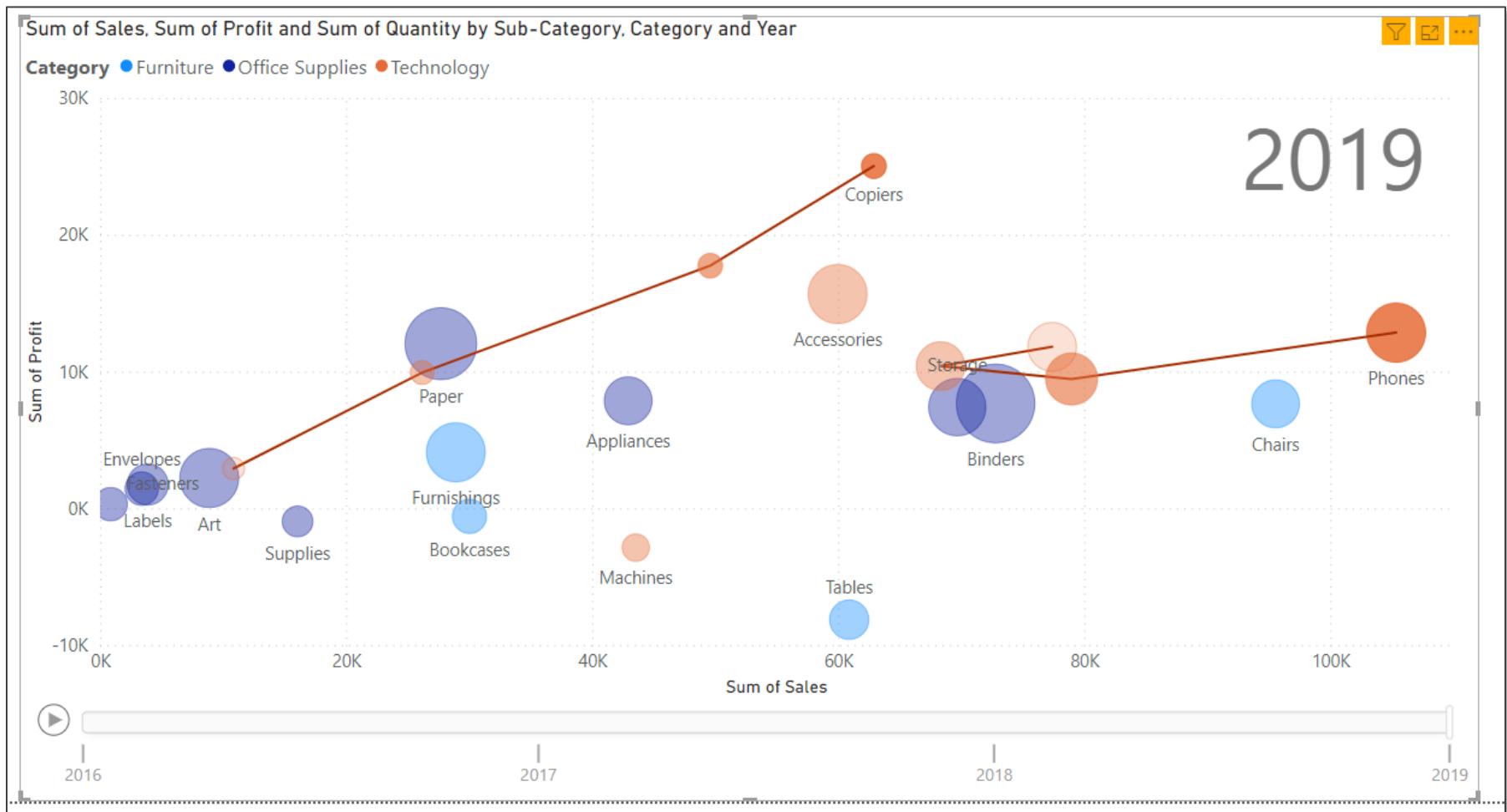


# Scatter Plot Animation

- Play to see the animate chart



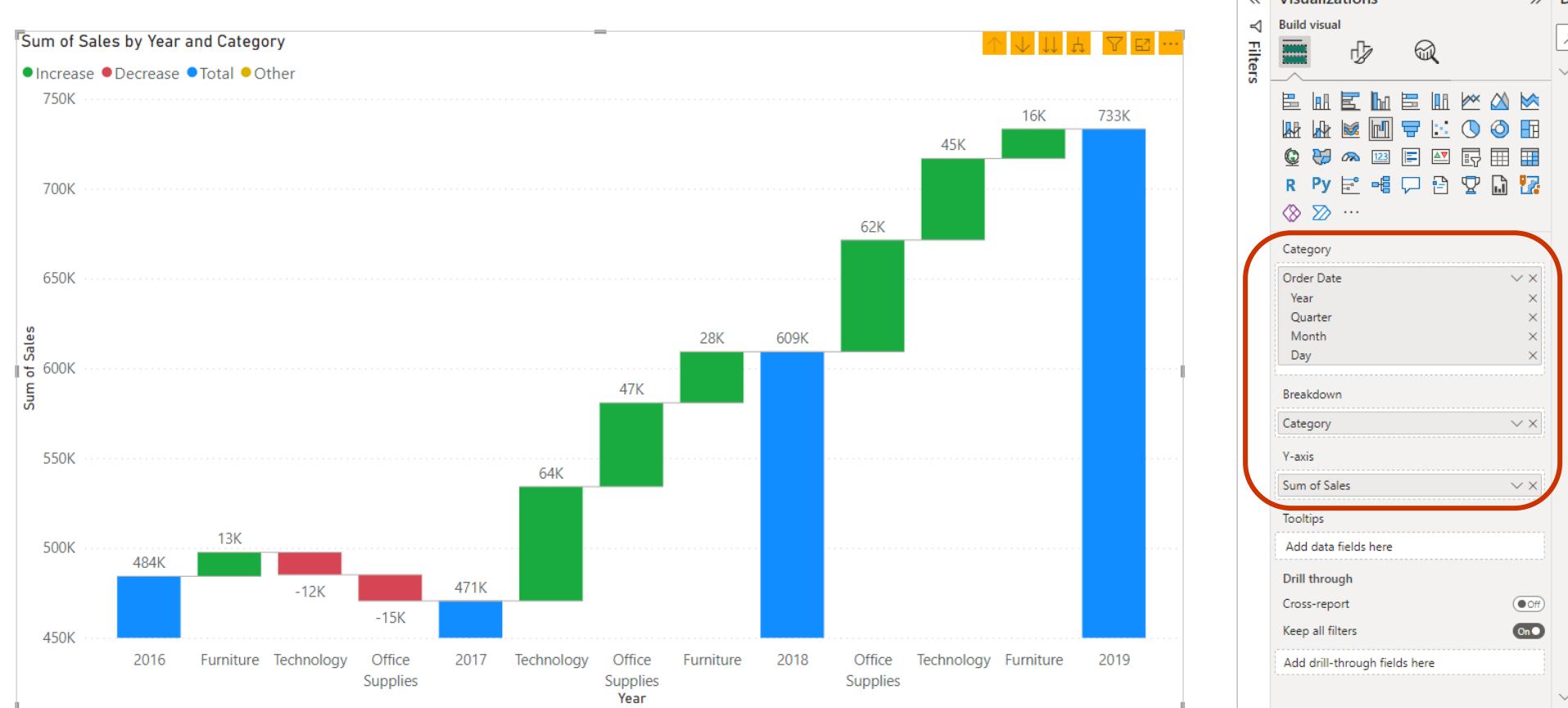
- Click on Copier a line is drawn, Press Ctrl and Click on Phones.  
Now play the animation.



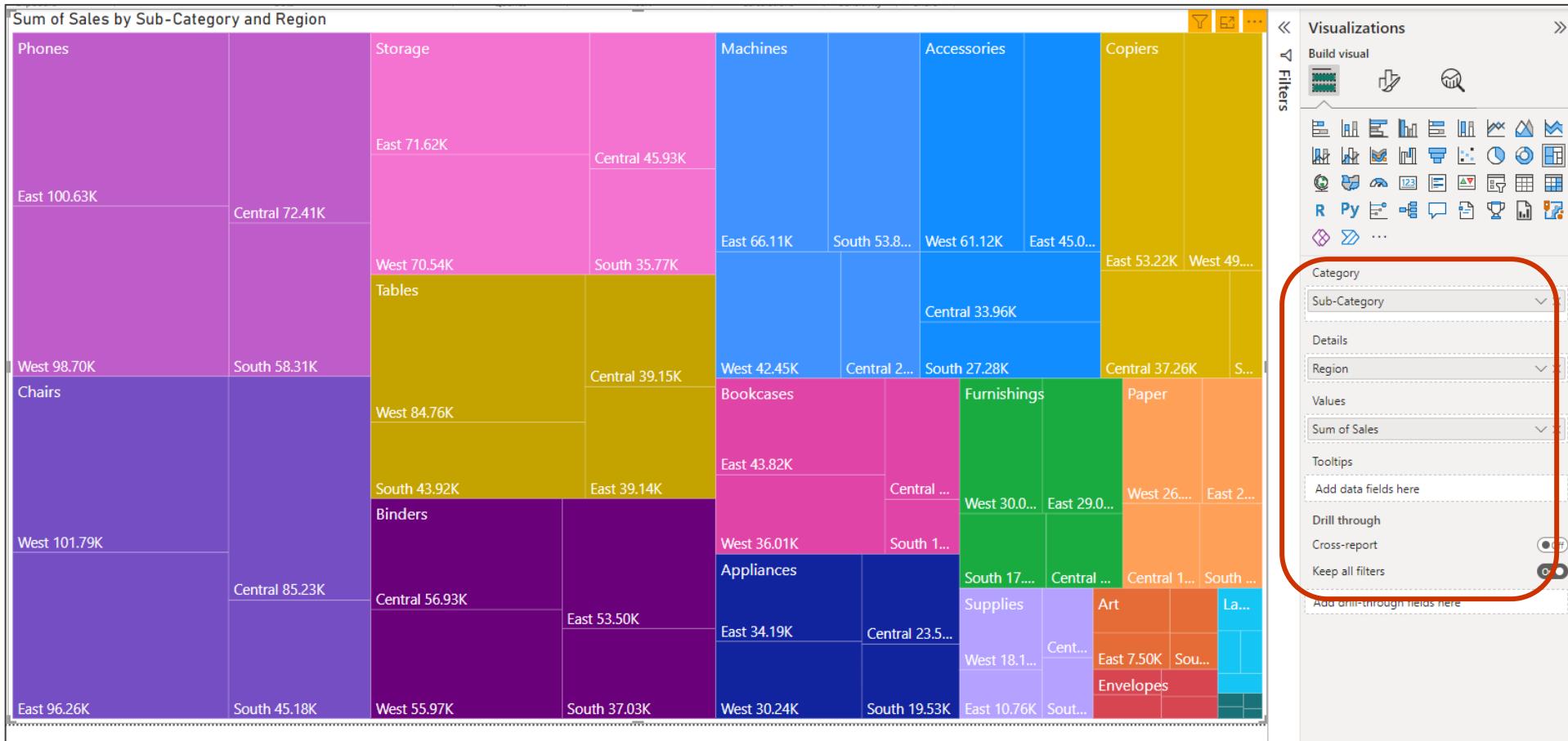
# Waterfall Chart



# Waterfall Chart



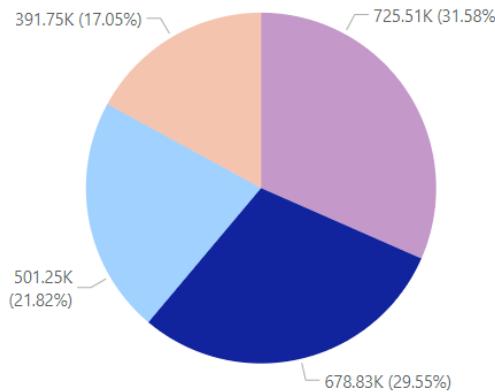
# TreeMap



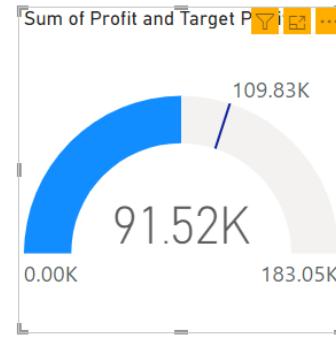
# Gauge Chart

- To Show a KPI.

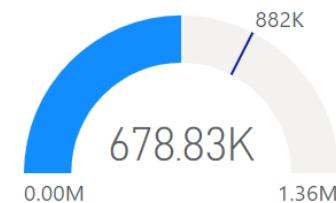
Sum of Sales by Region



Region  
● West  
● East  
● Central  
● South



Sum of Sales and Target Sales



Visualizations

Build visual

Filters

Value

- Sum of Profit
- Minimum value
- Add data fields here
- Maximum value
- Add data fields here
- Target value
- Target Profit

Tooltips

- Add data fields here

Drill through

- Cross-report
- Keep all filters
- Add drill-through fields here

Data

Search

Orders

- Category
- City
- Country/Region
- Customer ID
- Customer Name
- $\sum$  Discount
- Order Date
- Date Hierarchy
  - Year
  - Quarter
  - Month
  - Day
- Order ID
- Product ID
- Product Name
- Profit
- $\sum$  Quantity
- Region
- Row ID
- Sales
- Segment
- Ship Date
- Ship Mode
- State
- Sub-Category
- Target Profit
- Target Sales

# Number Cards

The screenshot shows a Power BI interface with three main components: a table of sales data on the left, three large number cards in the center, and a visualizations pane on the right.

**Table Data:**

Sub-Category	Sum of Sales
Accessories	167400
Appliances	107537
Art	27136
Binders	203425
Bookcases	114879
<b>Chairs</b>	<b>328453</b>
Copiers	149530
Envelopes	16477
Fasteners	3024
Furnishings	91704
Labels	12505
Machines	189242
Paper	78475
Phones	330047
Storage	223860
<b>Total</b>	<b>2297340</b>

**Number Cards:**

- Sum of Sales:** 328.45K
- Sum of Discount:** 105.00
- Sum of Profit:** 26.59K

**Visualizations Pane (Fields section):**

- Sum of Sales (highlighted with a red box)
- Drill through (Off)
- Cross-report (On)
- Keep all filters (On)
- Add drill-through fields here

# Text Cards

Phones

Highest Selling

Copiers

Most Profitable

Binders

Most Ordered

Filters on this visual

Most Ordered  
is (All)

Sub-Category

top 1 by Quantity

Filter type ⓘ

Top N

Show items:

Top

1

By value

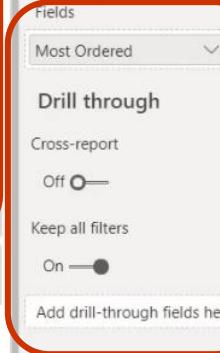
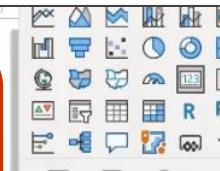
Quantity

Apply filter

Add data fields here

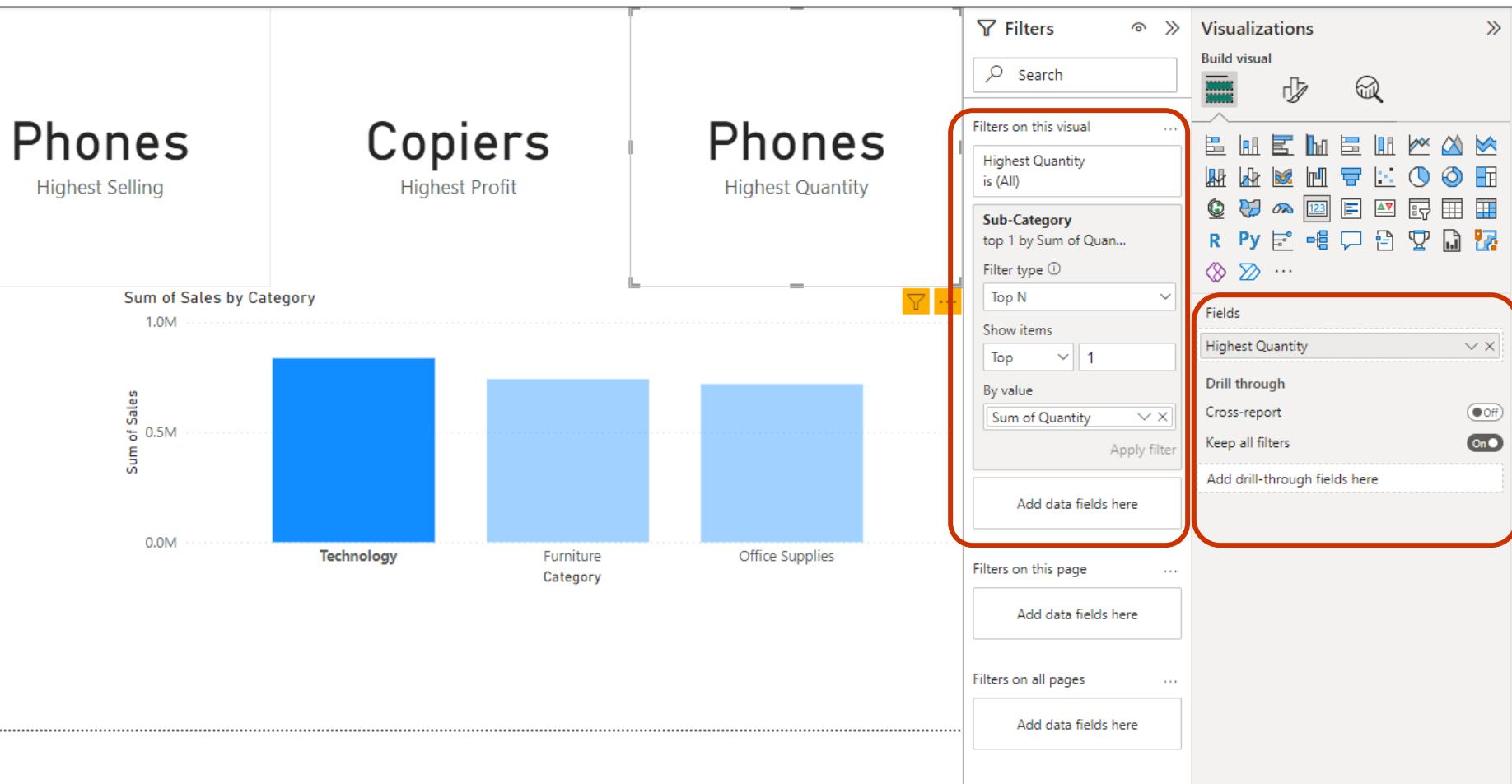
Filters on this page

Add data fields here



- ^ Orders
  - Category
  - City
  - Country/Re...
  - Customer ID
  - Customer ...
  - Σ Discount
- ∨ Order Date
  - Order ID
  - Σ Postal Code
  - Product ID
  - Product Na...
  - Σ Profit
  - Σ Quantity
  - Region
  - Σ Row ID
  - Σ Sales
  - Segment
- ∨ Ship Date

# Text Cards



# Date Card

- Find Dates on which we had max sales and max profit.

The screenshot shows a Power BI interface with two date cards and the ribbon.

**Left Date Card:** Displays "Friday, March 18, 2016" and "Max Sales Date".

**Right Date Card:** Displays "Tuesday, October 02, 2018" and "Max Profit Date".

**Ribbon:**

- Filters:** Shows a search bar and filter settings for "Max Sales Date is (All)".
- Visualizations:** Shows various visualization icons.
- Fields:** Shows a list of fields including "Max Sales Date" with "Drill through" and "Cross-report" options.
- Other Options:** Includes "Add drill-through fields here", "Filters on this page", "Filters on all pages", and "Add data fields here" buttons.

A red box highlights the "Filters" section, and another red box highlights the "Fields" section.

# Multi-Row Cards

The screenshot shows a Power BI desktop interface with a multi-row card visual on the left and a context menu on the right.

**Multi-Row Card Data:**

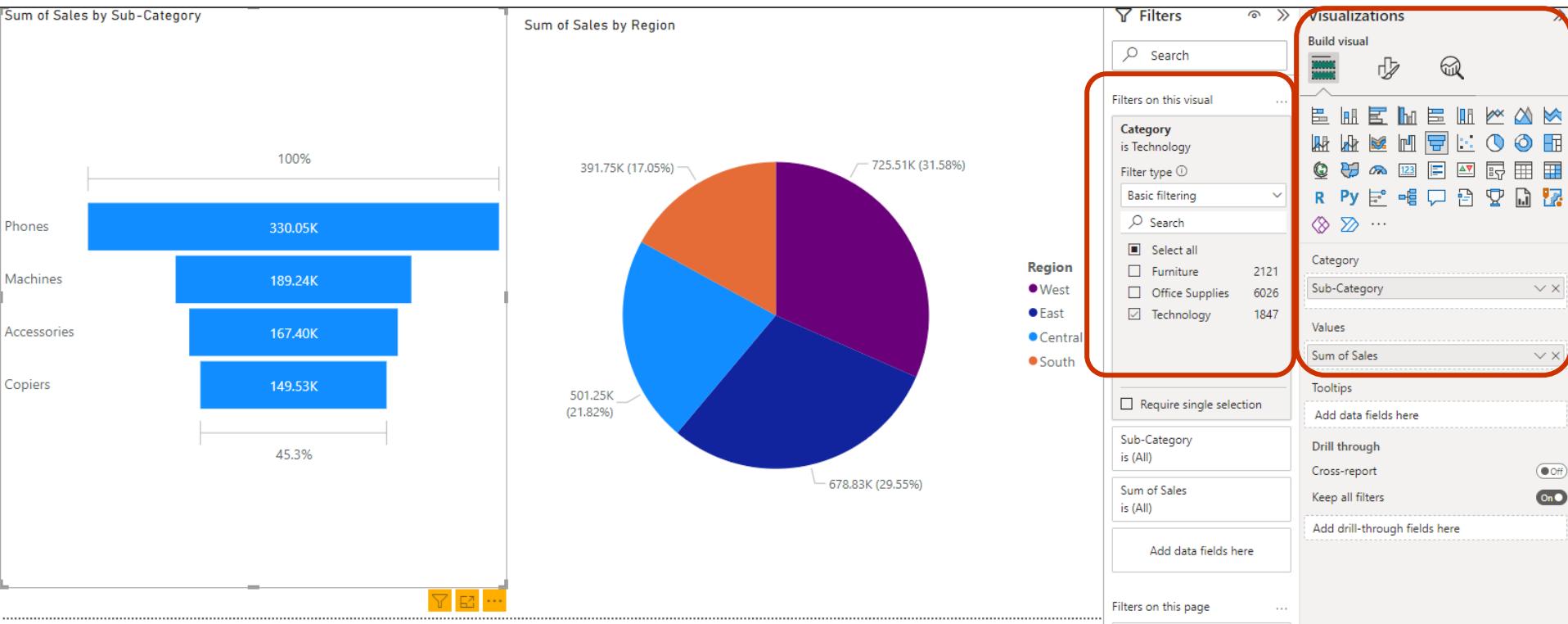
Category	Sum of Sales	Sum of Profit
Accessories	167400	41,936.64
Copiers	149530	55,617.82
Phones	330047	44,515.73

**Context Menu (Filters and Visualizations):**

- Filters:** A search bar and sections for "Filters on this visual", "Filters on this page", and "Filters on all pages".
- Visualizations:** A gallery of visualization icons.
- Fields:** A list of selected fields: Sub-Category, Sum of Sales, and Sum of Profit.
- Drill through:** Options for "Cross-report" (Off) and "Keep all filters" (On).
- Add drill-through fields here:** A placeholder for additional fields.

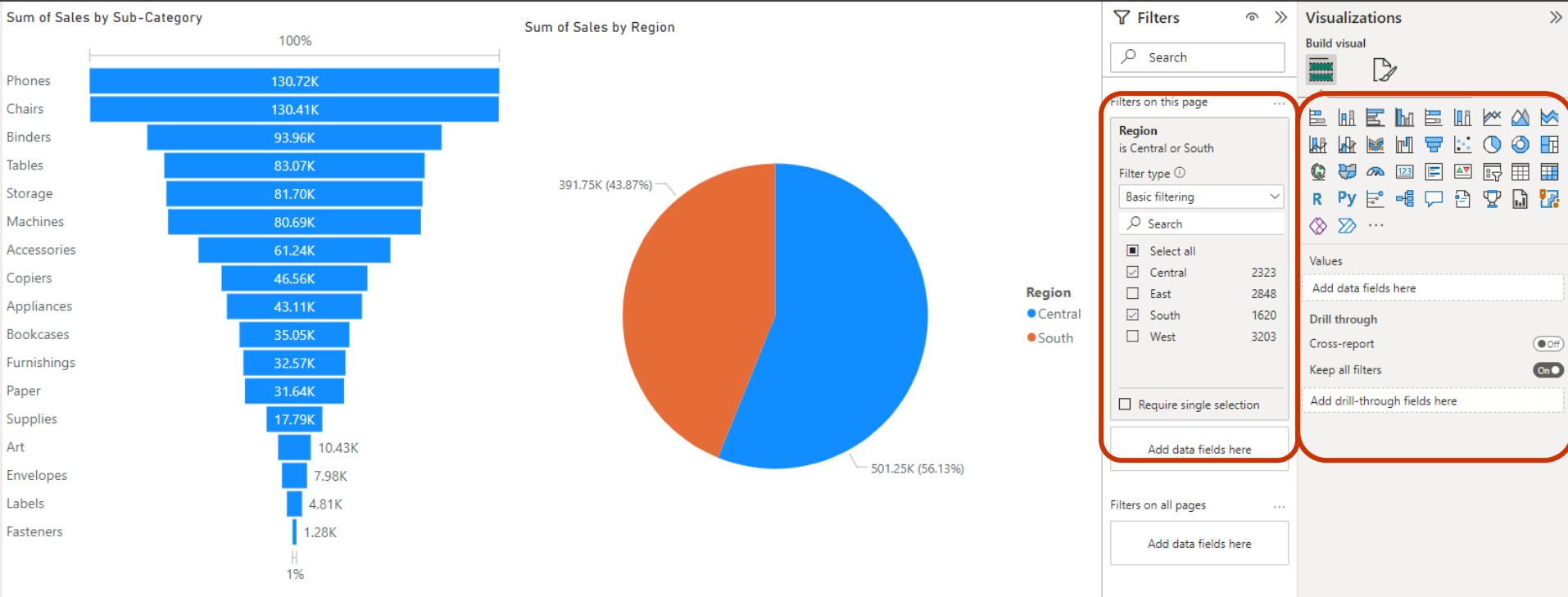
# Filters on Visuals

The screenshot shows the Power BI desktop interface. On the left, there is a pie chart visual with three segments: a large dark gray segment, a medium gray segment, and a small white segment. A tooltip message "Select or drag fields to populate this visual" is displayed above the chart. To the right of the chart is the "Filters" pane, which contains sections for "Filters on this visual", "Filters on this page", and "Filters on all pages", each with a button to "Add data fields here". Below these are sections for "Legend", "Values", "Details", "Toolips", "Drill through", "Cross-report", and "Keep all filters", each also with an "Add data fields here" button. The "Drill through" section includes a toggle switch set to "Off". On the far right, the "Visualizations" pane is open, showing various visualization icons categorized under "Build visual".



# Filter on Page

- Apply filter to the “Filter on this page” section & check results



# Filter on All Pages

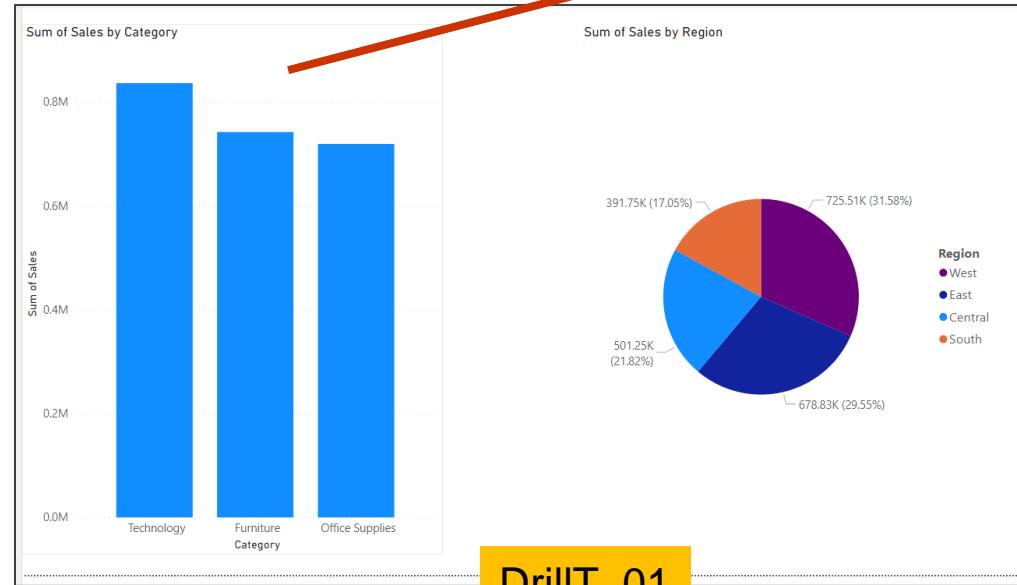
- Check other Pages in the Power BI Document. All pages are impacted.

The screenshot shows the Power BI desktop environment. On the left is a table visual titled "Sub-Category" with columns: Sub-Category, Sum of Sales, Sum of Quantity, and Sum of Profit. The table lists various categories with their respective sales, quantity, and profit values, ending with a total row. To the right of the table is the "Filters" pane, which is divided into several sections:

- Filters on this visual:** Contains filters for "Sub-Category is (All)", "Sum of Profit is (All)", "Sum of Quantity is (All)", "Sum of Sales is (All)", and an "Add data fields here" button.
- Filters on this page:** Contains an "Add data fields here" button.
- Filters on all pages:** Contains a "Region" filter section. This section includes a "Filter type" dropdown set to "Basic filtering", a search bar, and a list of regions with checkboxes:
  - Select all
  - Central 2323
  - East 2848
  - South 1620
  - West 3203A yellow arrow points from the text "Filters on All Pages" in the slide content to this "Filters on all pages" section.
- Visualizations:** A section containing icons for various visualization types like charts and maps.
- Columns:** A section listing the columns used in the table: Sub-Category, Sum of Sales, Sum of Quantity, and Sum of Profit.
- Drill through:** An off/on switch.
- Cross-report:** An off/on switch.
- Keep all filters:** An on/off switch.
- Add drill-through fields here:** A button.

# Drill Through

DrillIT\_02



DrillIT\_01

This report displays a table of sub-category sales and profit data, with a 'Drill through' feature enabled for the Category column.

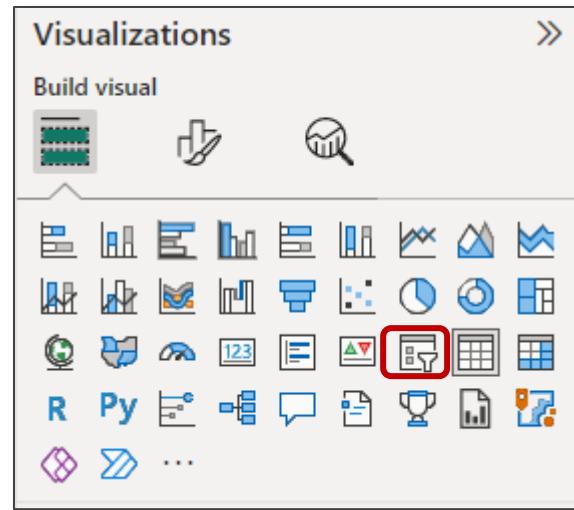
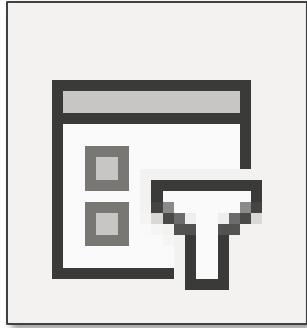
Sub-Category	Sum of Sales	Sum of Profit
Copiers	149530	55,617.82
Phones	330047	44,515.73
Accessories	167400	41,936.64
Paper	78475	34,053.57
Binders	203425	30,221.76
Chairs	328453	26,590.17
Storage	223860	21,278.83
Appliances	107537	18,138.01
Furnishings	91704	13,059.14
Envelopes	16477	6,964.18
Art	27136	6,527.79
Labels	12505	5,546.25
Machines	189242	3,384.76
Fasteners	3024	949.52
Supplies	46679	-1,189.10
Bookcases	114879	-3,472.56
Tables	206967	-17,725.48
<b>Total</b>	<b>2297340</b>	<b>286,397.02</b>

DrillIT\_03

This report displays a detailed table of regional sales and profit data, with a 'Drill through' feature enabled for the Region column.

Region	Category	Sum of Sales	Sum of Profit
Central	Furniture	163789	-2,871.05
East	Furniture	208289	3,046.17
South	Furniture	117306	6,771.21
West	Furniture	252619	11,504.95
Central	Office Supplies	167032	8,879.98
East	Office Supplies	205546	41,014.58
South	Office Supplies	125661	19,986.39
West	Office Supplies	220879	52,609.85
Central	Technology	170432	33,697.43
East	Technology	264993	47,462.04
South	Technology	148781	19,991.83
West	Technology	252013	44,303.65
<b>Total</b>		<b>2297340</b>	<b>286,397.02</b>

# Slicer



# Slicer For Text

The screenshot illustrates a Power BI report interface. On the left, there is a Slicer visual titled "Category, Sub-Category". It contains three items: "Furniture" (unchecked), "Office Supplies" (checked, indicated by a black square icon), and "Technology" (unchecked). To the right of the Slicer is a Table visual showing the following data:

Sub-Category	Sum of Sales	Sum of Profit
Appliances	107537	18,138.01
Art	27136	6,527.79
Binders	203425	30,221.76
Envelopes	16477	6,964.18
Fasteners	3024	949.52
Labels	12505	5,546.25
Paper	78475	34,053.57
Storage	223860	21,278.83
Supplies	46679	-1,189.10
<b>Total</b>	<b>719118</b>	<b>122,490.80</b>

On the far right, the "Filters" pane is open. It includes a "Visualizations" section with icons for different types of charts and a "Filters" section. The "Filters" section contains fields for "Category" and "Sub-Category", both of which have dropdown arrows and "X" buttons. Below these are options for "Drill through" (radio button set to "Off"), "Cross-report" (radio button set to "Off"), and "Keep all filters" (radio button set to "On"). A red box highlights the "Keep all filters" section and the "Add drill-through fields here" input field.

# Date Slicer

The screenshot illustrates a Power BI interface with a Date Slicer on the left and a visualizations pane on the right.

**Date Slicer:** A vertical slicer titled "Year, Quarter" with four items: 2016, 2017, 2018, and 2019. Each item has a checkbox icon. Above the slicer are three small icons: a magnifying glass, a square, and a three-dot ellipsis.

**Visualizations Pane:** Titled "Filters". It shows a grid of visualization icons. Below the icons is a section titled "Field" containing three fields: "Order Date", "Year", and "Quarter". The "Quarter" field has a red rectangular box around it. Below the field section are options for "Drill through", "Cross-report" (with a radio button set to "Off"), and "Keep all filters" (with a radio button set to "On"). At the bottom is a placeholder "Add drill-through fields here".

**Data Table:** A table titled "Sub-Category Sum of Sales Sum of Profit" showing sales data for various categories. The table includes a "Total" row at the bottom.

Sub-Category	Sum of Sales	Sum of Profit
Accessories	167400	41,936.64
Appliances	107537	18,138.01
Art	27136	6,527.79
Binders	203425	30,221.76
Bookcases	114879	-3,472.56
Chairs	328453	26,590.17
Copiers	149530	55,617.82
Envelopes	16477	6,964.18
Fasteners	3024	949.52
Furnishings	91704	13,059.14
Labels	12505	5,546.25
Machines	189242	3,384.76
Paper	78475	34,053.57
Phones	330047	44,515.73
Storage	223860	21,278.83
Supplies	46679	-1,189.10
Tables	206967	-17,725.48
<b>Total</b>	<b>2297340</b>	<b>286,397.02</b>

# Thank You

(amitprabhash73@gmail.com)