



How to Download Power BI Desktop:

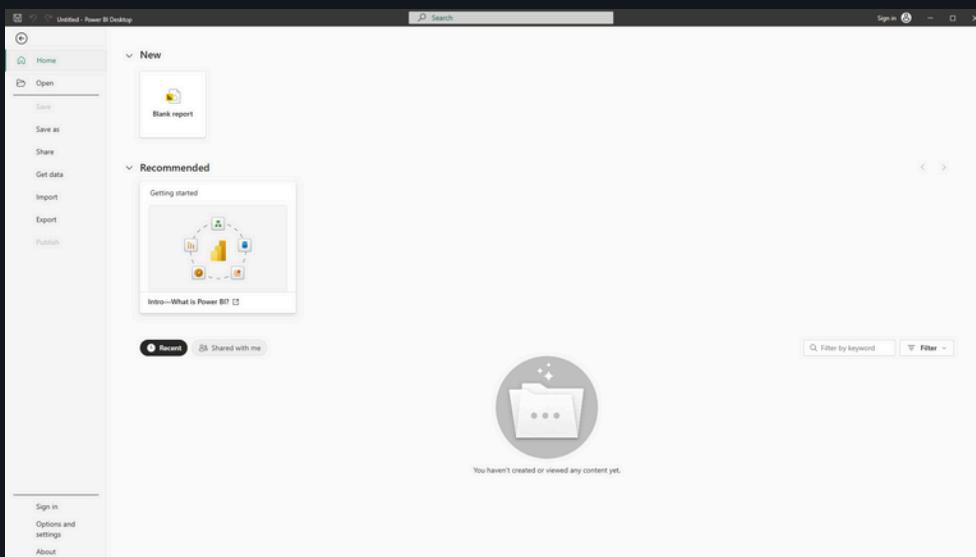
- Open your web browser.
- Go to this URL: <https://www.microsoft.com/en-us/power-platform/products/power-bi/desktop>
- Click on the Download button.
- Follow the on-screen instructions to install Power BI Desktop on your computer.
- Once installed, launch Power BI Desktop to start creating reports.

How to Use Power BI Online:

- Open your web browser.
- Go to this URL: <https://app.powerbi.com/home?experience=power-bi>
- Sign in with your Microsoft account.
- You can create, view, and share Power BI reports directly from the browser.

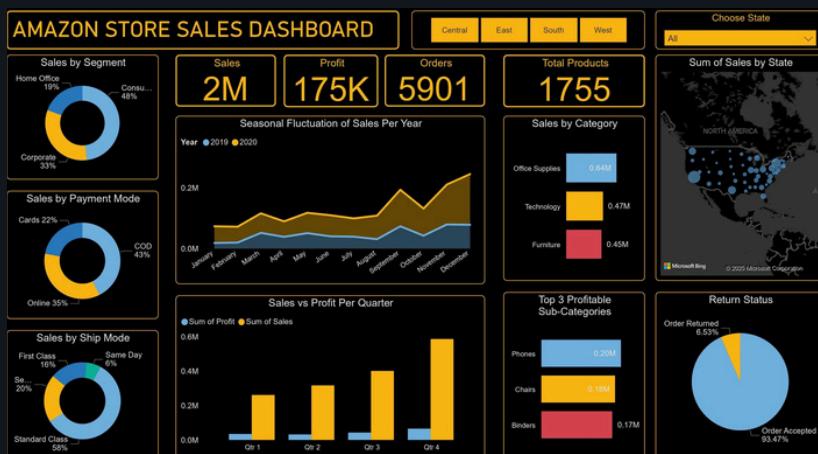
Note: I'm using the Power BI Desktop version to proceed with the steps.

The online version is similar but might have slight differences in names and layout.



Final Product Preview:

Below is an example of a well-built Power BI Desktop report based on the dataset.



Note: I couldn't link the actual dataset here, but screenshots are provided for reference.

There's a lot of detailed information included. If you prefer to skip the extensive text and get straight to the key insights, please go directly to page 10.

Optional Step: Using Claude for Quick Insights

Before diving into building your Power BI report, you can use Claude to quickly analyze your data and generate insights.

Why use Claude instead of ChatGPT?

- Claude is optimized for more detailed, structured data analysis and can handle datasets in a way that surfaces clear insights and data-driven recommendations efficiently.
- Claude tends to be better at working with tabular data, spotting correlations, and suggesting visualizations tailored for BI tools.
- ChatGPT is excellent for general conversations and explanations but might not always provide as precise or data-specific analysis for raw datasets.

How to Use Claude for Data Analysis:

- Provide Claude with your Excel dataset (or copy-paste relevant data).
- Ask Claude to thoroughly analyze the data and provide insights using the following prompt:

I'm providing you with an Excel dataset containing multiple columns and rows of data. Please analyze the dataset thoroughly and identify key insights such as trends, correlations, outliers, or anomalies. Additionally, suggest 4 to 6 impactful visualizations that would best represent this data in Power BI. For each recommended visualization, explain what specific questions or business decisions it could help address or support.

Choosing Between Claude and ChatGPT for Data Analysis

- For large datasets or very detailed data, ChatGPT can be a good option since it can handle bigger inputs more flexibly.
- However, Claude is generally preferable for quick, focused data insights and generating targeted visualization suggestions because it's optimized for structured data analysis.
- So, if your dataset is manageable in size, start with Claude for sharper insights. For very large or complex data, you might consider ChatGPT or breaking the data into smaller chunks.

Starting with Project 1 from the Code Quest Mini Projects

- Open the URL:
<https://github.com/Runarok/Guides/blob/main/Code%20Quest/Events/Power%20BI/Mini%20Projects.md>
- Locate Project 1 in the list of mini projects.
- Find the Google Drive link provided for Project 1's dataset.
- Click the link to open the Google Drive folder.
- Download the CSV file for Project 1 to your local machine.
- Load the CSV dataset into Claude or ChatGPT for AI-driven insights.

Example Output from ChatGPT for Data Insights

🔍 Key Insights from Dataset Analysis

1. General Statistics

- Total Records: 7,991 sales orders.
- Order Quantity ranges from 5 to 12 units per order.
- Unit Price ranges from 167.5 to 6,566 (currency varies).
- Gross Profit ranges up to 45,559.46 with a mean of 7,231.78.
- Gross Margin (%) has a healthy average of ~37.4%, with no negative margins (no unprofitable sales).

2. Trends and Patterns

- A strong positive correlation exists between:
 - Unit Price and Total Revenue (0.91).
 - Unit Price and Gross Profit (0.79).
 - Total Revenue and Gross Profit (0.87).
- Order Quantity also correlates moderately with Revenue and Profit (~0.3).

3. Outliers and Anomalies

- 80 orders lie in the top 1% for revenue, exceeding ₹70,000.
- No records show negative or zero gross margins, indicating well-managed cost-pricing structures.
- Slight variability in unit cost and margins, but no glaring anomalies in other columns.

📊 Recommended Visualizations for Power BI

1. Line Chart: Total Revenue Over Time

- Fields: OrderDate (Axis) vs Total Revenue (Values)
- Business Question: *How has revenue trended over time (monthly/quarterly)?*
- Purpose: Identify seasonal trends or growth patterns to inform inventory and marketing strategy.

2. Bar Chart: Gross Profit by Sales Channel

- Fields: Channel (Axis) vs Gross Profit (Values)
- Business Question: *Which sales channels contribute the most to profit?*
- Purpose: Optimize channel-specific promotions and partnerships.

3. Tree Map: Total Revenue by Product Description Index

- Fields: Product Description Index (Group) vs Total Revenue (Size)
- Business Question: *Which products generate the most revenue?*
- Purpose: Focus on top-performing products and improve underperformers.

4. Scatter Plot: Unit Price vs. Gross Margin (%)

- Fields: Unit Price (X) vs Gross Margin (%) (Y)
- Business Question: *Is higher pricing associated with better margins?*
- Purpose: Refine pricing strategy to balance revenue and profitability.

5. Histogram: Distribution of Gross Profit

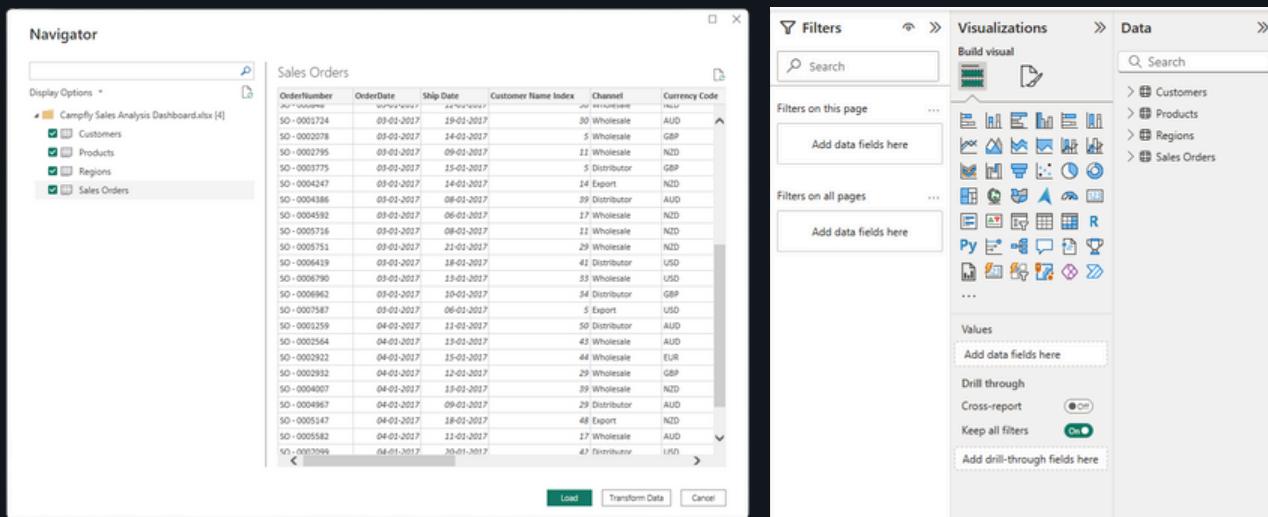
- Fields: Gross Profit (bins)
- Business Question: *What's the typical profit per order? Are there extreme highs or lows?*
- Purpose: Spot outlier deals and set realistic sales targets.

6. Matrix Table: Revenue by Delivery Region vs. Sales Channel

- Fields: Delivery Region Index (Rows), Channel (Columns), Total Revenue (Values)
- Business Question: *Which regions perform best under each channel?*
- Purpose: Align logistics and marketing based on regional performance.

How to Load Data into Power BI Desktop

- Open Power BI Desktop on your computer.
- Click on “Blank Report” to start a new project.
- In the top ribbon, click on “Get data” or select “Excel” from the data source options.
- Browse and select the downloaded Excel file from your computer.
- Click “Open” to upload the file.
- Power BI will load the data and show a preview. Select the relevant sheets or tables.
- Click “Load” to import the data into your Power BI report (Loading might a bit of time).
- Wait for the upload process to complete. Your data is now ready to be used in visualizations.



Understanding Power BI Tabs Before Creating Charts:

Data Tab:

- Used to view, explore, and manage the loaded data.
- You can see all your tables and individual rows here.
- Useful for verifying that your data has been imported correctly.

Visualization Tab:

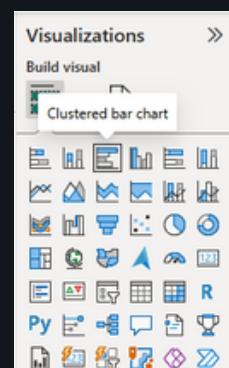
- Contains all the visual elements you can add, such as bar charts, pie charts, tables, maps, etc.
- You can select and customize charts here to represent your data visually.

Filter Tab:

- Allows you to apply filters to your entire report, individual pages, or specific visuals.
- Helps narrow down the data shown based on criteria like date ranges, categories, or other fields.

Creating Visualizations in Power BI :

- Open the Visualization pane in Power BI Desktop.
- Hover over each icon to see the type of graph in the tooltips.
- You can use the suggested graphs provided by AI or create your own based on your preferences and data.
- For this example, I will use the suggested visualizations to demonstrate the process.



The screenshot shows the Microsoft Power BI desktop application. The ribbon at the top includes File, Home, Insert, Modeling, View, Optimize, Help, Format, and Data / Drill. The main area displays a placeholder for a chart with the message "Select or drag fields to populate this visual". To the right is the "Build visual" pane, which contains sections for Filters, Visualizations, and Data. The Data section is expanded, showing a hierarchical tree view of data sources: Customers, Products, Regions, and Sales Orders, with various fields listed under each category. At the bottom left, there's a navigation bar with "Page 1" and a plus sign for adding new pages.

How to Create the Line Chart: Total Revenue Over Time in Power BI

Let's Start with Simple Graphs:

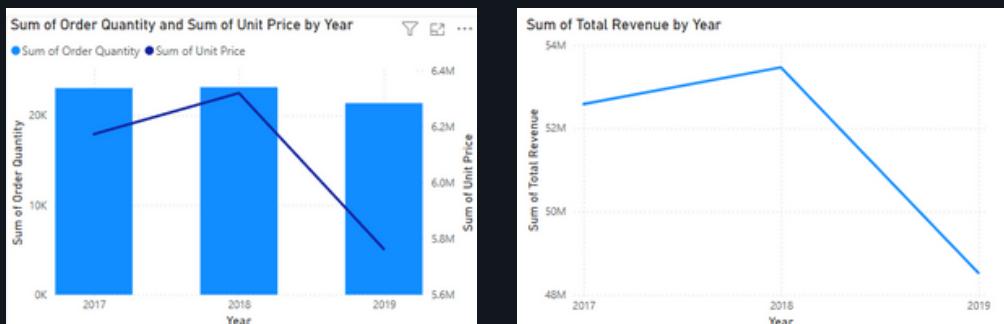
For now, we'll create a simple line chart to get you familiar with the basics:

- X-axis: Order Date (set to Month or Year)
- Y-axis: Total Revenue
- This basic setup helps you quickly see revenue trends over time.

More Advanced Options:

You can add more features to your line chart once you're comfortable, such as:

- Adding a channel to the Column Legend to split sales by type
- Using Small multiples with fields like Currency Code or Warehouse Code for multiple mini-charts
- Adding Tooltips such as Gross Profit and Order Quantity for richer info on hover
- Enabling drill-through fields like Customer Name Index and Product Description Index for deeper insights
- These advanced visualizations provide more detailed analysis and business value.



This screenshot shows the "X-axis" pane of the "Build visual" pane. The "Add drill-through fields here" option is highlighted with a blue arrow. Other options visible include "Order Date" and "Year" under "X-axis", and "Add data fields here", "Column y-axis", "Line y-axis", "Column legend", "Small multiples", "Toolips", "Drill through", "Cross-report", "Keep all filters", and "Add drill-through fields here" under "Y-axis".

This screenshot shows the "Y-axis" pane of the "Build visual" pane. The "Add drill-through fields here" option is highlighted with a blue arrow. Other options visible include "Order Date" and "Year" under "X-axis", and "Add data fields here", "Column y-axis", "Line y-axis", "Column legend", "Small multiples", "Toolips", "Drill through", "Cross-report", "Keep all filters", and "Add drill-through fields here" under "Y-axis".

Steps to Create the Order Details Table:

- In Power BI Desktop, click on the Table visualization icon in the Visualization pane.
- A blank table will appear on the report canvas.
- From the Fields pane, drag and drop the following columns into the table:
-> OrderNumber , OrderDate , Total Revenue , Gross Profit , Gross Margin (%)
- The table will automatically populate with the data from these fields, providing a detailed view of order-level information.

Let's start by adding these fields to the table:

OrderNumber , OrderDate , Total Revenue

Since Gross Profit and Gross Margin aren't present in the dataset, we'll create them using DAX formulas.



Steps to create Gross Profit and Gross Margin columns:

- Go to the Data view (click the table icon on the left sidebar).
- Select your data table.
- Click New Column and enter this formula for Gross Profit:
$$\text{Gross Profit} = [\text{Total Revenue}] - ([\text{Order Quantity}] * [\text{Total Unit Cost}])$$
- Click New Column again and enter this formula for Gross Margin:
$$\text{Gross Margin (\%)} = \text{DIVIDE}([\text{Gross Profit}], [\text{Total Revenue}], 0) * 100$$
- (This formula uses DIVIDE() to avoid division errors.)
- Now these columns are ready to use in your visuals.

OrderNumber	OrderDate	Ship Date	Customer Name Index	Channel	Currency Code	Warehouse Code	Delivery Region Index	Product Description Index	Order Quantity	Unit Price	Total Unit Cost	Total Revenue	Gross Profit	Gross Margin (%)
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	34	7	11	5768.7	63572.77	63572.77	New measure	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	56	7	11	1615.7	72025	72025	New column	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	2	7	11	1300.0	1300.0	1300.0	Copy table	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	19	7	5	1775.5	8876.89	8876.89	New quick measure	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	33	7	11	1000.0	11000.0	11000.0	Measure relationships	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	45	7	11	1052.2	5562.12	5562.12	Manager relationships	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	20	7	9	5427.0	37446.43	37446.43	Inventoried vehicles	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	21	7	10	857.1	6577.76	6577.76	Measure aggregations	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	68	7	6	1629.1	4046.04	4046.04	Unpivot all	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	80	7	4	2000.0	32000.0	32000.0	Product description index	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	4	7	10	261.3	1672.22	1672.22	Region	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	32	7	10	5262.0	6661.01	6661.01	Delete from model	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	40	7	9	1900.5	14103.03	14103.03	Mark as stale table	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	25	7	7	201.0	1407.0	1407.0	Price	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	96	7	10	1487.5	1487.5	1487.5	Warehouse code	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	89	7	5	3953.0	26468.81	26468.81	Copy table	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	90	7	9	1058.8	9223.92	9223.92	Refresh data	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	29	7	10	2200.0	22715.8	22715.8	Unpivot all	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	42	7	10	1000.0	10000.0	10000.0	Product description index	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	87	7	4	891.1	3564.46	3564.46	Region	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	85	7	10	1000.0	10000.0	10000.0	Order number	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	23	7	8	3750.2	26468.81	26468.81	Product description index	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	83	7	2	1720.8	12761.64	12761.64	Delivery region index	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	94	7	7	1000.0	10000.0	10000.0	Customer name index	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	10	7	10	298.0	1298.0	1298.0	Channel	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	74	7	9	3035.1	15767.2	15767.2	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	20	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	41	7	9	1058.3	9464.44	9464.44	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	42	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	33	7	7	793.0	5719.02	5719.02	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	95	7	5	2377.8	15003.88	15003.88	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	96	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	97	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	98	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	99	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	100	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	101	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	102	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	103	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	104	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	105	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	106	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	107	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	108	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	109	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	110	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	111	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	112	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	113	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	114	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	115	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	116	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	117	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	118	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	119	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	120	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	121	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	122	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	123	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	124	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	125	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	126	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	127	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	128	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	129	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	130	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	131	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	132	7	10	1000.0	10000.0	10000.0	Products	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	133	7	10	1000.0	10000.0	10000.0	Customer	
10001	Sunday 5 March, 2017	Friday 10 March, 2017	11 Wholesale	APW001	USD	APW001	134	7	10	1000.0</				

Year	Quarter	Month	Day	OrderNumber	Sum of Total Revenue	Sum of Gross Margin (%)	Sum of Gross Profit
2017	Qtr 4	November	23	SO - 0005366	78,711.60	50.00	39,355.80
2018	Qtr 2	May	29	SO - 0004451	78,711.60	17.00	13,380.97
2018	Qtr 2	May	28	SO - 0001869	78,550.80	58.00	45,559.46
2017	Qtr 1	March	28	SO - 0001909	78,470.40	28.00	21,971.71
2018	Qtr 4	December	28	SO - 0004689	78,470.40	52.00	40,804.61
2017	Qtr 4	December	31	SO - 0003966	77,746.80	28.00	21,769.10
2019	Qtr 2	May	2	SO - 0007830	77,505.60	51.00	39,527.86
2017	Qtr 4	December	21	SO - 0006806	77,425.20	55.00	42,583.86
2019	Qtr 3	September	24	SO - 0006955	77,425.20	29.00	22,453.31
2018	Qtr 3	July	15	SO - 0003088	77,344.80	56.00	43,313.09
2017	Qtr 3	July	23	SO - 0003283	77,023.20	51.00	39,281.83
2018	Qtr 4	December	12	SO - 0001514	76,621.20	44.00	33,713.33
2018	Qtr 3	July	4	SO - 0005770	76,540.80	45.00	34,443.36
Total					15,45,73,140.60	2,98,619.00	5,77,89,142.91

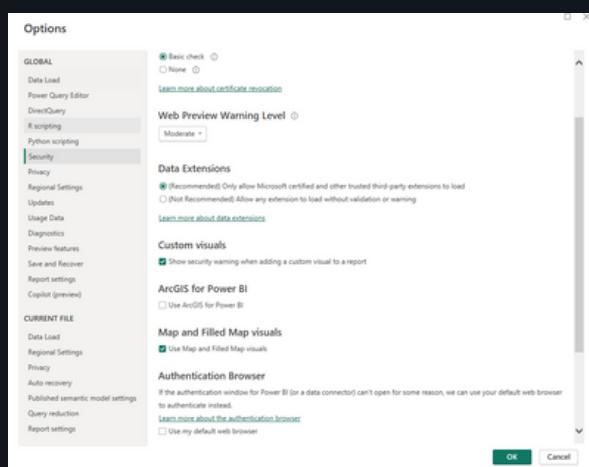
Steps to Create Maps in Power BI (Using Filled Map)

Note on Map Variants:

- Power BI offers different map visuals like Azure Map and Filled Map. Azure Map requires signing in, so for simplicity, we'll use the Filled Map visual.
- If Map or Filled Map visuals are disabled: Go to File > Options and settings > Options.
- In the Options window, select Global on the left panel, then Security.
- Find the setting related to Maps and visuals and enable them.
- Restart Power BI Desktop if needed.

Create a Filled Map:

- In the Visualization pane, click on the Filled Map icon.
- A blank map visual will appear on the report canvas.
- Add Location Data:
- Drag and drop the geographic field(s) such as Delivery Region Index or Country/State/City into the Location field well.
- Add Total Revenue or another measure to the Values field to color the map areas based on data.
- Adjust and Format:
- Use the formatting pane to adjust colors, labels, and tooltips as needed.



Filled Map

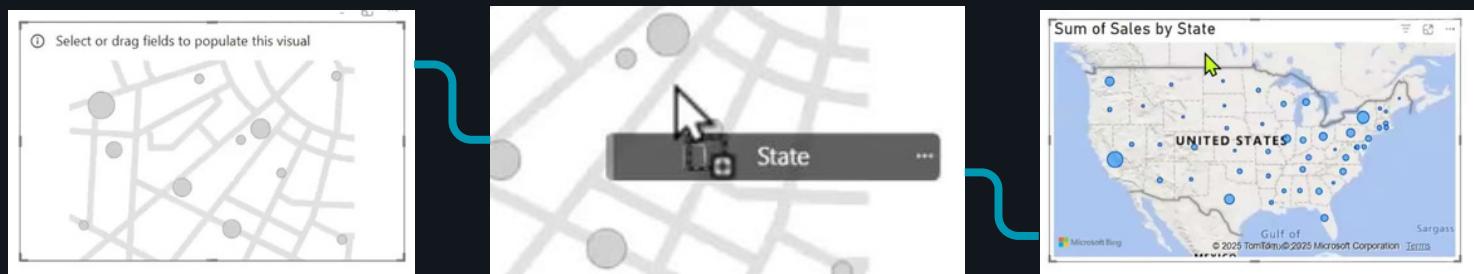


- The data is global and widely spread, making the list view insufficient for clear map visualization.
- The map is shown here mainly to demonstrate its appearance.
- Depending on the dataset, the map can be useful for identifying geographic patterns.
- Currently, due to dispersed data, the map doesn't provide meaningful insights.

For example, this dataset is focused only on the USA, where the map visualization is much more effective and clearly shows the use case.

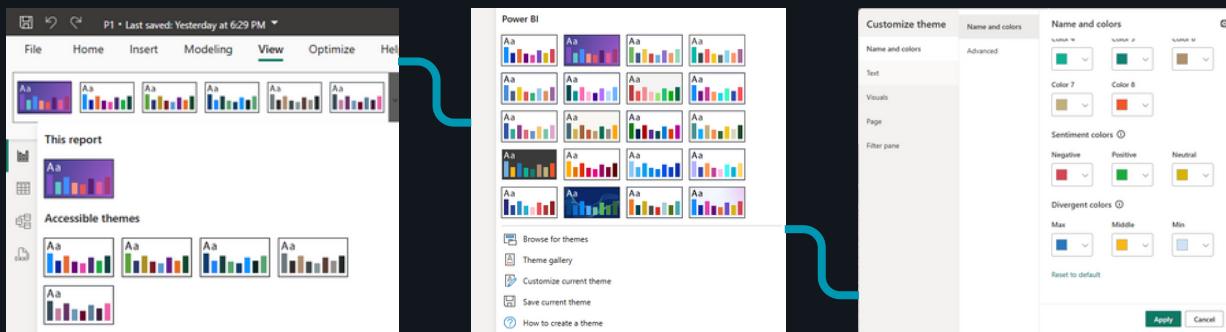
Use of Filled Maps with Columns like State:

- Filled maps color entire geographic regions (e.g., states) based on data values.
- By using a column like State, you can visualize metrics aggregated at the state level.
- This helps identify regional patterns, trends, or differences across states.
- Filled maps are ideal when data is grouped by areas rather than individual points, making it easier to compare regions visually.



How to Change Themes in Power BI:

- In the ribbon at the top, click on the View tab.
- Under the Themes section, you will see several built-in theme options.
- To apply a built-in theme, simply click on one of the thumbnails, and the report's colors will update immediately.
- To import a custom theme, click on Browse for themes (usually a folder or "..." icon).
- Select your custom theme JSON file and click Open to apply it.
- Your report will update with the new colors and styling defined by the theme.



How to Use Slicers in Power BI:

- Open your report in Power BI Desktop or Service.
- On the Visualizations pane, click the Slicer icon (it looks like a funnel).
- Drag the field (column) you want to filter by into the Field well of the slicer.
- The slicer will appear on your report canvas, showing options based on the selected field.
- Click on one or multiple values in the slicer to filter all the visuals on the report page accordingly.
- To change slicer settings (e.g., single select, dropdown), select the slicer visual, then go to the Format pane > Selection controls.
- Customize the slicer appearance and interaction as needed.

The screenshot shows the 'Slicers' section of the Power BI interface. It displays a preview of a Slicer visual with four columns labeled '(Blank)', 'Product 12', 'Product 20', and 'Product 6'. Below this is a table with four rows and four columns, each containing a different product name. To the right of the preview is the 'Visualizations' pane, which has 'Slicer settings' expanded. Under 'Options', 'Style' is set to 'Dropdown'. A list of products from 'Product 3' to 'Product 9' is shown, each with a checkbox next to it.

KPI, Card & Text Box in Power BI – Overview and Usage

KPI Visual:

- Highlights a key metric compared against a target, often showing progress over time. Useful for tracking performance against goals.
- Fields: Indicator (main value), Target goals (benchmark), Trend axis (time).

Card Visual:

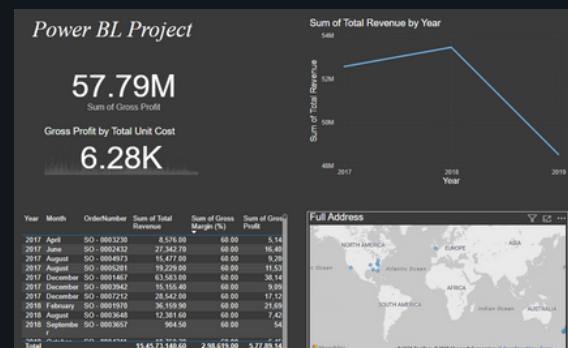
- Displays a single important number simply and clearly, such as total sales or count. Ideal for quick snapshot metrics without comparisons.
- Fields: One numeric measure or column.

Text Box:

- Adds custom text anywhere on the report to provide titles, explanations, or instructions. Helps improve clarity and context for users.
- No data fields – just enter and format text.

The image displays three separate Power BI visual components. On the left is a KPI visual titled 'Sum of Gross Profit by Total Unit Cost' with a value of '6.28K'. In the center is a Card visual showing '57.79M Sum of Gross Profit'. On the right is a Text Box visual containing the text 'Power BL Project'.

- This isn't a fully developed or comprehensive report.
- A well-made report would include many more charts and critical insights.
- This version serves as a simplified product focused on the in-depth aspects of OT and simplicity.



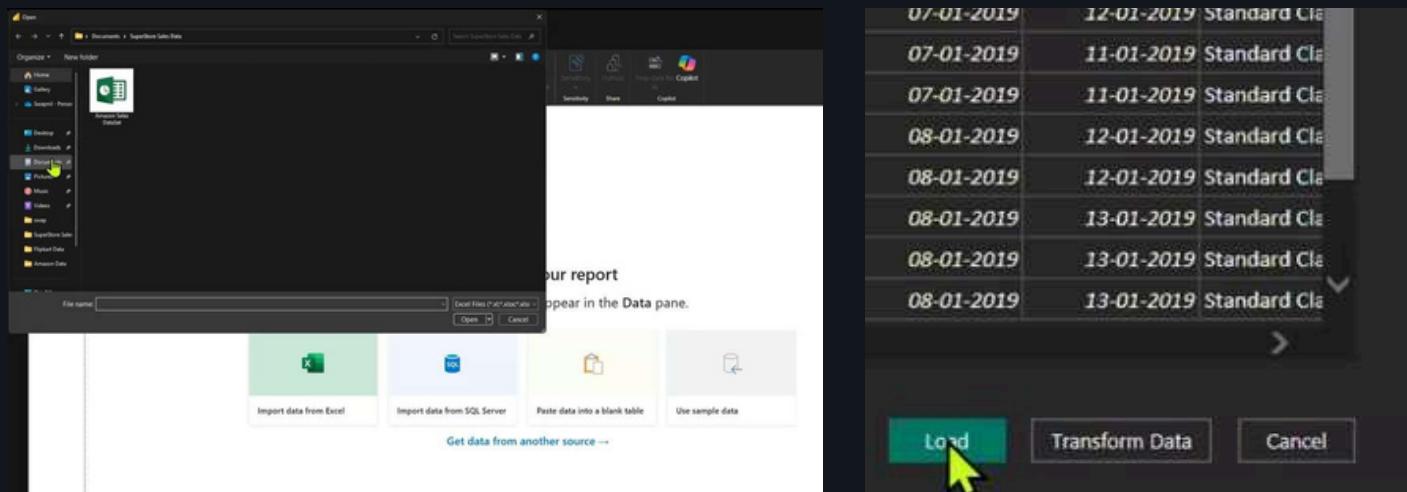
- Next, let's move on to a more polished and complete example.
- The next version will be simpler, with fewer words and clear, step-by-step visuals for easier understanding.

Power BI Dashboard – Step-by-Step Quick Build Guide

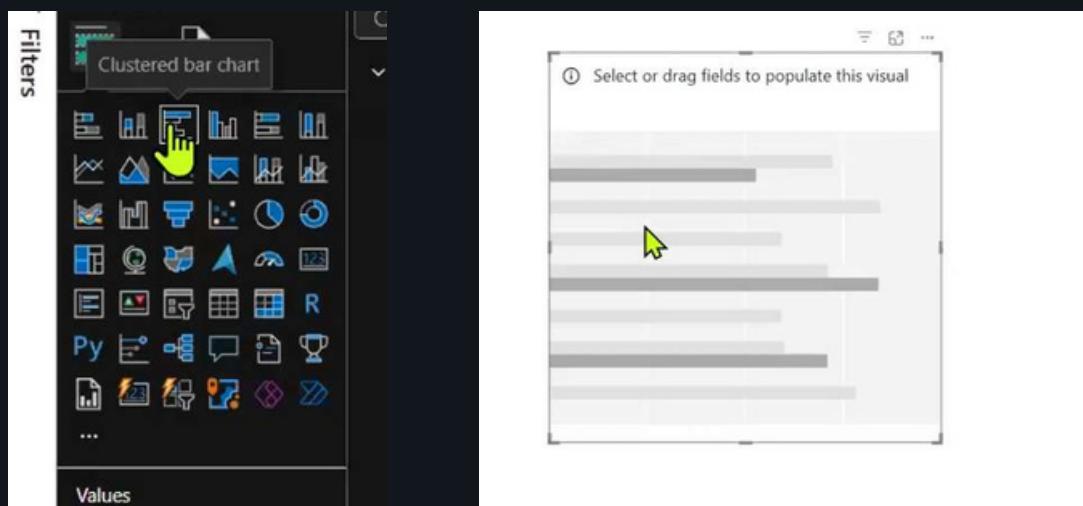
Optional Step: Using Claude for quick insights (as shown on page 2) remains the same.

Now, let's move directly to the Power BI quick step-by-step guide.

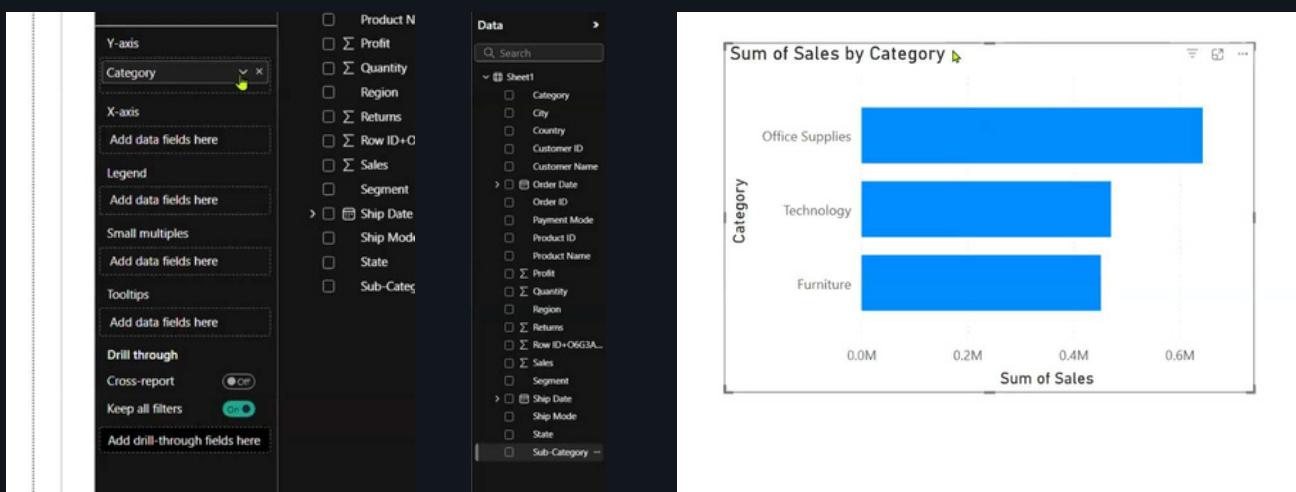
- Open Power BI and upload your Excel sheet from your computer.
- Once uploaded, load the data into Power BI.



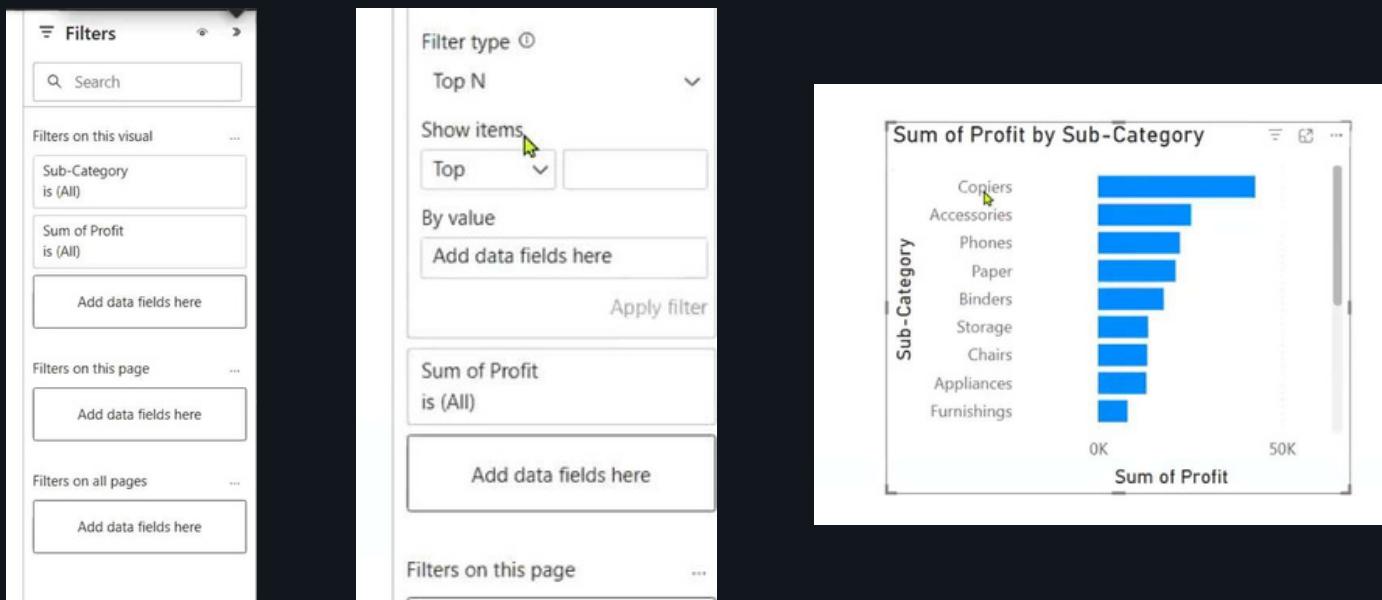
- You have multiple options for charts and graphs to analyze your data.
- Click on any chart—you'll see a blank chart appear on the screen.



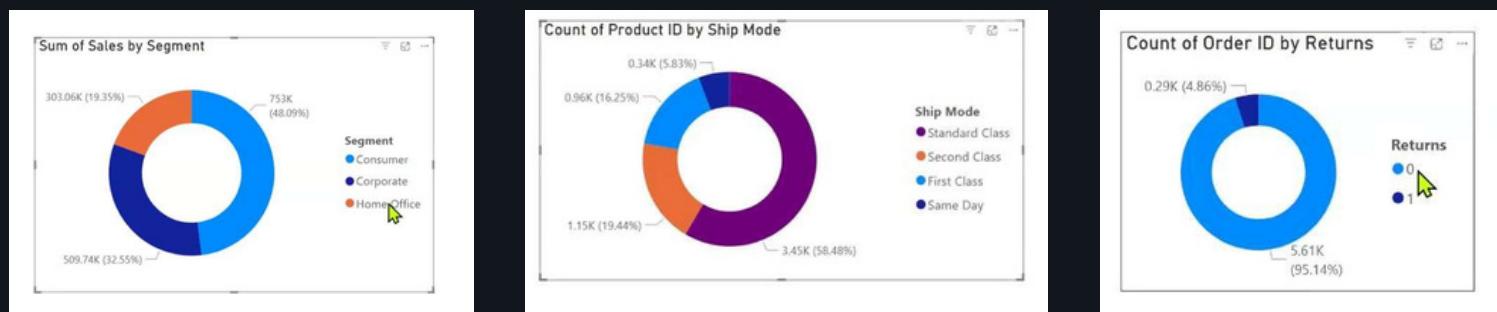
- Choose parameters for X-axis and Y-axis to plot your chart accordingly.
- A basic chart will appear after assigning X and Y axes.



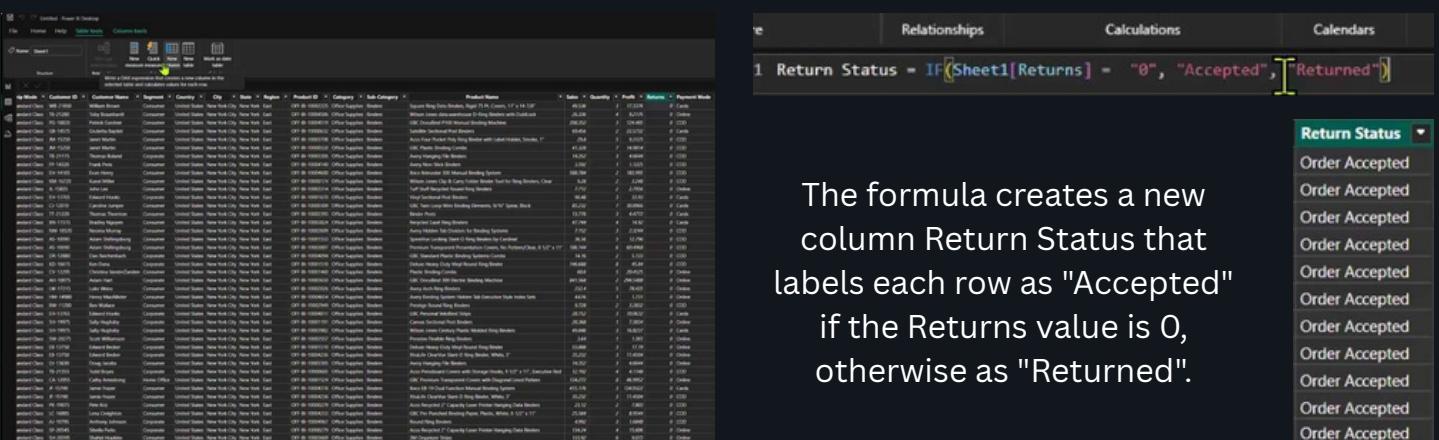
- For deeper analysis, apply different filters to narrow down your data precisely.

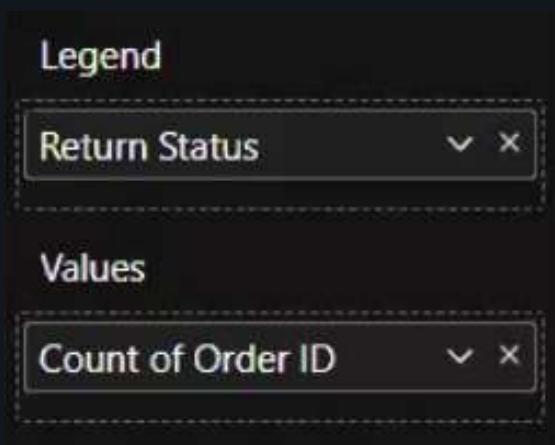


- Try different chart types to enhance your dashboard—column charts, donut charts, etc.
- For example, you can create a donut chart by selecting different parameters to make your dashboard more insightful.

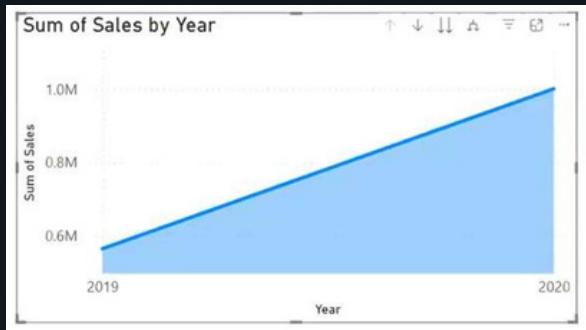
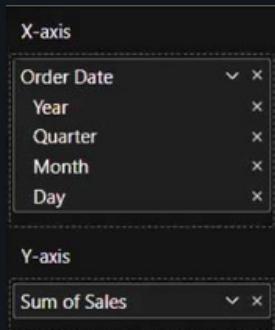


- Some chart types may seem less significant at first—enhance them with more data or better formatting.
- For example, you can create a new column using the “IF” function or other formulas, as demonstrated on page 6, if needed.

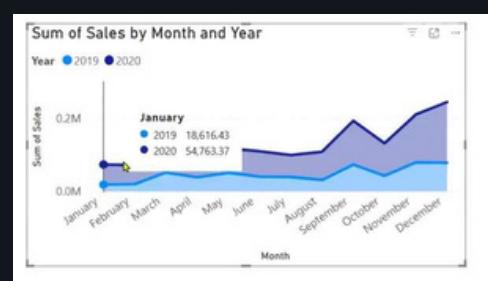
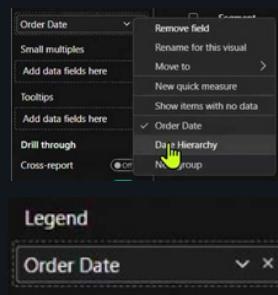
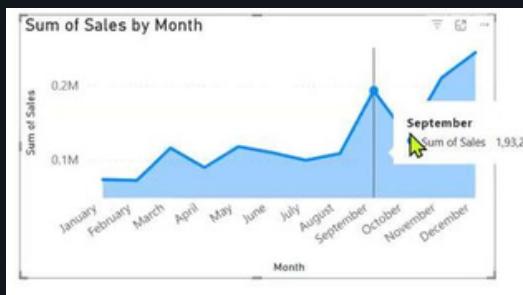




- To make the dashboard look more impressive, add different types of charts.
- For instance, choose a clustered chart and assign X and Y axis fields.
- The chart may look basic at first.
- You can change the X-axis field to analyze monthly trends or patterns.



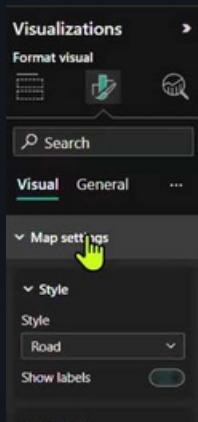
- To add more detail, include a legend.
- By combining these features, you can create a much more insightful chart.



- For comparing two values like sales vs. profit, use a clustered bar chart.
- For regional comparison, use the map chart.
- Drag the state column to the map chart, and you're set.
- Adjust bubble size for better analysis.



- From the visualizations pane, choose your map style:



Dark Map



Road Map

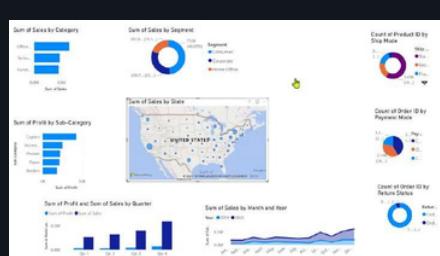
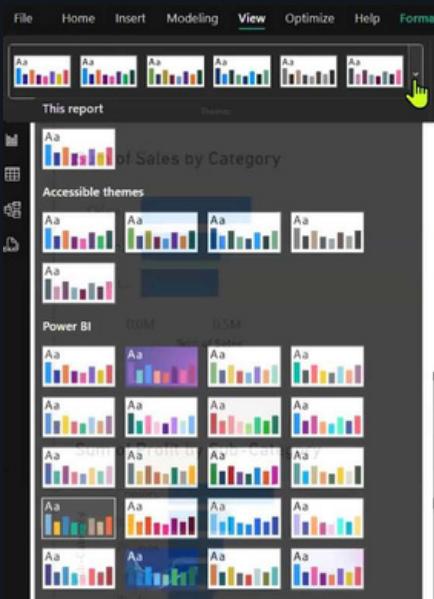


Grey Map



Aerial Map

- To make your dashboard look better, go to View and select a color theme.
- Change the background color for a clean, modern feel.



- In donut charts, add labels and borders for better visibility.
- You can manually format one chart and use Format Painter to apply it to others.
- Format your full dashboard for a polished, professional look.

The screenshot shows the Power BI desktop interface. On the left, the 'Visualizations' pane is open, displaying a color palette and various visualization options. The main area contains three donut charts:

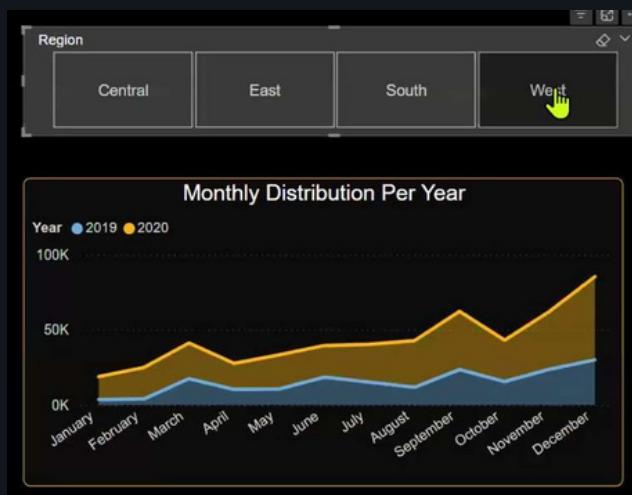
- Products by Ship Mode**: Labels include First Class (16%), Second Cl. (19%), Standard Class (58%), and Same Day (6%).
- Sales by Segment**: Labels include Corporate (32.55%), Home Of... (19.35%), Cons... (48.09%), and Corporate (32.55%).
- Count of Order ID by Return Status**: Labels include Ord... 4.8... and Ord... 95....

To the right, there are buttons for 'Cut', 'Copy', and 'Format painter' on a clipboard.

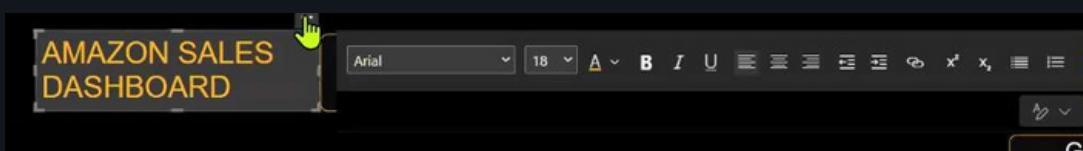
- To analyze regions separately, add a Slicer to the dashboard.
- This way, the Slicer lets you compare two different regions dynamically.



For detailed slicer info,
see page 8.

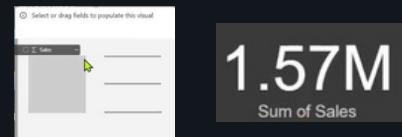


- Add a Text Box and style it according to your color theme.



For KPIs:

- Add a Card from the visual menu.
- For example, adding Sales shows a KPI card for Sales.



- You can add KPIs for every parameter (e.g., Profit, Revenue).
- Click on a specific point in any chart to see detailed analysis for that point.



AI for Data Analysis – 3 Smart Tools You Should Know

1. Using DataSquirrel.ai

- Go to : <https://www.datasquirrel.ai>
- Make an account or sign in if you already have one.
- Upload the file you want to analyze
- Click “Clean and Import”
- Wait a few seconds – your data will be automatically cleaned



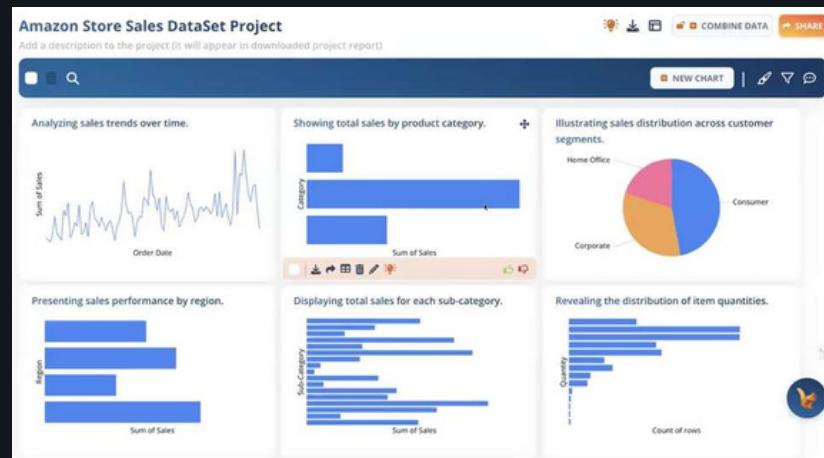
We have performed the following data cleaning tasks:

1. Corrected 2 inconsistent casing patterns in 1 column.
2. Corrected 3 inconsistent label variations in 1 column.
3. Anonymised 1 column to protect privacy.

You can

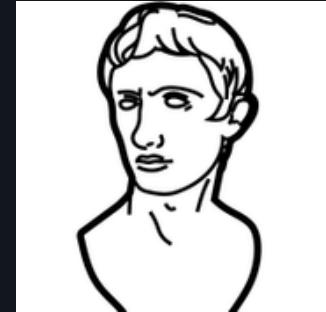
- Download cleaned data file by clicking **Download button**
- View cleaned rows and columns by clicking **grid icon**

- A variety of auto-generated charts will appear
- Edit the charts if needed (titles, fields, etc.)
- Download all charts for reporting or presentation use



2. Using Julius.ai

- Go to : <https://www.julius.ai>
- Make an account or sign in if you already have one.
- Upload the file you want to analyze
- Enter a prompt (e.g., "Analyze sales trends by region")
- Julius will start writing code and generating outputs
- It creates a link to an interactive 3D graph
- Click the link to view the 3D visualization



What do you want to analyze today?

0 of 1 ready.

Julius is analyzing...

Add a file or start a conversation now and add files later...

Default No Theme Advanced Reasoning Extended Memory Saved Prompts

I uploaded the file: Amazon_Store_Sales_DataSet.xlsx
give me a link to download a 3d interactive dynamic visualisation from this dataset

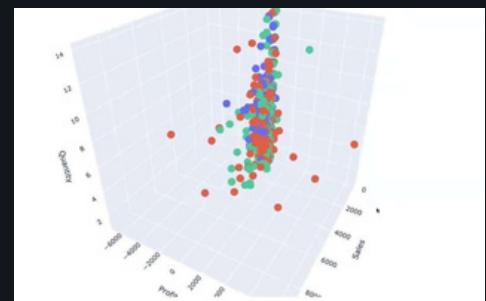
Julius

```
</> Read Excel File and Display DataFrames
```

Python

```
1 # This code reads the Excel file and prepares the data for visualization
2 FILEPATH = 'Amazon_Store_Sales_DataSet.xlsx'
3 dataframes = read_all_sheets_from_excel(FILEPATH)
4
5 # Display the head of the dataframes to understand its structure
6 for k, v in dataframes.items():
7     print(f'dataframe: {k}')
8     print(v.head(5))
9
10 # Code Explanation
11 # This code reads an Excel file containing sales data and prints the first 15 rows of each sheet to understand its structure.
```

I have created a 3D interactive visualization of the Amazon Store Sales dataset, which illustrates the relationship between Sales, Quantity Sold, and Profit across different product categories. This visualization allows you to explore the data dynamically.
You can view and interact with the visualization using the link below:
[Download 3D Interactive Visualization](#)
If you have any specific analyses or further visualizations you'd like to explore from this dataset, feel free to let me know!



3. Using Gamma.app + Claude.ai

- Go to <https://gamma.app>
- Choose a presentation template you like



Gammos

+ Create new AI + New from blank Import

All Recently viewed Created by you Favorites

Welcome to House of EdTech: Our Journey & Vision
The Future of Jobs in the AI Revolution
Asian Paints Stock Performance Analysis (2023)
AI and the Future of Work

Created by you Last viewed 7 days ago
Created by you Last viewed 27 days ago
Created by you Last viewed 2 months ago
Created by you Last viewed 2 months ago

Create with AI

How would you like to get started?

Paste in text: Create from notes, an outline, or existing content
Generate: Create from a one-line prompt in a few seconds
Import file or URL: Enhance existing docs, presentations, or webpages

In a separate tab, go to <https://claude.ai>

- Give a prompt like:
“Create slide-by-slide content the provided spreadsheet”
- Copy the response from Claude
- Paste it directly into Gamma.app
- Gamma will auto-generate the entire presentation

The image shows two screenshots. The left screenshot is a 'Paste in' interface with a large text area labeled 'Type or paste in content here' and a 'Continue →' button at the bottom. The right screenshot is a presentation slide titled 'Slide 3: Geographic Performance Analysis'. It contains two sections: 'Regional Revenue Distribution' with a bulleted list of regional statistics, and 'Regional Insights' with another bulleted list.

- Choose a presentation theme
- Export the presentation as PDF or PPT

The image shows four screenshots. Top-left: A slide titled 'Slide 6: Critical Business Issues' listing 'Areas Requiring Immediate Attention' under three categories: Furniture Category Crisis, Geographic Imbalance, and Category Dependency Risk. Top-right: A slide titled 'Strategic Recommendations' with two numbered items: 'Furniture Audit' and 'South Region Plan'. Bottom-left: A 'Pick a theme' interface with a 'Generate' button and theme selection options like Dark, Light, Professional, Colorful, and a search bar. Bottom-right: A slide titled '@ Share Amazon Store Sales Performance Analysis' with a 'Collaborate' button, 'Share' button, 'Export' button, and 'Publish to site...' button. It also includes a 'Download a static copy of your gamma to share with others.' link and a list of export options: Export to PDF, Export to PowerPoint, Export to Google Slides, and Export to PPTx.

These AI tools simplify repetitive tasks to boost productivity, helping you focus on deeper analysis—not skip it. They assist, not replace, your understanding.