

Assignment:

Power BI Assignment 2 – DAX & Data Visualization:

Calculated Columns:

• Create a Calculated Column for 'Category Type':

Add a calculated column in the Order Details table that combines the 'Category' and 'Sub-Category' columns into a single 'Category Type' column.

Steps:

Go to power bi select the Order details table choose the new column in table tools

Apply the formula between 'Category' &'Sub-Category'

then enter we have to create new column

Use & operator to concatenates and “ ” use this separator

Category Type = 'Order Details'[Category] & " " & 'Order Details'[Sub-Category]

Screen short:

The screenshot shows the Power BI Desktop interface. The ribbon at the top has 'Column tools' selected. In the main area, a table named 'Order Details' is open. A new column 'Category Type' is being created, with the formula '1 Category Type = 'Order Details'[Category] & " " & 'Order Details'[Sub-Category]' entered. The data grid shows various orders with their respective categories and sub-categories. The properties pane on the right shows the newly created 'Category Type' column under the 'Calculated columns' section. The status bar at the bottom indicates the system is running on Windows 11, English, with a battery level of 616 PM on 11/4/2025.

• Calculate Revenue per Order in Order Details Table:

Create a calculated column in the Order Details table to compute the revenue (Amount * Quantity) per order.

Steps:

Go to power bi select the Order details table choose the c in table tools

Apply the formula between the amount and quantity

then enter

we have to create new column revenue per order

Use * operator to find the revenue per orders

revenue per order = 'Order Details'[Amount]*'Order Details'[Quantity]

Screenshot:

Untitled - Power BI Desktop

File Home Help Table tools Column tools

Name Order Details

Manage relationships New Quick New measure column table

Structure Relationships Calculations Mark as date table Calendars

revenue per order = 'Order Details'[Amount]*'Order Details'[Quantity]

Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	revenue per order
B-25602	561	212	3	Clothing	Saree	Clothing Saree	1683
B-25602	119	-5	8	Clothing	Saree	Clothing Saree	952
B-25603	193	-166	3	Clothing	Saree	Clothing Saree	579
B-25604	157	5	9	Clothing	Saree	Clothing Saree	1413
B-25605	75	0	7	Clothing	Saree	Clothing Saree	525
B-25609	25	-5	4	Clothing	Saree	Clothing Saree	100
B-25610	43	0	3	Clothing	Saree	Clothing Saree	129
B-25611	160	-59	2	Clothing	Saree	Clothing Saree	320
B-25613	1603	0	9	Clothing	Saree	Clothing Saree	14427
B-25619	353	90	8	Clothing	Saree	Clothing Saree	2824
B-25622	534	0	3	Clothing	Saree	Clothing Saree	1602
B-25623	149	-87	4	Clothing	Saree	Clothing Saree	596
B-25625	635	-349	5	Clothing	Saree	Clothing Saree	3175
B-25628	24	-9	4	Clothing	Saree	Clothing Saree	96
B-25633	711	-8	4	Clothing	Saree	Clothing Saree	2844
B-25635	382	30	3	Clothing	Saree	Clothing Saree	1146
B-25636	637	113	5	Clothing	Saree	Clothing Saree	3185
B-25640	122	-47	4	Clothing	Saree	Clothing Saree	488
B-25646	20	-8	2	Clothing	Saree	Clothing Saree	40
B-25647	42	-6	4	Clothing	Saree	Clothing Saree	168
B-25648	55	-26	4	Clothing	Saree	Clothing Saree	220
B-25648	130	-41	4	Clothing	Saree	Clothing Saree	520
B-25650	211	-105	2	Clothing	Saree	Clothing Saree	422

Data

Search

List of Orders

- City
- CustomerName
- Order Date
- Order ID
- State

Order Details

- Amount
- Category
- Order ID
- Profit
- Quantity
- revenue per order
- Sub-Category

Sales target

- Category
- Month of Order Date
- Target

31°C ENG IN 11/4/2025

- **Create a Calculated Column to Categorize Sales:** Add a calculated column named 'Sales Category' in the Order Details table that categorizes each order as 'Above Average' or 'Below Average' based on the Amount value.

Steps:

Go to power bi select the Order details table choose the new column in table tools

Apply the formula

then enter

we have to create new column Sales Category

find the Average in Amount and use IF conditions to get 'Above Average' or 'Below Average' categorizes each order

Sales Category = IF('Order Details'[Amount]>=AVERAGE('Order Details'[Amount]), "Above Average", "Below Average")

Screen short:

Table: Order Details (1,500 rows) Column: Sales Category (2 distinct values)

Calculated Measures:

- Calculate Order Count: Define a measure to count the total number of orders in the Order Details table.

Steps:

Go to power bi select the Order details table choose the new measure in table tools

Apply the formula

```
Order Count = DISTINCTCOUNT('Order Details'[Order ID])
```

Use distinct count for uniq orderedID in the order

After we have to move report view just drag and drop the order count into

Build visual tool to get the count

Screenshot:

Structure Formatting Properties Calculations

1 Order Count = DISTINCTCOUNT('Order Details'[Order ID])

Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	revenue per order	Sales Category
B-25602	561	212	3	Clothing	Saree	Clothing Saree	1683	Above Average
B-25602	119	-5	8	Clothing	Saree	Clothing Saree	952	Below Average
B-25603	193	-166	3	Clothing	Saree	Clothing Saree	579	Below Average
B-25604	157	5	9	Clothing	Saree	Clothing Saree	1413	Below Average
B-25605	75	0	7	Clothing	Saree	Clothing Saree	525	Below Average
B-25609	25	-5	4	Clothing	Saree	Clothing Saree	100	Below Average
B-25610	43	0	3	Clothing	Saree	Clothing Saree	129	Below Average
B-25611	160	-59	2	Clothing	Saree	Clothing Saree	320	Below Average
B-25613	1603	0	9	Clothing	Saree	Clothing Saree	14427	Above Average
B-25619	353	90	8	Clothing	Saree	Clothing Saree	2824	Above Average
B-25622	534	0	3	Clothing	Saree	Clothing Saree	1602	Above Average
B-25623	149	-87	4	Clothing	Saree	Clothing Saree	596	Below Average
B-25625	635	-349	5	Clothing	Saree	Clothing Saree	3175	Above Average
B-25628	24	-9	4	Clothing	Saree	Clothing Saree	96	Below Average
B-25633	711	-8	4	Clothing	Saree	Clothing Saree	2844	Above Average
B-25635	382	30	3	Clothing	Saree	Clothing Saree	1146	Above Average
B-25636	637	113	5	Clothing	Saree	Clothing Saree	3185	Above Average
B-25640	122	-47	4	Clothing	Saree	Clothing Saree	488	Below Average
B-25646	20	-8	2	Clothing	Saree	Clothing Saree	40	Below Average
B-25647	42	-6	4	Clothing	Saree	Clothing Saree	168	Below Average
B-25648	55	-26	4	Clothing	Saree	Clothing Saree	220	Below Average
B-25648	130	-41	4	Clothing	Saree	Clothing Saree	520	Below Average
B-25650	211	-105	2	Clothing	Saree	Clothing Saree	422	Below Average

The screenshot shows the Power BI Desktop interface. The ribbon is at the top with tabs like File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, Table tools, and Measure tools. The Measure tools tab is selected. A measure named "Order Count" is being edited, with its formula set to `DISTINCTCOUNT('Order Details'[Order ID])`. The visualization pane shows a single large number "500" with the label "Order Count". The Data pane on the right lists various fields and measures, including "Order Count" under the "List of Orders" category.

- **Calculate Average Profit in Delhi:** Create a measure to calculate the average profit for orders placed in Delhi.

Step: Steps:

Go to power bi select the Order details table choose the new measure in table tools

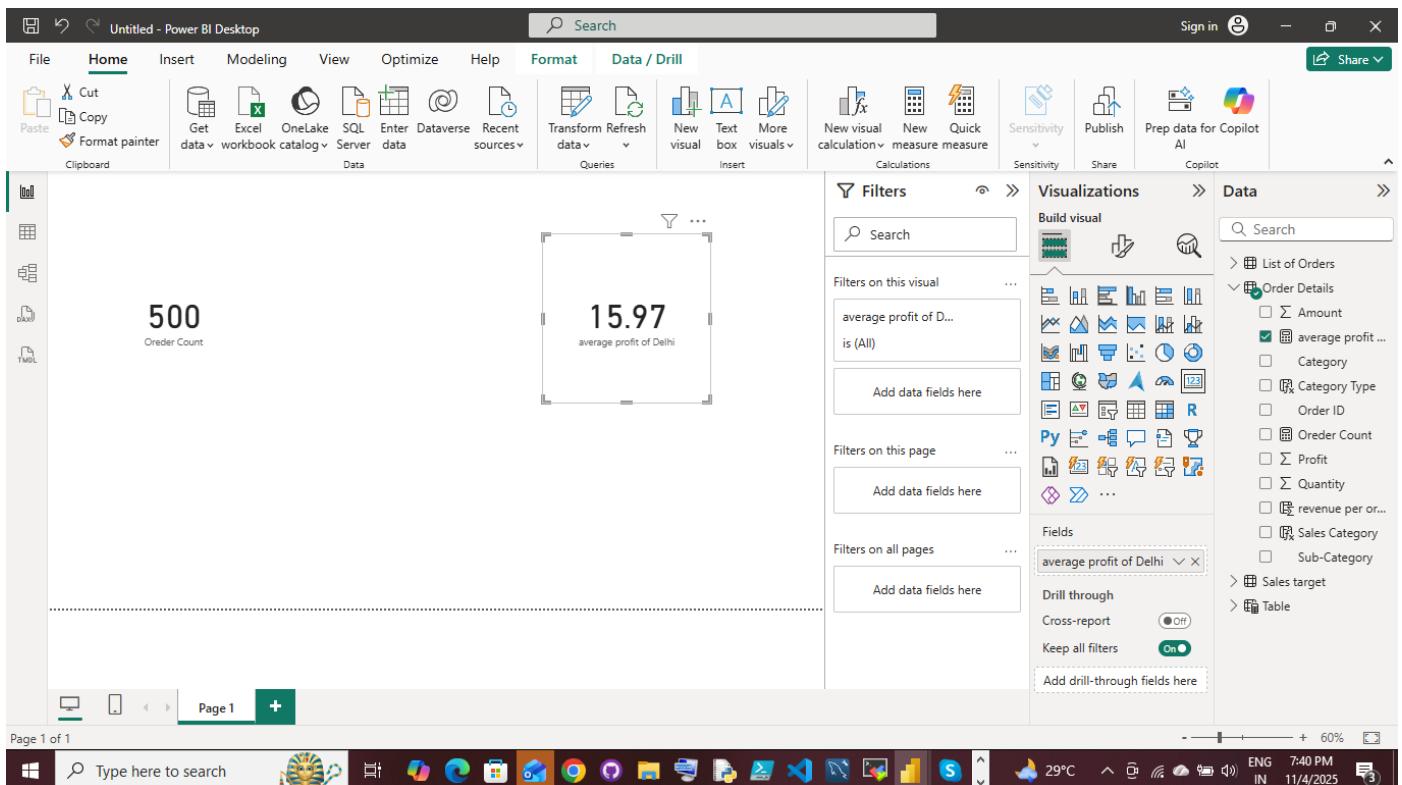
Apply the formula

```
average profit of Delhi = CALCULATE(AVERAGE('Order Details'[Profit]), 'List of Orders'[City] = "Delhi")
```

using two table Order details and list of orders

Screenshot:

The screenshot shows a table view in Power BI. The table has columns: Order ID, Amount, Profit, Quantity, Category, Sub-Category, Category Type, revenue per order, and Sales Category. The table contains several rows of data. To the right of the table is the Data pane, which lists fields from the "List of Orders" table, including "average profit of Delhi". This measure is highlighted with a red rectangle. The formula for this measure is visible in the table header: `average profit of Delhi = CALCULATE(AVERAGE('Order Details'[Profit]), 'List of Orders'[City] = "Delhi")`.



● Calculate Year-to-Date (YTD) Sales:

Define a measure to calculate the total sales amount accumulated from the earliest order date up to each order date.

Steps:

Step: Steps:

Go to power bi select the Order details table choose the new measure in table tools

Apply the formula

```
Year-to-Date (YTD) Sales = CALCULATE(SUM('Order Details'[Amount]), FILTER(ALL('List of Orders'[Order Date]), YEAR('List of Orders'[Order Date]) = YEAR(MAX('List of Orders'[Order Date])) && 'List of Orders'[Order Date] <= MAX('List of Orders'[Order Date])))
```

Using two table order details and list of orders

Screenshot:

The screenshot shows the Power BI Desktop interface with the following details:

- Top Bar:** Untitled - Power BI Desktop, File, Home, Help, Table tools, Measure tools, Search, Sign in, Share.
- Measure Tools Panel:** Shows a table structure for "Year-to-Date (YTD) Sales" with columns: Name, Format (\$%, Whole number), Data category (Uncategorized), and Calculations (New measure).
- Data View:** A table titled "Order Details" with columns: Order ID, Amount, Profit, Quantity, Category, Sub-Category, Category Type, revenue per order, and Sales Category. The table contains 1,500 rows of data.
- Right Sidebar:** Data pane showing the hierarchy of measures and tables used in the current model, such as CustomerName, Order Date, Order ID, State, Order Details, and various profit and quantity metrics.

The screenshot displays a Power BI Desktop interface with a dashboard containing three key metrics:

- Order Count:** 500
- average profit of Delhi:** 15.97
- Year-to-Date (YTD) Sales:** 432K

The "Year-to-Date (YTD) Sales" visualization is currently selected, indicated by a dashed border around its container.

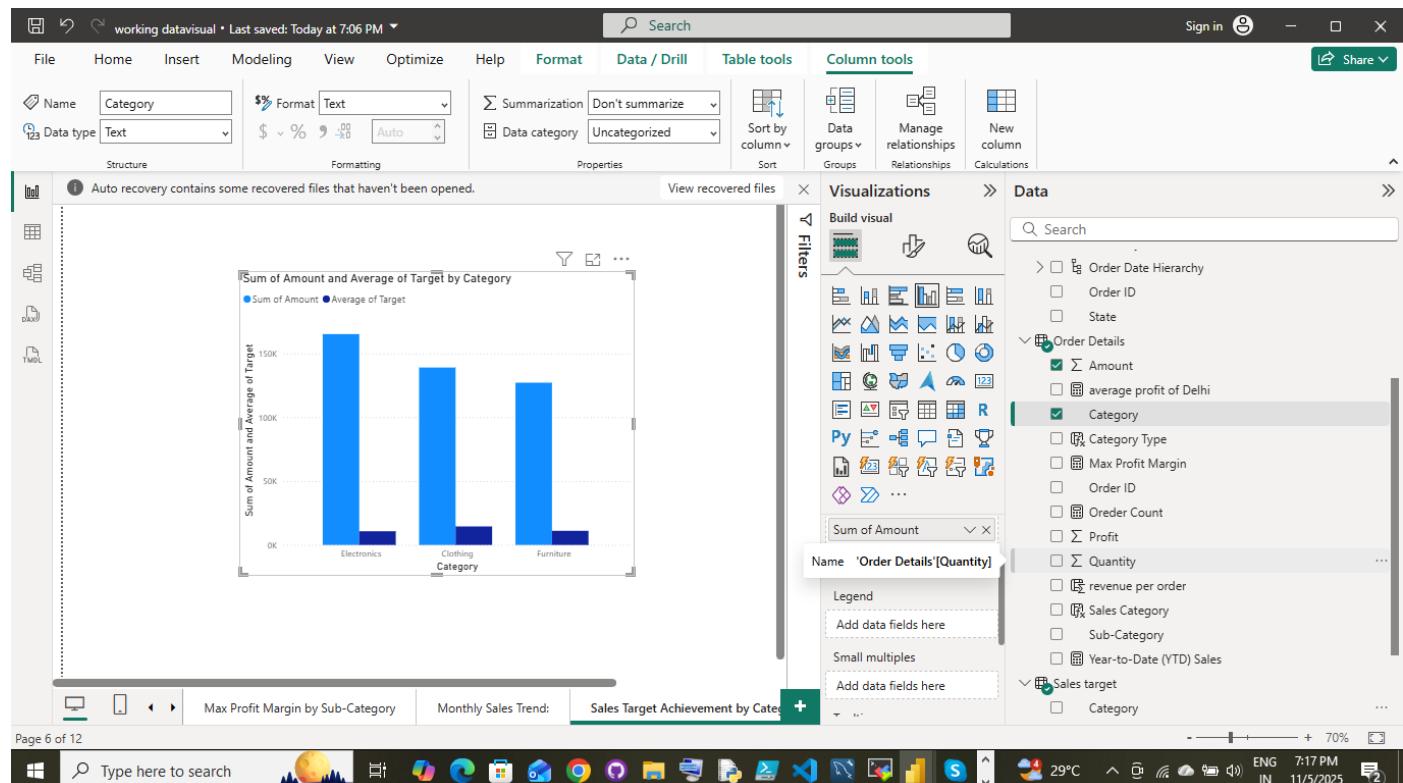
The ribbon menu at the top includes sections like File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, Data, Queries, Insert, Calculations, Sensitivity, Share, and Copilot.

The Visualizations pane on the right lists various chart types and report components, such as List of Orders, Order Details, and different chart icons for bar charts, line graphs, and maps.

Data Visualization:

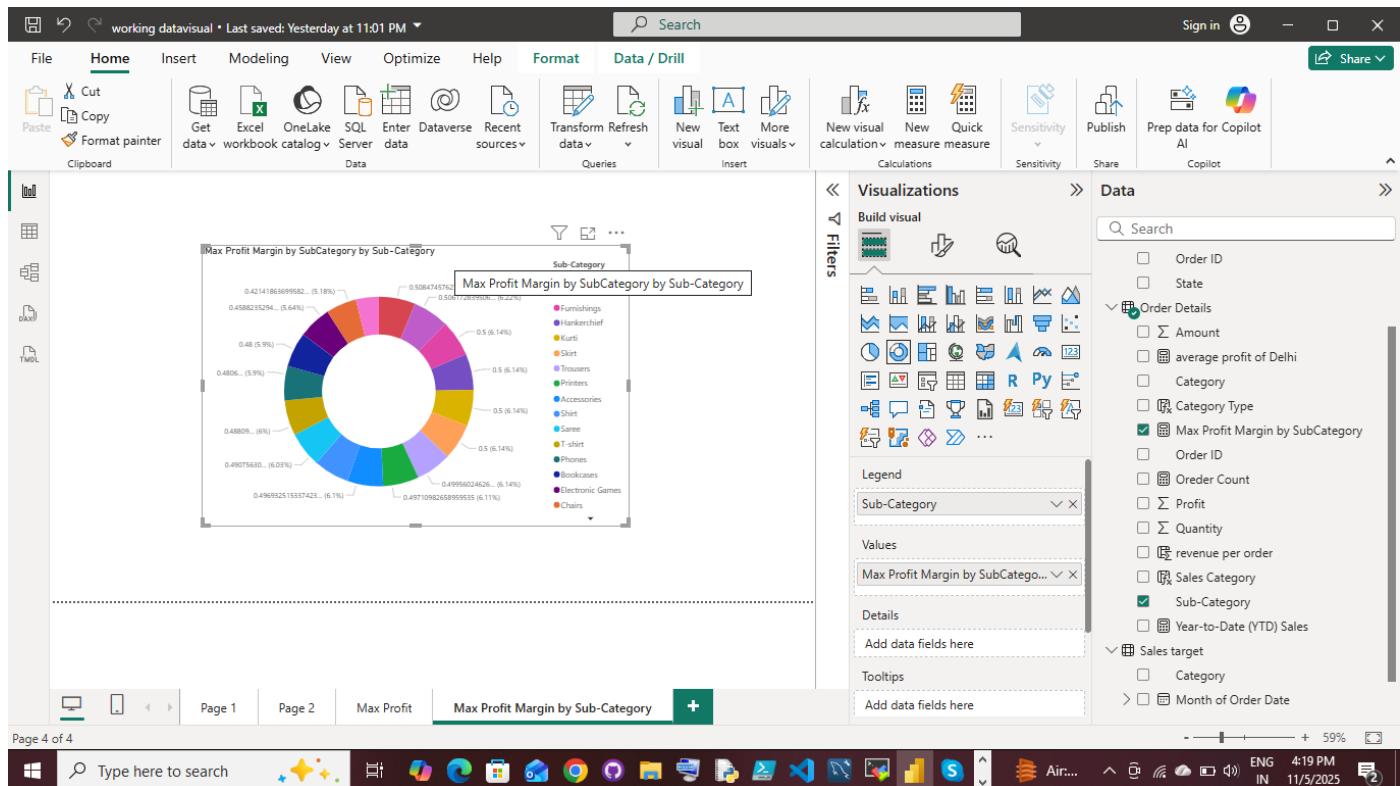
Sales Target Achievement by Category: Compare actual sales with sales targets by category using a clustered column chart.

Screenshot:

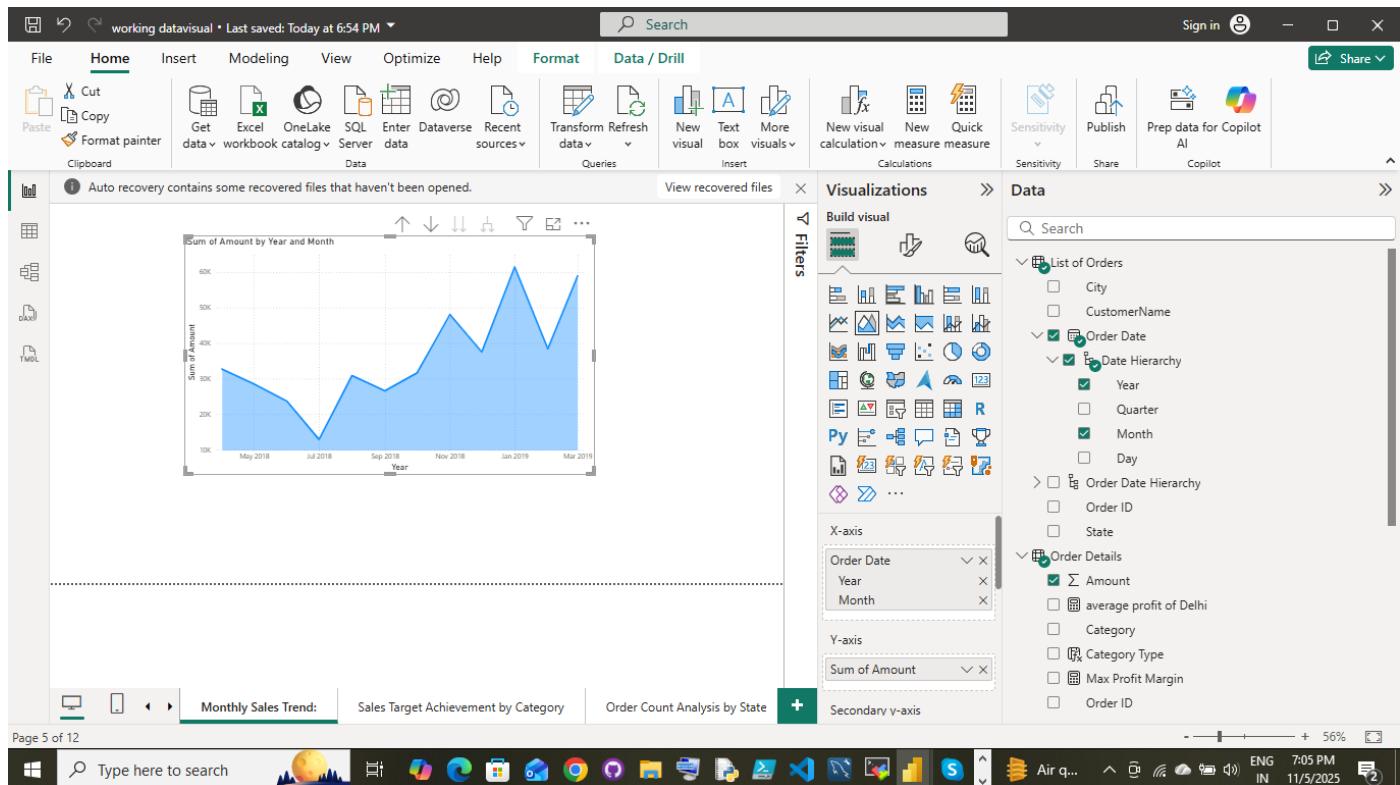


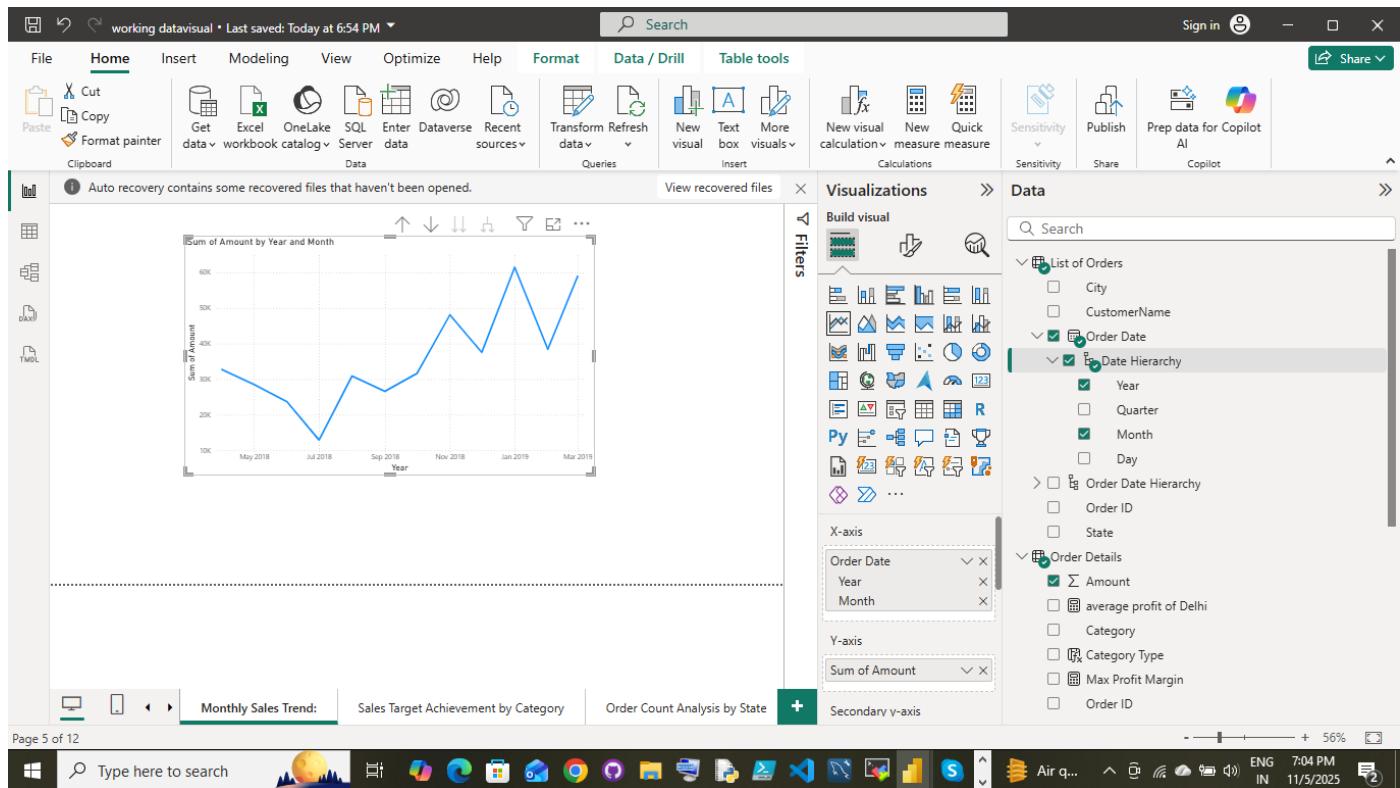
Max Profit Margin by Sub-Category: Analyze the maximum profit margin for each sub-category of products using a donut chart.

Screen short:

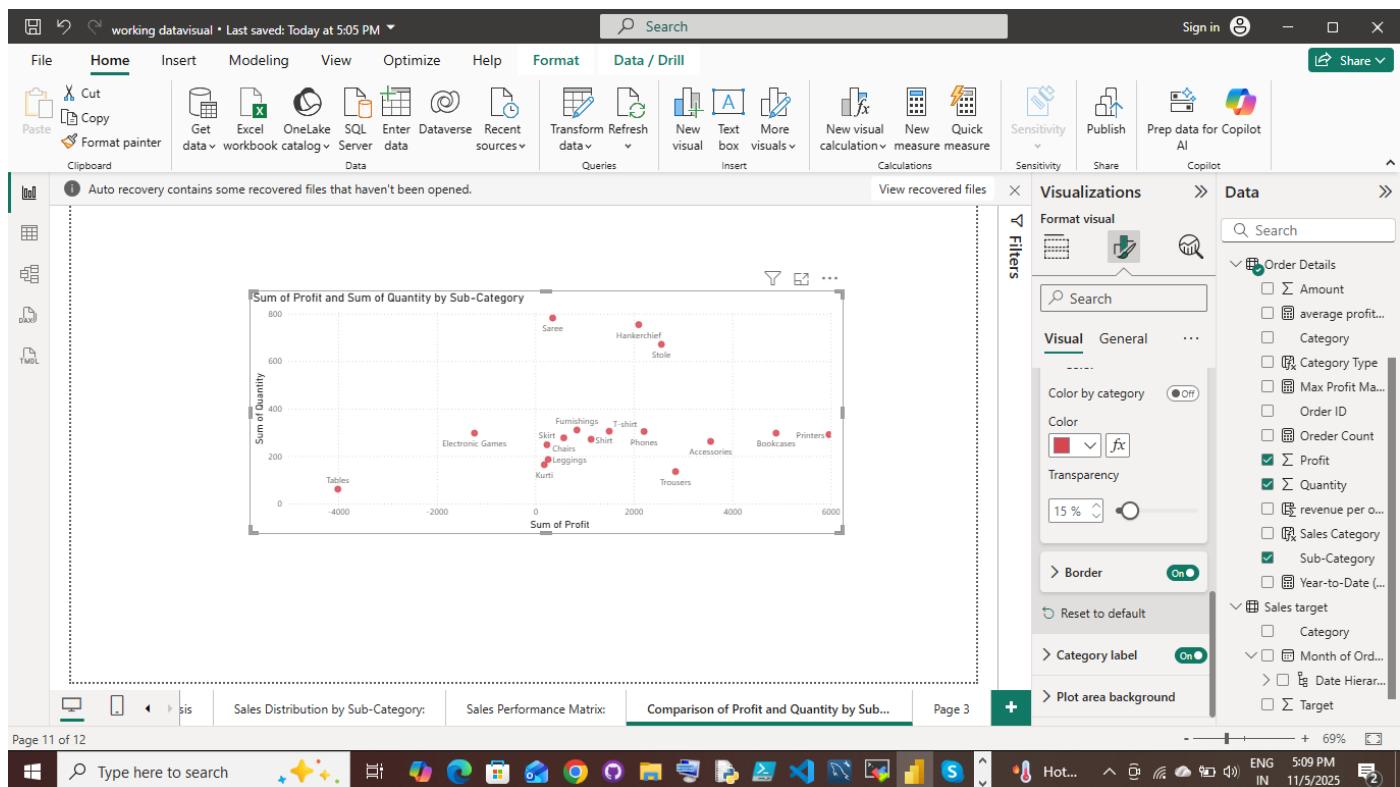


Monthly Sales Trend: Show the trend of monthly sales over time using a line chart.





Comparison of Profit and Quantity by Sub-Category: Compare the relationship between profit and quantity sold for different sub-categories using a scatter chart.



Comparison of Total Sales Amount and Target: Create cards to succinctly display the total sales amount alongside the sales target for quick comparison and analysis. Also, create a multi-row card to display the minimum target for each segment.

The screenshot shows a Power BI desktop interface with the following details:

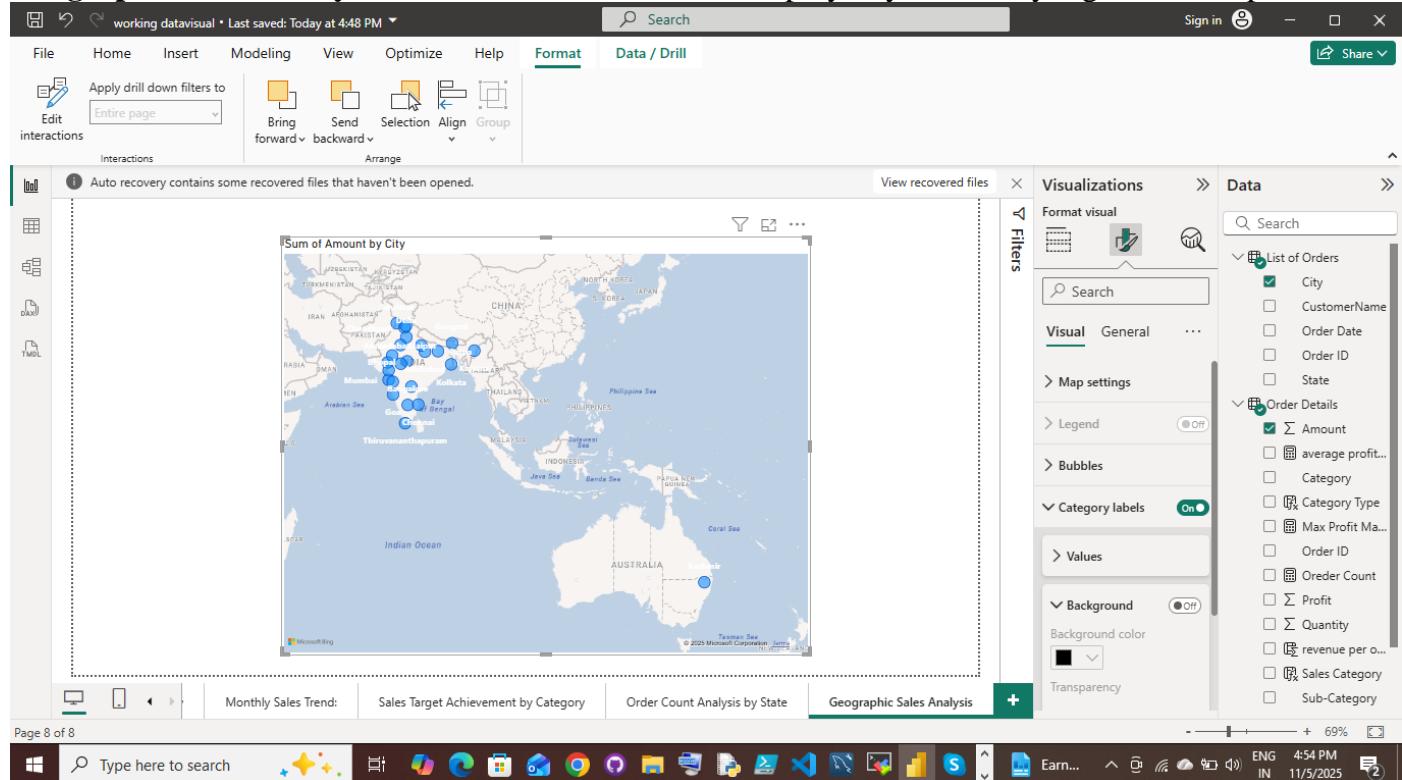
- Visualizations:** A card displays "432K" (Sum of Amount) and "12.11K" (Average of Target).
- Table:** A table visual shows data for three categories: Clothing, Electronics, and Furniture. Each row includes Order ID, Sum of Amount, and Min of Target.
- Filters:** The sidebar lists fields like Amount, Category, and Sales target.
- Bottom Navigation:** Includes tabs for Sales Distribution by Sub-Category, Sales Performance Matrix, and Comparison of Profit and Quantity by Sub-Category.
- System:** Shows the taskbar with various pinned icons and the system tray indicating the date and time as 11/5/2025.

Sales Performance Matrix: Build a matrix view to analyze how actual sales compare to sales targets across different categories and months.

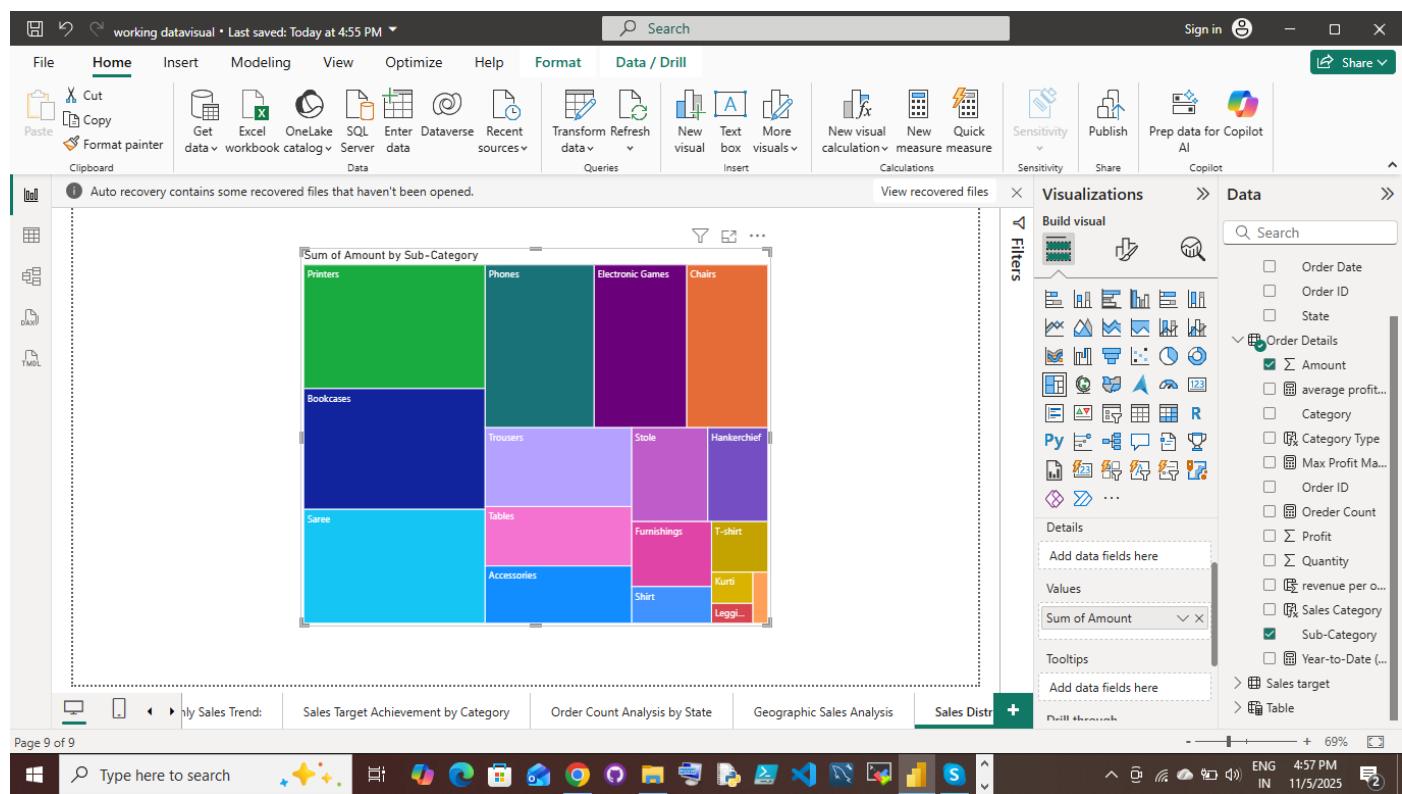
The screenshot shows a Power BI desktop interface with the following details:

- Visualizations:** A matrix visual displays sales data for 2025 across categories (Clothing, Furniture, Electronics) and months (Year, Month).
- Filters:** The sidebar lists fields like Order Details, Month of Order Date, and Sales target.
- Bottom Navigation:** Includes tabs for Sales Performance Matrix, Sales Distribution by Sub-Category, and Sales Performance.
- System:** Shows the taskbar with various pinned icons and the system tray indicating the date and time as 11/5/2025.

Geographic Sales Analysis: Visualize total sales on a map by city to identify regional sales patterns.



Sales Distribution by Sub-Category: Represent the sales distribution across different sub-categories using a treemap.



Order Count Analysis by State: Create a funnel chart to visualize the distribution of order counts across different states.

Screenshot:

