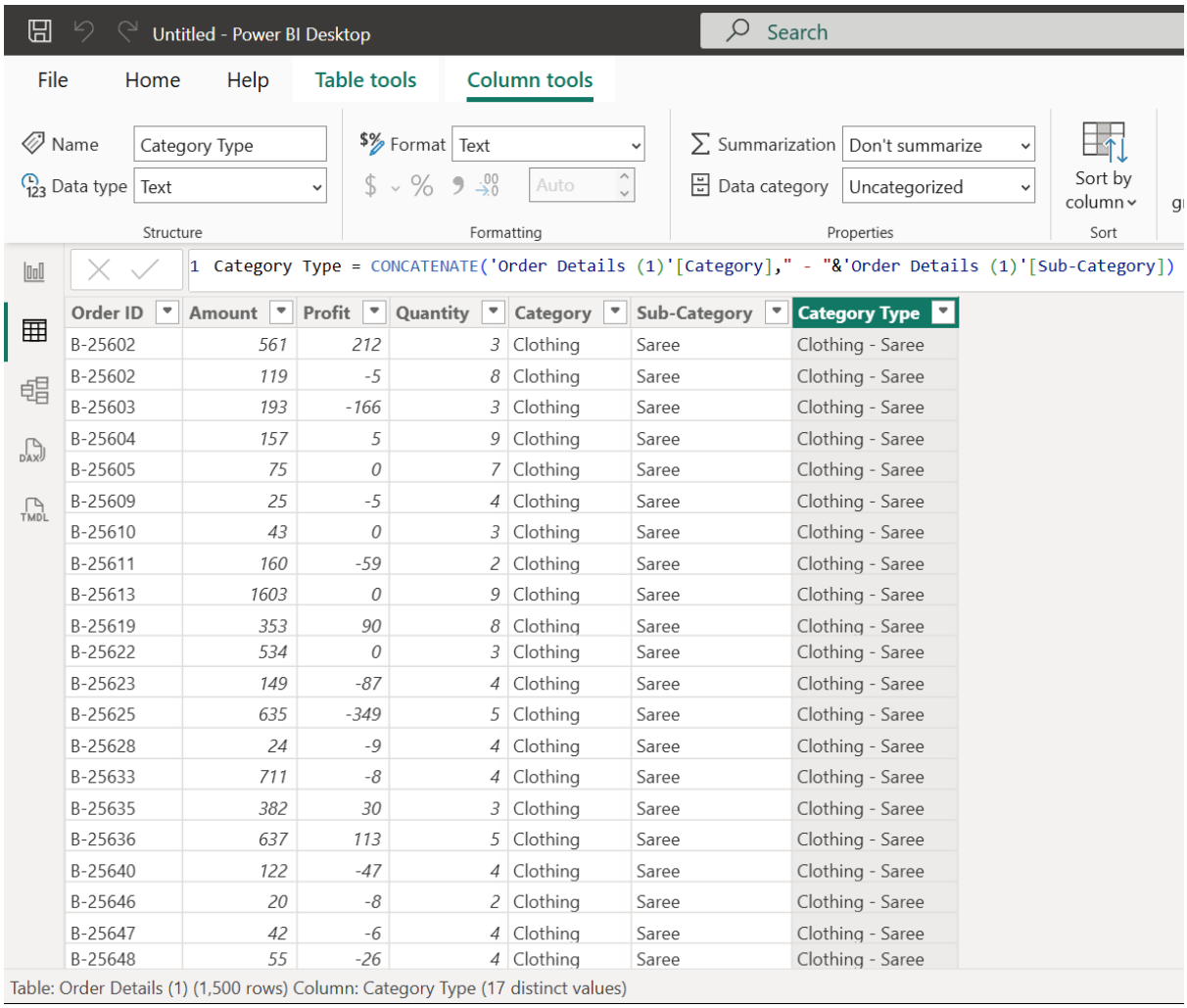
Power BI Assignment 2 – DAX & Data Visualization

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.



Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type
B-25602	561	212	3	Clothing	Saree	Clothing - Saree
B-25602	119	-5	8	Clothing	Saree	Clothing - Saree
B-25603	193	-166	3	Clothing	Saree	Clothing - Saree
B-25604	157	5	9	Clothing	Saree	Clothing - Saree
B-25605	75	0	7	Clothing	Saree	Clothing - Saree
B-25609	25	-5	4	Clothing	Saree	Clothing - Saree
B-25610	43	0	3	Clothing	Saree	Clothing - Saree
B-25611	160	-59	2	Clothing	Saree	Clothing - Saree
B-25613	1603	0	9	Clothing	Saree	Clothing - Saree
B-25619	353	90	8	Clothing	Saree	Clothing - Saree
B-25622	534	0	3	Clothing	Saree	Clothing - Saree
B-25623	149	-87	4	Clothing	Saree	Clothing - Saree
B-25625	635	-349	5	Clothing	Saree	Clothing - Saree
B-25628	24	-9	4	Clothing	Saree	Clothing - Saree
B-25633	711	-8	4	Clothing	Saree	Clothing - Saree
B-25635	382	30	3	Clothing	Saree	Clothing - Saree
B-25636	637	113	5	Clothing	Saree	Clothing - Saree
B-25640	122	-47	4	Clothing	Saree	Clothing - Saree
B-25646	20	-8	2	Clothing	Saree	Clothing - Saree
B-25647	42	-6	4	Clothing	Saree	Clothing - Saree
B-25648	55	-26	4	Clothing	Saree	Clothing - Saree

Table: Order Details (1) (1,500 rows) Column: Category Type (17 distinct values)

● 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.

```
1 Revenue = 'Order Details (1)'[Amount]*'Order Details (1)'[Quantity]
```

Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue
561	212	3	Clothing	Saree	Clothing - Saree	1683
119	-5	8	Clothing	Saree	Clothing - Saree	952
193	-166	3	Clothing	Saree	Clothing - Saree	579
157	5	9	Clothing	Saree	Clothing - Saree	1413
75	0	7	Clothing	Saree	Clothing - Saree	525
25	-5	4	Clothing	Saree	Clothing - Saree	100
43	0	3	Clothing	Saree	Clothing - Saree	129
160	-59	2	Clothing	Saree	Clothing - Saree	320
1603	0	9	Clothing	Saree	Clothing - Saree	14427
353	90	8	Clothing	Saree	Clothing - Saree	2824
534	0	3	Clothing	Saree	Clothing - Saree	1602
149	-87	4	Clothing	Saree	Clothing - Saree	596
635	-349	5	Clothing	Saree	Clothing - Saree	3175

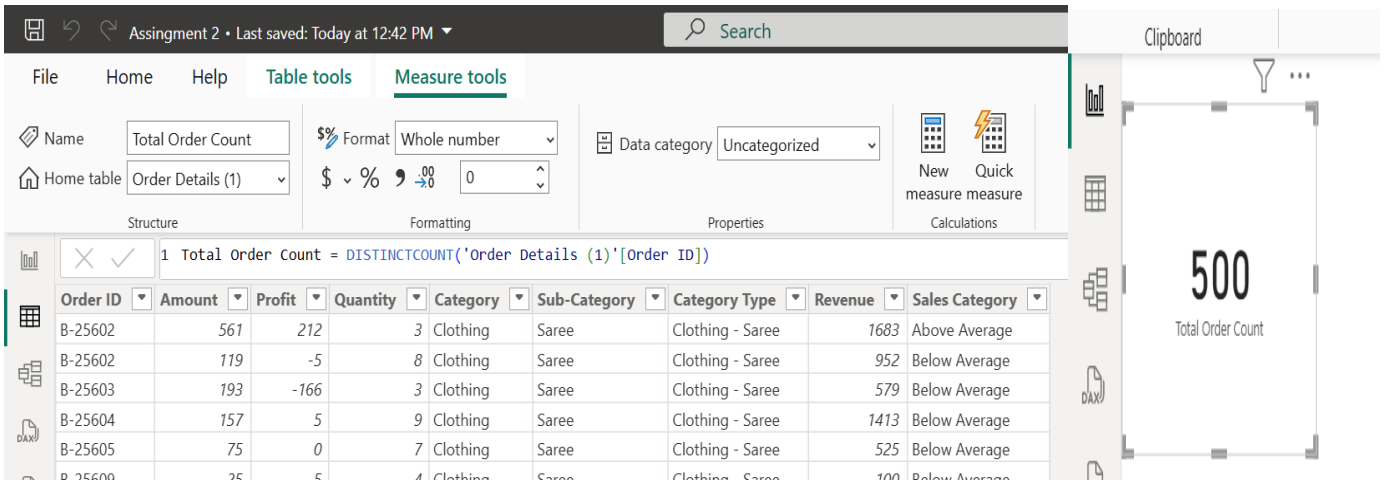
● Create a Calculated Column to Categorize Sales: Add a calculated column named ‘Sales Category’ in the Order Details table that categorizes each order as 'Above Average' or 'Below Average' based on the Amount value.

```
1 Sales Category = IF('Order Details (1)'[Amount] > AVERAGE('Order Details (1)'[Amount]),"Above Average","Below Average")
```

Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue	Sales Category
561	212	3	Clothing	Saree	Clothing - Saree	1683	Above Average
119	-5	8	Clothing	Saree	Clothing - Saree	952	Below Average
193	-166	3	Clothing	Saree	Clothing - Saree	579	Below Average
157	5	9	Clothing	Saree	Clothing - Saree	1413	Below Average
75	0	7	Clothing	Saree	Clothing - Saree	525	Below Average
25	-5	4	Clothing	Saree	Clothing - Saree	100	Below Average
43	0	3	Clothing	Saree	Clothing - Saree	129	Below Average
160	-59	2	Clothing	Saree	Clothing - Saree	320	Below Average
1603	0	9	Clothing	Saree	Clothing - Saree	14427	Above Average
353	90	8	Clothing	Saree	Clothing - Saree	2824	Above Average
534	0	3	Clothing	Saree	Clothing - Saree	1602	Above Average
149	-87	4	Clothing	Saree	Clothing - Saree	596	Below Average
635	-349	5	Clothing	Saree	Clothing - Saree	3175	Above Average
24	-9	4	Clothing	Saree	Clothing - Saree	96	Below Average
711	-8	4	Clothing	Saree	Clothing - Saree	2844	Above Average
382	30	3	Clothing	Saree	Clothing - Saree	1146	Above Average
637	113	5	Clothing	Saree	Clothing - Saree	3185	Above Average
122	-47	4	Clothing	Saree	Clothing - Saree	488	Below Average
20	-8	2	Clothing	Saree	Clothing - Saree	40	Below Average
42	-6	4	Clothing	Saree	Clothing - Saree	168	Below Average
55	-26	4	Clothing	Saree	Clothing - Saree	220	Below Average

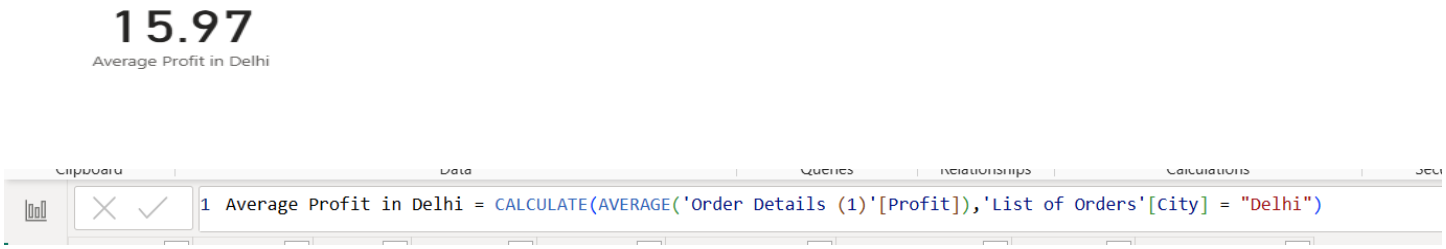
Calculated Measures:

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



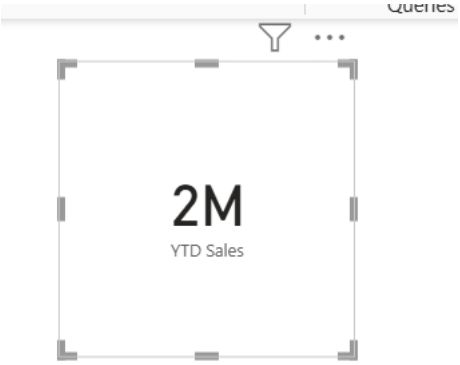
Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue	Sales Category
B-25602	561	212	3	Clothing	Saree	Clothing - Saree	1683	Above Average
B-25602	119	-5	8	Clothing	Saree	Clothing - Saree	952	Below Average
B-25603	193	-166	3	Clothing	Saree	Clothing - Saree	579	Below Average
B-25604	157	5	9	Clothing	Saree	Clothing - Saree	1413	Below Average
B-25605	75	0	7	Clothing	Saree	Clothing - Saree	525	Below Average

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



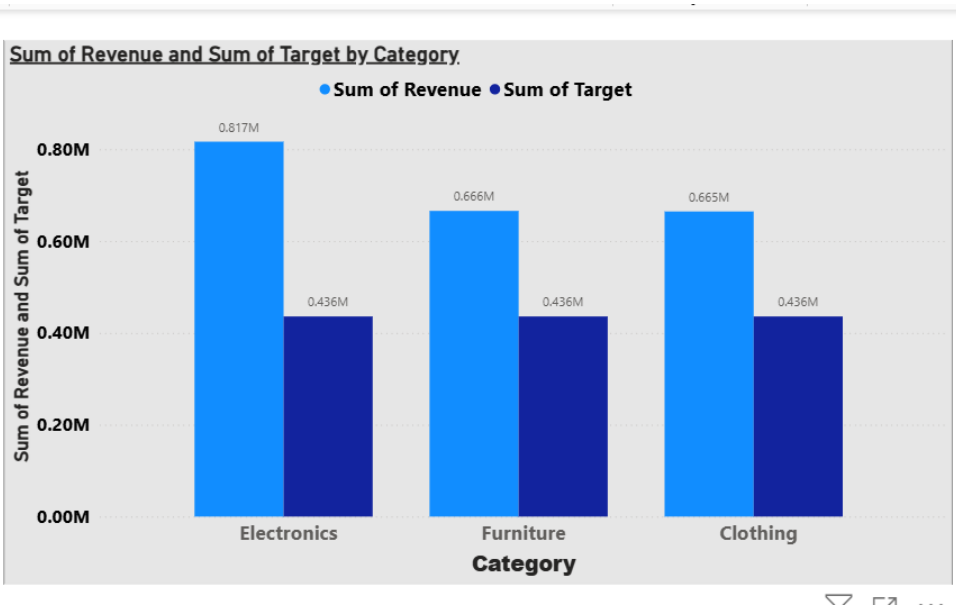
● **Calculate Year-to-Date (YTD) Sales: Define a measure to calculate the total sales amount accumulated from the earliest order date up to each order date.**

Formula : YTD Sales = TOTALYTD(sum('Order Details (1)'[Revenue]),'List of Orders'[Order Date])

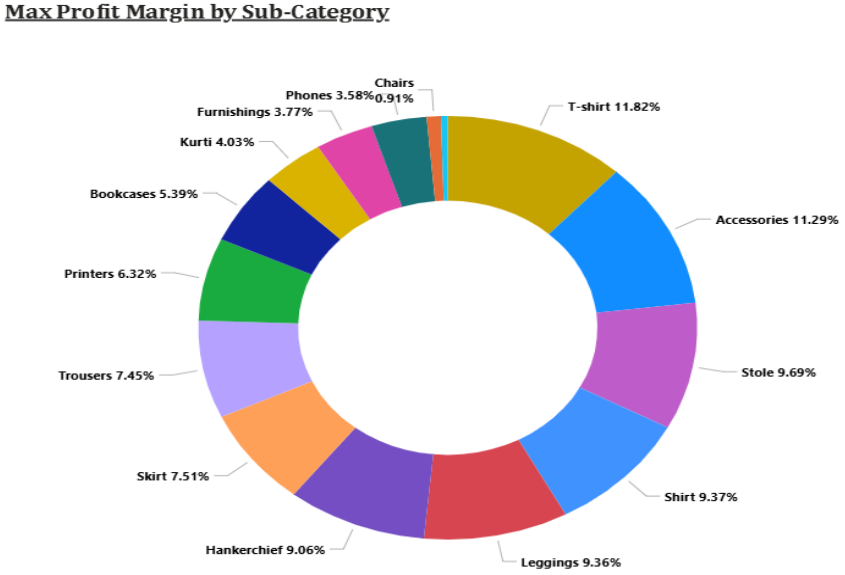


Data Visualization:

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



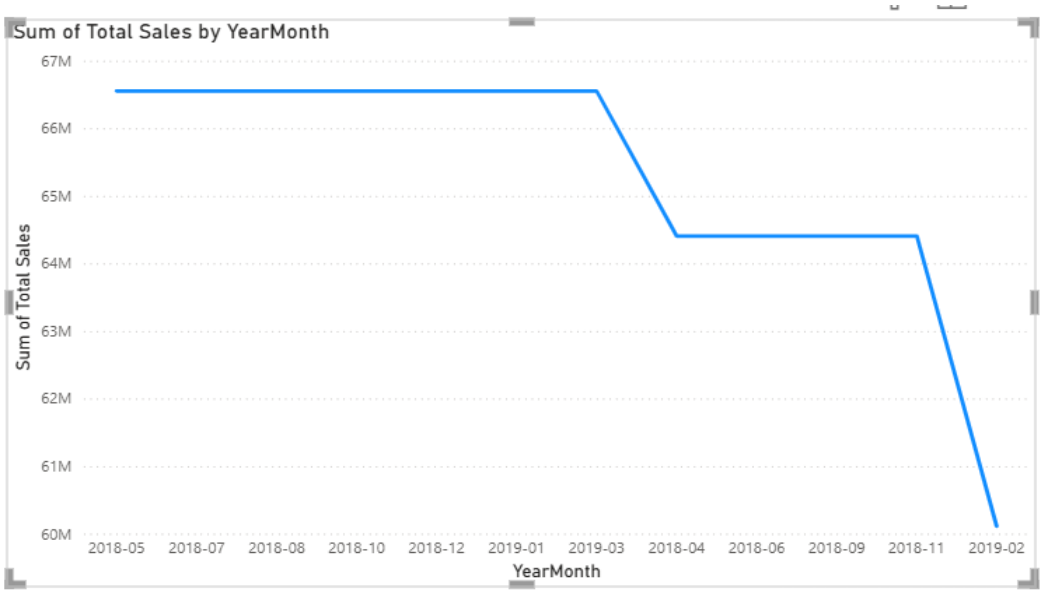
2.Max Profit Margin by Sub-Category: Analyze the maximum profit margin for each sub-category of products using a donut chart.



Note: **Profit Margin = DIVIDE(sum('Order Details (1)'[Profit]),sum('Order Details (1)'[Revenue]),0)**

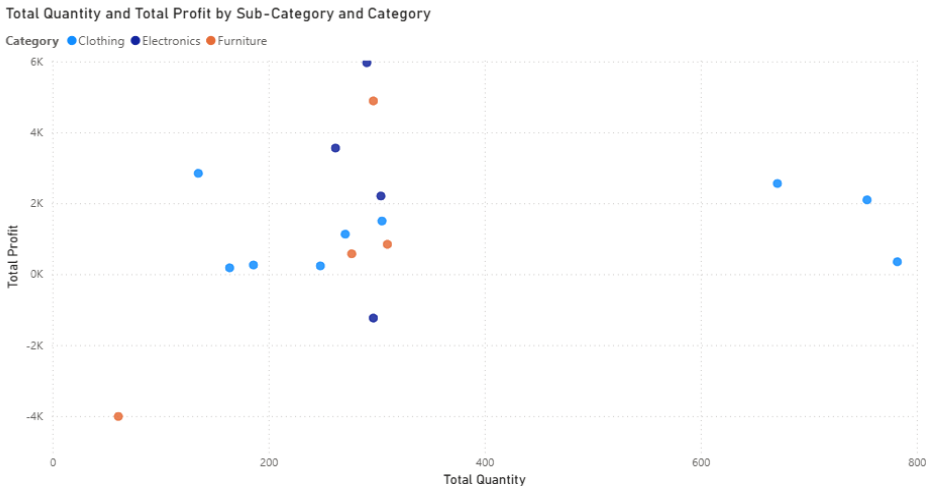
Max Profit Margin = Calculate(maxx('Sales target (1)',[Profit Margin]))

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



Note: YearMonth = FORMAT('DateTable'[Date], "YYYY-MM")

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



Note: Total Profit = SUM('Order Details'[Profit])

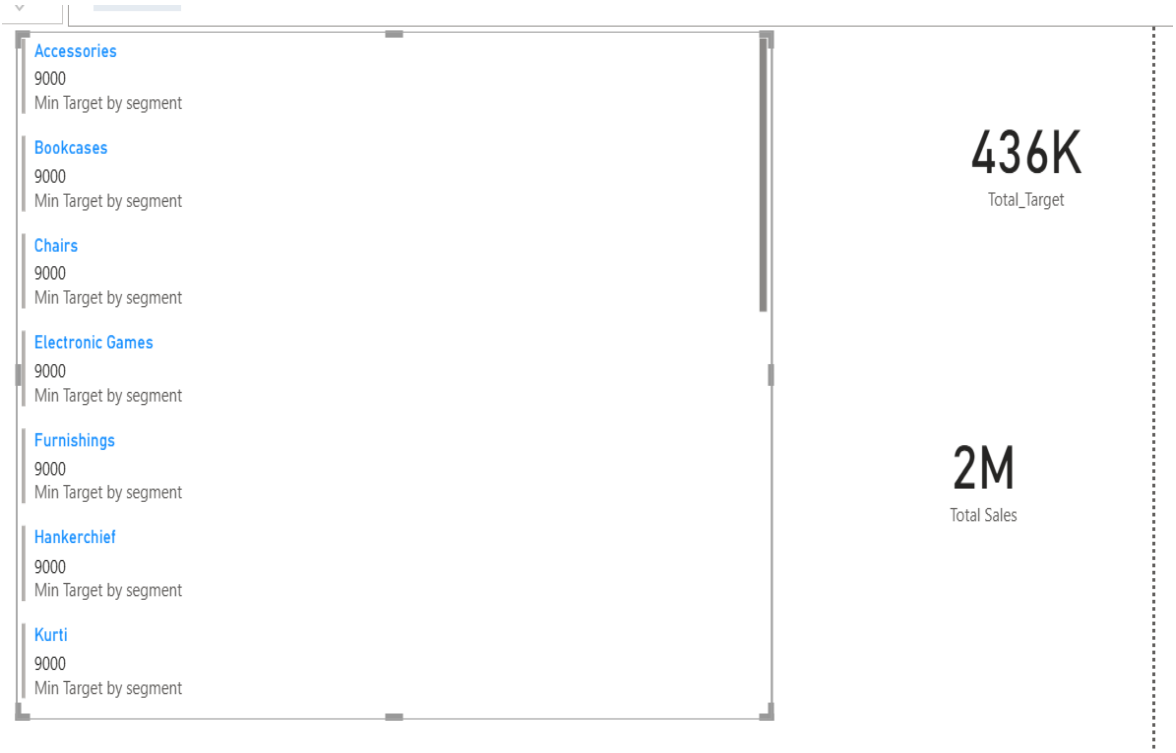
Total Quantity = SUM('Order Details'[Quantity])

5.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.

Note: **Total Sales = SUMX(OrderDetails, OrderDetails[Amount] * OrderDetails[Quantity])**

Total Target = SUM(SalesTarget[Target])

Min Target by Segment = CALCULATE(MIN(SalesTarget[Target]),ALLEXCEPT (SalesTarget, SalesTarget[Segment]))



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

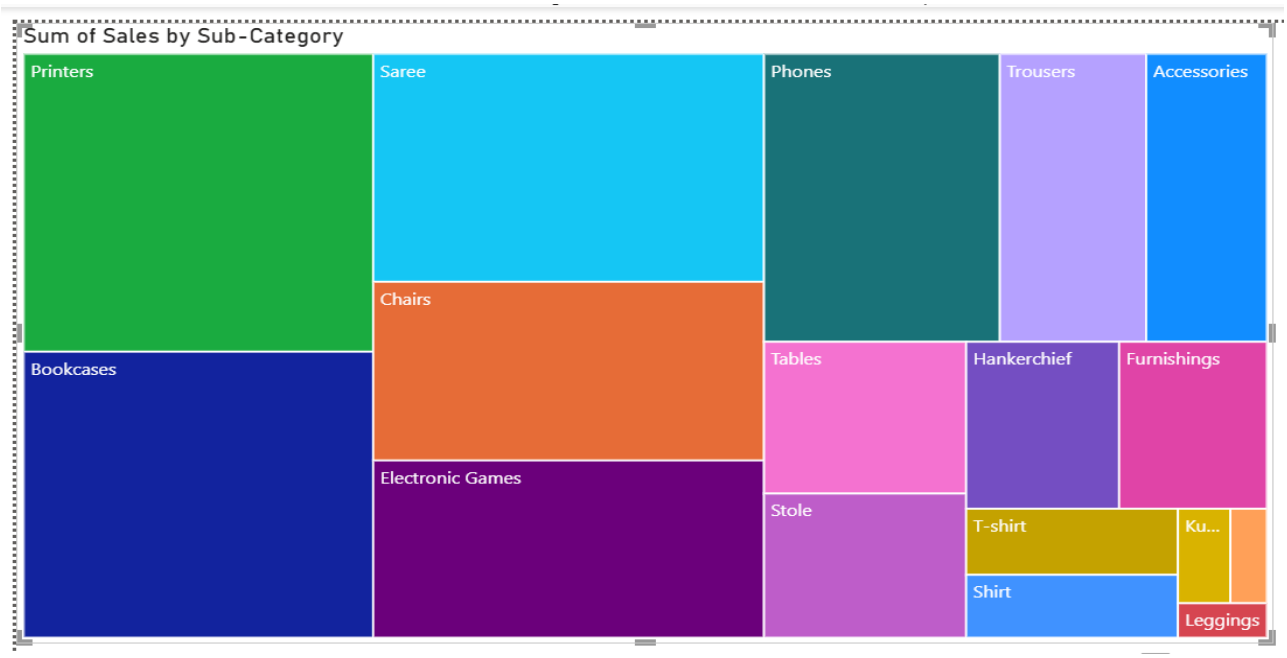
Note: **Actual Sales = sum('Order Details '[Revenue])**

Target Sales = sum('Sales target'[Target])
Performance % = DIVIDE([Actual Sales], [Target Sales], 0)

Category	Clothing			Electronics			Furniture			Total		
YearMonth	Actual Sales	Target Sales	Performance%	Actual Sales	Target Sales	Performance%	Actual Sales	Target Sales	Performance%	Actual Sales	Target Sales	Performance%
2018-04	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-05	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-06	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-07	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-08	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-09	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-10	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-11	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2018-12	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2019-01	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2019-02	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
2019-03	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93
Total	664522	435900	1.52	816583	435900	1.87	665765	435900	1.53	2146870	435900	4.93

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

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



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