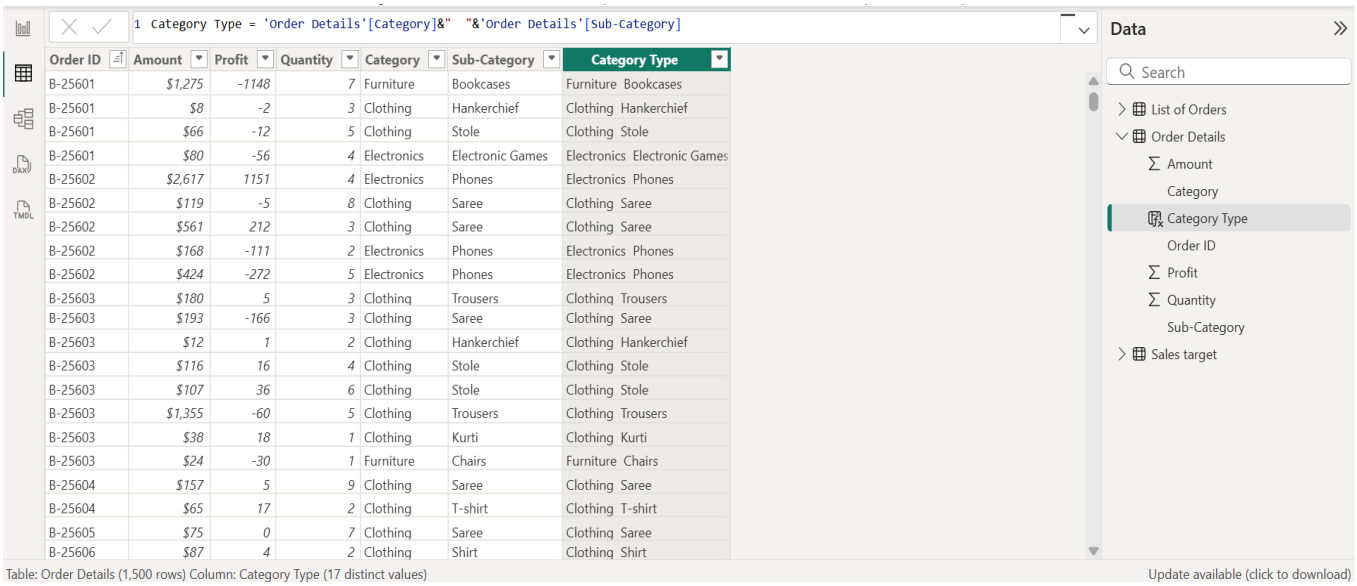
Power BI Assignment 2 - DAX & Data Visualisation

*Description below respective screenshots attached.

E-Commerce Sales Analysis

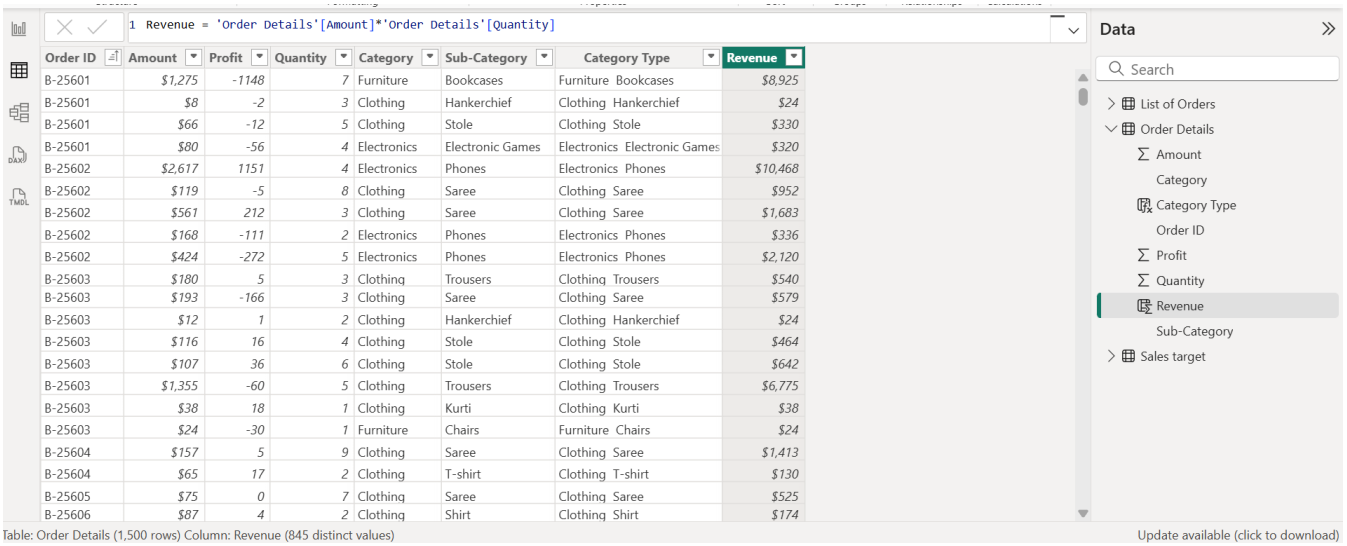
Calculated Columns:

1) Add a Calculated Column in the Order Details table that combines the 'Category' and 'Sub Category' columns into a single 'Category Type'.
   DAX Syntax: Category Type = 'Order Details'[Category]&" "&'Order Details'[Sub-Category].



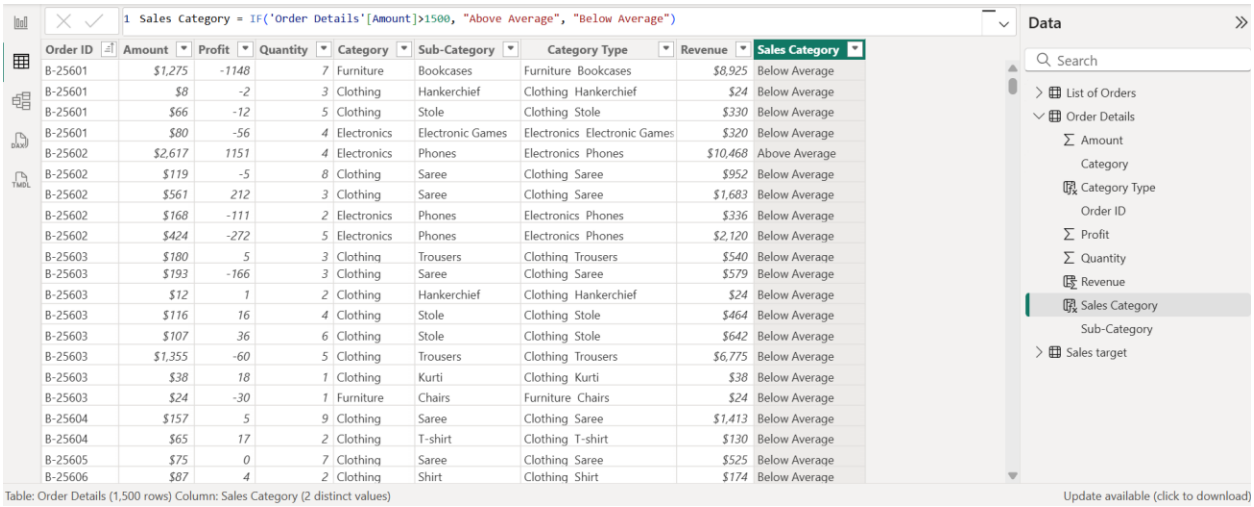
Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type
B-25601	$1,275	-1148	7	Furniture	Bookcases	Furniture Bookcases
B-25601	$8	-2	3	Clothing	Hankerchief	Clothing Hankerchief
B-25601	$66	-12	5	Clothing	Stole	Clothing Stole
B-25601	$80	-56	4	Electronics	Electronic Games	Electronics Electronic Games
B-25602	$2,617	1151	4	Electronics	Phones	Electronics Phones
B-25602	$119	-5	8	Clothing	Saree	Clothing Saree
B-25602	$561	212	3	Clothing	Saree	Clothing Saree
B-25602	$168	-111	2	Electronics	Phones	Electronics Phones
B-25602	$424	-272	5	Electronics	Phones	Electronics Phones
B-25603	$180	5	3	Clothing	Trousers	Clothing Trousers
B-25603	$193	-166	3	Clothing	Saree	Clothing Saree
B-25603	$12	1	2	Clothing	Hankerchief	Clothing Hankerchief
B-25603	$116	16	4	Clothing	Stole	Clothing Stole
B-25603	$107	36	6	Clothing	Stole	Clothing Stole
B-25603	$1,355	-60	5	Clothing	Trousers	Clothing Trousers
B-25603	$38	18	1	Clothing	Kurti	Clothing Kurti
B-25603	$24	-30	1	Furniture	Chairs	Furniture Chairs
B-25604	$157	5	9	Clothing	Saree	Clothing Saree
B-25604	$65	17	2	Clothing	T-shirt	Clothing T-shirt
B-25605	$75	0	7	Clothing	Saree	Clothing Saree
B-25606	$87	4	2	Clothing	Shirt	Clothing Shirt

2) Calculate Revenue per Order in Order Details Table: Create a calculated column in the Order Details table to compute the revenue per order.
   DAX Syntax: Revenue='Order Details'[Amount]'Order Details[Quantity]*



Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue
B-25601	$1,275	-1148	7	Furniture	Bookcases	Furniture Bookcases	$8,925
B-25601	$8	-2	3	Clothing	Hankerchief	Clothing Hankerchief	$24
B-25601	$66	-12	5	Clothing	Stole	Clothing Stole	$330
B-25601	$80	-56	4	Electronics	Electronic Games	Electronics Electronic Games	$320
B-25602	$2,617	1151	4	Electronics	Phones	Electronics Phones	$10,468
B-25602	$119	-5	8	Clothing	Saree	Clothing Saree	$952
B-25602	$561	212	3	Clothing	Saree	Clothing Saree	$1,683
B-25602	$168	-111	2	Electronics	Phones	Electronics Phones	$336
B-25602	$424	-272	5	Electronics	Phones	Electronics Phones	$2,120
B-25603	$180	5	3	Clothing	Trousers	Clothing Trousers	$540
B-25603	$193	-166	3	Clothing	Saree	Clothing Saree	$579
B-25603	$12	1	2	Clothing	Hankerchief	Clothing Hankerchief	$24
B-25603	$116	16	4	Clothing	Stole	Clothing Stole	$464
B-25603	$107	36	6	Clothing	Stole	Clothing Stole	$642
B-25603	$1,355	-60	5	Clothing	Trousers	Clothing Trousers	$6,775
B-25603	$38	18	1	Clothing	Kurti	Clothing Kurti	$38
B-25603	$24	-30	1	Furniture	Chairs	Furniture Chairs	$24
B-25604	$157	5	9	Clothing	Saree	Clothing Saree	$1,413
B-25604	$65	17	2	Clothing	T-shirt	Clothing T-shirt	$130
B-25605	$75	0	7	Clothing	Saree	Clothing Saree	$525
B-25606	$87	4	2	Clothing	Shirt	Clothing Shirt	$174

3) Add a calculated column named ‘Sales Category’ in the Order Details table that categorises each order as ‘Above Average’ or ‘Below Average’ based on the Amount value.
DAX Syntax: Sales Category = IF(‘Order Details’[Amount]>1500,” Above Average,” Below Average”).
(Remarks: Amount value spread between $4.00 and $5749.00; therefore, taking the average value as $1500, since based on the consideration of sub-category items).



Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue	Sales Category
B-25601	$1,275	-1148	7	Furniture	Bookcases	Furniture Bookcases	$8,925	Below Average
B-25601	$8	-2	3	Clothing	Hankerchief	Clothing Hankerchief	$24	Below Average
B-25601	$66	-12	5	Clothing	Stole	Clothing Stole	$330	Below Average
B-25601	$80	-56	4	Electronics	Electronic Games	Electronics Electronic Games	$320	Below Average
B-25602	$2,617	1151	4	Electronics	Phones	Electronics Phones	$10,468	Above Average
B-25602	$119	-5	8	Clothing	Saree	Clothing Saree	$952	Below Average
B-25602	$561	212	3	Clothing	Saree	Clothing Saree	$1,683	Below Average
B-25602	$168	-111	2	Electronics	Phones	Electronics Phones	$336	Below Average
B-25602	$424	-272	5	Electronics	Phones	Electronics Phones	$2,120	Below Average
B-25603	$180	5	3	Clothing	Trousers	Clothing Trousers	$540	Below Average
B-25603	$193	-166	3	Clothing	Saree	Clothing Saree	$579	Below Average
B-25603	$12	1	2	Clothing	Hankerchief	Clothing Hankerchief	$24	Below Average
B-25603	$116	16	4	Clothing	Stole	Clothing Stole	$464	Below Average
B-25603	$107	36	6	Clothing	Stole	Clothing Stole	$642	Below Average
B-25603	$1,355	-60	5	Clothing	Trousers	Clothing Trousers	$6,775	Below Average
B-25603	$38	18	1	Clothing	Kurti	Clothing Kurti	$38	Below Average
B-25603	$24	-30	1	Furniture	Chairs	Furniture Chairs	$24	Below Average
B-25604	$157	5	9	Clothing	Saree	Clothing Saree	$1,413	Below Average
B-25604	$65	17	2	Clothing	T-shirt	Clothing T-shirt	$130	Below Average
B-25605	$75	0	7	Clothing	Saree	Clothing Saree	$525	Below Average
B-25606	$87	4	2	Clothing	Shirt	Clothing Shirt	$174	Below Average

4) Define a measure to count the total number of orders in the Order Details table.
DAX Syntax: Order Count = DISTINCTCOUNT('List of Orders'[Order ID])

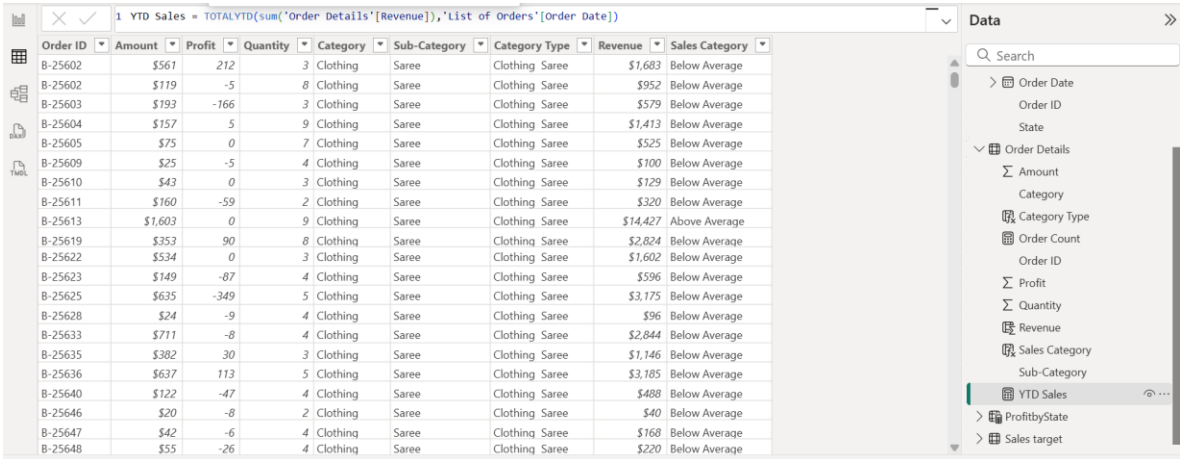
Order ID	Amount	Profit	Quantity	Category	Sub-Category	Category Type	Revenue	Sales Category
B-25602	$561	212	3	Clothing	Saree	Clothing Saree	$1,683	Below Average
B-25602	$119	-5	8	Clothing	Saree	Clothing Saree	$952	Below Average
B-25603	$193	-166	3	Clothing	Saree	Clothing Saree	$579	Below Average
B-25604	$157	5	9	Clothing	Saree	Clothing Saree	$1,413	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	$1,603	0	9	Clothing	Saree	Clothing Saree	$14,427	Above Average
B-25619	$353	90	8	Clothing	Saree	Clothing Saree	$2,824	Below Average
B-25622	$534	0	3	Clothing	Saree	Clothing Saree	$1,602	Below Average
B-25623	$149	-87	4	Clothing	Saree	Clothing Saree	$596	Below Average
B-25625	$635	-349	5	Clothing	Saree	Clothing Saree	$3,175	Below Average
B-25628	$24	-9	4	Clothing	Saree	Clothing Saree	$96	Below Average
B-25633	$711	-8	4	Clothing	Saree	Clothing Saree	$2,844	Below Average
B-25635	$382	30	3	Clothing	Saree	Clothing Saree	$1,146	Below Average
B-25636	$637	113	5	Clothing	Saree	Clothing Saree	$3,185	Below 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

5) Create a measure to calculate the average profit for orders placed in Delhi

Average Profit Delhi = Calculate(AVERAGE('Order Details'[Profit]),'List of Orders'[State]="Delhi")

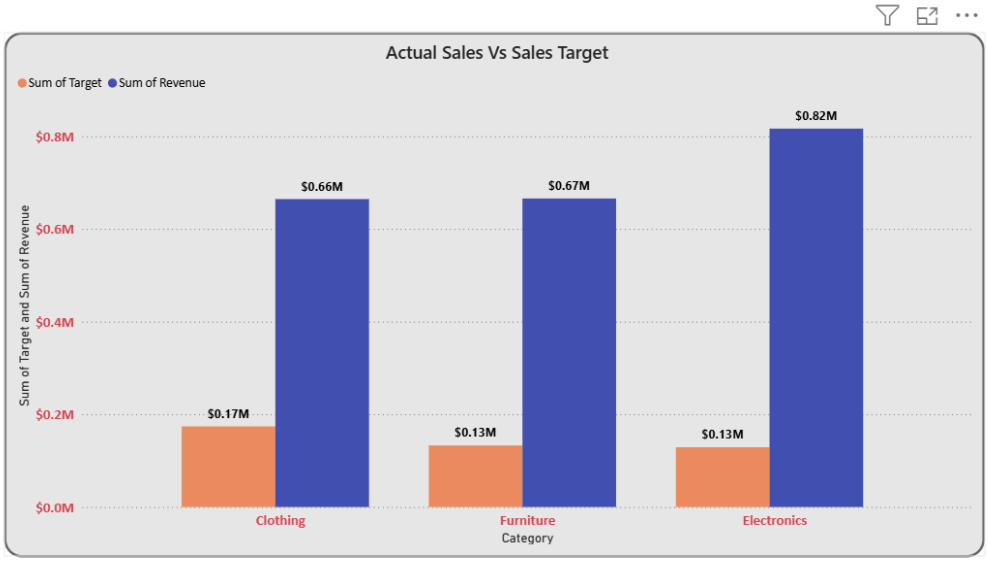
6) Create Year-to-Date (YTD) Sales: Define a measure to calculate the total sales amount accumulated from the earliest order date up to each order date.

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

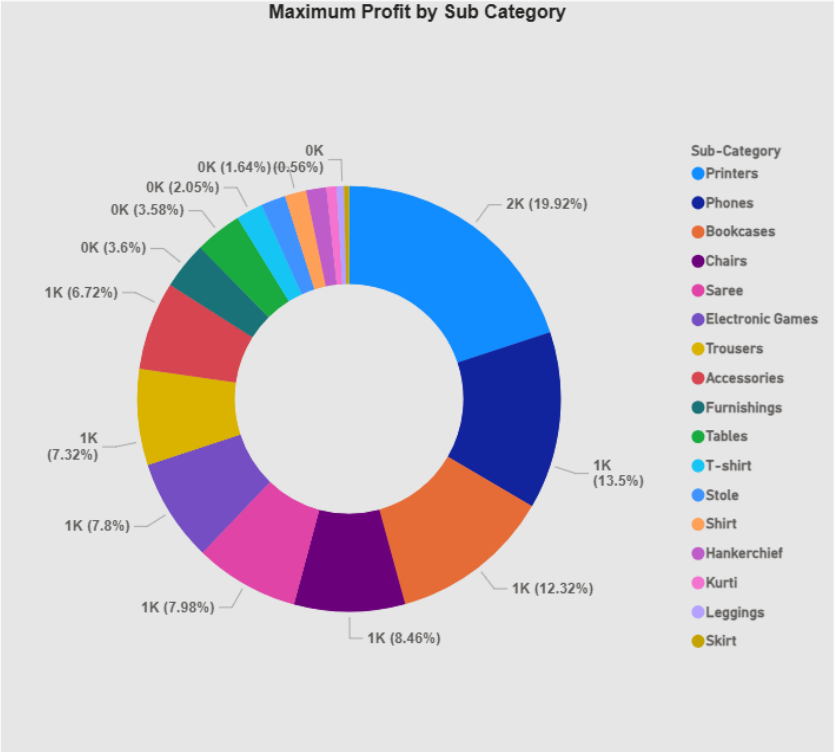


Data Visualisation:

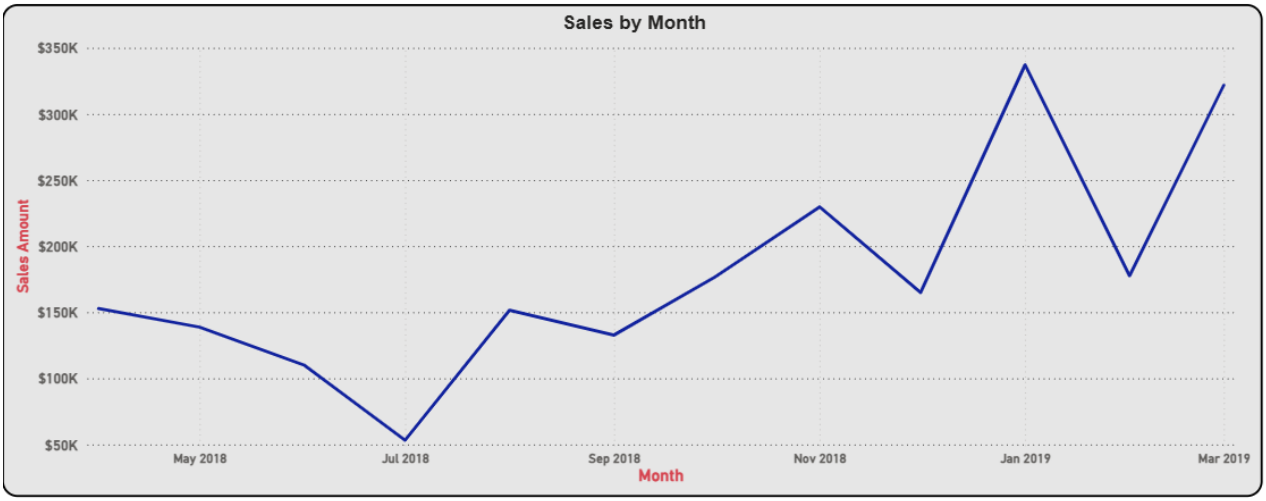
7) Sales Target Achievement by Category: Compare actual sales with sales targets by category using a *clustered column chart*.



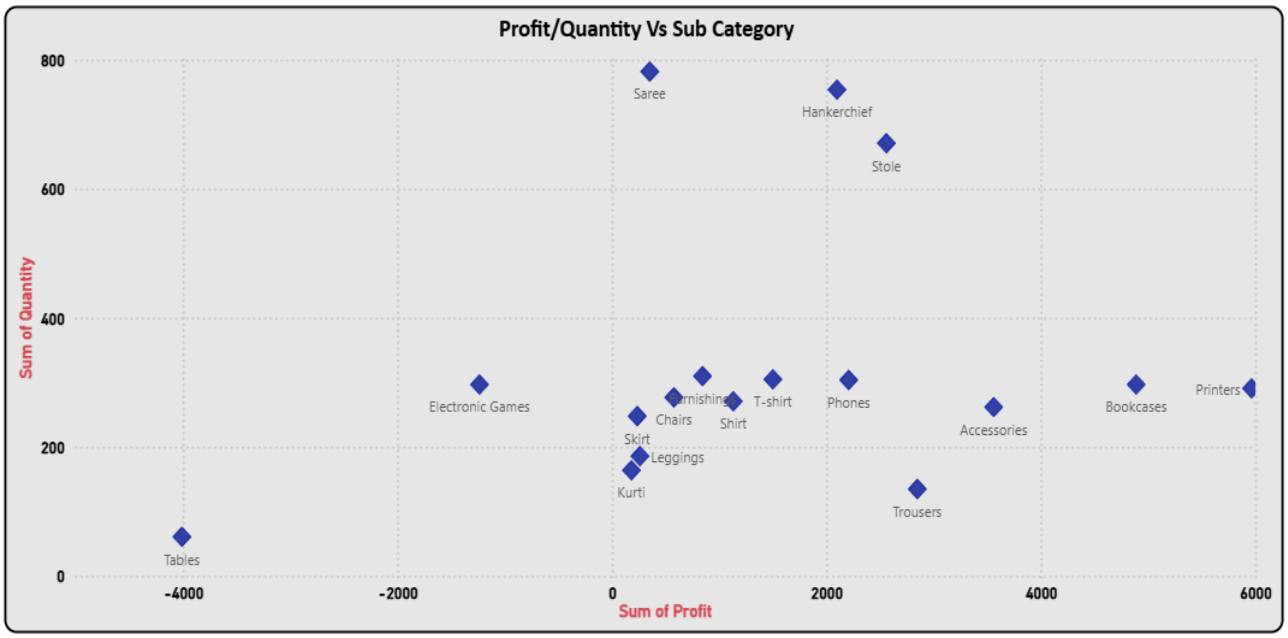
8) **Max Profit Margin by Sub-Category:** Analyse the maximum profit margin for each sub-category of products using a *donut chart.*



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



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



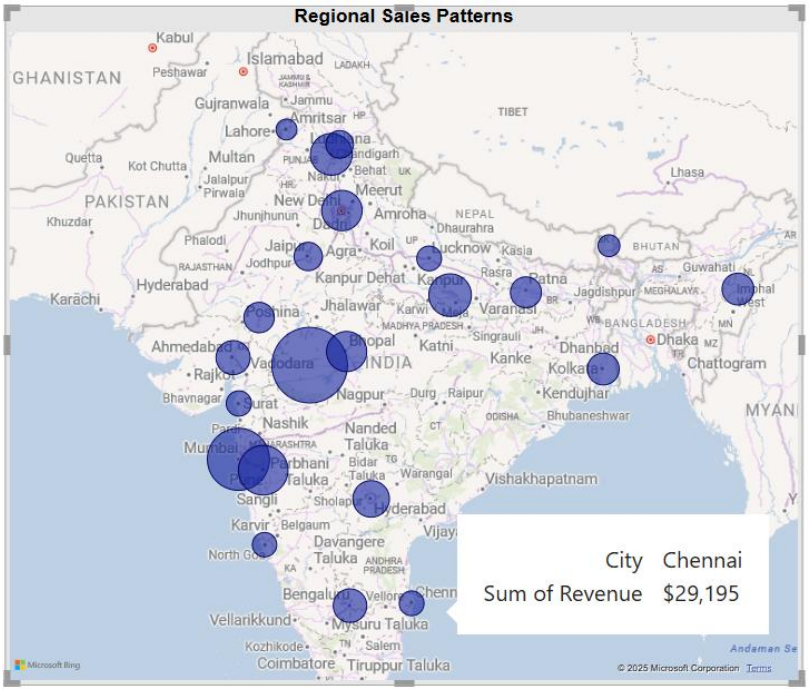
11) Comparison of Total Sales Amount and Target: Create *cards* to succinctly display the total sales amount alongside the sales target for quick comparison and analysis. Also, create a *multi-row card* to display the minimum target for each segment.

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

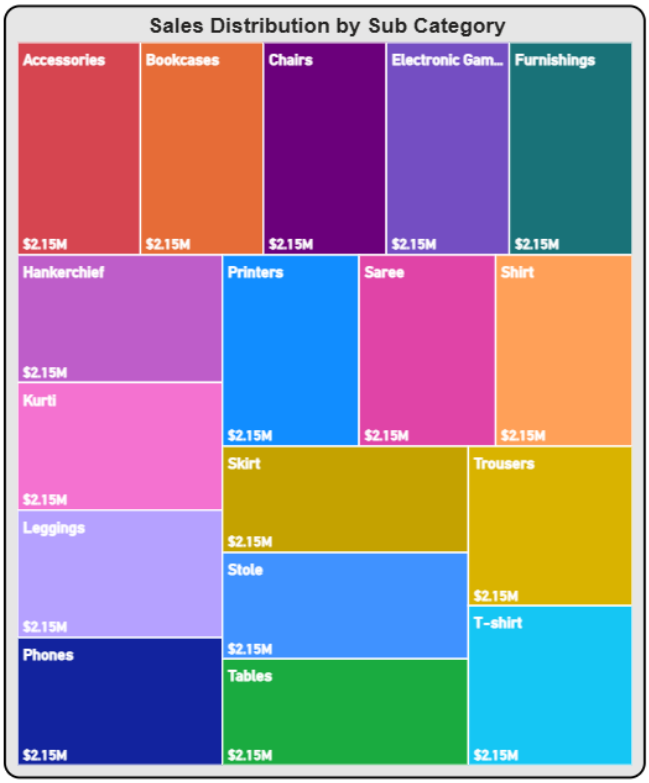
Actual Sales Vs Target by Categories

Category	Clothing		Electronics		Furniture	
Year	Sum of Revenue	Sum of Target	Sum of Revenue	Sum of Target	Sum of Revenue	Sum of Target
⊟ 2018	**$455,537**	**$174,000**	**$507,122**	**$129,000**	**$347,612**	**$132,900**
⊞ April	$67,649	$174,000	$43,637	$129,000	$41,541	$132,900
⊞ May	$44,338	$174,000	$61,765	$129,000	$32,664	$132,900
⊞ June	$40,292	$174,000	$43,234	$129,000	$26,489	$132,900
⊞ July	$13,060	$174,000	$22,939	$129,000	$17,145	$132,900
⊞ August	$59,474	$174,000	$47,050	$129,000	$44,990	$132,900
⊞ September	$58,752	$174,000	$33,543	$129,000	$40,422	$132,900
⊞ October	$55,979	$174,000	$69,151	$129,000	$51,533	$132,900
⊞ November	$72,687	$174,000	$92,824	$129,000	$64,274	$132,900
⊞ December	$43,306	$174,000	$92,979	$129,000	$28,554	$132,900
⊟ 2019	**$208,985**	**$174,000**	**$309,461**	**$129,000**	**$318,153**	**$132,900**
⊞ January	$66,935	$174,000	$161,965	$129,000	$108,329	$132,900
⊞ February	$49,332	$174,000	$48,507	$129,000	$79,781	$132,900
⊞ March	$92,718	$174,000	$98,989	$129,000	$130,043	$132,900
Total	**$664,522**	**$174,000**	**$816,583**	**$129,000**	**$665,765**	**$132,900**

13) Geographic Sales Analysis: Visualise total sales on a *map* by city to identify regional sales patterns.



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



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