

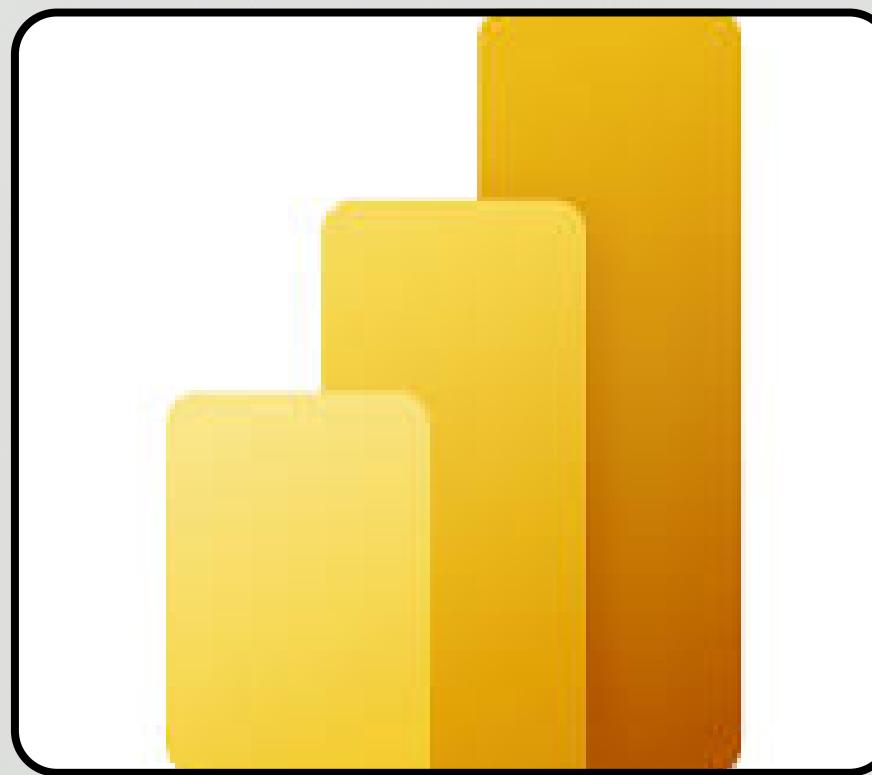
E-Commerce Performance analysis 2018-2019 using Power BI



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Tools



Power BI

Helps to create and visualize interactive dashboards to generate useful insights.



Excel

To view and process data easier

About the data

Sum of Profit (Total Profit)

- This is the total profit generated from the sale of all products or product categories profit is calculated by subtracting the total cost of production and other costs (such as marketing costs, operating costs) from the total sales revenue.

Sum of Non-Profit

- Total costs incurred to produce a product or service This figure shows the total costs incurred to support business operations

Sum of Quantity (Total Quantity).

- Total number of products or units sold

Revenue

- This is the total amount of money received by a business from the sale of goods or services in a given period

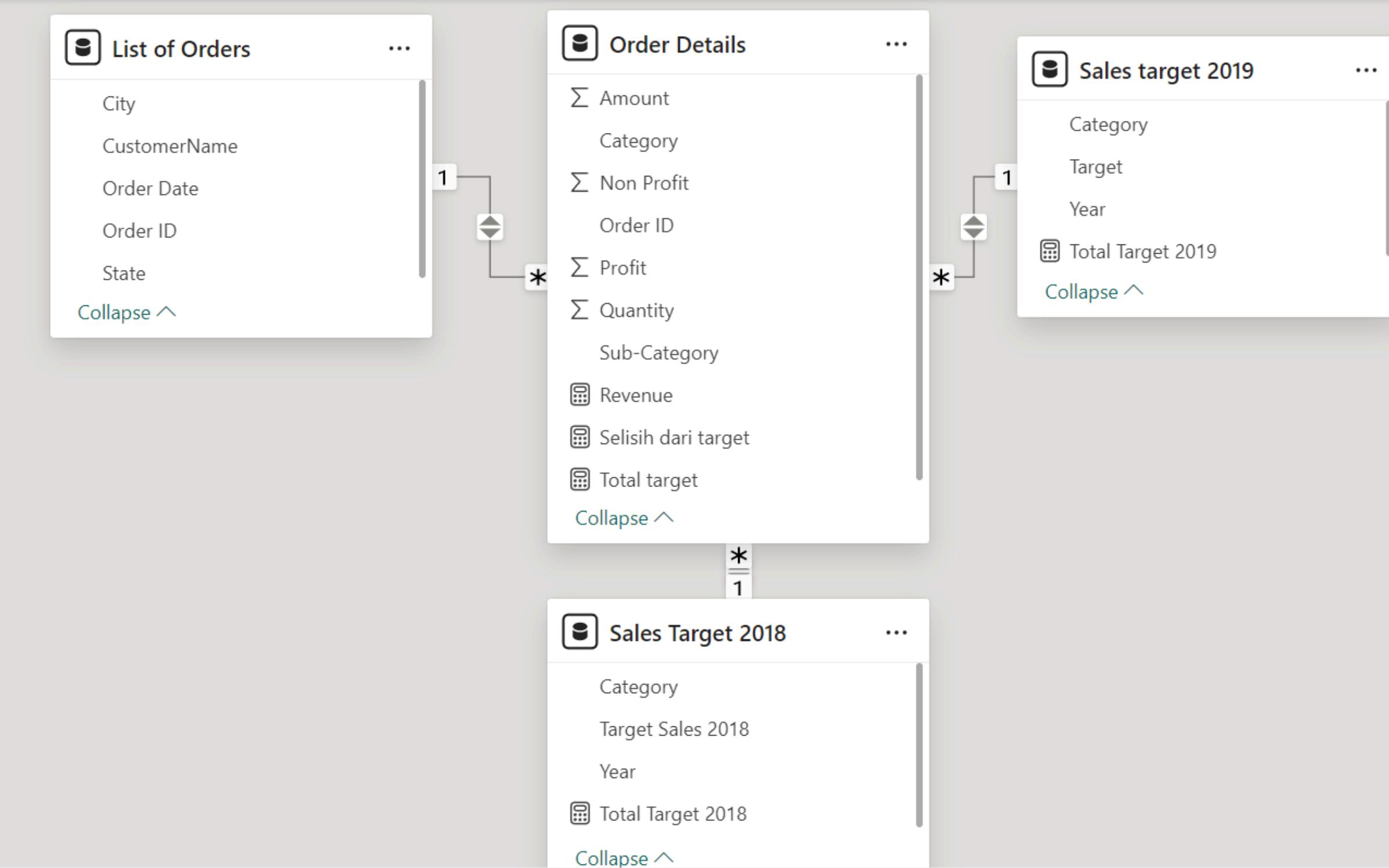


Introduction

- The data used in this analysis comes from kaggle
- This presentation aims to analyze e-commerce performance in 2018-2019, including revenue, profit, product retention, and total quantity.
- E-commerce has seen significant growth in recent years. This analysis was conducted to understand performance trends and identify areas for improvement in the 2018-2019 period.

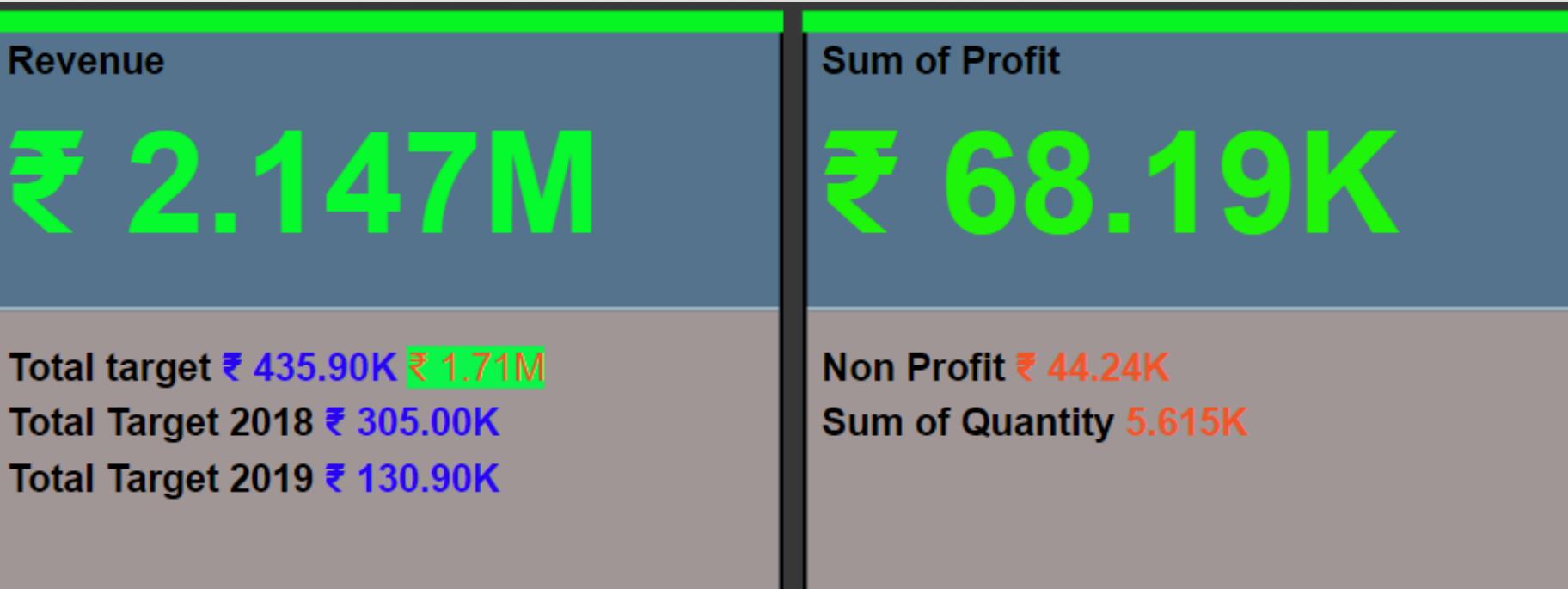
Data Modeling

Relationships between tables



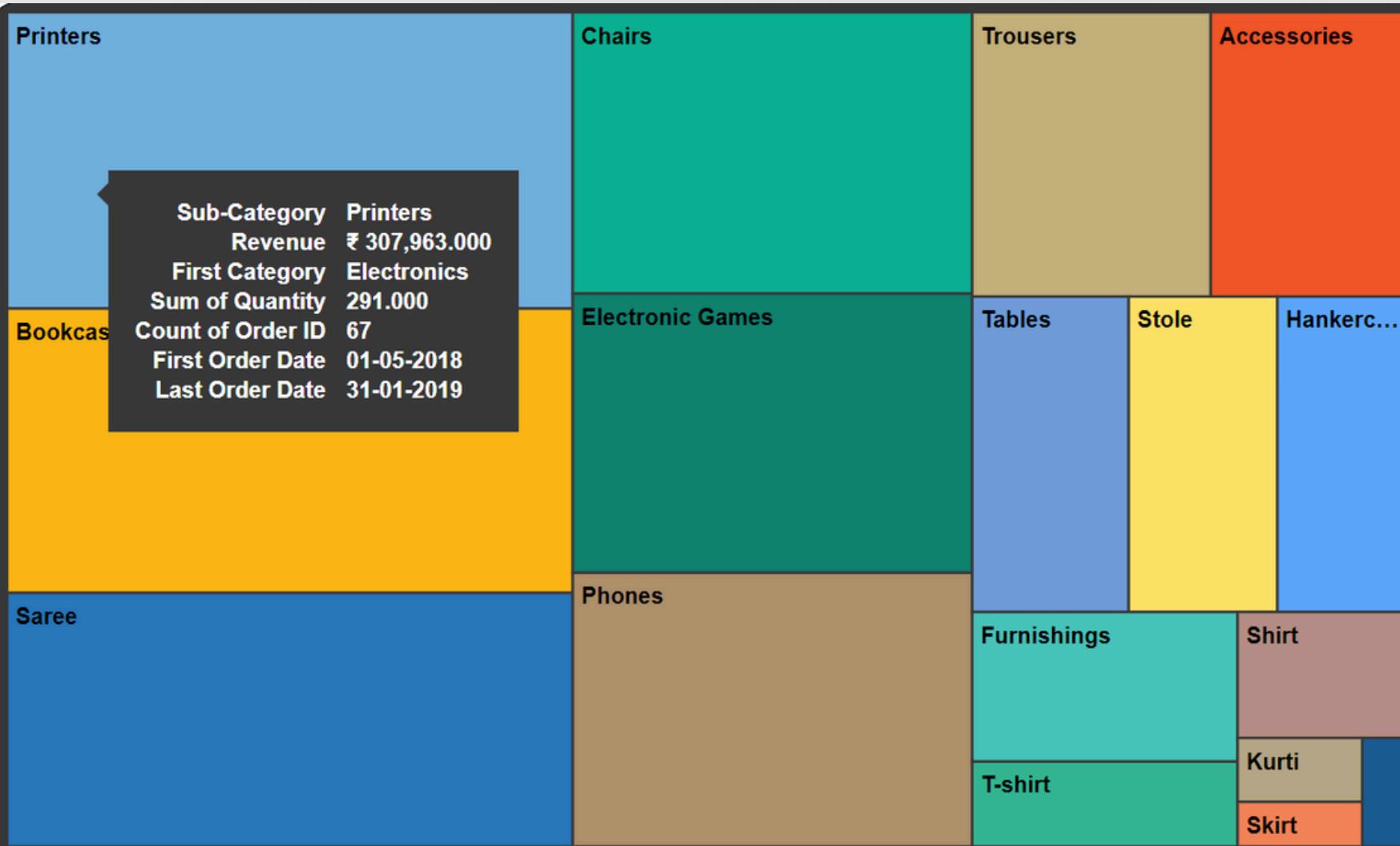
VISUALIZATIONS

Card



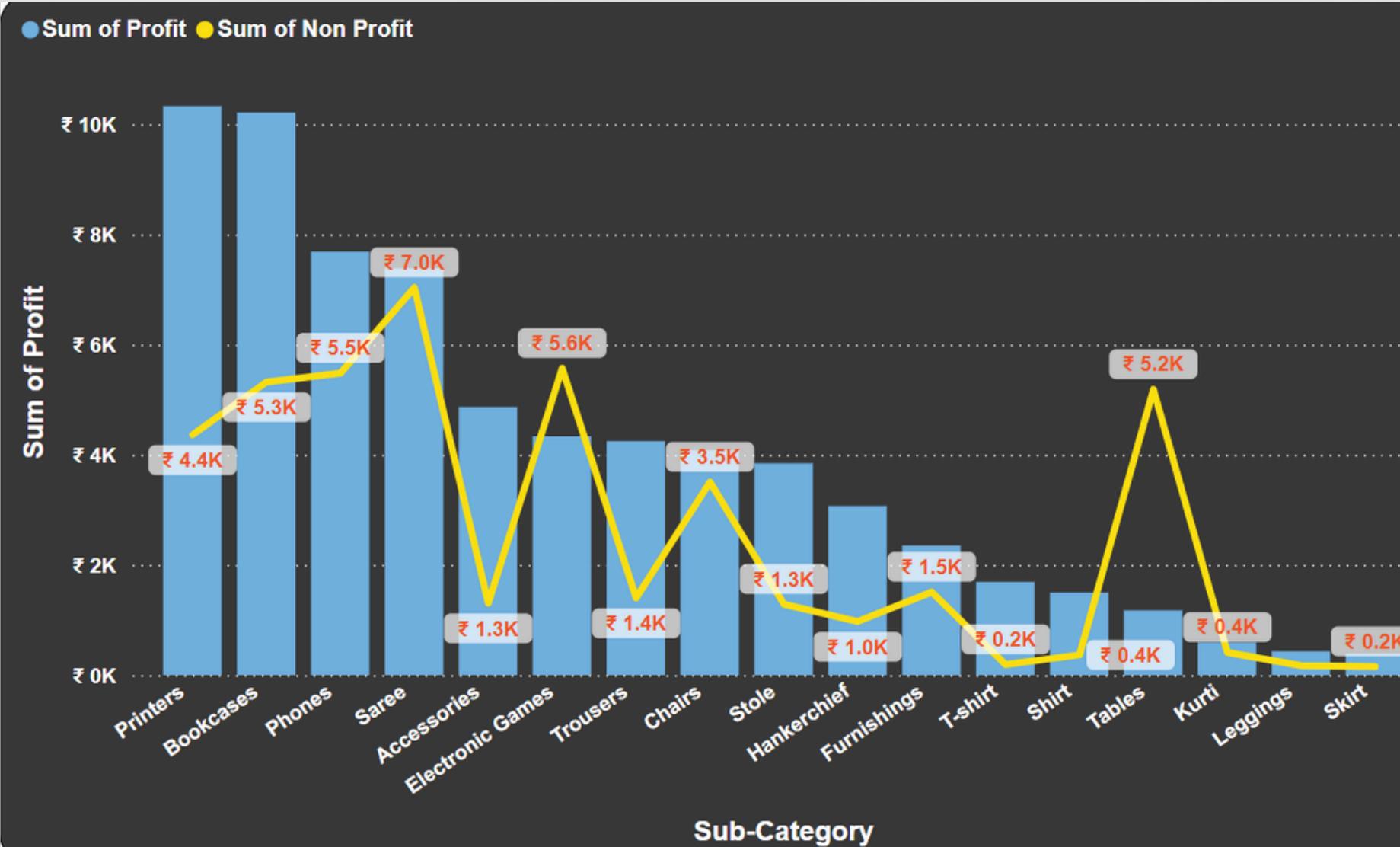
- Cards are used to briefly visualize Revenue and Profit
- Revenue is shown at ₹ 2.147M, exceeding the total target set at ₹ 435.9K by a margin of ₹ 1.71M, marked in green to indicate achievement that exceeds the target. Apart from that, there are detailed annual targets, namely ₹ 305.00K for 2018 and ₹ 130.90K for 2019
- Non Profit (Loss): Amounting to ₹ 44.24K, shown in red to highlight the amount of loss incurred.
- Sum of Quantity: 5,615K, also displayed in red, which reflects the total number of products or units that have been sold.

Product Retention



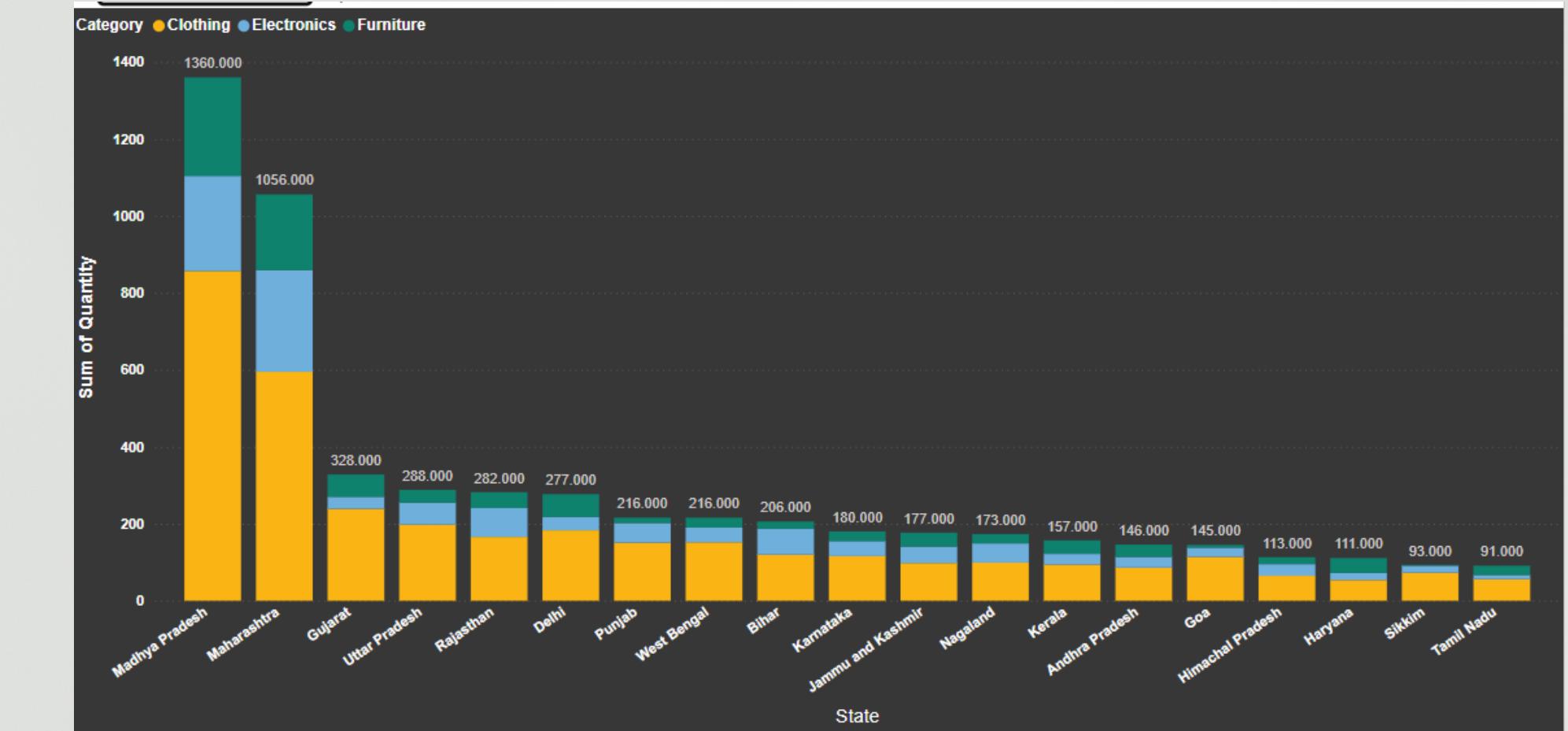
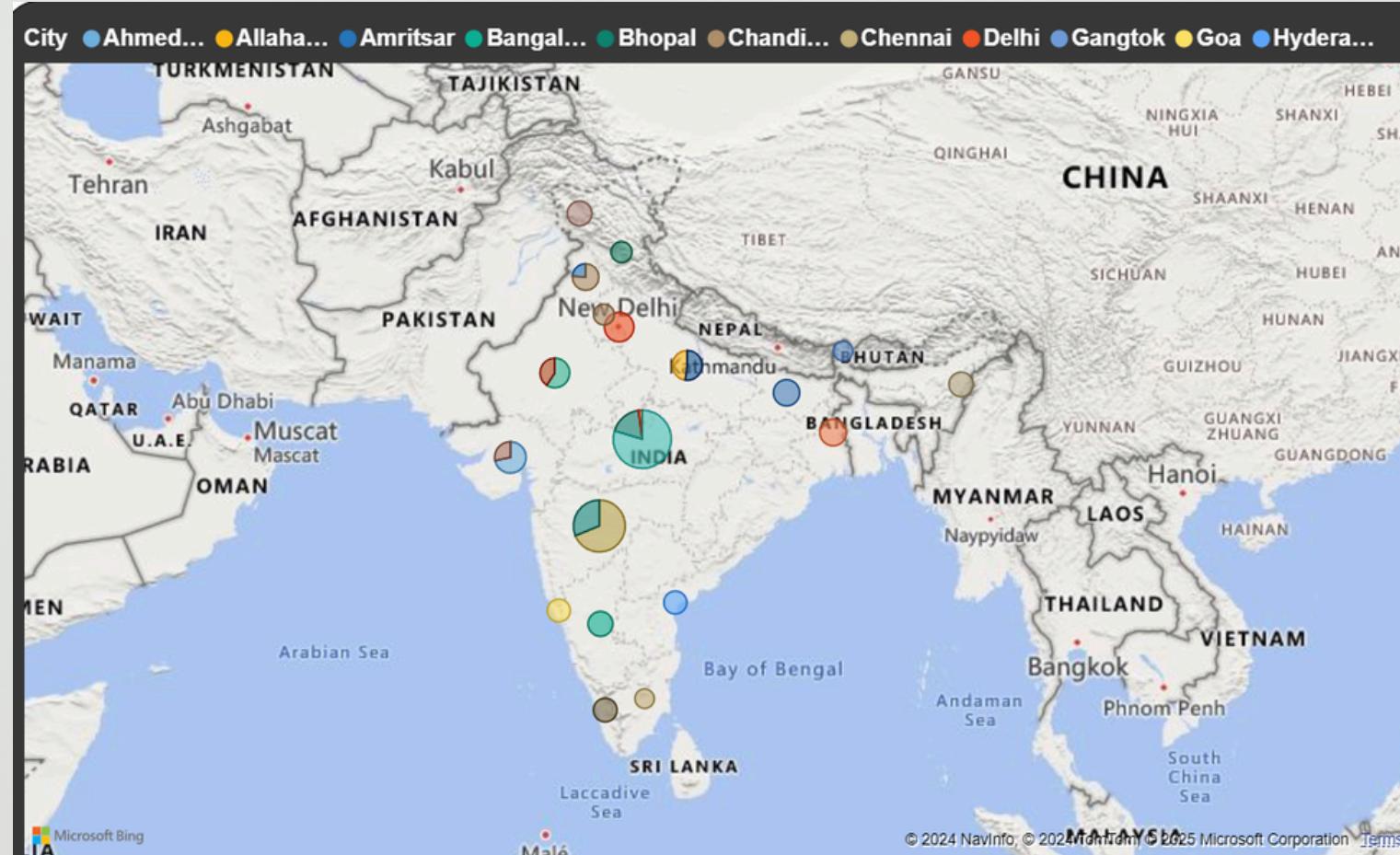
- The Treemap Chart aims to display the contribution of each product sub-category based on size (area) and color
- This diagram shows that the product categories with the highest retention are printers, followed by bookcases, phones, and sarees. Meanwhile, the product categories with the lowest retention are skirts, leggings, and kurtis.
- First Order Date and Last Order Date are used to find out when the product started and was last sold. This data helps see whether products are in demand at certain times (seasonal) or not and ensures stock is available when demand increases to avoid shortages of goods

Profit & Non Profit



- The graph aims to provide a comparative overview between profit and non-profit from various product sub-categories.
- The highest profit product subcategories are printers, followed by bookcases, phones, and sarees. Meanwhile, the lowest profit product subcategories are skirts, leggings, and kurtis.
- This shows that customers are more likely to purchase printers, bookcases, phones, and sarees repeatedly compared to skirts, leggings, and kurtis.

Total Quantity based on state



Total Quantity based on state

Map showing total quantity sold by state and city, with markers indicating the highest quantity sold in that area.

- The map with bubble charts shows the cities with the highest sales, namely Madhya Pradesh in first place, then Maharashtra and Gujarat. The size of the bubble makes it easier to see which cities have the largest number of sales

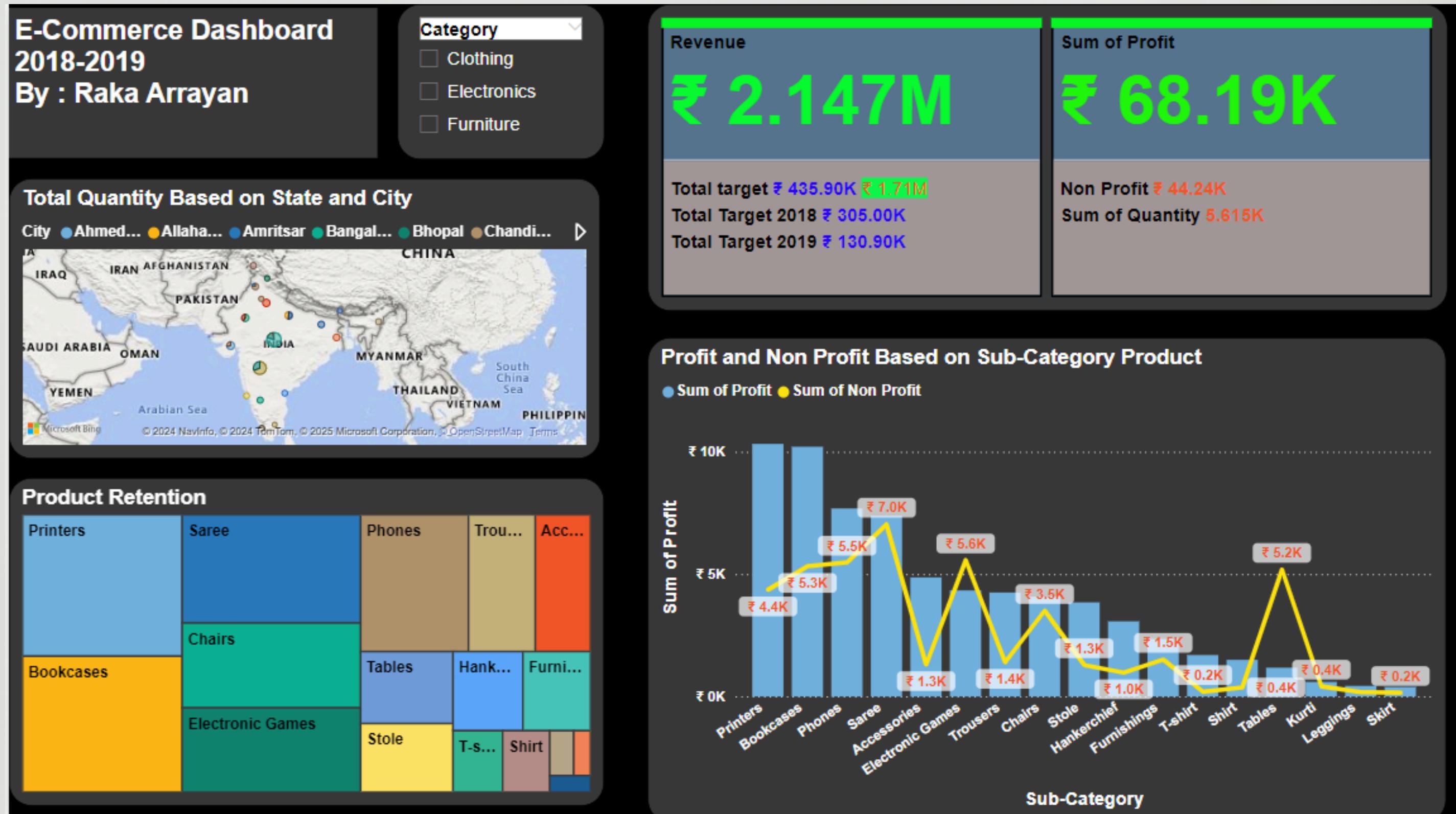
Line and stack column charts are also useful for easier viewing of the most sold product categories in each state. This graph provides a clear and detailed picture of the contribution of each product category to total sales in each region

Profit Matrix

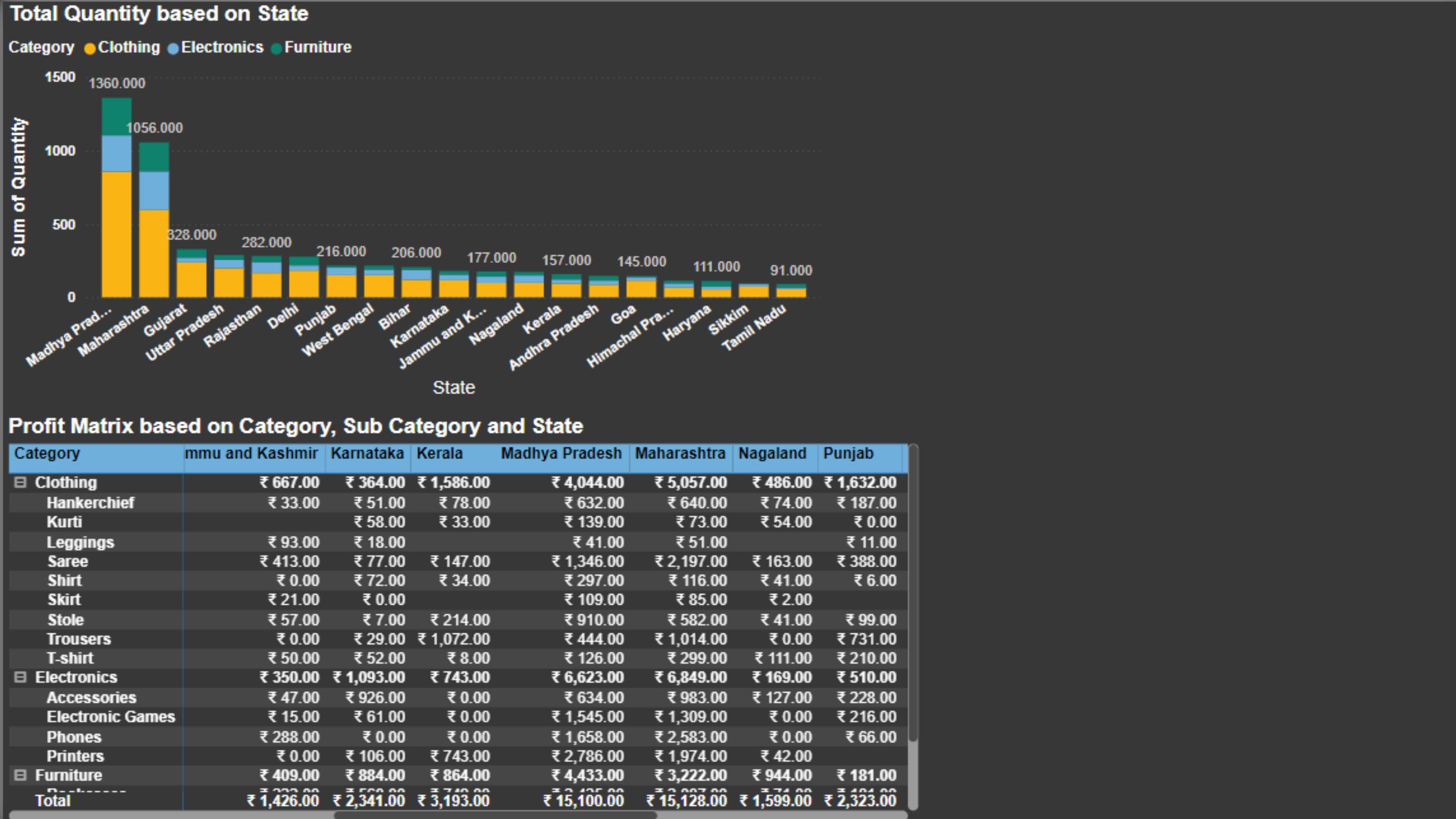
| Category | Jammu and Kashmir | Karnataka | Kerala | Madhya Pradesh | Maharashtra | Nagaland | Punjab | Rajasthan | Sikkim | Tamil Nadu | Uttar Pradesh | West Bengal | Total |
|------------------|-------------------|------------|------------|----------------|-------------|------------|------------|------------|----------|------------|---------------|-------------|-------------|
| Clothing | ₹ 667.00 | ₹ 364.00 | ₹ 1,586.00 | ₹ 4,044.00 | ₹ 5,057.00 | ₹ 486.00 | ₹ 1,632.00 | ₹ 874.00 | ₹ 499.00 | ₹ 231.00 | ₹ 1,452.00 | ₹ 1,840.00 | ₹ 23,156.00 |
| Hankerchief | ₹ 33.00 | ₹ 51.00 | ₹ 78.00 | ₹ 632.00 | ₹ 640.00 | ₹ 74.00 | ₹ 187.00 | ₹ 67.00 | ₹ 77.00 | ₹ 93.00 | ₹ 211.00 | ₹ 67.00 | ₹ 3,071.00 |
| Kurti | | ₹ 58.00 | ₹ 33.00 | ₹ 139.00 | ₹ 73.00 | ₹ 54.00 | ₹ 0.00 | ₹ 12.00 | ₹ 12.00 | ₹ 24.00 | ₹ 11.00 | ₹ 23.00 | ₹ 594.00 |
| Leggings | ₹ 93.00 | ₹ 18.00 | | ₹ 41.00 | ₹ 51.00 | ₹ 11.00 | ₹ 17.00 | ₹ 24.00 | ₹ 39.00 | ₹ 9.00 | ₹ 432.00 | | |
| Saree | ₹ 413.00 | ₹ 77.00 | ₹ 147.00 | ₹ 1,346.00 | ₹ 2,197.00 | ₹ 163.00 | ₹ 388.00 | ₹ 184.00 | ₹ 254.00 | ₹ 50.00 | ₹ 315.00 | ₹ 1,030.00 | ₹ 7,386.00 |
| Shirt | ₹ 0.00 | ₹ 72.00 | ₹ 34.00 | ₹ 297.00 | ₹ 116.00 | ₹ 41.00 | ₹ 6.00 | ₹ 259.00 | ₹ 26.00 | | ₹ 136.00 | ₹ 105.00 | ₹ 1,498.00 |
| Skirt | ₹ 21.00 | ₹ 0.00 | | ₹ 109.00 | ₹ 85.00 | ₹ 2.00 | | | ₹ 12.00 | | ₹ 10.00 | ₹ 8.00 | ₹ 389.00 |
| Stole | ₹ 57.00 | ₹ 7.00 | ₹ 214.00 | ₹ 910.00 | ₹ 582.00 | ₹ 41.00 | ₹ 99.00 | ₹ 170.00 | ₹ 118.00 | ₹ 40.00 | ₹ 248.00 | ₹ 321.00 | ₹ 3,846.00 |
| Trousers | ₹ 0.00 | ₹ 29.00 | ₹ 1,072.00 | ₹ 444.00 | ₹ 1,014.00 | ₹ 0.00 | ₹ 731.00 | ₹ 0.00 | ₹ 0.00 | | ₹ 247.00 | ₹ 100.00 | ₹ 4,248.00 |
| T-shirt | ₹ 50.00 | ₹ 52.00 | ₹ 8.00 | ₹ 126.00 | ₹ 299.00 | ₹ 111.00 | ₹ 210.00 | ₹ 165.00 | | ₹ 235.00 | ₹ 177.00 | ₹ 1,692.00 | |
| Electronics | ₹ 350.00 | ₹ 1,093.00 | ₹ 743.00 | ₹ 6,623.00 | ₹ 6,849.00 | ₹ 169.00 | ₹ 510.00 | ₹ 1,330.00 | ₹ 215.00 | ₹ 385.00 | ₹ 2,451.00 | ₹ 791.00 | ₹ 27,216.00 |
| Accessories | ₹ 47.00 | ₹ 926.00 | ₹ 0.00 | ₹ 634.00 | ₹ 983.00 | ₹ 127.00 | ₹ 228.00 | ₹ 137.00 | ₹ 59.00 | ₹ 0.00 | ₹ 185.00 | ₹ 287.00 | ₹ 4,866.00 |
| Electronic Games | ₹ 15.00 | ₹ 61.00 | ₹ 0.00 | ₹ 1,545.00 | ₹ 1,309.00 | ₹ 0.00 | ₹ 216.00 | ₹ 368.00 | ₹ 33.00 | | ₹ 147.00 | ₹ 227.00 | ₹ 4,335.00 |
| Phones | ₹ 288.00 | ₹ 0.00 | ₹ 0.00 | ₹ 1,658.00 | ₹ 2,583.00 | ₹ 0.00 | ₹ 66.00 | ₹ 529.00 | ₹ 123.00 | ₹ 0.00 | | ₹ 130.00 | ₹ 7,688.00 |
| Printers | ₹ 0.00 | ₹ 106.00 | ₹ 743.00 | ₹ 2,786.00 | ₹ 1,974.00 | ₹ 42.00 | ₹ 296.00 | | ₹ 385.00 | ₹ 2,119.00 | ₹ 147.00 | ₹ 10,327.00 | |
| Furniture | ₹ 409.00 | ₹ 884.00 | ₹ 864.00 | ₹ 4,433.00 | ₹ 3,222.00 | ₹ 944.00 | ₹ 181.00 | ₹ 1,000.00 | ₹ 0.00 | ₹ 107.00 | ₹ 32.00 | ₹ 499.00 | ₹ 17,819.00 |
| Bookcases | ₹ 222.00 | ₹ 568.00 | ₹ 749.00 | ₹ 2,425.00 | ₹ 2,007.00 | ₹ 71.00 | ₹ 181.00 | ₹ 240.00 | | ₹ 0.00 | ₹ 0.00 | ₹ 499.00 | ₹ 10,210.00 |
| Chairs | ₹ 187.00 | ₹ 54.00 | ₹ 0.00 | ₹ 1,240.00 | ₹ 589.00 | ₹ 798.00 | ₹ 0.00 | ₹ 179.00 | | ₹ 0.00 | ₹ 32.00 | ₹ 0.00 | ₹ 4,081.00 |
| Furnishings | ₹ 0.00 | ₹ 262.00 | ₹ 115.00 | ₹ 646.00 | ₹ 424.00 | ₹ 75.00 | ₹ 0.00 | ₹ 307.00 | | ₹ 107.00 | ₹ 0.00 | ₹ 0.00 | ₹ 2,352.00 |
| Tables | ₹ 0.00 | | | ₹ 122.00 | ₹ 202.00 | | ₹ 274.00 | ₹ 0.00 | | ₹ 0.00 | | ₹ 1,176.00 | |
| Total | ₹ 1,426.00 | ₹ 2,341.00 | ₹ 3,193.00 | ₹ 15,100.00 | ₹ 15,128.00 | ₹ 1,599.00 | ₹ 2,323.00 | ₹ 3,204.00 | ₹ 714.00 | ₹ 723.00 | ₹ 3,935.00 | ₹ 3,130.00 | ₹ 68,191.00 |

- The profit matrix is useful for understanding which areas provide the highest or lowest profits for certain categories and sub-categories
- can See what product categories are the most profitable in each region
- So you can determine products that need to be promoted more or areas that need more attention to increase sales.

Dashboard



Dashboard



Conclusion

- Revenue was achieved at ₹ 2.147M exceeding the target of ₹ 435.9K, while loss was recorded at ₹ 44.24K.
- Product categories with high retention are printers, bookcases, phones, and sarees. Sub-categories with high profits are printers, bookcases, phones, and sarees.
- Madhya Pradesh, Maharashtra and Uttar Pradesh are the regions with the highest sales quantity, indicating huge market potential.
- Data on when goods are purchased helps understand demand patterns and ensure stock availability to avoid shortages

Recommendation

- Focus on products with high profits such as printers, bookshelves, cell phones and sarees with attractive promotions or offers.
- Strengthen marketing in Madhya Pradesh, Maharashtra and Uttar Pradesh regions to maximize sales.
- Use purchasing pattern data to ensure stock is available, especially when demand increases. Create promotional strategies for product categories with low retention, such as skirts, leggings and kurtis, to make them more popular.

More information about
dashboard and dataset

