

1. Project Overview

The **Superstore Sales Analysis Dashboard** was developed to analyze business performance across sales, profit, customer segments, and shipping methods. The goal is to uncover insights that help management make data-driven decisions and optimize business operations.

The dataset used for this analysis is the **Cleaned Superstore Data**, containing order details, product information, customer demographics, geographical regions, and shipping modes. The project covers the period **2014 to 2017**.

2. Dataset Summary

The dataset consists of approximately **9,994 records** and **21 columns**. It includes key attributes such as Order ID, Order Date, Customer ID, Region, Product ID, Sales, Profit, and Ship Mode.

During the data cleaning process, duplicate entries were removed, missing values were handled, and categorical values were standardized. Column names were formatted consistently, and date and numerical data types were corrected. This ensured a consistent and accurate foundation for building the Power BI model and visualizations.

3. Data Model Overview

The Power BI data model is built using five key tables: **Customers**, **Geography**, **Order Table**, **Product**, and **Shipping**.

Relationships between these tables are based on shared fields.

- The *Order Table* connects to *Customers* using **Customer ID**.
- It connects to *Geography* using **Postal Code**.
- The *Product* table is linked via **Product ID**, and *Shipping* is linked through **Ship Mode**.

This star-schema structure supports efficient querying and simplifies data visualization across the dashboard.

4. Key Calculations and Measures

Several DAX measures were created in Power BI to support analysis:

- **Total Sales** = SUM(Sales)
- **Total Profit** = SUM(Profit)
- **Delivery Days** = [Order Date] – [Delivered Date]
- **Customer Count** = DISTINCTCOUNT(Customer ID)

These measures allow dynamic, interactive insights into performance trends, segment comparisons, and profitability metrics.

5. Analysis and Insights

Sales and Profit Analysis

Total sales amounted to approximately **\$711K**, with total profit of around **\$74K**, reflecting a profit margin of about **10.4%**.

The **West Region** led all others in total sales, contributing roughly **\$230K**. The most profitable product was the *Cisco TelePresence System EX90 Videoconferencing Unit*. Sales trends indicated strong growth across the four-year period, with consistent peaks during the fourth quarter, suggesting strong seasonal demand.

Customer and Segment Analysis

A total of **675 customers** were recorded in the dataset.

The most profitable customer was **Tom Ashbrook**, generating around **\$4.6K** in profit. Among segments, **Consumer** customers produced the highest total sales and profit, followed by **Corporate**, while **Home Office** accounted for the smallest share but maintained consistent profitability.

Shipping and Delivery Analysis

The **Standard Class** shipping mode accounted for more than half of all deliveries (around 55%), offering the best balance between cost and profit.

Although some discounts were observed, they did not significantly impact overall profitability.

Delivery days showed little variation in profit impact; most profits came from mid-range delivery durations, suggesting efficient fulfillment.

6. Conclusions

The analysis revealed that sales and profits are primarily driven by the **Consumer segment** and **Technology category**.

The **West Region** consistently performed best in both sales and profitability.

High-value products like *Cisco TelePresence Systems* contributed significantly to overall profit.

Shipping efficiency and discount strategies were found to play a major role in maintaining margins.

Overall, the business demonstrated steady growth and scalability over the analyzed years.

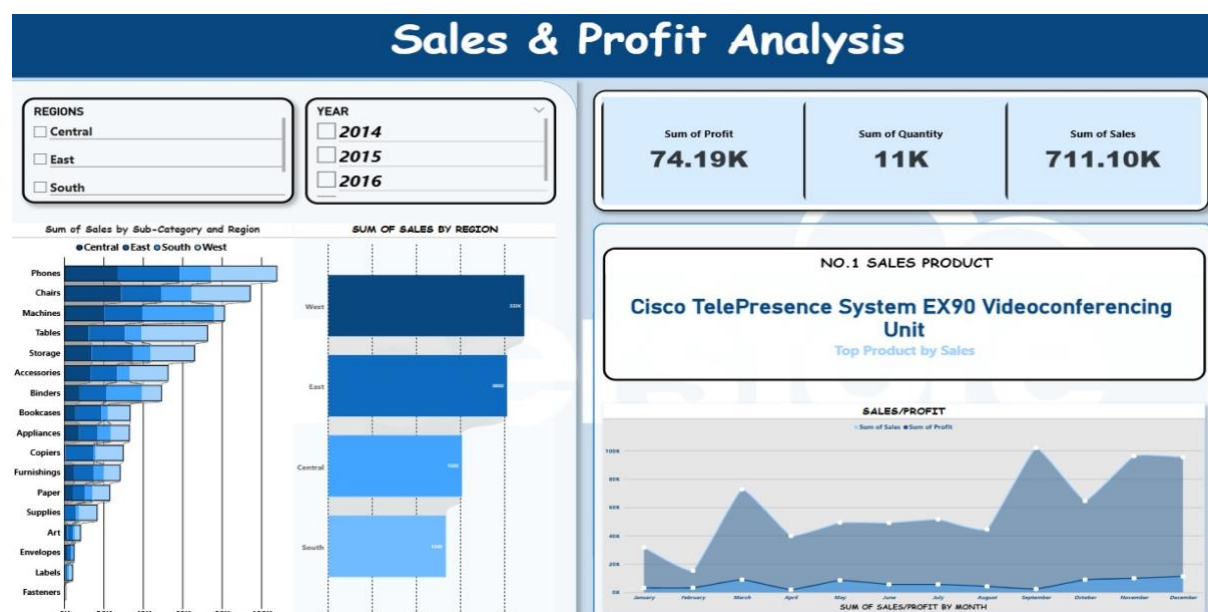
7. Recommendations

- Focus marketing and promotional efforts on the **Consumer** and **Corporate** segments.
- Expand successful **Technology** product lines into other underperforming regions.
- Reassess **discount strategies** to avoid unnecessary profit reductions.
- Improve **shipping efficiency** and reduce costs in *Same Day* mode.
- Implement **loyalty programs** to retain top-performing customers.

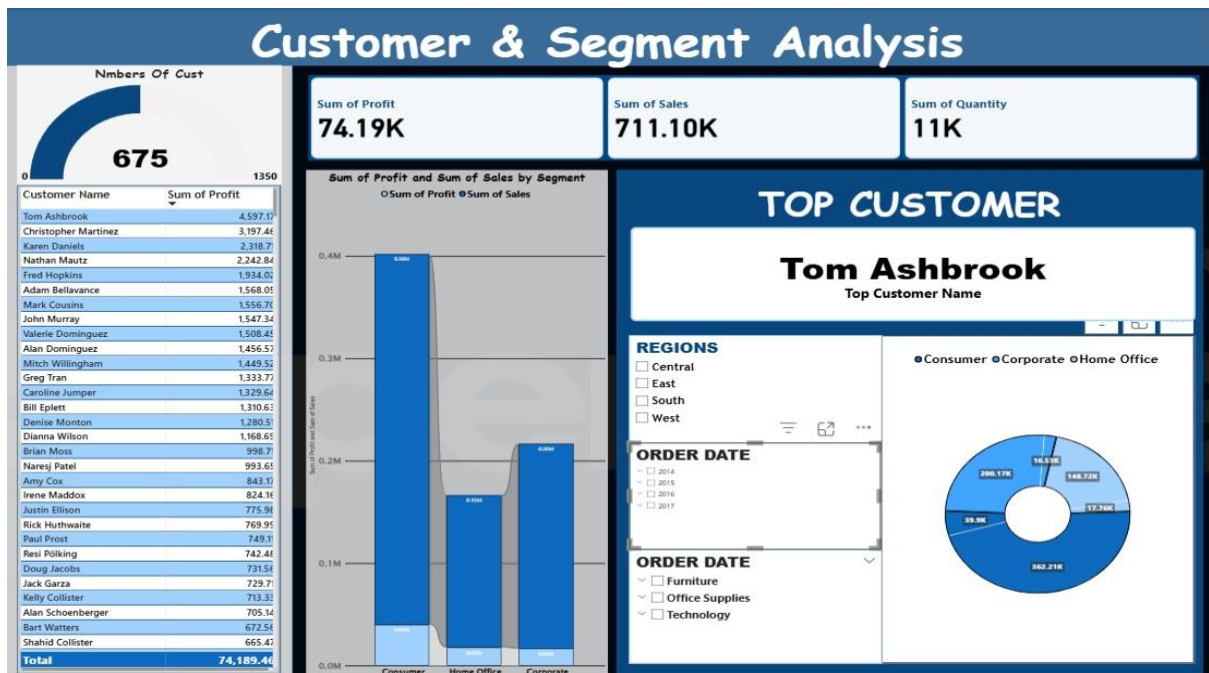
8. Dashboard Overview

The Power BI dashboard consists of multiple pages showing visual analyses of:

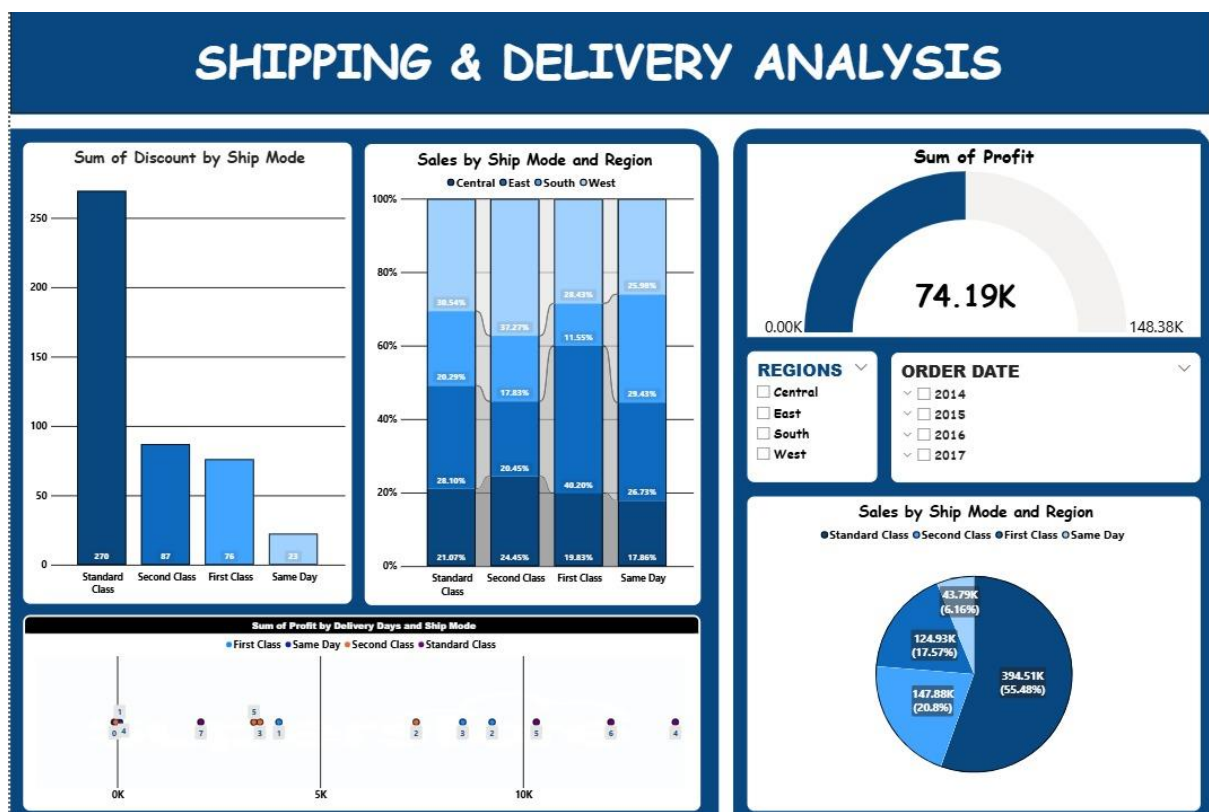
- **Sales and Profit Trends** by region, category, and time period.
- **Filters ; Region , date [based on year]**



- **Customer Segmentation**, identifying top customers and high-performing groups.
- **Filters ; region, date, and sections**



- **Shipping and Delivery Insights**, highlighting the relationship between shipping modes, discounts, and profitability.
- **Filters ; region, date{inc year & month}**



Interactive filters allow users to explore insights by year, region, segment, category, and ship mode.

9. Notes and Limitations

- The dataset covers only the years **2014–2017**, limiting historical comparison.
- It assumes accuracy and completeness of the original Superstore dataset.
- Regional analysis is based on summarized data rather than geospatial mapping.
- Cancelled or missing orders were excluded from the analysis.
- The cleaned dataset is used to maintain consistency across calculations and relationships.