Superstore Business Analytics Dashboard

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Tools Used :
Excel
Power BI
Github

An interactive Power BI dashboard that analyzes Superstore data to uncover insights on sales, profitability, customer behavior, and shipping performance.
Designed with a clear structure and intuitive navigation for business stakeholders.

Executive Summary :

This Dashboard visualizes and analyzes sales, profit, customer segments, product categories, and shipping performance across different regions in the U.S. using a mock Superstore dataset (Kaggle). The main objective was to help stakeholders identify key performance drivers and inefficiencies in the retail business.

Key metrics such as Total Sales, Profit Margin, Shipping Delay (Days), and Top Customers by Sales are calculated using DAX and presented visually through interactive charts, treemaps, and matrices. The dashboard also includes slicers for real-time filtering and a Smart Narrative feature to auto-generate data summaries.

Business Objectives:

The objective of this project is to provide a comprehensive analysis of retail sales and operational efficiency using the Superstore dataset.

Specifically, the project focuses on:

- Identifying the most profitable customer segments and product categories to help allocate marketing and sales efforts more effectively.
- Detecting regions or customer segments experiencing frequent shipping delays, enabling operations teams to address fulfillment inefficiencies.
- Analyzing the impact of discounting on profitability, helping the business refine its pricing and promotional strategies to maximize margin.
- Highlighting top-performing customers in terms of revenue and profit contribution, supporting targeted retention and loyalty initiatives.

Dataset Description :

Dataset Name : Sample-Superstore.csv

Source : Kaggle

Key Fields used :
Order Date, Ship Date, Customer ID, Segment, Country, City, Category, Sub-Category, Product Name, Sales, Quantity, Discount, Profit

Preprocessing done :
Renamed columns, Changed datatypes, added calculated fields

Tools & Techniques:

Tools :

- Power BI
- Excel

Techniques used:

- DAX (e.g., calculated columns like profit margin and shipping delay)
- Interactive filters (slicers)
- Navigation buttons
- Conditional formatting

Dashboard Layout :

Page 1 :

- Static title and author
- Navigation buttons to other pages

Page 2 : Sales & Profit

KPIs:

- Total Sales
- Total Profit
- Profit Margin

Visuals:

- Line Chart : Sales & Profit by each Month
- Scatter Chart : Sales & Profit by cities
- Treemap : Sales contribution by segment > category
- Bar Chart : Sales & Profit

Page 3 : Customer & Shipping

KPIs:

- Total Customers
- Avg. Shipping delay
- Avg. Discount
- Total Quantity

Visuals:

- Column Chart : Sales per Region
- Scatter Chart : Sales & Profit by Product names
- Pie Chart : For customer segmentation
- Bar Chart : Top 5 Customers

Key Metrics/Calculations :

METRIC	FORMULA	DESCRIPTION
Profit Margin	DIVIDE(SUM(Profit), SUM(Sales), 0)	% of profit on sales
Shipping Delay (Days)	DATEDIFF([Order Date], [Ship Date], DAY)	Delivery delay
Top Customers	By total sales	Ranked descending

Insights & Analysis :

Based on the visual analysis across the Sales & Profit and Customer & Shipping pages of the dashboard, the following key insights were identified:

- Technology is the most profitable category overall, especially in the West region, consistently showing high margins across all customer segments.
- Office Supplies and Furniture categories generate strong sales but show varying profit margins depending on sub-category (e.g., Chairs and Tables often have low or negative profit margins).
- Shipping delays are significantly higher in the Central and East regions, as seen in the average shipping delay bar chart. These regions may suffer from logistical inefficiencies or longer transit paths.
- The Consumer segment dominates in sales volume, but Corporate customers show stronger per-order profitability and quantity, indicating potential for higher-value engagements.
- Seasonal sales spikes are visible around year-end months, implying cyclic consumer behavior that could be leveraged for marketing and inventory planning.

Recommendations :

Based on the insights gained from the dashboard, the following actionable recommendations are proposed:

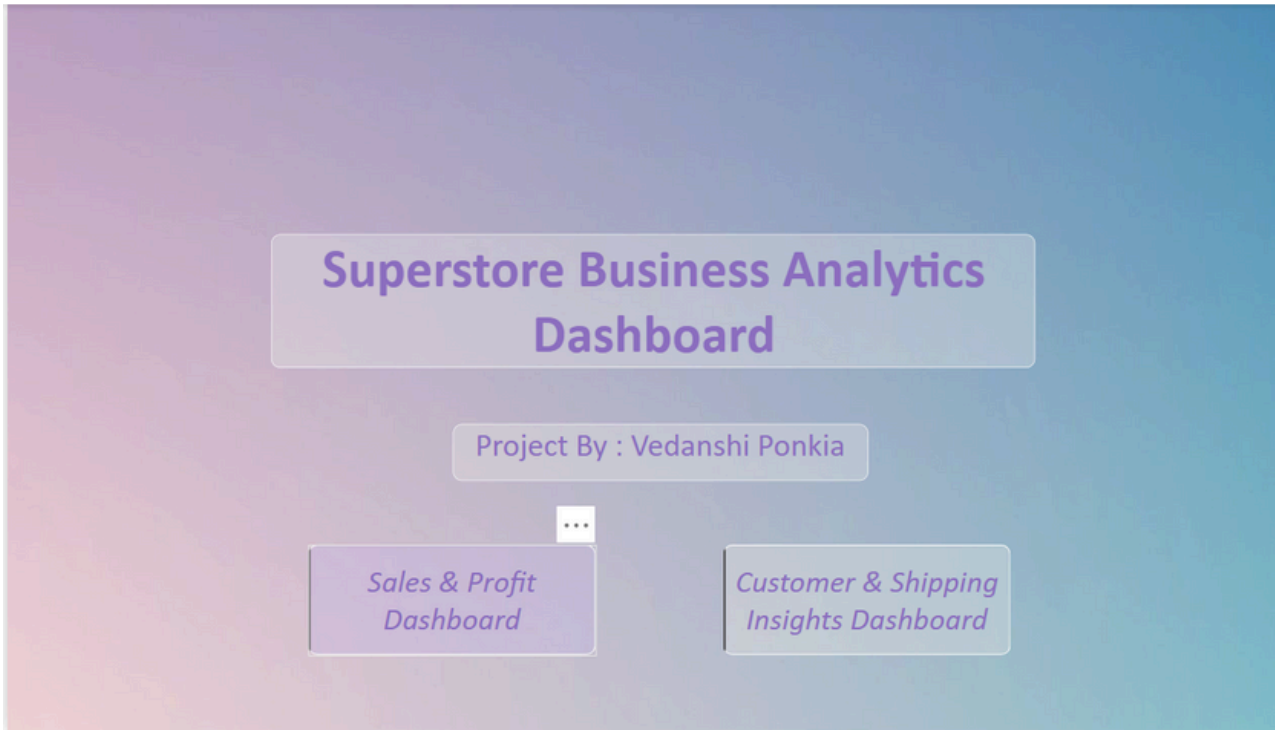
1. Improve logistics in Central and East regions
- Analyze and optimize shipping processes to reduce delivery delays, potentially by restructuring fulfillment locations or changing shipping partners.
2. Target top customers with loyalty programs
- Implement reward tiers or personalized offers for high-value customers to improve retention and maximize lifetime value.
3. Promote high-margin product categories like Technology
- Invest in marketing and bundling strategies that highlight high-profit products. Consider upselling them to corporate buyers.
4. Adjust pricing strategy for low-profit high-sales products
- Conduct a cost review for sub-categories like Chairs or Tables and explore opportunities to reduce overhead or reposition pricing.
5. Capitalize on seasonal demand patterns
- Plan promotional campaigns and stock levels to align with known peak sales periods, especially Q4 months.
6. Engage Corporate customers with value-added services
- Offer priority shipping, bulk discounts, or dedicated account management to nurture high-value B2B relationships.

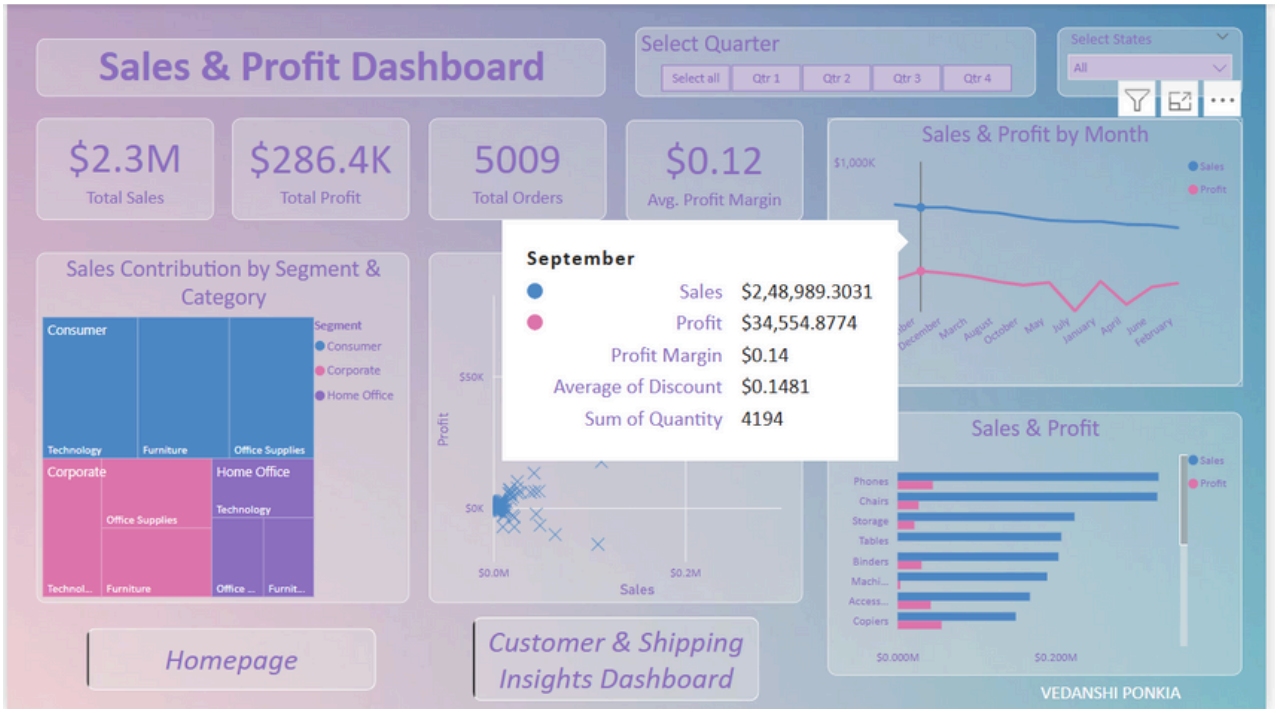
Conclusions :

This Superstore Business Analytics project successfully addressed key business questions related to sales performance, profitability, customer segmentation, and operational efficiency. Through an interactive Power BI dashboard, the following goals were achieved:

- Identified the most profitable customer segments and product categories.
- Uncovered inefficiencies in shipping performance across regions.
- Evaluated the impact of discounting strategies on profitability.
- Highlighted top customers who contribute significantly to overall revenue.

Screenshots :




Sales & Profit Dashboard
Select Quarter
Select all
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Select States
All
$2.3M
Total Sales
$286.4K
Total Profit
5009
Total Orders
$0.12
Avg. Profit Margin
Sales & Profit by Month
Sales
Profit
Sales Contribution by Segment & Category
Segment
Consumer
Corporate
Home Office
Technology
Furniture
Office Supplies
September
Sales $2,48,989.3031
Profit $34,554.8774
Profit Margin $0.14
Average of Discount $0.1481
Sum of Quantity 4194
Sales & Profit
Homepage
Customer & Shipping Insights Dashboard
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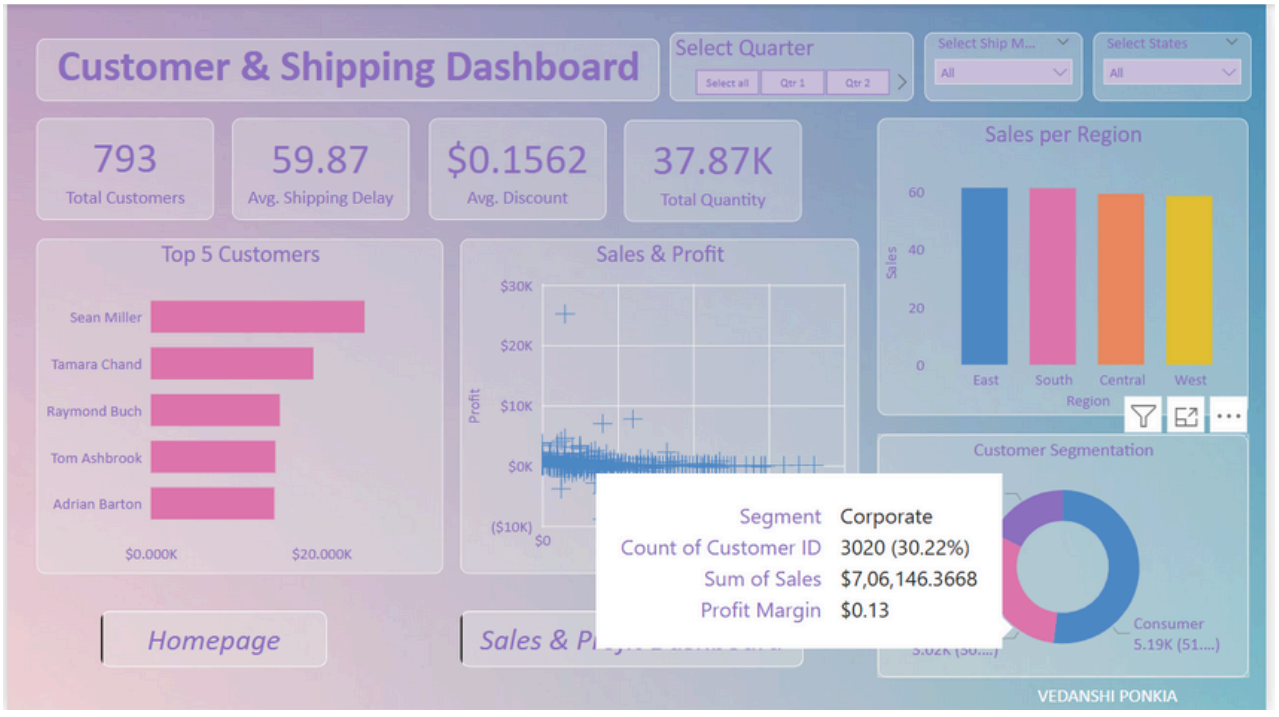
Customer & Shipping Dashboard
Select Quarter
Select all
Qtr 1
Qtr 2
Select Ship M...
All
Select States
All
793
Total Customers
59.87
Avg. Shipping Delay
$0.1562
Avg. Discount
37.87K
Total Quantity
Sales per Region
East
South
Central
West
Region
Top 5 Customers
Sean Miller
Tamara Chand
Raymond Buch
Tom Ashbrook
Adrian Barton
Sales & Profit
Customer Segmentation
Segment Corporate
Count of Customer ID 3020 (30.22%)
Sum of Sales $7,06,146.3668
Profit Margin $0.13
Consumer
5.19K (51....)
Homepage
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