POWER BI SALES DASHBOARD PROJECT

---

1. Project Overview

Business Context

Today's competitive market requires organizations to constantly track sales patterns, profitability, and customer segments for better business decisions. This project demonstrates an end-to-end sales analytics pipeline on the "SuperStore Sales Dataset" using Power BI, culminating in a professional, interactive dashboard.

Objectives

- Import, clean, and model raw sales data
- Build calculated KPIs and advanced DAX measures
- Visualize trends, highlight top performers, forecast sales
- Provide actionable insights for business growth

---

2. Dataset Used

The "SuperStore Sales Dataset" is a comprehensive CSV file containing transaction-level sales data.

Key Columns

- Order Date, Ship Date, Ship Mode
- Customer Name, Segment
- State, City, Region, Country

- Category, Sub-Category, Product Name
- Sales, Quantity, Profit, Returns, Payment Mode

Sample Structure

Order Date	Ship Date	Customer Name	Segment	State	Region	Category	Sales	Quantity	Profit	Payment Mode
19-06-2020	21-06-2020	Katharine Harms	Corporate	Ohio	East	Furniture	783.11	6	-43.43	Online
19-06-2020	23-06-2020	Zuschuss Carroll	Consumer	Texas	Central	Office Supplies	78.26	4	-5.21	Online
19-06-2020	25-06-2020	Frank Olsen	Consumer	Texas	Central	Office Supplies	15.12	5	2.97	COD

The dataset's depth supports regional, product-level, and temporal analytics.

---

3. Business Questions Addressed

- What are total sales, profit, and quantity sold trends?
- Which states, regions, and segments drive top performance?
- What are peak months and seasonal patterns?
- Where are product returns and discounts impacting profit?
- Which payment modes and customer segments dominate?
- What are the forecasted sales for upcoming periods?

4. Power BI Workflow

Data Import & Cleaning

- Imported CSV to Power BI Desktop.

- Cleaned data in Power Query: handled nulls, standardized formats, fixed type mismatches.

- Ensured unique Order IDs, correct categorical mappings.

Data Modeling & DAX

- Built table relationships: Sales ↔ Product ↔ Customer ↔ Region.

- Created calculated columns and measures, e.g.:

  - Total Sales

  - Total Profit

  - Profit Margin % (Profit/Sales * 100)

  - Sales Growth %

  - Forecasted Sales (using Power BI's built-in feature)

  - Average Discount

- Utilized DAX for:

text

Profit Margin % = DIVIDE([Total Profit], [Total Sales]) * 100

5. Dashboard Structure and Design Principles

- Layout emphasizes clarity, interactivity, and business relevance.

- Each KPI is shown in a dedicated card—Total Sales, Profit, Quantity.

- Charts and visuals organized to enable regional, product, and temporal drill-downs.

- Slicers for dynamic filtering by State/Region/Sales Period/Product.

---

6. Dashboard Visuals & Analysis

A. Sum of Sales and Profit by State (Map Chart)
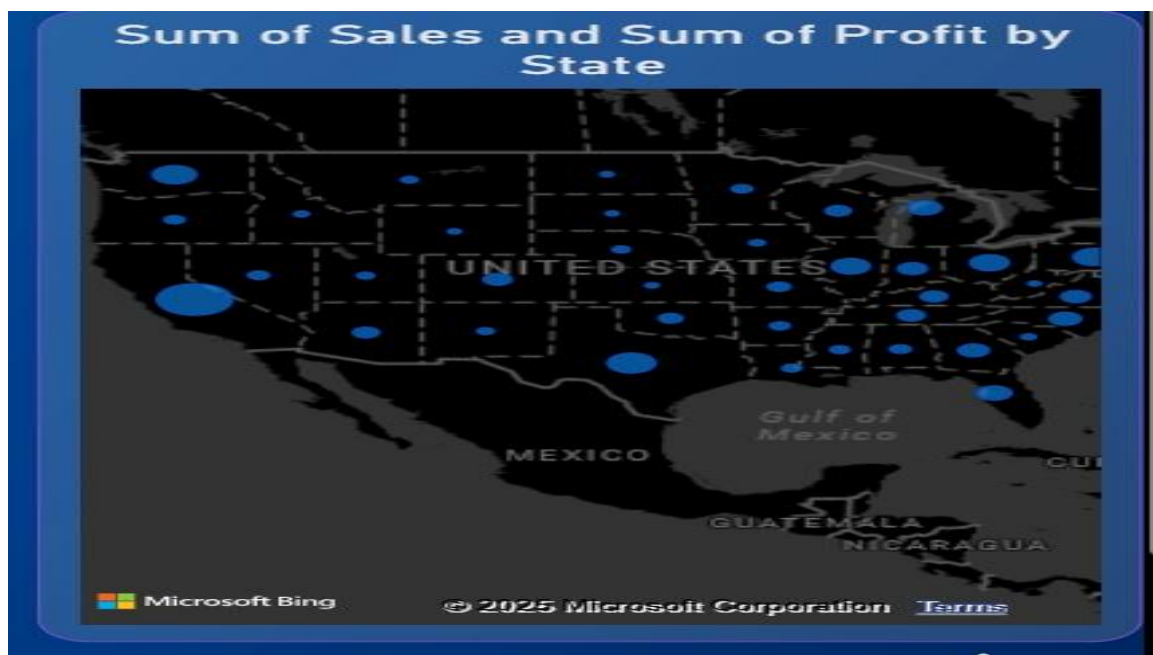
- States with largest dots (California, Texas, New York) contribute most to revenue and profit.

- Geographic visualization enables identification of market strengths and growth areas.

B. Monthly Sales by Year-over-Year (YoY) (Line/Area Chart)

- 2020 outperforms 2019, especially Nov-Dec.
- Reveals seasonal cycles—informing inventory and staffing decisions.

C. Monthly Profit by YoY (Line/Area Chart)

- Profit spikes and dips highlight effects of sales strategy, discounts, and returns.

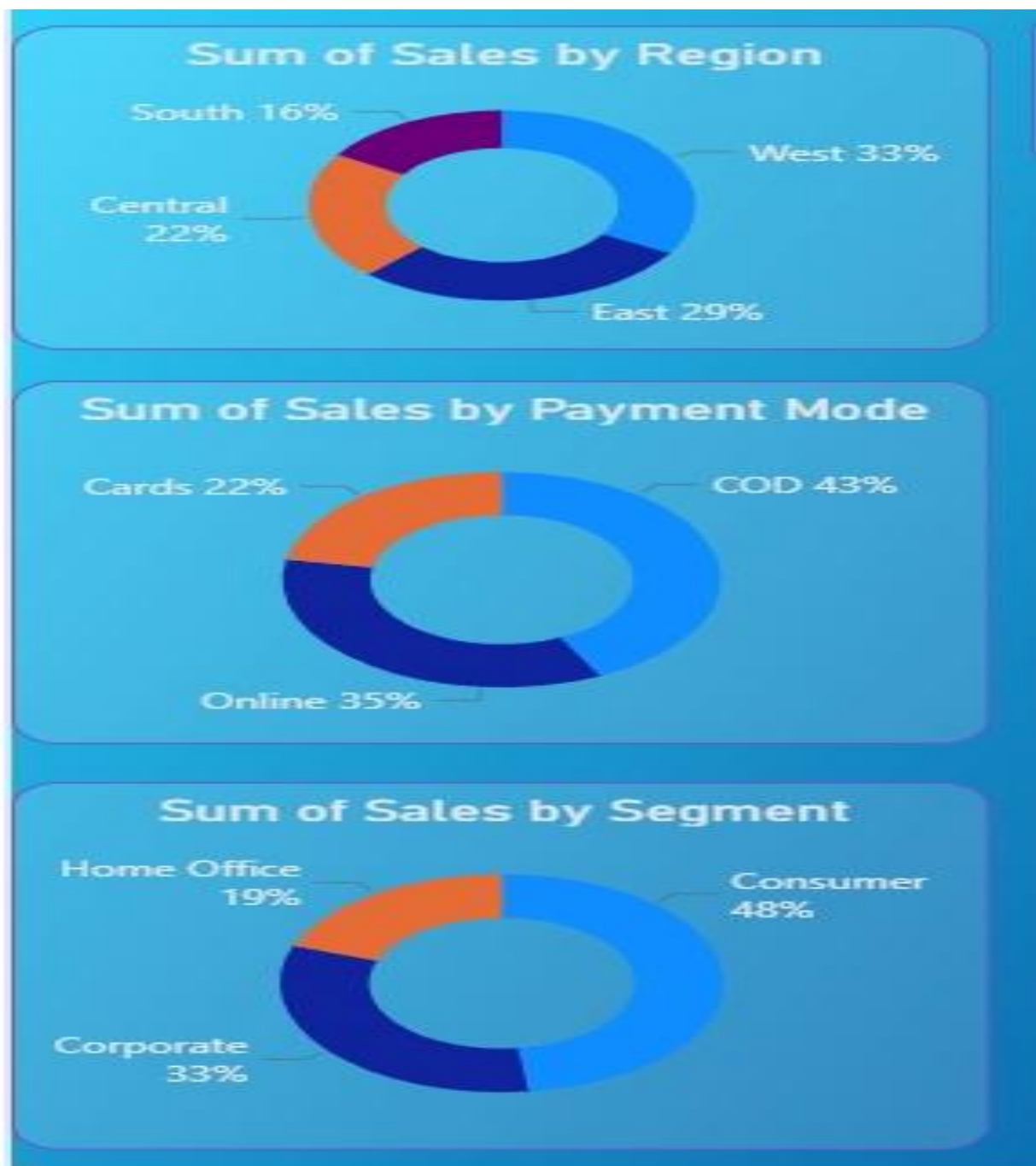- Correlate with campaigns or product launches for optimization.

D. Super Store Sales Forecast 15 Days (Forecast Line & Bar Chart

- Forecast guides planning for upcoming demand surges.

- Bar chart lists top sales states; California is consistently the leader.

E. Donut Charts: Region, Payment Mode, and Segment Breakdown

Sum of Sales by Region
- South 16%
- West 33%
- Central 22%
- East 29%

Sum of Sales by Payment Mode
- Cards 22%
- COD 43%
- Online 35%

Sum of Sales by Segment
- Home Office 19%
- Consumer 48%
- Corporate 33%

- **Regions:** West (33%), East (29%), Central (22%), South (16%)
- **Payment Mode:** COD (43%), Online (35%), Cards (22%)
- **Segments:** Consumer (48%), Corporate (33%), Home Office (19%)

These visualizations enable targeted business strategies by geography, sales channel, and customer base.

---

7. Key Insights & Executive Findings

- **Top States:** California, New York, Texas drive majority of revenue.
- **Payment Preference:** COD is most popular—consider incentives for card/online payments.
- **Segment Focus:** Most customers are Consumers—opportunity to expand Corporate and Home Office segments.
- **Seasonal Peaks:** End-of-year sales increases—plan campaigns and inventory ahead.
- **Forecasting:** Accurate 15-day projections allow proactive responses.

---

8. Dashboard Interactivity

- Slicers/filters enable tailored views for region, segment, and product analysis.

- Dynamic KPIs update with selections, empowering deep-dive insights.

- Drill-down features for granular investigation.

---

9. Conclusion & Recommendations

- Power BI enables a professional analytics workflow: data cleaning, modeling, visualization, and insight generation.

- Dashboard supports decision-making for marketing, supply chain, and sales management.

- Recommend focusing on high-performing regions, promoting most profitable products, and preparing for peak seasons.

- Use forecast data for supply planning and targeted promotions.

---

10. Appendix — Screenshots/Visuals

Include full-size images of:

- Map chart

- Monthly sales trend

- Monthly profit trend

- Forecast chart

- Regional/segment/payment donut charts.

References & Learnings:

- Developed advanced Power BI skills—data modeling, DAX, and dashboard design.

- Demonstrated actionable insights supporting real-world business growth.

- Document ready for portfolio or interview showcase.