

FINAL STORYTELLING

Retail Sales & Profit Intelligence System Project Storytelling

Introduction :

This project presents a complete *Retail Sales & Profit Intelligence System* built in Power BI.

The objective of this dashboard is to help decision makers understand overall business performance, customer behavior, product profitability, sales trends, and geographic insights using interactive analytics and a clean data model.

The system is divided into five major analytical modules:

- Executive Overview
- Sales Intelligence
- Product Analytics
- Customer Insights
- Geography Analysis

Each module is designed to answer specific business questions and support faster, data driven decisions.

Data Modeling Approach :

To ensure accurate analysis, I designed a *Star Schema* with the following structure:

Fact Table

Fact_Sales

Dimension Tables

Dim_Customer

Dim_Product

Dim_Date

Dim_Geography

All tables are connected using one-to-many relationships, ensuring clean filter flow and high performance.

DAX Measures Used :

To calculate business *KPIs*, I created several *DAX measures*:

- Total Sales
- Total Profit
- Profit Margin %
- Total Orders
- YoY Growth %
- Avg Revenue per Customer
- Avg Sales per Product
- YTD / PY / YoY calculations
- Seasonal trend calculations

These measures enable advanced time intelligence and accurate comparison across time periods.

Page 1 : Executive Overview

This page provides a *CEO level snapshot of business performance*.

KPIs :

- Total Orders
- Total Sales
- Total Profit
- Profit Margin %
- YoY Growth %

Key Visuals :

- Sales & Profit Trend Over Time
(Shows overall monthly trend, how sales and profit move together)
- Sales by Region
(Identifies which region contributes the most.)
- Sales by Category
(Helps understand category-level performance: Technology, Furniture, Office Supplies.)
- Top 5 Products by Sales
(Shows best-selling products.)

Insights :

- Strongest sales observed in **Q4 (Oct–Dec)**.
- **The West** region performs the best.
- The **technology category** contributes the highest revenue.

Page 2 : Sales Intelligence

This module focuses on trend analysis, time intelligence, and seasonality.

Key Features :

- Sales Trend by Year & Month
- Compares sales of 2014–2017 month-on-month.
- Average Monthly Sales Chart
- Shows seasonal behavior → peak in October–December.
- Region-wise Trend Comparison
- Understands which regions grow during which months.
- YoY Growth Chart
- Helps quickly identify which year was best performing.

Insights :

- Sales *dip mid-year* and *rise sharply during year-end*.
- *The West* consistently outperforms other regions.

Page 3 : Product Analysis

This page analyzes product performance and profitability.

Visuals :

- Sales by Category
- Sales by Subcategory
- Top Products by Sales
- Product Profitability Matrix (Scatter Plot)
- Profitability Matrix
- X-axis → Total Sales
- Y-axis → Total Profit
- Color → Profitability
- Size → Quantity Sold

(Color Rules:

Green = High profit, Yellow = Moderate, Red = Loss-making or low profit.)

Insights :

- Most products *cluster near low-profit zones* → discount heavy.
- *Few products* drive extremely *high sales & profit* (Green zone).

Page 4 : Customer Insights

This page focuses on customer behavior and revenue contribution.

KPIs :

- Total Customers
- Avg Revenue per Customer
- Avg Orders per Customer
- Customer Contribution %

Visuals :

- Top 10 Customers by Sales
- Segment Performance
- Customer Profitability Table
- Treemap: Sales by Customer

Insights :

- The majority of revenue comes from the *consumer segment*.
- A few customers contribute *disproportionately high sales*.

Page 5 : Geography Analysis

This page reveals state, city, and region performance.

KPIs :

- Total States
- Total Cities
- Top Performing Region
- Highest Profit State
- Lowest Profit Region

Visuals :

- Sales by State
- Profit by State

- Top 10 Cities by Sales
- Sales from Region (Donut)
- Profit from Region (Donut)

Insights :

- *California* is the highest sales-generating state.
- *New York* leads in profit.
- *The central* region is the least profitable.

BUSINESS IMPACT

This dashboard helps the company:

1. Identify high-value customers.
2. Detect loss-making products instantly.
3. Allocate marketing budget to profitable regions.
4. Track annual revenue cycle and seasonal demand.
5. Understand category growth opportunities.
6. Optimize inventory based on sales patterns.
7. Improve profit margins using discount analysis.

RECOMMENDATIONS

Based on analysis:

1. Increase marketing focus on high-performing regions (West, East).
2. Review pricing for low-profit subcategories (Binders, Paper, Labels).
3. Upsell/Cross-sell to top 20 high-value customers.
4. Reduce discounts on products showing negative profitability.
5. Increase inventory before seasonal peaks (Oct–Dec).

CONCLUSIONS

The Retail Sales & Profit Intelligence System transforms raw data into a powerful decision-making tool.

It provides executives clear visibility of:

1. What happened?
2. Why did it happen?

3. Who contributed most?
4. Which products drive profit?
5. Which regions perform best?
6. How do sales behave over time?

This system empowers management to make smarter, faster, more profitable decisions.