Power BI Project Documentation

\*\*Project Title\*\*: Sales Performance Dashboard

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\*\*Internship Provider\*\*: CODTECH

\*\*Project Duration\*\*: 09/06/2025 – 19/06/2025

\*\*Tools Used\*\*: Power BI, DAX, Power Query, Microsoft Excel

\*\*Dataset Source\*\*: Sample Superstore Dataset

# 1. Objective

The goal of this project was to develop a dynamic and interactive dashboard using Power BI to visualize sales, profit, orders, shipping, and customer behavior for a retail business. The dashboard is intended to provide actionable insights to help in decision-making regarding product performance, customer segments, regional sales, and shipping performance.

# 2. Dataset Overview

\*\*File Used\*\*: Sample - Superstore.csv

\*\*Key Columns\*\*:

- Order Date, Ship Date – Date of order and shipment  
- Sales, Profit, Discount – Financial metrics  
- Product Name, Category, Sub-Category – Product hierarchy  
- Customer Name, Segment – Customer details  
- Region, State, City – Geographic breakdown  
- Order ID – Transaction-level identifier

# 3. Power BI Development Steps

## 3.1 Data Preparation (Power Query)

- Removed errors and ensured date formats were correct  
- Cleaned null or missing values  
- Created minorderdate and maxshipdate to define calendar range

## 3.2 Data Modeling

Created a Calendar Table using DAX:

Calendar = CALENDAR(MIN(superstore[Order Date]), MAX(superstore[Ship Date]))

Established relationships:

- Active: Calendar[Date] ↔ superstore[Order Date]

- Inactive: Calendar[Date] ↔ superstore[Ship Date]

## 3.3 DAX Measures

Revenue = SUM(superstore[Sales])

Profit = SUM(superstore[Profit])

Total Orders = DISTINCTCOUNT(superstore[Order ID])

Revenue by Ship Date = CALCULATE(SUM(superstore[Sales]), USERELATIONSHIP(Calendar[Date], superstore[Ship Date]))

# 4. Report Design

\*\*Page 1: Executive Summary\*\*

- KPI Cards: Total Revenue, Total Profit, Total Orders, Total Customers

- Line Chart: Revenue over time (monthly)

- Map: Sales by State

- Bar Chart: Sales by Region

\*\*Page 2: Product Performance\*\*

- Bar Chart: Sales by Category/Sub-Category

- Table: Top 10 Products by Revenue

- Tree Map: Profit contribution by product

\*\*Page 3: Customer Insights\*\*

- Donut Chart: Sales by Customer Segment

- Table: Revenue per Customer

- Slicers: Region, Segment

\*\*Page 4: Shipping Analysis\*\*

- KPI Card: Average Shipping Delay

- Line Chart: Order vs Ship Date trend

- Bar Chart: Avg Shipping Delay by Region

# 5. Insights & Findings

- West Region contributes highest revenue  
- Technology category yields the highest profit margin  
- Shipping delays are higher in the South Region  
- Majority of customers belong to the Consumer segment  
- Peak sales occur in November and December

# 6. Conclusion

The Power BI dashboard delivers key insights to stakeholders, allowing them to:  
- Identify top-performing products and regions  
- Track profitability over time  
- Monitor customer segments  
- Optimize logistics by analyzing shipping trends

# 7. Deliverables

- Power BI Report File: codetech project 3.pbix  
- Project Documentation: Sales\_Dashboard\_Documentation.docx  
- PDF Snapshot or PPT of Dashboard visuals (optional)