
📘 PROJECT DOCUMENTATION REPORT

Superstore Sales Analysis – Excel + Power BI

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1. Project Overview

Project Title:

Superstore Sales Data Analysis and Dashboard Creation

Objective:

The main objective of this project is to:

- Clean and prepare raw Superstore sales data using Microsoft Excel
- Perform basic analysis using Pivot Tables
- Build an interactive Power BI dashboard
- Visualize business performance through KPIs and charts
- Support data-driven decision making

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2. DATA SOURCE

Dataset Used:

- Superstore Sales dataset downloaded from **Kaggle.com**

Tools Used:

- Microsoft Excel
- Microsoft Power BI Desktop
- DAX (Data Analysis Expressions)

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3. DATA PREPARATION IN EXCEL

Before importing data into Power BI, several cleaning and transformation steps were performed in Excel as described in the uploaded document

Steps

Step 1 – Import Dataset

- Dataset was downloaded from Kaggle
- Opened in Microsoft Excel

- Verified all columns such as:
    - Order ID
    - Order Date
    - Ship Date
    - Sales
    - Profit
    - Quantity
    - Region
    - Product Name

Step 2 – Checking and Removing Duplicates

Process Followed:

- Selected entire data using **CTRL + A**
- Navigated to:

👉 **Data Tab → Remove Duplicates**

- Selected columns:
    - Order ID
    - Sub-Category

Reason:

- Order ID may repeat but sub-category differs

Result:

- Excel popup showed:
  👉 “No duplicates found in dataset”

This confirmed data integrity

Steps

Step 3 – Formatting Date Columns

To ensure proper date format:

Order Date Formatting:

- Selected Order Date column
- Used:

👉 **Data → Text to Columns → Date (MDY Format)**

- Applied same process for:

✓ Ship Date column

Result:

- All dates converted into uniform format
- Ready for time-based analysis

Steps

Step 4 – Checking Blank Columns

To identify blank cells:

- Selected all data
- Pressed **F5 → Special → Blanks**

Result:

- No blank columns found
- Data was clean and complete

Steps

Step 5 – Creating Calculated Columns

A. Total Sales Column

New column created:

Formula:

Total Sales = Quantity * Sales

B. Profit Margin Column

New column created:

Formula:

Profit Margin = Profit / Total Sales

These calculations helped in further analysis

Steps

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4. ANALYSIS USING EXCEL PIVOT TABLES

Before Power BI, initial analysis was performed using Pivot Tables.

Pivot Table 1 – Sales by Region

Steps:

- Insert → Pivot Table
- Drag:

Rows → Region
Values → Total Sales

Output:

- Region-wise sales summary created

Steps

Pivot Table 2 – Sales by Product

Steps:

- Created Pivot Table
- Rows → Sub Category
- Values → Total Sales
- Filter → Product Name

Applied:

👉 Top 5 Value Filter

Output:

- Top 5 products by sales

Steps

Pivot Table 3 – Monthly Sales Trend

Steps:

- Order Date in Rows
- Grouped by:
    - Months

Result:

- Monthly sales trend analysis created

Steps

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5. POWER BI IMPLEMENTATION

After Excel preparation, data was imported into Power BI.

Step 1 – Data Import

- Power BI Desktop → Get Data → Excel
- Imported cleaned Excel file
- Verified all columns and data types

Step 2 – Data Modeling

Calendar Table Creation

A separate Calendar table was created for time intelligence.

Relationship:

Sample Superstore[Order Date] → Calendar[Date]

Type:

👉 One-to-Many Relationship

This enabled proper monthly and MoM calculations.

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6. DAX MEASURES CREATED

The following measures were built in Power BI:

Total Sales 2

Total Sales = SUM('Sample - Superstore'[Sales])

Total Profit

Total Profit = SUM('Sample - Superstore'[Profit])

Profit Margin 2

Profit Margin = DIVIDE([Total Profit], [Total Sales])

Formatted as Percentage

Month-on-Month Sales Growth %

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MoM Sales Growth % =
DIVIDE(
   [Total Sales] - CALCULATE([Total Sales 2], PREVIOUSMONTH(Calendar[Date])),
   CALCULATE([Total Sales 2], PREVIOUSMONTH(Calendar[Date]))
)
```

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7. DASHBOARD CREATION IN POWER BI

An interactive dashboard was designed containing:

A. KPI Cards

1. Total Sales
2. Total Profit
3. Profit Margin
4. MoM Sales Growth %

Purpose:

- Provide quick performance summary

B. Visual Charts

1. Line Chart – Monthly Sales Trend

- Shows month-wise sales performance
- Identifies peaks and drops

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2. Pie Chart – Sales by Region

- Displays regional contribution
- Helps understand major markets

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3. Bar Chart – Sales by Product

- Shows top performing products

C. Slicers Added

Interactive filters included:

- Region
- Product Category
- Order Date

These slicers make dashboard dynamic and user-friendly.

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8. DASHBOARD INTERACTIVITY

- All visuals are connected
- Selecting any filter updates:

✓ KPI Cards
✓ Charts
✓ Tables

Example:

- Selecting “West Region” shows only West region performance

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9. KEY BUSINESS INSIGHTS

From the dashboard we can analyze:

- Overall revenue and profitability
- Best performing regions
- Top selling products
- Monthly growth trends
- Sales seasonality

This helps management to:

- Plan inventory
- Improve low performing areas
- Focus on high profit products

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10. CONCLUSION

This project successfully demonstrates:

✓ Data cleaning using Excel
✓ Analysis using Pivot Tables

✓ Advanced visualization using Power BI
✓ Creation of professional dashboards
✓ Use of DAX for business calculations

FINAL OUTPUT

A complete analytics solution consisting of:

- Clean Excel dataset
- Analytical Pivot Tables
- Interactive Power BI Dashboard

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Project Type:

Data Analytics – Excel & Power BI