

Exploratory Data Analysis (EDA) in Excel

Project: Retail Optimization Analysis (UrbanMart)

Dataset: Sample Superstore

Tool: Microsoft Excel

Objective

To explore the cleaned dataset and extract business insights by using Pivot Tables, sorting, filtering, and visualization tools in Excel.

Step-by-Step EDA Workflow in Excel

1. Top-Selling Products

Goal: Identify products with the highest total sales

- Insert → Pivot Table
- Rows: `Product_Name`
- Values: `Sales` (Summed)
- Sort values Z→A to get the top-selling products
- Filter to top 10
- Create a column/bar chart:

Insert → Chart → Column → Clustered Column

Insight: Focus on inventory and pricing strategy of top 10 products

2. Least Profitable Sub-Categories

Goal: Identify sub-categories that result in overall loss

- New Pivot Table
- Rows: `Sub_Category`
- Values: `Profit` (Summed)
- Sort values A→Z to get the lowest profit
- Highlight negative profit categories
- Insert Bar Chart for visualization

Insight: Assess pricing or over-discounting strategies in these areas

3. Sales & Profit by Customer Segment

Goal: Analyze which segments generate the most revenue and profit

- New Pivot Table
- Rows: Segment
- Values: Sales and Profit (Summed)
- Use “Value Field Settings” to set both to SUM
- Insert stacked bar chart for comparison

Insight: Prioritize marketing strategies for high-profit segments

4. Regional Sales Performance

Goal: Understand regional differences in sales performance

- New Pivot Table
- Rows: Region
- Values: Sales (Summed)
- Sort Z→A
- Insert column chart to visualize regional sales

Insight: Expand operations or focus campaigns in top-performing regions

5. Discount vs. Profit Analysis

Goal: Evaluate whether discounts hurt profitability

- Create a new sheet
- Select Discount and Profit columns from the cleaned dataset
- Insert → Scatter Plot
- Format axes to improve readability
- Add trendline (optional): Right-click → Add Trendline → Display Equation

Insight: Large discounts may lead to diminishing profit returns

Final Notes:

This EDA provides:

- Actionable business insights
- KPI benchmarks
- Visual storytelling
- The foundation for a dashboard or strategy report