

Assignment – Week 3: Data Visualization & EDA

Student Name: Nishat Unnisa

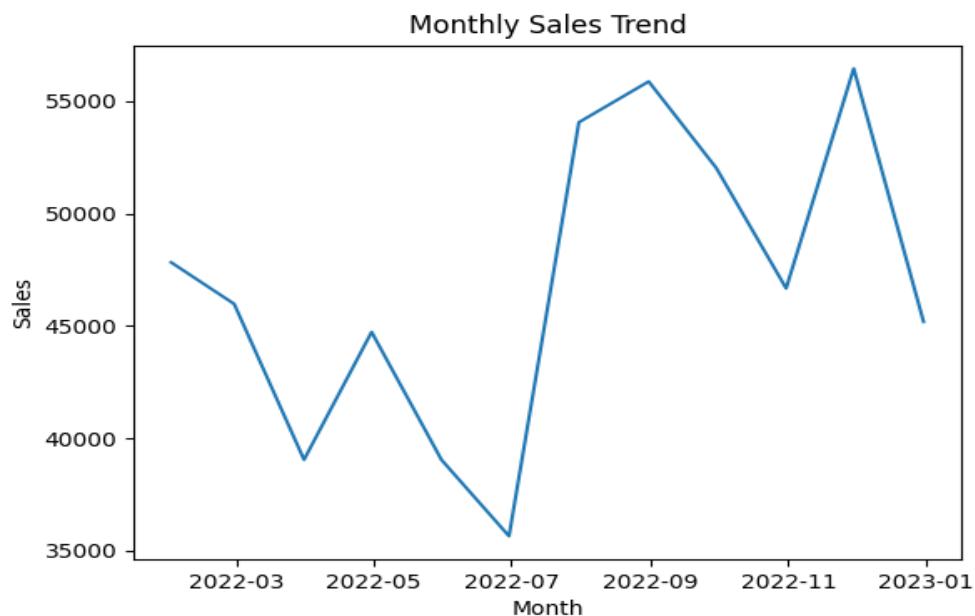
Internship: Data Science Internship

Week: 3

Dataset: Sales Dataset (Public-style)

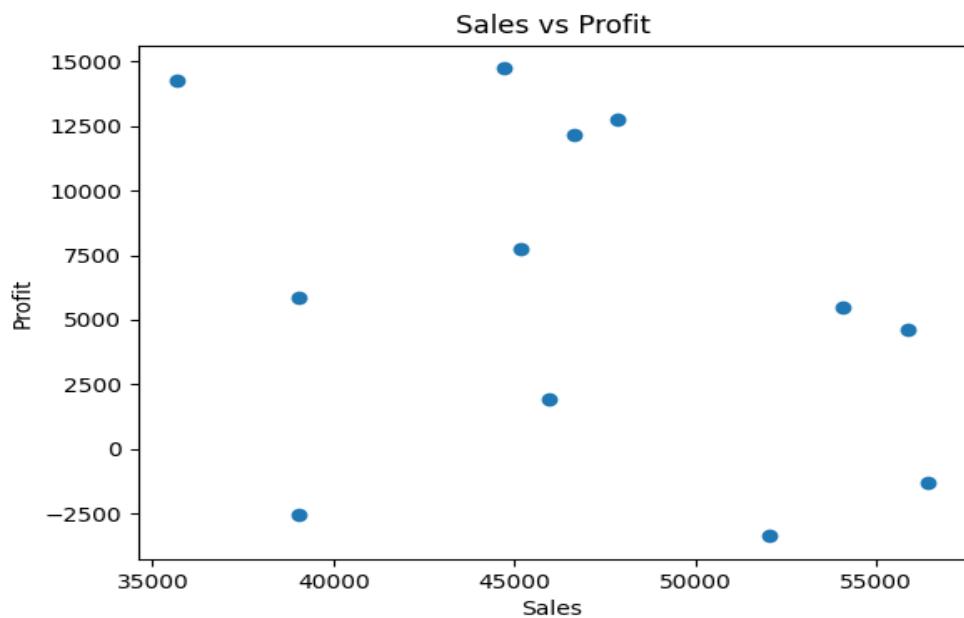
This assignment performs Exploratory Data Analysis (EDA) on a sales dataset. The analysis includes data cleaning, visualization of trends, correlations, outliers, and extraction of actionable business insights.

Visualization 1: Monthly Sales Trend



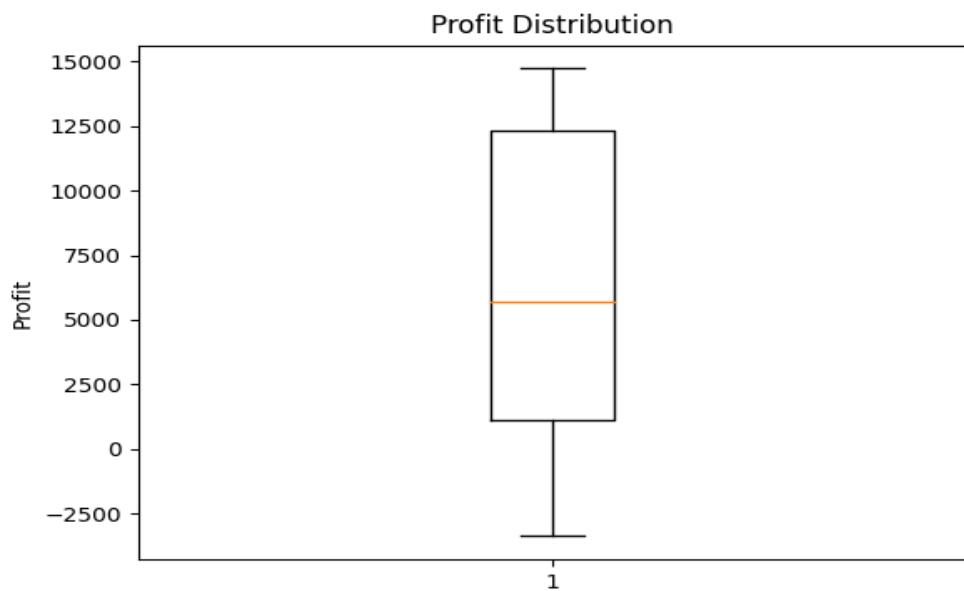
This line chart shows sales growth over time, helping stakeholders understand seasonal patterns and overall performance.

Visualization 2: Sales vs Profit



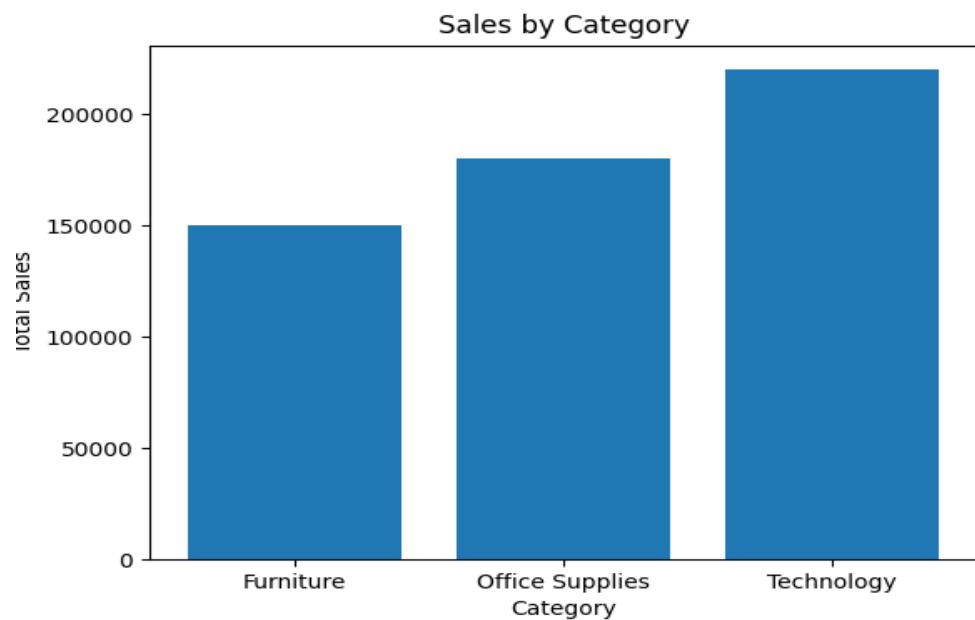
This scatter plot highlights the relationship between sales and profit, showing that higher sales do not always guarantee higher profits.

Visualization 3: Profit Distribution (Outliers)



The box plot identifies profit outliers, allowing finance teams to detect loss-making or unusually profitable transactions.

Visualization 4: Category-wise Sales



This bar chart compares sales across product categories to identify high-performing segments.

Actionable Insights

1. Sales show a steady upward trend over time.
2. Some high-sales transactions result in lower profits.
3. Technology category contributes the highest sales.

Conclusion: Data visualization simplifies complex datasets and enables stakeholders to make informed, data-driven decisions.