ANALYZING AMAZON SALES DATA

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July - 2024

Project Title :-

Analyzing Amazon Sales Data

Technologies :-

- Data Science
- Python
- Pandas
- NumPy
- Matplotlib
- Seaborn

Domain :-

E-commerce

Project Overview :-

The project aims to analyze Amazon sales data to uncover insights into sales trends, revenue metrics, and factors influencing sales performance. Understanding these aspects can help optimize sales strategies and improve business outcomes in e-commerce.

ETL (Extract, Transform, Load) :-

Extract

The dataset is extracted from the Amazon Sales database, containing various attributes such as order date, ship date, sales channel, units sold, total revenue, and more.

Transform

Data cleaning and transformation involve handling missing values, converting data types, and preparing the data for analysis.

Load

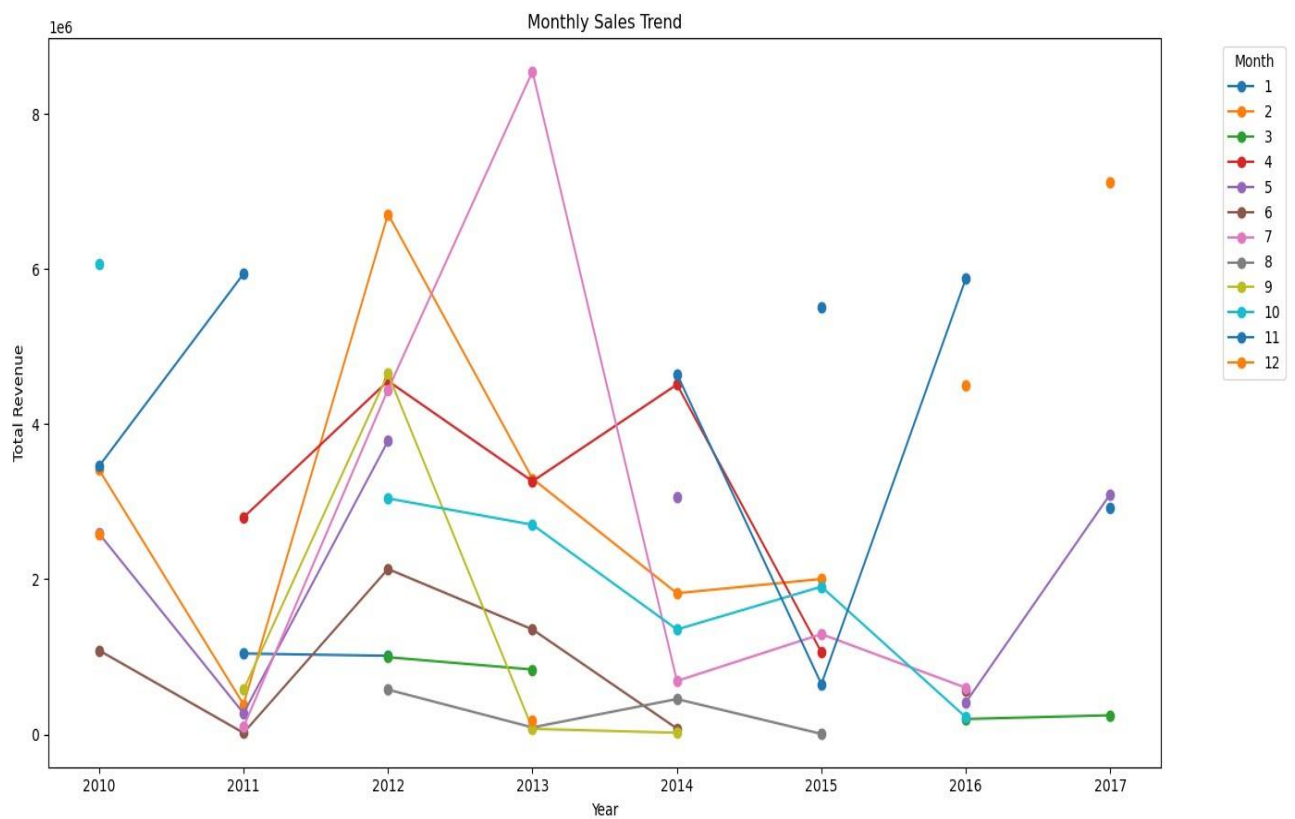The transformed data is loaded into a dataframe for further analysis and visualization.

Exploratory Data Analysis (EDA) :-

Statistical Analysis

- **Total Revenue:** Total_Revenue
- **Average Revenue per Order:** Avg_Revenue_Per_Order
- **Monthly Revenue:** Monthly_Revenue
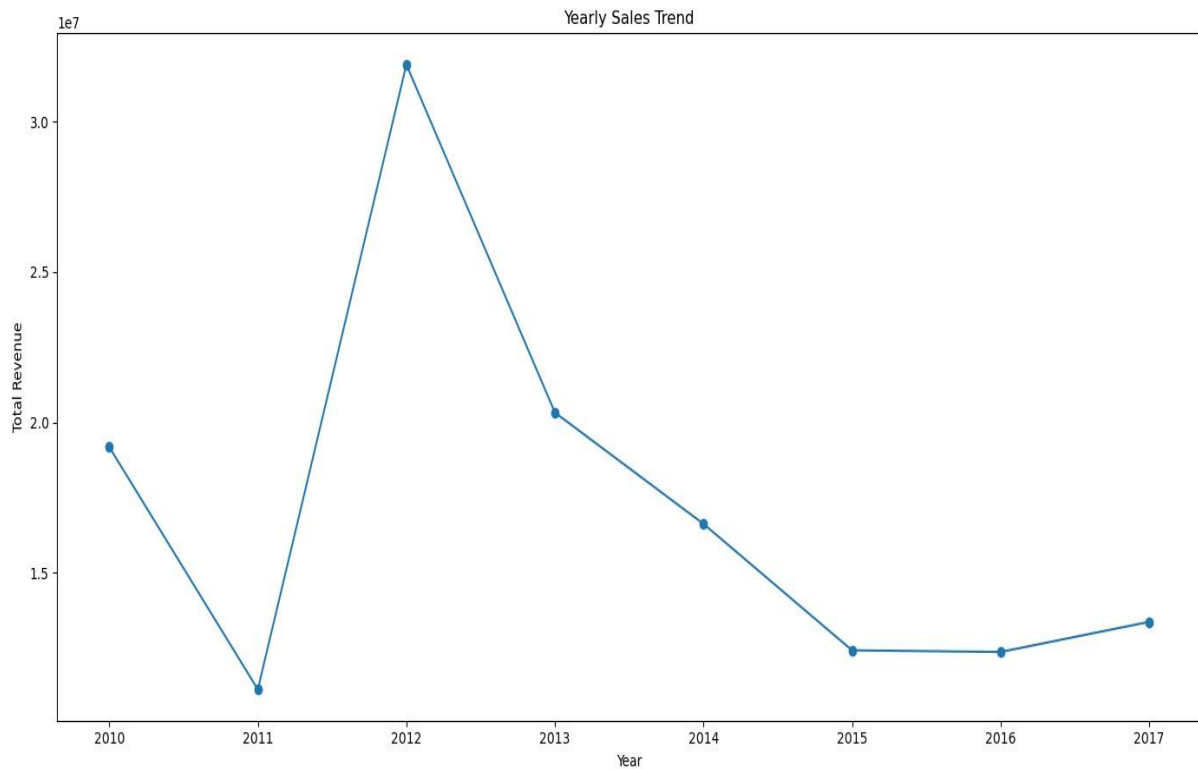- **Average Order Value:** Avg_Order_Value
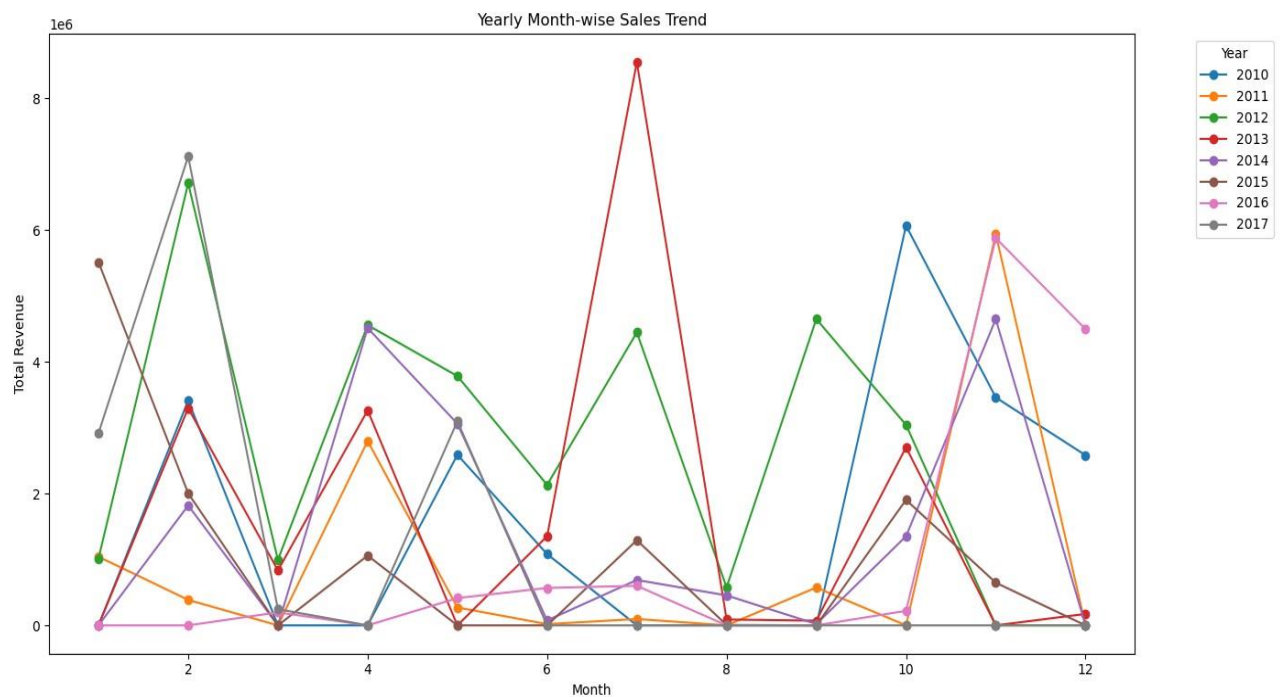
Sales Trends

- **Monthly Sales Trend:**

The line plot illustrates the variation in total revenue month-over-month, highlighting seasonal patterns and peak sales periods. (Insert Graph)

Yearly Sales Trend:

The line plot shows the overall trend in total revenue year-by-year, indicating growth or decline over time. (Insert Graph)
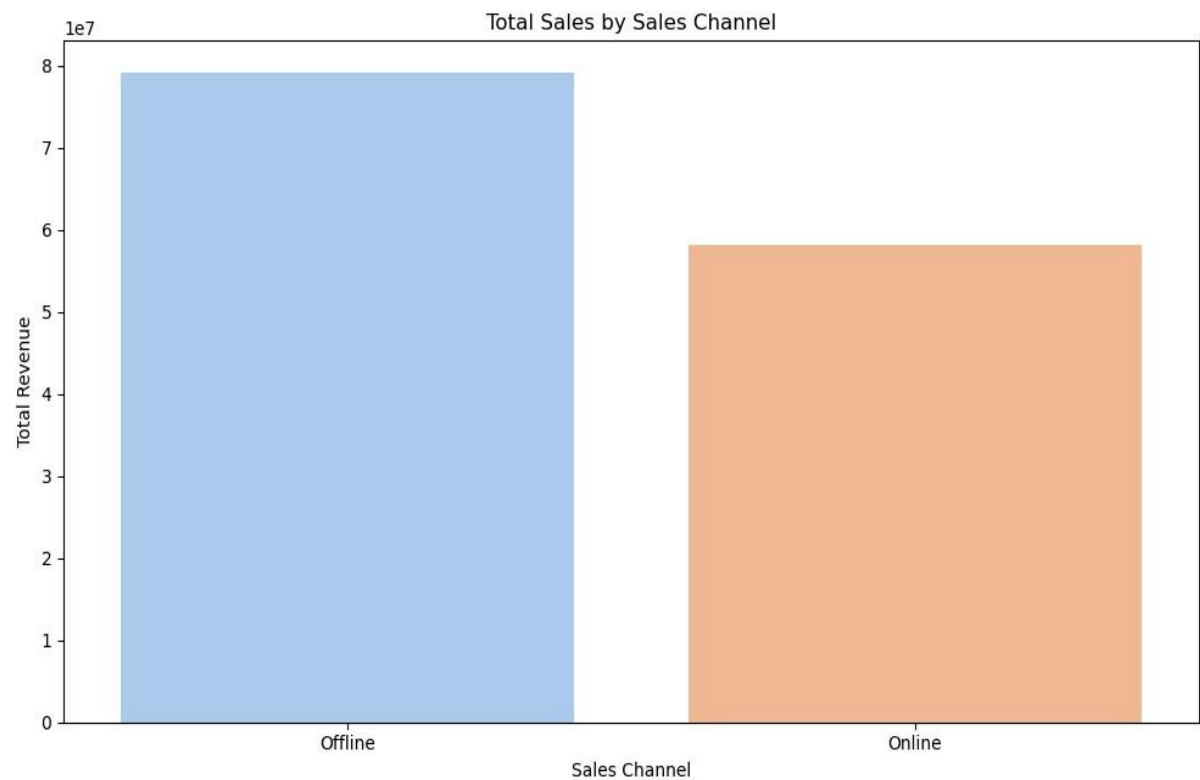
Yearly Month-wise Sales Trend:

The heatmap depicts the total revenue across different months for each year, highlighting seasonal fluctuations. (Insert Graph)
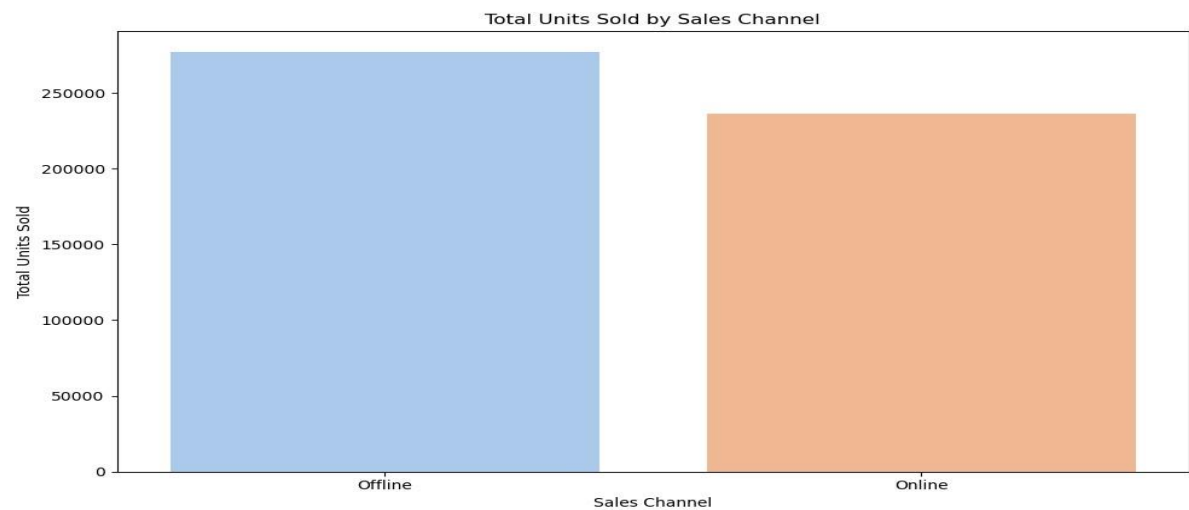
Sales Channel Analysis

Total Sales by Sales Channel:

- The bar plot shows the total revenue generated from each sales channel, providing insights into channel performance. (Insert Graph)
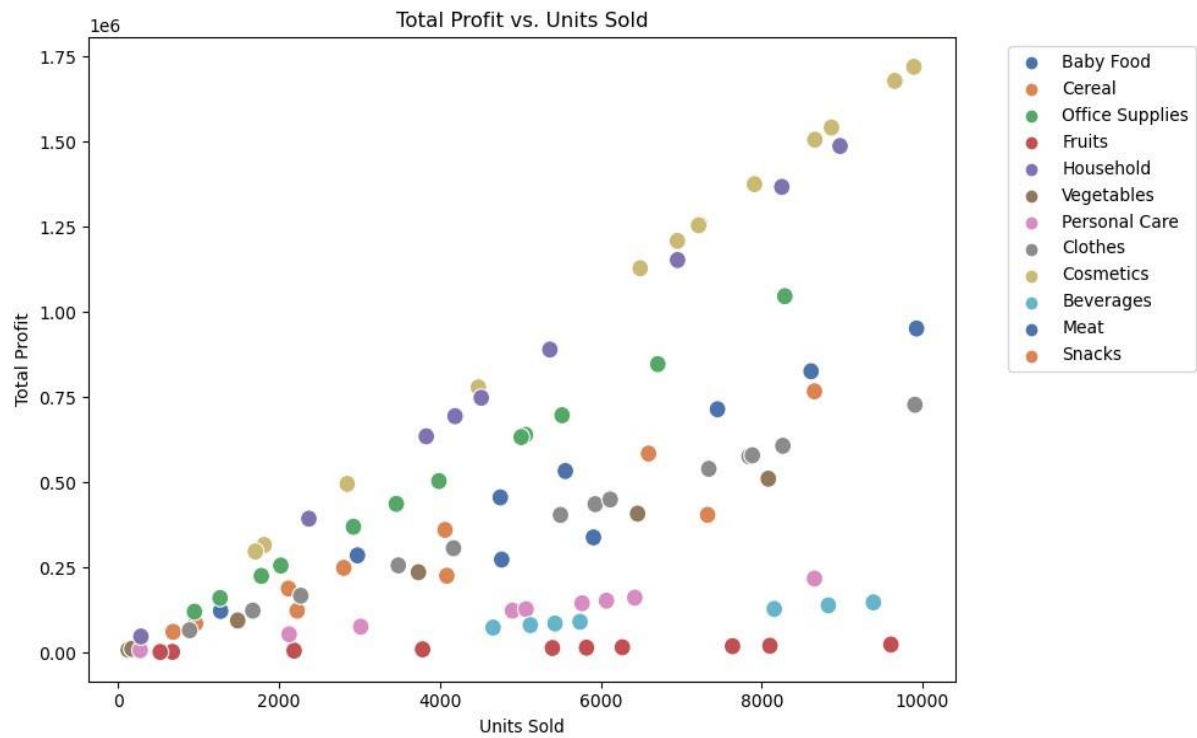
Total Units Sold by Sales Channel:

The bar plot illustrates the total units sold through each sales channel, indicating sales volume distribution. (Insert Graph)
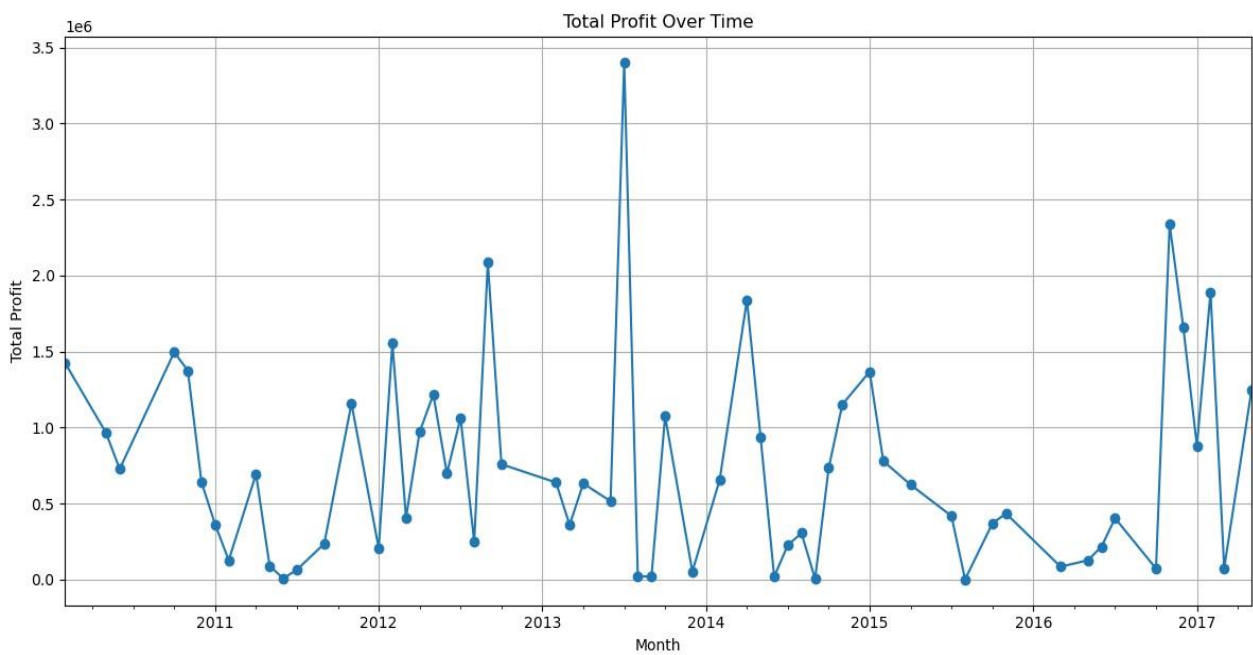
Profit Analysis

- **Scatter Plot of Total Profit vs. Units Sold:**

The scatter plot visualizes the relationship between units sold and total profit, with each point representing an item type. (Insert Graph)
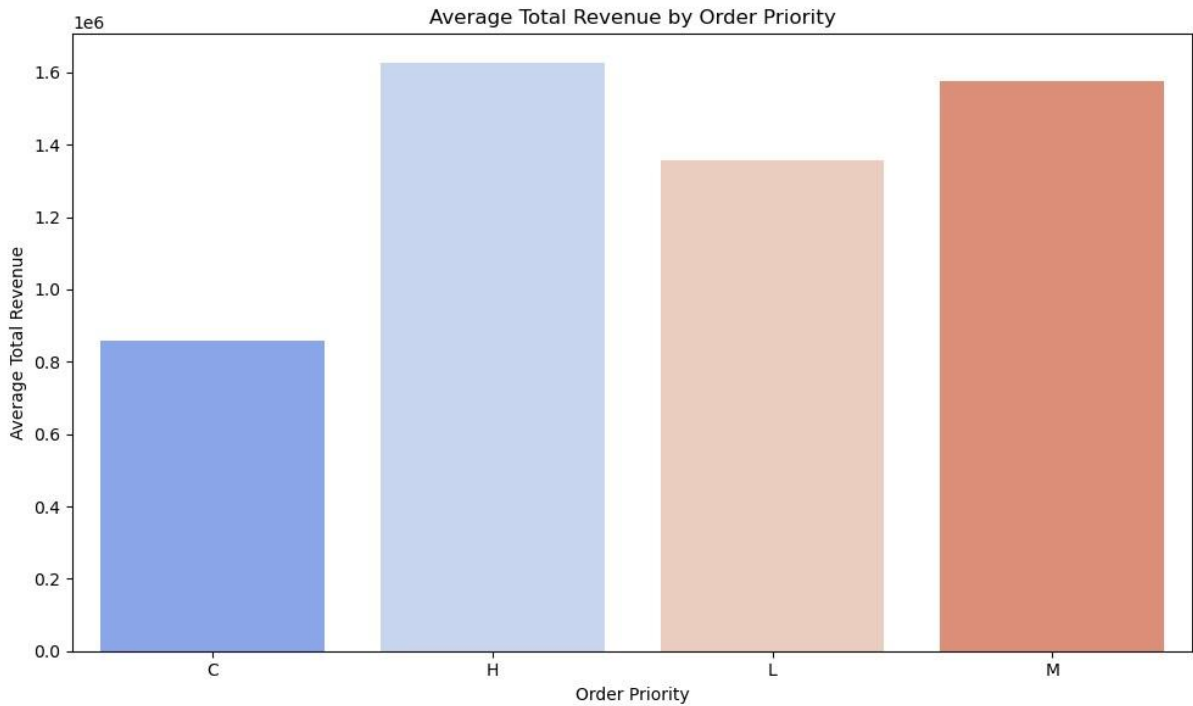
Line Chart of Total Profit Over Time:-

The line chart depicts the trend of total profit over time, highlighting periods of growth or decline. (Insert Graph)
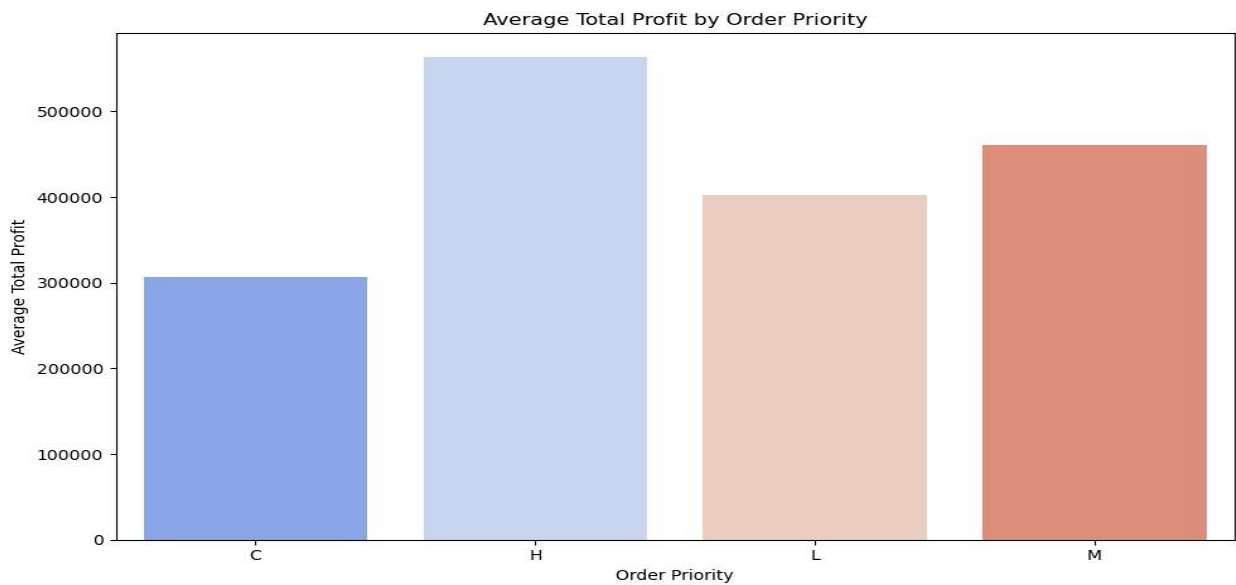
Customer Behavior Analysis

Bar Chart of Average Total Revenue by Order Priority:

The bar chart compares the average total revenue across different order priorities, indicating which priority level generates higher revenue. (Insert Graph)

- **Bar Chart of Average Total Profit by Order Priority:**

The bar chart illustrates the average total profit across different order priorities, indicating profitability by priority level. (Insert Graph)

Additional Insights

- **Total Revenue:** Total revenue generated from all sales transactions.
- **Average Revenue per Order:** Average revenue generated per order.
- **Monthly Revenue:** Breakdown of revenue generated monthly.
- **Average Order Value:** Average value of each order placed.

Conclusion

This project provides a detailed analysis of Amazon sales data, focusing on sales trends, revenue metrics, and customer behavior. The insights derived can inform strategic decisionmaking and optimization of sales strategies in e-commerce.