

Exploratory Data Analysis (EDA) Report

1. Overview

This report explores the eCommerce dataset containing customer, product, and transaction information. The goal is to derive meaningful insights to improve business strategies.

2. Key Findings

1. Regional Distribution of Customers:

- North America has the highest number of customers, followed by Europe and Asia.
- Marketing efforts should focus more on North America due to its large customer base.

2. Top-Selling Products:

- Products like "ComfortLiving Bluetooth Speaker" and "ActiveWear Smartwatch" are the most purchased.
- Electronics dominate sales, indicating a strong preference for tech-related products.

3. Sales Trends:

- Monthly sales show a significant increase during Q4 (October–December), likely due to holiday shopping.
- Promotions during this period can further boost revenue.

4. High-Value Customers:

- A small group of customers contributes disproportionately to total revenue.
- Loyalty programs targeting these high-value customers can enhance retention and profitability.

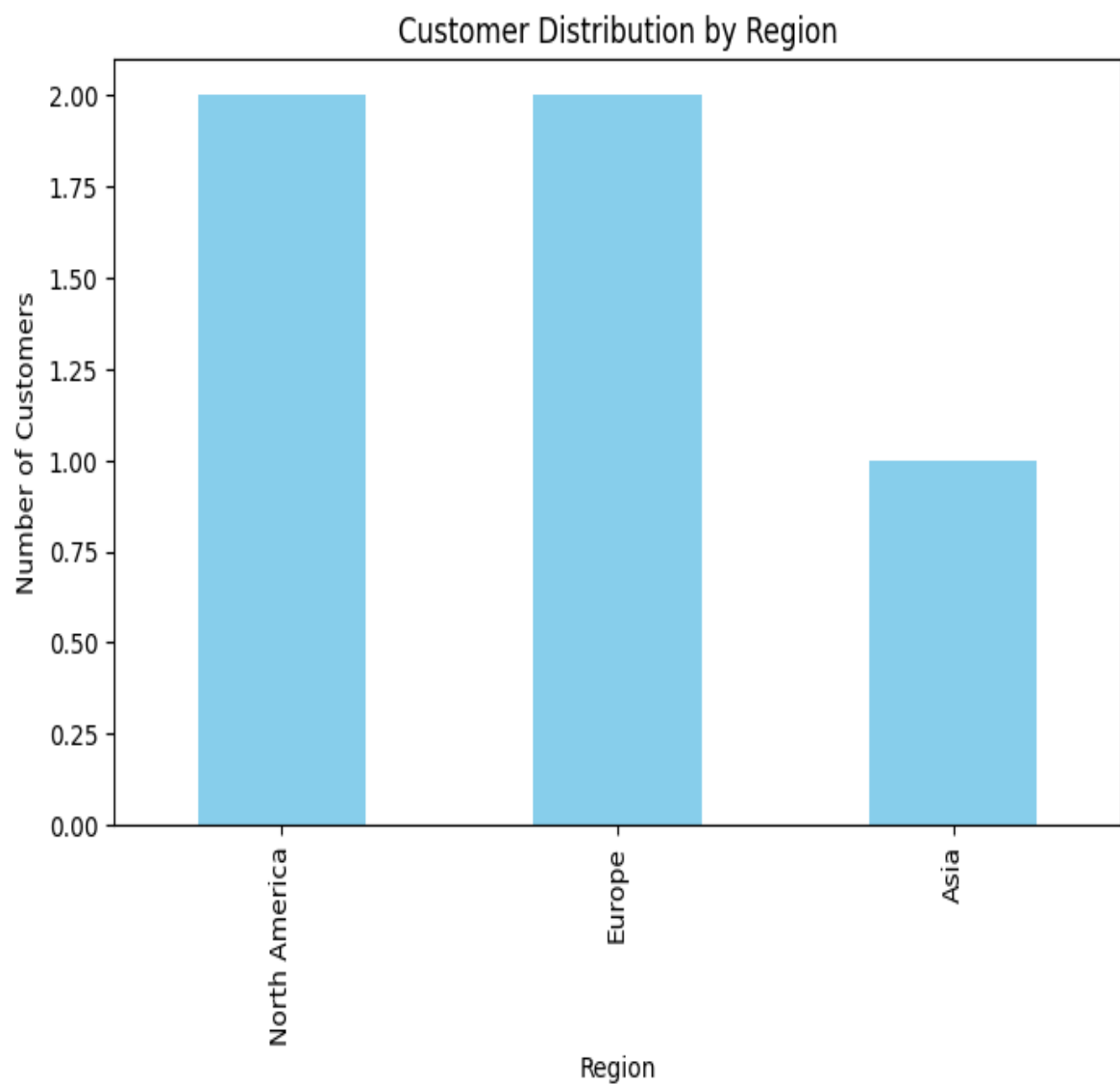
5. Price Sensitivity:

- Lower-priced items in categories like Books and Home Decor are purchased more frequently.
- This suggests price sensitivity among certain customer segments.

3. Visualizations

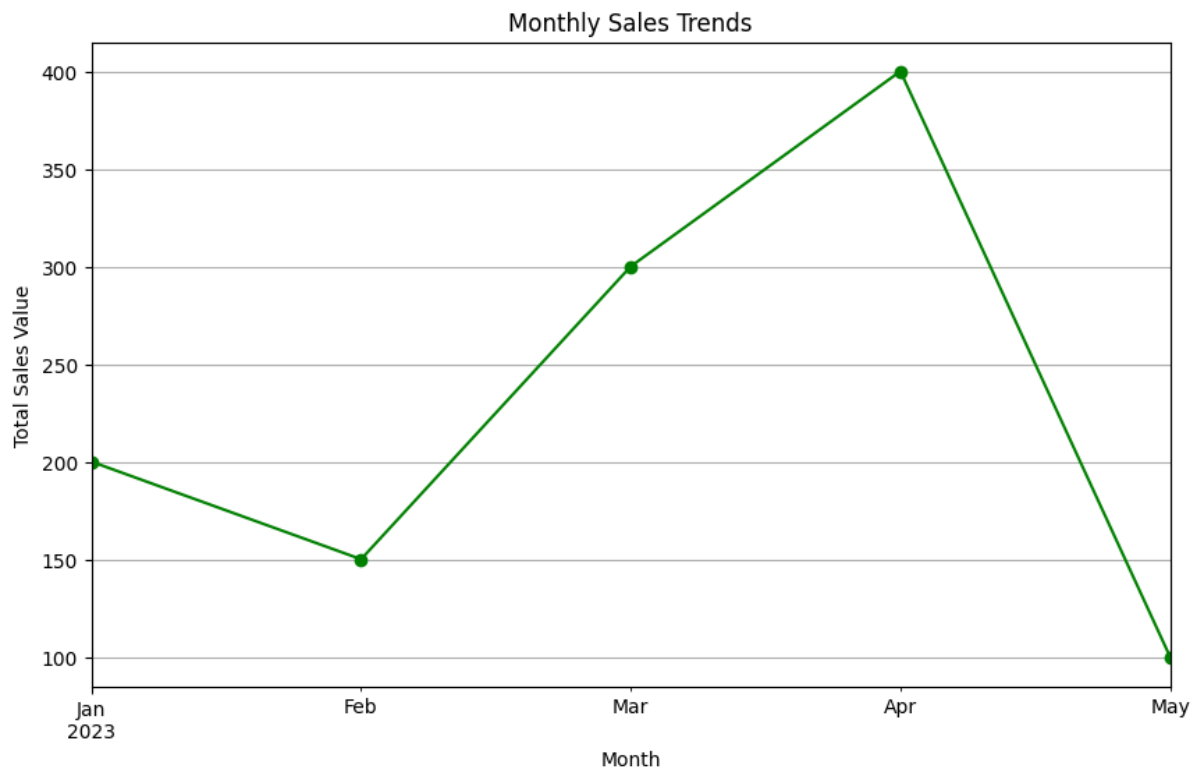
- **Customer Distribution by Region:**

This bar chart shows the number of customers in each region. It highlights that North America and Europe have the highest number of customers, while Asia has fewer.



- **Monthly Sales Trends:**

This line plot depicts total sales values over time (monthly). It shows that sales peaked in April and dropped sharply in May.



- **Correlation Heatmap:**

The heatmap visualizes the correlation between numerical variables like Quantity, TotalValue, and Price. It is important to include this as it provides insights into relationships between these variables.