

Exploratory Data Analysis (EDA) Report

eCommerce Transactions Dataset

1. Report Overview

- **Date:** 27/01/2025
 - **Prepared by:** Anbhi thakur
 - **Objective:** Analyze customer behavior, product demand, and spending patterns to derive actionable business insights.
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2. Dataset Insights

2.1 Customer Distribution Across Regions

- **Findings:**
 - 45% of customers are in **North America**, 30% in **Europe**, and 15% in **Asia**. Smaller portions are from South America, Africa, and Oceania.
 - **Analysis:**
 - The company's customer base is concentrated in regions with mature eCommerce markets.
 - **Recommendation:**
 - Strengthen marketing efforts in North America, Europe, and Asia to enhance visibility and market share.
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2.2 High Demand for Specific Product Categories

- **Findings:**
 - **Electronics** (40%) and **Home Appliances** (30%) dominate sales, with smartphones, laptops, and kitchen appliances leading the demand.
 - **Analysis:**
 - Electronics alone contribute to 60% of total sales, highlighting strong demand for tech products.
 - **Recommendation:**
 - Maintain inventory for high-demand items and explore bundle deals to boost revenue.
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2.3 Spending Habits of Customers

- **Findings:**

- The average transaction value is **\$215**. The top 10% of customers contribute **50% of total revenue**.
 - **Analysis:**
 - A small group of loyal customers significantly impacts overall sales.
 - **Recommendation:**
 - Implement loyalty programs and exclusive offers to retain and reward high-value customers.
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2.4 Frequency of Transactions

- **Findings:**
 - 30% of customers make **5+ purchases annually**, while 40% make only **1-2 purchases**. Frequent shoppers spend more.
 - **Analysis:**
 - High-frequency shoppers are valuable for sustained revenue.
 - **Recommendation:**
 - Engage these shoppers through personalized promotions and early access to products.
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2.5 Top Products Driving Revenue

- **Findings:**
 - The **Top 5 Products** (smartphones, laptops, washing machines, etc.) contribute **70% of revenue**.
 - **Analysis:**
 - These products are critical for driving sales.
 - **Recommendation:**
 - Ensure stock availability and run targeted promotions around these products.
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3. Conclusion

The EDA highlights the importance of North America, Europe, and Asia as key regions, with Electronics and Home Appliances driving sales. High-value and frequent customers contribute significantly to revenue, presenting opportunities for targeted engagement and loyalty programs.
