

Business Insights Report: eCommerce Transactions Dataset

This report outlines key insights derived from exploratory data analysis (EDA) conducted on the provided eCommerce Transactions dataset. The dataset includes information on customers, products, and transactions, enabling a comprehensive understanding of customer behavior, product performance, and sales trends.

Key Business Insights:

- 1. Regional Customer Distribution:** The majority of customers are concentrated in a specific region South America, comprising over 30.4% of the total customer base and 21.8% in Asia, 23.4% in Europe and 24.4% in North America.
This suggests the need for region-specific marketing strategies to target the largest audience effectively.
- 2. Top-Selling Products:** A few products dominate the sales volume, contributing 17.25% of the total transactions. It reflects customer preferences and allows prioritization of resources like supply chains and advertising, improving operational efficiency and profitability.

Product Analysis:

ProductName	
ActiveWear Smartwatch	100
SoundWave Headphones	97
HomeSense Desk Lamp	81
ActiveWear Rug	79
SoundWave Cookbook	78

- 3. Monthly Sales Trends:** Monthly sales analysis reveals seasonal trends, with a significant sales spike during specific months. These insights can guide stock management and marketing efforts to capitalize on peak seasons.

TransactionMonth	
2023-12	3769.52
2024-01	66376.39
2024-02	51459.27
2024-03	47828.73
2024-04	57519.06
2024-05	64527.74
2024-06	48771.18
2024-07	71366.39
2024-08	63436.74
2024-09	70603.75
2024-10	47063.22
2024-11	38224.37
2024-12	59049.20

- 4. Price Distribution Across Categories:** The average price varies significantly across product categories. Customers are more willing to pay higher prices for premium categories such as electronics, while price sensitivity is evident in categories like Home Decor.

5. **Customers doing maximum transactions:** Analysis of customer sign-up dates and transaction frequency indicates that a significant proportion of customers making purchases.
6. **Customers doing maximum transactions from all regions:** A breakdown of customers performing the most transactions across regions reveals that South America leads in transaction volume, followed by North America, Europe, and Asia. This emphasizes the importance of tailoring strategies regionally to maintain high engagement and sales.