

# Business Insights Report: eCommerce Transactions Analysis

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## Overview

This report presents key business insights derived from an exploratory data analysis (EDA) of an eCommerce transactions dataset, including customer, product, and transaction data. The analysis aims to uncover actionable insights to inform strategic business decisions.

## 1. Customer Insights

### a. Customer Distribution by Region:

- **Insight:** South America has the highest number of customers, followed by Europe, North America, and Asia. This indicates a strong customer base in South America and potential growth opportunities in Asia.
- **Actionable Step:** Focus marketing efforts on South America to capitalize on the existing customer base. Explore strategies to increase customer acquisition in Asia.

### b. Customer Signup Trends:

- **Insight:** There are distinct peaks in customer signups, particularly in mid-2024, suggesting successful promotional activities during these periods.
- **Actionable Step:** Analyze the factors contributing to signup spikes and replicate successful strategies during other periods to maintain a steady influx of new customers.

## 2. Product Insights

#### **a. Top-Selling Products:**

- **Insight:** SoundWave Jeans, SoundWave Cookbook, and TechPro Headphones are the top three best-selling products, indicating strong brand loyalty and customer preference.
- **Actionable Step:** Increase inventory and promotional efforts for top-selling products. Consider bundling popular items to drive additional sales.

#### **b. Price Distribution by Category:**

- **Insight:** Books and Clothing have higher median prices compared to Electronics and Home Decor. However, all categories show a wide price range, indicating diverse customer preferences.
- **Actionable Step:** Ensure competitive pricing strategies within each category. Evaluate customer demand for premium products and adjust offerings accordingly.

### **3. Transaction Insights**

#### **a. Revenue Trends:**

- **Insight:** Revenue shows clear seasonal patterns with significant peaks in January, July, and August. Low revenue periods are observed in June and November.
- **Actionable Step:** Plan inventory and marketing efforts around peak revenue periods to maximize sales. Implement promotional strategies during low revenue periods to boost performance.

#### **b. Quantity vs. Total Value:**

- **Insight:** Higher quantities generally correspond to higher transaction values. However, there is little correlation between product price and quantity sold.
- **Actionable Step:** Encourage bulk purchases through discounts and promotions. Focus on high-priced products to maximize transaction values.

### **4. Regional Insights**

#### **a. Total Revenue per Region:**

- **Insight:** South America generates the highest total revenue, followed by Europe, North America, and Asia. This underscores South America's importance as a key market.
- **Actionable Step:** Allocate more resources to South America to sustain growth. Develop targeted strategies to boost sales in lower-performing regions like Asia.

#### **b. Average Transaction Value per Region:**

- **Insight:** South America and Europe have the highest average transaction values, suggesting strong purchasing power in these regions.
- **Actionable Step:** Tailor marketing campaigns to highlight premium products in South America and Europe. Explore ways to increase transaction values in North America and Asia.

## **5. High-Value Customer Insights**

#### **a. Top Customers by Spending:**

- **Insight:** A small segment of customers contributes significantly to total revenue, with Paul Parsons and Bruce Rhodes leading the list.
- **Actionable Step:** Implement personalized marketing strategies and loyalty programs for high-spending customers to enhance retention and increase spending.

#### **b. Customer Transaction Distribution:**

- **Insight:** Most customers make 1-2 transactions, indicating a need to encourage repeat purchases.
- **Actionable Step:** Develop loyalty programs and incentives to promote repeat purchases among first-time customers.

## **Conclusion**

The insights derived from the eCommerce transactions dataset highlight key areas for strategic focus, including regional market expansion, product pricing, and customer retention. By leveraging these insights, the business can optimize marketing efforts, improve customer engagement, and drive revenue growth.