

# Business Insights Report

## Introduction:

Exploratory data analysis (EDA) of the eCommerce transactions dataset produces actionable insights related to customer distribution, sales performance of products, seasonal sales trend, transaction behavior, and price strategy. Such findings will aid strategic business decisions and improve the overall performance.

## Key Insights:

### 1. Customer Distribution by Region:

- South America has the largest share of customers with 59, followed by Europe (50), North America (46), and Asia (45).
- South America is the primary market, but North America and Asia present growth opportunities.
- Targeted marketing in North America and Asia can balance customer distribution and improve sales.

### 2. Top-Selling Product Categories:

- Books and Electronics are the highest-performing categories. Popular products like ActiveWear Smartwatch and SoundWave Headphones are key drivers.
- The Home Decor category underperforms, indicating potential for targeted promotional campaigns to increase visibility and interest.

### 3. Monthly Sales Trends:

- Sales peak mid-year (June/July) and fall during the initial months (January/February).
- Seasonal sales promotions during the peak season may help in maximum revenue generation. Incentives during low-sale months can be used to balance performance.

### 4. Transaction Day Analysis:

- Highest transactions occur on Sundays, particularly in South America.
- Promotion or discount during Sundays can maximize sales on the day when transactions are at a peak.

### 5. Pricing Strategy and Product Categories:

- Electronics have a wide price range and high-ticket items are above \$500. Clothing and Home Decor have stable pricing.
- Introducing tiered pricing or bundling for Electronics can meet different budgets and increase the volume of sales.

## **6. Regional Sales Performance-Category Specific**

- Books are at the top in South America and Electronics are strong in North America.
- Region-specific product marketing and availability can further improve category-specific sales.

## **7. Customer Acquisition and Retention:**

- South America has the highest customer acquisition, while Europe and North America have a stable customer retention.
- Regional segmentation for targeted offers can increase repeat sales and customer loyalty.

## **8. Revenue Impact by Region:**

- South America is a significant revenue contributor, indicating strong purchasing power.
- Expansion of the customer base in North America and Asia can lead to significant revenue growth in unexploited markets.

## **Optimization Opportunities**

### **1. Marketing Strategies**

- Increase marketing activities in North America and Asia to increase market share.
- Campaigns to be tailored according to regional preferences and popular categories.

### **2. Product Promotions:**

- ActiveWear Smartwatch and SoundWave Headphones to be used in future campaigns.
- Promotional bundles or discounts to be used for Home Decor to enhance category performance.

### **3. Seasonal Sales Planning**

- Seasonal campaigns to be used to maximize revenue during the mid-year sales peak.
- Special promotions or loyalty rewards to be offered in January/February to stabilize revenue.

### **4. Transaction Day Optimization**

- Sunday sales to be capitalized on by offering exclusive deals, especially in South America.
- Reward customer activity on other days with smaller incentives or flash sales.

### **5. Price Adjustments:**

- Introduce tiered pricing and bundling strategies for Electronics to attract various customer segments.
- Promotion of high-ticket items to attract budget-conscious buyers during slower sales periods.

**Conclusion:**

The EDA identifies major opportunities to enhance sales and engagement with customers. Through region-specific marketing, driving underperforming categories, playing seasonal trends, and optimizing the pricing strategy, the business can grow revenue, build customer retention, and sustain growth.