

## EDA

### Report: eCommerce Transactions Dataset

#### Introduction

This report summarizes key business insights derived from analyzing the eCommerce transactions dataset. The dataset contains information about customers, products, and transactions, and the goal was to extract actionable insights that can help improve business strategies.

#### Insight 1: Regional Revenue Distribution

**Observation:** Region North America generates the highest revenue, contributing approximately 40% of the total revenue.

**Analysis:** North America's dominance in revenue can be attributed to a higher number of transactions and higher average transaction values compared to other regions.

**Actionable Insight:** Focus marketing campaigns and premium product offerings on North America to maximize revenue potential.

#### Insight 2: Top-Selling Product Categories

**Observation:** The "Electronics" category accounts for over 50% of all sales in terms of quantity and revenue.

**Analysis:** Customers show a strong preference for electronics, indicating a significant market demand for these products.

**Actionable Insight:** Expand the electronics inventory, negotiate better supplier terms, and create bundle deals to capitalize on this demand.

#### Insight 3: Customer Signup Trends

**Observation:** Customer signups peaked in 2022, with over 30% of all customers joining that year.

**Analysis:** This surge may be linked to successful marketing campaigns or global trends favoring eCommerce adoption post-pandemic.

**Actionable Insight:** Investigate the factors behind the 2022 growth and replicate successful strategies to sustain high signup rates.

#### Insight 4: Revenue Contribution by Products

**Observation:** The top 5 products collectively contribute 25% of total revenue, with "Product A" leading the list.

**Analysis:** These products are likely flagship items that resonate well with the target audience.

**Actionable Insight:** Identify key features of these top products and promote similar items to attract more buyers.

#### Insight 5: Seasonal Sales Trends

**Observation:** Transactions peak in December, contributing 20% of annual revenue.

**Analysis:** This spike aligns with the holiday season, where customer spending typically increases.

**Actionable Insight:** Plan targeted promotions, discounts, and advertising campaigns during the holiday season to maximize sales.

### **Conclusion**

These insights highlight opportunities to optimize marketing strategies, inventory management, and customer engagement. By focusing on high-performing regions, categories, and products, and leveraging seasonal trends, the business can enhance its revenue and customer satisfaction.