

EDA Insights Report

Exploratory Data Analysis (EDA) Report

This document summarizes the findings from the exploratory data analysis (EDA) conducted on the eCommerce transactions dataset.

Overview

The dataset contains three components:

Customers: Information about customer IDs, names, regions, and signup dates.

Products: Details about product IDs, names, categories, and prices.

Transactions: Records of purchases, including product quantity, total value, and transaction dates.

Key Business Insights

1. Transactions by Region

Insight: The majority of transactions come from North America and Asia.

Action: Focus marketing efforts on these regions to maintain growth, while exploring strategies to boost sales in South America.

2. Popular Products

Insight: The top 10 products contribute to a significant portion of total sales, with Product X leading in popularity.

Action: Ensure inventory availability for these products, and consider promotional bundles to increase cross-sales.

3. Seasonal Trends

Insight: Monthly transaction values reveal seasonal peaks in sales.

Action: Plan marketing campaigns during peak months and introduce discounts or promotions to boost sales during off-peak periods.

4. Customer Distribution

Insight: Most customers are based in North America and Asia, with Europe showing steady growth in signups.

Action: Develop localized campaigns tailored to these customer bases.

5. Revenue Contribution by Regions

Insight: Despite fewer customers, South America contributes significantly to revenue.

Action: Enhance customer loyalty programs in South America to capitalize on this trend.

Visualizations

Monthly Revenue Trends

Visualized as a bar chart showing the revenue generated in each month.

Top Products by Quantity Sold

Displayed as a bar chart highlighting the most popular products.

Regional Customer Distribution

Illustrated with a pie chart showing customer percentages by region.

Total Revenue by Region

Represented as a bar chart, emphasizing regional contributions to revenue.

Recommendations

Regional Marketing: Focus efforts on high-performing regions while creating targeted campaigns for underperforming areas.

Product Inventory Management: Ensure stock availability for top-selling products, especially during peak months.

Promotional Offers: Use seasonal trends to time discounts and promotions strategically.

Customer Engagement: Enhance loyalty programs to increase repeat purchases, especially in high-revenue regions.