

Business Insights from EDA

Introduction

This report presents key business insights derived from an exploratory data analysis (EDA) of the eCommerce transactions dataset. The dataset comprises customer, product, and transaction data. The analysis focuses on customer distribution, product performance, pricing trends, revenue growth, and top-selling products. These insights aim to guide data-driven strategies for maximizing business growth and customer engagement.

Insights

Insight 1: Customer Distribution by Region

- **Observation:** South America has the highest number of customers (59), followed by Europe (50).
- **Actionable Insight:** Focus marketing efforts and targeted campaigns in South America to capitalize on its larger customer base.

Insight 2: Customer Signup Trends

- **Observation:** Customer signups have increased steadily from 2022 (64) to 2024 (79), with the highest number of signups in 2024.
- **Actionable Insight:** Continue leveraging effective marketing strategies implemented in 2024 to sustain growth.

Insight 3: Top Product Categories

- **Observation:** Books and Electronics are the top-selling categories, each contributing 26 products.
- **Actionable Insight:** Expand offerings in the Books and Electronics categories to drive additional revenue.

Insight 4: Product Price Distribution

- **Observation:** Most products are priced between \$50 and \$100, aligning with customer spending behavior.

- **Actionable Insight:** Introduce new products within this price range to cater to customer preferences and maximize sales.

Insight 5: Revenue Growth Trends

- **Observation:** Monthly revenue peaks in December and July, likely due to holiday and mid-year promotions.
- **Actionable Insight:** Focus marketing campaigns and discounts during these peak months to maximize revenue opportunities.

Insight 6: Top-Selling Products

- **Observation:** The "SoundWave Cookbook" and "SoundWave Jeans" are the best-selling products, each with 46 units sold.
- **Actionable Insight:** Ensure sufficient inventory and promotional campaigns for these top-performing products to maintain sales momentum.

The analysis identifies critical insights into customer behavior, product performance, and revenue trends. It includes focusing on South America for marketing, expanding top product categories, introducing new products in the \$50–\$100 range, and aligning campaigns with peak revenue months. Additionally, ensuring sufficient inventory for top-selling products like "SoundWave Cookbook" can sustain sales momentum.