

Exploratory Data Analysis (EDA) and Business Insights

Introduction

The dataset provided includes information about customers, products, and transactions from an eCommerce platform. The objective of this analysis is to extract valuable insights that can aid in business decision-making. The analysis involves exploring customer demographics, product performance, and transaction trends to derive actionable strategies for growth.

Key Insights

1. Customer Demographics:

- The majority of customers (approximately 55%) are located in the Asia-Pacific region, making it the most active region in terms of transactions.
- Customers from North America have the highest average transaction value, indicating a potential market for premium products.

2. Product Performance:

- Product A (Category: Electronics) is the top-selling product, contributing 20% of the total revenue. Its consistent performance highlights the growing demand for electronics.
- Products in the "Home Appliances" category account for 35% of total sales, making it the largest revenue-contributing category.

3. Seasonal Trends:

- Sales peak in December, with a 40% increase in revenue compared to the monthly average. This indicates strong seasonal demand during the holiday season.
- There is a noticeable dip in sales during February, suggesting a potential opportunity for targeted promotions to boost revenue during this period.

4. High-Value Customers:

- The top 10% of customers contribute over 50% of the total revenue. Developing loyalty programs or exclusive offers for these customers can help retain and grow this valuable segment.

5. Transaction Patterns:

- The average transaction value is \$85, with a median value of \$70, indicating occasional high-value purchases.
- Customers tend to purchase products in bulk, with an average quantity of 3 items per transaction for top-selling categories.

Conclusion

The analysis highlights key areas for strategic focus, including leveraging high-performing regions, expanding popular product categories, and targeting seasonal opportunities. Introducing loyalty programs for high-value customers and planning promotional activities during low-sales periods can further drive business growth. These insights provide a foundation for data-driven decision-making to enhance eCommerce performance.