

eCommerce Transactions Dataset Analysis

Overview:

This report provides an analysis of the eCommerce Transactions dataset, which includes three files: Customers.csv, Products.csv, and Transactions.csv. The goal is to perform exploratory data analysis (EDA), extract actionable insights, and build predictive models. The focus is on understanding customer behavior, product trends, and transaction patterns to derive business insights.

Datasets Description:

1. Customers.csv:

- CustomerID: Unique identifier for each customer.
- CustomerName: Name of the customer.
- Region: Continent where the customer resides.
- SignupDate: Date when the customer signed up.

2. Products.csv:

- ProductID: Unique identifier for each product.
- ProductName: Name of the product.
- Category: Product category.
- Price: Product price in USD.

3. Transactions.csv:

- TransactionID: Unique identifier for each transaction.
- CustomerID: ID of the customer who made the transaction.
- ProductID: ID of the product sold.
- TransactionDate: Date of the transaction.

- Quantity: Quantity of the product purchased.
- TotalValue: Total value of the transaction.
- Price: Price of the product sold.

Task 1: Exploratory Data Analysis (EDA) and Business Insights

The dataset was analyzed to understand customer behavior, product preferences, and transaction patterns. Insights were generated based on this analysis. Below are the top five business insights derived from the dataset.

Business Insights:

1. The majority of customers are concentrated in specific regions, highlighting potential markets for targeted marketing campaigns.
2. Certain product categories outperform others in terms of sales volume and revenue, indicating where to focus inventory and marketing efforts.
3. Transactions peak during specific months, suggesting seasonal demand patterns that businesses can leverage for promotional campaigns.
4. High-value transactions are often linked to a small subset of customers, emphasizing the importance of maintaining relationships with high-value clients.
5. A significant number of customers make repeat purchases, showcasing opportunities to implement loyalty programs to enhance customer retention.