

Assignment Tasks:

➤ **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.

➤ **Products.csv**

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

➤ **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

BUSINESS INSIGHTS:

1. Customer Signup Trends

- Insight: New customer signups exhibit growth during specific months, possibly due to promotions or external factors.
- Implication: Replicate successful strategies during peak signup months to sustain growth.

2. Underperforming Categories

- Insight: Certain product categories generate minimal revenue.
- Implication: Evaluate discontinuing low-performing categories or redesigning their marketing strategies.

3. Monthly Sales Consistency

- Insight: Sales in some months are consistently lower, indicating demand fluctuations.
- Implication: Deploy promotional offers or discounts during low-demand months to stabilize cash flow.

4. Price Correlation with Sales Metrics

- Insight: TotalValue has a strong positive correlation with quantity sold, indicating price competitiveness.
- Implication: Maintain price sensitivity while maximizing profitability.

5. Customer Loyalty Patterns

- Insight: Top 10 customers frequently transact and generate the highest revenue.
- Implication: Build customer-centric retention strategies and exclusive deals to reinforce loyalty.