Exploratory Data Analysis and Business Insights from Customer and Transaction Data

1. Customer Spending Behavior

•High-value customers spend more on premium-priced products, reflecting a relationship between customer segment and buying behavior. Promoting these high-spending segments with premium offers or loyalty schemes can generate more revenue.

2. Purchase Frequency Analysis

•Those customers with high frequency of purchase transactions tend to have a higher total amount spent, indicating a more active customer base. Creating a retention program, like targeted emails or repeat purchase rewards, can build loyalty.

3. Geographic Trends in Sales

•Regions with a higher number of customers show a greater total value of transactions, but some regions may have lower conversion rates. This indicates potential for targeted marketing campaigns in underperforming regions to increase sales.

4. Seasonality of Purchases

• There are some product categories that register increased sales during certain months or seasons. Finding out these patterns can assist in managing stock, promotions, and discounts during peak-demand seasons, maximizing the business's revenue and minimizing inventory expense.

5. Price Sensitivity

• Customers' behavior changes with the prices of products. Some segments are price-sensitive, while others habitually buy expensive items. Implementing tiered pricing or discounting can fulfill various customer demands, optimizing conversion rates among customer segments.