

Problem Statements / Business Objectives

This project aims to perform in-depth data analysis on customer shopping behavior to extract actionable business insights. The following key analytical objectives were defined:

1. **Identify the most popular product categories and items** to determine which products drive the highest customer engagement and sales volume.
2. **Analyze how customer demographics** such as age, gender, and location influence purchasing behavior and spending patterns.
3. **Determine the impact of discounts and promo codes on sales performance**, understanding whether promotional strategies significantly affect revenue.
4. **Examine the relationship between subscription status and purchase frequency** to evaluate the effectiveness of subscription models in driving repeat purchases.
5. **Evaluate payment method preferences and seasonal sales trends** to uncover which payment channels and seasons generate the highest transaction volumes and revenues.
6. **Retrieve the top 5 best-selling categories** to identify core revenue-generating product segments.
7. **Calculate the average purchase amount by gender** to compare spending habits across demographic groups.
8. **Identify customers who used a promo code but did not apply a discount** to detect potential issues or behavioral patterns in promotional usage.
9. **Determine the season with the highest average purchase amount** to assist in planning targeted seasonal marketing campaigns.
10. **Count total purchases made via each payment method** to understand customer payment preferences.
11. **Find loyal and high-value customers** by identifying those with more than five previous purchases and review ratings above 4.5.