Retail Sales

Data Analysis Plan

1. Goal
    a. Sales Performance and Customer Demographics Analysis
        i. Uncover seasonal trends and assess their impact on revenue (**Sales trend over a year (that is monthly trend)**)
        ii. Examine transaction-level details for actionable insights. (**Transaction frequency over months**)
        iii. Analyze how age and gender influence purchasing behavior and spending patterns.
        (Analyze Key Metrics by Segment
        For each age-gender group, calculate:
        - **Total revenue**
        - **Product category preferences)**
        iv. Identify top-performing products
    b. Customer Segmentation
        i. Use RFM scoring to group customers into actionable segments (e.g., Champions, Loyal Customers, At-Risk, *Potential Customers*).
        ii. Identify high-value customers by pinpointing key customer groups that drive profitability and loyalty.
        iii. Analyze churn risk by understanding the characteristics of customers showing reduced engagement and develop strategies to re-engage them.

2. Deliverables
    a. Tools: SQL for data cleaning and EDA, Tableau for visualization
    b. Upload to github and include in portfolio and resume

3. Questions based from the goals above:
    a. Sales Performance and Customer Demographics Analysis
        i. Which time periods exhibit peak sales performance, and what key factors contribute to those peaks?
        ii. How frequently do customers make purchases, and how has this purchasing frequency changed over time?
        iii. How does customer demographics such as age and gender influence spending and product preferences?
        iv. Which product contributes the most to revenue?
    b. Customer Segmentation
        i. What proportion of customers are high-value (e.g., Champions, Loyal Customers)?
        ii. How can we re-engage at-risk or hibernating customers?
        iii. Which RFM segments contribute the most to overall revenue?
        iv. How do RFM segments differ in terms of demographics and product preferences?
4. Dataset (From Kaggle)
    - Retail Sales: [Retail Sales Dataset]