

Customer Purchase Behavior Analytics

Business Problem Overview

→ A retail organization aims to gain deeper insight into customer purchasing behavior to enhance revenue growth, customer satisfaction, and long-term retention. Recent shifts in buying patterns across different customer demographics, product categories, and sales channels have prompted the need for data-driven analysis.

The business is particularly interested in understanding how factors such as discounts, customer reviews, seasonal trends, and purchasing preferences influence buying decisions and repeat behavior. By analyzing transactional data, the company seeks to uncover actionable insights that can inform marketing strategies, product positioning, and customer engagement efforts.

Core Business Question:

→ How can customer shopping data be analyzed to uncover behavioral trends, strengthen customer engagement, and optimize marketing and product strategies?

Project Deliverables

1. Data Preparation & Transformation (Python):

→ Clean, preprocess, and engineer features from the raw dataset to make it suitable for analysis.

2. Data Analysis (SQL):

→ Structure the cleaned data into relational tables and perform SQL queries to analyze customer segments, purchasing behavior, and loyalty patterns.

3. Data Visualization & Insights (Power BI):

→ Develop an interactive dashboard that highlights key trends and performance metrics to support data-driven decision-making.

4. Reporting & Presentation:

→ Summarize analytical findings and business insights in a clear report and present actionable recommendations to stakeholders.

5. GitHub Repository:

→ Maintain a well-organized repository containing Python scripts, SQL queries, and Power BI dashboard files for transparency and reproducibility.