

Problem Statement:

A prominent retail organization aims to gain deeper insights into customer shopping behavior to enhance revenue growth, customer satisfaction, and long-term retention. Recent shifts in purchasing trends have been observed across different customer demographics, product categories, and sales channels (online and in-store).

The management team wants to understand the key factors influencing customer decisions and repeat purchases, including discounts, customer reviews, seasonal trends, and preferred payment methods. By analyzing consumer shopping data, the company seeks to identify actionable patterns that can strengthen customer engagement and optimize marketing and product strategies.

Business Question:

How can consumer shopping data be leveraged to uncover trends, enhance customer engagement, and drive more effective marketing and product decisions?

Project Deliverables

1. Data Preparation & Modeling (Python)

- Clean, preprocess, and transform raw data to ensure accuracy and consistency.
- Perform feature engineering and exploratory data analysis to prepare the dataset for deeper insights.

2. Data Analysis (SQL)

- Design a structured database to simulate real-world retail transactions.
- Write SQL queries to analyze customer segments, loyalty behavior, and key purchase drivers.

3. Visualization & Insights (Power BI)

- Develop an interactive dashboard showcasing trends, patterns, and performance metrics.
- Enable stakeholders to explore insights related to customer behavior and sales performance.

4. Report & Presentation

- Compile a comprehensive project report summarizing insights and business recommendations.
- Create a professional presentation to communicate findings and actionable strategies to stakeholders.

5. GitHub Repository

- Maintain a well-organized repository containing Python scripts, SQL queries, Power BI files, and project documentation.