

Business Problem Description

A major retail organization aims to gain deeper insights into customer purchasing behavior to enhance revenue, customer satisfaction, and long-term retention. The leadership team has observed noticeable shifts in buying trends across different customer demographics, product categories, and shopping channels (online and in-store). They are especially focused on understanding how elements such as discounts, product reviews, seasonal factors, and payment methods influence buying decisions and encourage repeat purchases. Your responsibility is to analyze the company's consumer behavior dataset and address the following core business question:

“How can consumer shopping data be effectively utilized to uncover patterns, strengthen customer engagement, and refine marketing as well as product strategies?”

Project Deliverables

- 1. Data Cleaning & Modeling (Python)**–Prepare, clean, and transform the raw dataset to ensure

it is suitable for analysis and modeling.

2. **Data Analysis (SQL)**- Structure the data to represent business transactions and execute SQL queries to derive insights related to customer segmentation, loyalty trends, and key purchasing drivers.
3. **Data Visualization & Insights (Power BI)** Design an interactive Power BI dashboard that presents important trends, patterns, and performance indicators to support data-driven decision-making.
4. **Report & Presentation** : Develop a comprehensive project report that summarizes analytical findings and provides practical business recommendations.
Create a presentation that clearly communicates insights and actionable strategies to stakeholders through visual storytelling.
5. **GitHub Repository**- Maintain a well-organized GitHub repository containing all Python scripts, SQL queries, and Power BI dashboard files for transparency and reproducibility.