

Business Problem Statement

A large retail enterprise aims to deepen its understanding of customer purchasing behavior to drive higher revenue, improve customer satisfaction, and strengthen long-term retention. Recent shifts have been observed in buying patterns across customer demographics, product categories, and sales channels (online and in-store).

The leadership team is particularly interested in identifying the key factors influencing purchase decisions and repeat buying behavior, such as pricing strategies, discount offers, customer reviews, seasonal trends, and preferred payment methods.

As a data analyst, you are responsible for analyzing customer shopping data to answer the core business question:

“How can consumer behavior insights be leveraged to enhance customer engagement and optimize marketing, sales, and product strategies?”

Project Deliverables

1. Data Preparation & Modeling (Python)
 - Clean, preprocess, and transform raw customer data into an analysis-ready format.
2. SQL-Based Analysis
 - Design structured tables and simulate business transactions.
 - Execute SQL queries to analyze customer segments, loyalty behavior, and purchase drivers.
3. Data Visualization (Power BI)
 - Build an interactive dashboard highlighting trends, KPIs, and customer insights.
4. Insights & Reporting
 - Summarize analytical findings and provide actionable business recommendations.
 - Create a professional presentation for stakeholder communication.
5. GitHub Repository
 - Maintain a structured repository containing Python notebooks, SQL scripts, dashboards, and