Business Problem Statement

A leading retail company is seeking to deepen its understanding of customer shopping behavior to drive growth in sales, enhance customer satisfaction, and foster long-term loyalty. Recent observations by the management team indicate shifting purchasing patterns across various demographics, product categories, and sales channels (online vs. in-store). Key areas of interest include identifying the primary drivers—such as discounts, customer reviews, seasonal trends, and payment preferences—that influence purchasing decisions and repeat business.

To address these challenges, the following central business question has been formulated:

"How can the company leverage consumer shopping data to uncover meaningful trends, enhance customer engagement, and refine marketing and product strategies?"

Project Objectives

- Analyze customer transaction data to identify high-value segments and purchasing patterns.
- Evaluate the impact of promotions, reviews, and seasonality on sales.
- Understand channel preferences (online vs. offline) across customer demographics.
- Provide actionable insights to support targeted marketing, inventory planning, and customer retention strategies.

Deliverables

1. Data Preparation & Modeling (Python):
   Clean, preprocess, and transform raw datasets to ensure data quality and readiness for analysis.
2. Data Analysis (SQL):
   Structure and query the data to simulate business transactions, identify customer segments, and analyze factors influencing loyalty and repeat purchases.
3. Visualization & Insights (Power BI):
   Develop an interactive dashboard to visualize key trends, customer behaviors, and performance metrics for stakeholder review.
4. Project Report & Presentation:
   Summarize findings and strategic recommendations in a clear, concise report. Prepare a presentation to effectively communicate insights and proposed actions to business stakeholders.
5. GitHub Repository:
   Maintain a well-organized repository containing all code (Python, SQL), Power BI files, documentation, and project artifacts for transparency and reproducibility.