Business Problem Statement

A retail organization aims to gain deeper insights into how customers interact with its products and services in order to drive revenue growth and enhance customer retention. Recent variations in customer purchasing behaviour across age groups, product categories, and delivery preferences have raised important questions for business decision-makers.

The company is particularly interested in understanding how factors such as pricing, discounts, customer reviews, seasonal trends, and subscription status influence purchasing decisions and repeat buying behaviour.

As a data analyst, the objective is to analyze historical customer transaction data to uncover meaningful patterns and actionable insights that can support improved marketing strategies, product planning, and customer engagement initiatives.

Key Business Question:

How can customer shopping data be analysed to identify behavioural trends, improve customer engagement, and support data-driven marketing and product decisions?

Project Deliverables

1. **Data Cleaning & Transformation (Python)**

   Prepare and preprocess the raw customer dataset by handling missing values, standardizing fields, and creating derived features required for analysis.

2. **Exploratory & Analytical Queries (SQL)**

   Store the cleaned data in a relational database and perform structured SQL queries to analyze customer segments, spending behaviour, subscription impact, and purchase trends.

3. **Interactive Dashboard (Power BI)**

   Design a dynamic Power BI dashboard that visualizes key metrics such as revenue, customer distribution, category performance, and age-based trends to support business decision-making.

4. **Insights & Reporting**

   Summarize analytical findings in a clear and concise report, highlighting major insights and business recommendations derived from the data analysis.

5. **Version-Controlled Project Repository (GitHub)**

   Maintain a well-organized GitHub repository containing Python notebooks, SQL scripts, Power BI files, datasets, and documentation to demonstrate an end-to-end analytics workflow.