

Business Problem Statement

A retail organization seeks to gain deeper insight into customer purchasing behavior to drive revenue growth, improve customer experience, and strengthen long-term loyalty. Recent shifts in buying patterns across customer demographics, product categories, and purchasing frequency have made it challenging for decision-makers to identify the key drivers behind customer engagement and repeat purchases.

The business wants to understand how factors such as pricing and discounts, customer reviews, seasonality, payment methods, and purchase frequency influence customer behavior. By analyzing customer transaction and demographic data, the company aims to identify meaningful customer segments, uncover purchasing trends, and optimize marketing and product strategies.

The objective of this analysis is to transform raw customer data into actionable insights that support data-driven decisions in marketing, customer retention, and product planning.

Project Scope & Deliverables

- **Data Preparation & Modeling (Python):** Cleaned, transformed, and structured raw customer data to ensure analytical accuracy.
- **Data Analysis (SQL):** Designed relational tables and executed analytical queries to uncover customer segments, loyalty patterns, and key purchase drivers.
- **Visualization & Insights (Power BI):** Developed an interactive dashboard to communicate trends, KPIs, and actionable insights to business stakeholders.
- **Insights Report & Presentation:** Summarized findings and provided strategic recommendations to improve customer engagement and sales performance.
- **Project Repository:** Maintained a structured GitHub repository containing analysis notebooks, SQL scripts, datasets, and visualization assets.