

Business Problem & Project Scope

I worked on this project to help a retail company gain a deeper understanding of customer shopping behavior with the goal of increasing sales, improving customer satisfaction, and strengthening long-term loyalty.

The company observed noticeable shifts in purchasing patterns across different customer demographics, product categories, and sales channels (online versus offline). I focused on identifying the key factors that influence customer decisions and repeat purchases, including discounts, product reviews, seasonal effects, and payment-related preferences.

The core business question I addressed in this analysis was:

How can consumer shopping data be used to detect behavioral trends, enhance customer engagement, and optimize marketing and product strategies?

My Responsibilities and Deliverables

1. Data Preparation & Modeling (Python):

I cleaned, transformed, and prepared the raw dataset for analysis, ensuring data quality and consistency.

2. Data Analysis (SQL):

I structured the data in a relational database, simulated business transactions, and wrote SQL queries to analyze customer segments, loyalty patterns, and key purchase drivers.

3. Data Visualization & Insights (Power BI):

I built an interactive Power BI dashboard to highlight major trends, customer behavior patterns, and performance metrics for business stakeholders.

4. Reporting & Presentation:

I summarized the analytical results in a clear report and prepared a presentation that communicates insights and actionable recommendations in a business-friendly format.

5. GitHub Repository:

I organized and published all project assets, including Python scripts, SQL queries, and dashboard files, in a well-structured GitHub repository.