Retail Analytics Case Study

Overview: *In the rapidly evolving retail sector, businesses continually seek innovative strategies to stay ahead of the competition, improve customer satisfaction, and optimize operational efficiency. Leveraging data analytics has become a cornerstone for achieving these objectives. This case study focuses on a retail company that has encountered challenges in understanding its **sales performance**, **customer engagement**, and **inventory management**. Through a comprehensive data analysis approach, the company aims to identify **high or low sales products**, effectively **segment** its customer base, and analyze **customer behavior** to enhance marketing strategies, inventory decisions, and overall customer experience.*

Business Problem:

The retail company has observed stagnant growth and declining customer engagement metrics over the past quarters. Initial assessments indicate potential issues in product performance variability, ineffective customer segmentation, and lack of insights into customer purchasing behavior. The company seeks to leverage its sales transaction data, customer profiles, and product inventory information to address the following key business problems:

- **Product Performance Variability:** *Identifying which products are performing well in terms of sales and which are not. This insight is crucial for inventory management and marketing focus.*
- **Customer Segmentation:** *The company lacks a clear understanding of its customer base segmentation. Effective segmentation is essential for targeted marketing and enhancing customer satisfaction.*
- **Customer Behaviour Analysis:** *Understanding patterns in customer behavior, including repeat purchases and loyalty indicators, is critical for tailoring customer engagement strategies and improving   retention   rates.*

Objectives:

- *To utilize SQL queries for data cleaning and exploratory data analysis to ensure data quality and gain initial insights.*
- *To identify high and low sales products to optimize inventory and tailor marketing efforts.*
- *To segment customers based on their purchasing behavior for targeted marketing campaigns. Create Customer segments -*

Total Quantity of Products Purchased	Customer Segment
0	No Orders
1-10	Low
10-30	Mid
>30	High Value

- *To analyze customer behavior for insights on repeat purchases and loyalty, informing customer retention strategies.*

Datasets Tables:

- **Sales Transaction**: *Records of sales transactions, including transaction ID, customer ID, product ID, quantity purchased, transaction date, and price.*
- **Customer Profiles**: *Information on customers, including customer ID, age, gender, location, and join date.*
- **Product Inventory**: *Data on product inventory, including product ID, product name, category, stock level, and price.*