\*\*Customer Segmentation for Retail Business\*\*

- \*\*Why This Project?\*\*

- Customer segmentation is a critical analysis used across many industries. It demonstrates your ability to understand and analyze customer behavior, which is a valuable skill for data analysts.

- It involves using SQL for data manipulation, clustering algorithms in Python (which is becoming increasingly important for data analysts), and Power BI for visualizing the segments and insights.

- This project showcases your ability to draw actionable business insights, a key requirement for data analyst roles.

- \*\*Skills Highlighted\*\*: **SQL**, **Python (Clustering)**, **Power BI, Business Insights,**

**Data visualization.**

### Defining the Project Scope and Objectives

**\*\*Project Scope\*\*:**

- \*\***Purpose**\*\*: The project aims to segment a retail company's customer base into distinct groups based on purchasing behavior. These segments will be used to tailor marketing strategies, improve customer retention, and increase overall sales.

- \*\***Data**\*\*: Utilize historical sales data, which includes customer details, purchase history, and product information.

- \*\***Tools and Technologies\***\*: SQL for data extraction and manipulation, Python for clustering analysis, and Power BI for visualization and reporting.

**\*\*Objectives\*\*:**

1. \***\*Identify Distinct Customer Segments\*\***: Use clustering algorithms to identify distinct customer segments based on various features such as purchase frequency, average order value, and product preferences.

2. \***\*Analyze Segment Characteristics**\*\*: Understand and describe the characteristics of each segment to derive meaningful insights.

3. \*\***Provide Actionable Insights**\*\*: Deliver actionable recommendations for marketing strategies, personalized offers, and product recommendations based on the identified customer segments.

4. \*\***Visualize and Report Findings**\*\*: Create an interactive Power BI dashboard that visualizes the customer segments and highlights key insights.

This scope and objectives will guide the entire project, ensuring that the analysis is focused, relevant, and aligned with business goals.