**CASE STUDY:**

**CUSTOMER ANALYSIS FOR RETAIL**

**DATA AVAILABILITY:**

Retail Data.xlsx

o Customer: Customers information including demographics

o Transaction: Transactions of customers

o Product Hierarchy: Product information (category, sub category etc...)

**BUSINESS PROBLEM:**

A Retail store is required to analyse the day-to-day transactions and keep a track of its customers spread across various locations along with their purchases/returns across various categories.

Create a report and display the below calculated metrics, reports and inferences.

1. Merge the datasets Customers, Product Hierarchy and Transactions as Customer\_Final. Ensure to keep all customers who have done transactions with us and select the join type accordingly.

2. Prepare a summary report for the merged data set.

a. Get the column names and their corresponding data types

b. Top/Bottom 10 observations

c. “Five-number summary” for continuous variables (min, Q1, median, Q3 and max)

d. Frequency tables for all the categorical variables

3. Generate histograms for all continuous variables and frequency bars for categorical variables.

4. Calculate the following information using the merged dataset :

a. Time period of the available transaction data

b. Count of transactions where the total amount of transaction was negative

5. Analyze which product categories are more popular among females vs male customers.

6. Which City code has the maximum customers and what was the percentage of customers from that city?

7. Which store type sells the maximum products by value and by quantity?

8. What was the total amount earned from the "Electronics" and "Clothing" categories from Flagship Stores?

9. What was the total amount earned from "Male" customers under the "Electronics" category?

10. How many customers have more than 10 unique transactions, after removing all transactions which have any negative amounts?

11. For all customers aged between 25 - 35, find out:

a. What was the total amount spent for “Electronics” and “Books” product categories?

b. What was the total amount spent by these customers between 1st Jan, 2014 to 1st Mar, 2014?