Title:

Analysing Sales Performance and Customer Segmentation

Dataset: This case study used the data in the file ***sales_data.xlsx***

This file is available in the Session Three: Describing and summarising data with Python.

Expected working time: ~45 minutes.

SCENARIO

You have been hired as a data analyst for a retail company called "Superstore Sales". Your task is to analyse the sales data and provide actionable insights to improve business performance. The company wants to understand the factors that drive sales and identify customer segments for targeted marketing strategies.

Answer the following questions:

1. Calculate the total sales revenue for the entire dataset.

2. Identify the top-selling products and product categories based on sales.

3. Group the sales by month and make a plot of the total monthly sales. is it increasing, decreasing, or is it steady?

4. Explore the correlation between sales and discount, and shipping cost.

5. Make a histogram of the sales. does it look like a normal distribution?

6. What is the mean discount for the consumer segment?

7. Compute the standard deviation of the sale for each segment. Which one has more variability in the sales?

8. Using bar charts, visualize the total sales by category

9. Use a bar chart to visualize the number of sales per ship mode.

10. Identify the top three regions with the highest sales in the period 2017-2018.