

## Data Analysis Course

### Course Project

#### Dataset Introduction

The dataset provided contains a comprehensive record of retail transactions, spanning various attributes crucial for analysis. With columns such as Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, Country, City, State, Postal Code, Region, Product ID, Category, Sub-Category, Product Name, and Sales, it offers a rich source of information for exploring sales trends, customer behavior, and product performance.

Utilize the skills and tools acquired through training, such as Power BI, Excel, and SQL, to address the provided questions. Present your findings and visualizations in PDF reports.

1. Time Series Analysis:
  - a. How does sales revenue vary over time? Can you identify any seasonal trends or patterns?
  - b. Are there any specific months or quarters that consistently generate higher sales revenue?
  - c. Can you create a trendline to visualize the overall sales trajectory?
2. Product Performance:
  - a. Which product categories contribute the most to overall sales revenue?
  - b. Within each product category, which specific subcategories generate the highest sales revenue?
  - c. Can you create a visualization to compare the sales performance of different products over time?
3. Customer Segmentation:

- a. Can you segment customers based on their purchasing behavior (e.g., frequency of orders, total spend)?
  - b. Are there any distinct customer segments that exhibit unique characteristics or preferences?
  - c. How does the average order value vary across different customer segments?
4. Geospatial Analysis:
- a. Can you create a map visualization to depict sales revenue by country or region?
  - b. Are there any geographic areas that consistently outperform others in terms of sales?
  - c. Can you overlay demographic data or other relevant metrics to gain further insights into regional sales patterns?

**Sales Dataset:**

[https://docs.google.com/spreadsheets/d/1QGcdqdT7\\_Op6Vyb\\_-ySzBBIVyDLt4Gp7rIFxxiYbUvk/edit#gid=944861145](https://docs.google.com/spreadsheets/d/1QGcdqdT7_Op6Vyb_-ySzBBIVyDLt4Gp7rIFxxiYbUvk/edit#gid=944861145)