**Project – Self-Driven Analysis**

MBA 7702 - **Data Analytics for Effective Problem Solving**  
  
Students will use the Excel file Assignment 2- US>Regional\_Sales\_Data.xlsx for this assignment, known as the datasource.  
Students will import the datasource into PostgreSQL. Ensure the model is built with correct tables and relationships to allow for a star schema model. Perform any column datatype transformations necessary to enhance your analysis.  
Use this file to answer the following questions below:

**Part 1 – Sales Analysis**

1. In the Sales table, create a Measure called Sales Total that multiplies the Unit Price with Order Quantity. Submit the formula.
2. In the Sales table, create a Measure called Sales Total Cost that multiplies the Unit Cost with Order Quantity. Submit the formula.
3. In the Sales table, create a Measure called Sales Net Profit that calculates the difference between Sales Total and Sales Total Cost. Submit the formula.
4. What customer has the most Sales Net Profit over the whole timeline of data, and what is the dollar value?
5. What customer has the most Sales Net Profit in the month of July 2019 OrderDate, and what is the dollar value?
6. What sales team has the second most Sales Total over the whole timeline of data, and what is the dollar value?
7. Which sales team has the second most Sales Net Profit over the whole timeline of data, and what is the dollar value?
8. What state has the fourth most Sales Net Profit for the year 2020 OrderDate, and what is the dollar value?
9. What is the average Sales Net Profit per customer over the entire timeline of data?
10. How does the Sales Total vary by product category for the year 2020?
11. What is the trend of Sales Net Profit month-over-month for the year 2020?
12. Which product has the highest Sales Total for each quarter of 2020?
13. What is the total Sales Net Profit generated by each sales team in 2020?
14. How many customers made purchases in July 2019, and what is the average Sales Net Profit per customer for that month?
15. What is the distribution of Sales Total across different states in 2020?

**Part 2 – Cost Analysis**

1. In the Sales table, create a Measure called Product Profit that calculates the difference between the Unit Price and Unit Cost. Submit the formula.
2. What is the average Product Profit for each product category?
3. How does Product Profit vary across different states?
4. What are the top 5 products with the highest Product Profit margin?
5. What is the total Product Profit for all products sold in Q1 of 2020?
6. How does the Product Profit for Outdoor Furniture compare to other categories?

**Part 3 – Shipping Analysis**

1. In the Sales table, create a Measure called Days from Order to Delivery that calculates the difference in Days between OrderDate and DeliveryDate. Submit the formula.
2. In the Sales table, create a Measure called Delivery Under 15 Days that outputs a value of 1 if Days from Order to Delivery is less than 15, otherwise output 0. Submit the formula.
3. In the Sales table, create a Measure called Count of Rows that counts the number of orders. Submit the formula.
4. In the Sales table, create a Measure called Count of Rows Delivery Under 15 Days that counts the number of orders if Delivery Under 15 Days is equal to 1. Submit the formula.
5. In the Sales table, create a Measure called Delivery Under 15 Days Percent that calculates the percent of orders delivered under 15 days to 2 decimal places. Submit the formula.
6. How many orders were delivered on time for the month of April 2019?
7. What percent of orders were delivered under 15 days for the month of April 2019?
8. Is the percent of orders delivered on time for the month of April 2019 less than or greater than the average percent of orders delivered under 15 days for the whole timeline of data?