**Assignment – Data Visualization using Tableau**

**Coffee Supply Chain analysis**

Data Source: Tableau

Difficulty Level: Medium / Hard

**Concepts Covered: Calculation fields, forecasting, reference lines, dashboard deigns etc.**

**Content:**

You are provided with historical data on Coffee supply chain from Jan 2010 to Dec 2011. There are 3 Tables – Fact Table, Location and Product.

Attribute description is as below:

**Fact Table**

1. Profit – Profit made
2. Margin – Margin between the selling price and cost of production
3. Sales – sales amount of a product
4. COGS - Cost of goods sold (COGS) is the direct costs attributable to the production of the goods sold in a company. This amount includes the cost of the materials used in creating the good along with the direct labor costs used to produce the good. It excludes indirect expenses such as distribution costs and sales force costs.
5. Total Expenses
6. Marketing Expenses
7. Inventory – Quantity in store
8. Budget Profit – Predicted Profit
9. Budget COGS – Predicted COGS
10. Budget Margin – Predicted Margin
11. Budget Sales – Predicted sale amount of a product
12. Area Code – Location code
13. ProductId
14. Date – Date of sale

**Location**

1. Area Code – Location code
2. State – Name of the state in USA
3. Market – Regions
4. Market Size – small, medium, large etc.

**Product**

1. Product Type – Type of the coffee / Tea
2. Product – Product Name
3. Product ID
4. Type - Product Classification.

**The Task**

Your task is to create a story card/dashboard with the following solutions:

1. Identify the highest selling product for each state.
2. Identify the total expenses to sales ratio of the state with the lowest profit.
3. Create a heat map for Product Type, State, and Profit. Which state in the East market has the lowest profit for Espresso?
4. What is the average profit ratio for all the products starting with C?
5. Which product type does not have any of its product within the top 5 products by sales?
6. Forecast the sales for each product for next 6 months using additive model. What is the forecasted sales for each product?
7. Draw the trend line between sales and profit and find how much variance in profit can be captured through the variance in sales.
8. Perform Pareto analysis between Product name and sales.
9. Plot 6 special charts for the given dataset.
10. Your client would probably want to know the number of profitable days achieved each month in a year.

Consider if profit per day is > 2000 as High Profit Day

Profit per day < 0 as No Profit day

Profit per day is 1 to 2000 as Profitable day