**Data Visualization 6380 – Case Study 2**

**Objective:** The objective of this case study is for project teams to combine the concepts of exploratory data visualization and statistical analytical techniques to create a significant data story relevant for the business community.

**Scenario:** Assume that your working group is part of the data analytics team working at a large organization. You will be presenting to an executive leadership team responsible for creating strategy for the enterprise. Your work will be distributed to the entire company in the form of a data story.

**Procedure**

1) Using the data acquired in Project 1, perform an analysis of the integrated data set with exploratory data visualization techniques and statistical analysis. You must provide evidence of integrated visual analysis with techniques that may include grouping, sorting, filtering, R based clustering/decision trees, definition of calculated measures like ratios, small multiples, and/or data analysis performed using ratios-mean-median-dot plots. Find the relationships of greatest importance in your data set. Create data visualizations from this analysis.

2) Define the key insights your analysis has found in the data sets. Your project must contain a minimum of 2 insights from the data, represented well with effective visualization encoding. Projects receiving an A will contain 3 or more insights. Please use animation and selection features sparingly. Lots of animation and checkboxes does not make a poor visualization analysis better. Remember small multiples or visualization and why we use each of them. Are you representing a dynamic or a comparison?

3) Perform curation and editing of your analysis sheets. Select the absolute best evidence with the best visual encoding to create your argument. Revise your analysis sheets to ensure it is clear what insight or message is intended. Your final tableau file should contain the data source tab, 1 to 6 frames of data visualization, no more than one dashboard and only one data story. Make sure you do not leave unused analysis sheets or other extraneous views in your Tableau .twbx file.

4) Sketch out a data storyline defining the setting, the characters in the story and the type of storyline used (3 act play, Freytag, Cohn, etc…) You need to document this information in your word document. You are welcome to use the one page story template, story sketching software or anything that helps you create a good story. Define the type of rhetoric you are using.

5) Create the data story in Tableau using the best/final data visualizations that communicate a story about the phenomenon in your data set. Ensure that all principles regarding storypoints, titles, subtitles, axis, and sources are utilized in a professional looking presentation. Remember to format your overall storypoints and presentation. **You must use Tableau as your visualization toolset.**

**Grading Rubric**

Integrated Analysis Data Visualization

2-3 Insights

Data Source Sheet

1-6 Clear Data Visualizations/Dashboard

Smart data encoding that leverages concepts in audience head

Titles used correctly

Insight annotated or defined in storypoint / subtitle

Axis used correctly

Professional Workbook with everything required and nothing else

Rhetorical devices defined

Data Storyline defining the base type used

Professional data story in Tableau

**Required Deliverables**

1. **A Word Document containing an overview of your analysis.**

A list of insights you found in the data.

Include an overview of your visualization frames with a discussion on the visual encoding choices that were made.

An explanation of your analysis defining appropriate groups, R based clustering/decision trees, definition of calculated measures like ratios, small multiples, and/or data analysis performed using ratios-mean-median-dot plots. Projects without this analysis section that simply provide counts or population charts will be discounted.

An explanation of the data encoding/data visualization used and why they are the most effective choices.

Define the type of rhetoric chosen and provides examples of its use.

Discussion of the storyline chosen, how it is put together, defining proper terms for the model for frames.

1. **Your Tableau workbook file containing Storypoints.**

We are grading based on the presentation of insights using the rhetorical means of storytelling. At a minimum, you must have a beginning visualization that sets the stage, a middle visualization that creates tension with an insight, and an ending visualization that summarizes or resolves the tension created in the middle. There are not extra points for overloading your story with visualizations that do not say anything. It is better to have 3 visualizations that tell a real story in the data versus 12 visualizations that do not say much. Ensure that you are using the Storypoint blocks to create rhetorical effects in your story. DO NOT use Storypoints as titles! Titles should be placed in the visualizations. Spell check, review, and edit your work. Your final work must be publishing grade. We will discount for sloppy unedited work.