**Final Project: Draft Report**

**Overview and Rationale**

To consolidate you theoretical knowledge into technique and skills with practical and applicable value, you are asked to analyze a data set using methods presented in this course.

**Course Outcomes**

This assignment is directly linked to the following key learning outcomes from the course syllabus:

* Describe data numerically and graphically and predict influential variables for real world business problems
* Make statistical inferences about parameter in real world problems.
* Conduct regularization method for models to describe relationships among variables and make useful predictions.
* Classify and cluster data in order to identify patterns for business and organizations through Data Mining Techniques.
* Apply time series models for making better business decisions.
* Build appropriate analytic models for addressing real world complex business problems

**Assignment Summary**

You are asked to find a large data set and complete an analysis of the data set using 2 – 3 methods presented in this course.

You may create groups of up to 3 students or work alone. There is no difference in this assignment regardless of the number of participants in your group.

**Report**

The report should include the following elements.

Introduction

Introduce the goals of the project, the question that needs to be answered and the methods used in your analysis. Be sure that the goals, questions and methods used fit together, meaning, questions asked reflect the goals and the methods used will answer the questions.

Methods

You must use **at least 2 methods** presented in this course. Explain why your chosen methods were appropriate and the data involved in our analysis. Be as specific as possible.

Analysis (Body of report)

Incorporate the R code and the outputs of the R code. Be sure to add your analysis and interpretation of the output and the significance of the results. Use graphs, figures, charts, and tables to increase visual effects of the main points you are making based on the results.

Interpretation & Conclusions

Use the conclusion to summarize the analysis and findings. Present an answer the question pose in the introduction and recommendations based on the data presented in the report.

**Format**

Your assignment/project should It also should follow APA format with at least 1500 words (excluding title page and references page) and references page.

**Report Rubric**

| **Category** | **Meets Standards** | **Approaching Standards** | **Below Standards** |
| --- | --- | --- | --- |
| **Introduction** | Clearly and briefly introduces the goals of the project, the question that needs to be answered and the methods used in the analysis. The goals, questions and methods outlined are consistent with one another. | Introduces the goals of the project, the question that needs to be answered and the methods used in the analysis but is too wordy or the goals, questions and methods are inappropriate. | Does not introduce project goals, project questions or methods or they conflict with one another. |
| **Methods** | Uses at least 2 methods as identified in the introduction in the analysis. Explains the methods and data used in the analysis and provides valid reasoning. | Uses 2 methods as identified in the introduction in the analysis. Explains the methods and data used in the analysis, but is too cursory or reasoning for methods, or data, is not coherent. | Does not identify 2 methods used in the analysis. Does not explain the reasoning for the data or methods used in the analysis. |
| **Analysis** | Incorporates R code and the outputs. Provides detailed analysis of the output focusing on significance results. Uses visualizations to make major points | Incorporates R code and outputs. Provides generalized analysis of the outputs. Uses visualizations, to address some major points. | Does not include all R code and outputs. Provides broad statements in the analysis. Uses few visualizations that do not pertain to main points. |
| **Interpretation & Conclusions** | Wraps up the findings in a conclusion that provides an answer to the question(s) posed in the introduction. Makes specific recommendations based on the data presented | Wraps up the findings in a conclusion that provides general answers to the question posed in the introduction. Makes general recommendations based on the data presented | Does not wrap up findings in a conclusion or does not provide an answer to the question. Does not make recommendations related to the data presented |
| **Data Visualizations** | Data visualizations are appropriate for the level and type of analysis. . Uses graphs, figures, charts, and tables to increase visual effects of the main points being made based on the results. | Data visualization are useful for the level and type of analysis, but graphs, figures and tables do not clearly communicate significance of the results to the reader. | Data visualization are used minimally or not at all. If graphs, figures and tables are used, it is unclear what they are intended to communicate or why. |
| **Report: Writing Mechanics, Title Page, & References** | There are no noticeable errors in grammar, spelling, and punctuation; and completely correct usage of title page, citations, and references. The report contains approximately of 1000 words | There are very few errors in grammar, spelling, and punctuation; and completely correct usage of title page, citations, and references. The report contains approximately 1000 words | There are more than five errors in grammar, spelling, and punctuation; or the usage of title page, citations, and references are incomplete; or the report contains far less than 1000 words |