Initial Analysis

Overview

Communicating complex data information and insights using data visualizations via creating dashboards, scorecards, spatial data representations and use of annotations is an important aspect of data science. In various roles you must be able to evaluate, propose and implement appropriate visualizations for a specified audience using key informational design concepts. In this assignment you will, do an initial analysis of the data to get familiar with the dataset and the audience needs, including identifying business questions.

Course Outcomes

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

- Communicate complex data information and insights using data visualizations via creating dashboards, scorecards, spatial data representations and use of annotations

- Apply strategies for systematic visual exploration of multidimensional and heterogeneous data sets using XY plots, histograms, bar charts, etc.;

- Evaluate, propose and implement appropriate visualizations for a specified audience using key informational design concepts;

Assignment Summary

As part of the project you must do an initial analysis of the data set to get familiarize with the data and the needs of the dashboard audience. Once you understand the data it's much easier to ask appropriate questions of the data and design a dashboard knowing the key variables.

Initial Analysis

Review the data set and start looking for valuable information to determine key drivers of the analysis. Analyze the columns, information and seek correlations that complete a basic analysis. In your analysis, answer the following questions.

- What do you see as variables in the data?
- What correlations, patterns and trends do you see?

- Who will be the audience of the data? What question would they ask about the data?
- How could a dashboard be used to show data clearly?
- What types of graphs and charts can be used to clearly explain the data?

This analysis will help you ask the right questions for the analysis in the deliverables to follow.

In Module 3, submit a 1-2 page paper that presents the findings of your initial analysis and identifies the business questions that will be answered by the final project. Be sure to answer the above questions and provide visuals including graphs, charts and outputs that demonstrate your findings.

In Module 3, post at least two sentenced about the correlations, patterns and trends you see in the data, or assumptions about the data to your group discussion board.

Northeastern University
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Basic Analysis Rubric

Category	Meets Standards	Approaching Standards	Below Standards
Data Analysis	Provides a thorough analysis of the data and identities key data points that will formulate the basis of the visualizations	Provides a well-structured analysis of the data. Provides data points that will formulate the basis of the visualization but some data points that are critical for the answering the business question(s) are not included or extraneous data points are focused on.	Provides limited analysis of the data. Does not identify specific data points or data points used are irrelevant to the business question(s) or needs of the audience.
Visualizations	Provides graphs, charts and other output that reflect the data analysis. Identifies other charts, graphs and visualizations that can be used in a dashboard.	Provides graphs, charts and other outputs that are related to the data analysis. Identifies other charts, graphs and visualizations for a dashboard, but these are limited or referenced in passing	Provides limited graphs, charts and other outputs or the outputs are not related to the data analysis. Does not identify charts, graph and visualization for use in a dashboard or only vaguely references the use of such visualization in a dashboard.
Audience	Demonstrates a keen understanding of the audience and its needs. Specifically addresses how the business question(s) will be addressed in the dashboard.	Demonstrates an awareness of the audience's needs. Addresses how the business questions(s) will be addressed in the dashboard, but does so with generalities.	Demonstrates a lack of awareness of the audience and its needs. Vaguely addresses how the dashboard will address the business questions.
Writing Mechanics	There are no noticeable errors in grammar, spelling, or punctuation.	There are very few errors in grammar, spelling, and/or punctuation.	There are significant errors in grammar, spelling, and/or punctuation.