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Data Presentation and Visualization

DSC640-T301

**Week 9-10 assignment**

**Write Up**

**Story background:** In United States, Air travel is a very common way to travel. In recent years, there have been many negative reports on airport services on the news. This study is to perform a TSA complaints data to dig out facts behind the data.

**Customer/Audience**: General public who may be interested in some travel advises .

**Purpose**: This study is to perform a TSA complaints data to dig out some facts behind the data, which may be useful as travel advises.

**Method**: First study the data to find out if there are any missing data or incomplete data, then use python and Power BI to do data analysis and visualization.

**Medium**: Since the general public is more interested in a visual summary. The analysis result will be put into visual charts, which will be integrated into a **powerpoint deck.**

**Design**:

Traveler are also interested in the airport they used or plan to use. Maps ar a powerful way to attract viewer attention to the concerned area. General trend charts are also helpful as a self-proving method to deliver information.

* Color: To increase contrast, a grey background with information shown as contrasting color is helpful.
* Text: I use bigger size to emphasize the key words, also some background color will help to attract the attention.
* Sizing/Spacing/Alignment: The summary statements, which are the key information that needs to be delivered, are at the top left corners. Some foot notes at right bottom corner will be used to hold the necessary but not important section of the information.

**Visual**:

* Box chart with table summary
* Line chart with time
* Map chart with bubble
* Map with integrated heat map
* Tree map
* De-composition chart

**Ethical Consideration**:

* The CSV has NA, as well as not used content, like “additional information needed”. I used Python or power BI built in filter to remove them from analysis. The filtering is clearly seen from Python code, or power BI filter panel.
* Data is from university and open to the public, for exercise purposes, it is okay to trust the data as is.
* I made some assumptions when handling NA. For example: Travelers are not interested to know the reason of incomplete/missing information. Also, the NA percentage is low, so I assume the data is good enough to use.
* If this is an analysis served for real life purposes, the source of data needs to be validated, the results need to be confirmed by subject experts as well.