Xin Tang

September/2024

Data Presentation and Visualization

DSC640-T301

**Week 5-6 assignment**

**Write Up**

**Story background:** In United States, Kia/Hyundai is known for lacking of anti-theft devices, so car theft on these brands are skyrocketing in covid time.

**Customer/Audience**: Activists who are planning a protest event at Kia/Hyundai USA headquarters to request add anti-theft device to these cars.

**Purpose**: Conduct an analysis of Kia/Hyundai theft data and provide supporting evidence to support their events.

**Method**: I am not a daily R user, so to make it easier, I used EXCEL to pre-process the data to facilitate the use inside R, including sorting, filtering and generating new data frames. Then R studio tool is used to generate visual charts. Last, power point is used to generate summary report.

**Medium**: Since the audience is most likely not coder, The result will be presented in the form of **PowerPoint**.

**Design**: To my opinion, Power BI is more powerful in create ready to use chart, however the requirement is using R. R does have powerful controls on chart parameters, but it is not friendly to entry level user who never used these controls before. So, I created basic charts in R, then rendered in power point later, like add arrows and highlight etc.

**Visual**:

* Pie chart / donut chart to do a side-by-side comparison of locations with more Korean card theft than those with less cases.
* Stacked column chart to show state by state car theft cases change over time.
* Area chart to show how big the Korean car case increase is in Milwaukee area.
* Scatter chart to show the change of Korean car case in Milwaukee area.
* Stacked Area chart to compare Korean car vs other cars.

**Ethical Consideration**:

* I checked the data, which is clean, so I did not need to remove/adjust anything. Due to lack of R skills, I transformed the data into a ready to use format in R.
* Data is open to the public, but the analysis has a purpose. I need to understand the audience to ensure their understanding and plan of using of analysis is legal and legit.
* Due to my limited skills, the R chart outputs are very basic, I added many comments outside to make visual more understandable.
* Since this is white house released data, I assume data is valid and been verified.