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MIS-505-Data Visualization

Module 4: Assignment 2 – Halloween Visualization

In analyzing the dataset, “HalloweenData-2018.xslx,” I attempted to create visualizations for my audience to represent the peak time intervals to expect trick-or-treaters, as well as, whether or not the day of the year that Halloween fell on had any impact on the turnout of trick-or-treaters. Within my analysis, I also forecasted the predicted total turnout of trick-or-treaters for the next three calendar years.

The first chart I decided to include in my final Tableau Dashboard, was a dual-axis bar chart representing the aggregated 2008-2018 Halloween totals of trick-or-treaters for both the day of the week and time slot. To provide a clearer visualization for my audience, I decided to heatmap the data on a 5-step color gradient, with red representing the lowest number of trick-or-treaters and green representing the highest count. I then sorted the chart based on the day of the week that had experienced the highest total count of trick-or-treaters and added an average line to each day so that peak times were easily recognizable. By sorting the data this way, it was revealed that when Halloween falls on a Monday, more trick-or-treaters are likely to be out than any other day.

I next decided to add a chart grouping together weekdays (Sunday – Monday) and weekends (Friday and Saturday) and sorted by the time with the highest total trick-or-treaters. I color-coded the groups to provide a visual separation and added an average line for each section in the graph to identify above average trick-or-treater times. This graph did an excellent job of revealing that when Halloween falls on weekdays, there are far more trick-or-treaters than if it falls on a weekend. The graph also provides insight into the times that households should expect the most trick-or-treaters; 7:30 and 7:00 were the time slots that saw the highest trick-or-treaters on both weekdays and weekends.

The third chart I added to my final Tableau Dashboard was a table showing the average number of trick-or-treaters by day and time slot for the aggregated Halloween data. I then chose to heatmap the table using a red-to-green color scale, with red representing the times with the lowest average of trick-or-treaters and green representing the highest trick-or-treaters. I also provided an average totals column for both the day of the week and the time slot to provide my audience with the ability to easily determine how much candy they will need depending on what day of the week Halloween falls on. This chart revealed that the highest average of trick-or-treaters will be at 7:30, no matter what day of the week that Halloween falls on. It also shows that if Halloween falls on a Monday, be prepared to hand out more candy than on other years.

The final chart I decided to include in my Tableau Dashboard was a line graph providing a visualization of the total number of trick-or-treaters by year for all year’s data was provided on. To provide a clearer visualization, I added a minimum and a maximum line to the graph, as well as a trendline. I also added a forecast line and annotations to attempt to predict the next three years of estimated trick-or-treaters. My forecast line suggested that over the next three years, 2019-2021, people living in the 45207-zip code can expect an increase in trick-or-treaters of around 20 more per year. The forecast shows 2019 having 723 total trick-or-treaters, 2020 having 743 total trick-or-treaters, and 2021 having 763 total trick-or-treaters. People in this zip code should also expect to see most of these trick-or-treaters during the 7:00 and 7:30 time slots and should expect very few trick-or-treaters in the 6:00 and 8:15 time slots.