Company Car

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C745 Advanced Data Visualization

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This course is Advanced Data Visualization. In this course, we are tasked with choosing my new company car. The company has preselected four vehicles to choose from: the 2020 Ford Escape SE FWD, the 2020 Honda CR-V EX FWD, the 2020 Hyundai Santa Fe SEL FWD, and the 2020 Toyota Rav4 XLE FWD. We used the most recent full-year model for more accurate data. The company we work for gives us three different criteria to use at different weights. Those criteria are price point, safety features, and maintenance cost, and they carry a weight of 7, 5, and 10 respectively. Additionally, we were allowed to choose three criteria as well, insurance, resale value, and fuel economy carrying weights of 8, 6, and 10 respectively.

We choose the Honda CR-V as my new company car based on the results of the criteria even. One look at all the data as a whole the Honda CR-V stood out amongst its counterparts. Based on the total weighted score from the criteria 1 and 2 cleaned data file is 160 points, which is 23 more points than the second-highest total. Also, the Honda CR-V only finished out of first place twice. Let’s look a little deeper at all aspects starting with safety features. Safety features are different than all other aspects because all the values are the same, so we can’t separate the vehicles at this moment. To help get across at the moment the vehicles are the same we used a pie chart with different colors for each vehicle, with a pie chart it is easy to tell all values are the same because the slices of the pie are completely equal. As mentioned earlier there were two aspects that the Honda CR-V didn’t finish in the first place and those aspects are maintenance cost and price point. In the maintenance cost aspect, the Honda CR-V was less than six hundred dollars from being the second-best aspect. The bar chart used to show maintenance cost is great at showing how close the Honda CR-V and Ford Escape. At the price point, the Honda CR-V and Ford Escape are less than three hundred dollars apart and are less than seven hundred dollars from being the best in this aspect as well. Using a Gantt bar chart tells the story of just how close all the vehicles are, with there just being a slight gap between each line on the chart.

In all the rest of the aspects, the Honda CR-V finished as the best option in insurance, resale value, and fuel economy. Looking at the fuel economy Honda CR-V and the Ford Escape are the best by over two thousand dollars but also better than the Ford escape by three hundred eighty-nine dollars. A pie chart was used to give a visual aid to tell the story of how fuel-efficient the Honda CR-V was compared to its counterparts. The smallest angle belongs to the Honda CR-V, which has the best fuel economy dollar amount. When looking at insurance costs between the vehicles the Honda CR-V the best by a couple of hundred dollars and is the only vehicle that is less than four thousand dollars. The story of insurance is aided visually by a Gantt bar chart, which gives a great look at how the Honda CR-V price of three thousand eight hundred ninety-eight is below four thousand with all other vehicles having values greater. The Honda CR-V resale value is greater than all the other vehicles being we would profit more off this vehicle than the others by a value of at least five hundred dollars. Actually, with the Honda CR-V, its resale value is greater than its average price point. The value of this can be seen in the bar chart with Honda CR-V having a greater bar length than all other vehicles. Effective storytelling elements used for this presentation were different charts to display the data and among those charts that fit the data the best. Also, the colors on the charts either correspond to particular vehicles and criteria. Another thing used is different symbols along with colors to distinguish the differences of the values. An example of these is how on the dashboard the scatterplot chart uses different colors for the criteria and different symbols for the different vehicles. The heat map gives are quick a glance at the differences of the criteria by using a threshold range of the same color with the lighter shade the lower the value and the darker the shade the higher the value is. Also having a clean data set with a weighted score and total weight score to give an overall and per aspect view of the data.

We were tasked with creating a presentation on picking our new company car based on six aspects given by our manager and some we have added as well. The six aspects are Safety Features, Price Point, Maintenance Cost, Fuel Economy, Resale value, and Insurance cost. Also, our manager gave us four specific vehicles to choose from which are 2020 Ford Escape SE FWD, 2020 Honda CR-V EX FWD, 2020 Hyundai Santa Fe SEL FWD, 2020 Toyota RAV4 XLE FWD. We picked the 2020 Honda CR-V is what we picked to be our new company vehicle. The Honda CR-V was our pick was for multiple reasons. It finished below first place in only two of the six aspects and among those two aspects, it was in the middle of all the vehicles and was less than seven hundred dollars from being first in the price point aspect and three hundred dollars from being in second place. In the maintenance cost aspect, the is under a thousand dollars from being in the first place and less than five hundred dollars from being second in place. Another reason for choosing the Honda CR-V is its total weight score is the greatest of all vehicles and that is by more than twenty points. To aid our presentations we used colors specific to the vehicles where they can be used. Also using several different charts to tell different stories. For example, we used a pie chart with colors to show that there were no differences in the vehicles. Or in insurance, we used a Gantt bar chart to show how the Honda CR-V was the best option in this aspect. Another thing we used was cleaned data to help present the data.

Scraped Web Pages

<https://www.edmunds.com/ford/escape/2020/cost-to-own/#style=401791242>

<https://www.kbb.com/ford/escape/2020/se/?vehicleid=444360>

<https://www.nhtsa.gov/vehicle/2020/FORD/ESCAPE/SUV/FWD#safety-ratings-rollover>

<https://www.nhtsa.gov/vehicle/2020/HONDA/CR-V/SUV/FWD#safety-ratings-rollover>

<https://www.edmunds.com/honda/cr-v/2020/cost-to-own/#style=401834133>

<https://www.kbb.com/honda/cr-v/2020/ex/?vehicleid=446103>

<https://www.nhtsa.gov/vehicle/2020/HYUNDAI/SANTA%252520FE/SUV/FWD#safety-ratings-side>

<https://www.edmunds.com/hyundai/santa-fe/2020/cost-to-own/#style=401803538>

<https://www.kbb.com/hyundai/santa-fe/2020/24-sel/?vehicleid=444213>

<https://www.kbb.com/toyota/rav4/2020/xle/?vehicleid=445610>

<https://www.nhtsa.gov/vehicle/2020/TOYOTA/RAV4/SUV/FWD#safety-ratings-rollover>

<https://www.edmunds.com/toyota/rav4/2020/cost-to-own/#style=401831163>

<https://www.kbb.com/ford/escape/2020/se-sport-utility-4d/?condition=good&intent=trade-in-sell&mileage=19785&pricetype=private-party&vehicleid=444434>

<https://www.kbb.com/honda/cr-v/2020/ex-sport-utility-4d/?condition=good&intent=trade-in-sell&mileage=19785&pricetype=trade-in&vehicleid=446062>

<https://www.kbb.com/hyundai/santa-fe/2020/24-sel-sport-utility-4d/?condition=good&intent=trade-in-sell&mileage=19785&pricetype=private-party&vehicleid=444152>

<https://www.kbb.com/toyota/rav4/2020/xle-sport-utility-4d/?condition=good&intent=trade-in-sell&pricetype=private-party&vehicleid=445670>

Sources