DataCruncherz
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Motivation

The purpose of this analysis is to better assist Edmunds.com in understanding its customers and helping them find a vehicle that meets their needs. We discovered that 62% of Edmunds.com shoppers come in with a certain vehicle model in mind and only view that vehicle, while the other 38% tend to shop around among a handful of vehicles. These shoppers spend more time on the site and are more likely to buy a car. To better understand their habits we created a network graph of their interest patterns, which can help Edmunds.com to adopt a "viewers of this model also viewed" feature, similar to approaches employed by Amazon.com and Netflix.com. Most car buyers– like those of consumer products and movies– have preferences clustered around certain product specifications (e.g. SUVs, coupes, trucks), and are likely to respond well to a list of suggested car profiles. Providing such a feature will not only greatly ease the customer search experience, but also will likely keep customers on Edmunds.com for greater periods of time, meaning greater potential for ad revenue.
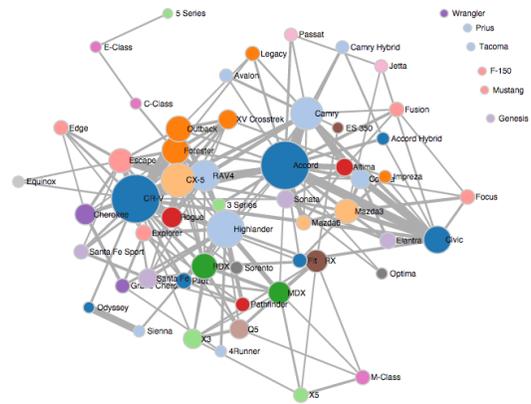
Network Graph – Mapping Viewer Browsing Behavior

This network graph of vehicle browsing behavior was produced using **d3.js**, a JavaScript library for producing data visualizations in web browsers. For ease of interpretation, we restricted our analysis to the 60 most popular vehicle models (represented by 60 unique nodes). After eliciting all 1770 possible permutations of viewing pairs (connections between nodes) and calculating the frequencies with which each pair is viewed together (ranging from 0 to 194), we limited the visualization to the top decile of pairs, as higher counts suggest greater practical application in a potential "also viewed" feature or for guiding targeted advertising. The graph we created was for the overall data set, but similar maps could be created for specific groups of Edmunds.com customers (e.g., geographic groups).

Chord Diagram – Turning Views into Transactions

The chord diagram examines the directional relationship between consumer viewing behavior and transactions. Specifically, given that a customer views a certain make and model, what car will they likely end up buying? Like the network visualization, the chord diagram was produced using **d3.js**; however the chord diagram examines a only the subset of visitors whose Edmunds' experience resulted in a transaction. For clarity of illustration, the chord diagram visualizes only the top 5% most popular view-to-transaction relationships. One of the benefits of this visualization is that it is easy to see that the proportion of times a visitor buys the same model that they view differs across car models. Again, this graph is versatile and can be re-created for different groups of car models.