

# Team: Untitled

## Project title

**The price-change effect on uncertainty in purchasing**

### Data we use:

We merged the transaction data and the shopping data by UserID.

We studied the decision chain process: a person looked at one specific car, and ultimately, did he or she end up buying that one or other models.

### Goals

To test whether price has a determinant effect on people's car choosing behavior  
To help salesmen recommend cars to customers in the car-selling process

### Methods

We estimated the price for all cars in transaction data sets. Then, we subsetted the merged transaction-shopping data into different categories by their differences from the actual price. For example, a negative 2000 means you saved 2000 dollars in buying your car. In order to characterize the the price change, we first build a hierarchical Bayesian model to predict the market price for each car bought on edmunds.com. There are many variables of interest here. For simplicity, we put three significant, important covariates in our model based on our EDA results. Simple modifications such as using SSVS could be made to conduct variable selection at the same time. Another possibility is to do BMA since we are interested in prediction. Then we subtracted these market values from the true transaction price to see whether these transactions are good deals or not, taking all the transactions that are below 2000 and above 2000 of our predicted values as two new data sets. After that we created a visualization chord diagram in d3 for our results; we see that as the price goes down, use shopping/browsing around for other carsdecre

### Significance

- Examine historical transaction pricing to predict pricing and use this data to suggest good and overpriced deals.
- Identify which cars are most popular and shoppers viewing habits.
- Allow Edmunds to better serve its customers with relevant data that can help shoppers find the car they most want at the best price.