1. Intro
   1. What we want to model: Analyze consumer brand choice selection
2. Describe data
   1. Transaction data across supermarket and drug stores, etc…
   2. Show all data elements: transactions, product info, panelist demographics
   3. Show bar charts and explain some
      1. What we removed/reduced and why
   4. Calculation of loyalty value
3. Describe MNL models in general
   1. Tie it back to what we learned in class
   2. I like this: <http://www.statisticssolutions.com/mlr/> with a picture of the equations
4. Describe GAMs in general
   1. Use lots of material from attached pdf – section 3.1 (pdf page 132)
   2. Describe smoothers
      1. Show graphs
   3. Describe methods used for determining smoothness params
      1. Penalized something…
      2. “wiggliness”
5. Go over a GAM example with data (this is how we can take some emphasis off our end result that we wont be able to compare with the exact MNL model)
   1. In the attached pdf they use a Chicago pollution dataset that sounds perfect.
   2. I copied what they did into an R file (also attached to this email)
6. Describe how we tie MNL to GAM
   1. Use equations from the original paper we are using
7. Describe a MNL for our toothpaste data
   1. Talk about what we had to do to the data to get it into MNL form
   2. Show results of the MNL model for our data
8. Describe how we used GAM with our toothpaste data (recreate equations from #3 with GAM)
   1. Show some results of running our model and the probabilities it calculates
   2. Maybe somehow tie this back to MNL results if we can
      1. Talk about how existing mgcv doesn’t support MNL with GAM, maybe someone should do this for their capstone
9. Wrap up and future directions