**Project Design Writeup and Approval Template**

**Project Problem and Hypothesis:**

The project seeks to explore the capabilities of natural language processing. I will be analyzing customer service in a number of verticals based on the sentiment of tweets extracted. I will explore the following verticals

* Airlines
* Hotels
* Healthcare
* CPG
* Tech (maybe)
* Trump (for fun)

Predictions will include sentiment scores, understanding customer pain points, and projecting ways in which changes could be made. It will be a continuous rather than binary outcome. This could have an impact on the way these industries or specific companies approach customer service. I think whether the company has had incidents occur or not could have an impact on values.

**Datasets**

* I will be pulling from the Twitter API with Python wrapper
* <https://github.com/bear/python-twitter/wiki>
  + Status and User information
* I will be obtaining information for the following Twitter handles
  + *TBD*

**Domain knowledge**

I have very little domain knowledge in this space. Other research efforts in this space include:

* There has been significant research in this space. Some examples include
* Use a quick Google search to see what approaches others have made, or talk with your colleagues if it is work related about previous attempts at similar problems.
* *Include a benchmark, how other models have performed, even if you are unsure what the metric means.*

**Project Concerns**

* Questions: *TBD*
* What are the assumptions and caveats to the problem?
  + I wish I had access to more customer support data, as most people do not take to twitter to complain
  + I’d like to know what percentage of complaints occur on twitter
* What are the risks to the project? *TBD*

**Outcomes**

The goal of this project is to better understand customer complaint behavior, with the ultimate goal of feeding this information into a customer support bot.

* *What do you expect the output to look like?*
* *What does your target audience expect the output to look like?*
* *What gain do you expect from your most important feature on its own?*
* *How complicated does your model have to be?*
* *How successful does your project have to be in order to be considered a "success"?*
* *What will you do if the project is a bust (this happens! but it shouldn't here)?*