


The Politics of Twitter

Cameron Randall, Elizabeth Jones,
Nicole White, Michael Sherman

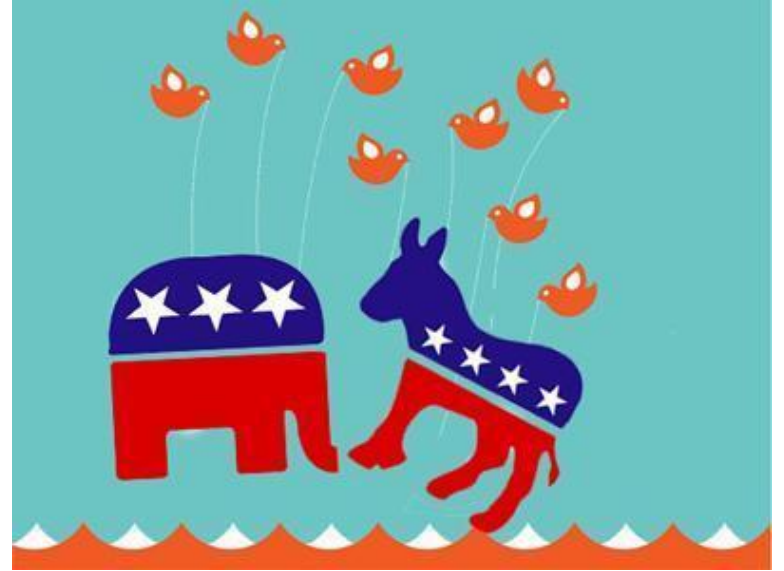


Political Value

Obama made headlines in the 2012 presidential election for his use of social media.

Politicians are interested in what their constituents are thinking and what issues they care about.

Part of a politician's influence now incorporates their influence on social media.



The big question:

**How can Twitter be used by a
politician to increase their
political power?**

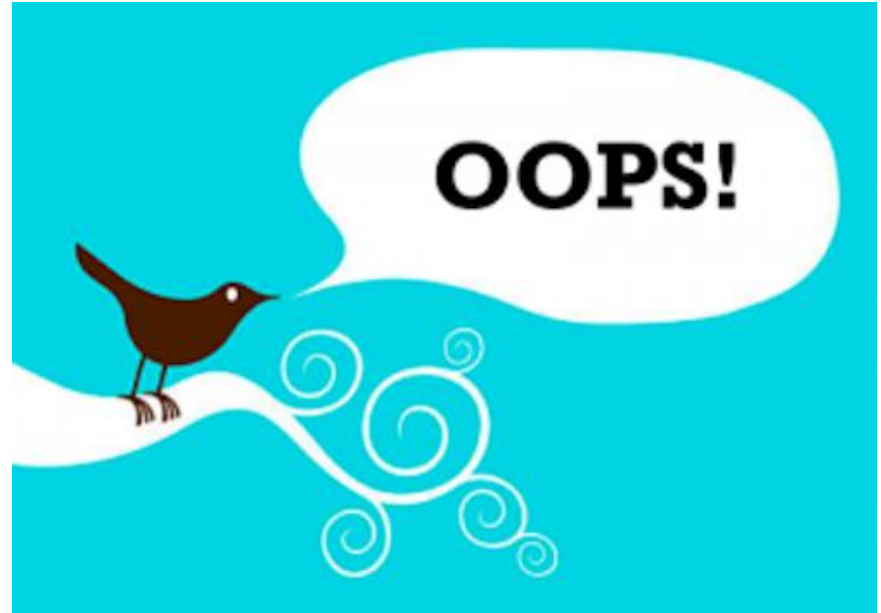
Importance of Political Activity on Twitter

Engagement = Political Influence

Retweets are a proxy for engagement—How much is a political message resonating with citizens?

First question: What causes a political tweet to be retweeted?

Second question: What can politicians do to increase retweets?



Twitter Data

- Pulled via Tweepy- (Twitter API) using Python.
- User
- External Sources
 - Political Party
 - Approval Rating
 - State Population
 - Years in Senate
 - Up for Election?
 - Management of Account
- Tweet
- Tweet Content
 - Are they talking about current events?
 - Sentiment (Sentistrength)
 - Are they talking about themselves?
 - Specific Current Events:
 - Ukraine, GM recall, Healthcare, KeystoneXL

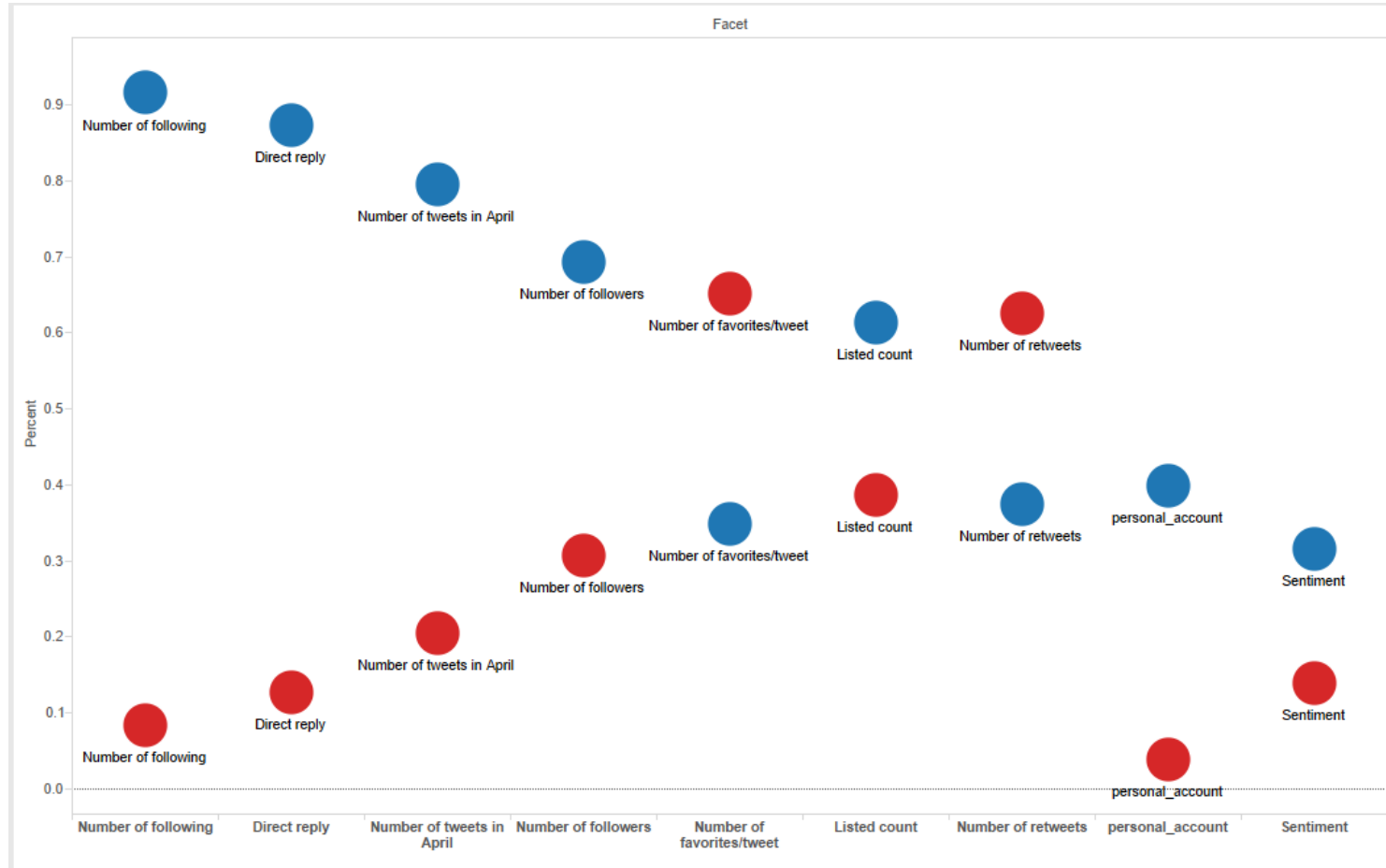


Descriptive Statistics

	Democrat	Republican
Number in sample	32	23
Number of followers	421,708.60	186,801.70
Listed count	4,297.55	2,710.67
Number of following	23,237.60	2,140.66
Number of favorited	24.52	20.09
Direct reply	30%	4%
Number of retweets	36.37	60.64
Number of favorites/tweet	12.20	22.76
Number of tweets in April	329.32	85.13

	Democrat	Republican
Fraction of tweets about news	33.30%	38.72%
Sentiment	0.32	0.14
tweetUkraine	0.43%	4.32%
tweetGM	0.97%	0.55%
tweetHealth	1.95%	5.71%
Tweet using "I"	11.58%	8.33%
Tweet about KeyStone Pipeline	0.29%	1.22%
personal_account	39.9%	4.0%
Staff_account	1.7%	6.3%

Summary Statistics (averages by Party)



Retweet Predictive Models

- Basic Setup
 - 4957 Total Tweets
 - Split tweets by Senator, 1/3 test 2/3 train
 - Test: 1745 Tweets
 - Train: 3390 Tweets
- LASSO regression: $R^2 = 11\%$
- Random Forest – predicted bins
- Bins:
 - 0 RT: 389
 - 1-9 RT: 3038
 - 10-99 RT: 1244
 - 100-999 RT: 271
 - 1000+ RT: 15
- 56.7% Baseline (Predicting all as bin 2: 1-9 Retweets)
- 67.5% Accuracy

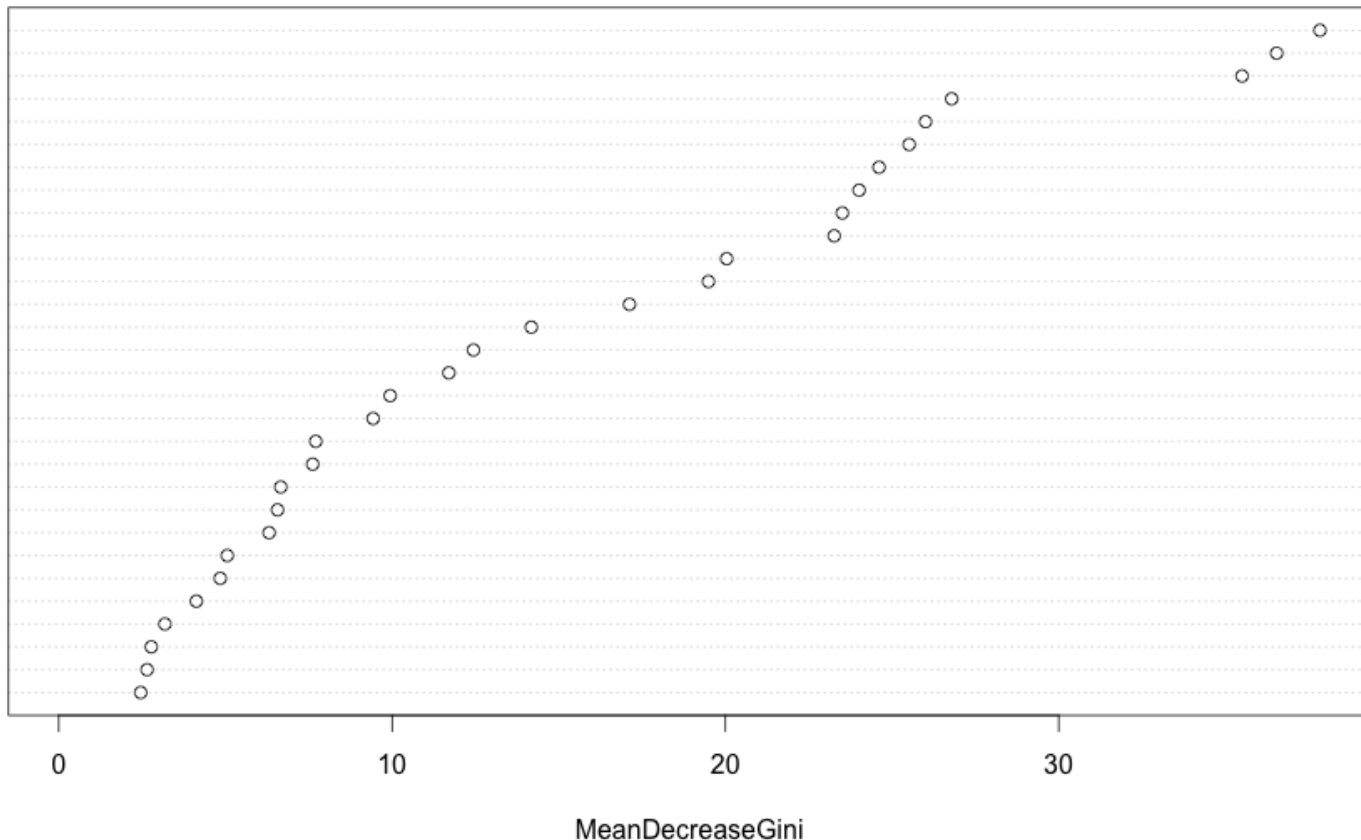
Model

- To answer the question: What can a Senator do to increase retweets?
- No longer split by senator -- just by RTs
- 2 class bin predictor:
 - 54 retweets or greater (top 10%)
 - Less than 54 tweets (bottom 90%)
- 90% Baseline (predicting every one as less than 54 retweets)
- 92.3% Accuracy

Summary of Important Variables

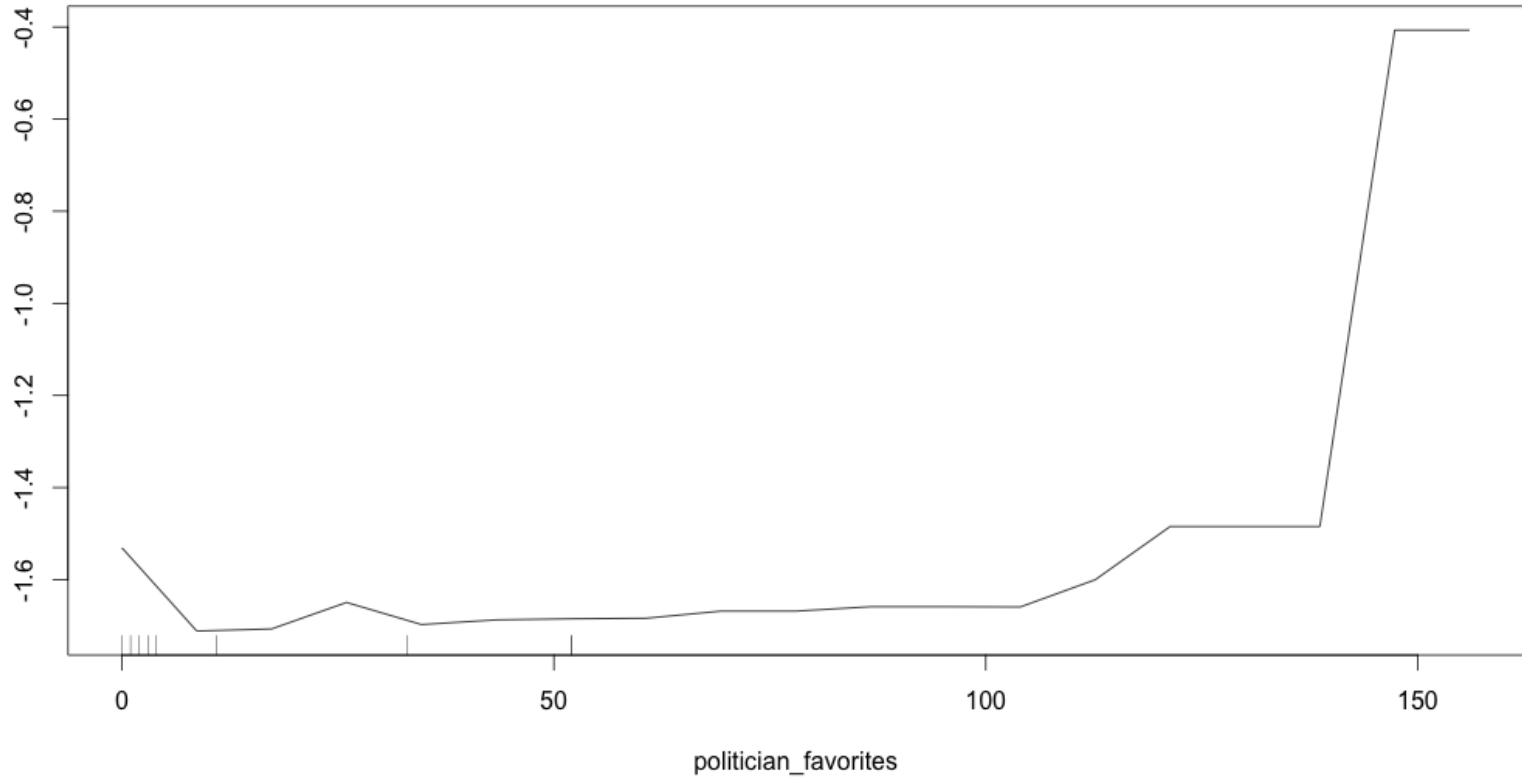
Predictor Importance

politician_favorites
politician_nameTed Cruz
tweet_user_mentions_count
tweet_hour
Approve
politician_followers_count
Population
tweet_day
nextTweet
politician_listed_count
lastTweet
sent
politician_nameHarry Reid
politician_statuses_count
tweet_hashtags_count
counts
politician_following
Years.Served
tweet_retweet_statusTRUE
tweet_has_photo1
tweet_urls_count
tweet_sourcePC
newsT
politician_nameRand Paul
tweet_sourceTweetDeck
tweet_sourceHootSuite
tweetT1
tweetUkraine1
personal_account1
tweet_sourceiPhone



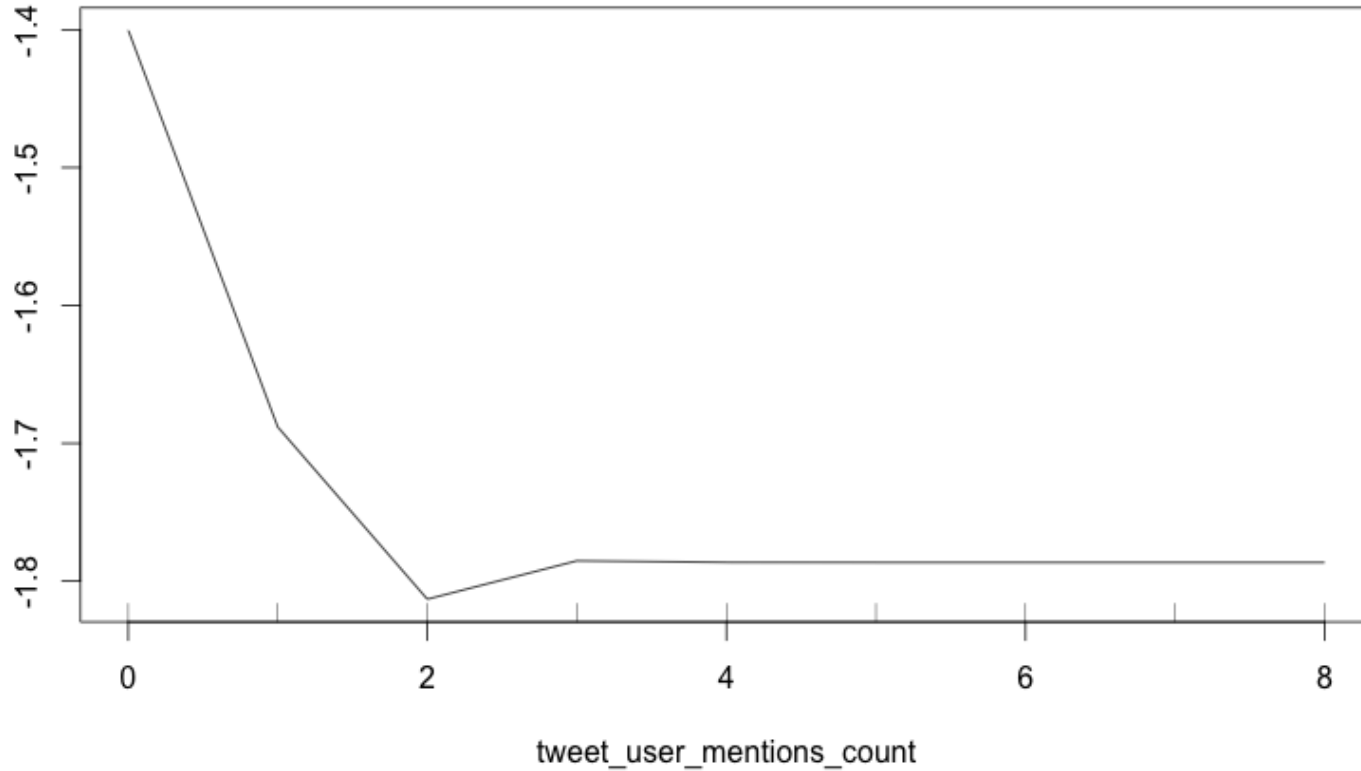
Recommendations

Tweets Favorited Over Entire Account History



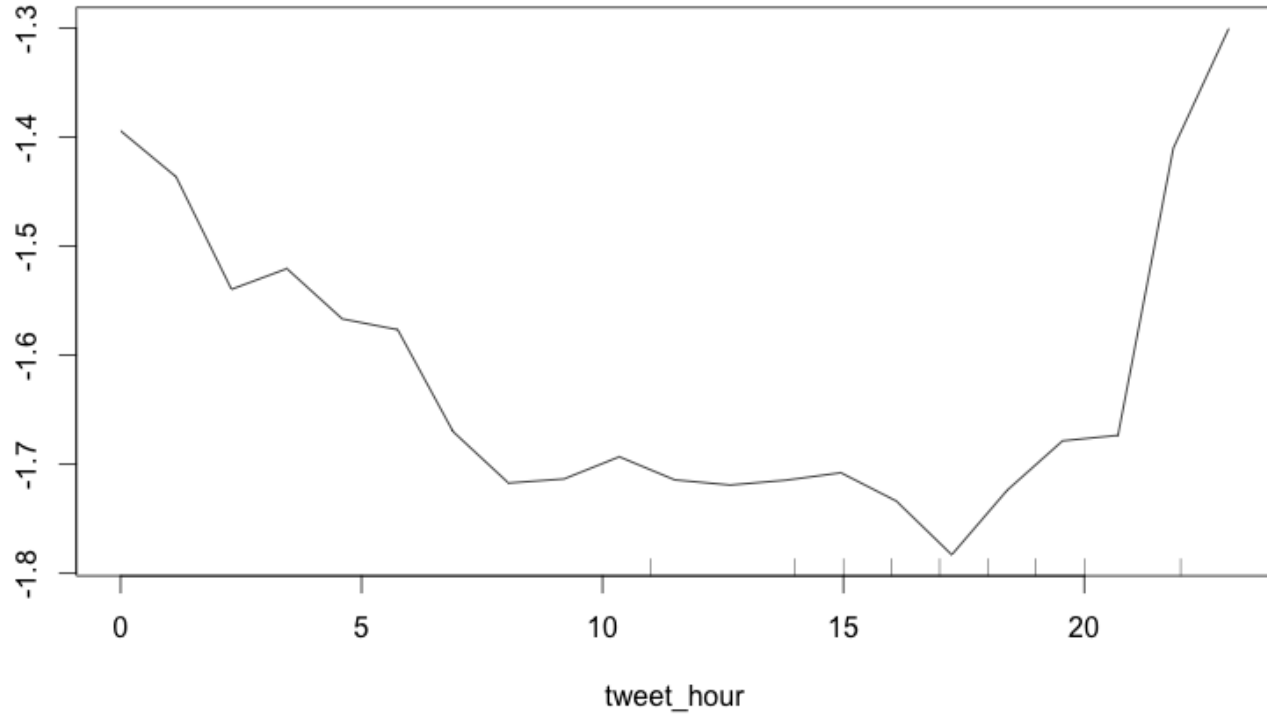
Recommendations

User Mentions in a Tweet



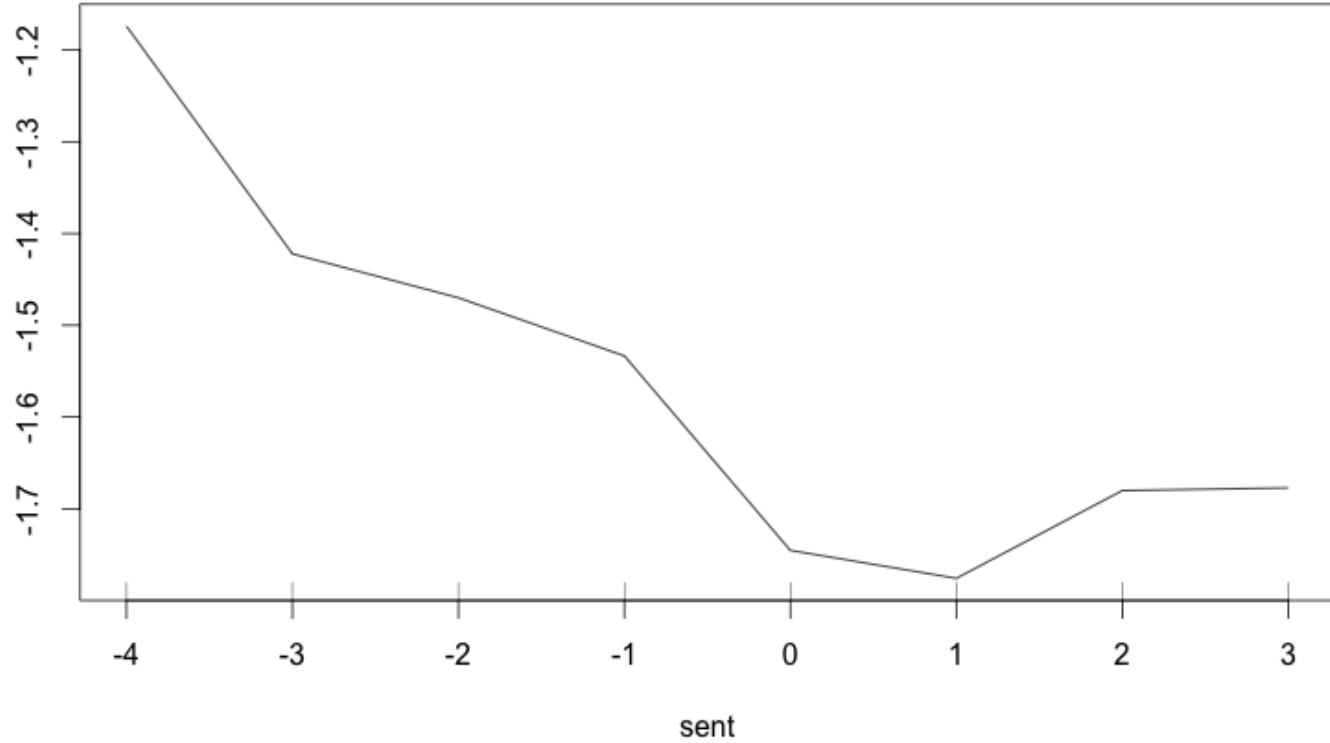
Recommendations

Hour of Day (UTC)



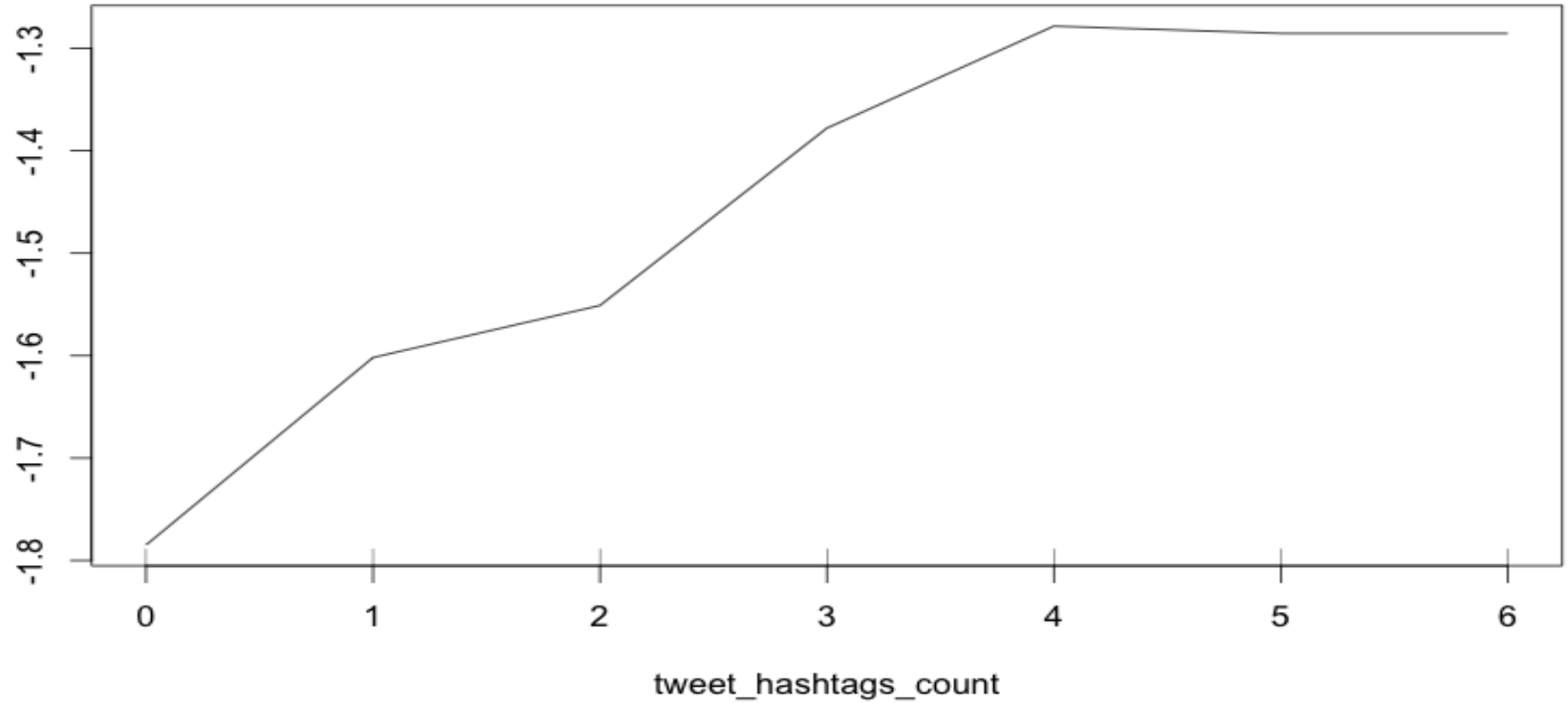
Recommendations

Sentiment (Sentistrength)



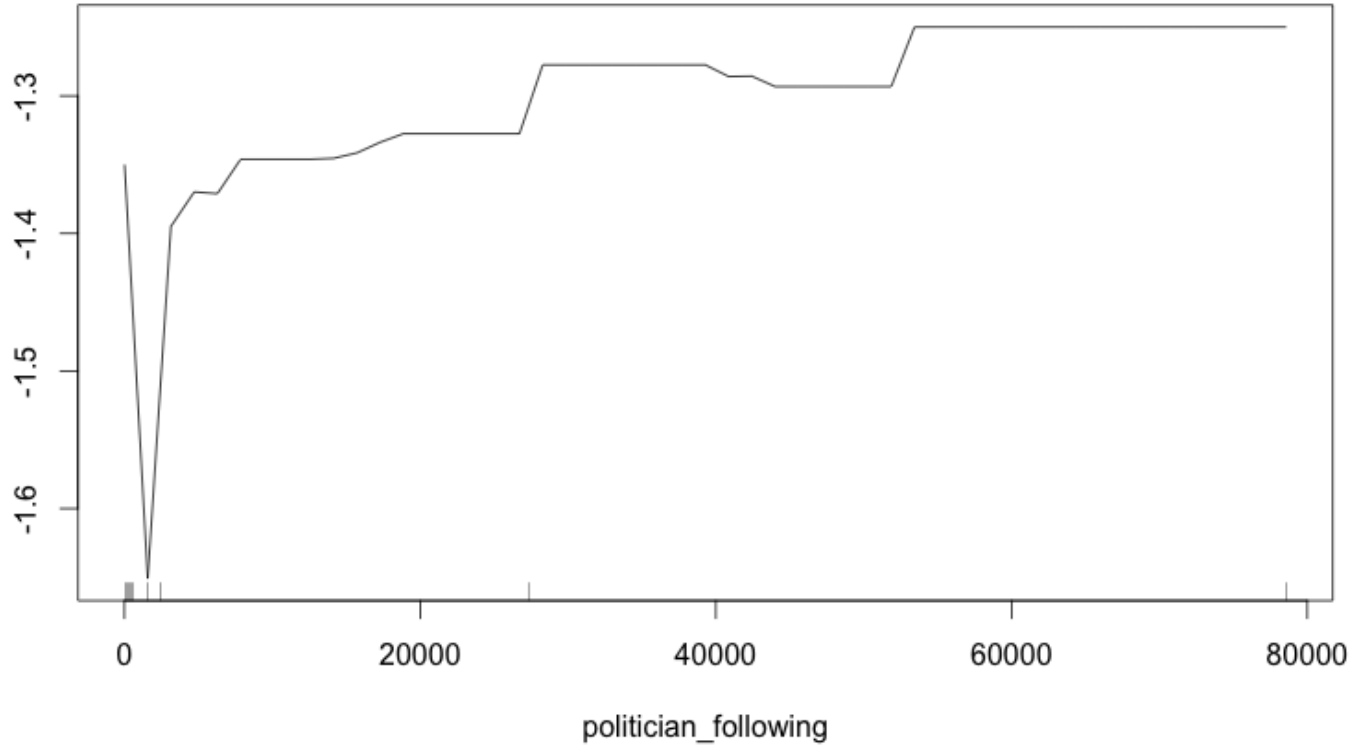
Recommendations

Hastags in a Tweet



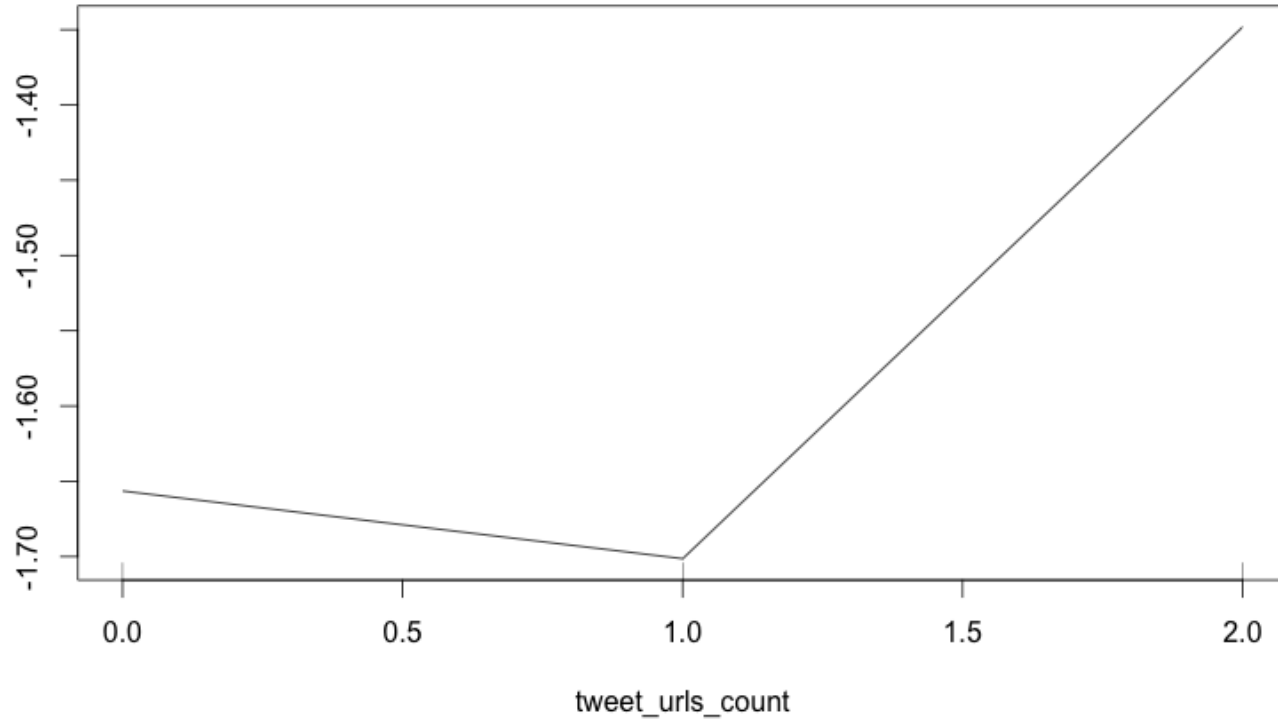
Recommendations

How Many Accounts Being Followed



Recommendations

Hyperlinks in Tweet



Recommendations

- Healthcare!
- Add a photo
- Talk about yourself (use “I”)



If given more time we would....

- Go back and gather tweets from election dates
- Are election wins correlated with retweets?
- Run this analysis on more than just senators



Questions?