

Analyzing Texas politics through twits

A. Data collection

We collected 17,471 number of unique tweets from the Twitter API. The collection process followed five iterations of pairs of keywords during two consecutive days (10/02/2018 and 10/03/2018). The pair of keywords were the following, based on trending hashtags and related words considered neutrally related to both candidates:

- "Votexas" and "TexasSenateDebate"
- "Texas" and "senate"
- "Texas" and "election"
- "Texas" and "vote"
- "Texas" and "debate"

We erased all duplicated information that was extracted from the Twitter's API.

B. Key issues

We found four key issues mentioned by the public in the tweets: Women, Taxes, Crime and Healthcare. Words with similar semantic structure (i.e. criminal, crimes, etc) were re-coded to increase the count of the issues.

Issue	Number of topics
Women	903
Taxes	301
Crime	113
Healthcare	38

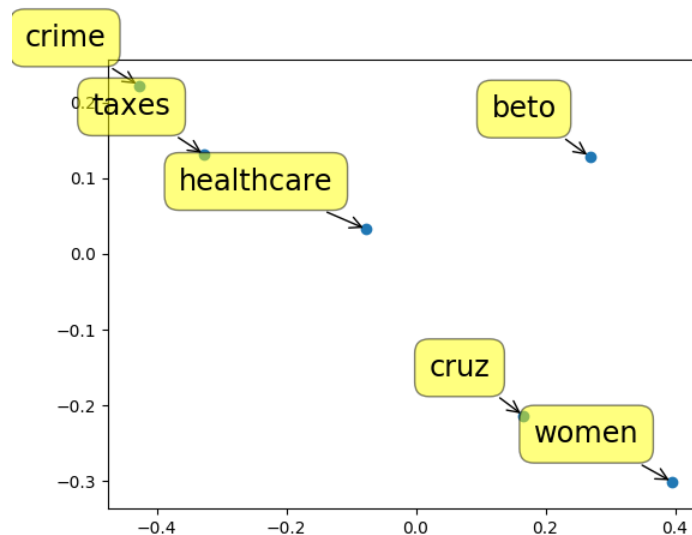
- We observed 9,068 mentions to candidate Cruz and 7,718 to candidate Beto.
- Despite the high number of mentions towards specific people, such as Kavanaugh (1,275), Trump (1,202) or Willie Nelson (1,758), we didn't include them in the analysis of the four critical issues for the following reasons.
- Kavanaugh's and Trump's mentions had less than 1 in lift values for both candidates, and we preferred to maintain the topic related to politic agendas rather than personalities in the analysis.
- Willie Nelson was highly related to Beto O'Rourke campaign (lift bigger than 2) showing a positive sentiment, probably because they organized an event together short time before the twits were collected. However, we didn't provide the detail of this relationship in the following analysis, because we considered that it introduced a bias for being related to one campaign activity of just one candidate.
- By the same token, we decided to use Healthcare issues, despite its relatively low number of mentions, for being an explicitly mentioned topic that had relevant lift values to both candidates.

C. Issues: Lift values and sentiment analysis

Issue & Brand	Lift	Sentiment Score (if lift > 1)
Women & Beto O'Rourke	0.810730722	-
Taxes & Beto O'Rourke	0.618195043	-
Crime & Beto O'Rourke	0.497198864	-
Healthcare & Beto O'Rourke	1.858576704	0.5982625
Women & Ted Cruz	2.111423741	0.596560092
Taxes & Ted Cruz	0.722336866	-
Crime & Ted Cruz	0.448336704	-
Healthcare & Ted Cruz	2.366012187	0.654308696

- We observe relevant relationships in relation to Healthcare with both candidates, and, issues related to women and Ted Cruz, considering lift values over 1.
- All of these associations showed positive sentiments related to them.
- Despite we didn't presented the results for Willie Nelson (1,758) mentions, it should be mentioned that this was one of the most popular topics on tweets that were collected. Considering its association with candidate Beto, we believe that this could explain why Beto's campaign is only associated with just 1 of 4 issues analyzed.

D. Issues: MDS visual representation



- The MDS visualization shows how Healthcare are relatively closer to both candidates and the rest of topics. Especially, taxes.
- While Cruz is closely related to Women related topics, Beto appears relatively distanced from the observed issues studied.
- Crime and taxes related issues are relatively distanced from both candidates.

E. Location: Lift values and sentiment analysis

- We use the location data collected of twits to analyze lifts and sentiments regarding the candidates in large versus small cities/towns in Texas. Despite there was no high association between location and the candidates, all lifts were over 0.6. Considering that, we conducted sentiment analysis for all of the cases.

Location & Candidate	Lift	Sentiment Score
Big_city Texas & Beto O'Rourke	0.624370198	0.268038992
Small_town Texas & Beto O'Rourke	0.607737386	0.235934375
Big_city Texas & Ted Cruz	0.718127244	0.274185627
Small_town Texas	0.855533029	0.142546078

- Sentiments are positive for both candidates on average across big cities and small towns.
- Beto presents similar positive average sentiment scores in big cities and small towns.
- Despite Cruz's scores are similar to Beto's scores in big cities, candidate Cruz presents a relatively lower score of positive sentiment in small towns.

F. Advice for candidates

For candidate Cruz:

- In terms of issues, Cruz campaign is related to healthcare and women related topics in a positive way. The association with women related topics could be used as a differentiation strategy from candidate Beto.
- In terms of location, no relevant associations were observed. However, comparing the slight difference between Beto and Cruz in small towns, Cruz campaign should consider that in terms of sentiment it is in a relative disadvantage compared to Beto. Cruz's campaign team should research and monitor this difference in terms of the location of voters, and find ways how to decrease the gap between candidates if proves to be significant over time.

For candidate Beto:

- In terms of issues analyzed, Beto's campaign was not associated with any specific attribute in twit conversations in a distinctly way. However, the candidate shares co-mentions in Healthcare with his rival, and the positive sentiments related to that.
- We believe that Beto's campaign low association with analyzed issues, could be related to the high association of the candidate with Willie Nelson. Although the association with the popular music Texas figure can attract many voters, we observe that much work can be done to associate Beto's campaign with other

issues that are relevant to voters at the moment of going to vote (i.e. jobs, rights, etc).

- In terms of location, no relevant associations were observed. However, comparing the slight difference between Beto and Cruz in small towns, we believe that there is an opportunity for Beto campaign to increase that difference among this targeted population with his rival.

For both candidates:

- At the moment of collection, the Texas race doesn't show evidence of clear popular topics or issues that domain voters' online conversations in relation to the candidates. Both candidate's teams can reinforce differentiation strategies.
- Despite not being a popular topic, both candidates' campaigns are very related to Healthcare in an overall positive way. Depending on how the interest on this topic shapes over the campaigns, we think that this can be seen as a key opportunity to differentiate from the rival while increasing the own positive sentiment.
- Despite taxes related issues were surprisingly not associated in online conversations to either of candidates, Healthcare issues were very related to taxes. Therefore, we advise campaigners to evaluate those topics closely in future discussions and debates.