Milestone Report 1

Sentiment Analysis

Who? What? How?

Customer/Client: Corporate Public Relations department

Problem Statement:

Gauge how change in company executive leadership is received by general public and investors.

How would this help the clients/customers?

Client will be able to determine if the decision to change the top leadership is perceived as a good step. In addition to gauging general negative, neutral or positive sentiment, looking at most commonly used words to describe the change in leadership, decide on future strategy on communicating (and portraying) the leadership.

Steps

Tweets and News articles from 2 days before the announcement of CEO leadership to 5-6 days after the announcements will be pulled from data sources.

The data will be stored in MongoDB to be reviewed and updated with relevant flag and topics manually.

Updated data from MongoDB will be retrieved and added to dataframe for exploratory data analysis.

Data Sources

| Dataset	URL	
Twitter - Full Archive search	https://developer.twitter.com/en/docs/tweets/search/overview/enterprise	Tweets from up to 2006. 100 results per search.
News API	https://newsapi.org/	Articles from 1 month previous. 100 results per search.

Wells Fargo - New CEO announced on 09/27/19.

Twitter activity is up sharply starting 09/27, the day of the announcement, and so does news articles. While tweets continue to be more than before the announcement, new articles activity falls almost to the level before.

In case of tweets, number of there is sharp increase in relevant tweets starting from 9/27 and the number of relevant tweets don't go below the number of not-relevant tweets until 10/2.

This shows that announcement of new CEO did not go unnoticed and public is interested for at least 5 days after the announcement.

The top topics are Dimon, Diversity, New York, Pay, Stock and Tough Job. This tells me the story that people focused on Charles Scharf having been Dimon's former mentee, yet another white male CEO based in New York. Stock went up modestly, people acknowledge that this will be a tough job given the circumstances and the reason why Scharf accepted the position is because of significant pay bump as an enticement.
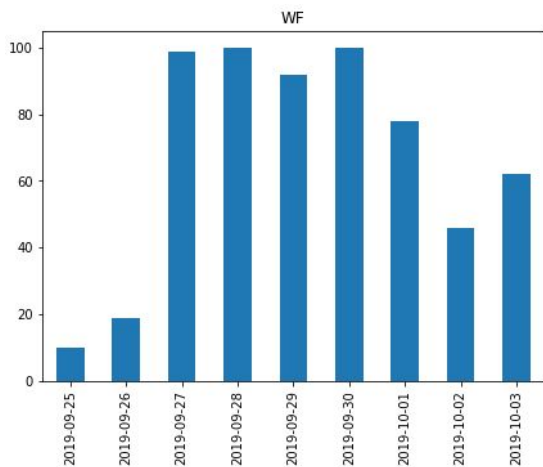
# of Tweets per day.
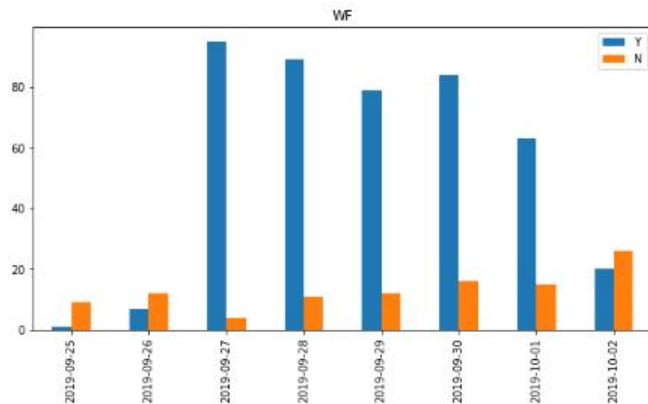
# of tweets per day - divided by relevant (Y) and not relevant(N)
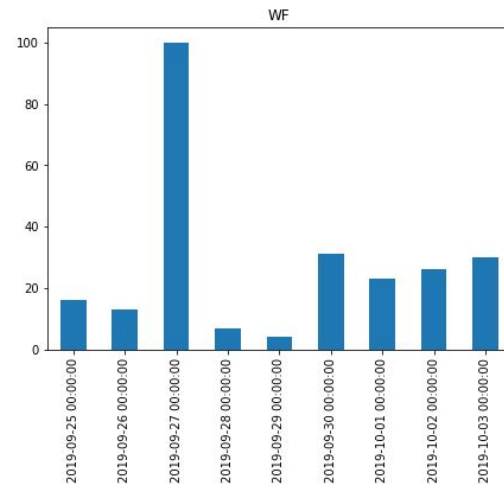
# of News articles per day

SAP - New CEO announced on 10/10/19 US time (10/11/19 in Germany).

SAP announced the change in leadership on 10/11 in Europe which was 10/10 in U.S.
Tweets started increasing on 10/10 and due to the large amount of activity, there were more than 100 tweets for the day. For the days where there were more than 100 tweets, 1st chart shows the range of time collected for the day (inverted. The amount of time 100 tweets were generated was less on 10/10, the day of the announcement, and started falling in the next few days and down close to the amount of activity before the announcement on the 6th day after the announcement.
Similar to Wells Fargo, the number of relevant tweets compared to not-relevant tweets sharply grow the day of the announcement and slowly dies off towards the 6th day of the announcement.

Top topics for SAP are Diversity, New CEOs/New Era and Previous CEO. People focused on previous CEO's achievement and new co-CEOs. One of the co-CEO, Jennifer Morgan is the first woman to lead DAX index company.

1 day - range of time 100 tweets were collected for the day. (inverted)

# of tweets per day - divided by relevant (Y) and not relevant(N)

# of news articles per day.