

# Analyzing Tweets: Positive or Negative



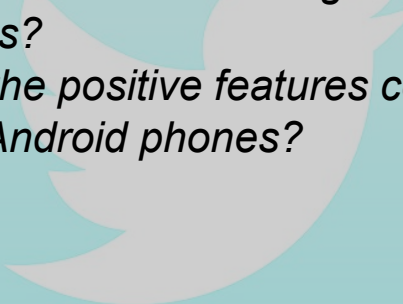
## Purpose

A client is looking to design and manufacture a new smart phone and will invariably compete with Apple and Google products. They have provided us with a data set of Tweets and would like more detail regarding negatively and positively charged Tweets directed at both iPhone OS and Android OS phones.

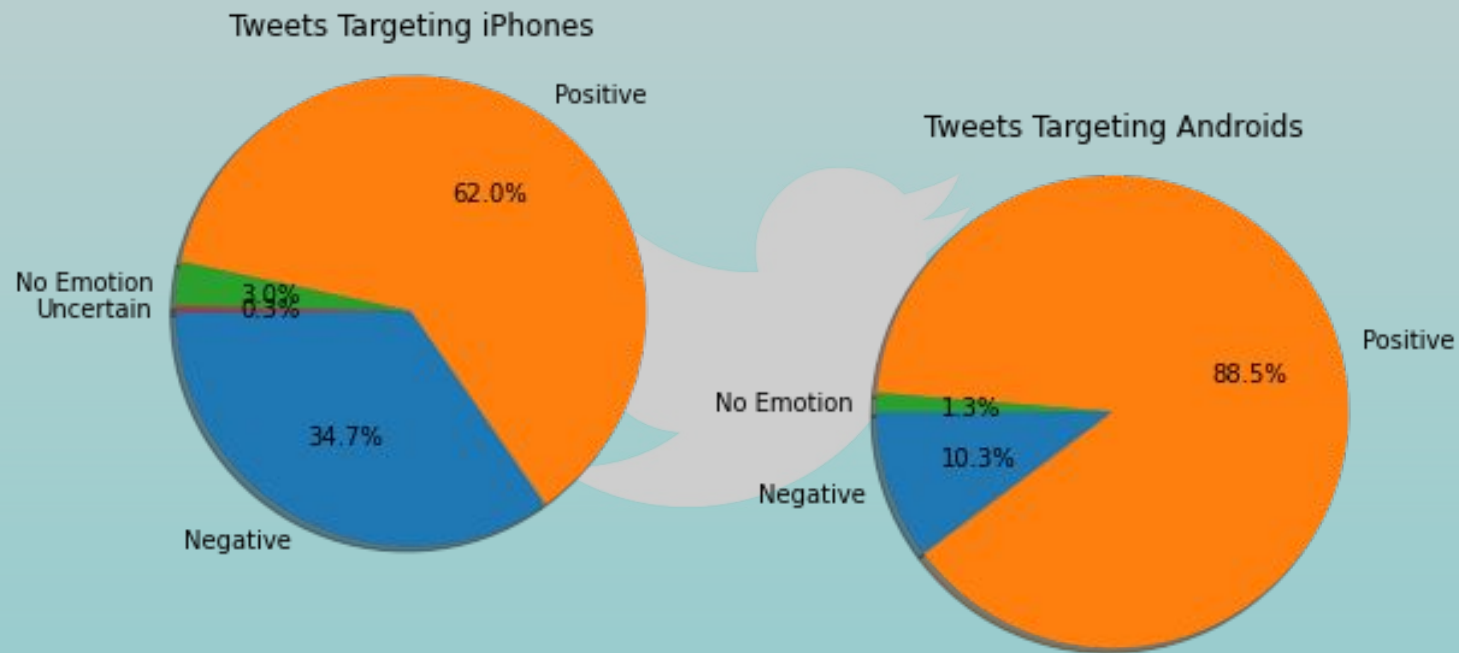
Our challenges are -

1. *To highlight any negative features of iPhones and Androids so that they can reduce them in their new product and*
2. *To highlight positive features of iPhones and Androids so that they can implement or improve them in their own product*
3. *To provide recommendations that will improve their future product*

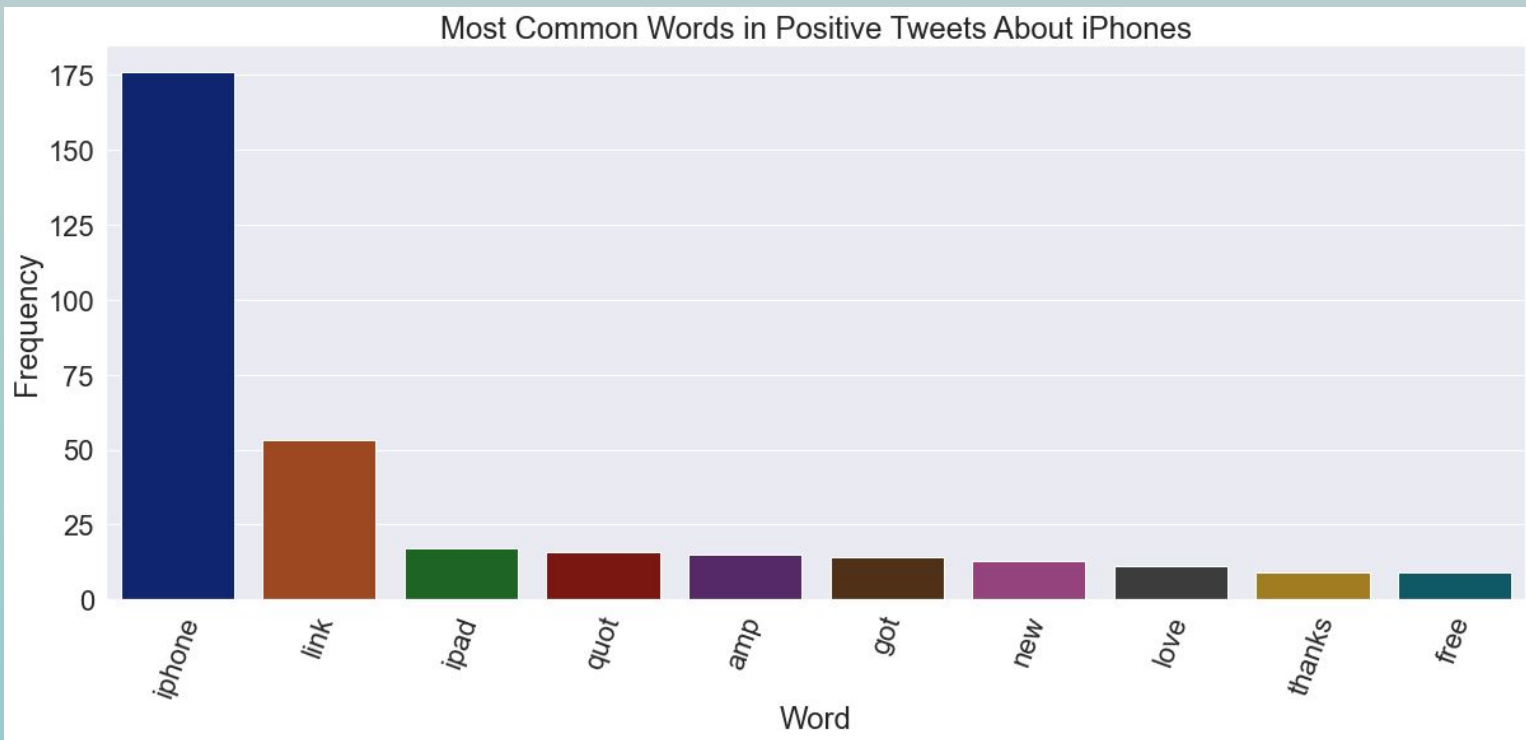
## Questions

1. *In tweets targeting either the iPhone or Android phones, which product is more often the subject of negatively charged emotions?*
  2. *What words are most common in negative tweets about iPhones and Android phones?*
  3. *What are some of the positive features commented about for both iPhones and Android phones?*
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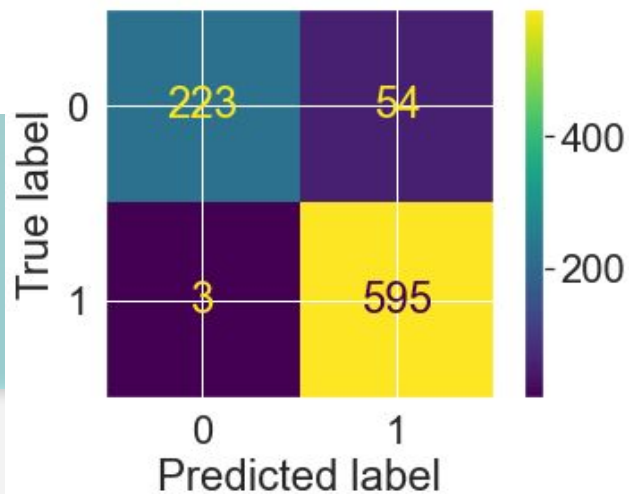
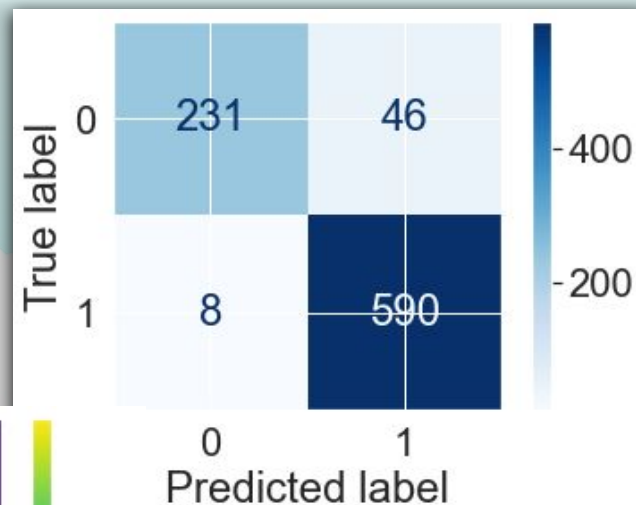
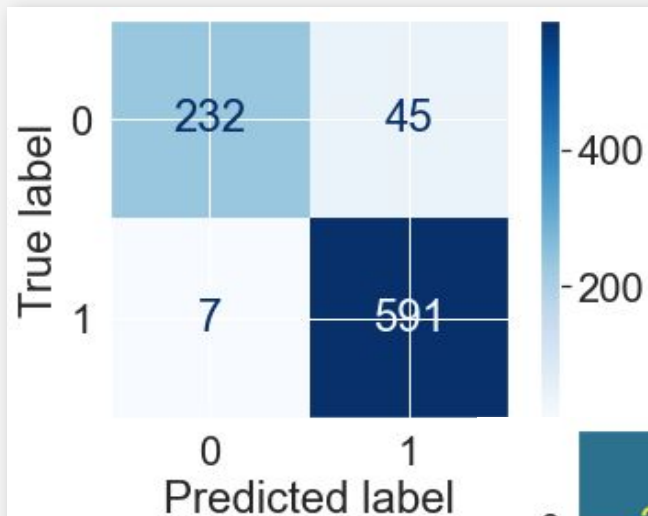
## Question Insights



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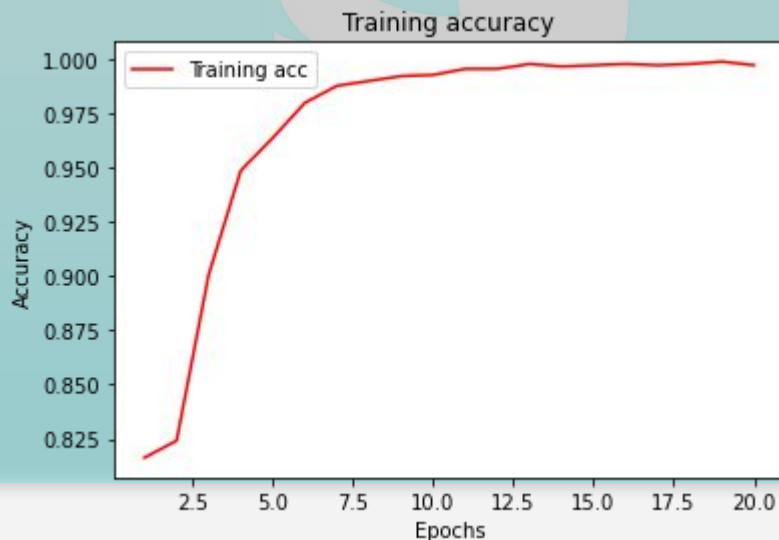


## Overall Insights - Supervised Learning

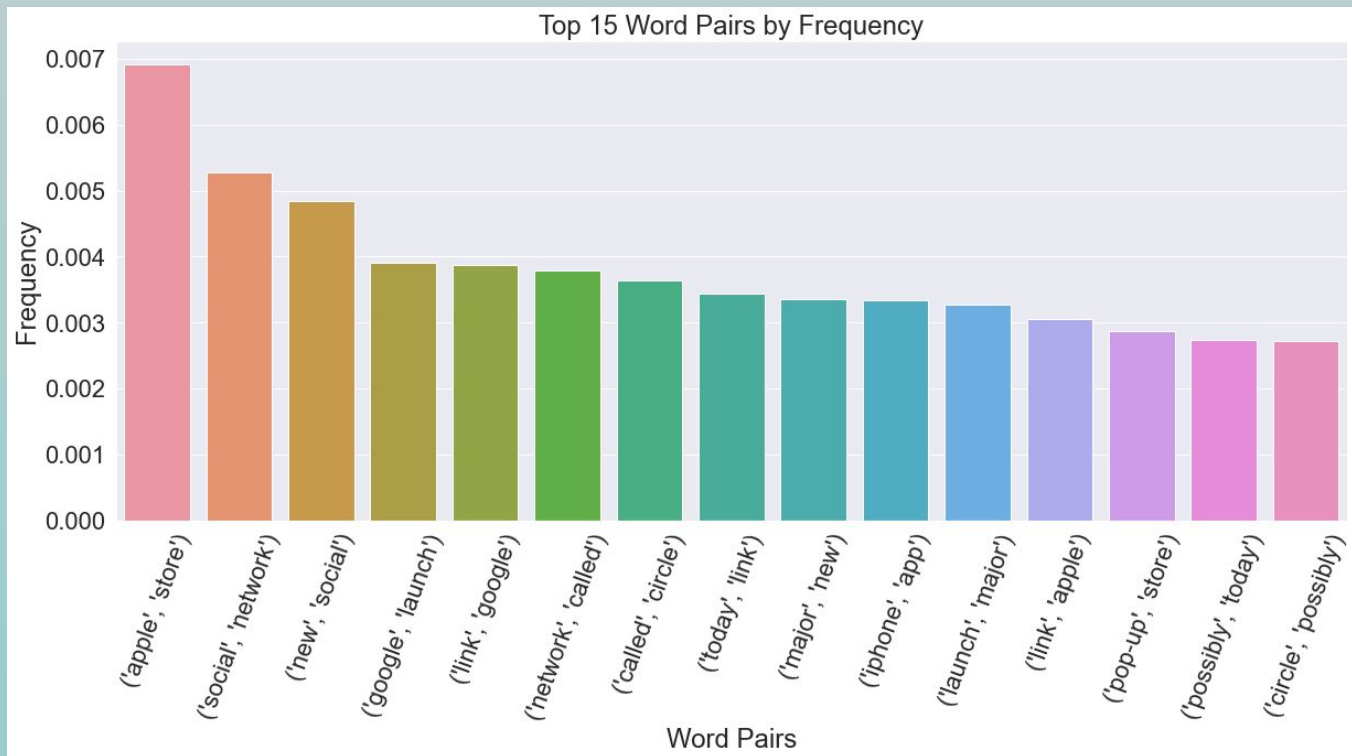


## Overall Insights - Supervised Learning

- Using a multiclass classification sequential Deep Neural Network model, achieved 81.5% (99.8% training accuracy) accuracy on the test data for 4 classes of Tweets -
- Ambiguous
- Negative
- No emotion toward brand or product
- Positive

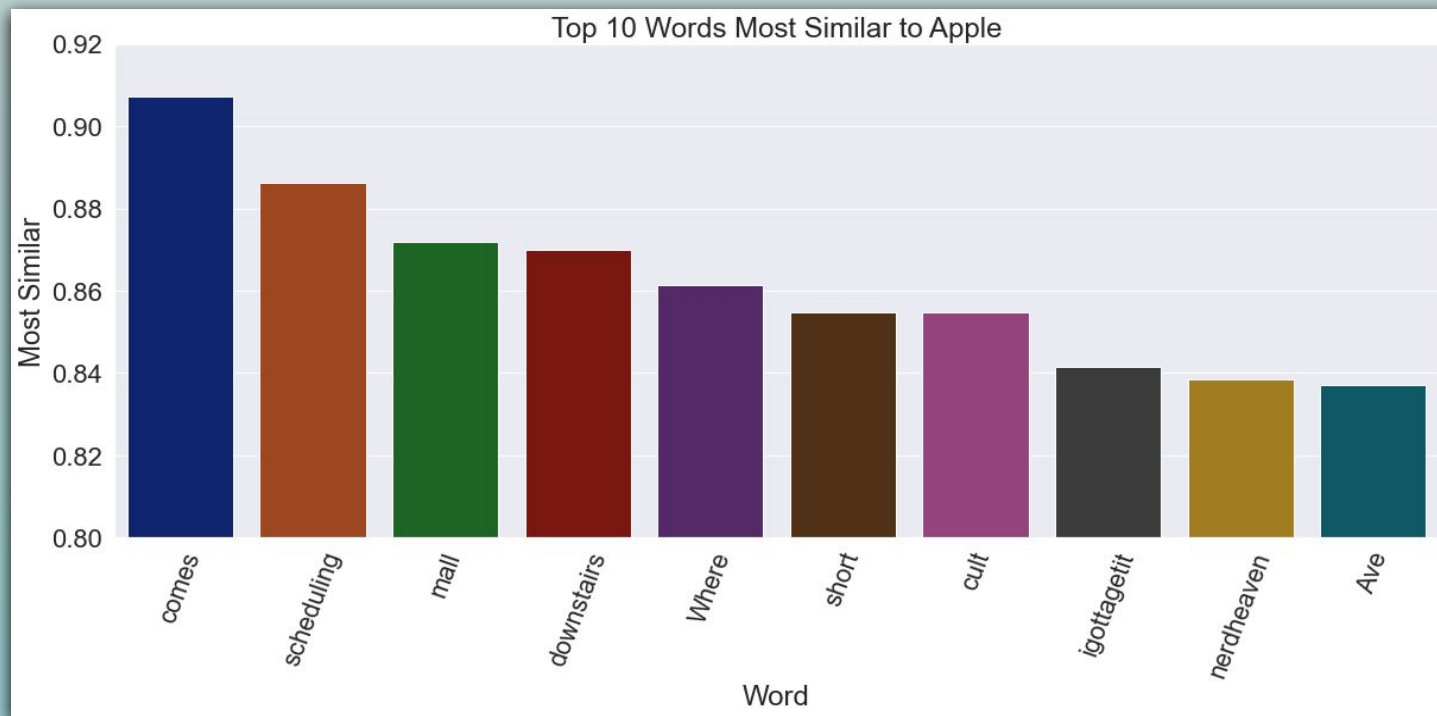


## Insights from Tokenization and Bigrams





## Insights using Word2Vec



# Future Work

- Separate iPhone OS and Android OS tweets to look at different behaviors and word usage of those two groups
- Use Spacy NLP to look at Parts of Speech tagging of the bag of words
- Explore which words have the most positive and most negative connotations in tweets



A spiral-bound notebook with a white cover and lined pages is positioned diagonally on a light-colored wooden surface. The words "Thank You!" are written in a large, black, handwritten-style font across the middle of the notebook. The wooden background has a visible grain and some darker staining. The notebook's metal spiral binding is visible at the top left.

Thank  
You!