Sentiment Analysis of Apple Inc. on Twitter

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Data Intro

name

apple.twitter.csv

observation

total: 2000
columns: 4

key metrics

- Text - 2000 entries
- Sentiment -1,0,1

RESEARCH QUESTIONS

- **Objective:** To assess public sentiment towards Apple through analysis of Twitter data, aiming to understand perceptions of Apple's brand and products.
- **Data Source:** Dataset of over 2,000 tweets related to Apple, collected via the Twitter API.

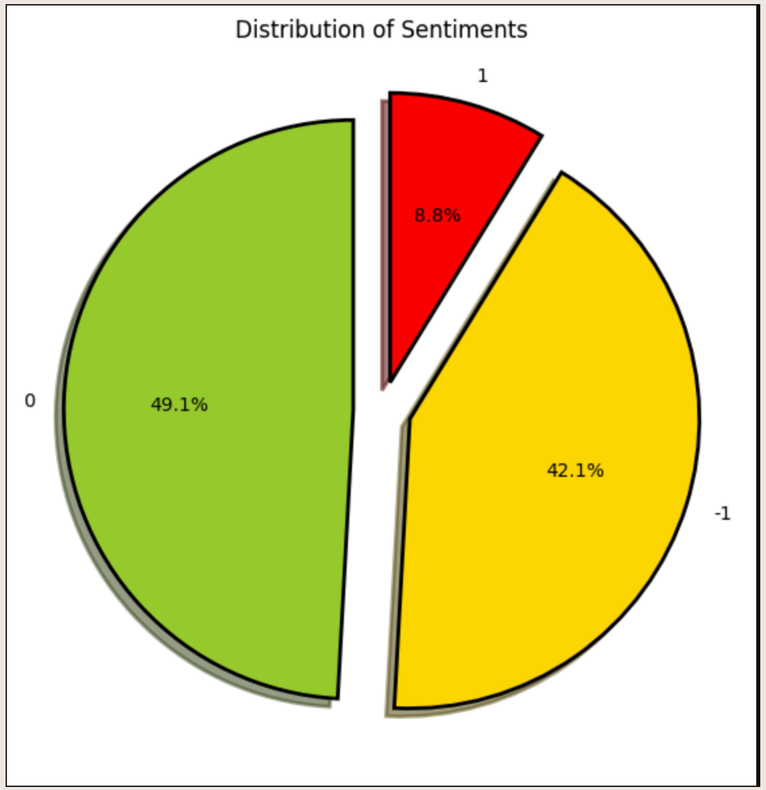
Visulisation

Visualization: Pie chart showing the distribution of sentiments.

Analysis:

- **Positive Sentiments:** 49.1%
- **Neutral Sentiments:** 42.1%
- **Negative Sentiments:** 8.8%

This indicates a generally favorable public perception of Apple.



Average customer review score

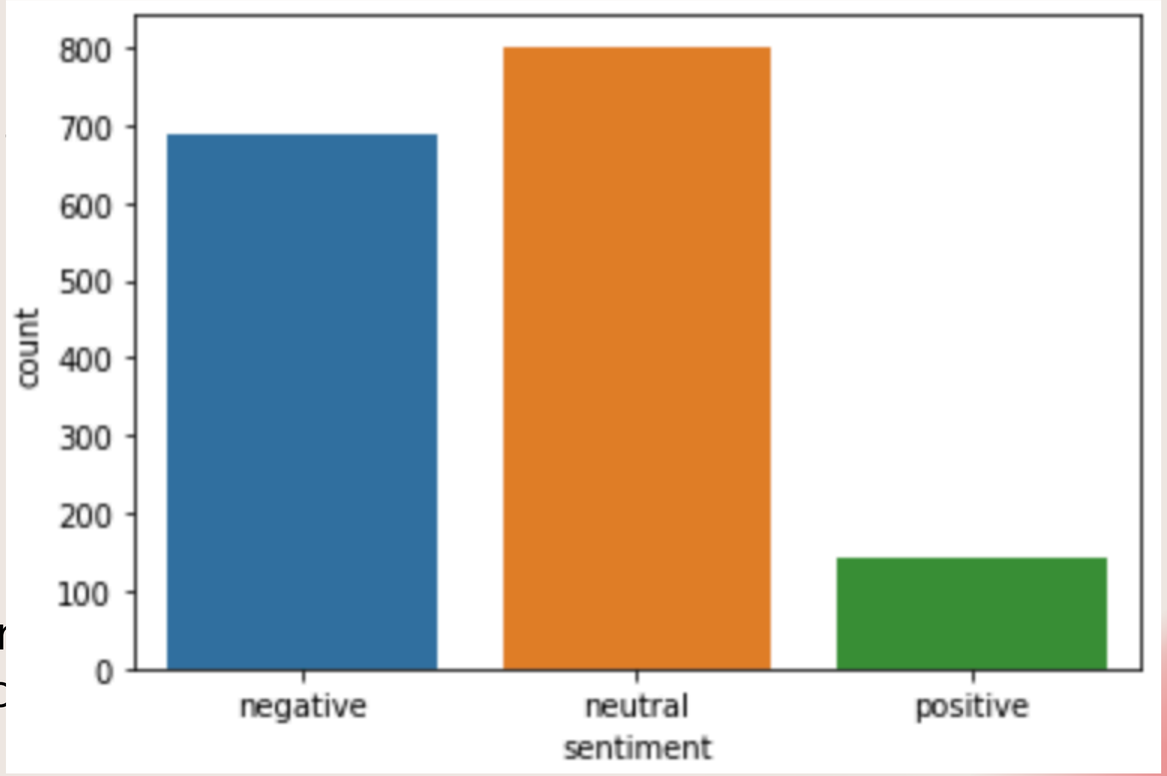
Detailed Sentiment Analysis

Visualization: Bar graph depicting the count of
sentiments.

Analysis:

- **Negative:** 800 tweets
- **Neutral:** 700 tweets
- **Positive:** 500 tweets

The data shows a higher volume of neutral and
highlighting areas where Apple could improve p

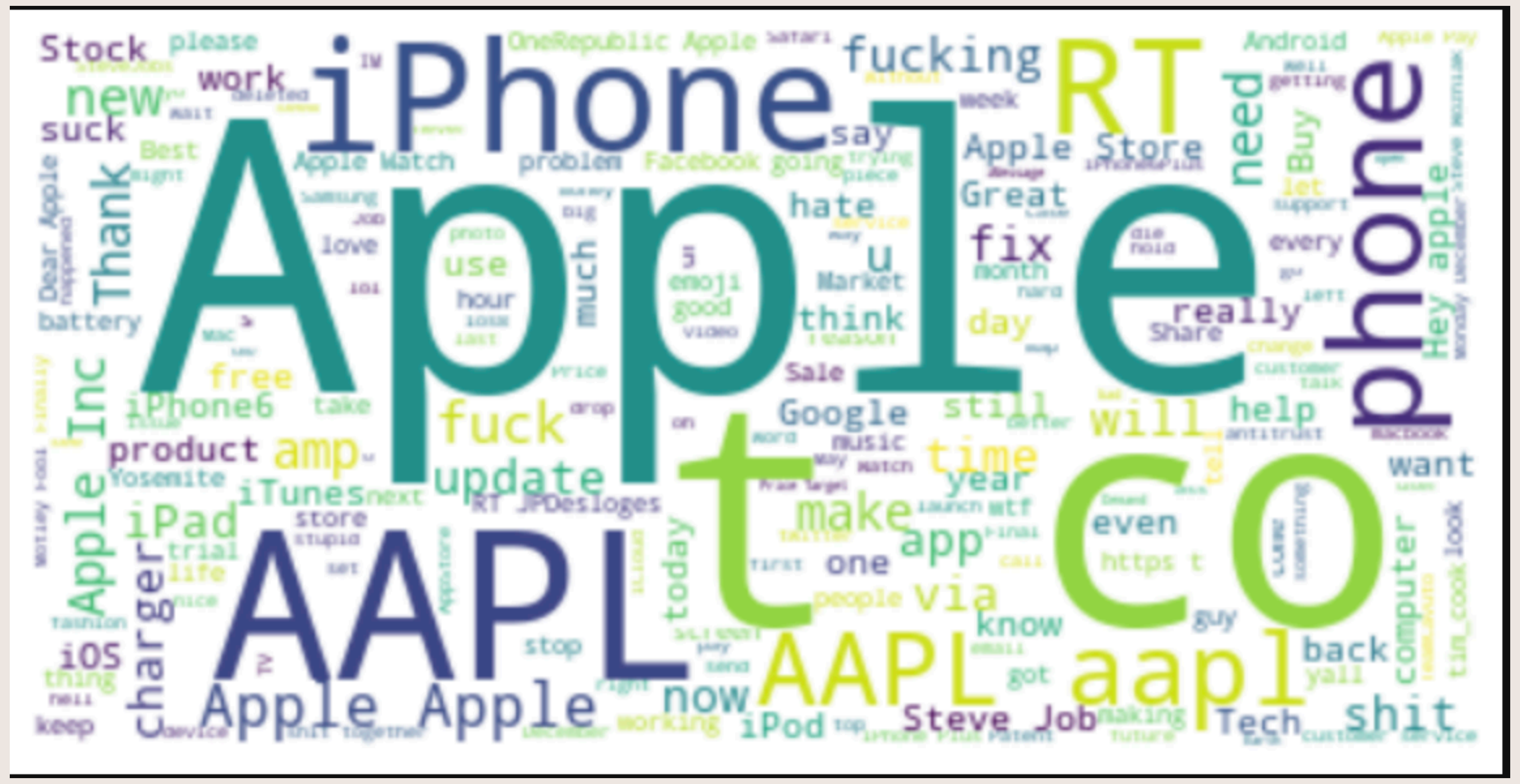


Word Cloud Analysis

Visualization: Word cloud highlighting frequently mentioned terms in tweets.

Key Observations:

- Dominant positive terms include "Apple", "APPL", and various product names
- Often mentions of APPL are due to people believing in the brand so much, they are ready to purchase the stock



Key findings

- We track sentiment trends over time to identify any significant changes or events that impact public perception.
- Motivation: Helps correlate sentiment changes with specific events (e.g., product launches, announcements).

Sentiment analysis

Key Findings:

- Using sentiment analysis, the accuracy of 89% percent was achieved

Business Implications:

- Positive sentiments can be leveraged in marketing to reinforce Apple's image as a leading tech innovator.
- Addressing the sources of negative sentiments could improve customer satisfaction and brand perception.

```
Training Accuracy: 0.8987730061349694
Classification Report:
              precision    recall  f1-score   support

    Negative       0.90      0.95      0.92       549
     Neutral       0.90      0.95      0.92       636
    Positive       0.98      0.39      0.55       119

    accuracy                           0.90      1304
   macro avg       0.92      0.76      0.80      1304
weighted avg       0.90      0.90      0.89      1304

Confusion Matrix:
[[520  28   1]
 [ 30 606   0]
 [ 31  42  46]]
```

Conclusion

Summary:

- We successfully performed sentiment analysis on tweets about Apple.
- Identified key sentiments and trends.
- Extracted common topics and themes in the discussions.

Implications:

- Insights can help Apple understand customer perceptions and improve marketing strategies.
- Future work could include expanding the dataset and incorporating more advanced NLP techniques.