



# Twitter Sentiment Analysis - AirTag

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# Questions:

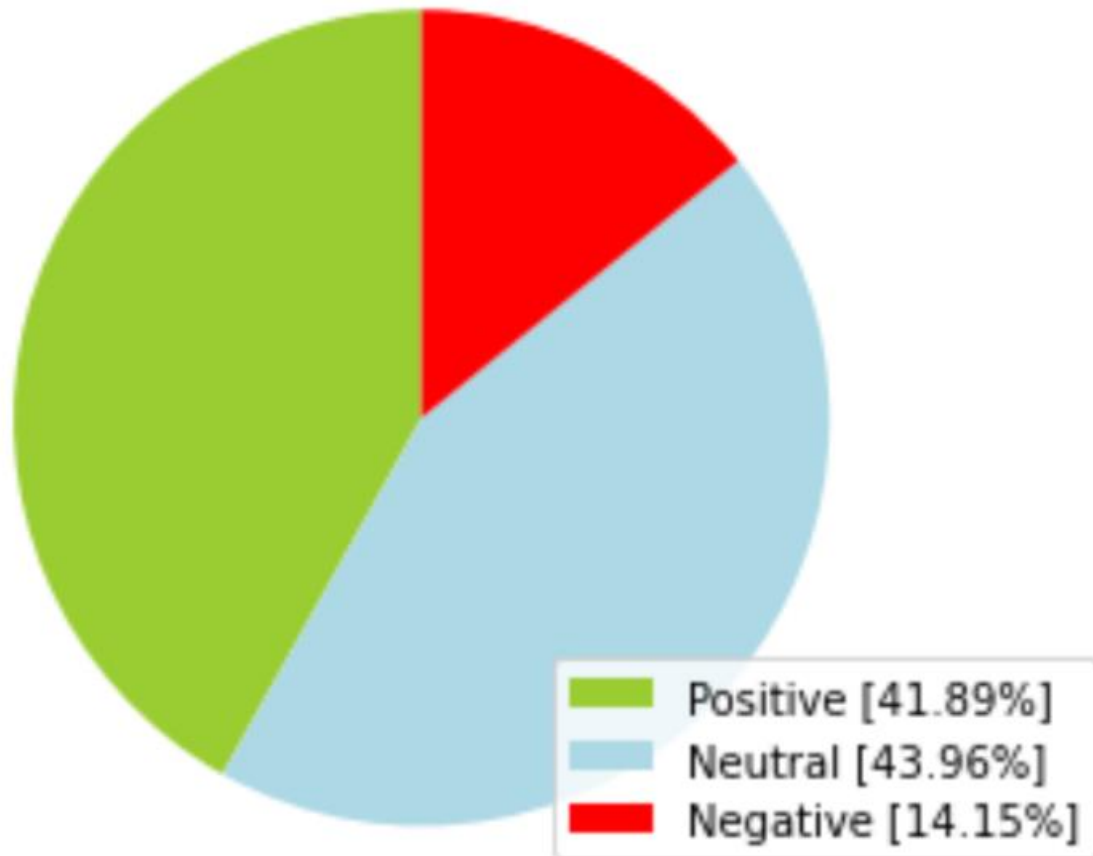
- What do customers think of Apple's new product AirTag?
- How can we use these comments/feedback to improve this product and marketing strategies as well?



## Data Pulled from Twitter API

	date	tweet	location
0	2021-05-12 22:34:58	b'.@TheTileApp right now:\n\xe2\x80\x9cWe welc...	b''
1	2021-05-12 22:31:00	b'Hahaha @TheTileApp unfollowed @Apple\xe2\x80...	b''
2	2021-05-12 22:26:06	b'@MuseumShuffle @emin_roblack I was thinking ...	b'Minneapolis, MN'
3	2021-05-12 22:25:12	b'This is super clever - creating a new batter...	b''
4	2021-05-12 22:14:54	b'Any one be interested if I did an #AirTag gi...	b'Tyler, TX'
5	2021-05-12 22:11:55	b'I wanna get an AirTag but since Covid-19 I d...	b'Doha, Qatar'
6	2021-05-12 22:05:35	b'I Mailed an AirTag and Tracked Its Progress;...	b'UK'
7	2021-05-12 22:00:31	b'esperando sair a airtag na shopee'	b'Bahia - Brasilia '
8	2021-05-12 21:56:04	b'@kvanh I def went with function over form. I...	b'Olympia, WA'
9	2021-05-12 21:53:17	b'I mailed an AirTag and tracked its progress ...	b'India'

## Sentiment Analysis Result for AirTag

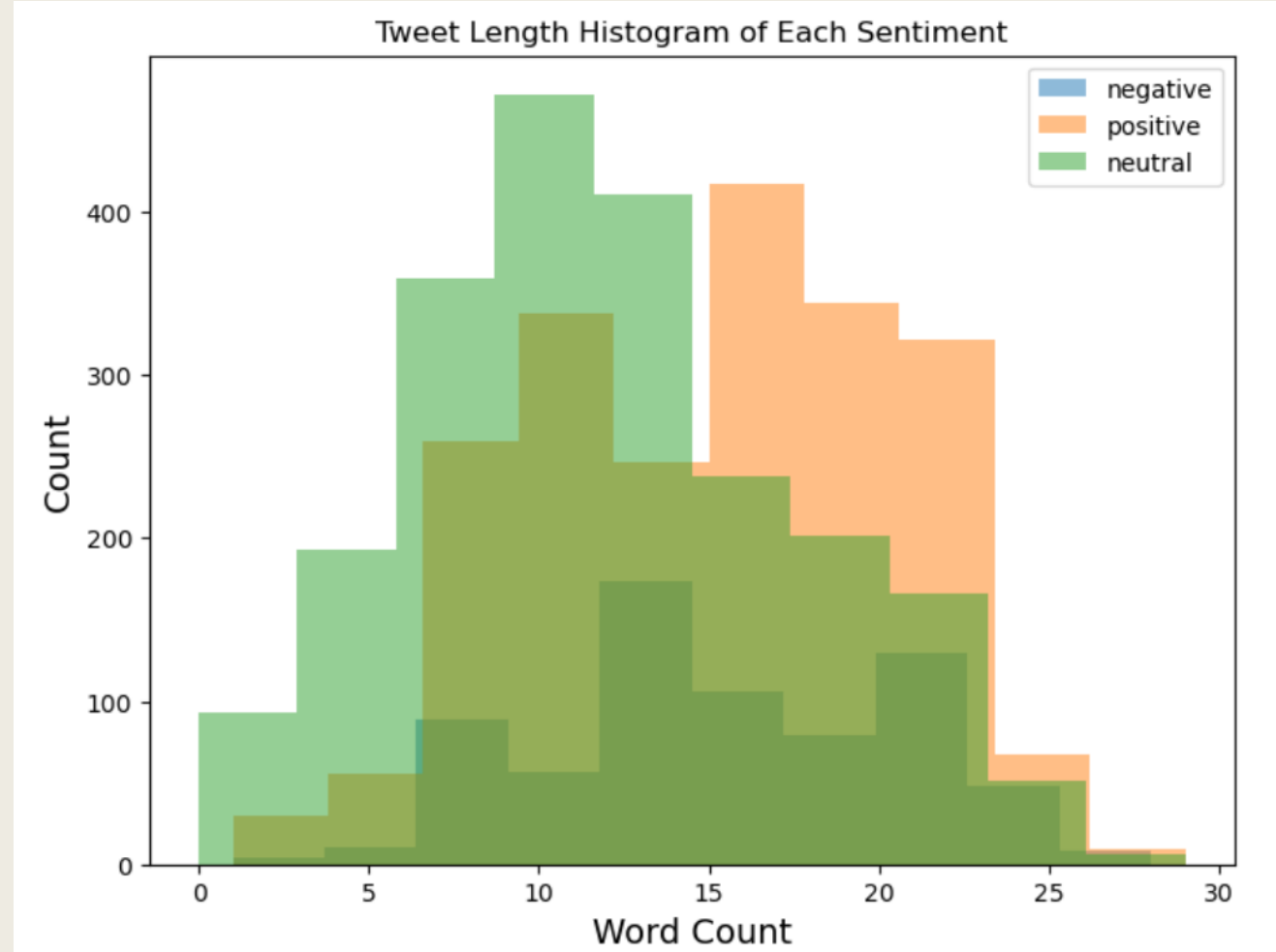


# Sentiment Analysis



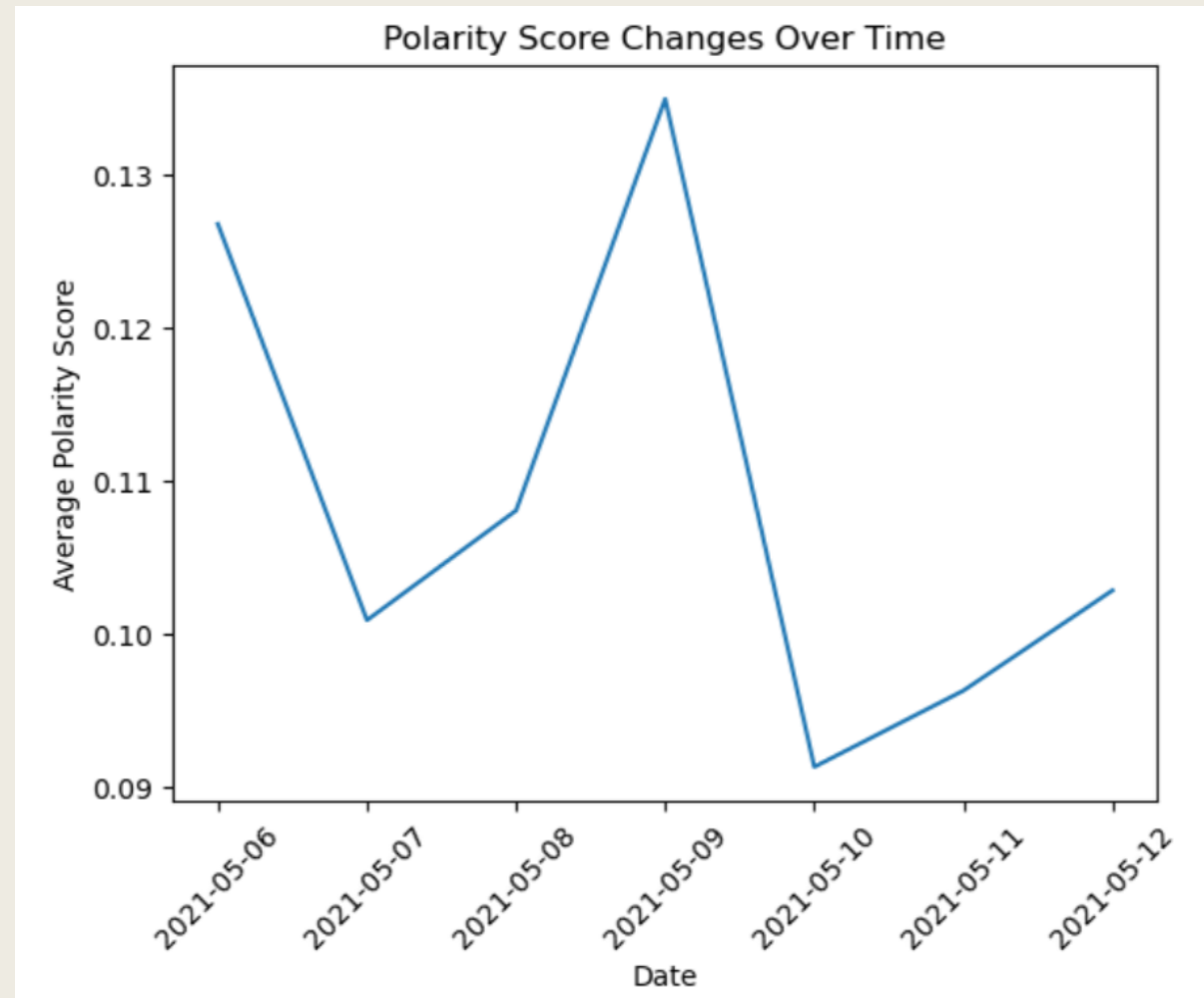






**Tweet Length  
by Sentiment**

# Emotion Trends





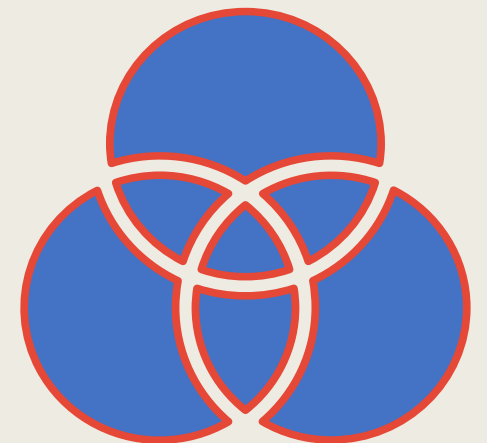
# Preprocessing and Training

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- **Tokenization** was done to split sentences into tokens.
- Stop words were removed to give more focus to the important information.
- **Lemmatization** was done to convert words to their meaningful base forms.
- The dataset was vectorized by using the **CountVectorizer**, which turned the text into numerical data.

# Model Selection

Model	Parameter	Accuracy	Precision	Recall	F1
MultinomialNB	alpha=0.1	0.86	0.501	0.696	0.582
LogisticRegression	C=10.5	0.92	0.838	0.565	0.673



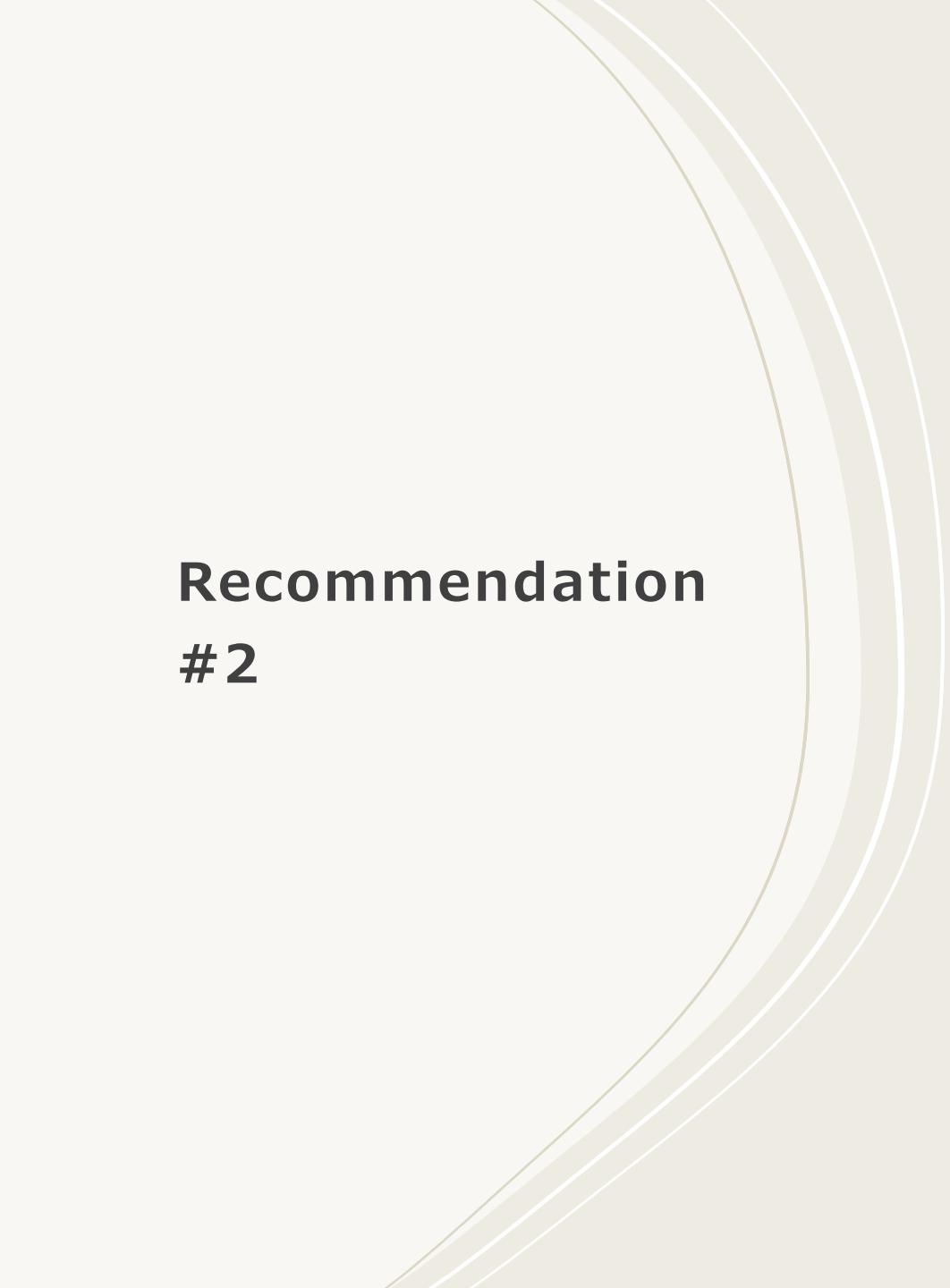
# Conclusion

Based on my findings, by the second week after AirTag was released, the general perception of AirTag was really good. Only 14.15% of tweets that people posted about it were negative.

# Recommendation #1

By looking at the most common keywords used in those negative tweets, we discovered that people who complained about AirTag were mostly worried about its security, which suggested that it could be easy to hack and could be used for stalking.

To improve its product, Apple should focus on **fixing the security problem and make AirTag safer to use**. On the other hand, keywords like “wallet friendly” and “find” were mentioned a lot in the positive tweets, so these advantages can be emphasized in Apple’s marketing materials to get more people interested in the product.



## Recommendation #2

Besides Apple Inc, other businesses can also use my sentiment analysis as a guide to monitor the performance of their own products; also, the negative tweet detector can not only be used to detect negative tweets, but it can also be used to **detect negative comments, negative emails, or negative customer reviews**. By collecting the negative reviews and analyzing them, companies can better understand their products and work on improvement more effectively.



**Thank You!**