jupyter Australia Election Sentiment Analysis Last Checkpoint: 09/05/2022 (autosaved)

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File Edit View Insert Cell Kernel Widgets Help   Not Trusted   Python 3 (ipykernel)

Run   Code

In [5]:
```
import nltk
import numba
import matplotlib
from nltk.stem import WordNetLemmatizer
from textblob import TextBlob
from nltk.util import ngrams
from nltk.metrics.distance import edit_distance
import nltk.classify.util
from nltk.probability import FreqDist
from nltk.classify import NaiveBayesClassifier
from nltk.tokenize import sent_tokenize
from nltk.tokenize import word_tokenize
import pandas as pd
nltk.download('punkt')
nltk.download('words')
from nltk.corpus import words
correct_spelling = words.words()
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
```

```
[nltk_data] Downloading package punkt to
[nltk_data]     C:\Users\Nachiket\AppData\Roaming\nltk_data...
[nltk_data]   Package punkt is already up-to-date!
[nltk_data] Downloading package words to
[nltk_data]     C:\Users\Nachiket\AppData\Roaming\nltk_data...
[nltk_data]   Package words is already up-to-date!
```

In [ ]:
```
# DATA COLUMNS EXPLANATIONS

# created_at = Date on which the tweet was posted

# id = ID of the tweet

# full_text = Full tweet text

# retweet_count = Number of retweets

# favorite_count = Number of likes

# user_id = User ID of user who posted the tweet

# user_name = Username of user who posted the tweet

# user_screen_name = Screen name of user who posted the tweet

# user_description = Free text description on profile of user who posted the tweet

# user_location = Free text location on profile of user who posted the tweet
```

In [6]:
```
df = pd.read_csv("auspol2019.csv")
```

In [7]:
```
df.head()
```

Out[7]:

	created_at	id	full_text	retweet_count	favorite_count	user_id	user_name	user_screen_name	user_description	user_loca
0	2019-05-20 09:13:44	1130401208756187136	After the climate election: shellshocked green...	0.0	0.0	9.248486e+07	PIPELINEPETE	jocksjig	Retired Tradesman and Progressive Anti Conserv...	Brisb Queens
1	2019-05-20 09:13:43	1130401205367140357	@narendramodi @smritiirani Coverage of indian ...	0.0	0.0	7.756474e+08	Narinder Parmar	nparmar1957	Life coach & trainer, Motivational speaker, Ma...	Wollong N AUSTR
2	2019-05-20 09:13:33	1130401162782371841	@workmanalice Do you know if Facebook is relea...	0.0	0.0	5.687300e+04	Peter Wells	peterwells	Writes for @theage and @smh on technology and ...	Melbo
3	2019-05-20 09:13:29	1130401143551434753	@vanbadham We all understand we have a compuls...	0.0	0.0	9.081660e+17	The Realist	therealist822	Calls it as I see it. Anti PC, SJW and VS. If ...	
4	2019-05-20 09:13:23	1130401118666809345	Shares were mixed in Asia, with India and Aust...	0.0	0.0	5.260074e+08	Inquirer Business	InquirerBiz	The official Twitter account of the Inquirer G...	Philipp

In [8]:
```
df.describe()
```

Out[8]:

	retweet_count	favorite_count	user_id
count	183370.000000	183370.000000	1.833700e+05
mean	3.814310	11.159006	1.846078e+17
std	37.727466	118.324495	3.789751e+17
min	0.000000	0.000000	2.200000e+01
25%	0.000000	0.000000	1.002494e+08
50%	0.000000	1.000000	4.854974e+08
75%	1.000000	3.000000	2.981410e+09
max	6622.000000	15559.000000	1.130347e+18

In [11]:
```
#NUMBER OF WORDS IN EACH MESSAGE
for item in df['full_text']:
    print("Number of Words in each message: ", len(item))
```

```
Number of Words in each message:  93
Number of Words in each message:  121
Number of Words in each message:  159
Number of Words in each message:  214
Number of Words in each message:  170
Number of Words in each message:  84
Number of Words in each message:  162
Number of Words in each message:  234
Number of Words in each message:  102
Number of Words in each message:  82
Number of Words in each message:  197
Number of Words in each message:  288
Number of Words in each message:  92
Number of Words in each message:  84
Number of Words in each message:  290
Number of Words in each message:  204
Number of Words in each message:  106
Number of Words in each message:  253
Number of Words in each message:  103
```

In [14]:
```
#NUMBER OF TOKENS IN EACH MESSAGE
for item in df['full_text']:
    print("Number of Words in each message: ", len(set(item)))
```

```
Number of Words in each message:  57
Number of Words in each message:  39
Number of Words in each message:  38
Number of Words in each message:  40
Number of Words in each message:  42
Number of Words in each message:  25
Number of Words in each message:  38
Number of Words in each message:  53
Number of Words in each message:  32
Number of Words in each message:  30
Number of Words in each message:  28
Number of Words in each message:  36
Number of Words in each message:  28
Number of Words in each message:  28
Number of Words in each message:  40
Number of Words in each message:  38
Number of Words in each message:  37
Number of Words in each message:  31
Number of Words in each message:  37
Number of Words in each message:  37
```

In [15]:
```python
nltk.download('wordnet')
nltk.download('stopwords')
from nltk.stem import SnowballStemmer
snowball_stemmer = SnowballStemmer('english')
import ast


###Converting all to lowercase emma

twitter_lower=[item.lower() for item in df['full_text']]
import string

###removing punctuations
table = str.maketrans('','', string.punctuation)
stripped = [item.translate(table) for item in twitter_lower]


###removing digits
words = [word for word in stripped if word.isalpha()]
```

```
[nltk_data] Downloading package wordnet to
[nltk_data]     C:\Users\Nachiket\AppData\Roaming\nltk_data...
[nltk_data]   Package wordnet is already up-to-date!
[nltk_data] Downloading package stopwords to
[nltk_data]     C:\Users\Nachiket\AppData\Roaming\nltk_data...
[nltk_data]   Package stopwords is already up-to-date!
```

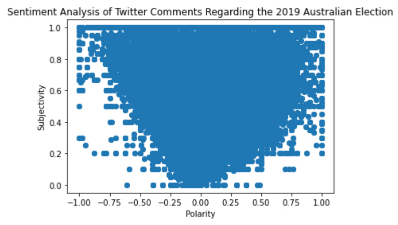
In [21]:
```python
# ####removing stopwords
# from nltk.corpus import stopwords
# stop_words = set(stopwords.words('english'))
# ##removing unwanted words like author name, chapter and volume
# stop_words.update(["@"])
# words_ = [w for w in words if not w in stop_words]

###Word Lemmatization
wordnet_lemmatizer = WordNetLemmatizer()
lemmatized_word = [wordnet_lemmatizer.lemmatize(word) for word in df['full_text']]
print (lemmatized_word)
# ###Word Stemming
# stemmed_word = [snowball_stemmer.stem(word) for word in lemmatized_word]
# ####Tokenization
# tokens_tweets = [nltk.word_tokenize(sent) for sent in stemmed_word]
# print(tokens_tweets)
```

```
IOPub data rate exceeded.
The notebook server will temporarily stop sending output
to the client in order to avoid crashing it.
To change this limit, set the config variable
`--NotebookApp.iopub_data_rate_limit`.

Current values:
NotebookApp.iopub_data_rate_limit=1000000.0 (bytes/sec)
NotebookApp.rate_limit_window=3.0 (secs)
```

In [22]:
```python
#Moby Dick Sentiment Analysis
samples = df['full_text']#stemmed_word

x = []
y = []

polarity = 0
subject = 0


for item in samples:

    blob = TextBlob(item)
    current = blob.sentiment

    print(current)


    for value in current:
        polarity = blob.sentiment.polarity
        x.append(polarity)

        subject = blob.sentiment.subjectivity
        y.append(subject)
```

```
Sentiment(polarity=-0.2, subjectivity=0.3)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.2, subjectivity=0.75)
Sentiment(polarity=-0.09375, subjectivity=0.375)
Sentiment(polarity=0.0, subjectivity=0.175)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=-0.6, subjectivity=0.7)
Sentiment(polarity=0.44166666666666665, subjectivity=0.35000000000000003)
Sentiment(polarity=0.25, subjectivity=0.6166666666666667)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=-0.4, subjectivity=0.5)
Sentiment(polarity=0.09375, subjectivity=0.6208333333333333)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.07916666666666668, subjectivity=0.5666666666666667)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.0, subjectivity=0.0)
Sentiment(polarity=0.0, subjectivity=0.15)
Sentiment(polarity=0.0, subjectivity=0.0)
```

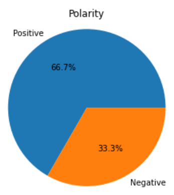
In [23]:
```python
#Moby Dick Sentiment Scatterplot
import matplotlib.pyplot as plt
%matplotlib inline

plt.scatter(x,y)
plt.xlabel("Polarity")
plt.ylabel("Subjectivity")
plt.title("Sentiment Analysis of Twitter Comments Regarding the 2019 Australian Election")
plt.show()
```



In [24]:
```python
#Moby Dick Sentiment (continued)
label_one = 'Positive', 'Negative'

size_one = 0
size_two = 0


for x_values in x:

    #Positive Polarity
    if (x_values > 0 and x_values <= 1):
        size_one += 1

    #Negative Polarity
    elif (x_values < 0 and x_values >= -1):
        size_two += 1



sizes_polarity = [size_one, size_two]

figure1, ax1 = plt.subplots()
ax1.pie(sizes_polarity, labels = label_one, autopct='%1.1f%%')

ax1.axis("equal")

plt.title("Polarity")
```

Out[24]:

```
Text(0.5, 1.0, 'Polarity')
```



In [25]:

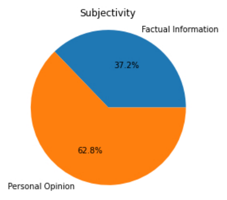
```
#positive, negative, and neutral sentiment
#!pip install vaderSentiment
import numpy as np
from vaderSentiment.vaderSentiment import SentimentIntensityAnalyzer
analyser = SentimentIntensityAnalyzer()
```

In [26]:

```
#Moby Dick Sentiment (continued)

label_two = 'Factual Information', 'Personal Opinion'

size_one = 0
size_two = 0

for y_values in y:

    #Tending Towards Personal Opinion
    if (y_values >= 0.5 and y_values <= 1):
        size_one += 1

    #Tending Towards Factual Information
    elif (y_values >= 0 and y_values <= 0.5):
        size_two += 1



sizes_subject = [size_one, size_two]

figure1, ax1 = plt.subplots()
ax1.pie(sizes_subject, labels = label_two, autopct='%1.1f%%')

ax1.axis("equal")

plt.title("Subjectivity")
```

Out[26]:

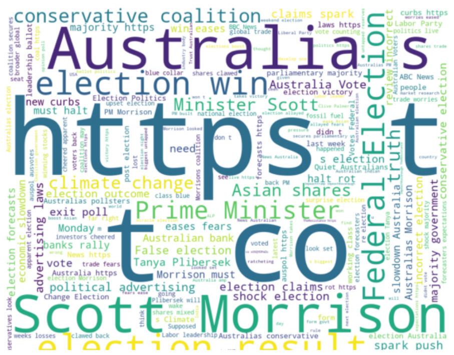
```
Text(0.5, 1.0, 'Subjectivity')
```



In [36]:

```
###Wordcloud for Moby Dick
from wordcloud import WordCloud, STOPWORDS,ImageColorGenerator
import matplotlib.pyplot as plt
import pandas as pd
from PIL import Image
import numpy as np
from io import BytesIO
import requests
comment_=''

for val in df['full_text'][0:1000]:

    # typecaste each val to string
    val = str(val)

    # split the value
    tokens = val.split()
    tokens_=[w.replace("'", "") for w in tokens]

    # Converts each token into lowercase
    for i in range(len(tokens_)):
        comment_ += " ".join(tokens_)+" "



response = requests.get("https://live.staticflickr.com/5062/5613967601_62d4b0573a_b_d.jpg")
custom_mask = np.array(Image.open(BytesIO(response.content)))
wc = WordCloud(background_color="white", mask=custom_mask)
wc.generate(comment_)
plt.figure(figsize = (10, 10), facecolor = None)
plt.imshow(wc, interpolation='bilinear')
plt.axis("off")
print("##########################Wordcloud for The First 1000 2019 Australian Election Tweets###############################")
plt.show()
```

```
##########################Wordcloud for The First 1000 2019 Australian Election Tweets###############################
```



election result
win https
Indian election
Politics ABC
contest Labor
Bob Hawke
Morrisons faith
conservative incumbents
happened https

```
In [ ]:
```