In [45]:
```
import warnings
warnings.filterwarnings('ignore')
```

In [46]:
```
import os
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns
from wordcloud import WordCloud
import numpy as np
import re
```

In [47]:
```
df = pd.read_json('Sentiment_anlysis_file.json')
```

In [48]:
```
df
```

Out[48]:

	retweet_count	transformed_text
0	1	rt salestechstar anova elevates bar consumer e...
1	174	rt shivkr007 main stream media silent watching...
2	3	rt realdlhughley former restaurant workers sha...
3	2	rt datingdecisions one time early career forwa...
4	11	rt shayararar reporters major news channels wa...
...	...	...
795	0	amandadupont calling amandadupont macgpodcasta...
796	2	rt paddydocherty proposal abolish billionaires...
797	57	rt realtuckfrumper trump charged obstruction e...
798	159	rt mforstater transgender critics protected ne...
799	15	rt siptu strike begins job clubs offaly dealt ...

800 rows × 2 columns

In [49]:
```
df.drop(columns=['retweet_count'],inplace=True)
```

In [50]:
```
df
```

Out[50]:

	transformed_text
0	rt salestechstar anova elevates bar consumer e...
1	rt shivkr007 main stream media silent watching...
2	rt realdlhughley former restaurant workers sha...
3	rt datingdecisions one time early career forwa...
4	rt shayararar reporters major news channels wa...
...	...
795	amandadupont calling amandadupont macgpodcasta...
796	rt paddydocherty proposal abolish billionaires...
797	rt realtuckfrumper trump charged obstruction e...
798	rt mforstater transgender critics protected ne...
799	rt siptu strike begins job clubs offaly dealt ...

800 rows × 1 columns

In [51]:
```
#Columns renames
df.rename(columns = {'transformed_text':'text'}, inplace = True)
```

In [52]:
```
df
```

Out[52]:

	text
0	rt salestechstar anova elevates bar consumer e...
1	rt shivkr007 main stream media silent watching...
2	rt realdlhughley former restaurant workers sha...
3	rt datingdecisions one time early career forwa...
4	rt shayararar reporters major news channels wa...
...	...
795	amandadupont calling amandadupont macgpodcasta...
796	rt paddydocherty proposal abolish billionaires...
797	rt realtuckfrumper trump charged obstruction e...
798	rt mforstater transgender critics protected ne...
799	rt siptu strike begins job clubs offaly dealt ...

800 rows × 1 columns

In [53]:
```
#Data cleaning
def cleantext(text):
    text = re.sub(r'@[A-Za-z0-9]+','',text) #Remove @mention
    text = re.sub(r'#','',text) # Revoe the # symbol
    text = re.sub(r'rt[\s]+','',text) # Remove RT
    text = re.sub(r'https?:\/\/\S+','',text) # Remove the Hyper link

    return text
```

In [54]:
```
df['text'] = df['text'].apply(cleantext)
```

In [55]:
```
df
```

Out[55]:

	text
0	salestechstar anova elevates bar consumer enga...
1	shivkr007 main stream media silent watching st...
2	realdlhughley former restaurant workers sharin...
3	datingdecisions one time early career forwarde...
4	shayararar reporters major news channels waiti...
...	...
795	amandadupont calling amandadupont macgpodcasta...
796	paddydocherty proposal abolish billionaires gr...
797	realtuckfrumper trump charged obstruction even...
798	mforstater transgender critics protected new f...
799	siptu strike begins job clubs offaly dealt eve...

800 rows × 1 columns

Word Cloud

In [56]:
```
wc = WordCloud(width=900,height=800,min_font_size=10,background_color='white')
```

In [57]:
```
wc_text = wc.generate(df['text'].str.cat(sep = " "))
```

In [58]:
```
plt.figure(figsize=(16,12))
plt.imshow(wc_text)
plt.show()
```

Corpora is a group presenting multiple collections of text documents. A single collection is called corpus.

In [59]:
```
corpus = []
for msg in df['text'].tolist():
    for word in msg.split():
        corpus.append(word)
```

In [60]:
```
len(corpus)
```

Out[60]:
```
8743
```

In [61]:
```
from collections import Counter
```

In [62]:
```
Counter(corpus).most_common(25)
```

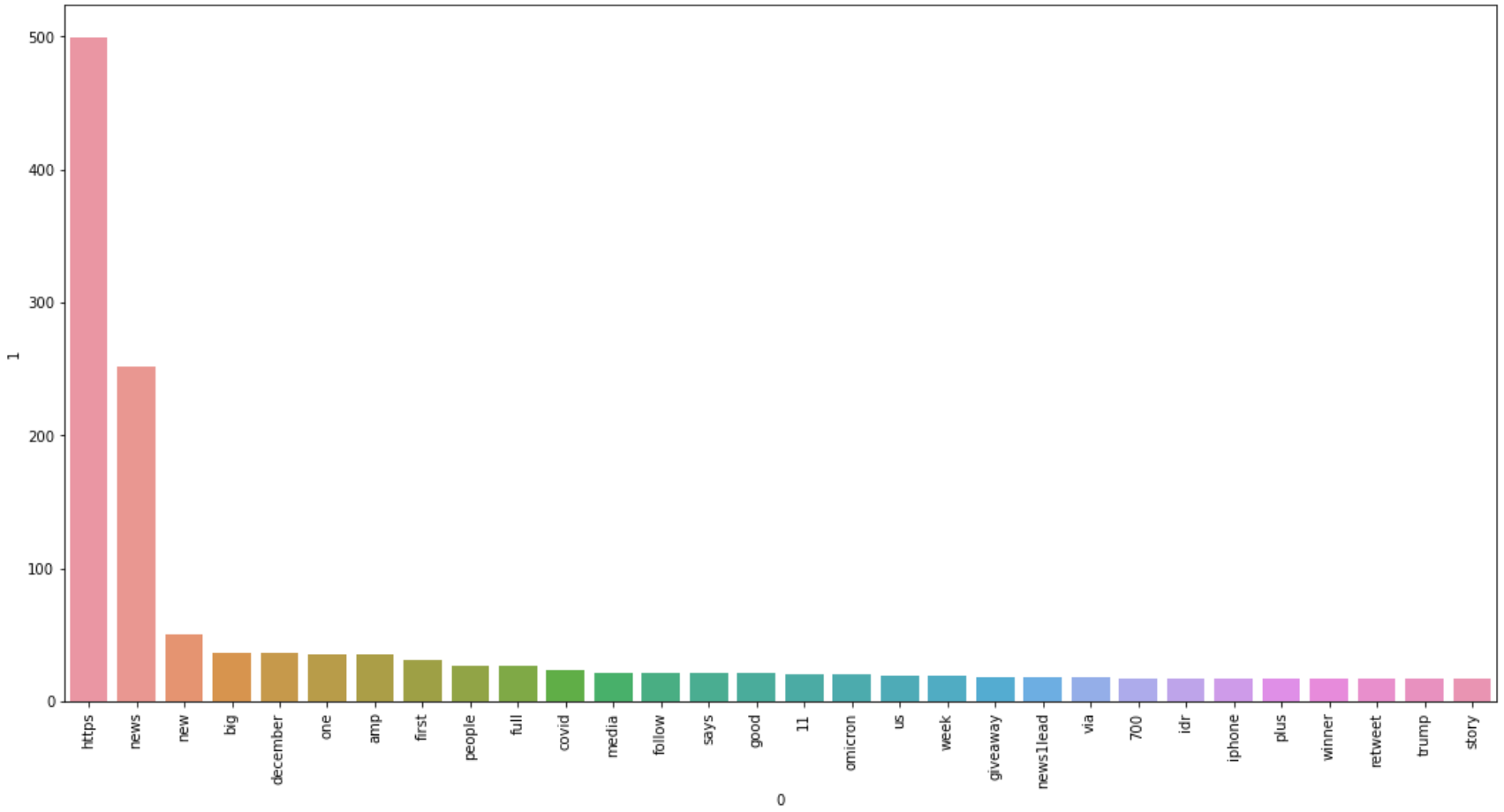
Out[62]:
```
[('https', 499),
 ('news', 252),
 ('new', 50),
 ('big', 37),
 ('december', 36),
 ('one', 35),
 ('amp', 35),
 ('first', 31),
 ('people', 27),
 ('full', 27),
 ('covid', 24),
 ('media', 21),
 ('follow', 21),
 ('says', 21),
 ('good', 21),
 ('11', 20),
 ('omicron', 20),
 ('us', 19),
 ('week', 19),
 ('giveaway', 18),
 ('news1lead', 18),
 ('via', 18),
 ('700', 17),
 ('idr', 17),
 ('iphone', 17)]
```

In [63]:
```
pd.DataFrame(Counter(corpus).most_common(25),columns=['word','Frequency'])
```

Out[63]:

	word	Frequency
0	https	499
1	news	252
2	new	50
3	big	37
4	december	36
5	one	35
6	amp	35
7	first	31
8	people	27
9	full	27
10	covid	24
11	media	21
12	follow	21
13	says	21
14	good	21
15	11	20
16	omicron	20
17	us	19
18	week	19
19	giveaway	18
20	news1lead	18
21	via	18
22	700	17
23	idr	17
24	iphone	17

In [64]:
```
plt.figure(figsize=(18,9))
sns.barplot(pd.DataFrame(Counter(corpus).most_common(30))[0],pd.DataFrame(Counter(corpus).most_common(30))[1])
plt.xticks(rotation = 'vertical')
plt.show()
```



In [65]:
```
df
```

Out[65]:

	text
0	salestechstar anova elevates bar consumer enga...
1	shivkr007 main stream media silent watching st...
2	realdlhughley former restaurant workers sharin...
3	datingdecisions one time early career forwarde...
4	shayararar reporters major news channels waiti...
...	...
795	amandadupont calling amandadupont macgpodcasta...
796	paddydocherty proposal abolish billionaires gr...
797	realtuckfrumper trump charged obstruction even...
798	mforstater transgender critics protected new f...
799	siptu strike begins job clubs offaly dealt eve...

800 rows × 1 columns

Textblob-It provides a simple API for diving into common natural language processing (NLP) tasks such as part-of-speech tagging, noun phrase extraction, sentiment analysis, classification, translation, and more.

In [66]:
```
from textblob import TextBlob
```

In [67]:
```
def getPolarity(text):
    return TextBlob(text).sentiment.polarity

df['Polarity'] = df['text'].apply(getPolarity)
```

In [68]:
```
df
```

Out[68]:

	text	Polarity
0	salestechstar anova elevates bar consumer enga...	0.000000
1	shivkr007 main stream media silent watching st...	0.083333
2	realdlhughley former restaurant workers sharin...	0.000000
3	datingdecisions one time early career forwarde...	0.200000
4	shayararar reporters major news channels waiti...	0.354167
...	...	...
795	amandadupont calling amandadupont macgpodcasta...	0.000000
796	paddydocherty proposal abolish billionaires gr...	0.000000
797	realtuckfrumper trump charged obstruction even...	0.000000
798	mforstater transgender critics protected new f...	0.268182
799	siptu strike begins job clubs offaly dealt eve...	0.000000

800 rows × 2 columns

In [69]:
```
def getAnalysis(score):
    if score < 0:
        return 'Negative'
    elif score == 0:
        return 'Neutral'
    else:
        return 'Positive'
```

In [70]:
```
df['Analysis'] = df['Polarity'].apply(getAnalysis)
```

In [71]:
```
df
```

Out[71]:

	text	Polarity	Analysis
0	salestechstar anova elevates bar consumer enga...	0.000000	Neutral
1	shivkr007 main stream media silent watching st...	0.083333	Positive
2	realdlhughley former restaurant workers sharin...	0.000000	Neutral
3	datingdecisions one time early career forwarde...	0.200000	Positive
4	shayararar reporters major news channels waiti...	0.354167	Positive
...	...	...	...
795	amandadupont calling amandadupont macgpodcasta...	0.000000	Neutral
796	paddydocherty proposal abolish billionaires gr...	0.000000	Neutral
797	realtuckfrumper trump charged obstruction even...	0.000000	Neutral
798	mforstater transgender critics protected new f...	0.268182	Positive
799	siptu strike begins job clubs offaly dealt eve...	0.000000	Neutral

800 rows × 3 columns

Print all of the positive Tweets

In [72]:
```
j=1
sorted_df = df.sort_values(by = ['Polarity'])
for i in range(0,sorted_df.shape[0]):
    if(sorted_df['Analysis'][i] == 'Positive'):
        print(str(j) + ')' + sorted_df['text'][i])
        print()
        j = j + 1
```

```
13)vindaxofficial vindax open trading pineapple swap trading pairs utc full news

14)docstockk good news law commission via sexmattersorg https

15)mariegabory military doctor covid vaccine program killed young active duty people covid best news https

16)thebabylonbee unborn babies disguise selves death row inmates liberals defend right live https

17)tristansnell full story woodruffbets politico https

18)50sbornwomen 50swomen fullrestitution fair solution cedawinlaw womensbillofrights dictionary

19)vindaxofficial vindax open trading pineapple swap trading pairs utc full news

20)mammothresource seen latest news release completed 4 drill holes covering 426 targeting carneritos area

21)big news made big step gone drawing comics full time biggest reason able

22)tarunkhaitan awesome hope win hope folks delhi taking notice https
```

Print all of the Negative Tweets

In [73]:
```
j=1
sorted_df = df.sort_values(by = ['Polarity'],ascending='False')
for i in range(0,sorted_df.shape[0]):
    if(sorted_df['Analysis'][i] == 'Negative'):
        print(str(j) + ')' + sorted_df['text'][i])
        print()
        j = j + 1
```

```
1)alanpps men killed bradley gledhill batley jail terms extended 28 years https

2)chronopost lemondefr least chronopost able make délivery worst company france

3)vajihaqureshi hello vajiha thank reaching us sincerely sorry read please https

4)bharadwajspeaks situation worse pakistan next day mobs destroyed ancient hindu temple rawalpindi

5)chadocl news forthcoming us diplomatic boycott makes already small chance winter olympic breakthrough nor
th

6)stancity44 sad news mazi cletus nwachukwu egoele transferred tiger base owerri subsequently tortured

7)ajenglish least four killed 20 others wounded motorcycle rigged explosives blew near hospital iraq

8)andrear9md annoying wish faux news would crumble

9)tesla price target raised 725 ubs despite recent investigation sec whistleblower https
```

Print all of the Neutral Tweets

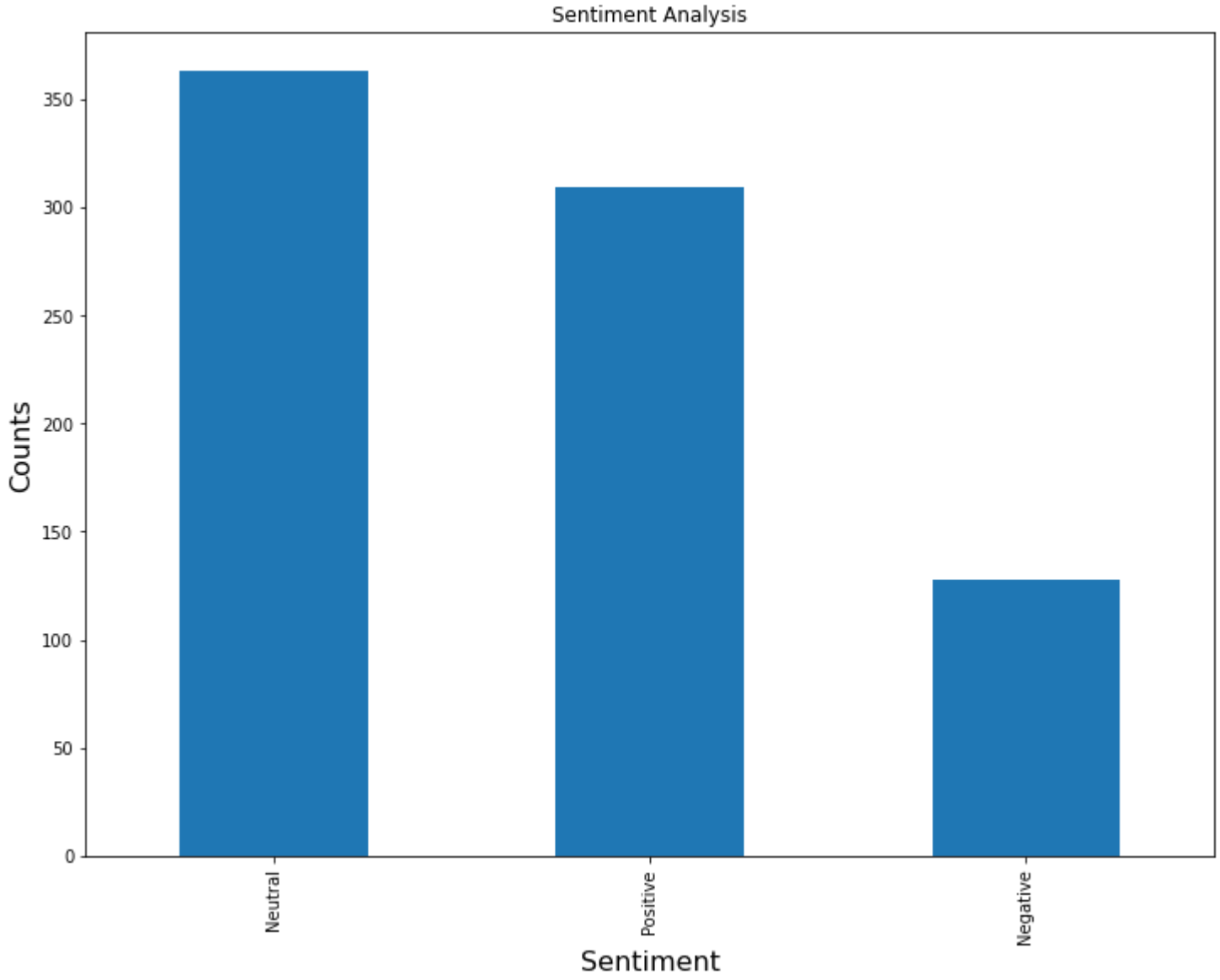
In [74]:
```
j=1
sorted_df = df.sort_values(by = ['Polarity'],ascending='False')
for i in range(0,sorted_df.shape[0]):
    if(sorted_df['Analysis'][i] == 'Neutral'):
        print(str(j) + ')' + sorted_df['text'][i])
        print()
        j = j + 1
```

```
1)salestechstar anova elevates bar consumer engagement empowerment release anova https

2)realdlhughley former restaurant workers sharing damaging service industry equal parts enraged

3)newsarenaindia indore news taslim ali bangle seller arrested molesting underage girl granted bail court

4)giveaway 700 idr iphone 11 plus one winner retweet follow news1lead

5)front page news medinaspirit https

6)ndtv ndtvexclusive bjp development coconut breaks road open akhilesh yadav sneers read https

7)trump blood oxygen levels fell low got covid man almost gave life https

8)gayeonjunie news

9)prosecute crook cameron crimes https

10)int l commission allows 15 rise pacific bluefin tuna catch limit https
```

In [75]:
```
## get Percentage Positive Tweets

ptweets = df[df.Analysis =='Positive']
ptweets = ptweets['text']

## get Percentage negative Tweets

ntweets = df[df.Analysis =='Negative']
ntweets = ntweets['text']

## get Percentage neutal Tweets

n_tweets = df[df.Analysis =='Neutral']
n_tweets = n_tweets['text']

print("Positive Tweets: ",round((ptweets.shape[0]/df.shape[0])*100,1))
print("Negative Tweets: ",round((ntweets.shape[0]/df.shape[0])*100,1))
print("  Neutal Tweets: ",round((n_tweets.shape[0]/df.shape[0])*100,1))
```

```
Positive Tweets:  38.6
Negative Tweets:  16.0
  Neutal Tweets:  45.4
```

In [76]:
```
plt.figure(figsize=(12,9))
df['Analysis'].value_counts().plot(kind='bar')
plt.title('Sentiment Analysis')
plt.xlabel('Sentiment',size = 16)
plt.ylabel('Counts',size = 16)
plt.show()
```



In [ ]: