In [11]:
```python
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.preprocessing import LabelEncoder
import numpy as np
import pandas as pd
from sklearn.metrics import accuracy_score,confusion_matrix

df = pd.read_csv('twitter_training.csv')
validation_df = pd.read_csv('twitter_validation.csv')
```

In [2]:
```python
df.head()
```

Out[2]:

	2401	Borderlands	Positive	im getting on borderlands and i will murder you all ,
0	2401	Borderlands	Positive	I am coming to the borders and I will kill you…
1	2401	Borderlands	Positive	im getting on borderlands and i will kill you …
2	2401	Borderlands	Positive	im coming on borderlands and i will murder you…
3	2401	Borderlands	Positive	im getting on borderlands 2 and i will murder …
4	2401	Borderlands	Positive	im getting into borderlands and i can murder y…

In [3]:
```python
df.columns = ['number','borderlands','sentiment','text']
validation_df.columns = ['number','borderlands','sentiment','text']
```

In [4]:
```python
print('+'*100)
print("Top 5 values in dataset")
df.head()
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++
Top 5 values in dataset
```

Out[4]:

	number	borderlands	sentiment	text
0	2401	Borderlands	Positive	I am coming to the borders and I will kill you…
1	2401	Borderlands	Positive	im getting on borderlands and i will kill you …
2	2401	Borderlands	Positive	im coming on borderlands and i will murder you…
3	2401	Borderlands	Positive	im getting on borderlands 2 and i will murder …
4	2401	Borderlands	Positive	im getting into borderlands and i can murder y…

In [5]:
```python
print('='*100)
print('Top 5 values in validation dataset')
validation_df.head()
```

```
================================================================================
===================
Top 5 values in validation dataset
```

Out[5]:

	number	borderlands	sentiment	text
0	352	Amazon	Neutral	BBC News - Amazon boss Jeff Bezos rejects clai...
1	8312	Microsoft	Negative	@Microsoft Why do I pay for WORD when it funct...
2	4371	CS-GO	Negative	CSGO matchmaking is so full of closet hacking,...
3	4433	Google	Neutral	Now the President is slapping Americans in the...
4	6273	FIFA	Negative	Hi @EAHelp I've had Madeleine McCann in my cel...

In [6]:
```python
df.isna().sum()
```

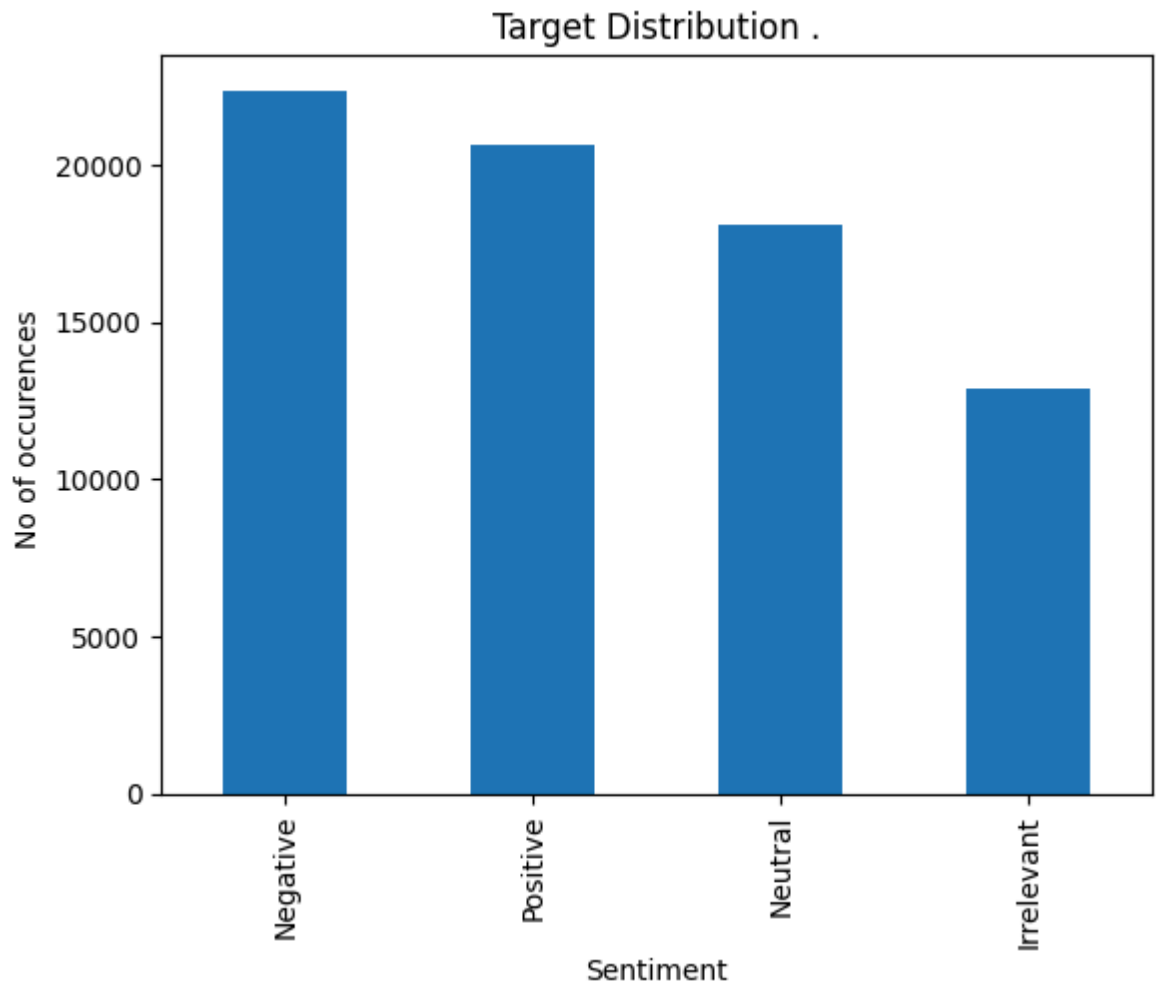Out[6]:
```
number         0
borderlands    0
sentiment      0
text         686
dtype: int64
```

In [7]:
```python
df = df.dropna()
df.isna().sum()
```

Out[7]:
```
number         0
borderlands    0
sentiment      0
text           0
dtype: int64
```

In [8]:
```python
value_counts_target = df['sentiment'].value_counts()
value_counts_target.plot(kind='bar')
plt.xlabel('Sentiment')
plt.ylabel('No of occurences ')
plt.title('Target Distribution .')
plt.show()
```

Target Distribution .


```
In [9]: plt.pie(value_counts_target,labels=value_counts_target.index,autopct="%1.2f%%",c
        plt.show()
```