Youtube Streaming Data Analysis

In [2]:
```python
# Importing libraries

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [16]:
```python
#Reading the CSV files
df=pd.read_csv("youtubers_df.csv",encoding='unicode_escape')
```

In [17]:
```python
df
```

Out[17]:

	Rank	Username	Categories	Suscribers	Country	Visits	Likes	Comments	Links
0	1	tseries	MÃºsica y baile	249500000	India	86200.0	2700	78	http://youtube.com/channel/UCq-Fj5jknLsUf-MWSy...
1	2	MrBeast	Videojuegos, Humor	183500000	United States	117400000.0	5300000	18500	http://youtube.com/channel/UCX6OQ3DkcsbYNE6H8u...
2	3	CoComelon	EducaciÃ³n	165500000	Unknown	7000000.0	24700	0	http://youtube.com/channel/UCbCmjCuTUZos6Inko4...
3	4	SETIndia	NaN	162600000	India	15600.0	166	9	http://youtube.com/channel/UCpEhnqL0y41EpW2TvW...
4	5	KidsDianaShow	AnimaciÃ³n, Juguetes	113500000	Unknown	3900000.0	12400	0	http://youtube.com/channel/UCk8GzjMOrta8yxDcKf...
...	...	...	...	...	...	...	...	...	...
995	996	hamzymukbang	NaN	11700000	United States	397400.0	14000	124	http://youtube.com/channel/UCPKNKldggioffXPkSm...
996	997	Adaahqueen	NaN	11700000	India	1100000.0	92500	164	http://youtube.com/channel/UCk3fFpqI5kDMf__mUP...
997	998	LittleAngelIndonesia	MÃºsica y baile	11700000	Unknown	211400.0	745	0	http://youtube.com/channel/UCdrHrQf0o0TO8YDntX...
998	999	PenMultiplex	NaN	11700000	India	14000.0	81	1	http://youtube.com/channel/UCObyBrdrtQ20BU9PxH...
999	1000	OneindiaHindi	Noticias y PolÃtica	11700000	India	2200.0	31	1	http://youtube.com/channel/UCOjgc1p2hJ4GZi6pQQ...

1000 rows × 9 columns

In [7]:
```python
df.shape
```

Out[7]: (1000, 9)

In [18]:
```python
df.head()
```

Out[18]:

	Rank	Username	Categories	Suscribers	Country	Visits	Likes	Comments	Links
0	1	tseries	MÃºsica y baile	249500000	India	86200.0	2700	78	http://youtube.com/channel/UCq-Fj5jknLsUf-MWSy...
1	2	MrBeast	Videojuegos, Humor	183500000	United States	117400000.0	5300000	18500	http://youtube.com/channel/UCX6OQ3DkcsbYNE6H8u...
2	3	CoComelon	EducaciÃ³n	165500000	Unknown	7000000.0	24700	0	http://youtube.com/channel/UCbCmjCuTUZos6Inko4...
3	4	SETIndia	NaN	162600000	India	15600.0	166	9	http://youtube.com/channel/UCpEhnqL0y41EpW2TvW...
4	5	KidsDianaShow	AnimaciÃ³n, Juguetes	113500000	Unknown	3900000.0	12400	0	http://youtube.com/channel/UCk8GzjMOrta8yxDcKf...

In [19]:
```python
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 9 columns):
 #   Column      Non-Null Count  Dtype  
---  ------      --------------  -----  
 0   Rank        1000 non-null   int64  
 1   Username    1000 non-null   object 
 2   Categories  694 non-null    object 
 3   Suscribers  1000 non-null   int64  
 4   Country     1000 non-null   object 
 5   Visits      1000 non-null   float64
 6   Likes       1000 non-null   int64  
 7   Comments    1000 non-null   int64  
 8   Links       1000 non-null   object 
dtypes: float64(1), int64(4), object(4)
memory usage: 70.4+ KB
```

Data Cleaning

In [20]:
```python
pd.isnull(df).sum()
```

Out[20]:
```
Rank            0
Username        0
Categories    306
Suscribers      0
Country         0
Visits          0
Likes           0
Comments        0
Links           0
dtype: int64
```

In [11]:
```python
df.dropna(inplace=True)
```

In [13]:
```python
pd.isnull(df).sum()
```

Out[13]:
```
Rank          0
Username      0
Categories    0
Suscribers    0
Country       0
Visits        0
Likes         0
Comments      0
Links         0
dtype: int64
```

In [12]:
```python
df.drop_duplicates(inplace=True)
```

Data Cleaning

In [21]:
```python
df.rename(columns= {'Suscribers':'Subscribers'},inplace = True)
```

In [22]:
```python
df.columns
```

Out[22]:
```
Index(['Rank', 'Username', 'Categories', 'Subscribers', 'Country', 'Visits',
       'Likes', 'Comments', 'Links'],
      dtype='object')
```

In [23]:
```python
df.rename(columns= {'Username':'Channel'},inplace = True)
```

Exploratory Data Analysis

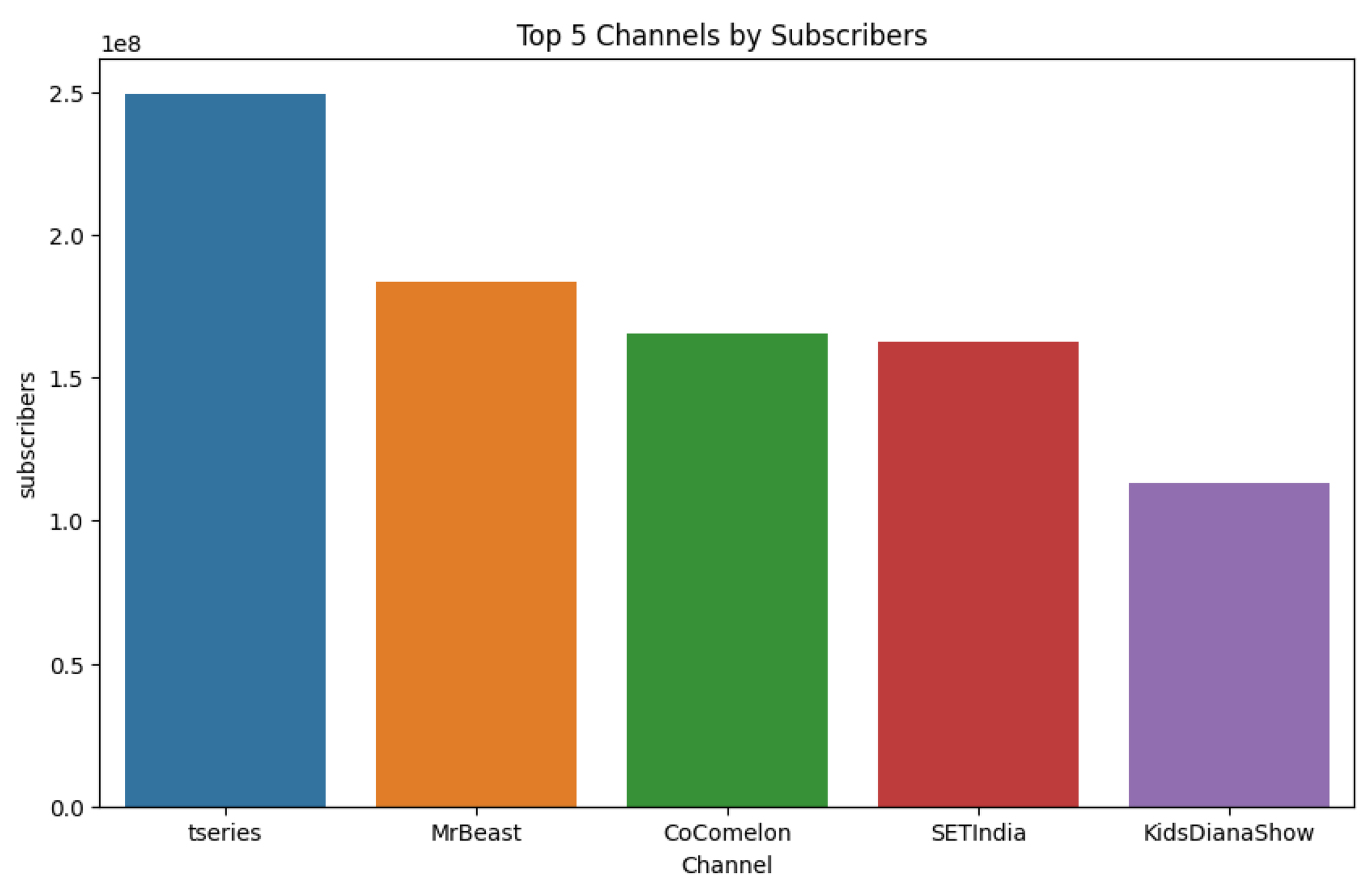
In [24]:
```python
df.describe()
```

Out[24]:

	Rank	Subscribers	Visits	Likes	Comments
count	1000.000000	1.000000e+03	1.000000e+03	1.000000e+03	1000.000000
mean	500.500000	2.189440e+07	1.209446e+06	5.363259e+04	1288.768000
std	288.819436	1.682775e+07	5.229942e+06	2.580457e+05	6778.188308
min	1.000000	1.170000e+07	0.000000e+00	0.000000e+00	0.000000
25%	250.750000	1.380000e+07	3.197500e+04	4.717500e+02	2.000000
50%	500.500000	1.675000e+07	1.744500e+05	3.500000e+03	67.000000
75%	750.250000	2.370000e+07	8.654750e+05	2.865000e+04	472.000000
max	1000.000000	2.495000e+08	1.174000e+08	5.300000e+06	154000.000000

- From the above chart we can get mean of rank is approx 495

In [25]:
```python
# Scatter plot of 'Username' vs. 'Subscribes' by position
Top_5_subscribers = df.sort_values(by ='Subscribers',ascending =False).head(5)
plt.figure(figsize=(10, 6))
sns.barplot(x='Channel', y='Subscribers', data=Top_5_subscribers )
plt.xlabel('Channel')
plt.ylabel('subscribers')
plt.title('Top 5 Channels by Subscribers ')
plt.show()
```



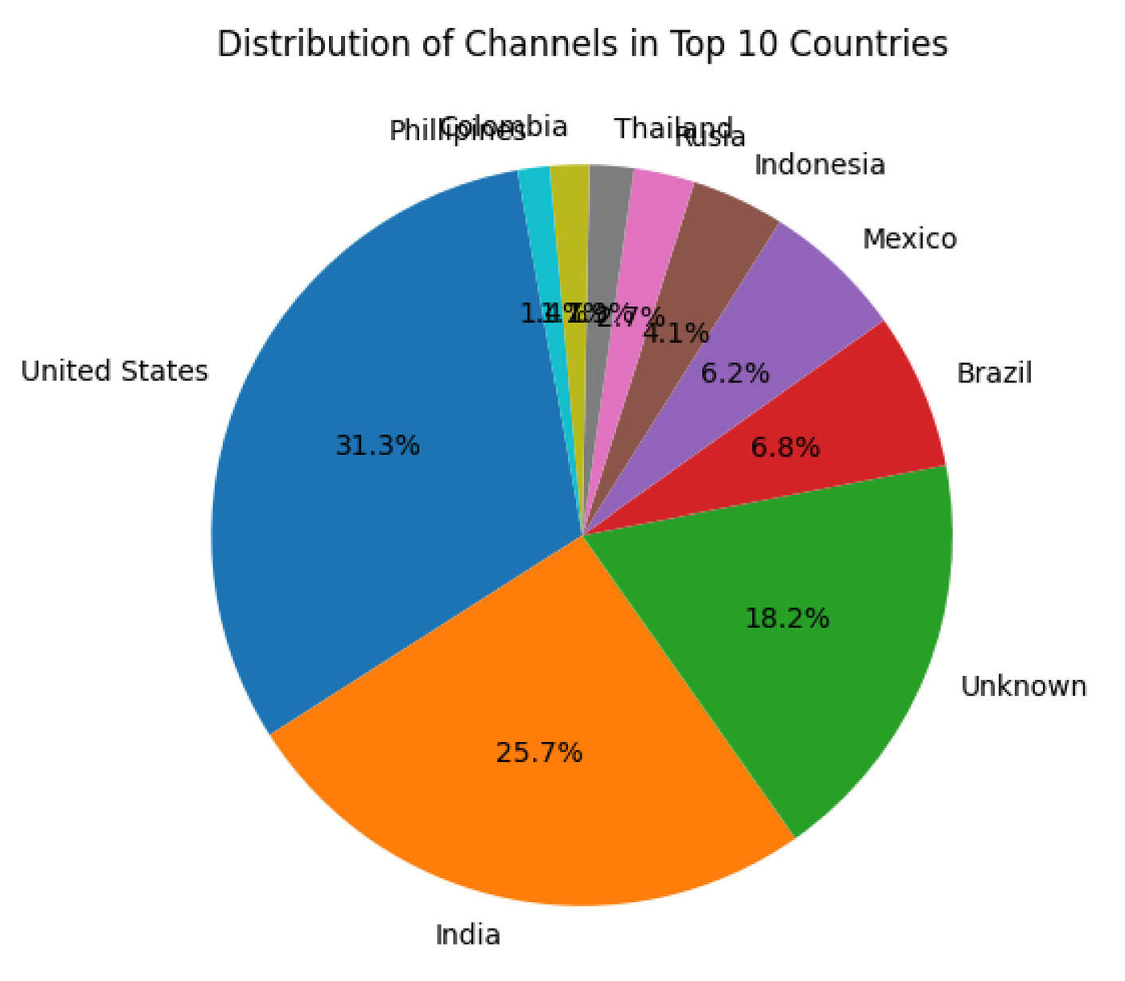
- From the above chart we can say Tseries has the highest subscribers

In [26]:
```python
top_countries = df['Country'].value_counts().head(10)
```

In [27]:
```python
top_countries
```

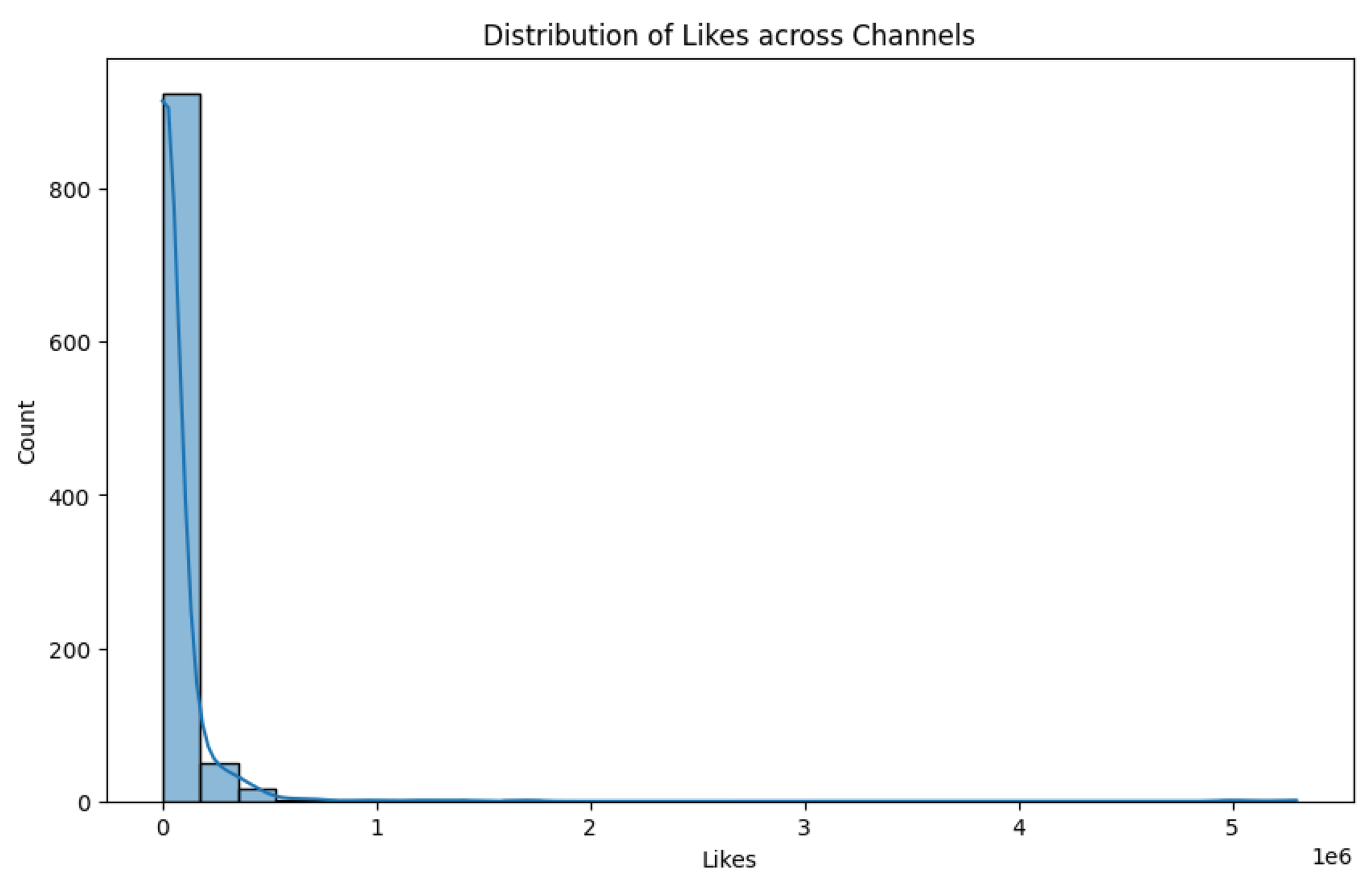
Out[27]:
```
Country
United States    293
India            241
Unknown          171
Brazil            64
Mexico            58
Indonesia         38
Rusia             25
Thailand          18
Colombia          16
Phillipines       13
Name: count, dtype: int64
```

In [31]:
```python
top_countries = df['Country'].value_counts().head(10)
plt.figure(figsize=(10,6))
plt.pie(top_countries,labels=top_countries.index,autopct='%1.1f%%', startangle=100)
plt.title('Distribution of Channels in Top 10 Countries')
plt.show()
```

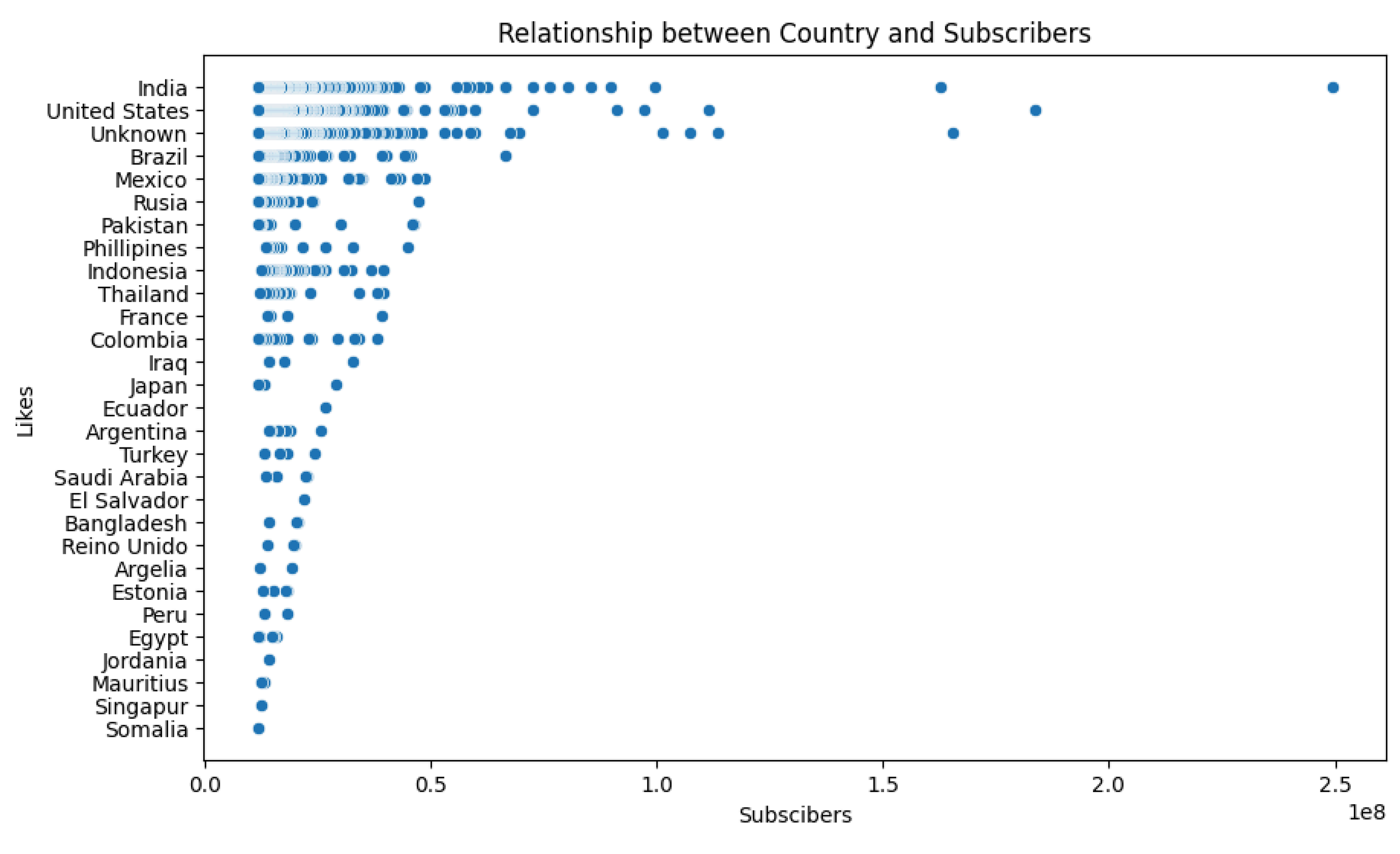


- Above pie chart visualizataion shows United states and India contributes most share in distribution of channels among top 10 countries

In [32]:
```python
plt.figure(figsize=(10,6))
sns.histplot(df['Likes'],bins= 30,kde=True)
plt.title('Distribution of Likes across Channels')
plt.xlabel('Likes')
plt.show()
```

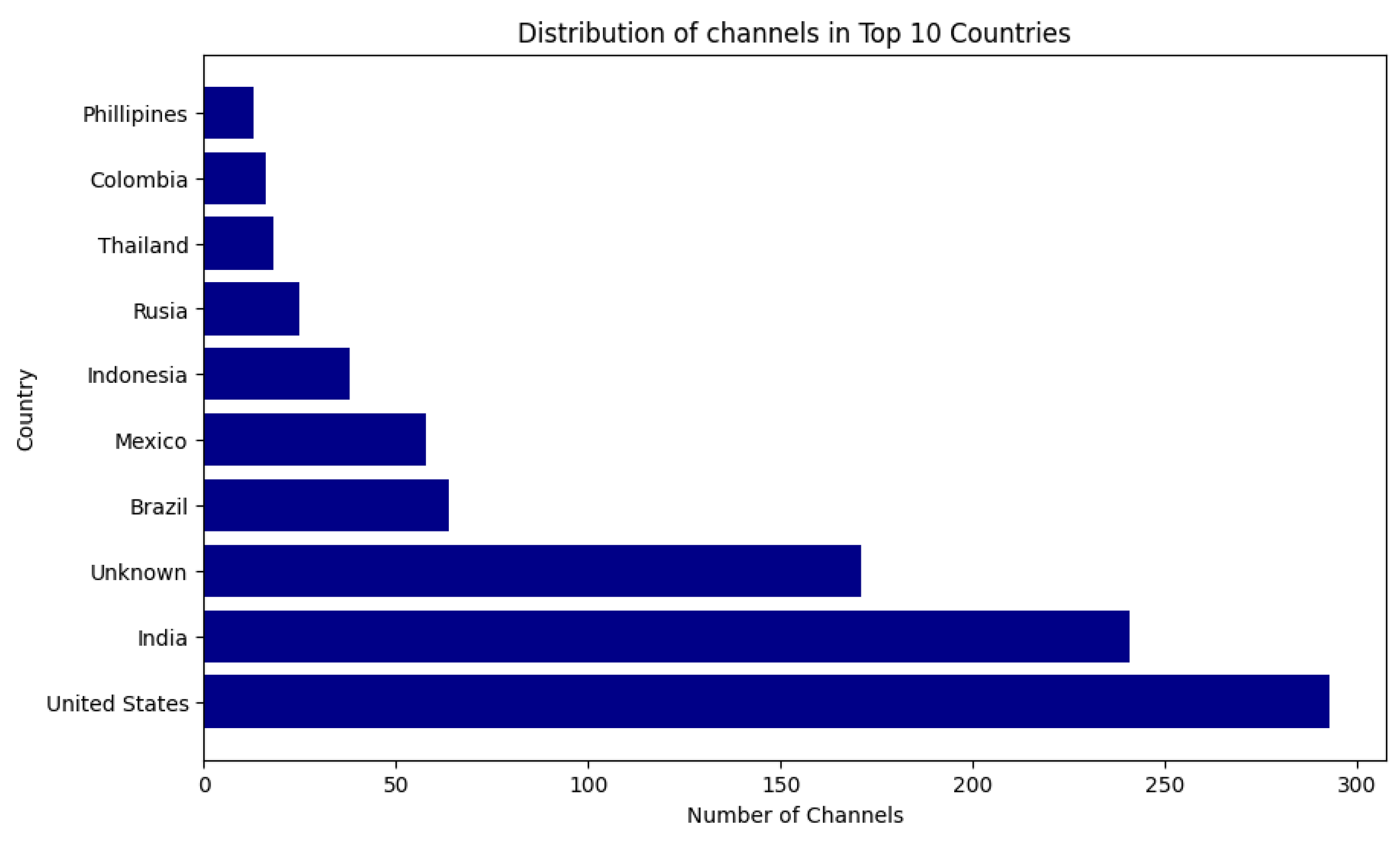


In [33]:
```python
plt.figure(figsize=(10,6))
sns.scatterplot(x= 'Subscribers',y='Country',data=df)
plt.title('Relationship between Country and Subscribers')
plt.xlabel('Subscibers')
plt.ylabel('Likes')
plt.show()
```



- From above chart we can vusualize that India and United states contributes most number of Subscribers across world

In [34]:
```python
top_countries =  df['Country'].value_counts().head(10)
plt.figure(figsize=(10,6))
plt.barh(top_countries.index,top_countries,color='darkblue')
plt.xlabel('Number of Channels')
plt.ylabel('Country')
plt.title('Distribution of channels in Top 10 Countries')
plt.show()
```



- Above bar chart shows that United states secure top position by distribution of channels

Conclusion

From the above Data Analysis using various charts we can conclude that most number of Channels ,Subscribers and likes comes from two country i.e India and United States .The third position is not specified that stands in Third position .

In [ ]: