Interest_Wise

In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib as plt
```

In [4]:
```
xls = pd.ExcelFile(r"C:\Users\dell\Downloads\App Analytics Report-06.05.2023 (1).xlsx")
int_wise = pd.read_excel(xls, 'User By Interest')
```

In [5]:
```
int_wise
```

Out[5]:

	Interests	Users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time	Event count	Conversions	re
0	Shoppers	10950	9256	15652	0.581534	1.429406	162.83470	490664	86846	
1	Media & Entertainment/Comics & Animation Fans	10946	9247	15680	0.583008	1.432487	165.17720	491025	86845	
2	Technology/Mobile Enthusiasts	10934	9239	15619	0.582451	1.428480	162.69450	489353	86742	
3	Food & Dining/Cooking Enthusiasts	8410	6970	12332	0.602325	1.466350	176.95670	409713	73814	
4	Sports & Fitness/Health & Fitness Buffs	5844	4580	8226	0.588328	1.407598	155.14510	257831	43074	
...	...	...	...	...	...	...	...	...	...	
84	Food & Dining	15	4	24	0.489796	1.600000	70.86667	460	58	
85	Home & Garden	15	5	12	0.631579	0.800000	133.86670	453	107	
86	Sports & Fitness/Sports Fans/Racquetball Enthu...	11	11	21	0.840000	1.909091	487.45450	736	39	
87	Vehicles & Transportation	11	3	9	0.450000	0.818182	71.54545	161	27	
88	Sports & Fitness/Sports Fans/Fans of American ...	10	4	18	0.782609	1.800000	201.40000	375	81	

89 rows × 10 columns

In [6]:
```
int_wise.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 89 entries, 0 to 88
Data columns (total 10 columns):
 #   Column                     Non-Null Count  Dtype
---  ------                     --------------  -----
 0   Interests                  89 non-null     object
 1   Users                      89 non-null     int64
 2   New users                  89 non-null     int64
 3   Engaged sessions           89 non-null     int64
 4   Engagement rate            89 non-null     float64
 5   Engaged sessions per user  89 non-null     float64
 6   Average engagement time    89 non-null     float64
 7   Event count                89 non-null     int64
 8   Conversions                89 non-null     int64
 9   Total revenue              89 non-null     int64
dtypes: float64(3), int64(6), object(1)
memory usage: 7.1+ KB
```

In [7]:
```
int_wise["Interests"].nunique()
```

Out[7]:
```
89
```

In [8]:
```
int_wise.describe().transpose()
```

Out[8]:

	count	mean	std	min	25%	50%	75%	
Users	89.0	2411.044944	2480.482385	10.000000	107.000000	1942.000000	3652.000000	109
New users	89.0	1911.280899	2059.110984	3.000000	72.000000	1566.000000	2872.000000	92
Engaged sessions	89.0	3373.932584	3544.597874	9.000000	142.000000	2608.000000	5443.000000	156
Engagement rate	89.0	0.619191	0.081918	0.450000	0.576499	0.618416	0.666153	
Engaged sessions per user	89.0	1.339172	0.258550	0.684211	1.218631	1.345895	1.459730	
Average engagement time	89.0	219.531871	366.821595	54.263160	126.944900	162.643800	208.648200	34
Event count	89.0	110565.202247	114195.875599	161.000000	5805.000000	90176.000000	174955.000000	4910
Conversions	89.0	19512.898876	19401.222657	27.000000	2971.000000	16412.000000	29630.000000	868
Total revenue	89.0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	

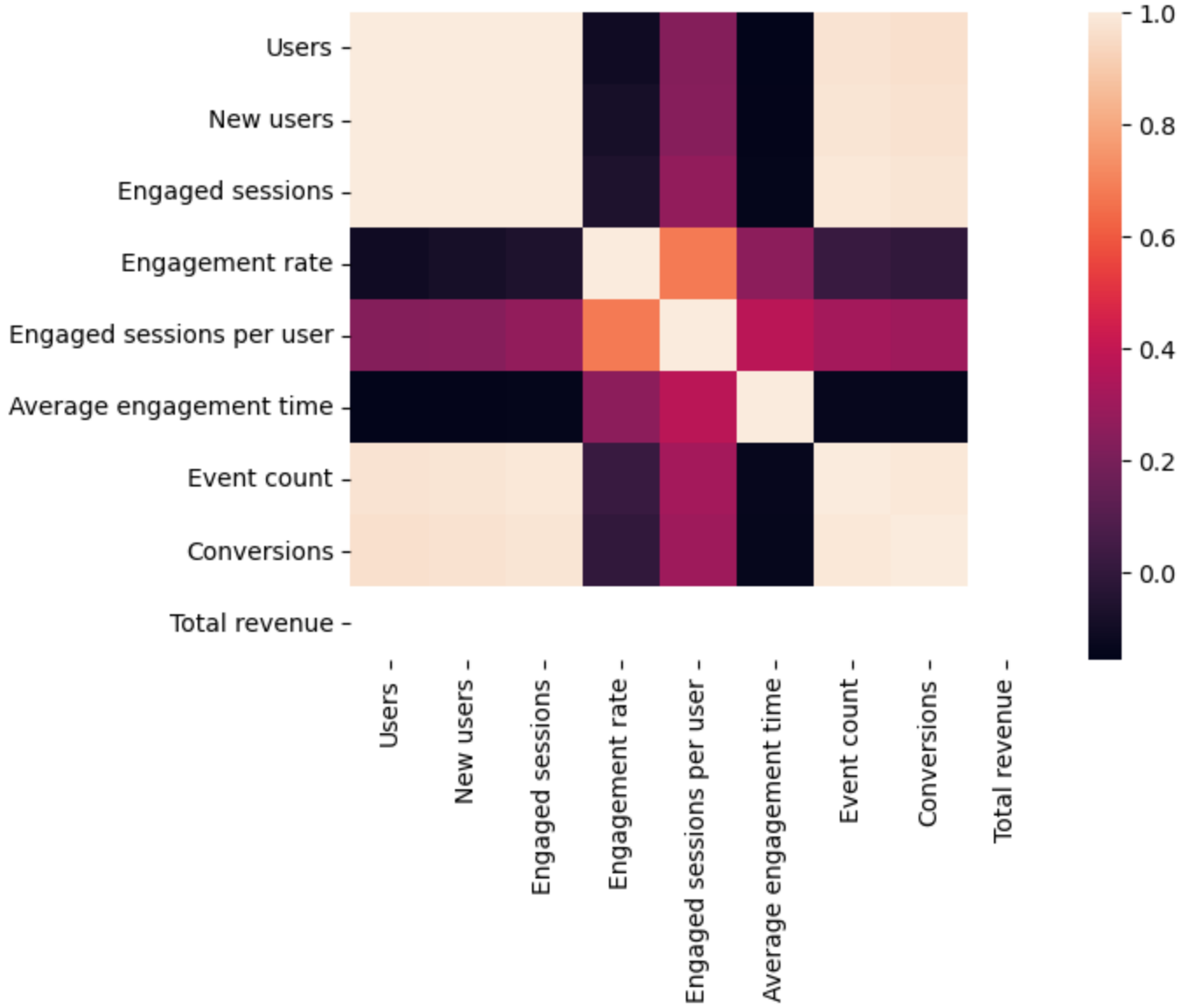
In [9]:
```
int_wise.corr()
```

Out[9]:

	Users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time	Event count	Conversions	T reve
Users	1.000000	0.998612	0.996111	-0.107867	0.228865	-0.155648	0.974364	0.966823	I
New users	0.998612	1.000000	0.997460	-0.087807	0.234246	-0.147751	0.978889	0.970206	I
Engaged sessions	0.996111	0.997460	1.000000	-0.061225	0.264230	-0.144898	0.989130	0.979590	I
Engagement rate	-0.107867	-0.087807	-0.061225	1.000000	0.674983	0.254279	0.019894	-0.004214	I
Engaged sessions per user	0.228865	0.234246	0.264230	0.674983	1.000000	0.373369	0.314109	0.298107	I
Average engagement time	-0.155648	-0.147751	-0.144898	0.254279	0.373369	1.000000	-0.135524	-0.138945	I
Event count	0.974364	0.978889	0.989130	0.019894	0.314109	-0.135524	1.000000	0.987563	I
Conversions	0.966823	0.970206	0.979590	-0.004214	0.298107	-0.138945	0.987563	1.000000	I
Total revenue	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	I

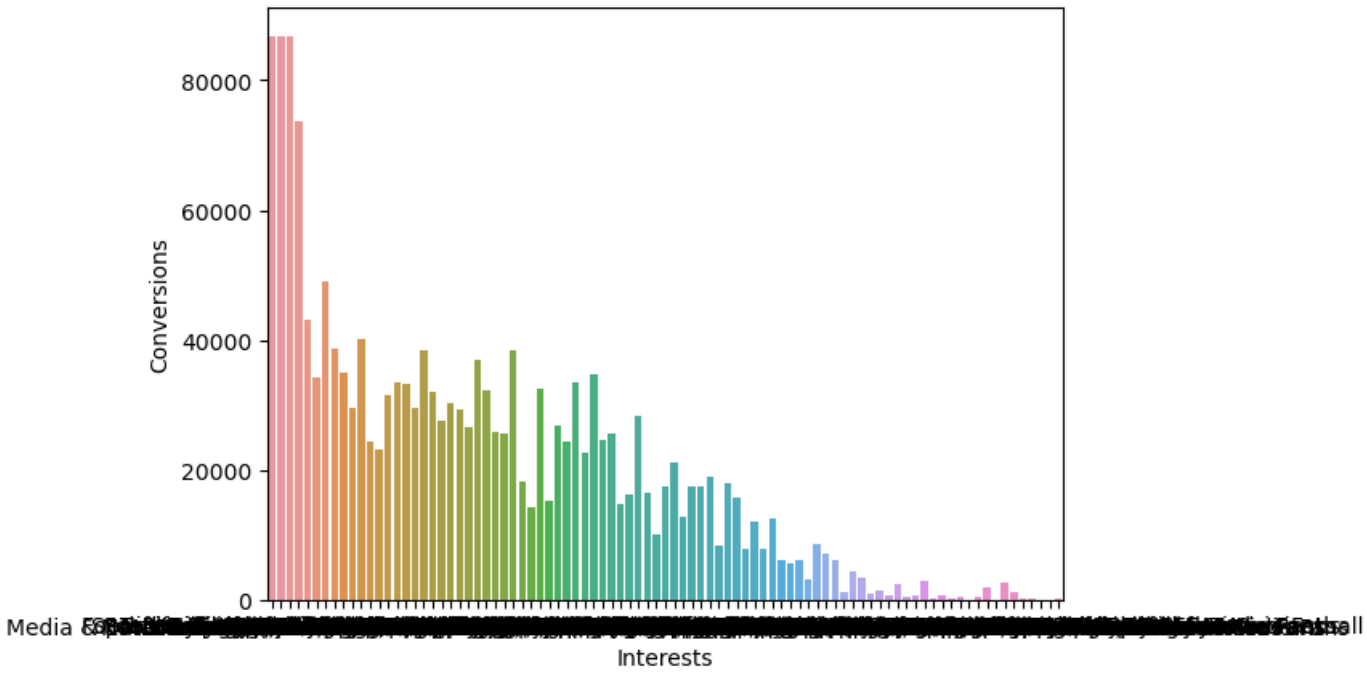
In [10]:
```
sns.heatmap(int_wise.corr())
```

Out[10]:
```
<AxesSubplot:>
```



In [16]:
```
sns.barplot(x = "Interests" , y = "Conversions" , data = int_wise)
```

Out[16]:
```
<AxesSubplot:xlabel='Interests', ylabel='Conversions'>
```



Observations

analysis and findings

1) No null values are present.

2) Users, New users, Engaged sessions and Event Count are highly co-related with conversions while Average engagement time and Engagement rate are negatively co-related.

3) There are total 89 types of products(Interests) available on the website.

4) Shoppers & Media & Entertainment/Comics & Animation Fans uses the most of the website while Sports & Fitness/Sports Fans uses the least.