

In [547...]

```
import pandas as pd
import seaborn as sns
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import warnings
warnings.filterwarnings('ignore')
```

In [548...]

```
df =pd.read_csv('customer_retention.csv')
```

In [549...]

```
df
```

Out[549...]

	Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	Since How Long You are Shopping Online ?	How many times you have made an online purchase in the past 1 year?	How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What the screen size of your mobile device
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Other
1	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inch
2	Female	21-30 years	Greater Noida	201308	3-4 years	41 times and above	Mobile Internet	Smartphone	5.5 inch
3	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inch
4	Female	21-30 years	Bangalore	530068	2-3 years	11-20 times	Wi-Fi	Smartphone	4.7 inch
5	Female	31-40 years	Noida	201308	Above 4 years	41 times and above	Wi-Fi	Smartphone	5.5 inch
6	Male	41-50 years	Delhi	110011	Above 4 years	31-40 times	Wi-Fi	Tablet	Other

Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	Since How Long You are Shopping Online ?	How many times you have made an online purchase in the past 1 year?	How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What the screen size of your mobile device
27	Male	31-40 years	Delhi 110044	Above 4 years	41 times and above	Mobile internet	Laptop	Other
28	Female	41-50 years	Greater Noida 201306	Above 4 years	31-40 times	Mobile internet	Laptop	Other
29	Female	41-50 years	Karnal 132001	2-3 years	Less than 10 times	Mobile internet	Laptop	Other
30	Female	Less than 20 years	Bangalore 560010	Above 4 years	Less than 10 times	Mobile internet	Smartphone	4.7 inch
31	Male	31-40 years	Noida 201305	2-3 years	Less than 10 times	Mobile internet	Desktop	Other
32	Male	31-40 years	Delhi 110042	Above 4 years	21-30 times	Mobile internet	Smartphone	4.7 inch
33	Female	41-50 years	Greater Noida 201308	Above 4 years	Less than 10 times	Mobile internet	Smartphone	5.5 inch
34	Female	51 years and above	Karnal 132036	3-4 years	Less than 10 times	Mobile internet	Smartphone	5.5 inch
35	Female	21-30 years	Bangalore 560018	2-3 years	11-20 times	Mobile internet	Smartphone	4.7 inch
36	Male	31-40 years	Noida 201305	Less than 1 year	Less than 10 times	Mobile internet	Smartphone	5.5 inch

ID	Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	Since How Long You are Shopping Online ?	How many times you have made an online purchase in the past 1 year?	How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What the screen size of your mobile device
100	Female	51 years and above	Gurgaon	122018	2-3 years	Less than 10 times	Wi-Fi	Laptop	Others
101	Female	31-40 years	Greater Noida	201310	Above 4 years	11-20 times	Wi-Fi	Laptop	Others
102	Female	31-40 years	Solan	173212	3-4 years	Less than 10 times	Mobile Internet	Laptop	Others
103	Female	21-30 years	Solan	173212	1-2 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inch
104	Female	51 years and above	Gurgaon	122009	Less than 1 year	Less than 10 times	Wi-Fi	Smartphone	5.5 inch
105	Female	41-50 years	Ghaziabad	201009	2-3 years	31-40 times	Mobile Internet	Smartphone	5.5 inch
106	Female	31-40 years	Ghaziabad	201008	1-2 years	31-40 times	Mobile Internet	Smartphone	Others
107	Female	Less than 20 years	Ghaziabad	201001	Less than 1 year	Less than 10 times	Wi-Fi	Smartphone	5.5 inch
108	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inch
109	Male	41-50 years	Delhi	110011	Above 4 years	31-40 times	Wi-Fi	Tablet	Others
110	Male	41-50 years	Delhi	110018	3-4 years	Less than 10 times	Mobile Internet	Desktop	Others

Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	How many times you have made an online purchase in the past 1 year?		How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What the screen size of your mobile device	
				Since Long You are Shopping Online ?	How often you are Shopping Online ?				
230	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inch
231	Female	41-50 yaers	Merrut	250001	2-3 years	31-40 times	Mobile internet	Desktop	Other
232	Female	51 years and above	Bangalore	560037	Above 4 years	31-40 times	Mobile internet	Desktop	Other
233	Female	21-30 years	Bangalore	560003	Above 4 years	31-40 times	Mobile internet	Desktop	Other
234	Female	31-40 years	Karnal	132036	Less than 1 year	31-40 times	Mobile internet	Smartphone	4.7 inch
235	Female	31-40 years	Delhi	110014	Less than 1 year	Less than 10 times	Mobile internet	Laptop	Other
236	Female	21-30 years	Karnal	132001	Above 4 years	31-40 times	Mobile internet	Laptop	Other
237	Female	21-30 years	Bangalore	530068	2-3 years	11-20 times	Wi-Fi	Smartphone	4.7 inch
238	Female	31-40 years	Delhi	110044	Less than 1 year	Less than 10 times	Wi-Fi	Laptop	Other
239	Male	31-40 years	Noida	201310	3-4 years	Less than 10 times	Mobile internet	Laptop	Other
240	Female	41-50 yaers	Greater Noida	201308	Less than 1 year	Less than 10 times	Mobile internet	Smartphone	5.5 inch

ID	Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	Since How Long You are Shopping Online ?	How many times you have made an online purchase in the past 1 year?	How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What the screen size of your mobile device
251	Female	Less than 20 years	Solan	173229	2-3 years	Less than 10 times	Wi-Fi	Smartphone	5.5 inch
252	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inch
253	Male	41-50 yaers	Delhi	110011	Above 4 years	31-40 times	Wi-Fi	Tablet	Other
254	Female	51 years and above	Gurgaon	122018	2-3 years	Less than 10 times	Wi-Fi	Laptop	Other
255	Male	31-40 years	Moradabad	244001	Above 4 years	21-30 times	Mobile Internet	Laptop	Other
256	Female	41-50 yaers	Noida	201308	Above 4 years	Less than 10 times	Wi-Fi	Laptop	Other
257	Female	31-40 years	Delhi	110039	Less than 1 year	Less than 10 times	Wi-Fi	Laptop	Other
258	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inch
259	Female	31-40 years	Greater Noida	201310	Above 4 years	11-20 times	Wi-Fi	Laptop	Other
260	Female	31-40 years	Noida	201308	Above 4 years	41 times and above	Wi-Fi	Smartphone	5.5 inch

FDA

Tn 「550

df.columns

'What is the operating system (OS) of your device?\t\t\t\t\t',
 ', 'What browser do you run on your device to access the website?\t\t\t\t\t',
 ', 'Which channel did you follow to arrive at your favorite online store for the first time? ',
 'After first visit, how do you reach the online retail store?\t\t\t\t\t',
 ', 'How much time do you explore the e- retail store before making a purchase decision? ',
 'What is your preferred payment Option?\t\t\t\t\t\t\t',
 ', 'How frequently do you abandon (selecting an items and leaving without making payment) your shopping cart?\t\t\t\t\t\t\t\t\t\t',
 ', 'Why did you abandon the "Bag", "Shopping Cart"? \t\t\t\t\t\t\t\t\t\t',
 ', 'The content on the website must be easy to read and understand',
 'Information on similar product to the one highlighted is important for product comparison',
 'Complete information on listed seller and product being offered is important for purchase decision.',
 'All relevant information on listed products must be stated clearly',
 'Ease of navigation in website', 'Loading and processing speed',
 'User friendly Interface of the website', 'Convenient Payment methods',
 'Trust that the online retail store will fulfill its part of the transaction at the stipulated time',
 'Empathy (readiness to assist with queries) towards the customers',
 'Being able to guarantee the privacy of the customer',
 'Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)',
 'Online shopping gives monetary benefit and discounts',
 'Enjoyment is derived from shopping online',
 'Shopping online is convenient and flexible',
 'Return and replacement policy of the e-tailer is important for purchase decision',
 'Gaining access to loyalty programs is a benefit of shopping online',
 'Displaying quality Information on the website improves satisfaction of customers',
 'User derive satisfaction while shopping on a good quality website or application',
 'Net Benefit derived from shopping online can lead to users satisfaction',
 'User satisfaction cannot exist without trust',
 'Offering a wide variety of listed product in several category',
 'Provision of complete and relevant product information',
 'Monetary savings',
 'The Convenience of patronizing the online retailer',
 'Shopping on the website gives you the sense of adventure',
 'Shopping on your preferred e-tailer enhances your social status',
 'You feel gratification shopping on your favorite e-tailer',
 'Shopping on the website helps you fulfill certain roles',
 'Getting value for money spent',
 'From the following, tick any (or all) of the online retailers you have shopped from;
 ', 'Easy to use website or application',
 'Visual appealing web-page layout', 'Wild variety of product on offer',
 'Complete, relevant description information of products',
 'Fast loading website speed of website and application',
 'Reliability of the website or application',
 'Quickness to complete purchase',
 'Availability of several payment options', 'Speedy order delivery ',
 'Privacy of customers' information',
 'Security of customer financial information',
 'Perceived Trustworthiness',
 'Presence of online assistance through multi-channel',
 'Longer time to get logged in (promotion, sales period)',
 'Longer time in displaying graphics and photos (promotion, sales period)',
 'Late declaration of price (promotion, sales period)',

```
'Longer page loading time (promotion, sales period)',  

'Limited mode of payment on most products (promotion, sales period)',  

'Longer delivery period', 'Change in website/Application design',  

'Frequent disruption when moving from one page to another',  

'Website is as efficient as before',  

'Which of the Indian online retailer would you recommend to a friend?'],  

dtype='object')
```

In [551...]

```
#### display max columns and rows  
pd.set_option("display.max_columns", None)  
pd.set_option("display.max_rows", None)
```

In [552...]

```
df.columns = df.columns.str.replace(' ', '')  
df.columns = df.columns.str.replace('\t\t\t\t\t\t\t', '')  
df.columns = df.columns.str.replace('\t\t\t\t', '')  
df.columns = df.columns.str.replace('\t\t\t', '')  
df.columns = df.columns.str.replace('\t', '')
```

In [553...]

```
### check count of null value  
df.isnull().sum()
```

Out[553...]

Genderofrespondent
0
Howoldareyou?
0
Whichcitydoyoushoponlinefrom?
0
WhatisthePinCodeofwheretoyoushoponlinefrom?
0
SinceHowLongYouareShoppingOnline?
0
Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?
0
Howdoyouaccesstheinternetwhileshoppingon-line?
0
Whichdevicedoyouusetoaccesstheonlineshopping?
0
Whatisthescreensizeofyourmobiledevice?
0
Whatistheoperatingsystem(OS)ofyourdevice?
0
Whatbrowsertodoyourunonyourdevicetoaccesstthewebsite?
0
Whichchanneldidyoufollowtoarriveatyourfavoriteonlinestoreforthefirsttime?
0
Afterfirstvisit, howdoyoureachtheonlineretailstore?
0
Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?
0
WhatisyourpreferredpaymentOption?
0
Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppin
gcart? 0
Whydidyouabandonthe“Bag”, “ShoppingCart”?
0
Thecontentonthewebsitemustbeeasytoreadandunderstand
0
Informationonsimilarproducttotheonehighlightedisimportantforproductcomparison
0
Completeinformationonlistedsellerandproductbeingofferedisimportantforpurchasedecisi
on.
0
Allrelevantinformationonlistedproductsmustbestatedclearly
0
Easeofnavigationinwebsite

0
Loading and processing speed
0
User friendly Interface of the website
0
Convenient Payment methods
0
Trust that the online retailer will fulfill its part of the transaction at the stipulated time
0
Empathy (readiness to assist with queries) towards the customers
0
Being able to guarantee the privacy of the customer
0
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.) 0
Online shopping gives monetary benefit and discounts
0
Enjoyment is derived from shopping online
0
Shopping online is convenient and flexible
0
Return and replacement policy of the e-tailer is important for purchase decision
0
Gaining access to loyalty programs is a benefit of shopping online
0
Displaying quality information on the website improves satisfaction of customers
0
User derives satisfaction while shopping on a good quality website or application
0
Net Benefit derived from shopping online can lead to user satisfaction
0
User satisfaction cannot exist without trust
0
Offering a wide variety of listed products in several categories
0
Provision of complete and relevant product information
0
Monetary savings
0
The convenience of patronizing the online retailer
0
Shopping on the website gives you the sense of adventure
0
Shopping on your preferred e-tailer enhances your social status
0
You feel gratification shopping on your favorite e-tailer
0
Shopping on the website helps you fulfill certain roles
0
Getting value for money spent
0
From the following, tick any (or all) of the online retailers you have shopped from;
0
Easy to use website or application
0
Visual appealing web-page layout
0
Wide variety of products offered
0
Complete, relevant description/information of products
0
Fast loading website speed of website and application
0
Reliability of the website or application
0
Quickness to complete purchase
0
Availability of several payment options
0

```

Speedyorderdelivery
0
Privacyofcustomers'information
0
Securityofcustomerfinancialinformation
0
PerceivedTrustworthiness
0
Presenceofonlineassistancethroughmulti-channel
0
Longertimetologgedin(promotion,salesperiod)
0
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)
0
Latedeclarationofprice(promotion,salesperiod)
0
Longerpageloadingtime(promotion,salesperiod)
0
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)
0
Longerdeliveryperiod
0
Changeinwebsite/Applicationdesign
0
Frequentdisruptionwhenmovingfromonepagetoanother
0
Websiteisasefficientasbefore
0
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?
0
dtype: int64

```

In [554...]

```
### check null value in each field
df.isnull()
```

Out[554...]

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
0	False	False	False	False
1	False	False	False	False
2	False	False	False	False
3	False	False	False	False
4	False	False	False	False
5	False	False	False	False
6	False	False	False	False
7	False	False	False	False
8	False	False	False	False
9	False	False	False	False
10	False	False	False	False
11	False	False	False	False
12	False	False	False	False
13	False	False	False	False
14	False	False	False	False
15	False	False	False	False

0	False	False	False
1	False	False	False
2	False	False	False
3	False	False	False
4	False	False	False
5	False	False	False
6	False	False	False
7	False	False	False
8	False	False	False
9	False	False	False
10	False	False	False
11	False	False	False
12	False	False	False
13	False	False	False
14	False	False	False
15	False	False	False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
16	False	False		False
17	False	False		False
18	False	False		False
19	False	False		False
20	False	False		False
21	False	False		False
22	False	False		False
23	False	False		False
24	False	False		False
25	False	False		False
26	False	False		False
27	False	False		False
28	False	False		False
29	False	False		False
30	False	False		False
31	False	False		False
32	False	False		False
33	False	False		False
34	False	False		False
35	False	False		False
36	False	False		False
37	False	False		False
38	False	False		False
39	False	False		False
40	False	False		False
41	False	False		False
42	False	False		False
43	False	False		False
44	False	False		False
45	False	False		False
46	False	False		False
47	False	False		False
48	False	False		False
49	False	False		False
50	False	False		False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
51	False	False		False
52	False	False		False
53	False	False		False
54	False	False		False
55	False	False		False
56	False	False		False
57	False	False		False
58	False	False		False
59	False	False		False
60	False	False		False
61	False	False		False
62	False	False		False
63	False	False		False
64	False	False		False
65	False	False		False
66	False	False		False
67	False	False		False
68	False	False		False
69	False	False		False
70	False	False		False
71	False	False		False
72	False	False		False
73	False	False		False
74	False	False		False
75	False	False		False
76	False	False		False
77	False	False		False
78	False	False		False
79	False	False		False
80	False	False		False
81	False	False		False
82	False	False		False
83	False	False		False
84	False	False		False
85	False	False		False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
86	False	False		False
87	False	False		False
88	False	False		False
89	False	False		False
90	False	False		False
91	False	False		False
92	False	False		False
93	False	False		False
94	False	False		False
95	False	False		False
96	False	False		False
97	False	False		False
98	False	False		False
99	False	False		False
100	False	False		False
101	False	False		False
102	False	False		False
103	False	False		False
104	False	False		False
105	False	False		False
106	False	False		False
107	False	False		False
108	False	False		False
109	False	False		False
110	False	False		False
111	False	False		False
112	False	False		False
113	False	False		False
114	False	False		False
115	False	False		False
116	False	False		False
117	False	False		False
118	False	False		False
119	False	False		False
120	False	False		False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
121	False	False		False
122	False	False		False
123	False	False		False
124	False	False		False
125	False	False		False
126	False	False		False
127	False	False		False
128	False	False		False
129	False	False		False
130	False	False		False
131	False	False		False
132	False	False		False
133	False	False		False
134	False	False		False
135	False	False		False
136	False	False		False
137	False	False		False
138	False	False		False
139	False	False		False
140	False	False		False
141	False	False		False
142	False	False		False
143	False	False		False
144	False	False		False
145	False	False		False
146	False	False		False
147	False	False		False
148	False	False		False
149	False	False		False
150	False	False		False
151	False	False		False
152	False	False		False
153	False	False		False
154	False	False		False
155	False	False		False

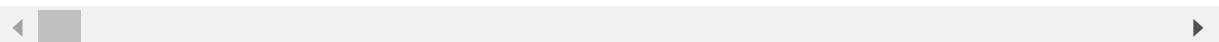
	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
156	False	False		False
157	False	False		False
158	False	False		False
159	False	False		False
160	False	False		False
161	False	False		False
162	False	False		False
163	False	False		False
164	False	False		False
165	False	False		False
166	False	False		False
167	False	False		False
168	False	False		False
169	False	False		False
170	False	False		False
171	False	False		False
172	False	False		False
173	False	False		False
174	False	False		False
175	False	False		False
176	False	False		False
177	False	False		False
178	False	False		False
179	False	False		False
180	False	False		False
181	False	False		False
182	False	False		False
183	False	False		False
184	False	False		False
185	False	False		False
186	False	False		False
187	False	False		False
188	False	False		False
189	False	False		False
190	False	False		False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
191	False	False		False
192	False	False		False
193	False	False		False
194	False	False		False
195	False	False		False
196	False	False		False
197	False	False		False
198	False	False		False
199	False	False		False
200	False	False		False
201	False	False		False
202	False	False		False
203	False	False		False
204	False	False		False
205	False	False		False
206	False	False		False
207	False	False		False
208	False	False		False
209	False	False		False
210	False	False		False
211	False	False		False
212	False	False		False
213	False	False		False
214	False	False		False
215	False	False		False
216	False	False		False
217	False	False		False
218	False	False		False
219	False	False		False
220	False	False		False
221	False	False		False
222	False	False		False
223	False	False		False
224	False	False		False
225	False	False		False

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
226	False	False		False
227	False	False		False
228	False	False		False
229	False	False		False
230	False	False		False
231	False	False		False
232	False	False		False
233	False	False		False
234	False	False		False
235	False	False		False
236	False	False		False
237	False	False		False
238	False	False		False
239	False	False		False
240	False	False		False
241	False	False		False
242	False	False		False
243	False	False		False
244	False	False		False
245	False	False		False
246	False	False		False
247	False	False		False
248	False	False		False
249	False	False		False
250	False	False		False
251	False	False		False
252	False	False		False
253	False	False		False
254	False	False		False
255	False	False		False
256	False	False		False
257	False	False		False
258	False	False		False
259	False	False		False
260	False	False		False

Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoushoponlinefrom?
--------------------	---------------	-------------------------------	---

261	False	False	False
262	False	False	False
263	False	False	False
264	False	False	False
265	False	False	False
266	False	False	False
267	False	False	False
268	False	False	False



In [555...]

```
#### statistical description show only numeric value
df.describe()
```

Out[555...]

WhatisthePinCodeofwhereyoushoponlinefrom?

count	269.000000
mean	220465.747212
std	140524.341051
min	110008.000000
25%	122018.000000
50%	201303.000000
75%	201310.000000
max	560037.000000

In [556...]

```
#### statistical data type description
df.dtypes
```

Out[556...]

```
Genderofrespondent      object
Howoldareyou?           object
Whichcitydoyoushoponlinefrom?    object
WhatisthePinCodeofwhereyoushoponlinefrom? int64
SinceHowLongYouareShoppingOnline?   object
Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?    object
Howdoyouaccesstheinternetwhileshoppingon-line?          object
Whichdevicedoyouusetoaccesstheonlineshopping?        object
Whatisthescreensizeofyourmobiledevice?      object
Whatistheoperatingsystem(OS)ofyourdevice?        object
Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?
```

object
Which channel did you follow to arrive at your favorite online store for the first time?
object
After first visit, how do you reach the online retail store?
object
How much time do you explore the e-retail store before making a purchased decision?
object
What is your preferred payment option?
object
How frequently do you abandon (selecting items and leaving without making payment) your shopping cart?
object
Why did you abandon the "Bag", "Shopping Cart"?
object
The content on the website must be easy to read and understand
object
Information on similar product to the one highlighted is important for product comparison
object
Complete information on listed seller and product being offered is important for purchase decision.
object
All relevant information on listed products must be stated clearly
object
Ease of navigation in website
object
Loading and processing speed
object
User friendly interface of the website
object
Convenient payment methods
object
Trust that the online retail store will fulfill its part of the transaction at the stipulated time
object
Empathy (readiness to assist with queries) towards the customers
object
Being able to guarantee the privacy of the customer
object
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)
object
Online shopping gives monetary benefit and discounts
object
Enjoyment is derived from shopping online
object
Shopping online is convenient and flexible
object
Return and replacement policy of the e-tailer is important for purchase decision
object
Gaining access to loyalty programs is a benefit of shopping online
object
Displaying quality information on the website improves satisfaction of customers
object
User derives satisfaction while shopping on a good quality website or application
object
Net Benefit derived from shopping online can lead to user satisfaction
object
User satisfaction cannot exist without trust
object
Offering a wide variety of listed products in several categories
object
Provision of complete and relevant product information
object
Monetary savings
object
The convenience of patronizing the online retailer
object
Shopping on the website gives you the sense of adventure
object
Shopping on your preferred e-tailer enhances your social status
object
You feel gratification shopping on your favorite e-tailer

```

Shoppingonthewebsitehelpsyoufulfillcertainroles
object
Gettingvalueformoneyspent
object
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom;
object
Easytousewebsiteorapplication
object
Visualappealingweb-pagelayout
object
Wildvarietyofproductonoffer
object
Complete,relevantdescriptioninformationofproducts
object
Fastloadingwebsitespeedofwebsiteandapplication
object
Reliabilityofthewebsiteorapplication
object
Quicknesstocompletepurchase
object
Availabilityofseveralpaymentoptions
object
Speedyorderdelivery
object
Privacyofcustomers'information
object
Securityofcustomerfinancialinformation
object
PerceivedTrustworthiness
object
Presenceofonlineassistancethroughmulti-channel
object
Longertimetologgedin(promotion,salesperiod)
object
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)
object
Latedeclarationofprice(promotion,salesperiod)
object
Longerpageloadingtime(promotion,salesperiod)
object
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)
object
Longerdeliveryperiod
object
Changeinwebsite/Applicationdesign
object
Frequentdisruptionwhenmovingfromonepagetoanother
object
Websiteisasefficientasbefore
object
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?
object
dtype: object

```

In [557...]: *#### fond most of the columns are in catagorical from*

In [558...]: *#### check the shape of datatypes*
df.shape

Out[558...]: (269, 71)

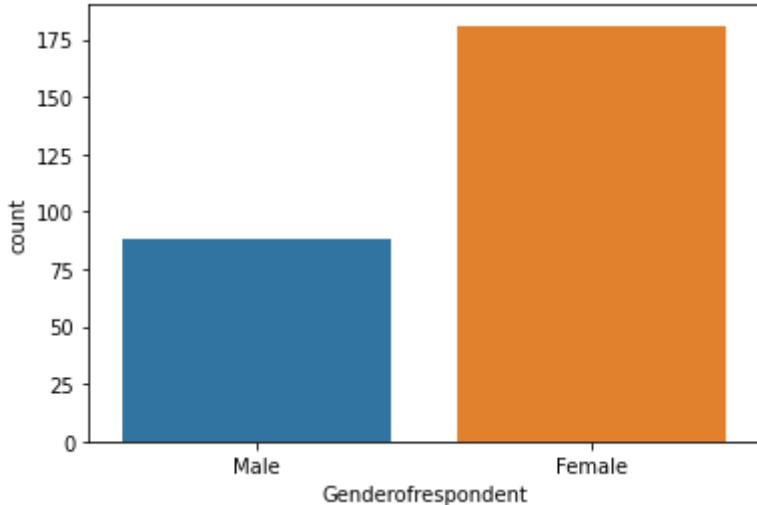
In [559...]: *##### having 269 rows and 71 columns*

In [560...]

```
#### Data Vizualization
```

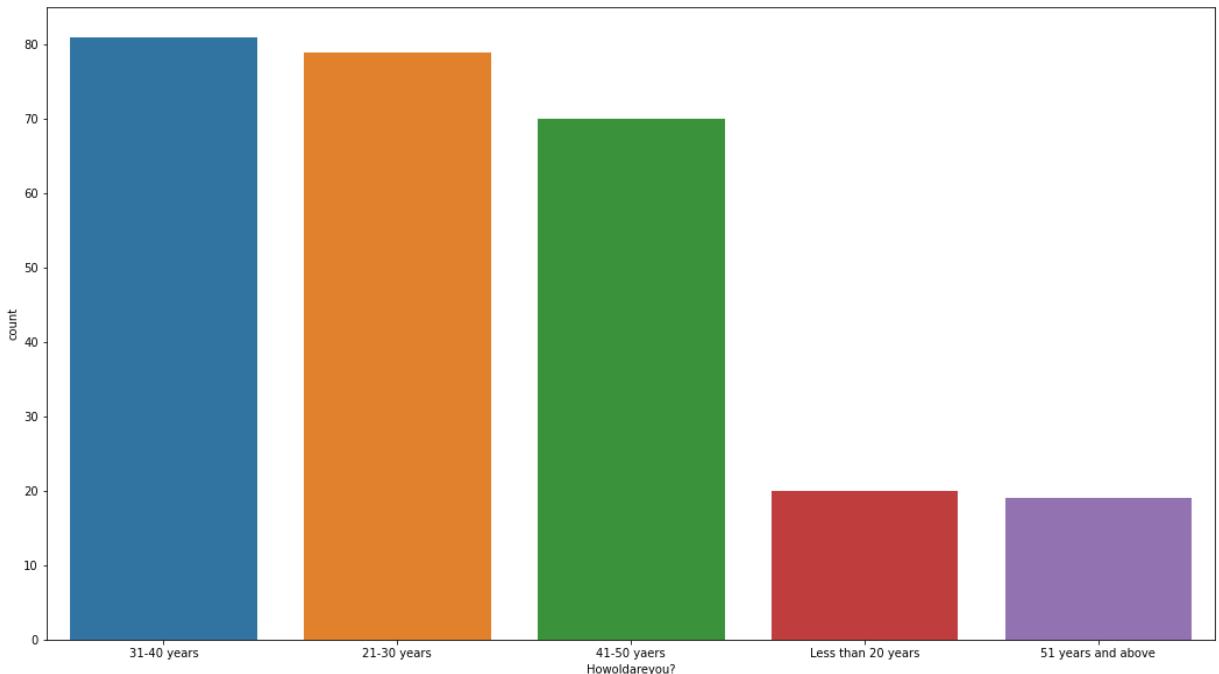
```
In [561... sns.countplot(df['Genderofrespondent'])]
```

```
Out[561... <AxesSubplot:xlabel='Genderofrespondent', ylabel='count'>
```



```
In [562... plt.figure(figsize=(18,10))
sns.countplot(df['Howoldareyou?'])]
```

```
Out[562... <AxesSubplot:xlabel='Howoldareyou?', ylabel='count'>
```

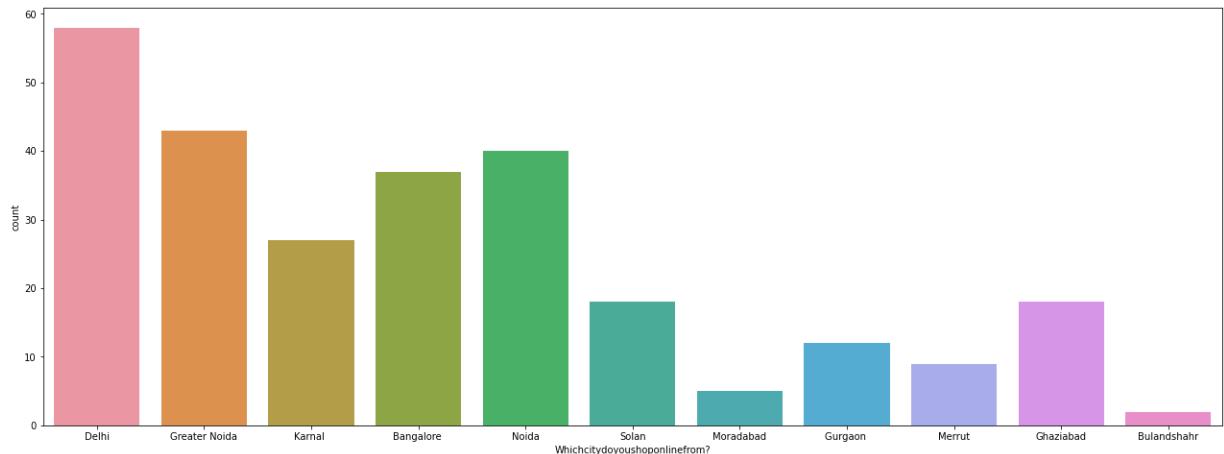


```
In [563... #### People of age between 31-40 years shop online more
```

```
In [564... #### female response is more than male
```

```
In [565... plt.figure(figsize=(22,8))
sns.countplot(df['Whichcitydoyoushoponlinefrom?'])]
```

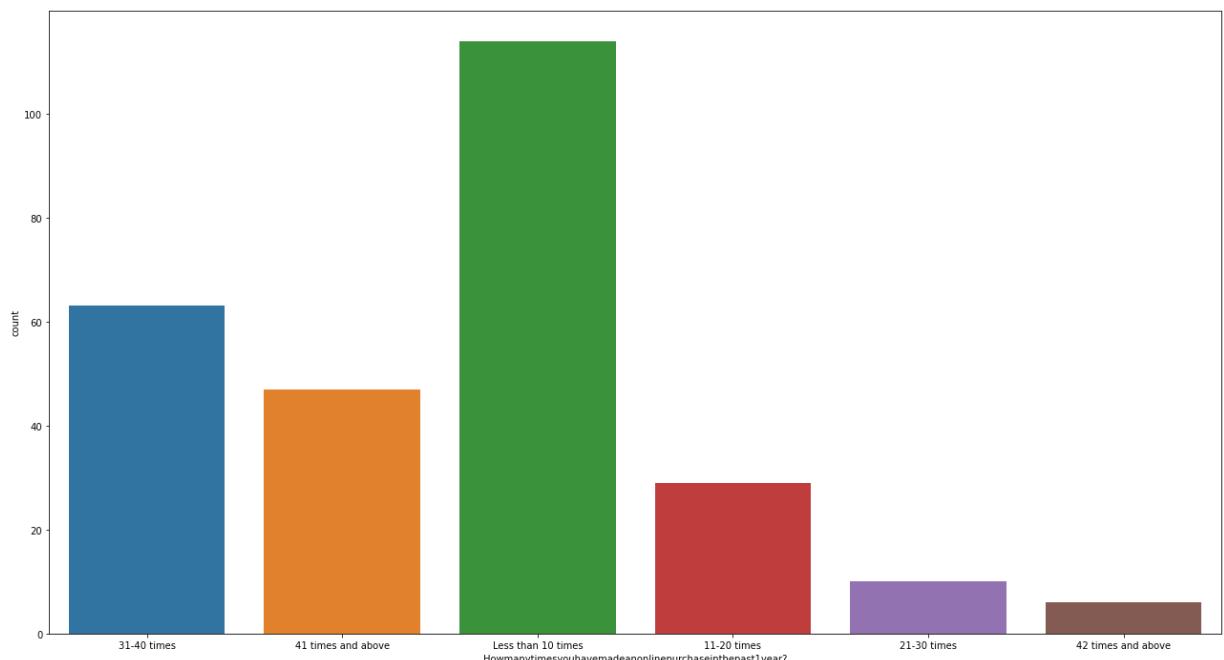
```
Out[565... <AxesSubplot:xlabel='Whichcitydoyoushoponlinefrom?', ylabel='count'>
```



In [566...]: *##### from delhi city people shop more*

In [567...]: `plt.figure(figsize=(22,12))
sns.countplot(df['Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?'])`

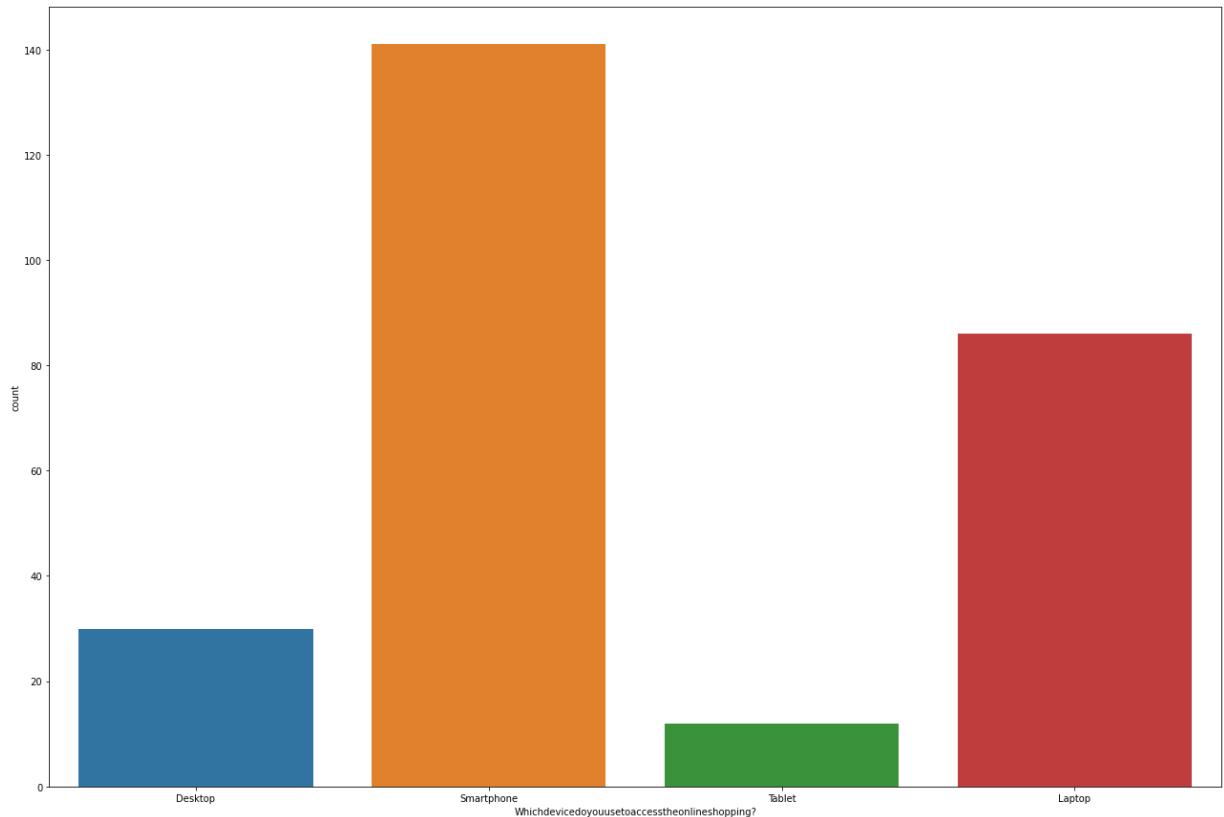
Out[567...]: <AxesSubplot:xlabel='Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?', ylabel='count'>



In [568...]: *#### Less than 10 times people do purchase online in past 1 year*

In [569...]: `plt.figure(figsize=(22,15))
sns.countplot(df['Whichdevicedoyouusetoaccesstheonlineshopping?'])`

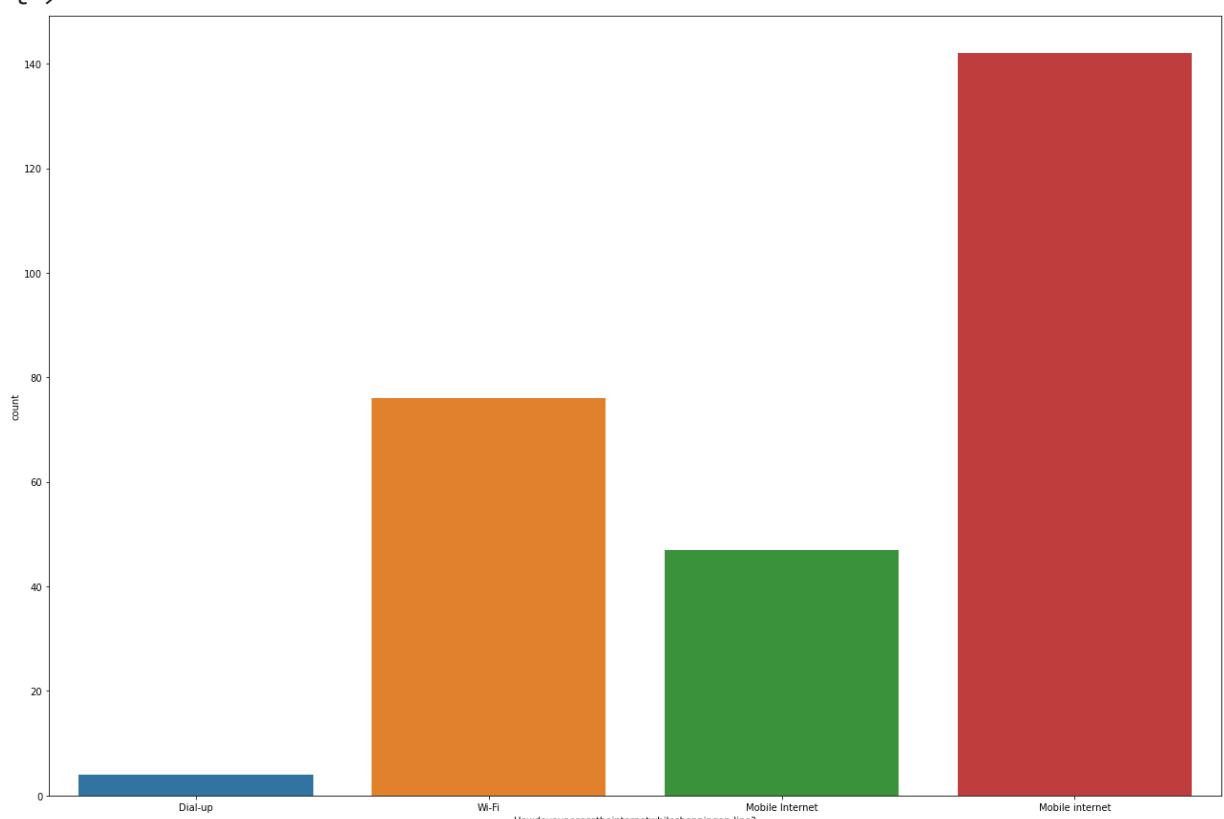
Out[569...]: <AxesSubplot:xlabel='Whichdevicedoyouusetoaccesstheonlineshopping?', ylabel='count'>



In [570...]: *##### mostly smartphones used by the people to access online purchase.it means mobile*

In [571...]: `plt.figure(figsize=(22,15))
sns.countplot(df['Howdoyouaccesstheinternetwhileshoppingon-line?'])`

Out[571...]: <AxesSubplot:xlabel='Howdoyouaccesstheinternetwhileshoppingon-line?', ylabel='count'>



In [572...]: *### due to caps and small letter mobile internet is showing two time but if we combi*

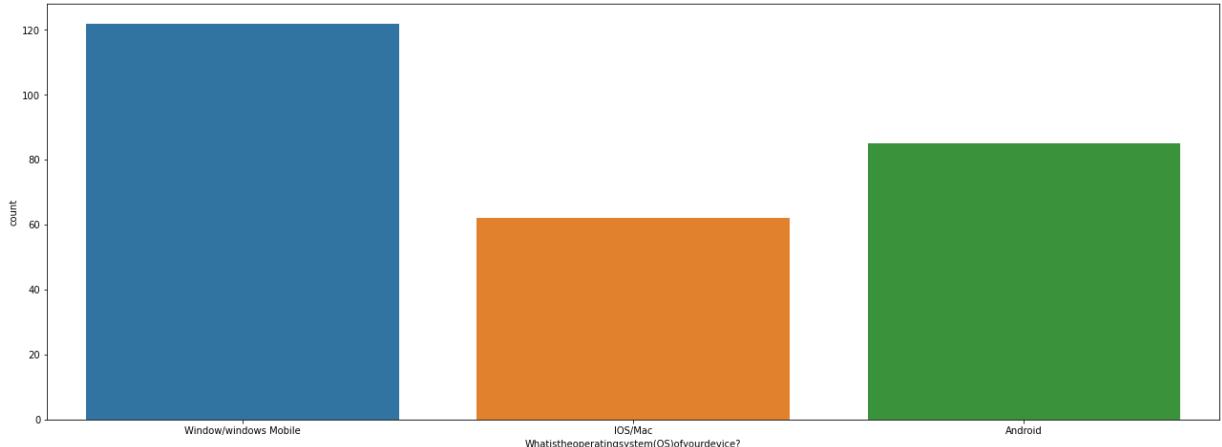
in preprocessing we combine same name letters

In [573...]

```
plt.figure(figsize=(22,8))
sns.countplot(df['Whatistheoperatingsystem(OS)ofyourdevice?'])
```

Out[573...]

<AxesSubplot:xlabel='Whatistheoperatingsystem(OS)ofyourdevice?', ylabel='count'>



In [574...]

mostly window mobile user are more in count

In [575...]

```
df.columns
```

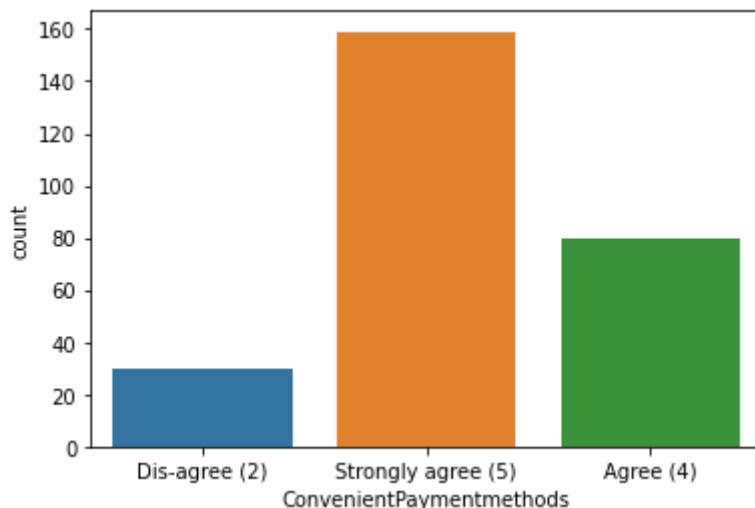
Out[575...]

```
Index(['Genderofrespondent', 'Howoldareyou?', 'Whichcitydoyoushoponlinefrom?',
       'WhatisthePinCodeofwheredyoushoponlinefrom?',
       'SinceHowLongYouareShoppingOnline?',
       'Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?',
       'Howdoyouaccesstheinternetwhileshoppingonline?',
       'Whichdevicedoyouusetoaaccesstheonlineshopping?',
       'Whatisthescrنسizeofyourmobiledevice?',
       'Whatistheoperatingsystem(OS)ofyourdevice?',
       'Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?',
       'Whichchanneldidyouthollowtoarriveatyourfavoriteonlinestoreforthefirsttime?',
       'Afterfirstvisit,howdoyoureactheonlineretailstore?',
       'Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?',
       'WhatisyourspreferredpaymentOption?',
       'Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)you
rshoppingcart?',
       'Whydidyouabandonthe“Bag”,“ShoppingCart”?',
       'Thecontentonthewebsitemustbeeasytoreadandunderstand',
       'Informationonsimilaproducttotheonehighlightedisimportantforproductcompariso
n',
       'Completeinformationonlistedsellerandproductbeingofferedisimportantforpurchas
edecision.',
       'Allrelevantinformationonlistedproductsmustbestatedclearly',
       'Easeofnavigationinwebsite', 'Loadingandprocessingspeed',
       'UserfriendlyInterfaceofthewebsite', 'ConvenientPaymentmethods',
       'Trustthattheonlineretailstorewillfulfillitspartofthetransactionatthestipulat
etime',
       'Empathy(readinessstoassistwithqueries)towardsthecustomers',
       'Beingabletoguaranteetheprivacyofthecustomer',
       'Responsiveness,availabilityofseveralcommunicationchannels(email,onlineRep,tw
itter,phoneetc.)',
       'Onlineshoppinggivesmonetarybenefitanddiscounts',
       'Enjoymentisderivedfromshoppingonline',
       'Shoppingonlineisconvenientandflexible',
       'Returnandreplacementpolicyofthee-tailerisimportantforpurchasedecision',
       'Gainingaccesstoloyaltyprogramsisabenefitofshoppingonline',
       'DisplayingqualityInformationonthewebsiteimprovesatisfactionofcustomers',
       'Userderivesatisfactionwhileshoppingonagoodqualitywebsiteorapplication',
```

```
'NetBenefitderivedfromshoppingonlinecanleadtouserssatisfaction',
'Usersatisfactioncannotexistwithouttrust',
'Offeringawidevarietyoflistedproductinseveralcategory',
'Provisionofcompleteandrelevantproductinformation', 'Monetarysavings',
'TheConvenienceofpatronizingtheonlineretailer',
'Shoppingonthewebsitedivesyouthesenseofadventure',
'Shoppingonyourpreferrede-tailerenhancesyoursocialstatus',
'Youfeelgratificationshoppingonyourfavoritee-tailer',
'Shoppingonthewebsitedelpsyfulfillcertainroles',
'Gettingvalueformoneyspent',
'Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom;',
'Easytousewebsiteorapplication', 'Visualappealingweb-pagelayout',
'Wildvarietyofproductonoffer',
'Complete,relevantdescriptionininformationofproducts',
'Fastloadingwebsitespeedofwebsiteandapplication',
'Reliabilityofthewebsiteorapplication', 'Quicknesstocompletepurchase',
'Availabilityofseveralpaymentoptions', 'Speedyorderdelivery',
'Privacyofcustomers'information',
'Securityofcustomerfinancialinformation', 'PerceivedTrustworthiness',
'Presenceofonlineassistancethroughmulti-channel',
'Longertimetologgedin(promotion,salesperiod)',
'Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)',
'Latedeclarationofprice(promotion,salesperiod)',
'Longerpageloadingtime(promotion,salesperiod)',
'Limitedmodeofpaymentonmostproducts(promotion,salesperiod)',
'Longerdeliveryperiod', 'Changeinwebsite/Applicationdesign',
'Frequentdisruptionwhenmovingfromonepagetoanother',
'Websiteisasefficientasbefore',
'WhichoftheIndianonlineretailerwouldyourecommendtoafriend?'],
dtype='object')
```

In [576]: `sns.countplot(df['ConvenientPaymentmethods'])`

Out[576]: <AxesSubplot:xlabel='ConvenientPaymentmethods', ylabel='count'>

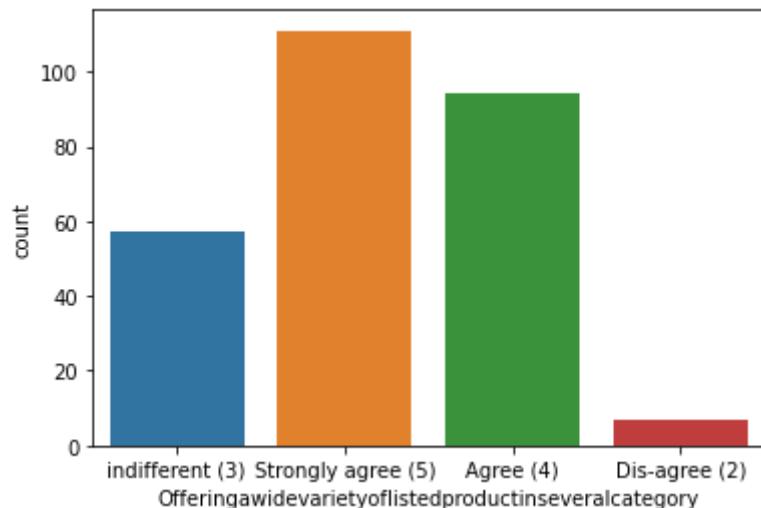


In [577]: `#### customer strongly agree with convenient Payment method`

In []:

In [578]: `sns.countplot(df["Offeringawidevarietyoflistedproductinseveralcategory"])`

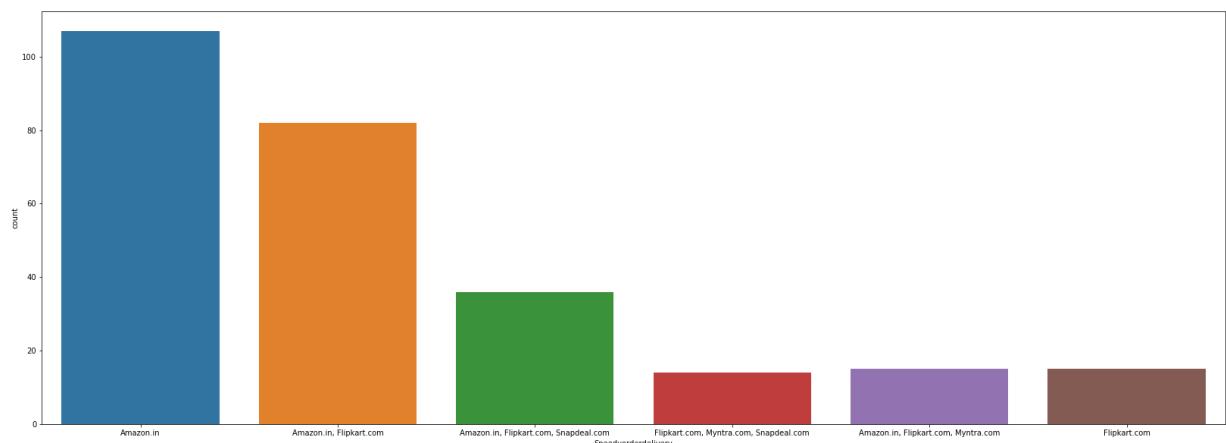
Out[578]: <AxesSubplot:xlabel='Offeringawidevarietyoflistedproductinseveralcategory', ylabel='count'>



In [579]: *#### offering a wide variry of listed product in several category shows strongly agr*

```
plt.figure(figsize=(28,10))
sns.countplot(df['Speedyorderdelivery'])
```

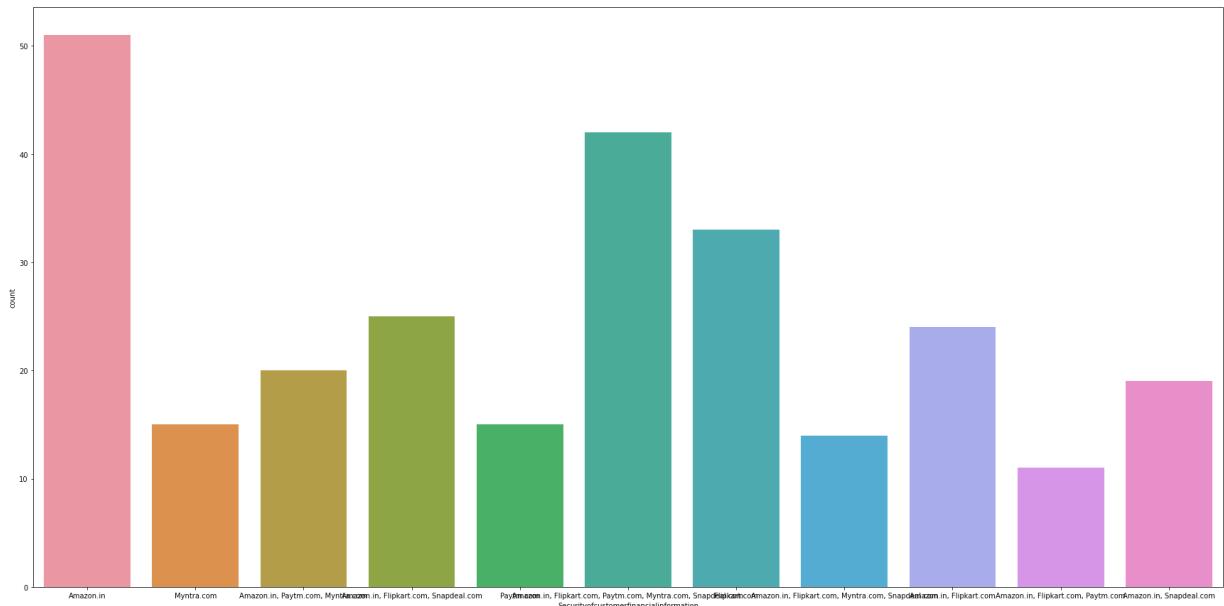
Out[580]: <AxesSubplot:xlabel='Speedyorderdelivery', ylabel='count'>



In [581]: *#### amazon gives the speed of the delivery*

```
plt.figure(figsize=(30,15))
sns.countplot(df['Securityofcustomerfinancialinformation'])
```

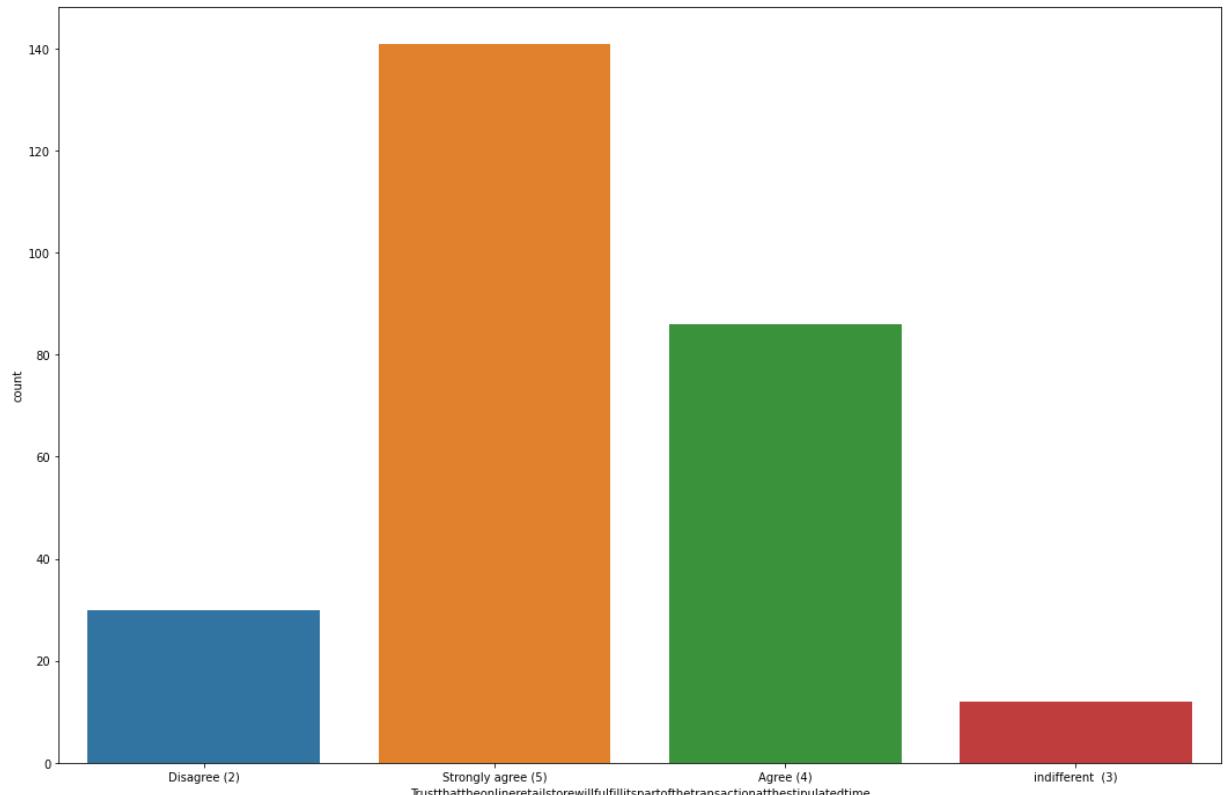
Out[582]: <AxesSubplot:xlabel='Securityofcustomerfinancialinformation', ylabel='count'>



```
In [583... ##### Amazon keeps the security of customer financial information
```

```
In [584... plt.figure(figsize=(18,12))
sns.countplot(df['TrustthattheonlineRetailstorewillfulfillitspartofthetransactionatt
thespecifiedtime'])
```

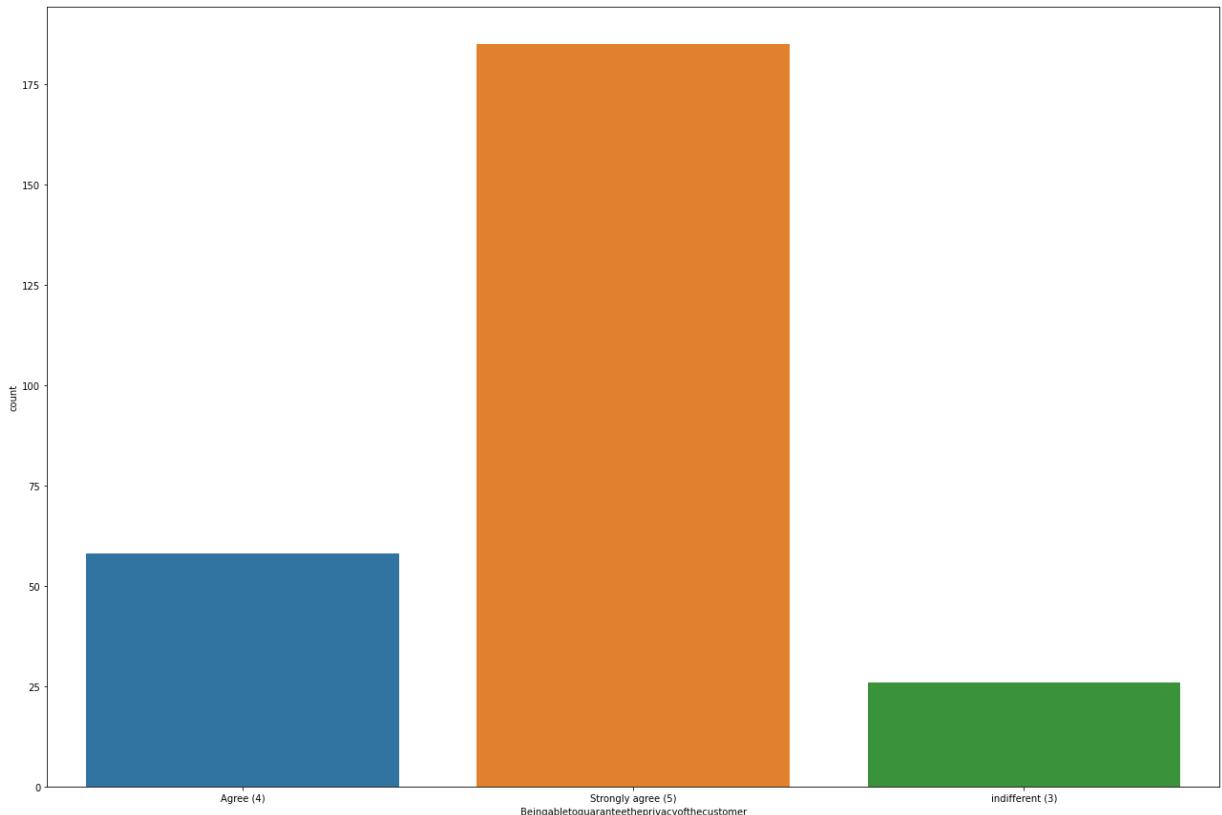
```
Out[584... <AxesSubplot:xlabel='TrustthattheonlineRetailstorewillfulfillitspartofthetransactionat
thespecifiedtime', ylabel='count'>
```



```
In [585... ##### people strongly agree for the Trust that the online retail store will fulfill i
```

```
In [586... plt.figure(figsize=(22,15))
sns.countplot(df['Beingableto guaranteetheprivacyofthecustomer'])
```

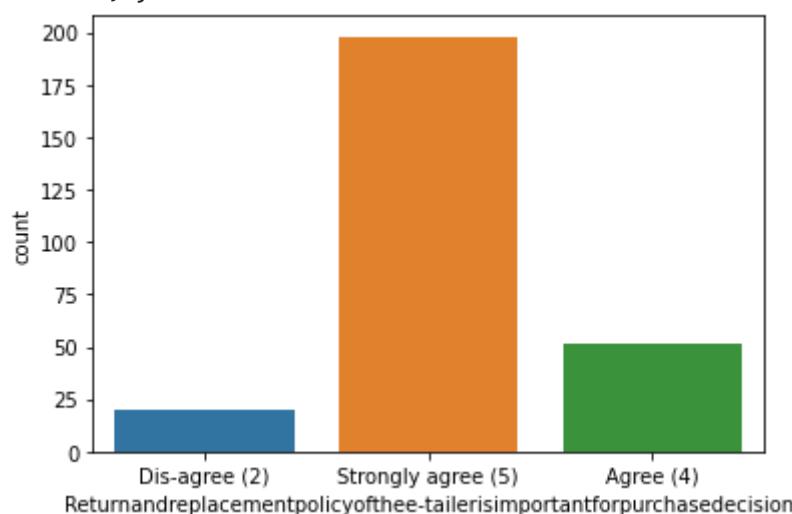
```
Out[586... <AxesSubplot:xlabel='Beingableto guaranteetheprivacyofthecustomer', ylabel='count'>
```



```
In [587]: ##### strongly agrred the store for Being able to guarantee the privacy of the customer
```

```
In [588]: sns.countplot(df['Returnandreplacementpolicyofthee-tailerisimportantforpurchasedecis
```

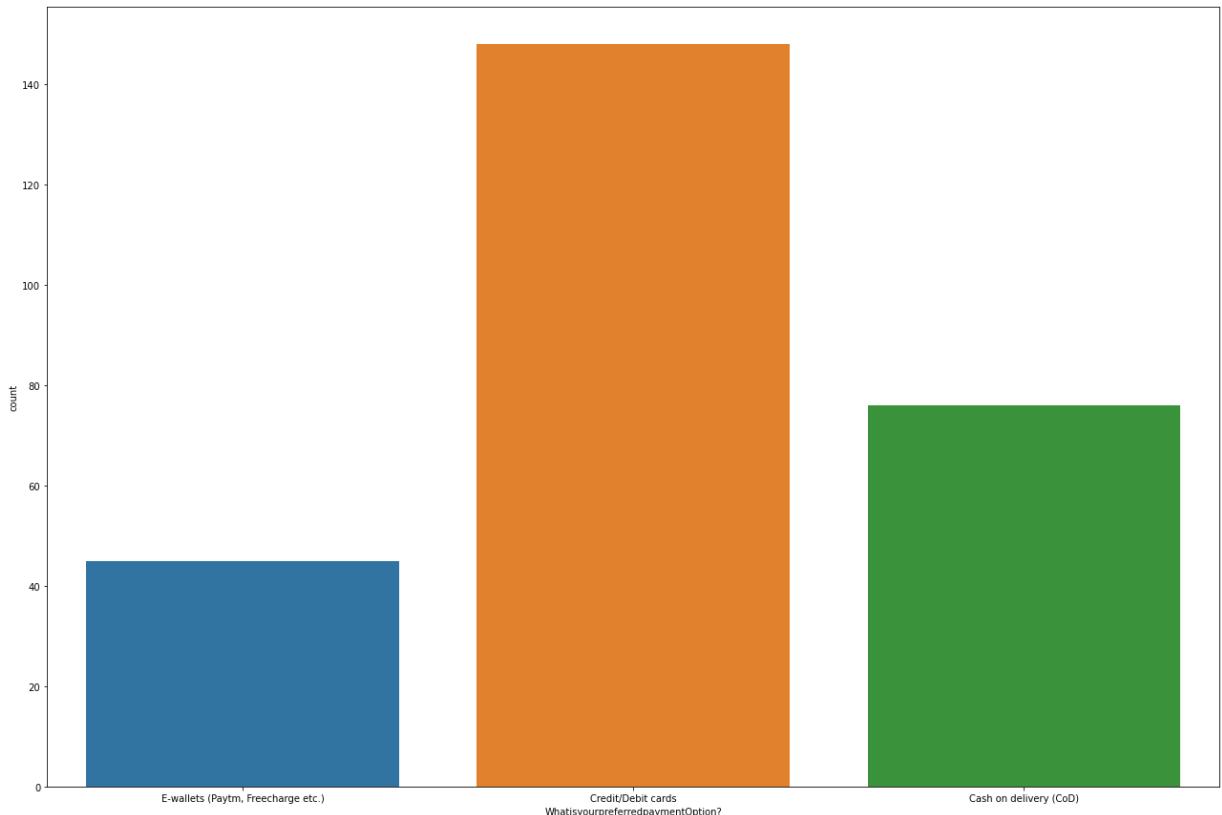
```
Out[588]: <AxesSubplot:xlabel='Returnandreplacementpolicyofthee-tailerisimportantforpurchasede  
cision', ylabel='count'>
```



```
In [589]: ##### strongly agreed for the Return and Replacement policy is important for purch
```

```
In [590]: plt.figure(figsize=(22,15))  
sns.countplot(df['What is your preferred payment option?'])
```

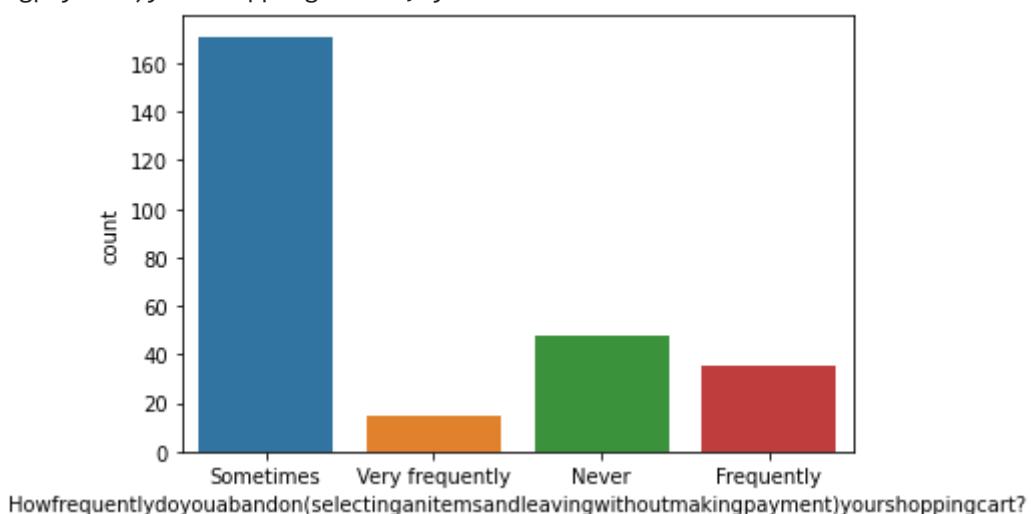
```
Out[590]: <AxesSubplot:xlabel='What is your preferred payment option?', ylabel='count'>
```



In [591]: *#### credit/debit card is perferred payment option chosen higly*

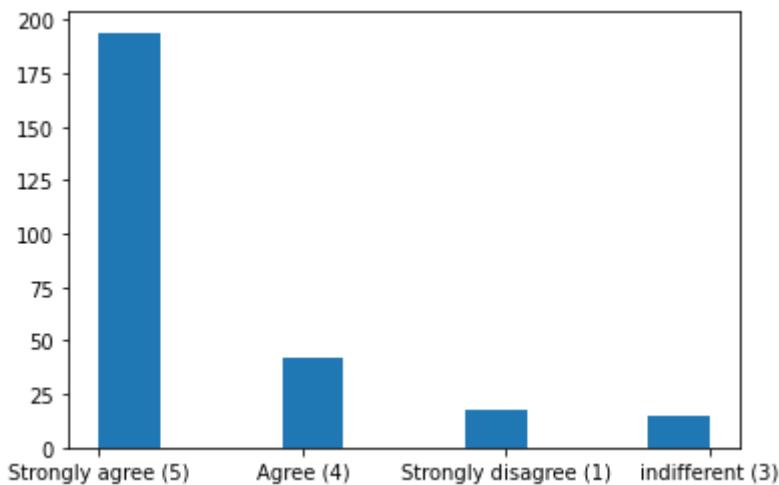
In [592]: `sns.countplot(df['Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppingcart?'])`

Out[592]: <AxesSubplot:xlabel='Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppingcart?', ylabel='count'>



In [593]: *#### Sometimes is highly countable for selecting and leaving without making payment*

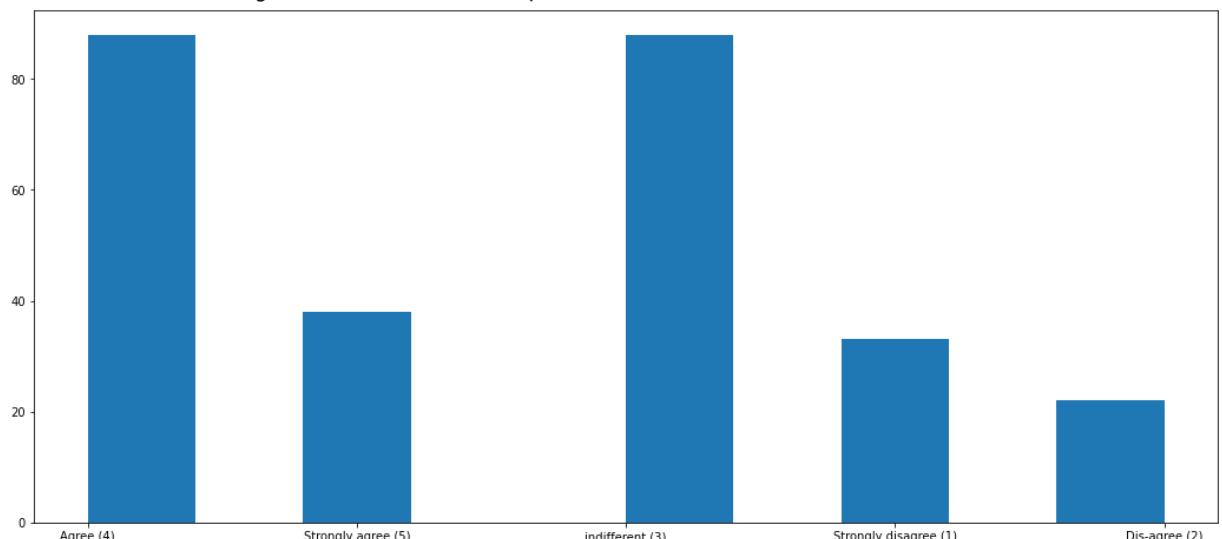
In [594]: `# Creating plot
plt.hist(df['Empathy(readinesstoassistwithqueries)towardsthecustomers'])
plt.show()`



In [595...]: *##### Strongly agreed towards Empathy readiness to assist with queries towards customers*

```
plt.figure(figsize=(18,8))
plt.hist(df['Shoppingonthewebsitehelpsyousupplycertainroles'])
```

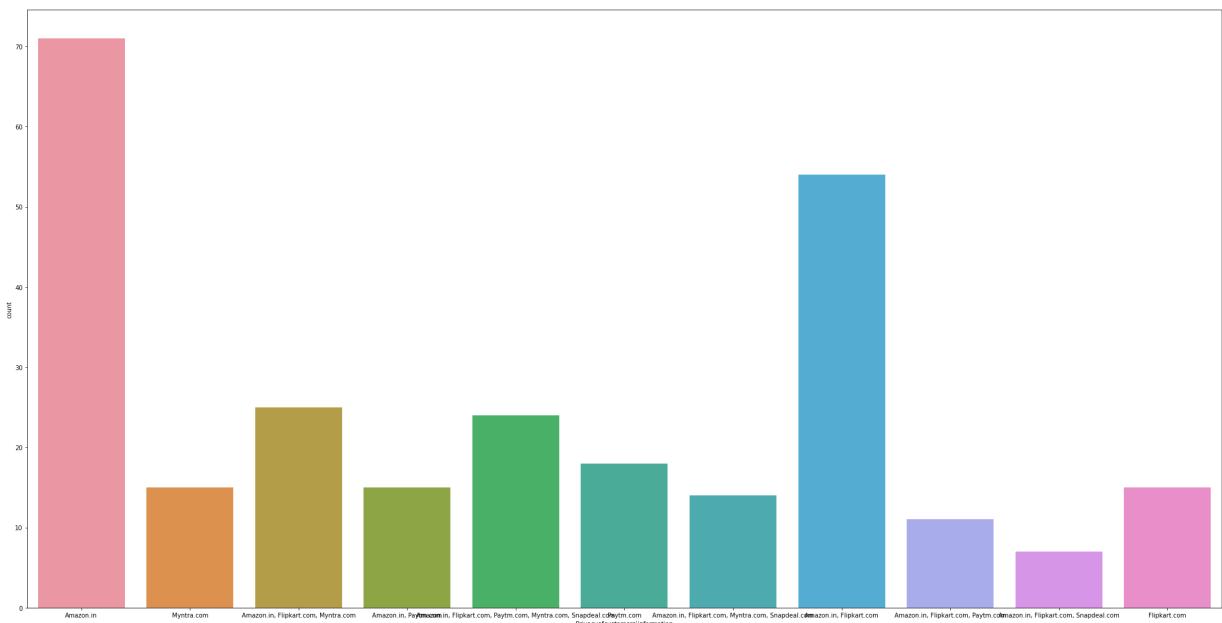
Out[596...]: (array([88., 0., 38., 0., 0., 88., 0., 33., 0., 22.]),
 array([0., 0.4, 0.8, 1.2, 1.6, 2., 2.4, 2.8, 3.2, 3.6, 4.]),
 <BarContainer object of 10 artists>)



In [597...]: *##### customer agree with shopping on the website to full fill the certain role*

```
plt.figure(figsize=(35,18))
sns.countplot(df['Privacyofcustomersinformation'])
```

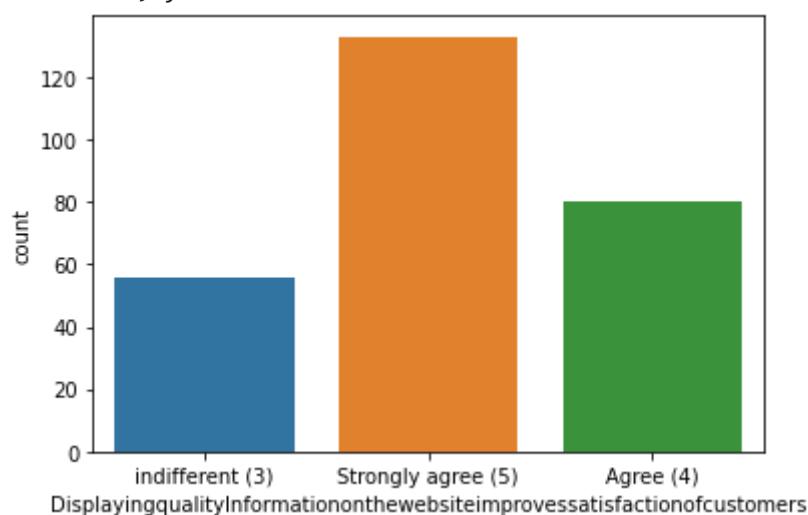
Out[598...]: <AxesSubplot:xlabel='Privacyofcustomersinformation', ylabel='count'>



In [599]: *#### Amazon keep the customer policy information of customers*

In [600]: `sns.countplot(df['DisplayingqualityInformationonthewebsiteimprovessatisfactionofcustomers'])`

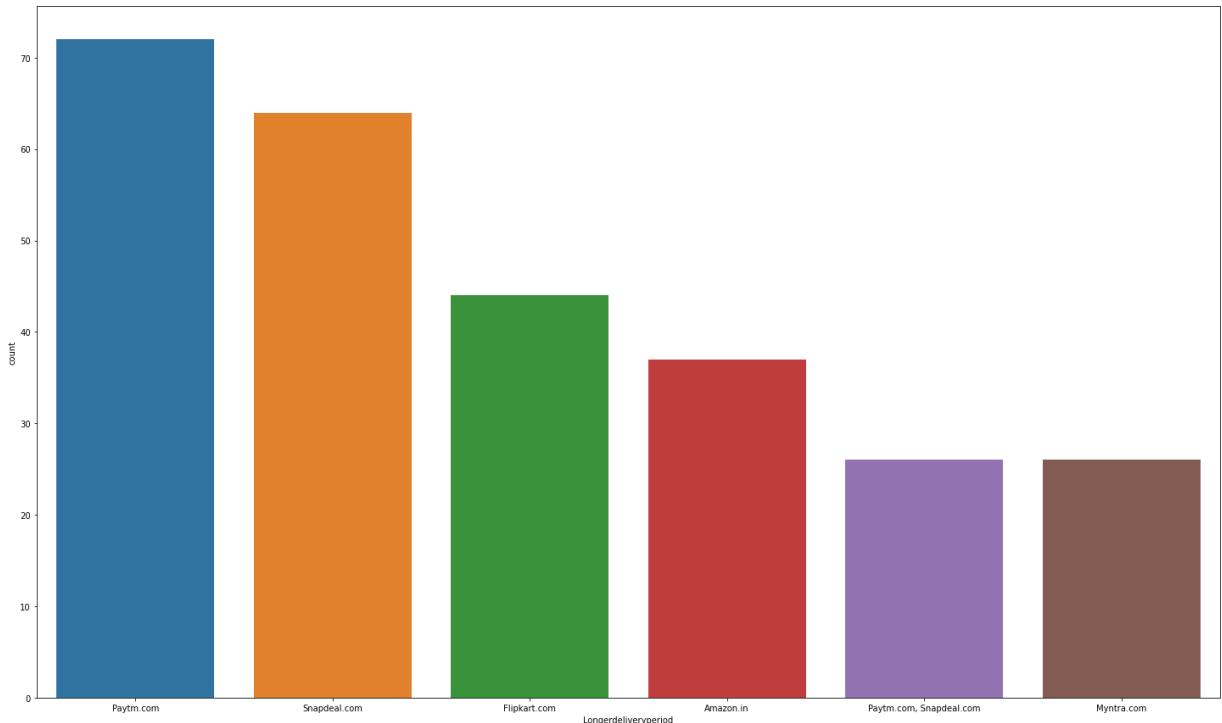
Out[600]: <AxesSubplot:xlabel='DisplayingqualityInformationonthewebsiteimprovessatisfactionofcustomers', ylabel='count'>



In [601]: *##### strongly agree for displaying information on the website imporoved satisfaction*

In [602]: `plt.figure(figsize=(25,15))
sns.countplot(df['Longerdeiveryperiod'])`

Out[602]: <AxesSubplot:xlabel='Longerdeiveryperiod', ylabel='count'>



```
In [603... ##### paytm takes Longer delivery time
```

Pre-processing

```
In [604... df['Genderofrespondent'].unique()
```

```
Out[604... array(['Male', 'Female'], dtype=object)
```

```
In [605... ##### import Label encoder to convert catagorical value
import sklearn
from sklearn import preprocessing
le = preprocessing.LabelEncoder()
```

```
In [606... df['Genderofrespondent'] = le.fit_transform(df['Genderofrespondent'])
```

```
In [607... df['Genderofrespondent'].unique() # 1 for male and 0 for female
```

```
Out[607... array([1, 0])
```

```
In [608... df['Howoldareyou?'].unique()
```

```
Out[608... array(['31-40 years', '21-30 years', '41-50 yaers', 'Less than 20 years',
'51 years and above'], dtype=object)
```

```
In [609... df['Howoldareyou?'] = df['Howoldareyou?'].replace('31-40 years', '31')
```

```
In [610... df['Howoldareyou?'] = df['Howoldareyou?'].replace('Less than 20 years', '10')
df['Howoldareyou?'] = df['Howoldareyou?'].replace('21-30 years', '20')
df['Howoldareyou?'] = df['Howoldareyou?'].replace('41-50 yaers', '40')
df['Howoldareyou?'] = df['Howoldareyou?'].replace('51 years and above', '60')
```

```
In [611... df['Whichcitydoyoushoponlinefrom?'].unique()
```

```
Out[611... array(['Delhi', 'Greater Noida', 'Karnal ', 'Bangalore ', 'Noida',
   'Solan', 'Moradabad', 'Gurgaon ', 'Merrut', 'Ghaziabad',
   'Bulandshahr'], dtype=object)
```

```
In [612... df['Whichcitydoyoushoponlinefrom?'] = le.fit_transform(df['Whichcitydoyoushoponlinef
```

```
In [613... df['WhatisthePinCodeofwheredyoushoponlinefrom?'].unique()
```

```
Out[613... array([110009, 110030, 201308, 132001, 530068, 110011, 110018, 173229,
   110039, 244001, 122018, 201310, 560037, 203207, 250001, 201005,
   110044, 201306, 560010, 201305, 110042, 132036, 560018, 110008,
   560002, 201303, 201312, 203202, 560001, 201304, 560003, 110014,
   560013, 173212, 122009, 201009, 201008, 201001, 203001],  
dtype=int64)
```

```
In [614... df['WhatisthePinCodeofwheredyoushoponlinefrom?'] = le.fit_transform(df['WhatisthePinC
```

```
In [615... df['SinceHowLongYouareShoppingOnline?'].unique()
```

```
Out[615... array(['Above 4 years', '3-4 years', '2-3 years', 'Less than 1 year',
   '1-2 years'], dtype=object)
```

```
In [616... df['SinceHowLongYouareShoppingOnline?'] = df['SinceHowLongYouareShoppingOnline?'].re
```

```
In [617... df['Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?'].unique()
```

```
Out[617... array(['31-40 times', '41 times and above', 'Less than 10 times',
   '11-20 times', '21-30 times', '42 times and above'], dtype=object)
```

```
In [618... df['Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?'] = df['Howmanytimesyouha
```

```
In [619... df
```

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwher
0	1	31		2
1	0	20		2
2	0	20		4

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

3	1	20		6
4	0	20		0
5	0	31		9
6	1	40		2
7	1	40		2
8	0	10		10
9	0	31		2
10	1	31		8
11	0	40		9
12	0	60		5
13	0	31		4
14	0	20		6
15	0	20		0
16	1	31		9
17	1	40		2
18	0	40		2

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive? WhatisthePinCodeofwherewillyouwork?

19	0	20		10
20	0	20		9
21	1	31		5
22	1	40		4
23	0	40		4
24	0	20		7
25	0	20		0
26	1	20		3
27	1	31		2
28	0	40		4
29	0	40		6
30	0	10		0
31	1	31		9
32	1	31		2
33	0	40		4
34	0	60		6
35	0	20		0
36	1	31		9

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

37	1	40	2	
38	0	40	4	
39	0	20	6	
40	0	20	0	
41	1	31	9	
42	1	20	2	
43	0	20	4	
44	0	31	7	
45	0	40	0	
46	1	40	9	
47	1	10	2	
48	0	31	4	
49	0	31	6	
50	0	40	0	
51	1	60	9	
52	1	40	2	
53	0	40	4	

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

54	0	20	7	
55	0	20	0	
56	1	20	9	
57	1	20	2	
58	0	31	4	
59	0	40	6	
60	0	40	0	
61	1	10	9	
62	1	31	2	
63	0	31	4	
64	0	40	7	
65	0	60	0	
66	1	31	9	
67	1	40	2	
68	0	40	4	
69	0	20	7	
70	0	20	0	
71	1	31	9	

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
72	1	20		2
73	0	20		4
74	0	31		6
75	0	40		0
76	1	40		9
77	1	10		2
78	0	31		4
79	0	31		6
80	0	40		0
81	1	60		9
82	1	40		2
83	0	40		4
84	0	20		6
85	0	20		0
86	1	31		9
87	1	40		2
88	1	20		0
89	1	20		9
90	0	31		2
91	0	20		4
92	0	20		6

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
93	0	20		2
94	0	20		4
95	0	20		0
96	0	31		3
97	0	10		10
98	0	31		2
99	0	40		9
100	0	60		5
101	0	31		4
102	0	31		10
103	0	20		10
104	0	60		5
105	0	40		3
106	0	31		3
107	0	10		3
108	1	20		6
109	1	40		2
110	1	40		2
111	1	31		8
112	1	31		1
113	1	31		2

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
114	0	20		2
115	0	20		4
116	0	20		0
117	0	31		9
118	0	10		10
119	0	31		2
120	0	40		9
121	0	60		5
122	0	31		4
123	0	31		10
124	0	20		10
125	0	60		5
126	0	40		3
127	0	31		3
128	0	10		3
129	1	20		6
130	1	40		2
131	1	40		2
132	1	31		8
133	1	31		1
134	1	31		2

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
135	0	10		10
136	0	31		9
137	1	31		8
138	0	20		4
139	1	20		6
140	1	40		2
141	0	40		9
142	0	20		0
143	1	40		2
144	0	31		2
145	0	20		2
146	0	60		5
147	0	31		4
148	0	31		4
149	0	40		0
150	0	20		4
151	0	31		6
152	0	60		5

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
153	0	31		4
154	0	40		4
155	0	60		5
156	0	40		7
157	0	60		0
158	0	20		0
159	0	31		6
160	0	31		2
161	0	20		6
162	0	20		0
163	0	31		2
164	0	31		4
165	0	40		4
166	0	20		7
167	0	31		4
168	0	20		4
169	0	20		2
170	0	20		4
171	0	40		9
172	0	40		6

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
173	0	20		0
174	0	31		3
175	0	10		3
176	0	40		0
177	0	31		3
178	0	40		0
179	0	20		6
180	0	10		10
181	0	31		10
182	0	20		10
183	0	40		3
184	1	40		2
185	1	10		2
186	1	31		9
187	1	10		9
188	1	31		2
189	1	20		2
190	1	40		2
191	1	20		9
192	1	20		6
193	1	31		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
194	1	40		9
195	1	31		9
196	1	20		0
197	1	60		9
198	1	40		2
199	0	40		0
200	0	20		6
201	0	10		10
202	0	31		10
203	0	20		10
204	0	40		3
205	1	60		9
206	1	40		2
207	1	20		0
208	0	40		0
209	0	31		3
210	0	40		6
211	0	20		0
212	0	31		3
213	0	10		3
214	1	31		9
215	1	40		9
216	1	31		9
217	0	31		4

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
218	0	40		4
219	0	20		7
220	0	31		4
221	0	20		4
222	0	20		2
223	0	20		4
224	0	40		9
225	1	10		9
226	1	31		2
227	1	20		2
228	1	40		2
229	1	20		9
230	1	20		6
231	0	40		7
232	0	60		0
233	0	20		0
234	0	31		6

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
235	0	31		2
236	0	20		6
237	0	20		0
238	0	31		2
239	1	31		9
240	0	40		4
241	0	60		5
242	0	31		4
243	0	40		0
244	0	20		4
245	0	31		6
246	0	60		5
247	0	31		4
248	1	40		2
249	1	10		2
250	1	31		2
251	0	10		10
252	1	20		6
253	1	40		2

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
254	0	60		5
255	1	31		8
256	0	40		9
257	0	31		2
258	0	20		2
259	0	31		4
260	0	31		9
261	0	20		4
262	0	20		0
263	1	40		2
264	0	20		10
265	0	31		3
266	0	40		0
267	0	10		10
268	0	40		3

In [620]: df['Howdoyouaccesstheinternetwhileshoppingon-line?'] = le.fit_transform(df['Howdoyouaccesstheinternetwhileshoppingon-line?'])

In [621]: df['Whichdevicedoyouusetoaaccesstheonlineshopping?'] = le.fit_transform(df['Whichdevicedoyouusetoaaccesstheonlineshopping?'])

In [622]: df['Whatistheoperatingsystem(OS)ofyourdevice?'] = le.fit_transform(df['Whatistheoperatingsystem(OS)ofyourdevice?'])

In [623]: df['Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?'] = le.fit_transform(df['Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?'])

In [624]: df['Whichchanneldidyoufollowtoarriveatyourfavoriteonlinestoreforthefirsttime?'] = le.fit_transform(df['Whichchanneldidyoufollowtoarriveatyourfavoriteonlinestoreforthefirsttime?'])
df['Afterfirstvisit,howdoyoureachtheonlineretailstore?'] = le.fit_transform(df['Afterfirstvisit,howdoyoureachtheonlineretailstore?'])

```
df['How frequently do you abandon (selecting an item and leaving without making payment) your shopping cart?'] = le.fit_transform(df['How frequently do you abandon (selecting an item and leaving without making payment) your shopping cart?'])
```

In [625...]

```
df['Why did you abandon the "Bag", "Shopping Cart"?'] = le.fit_transform(df['Why did you abandon the "Bag", "Shopping Cart"?'])
df['The content on the website must be easy to read and understand'] = le.fit_transform(df['The content on the website must be easy to read and understand'])
df['Information on similar product to the one highlighted is important for product comparison'] = le.fit_transform(df['Information on similar product to the one highlighted is important for product comparison'])
df['Complete information on listed seller and product being offered is important for purchase decision'] = le.fit_transform(df['Complete information on listed seller and product being offered is important for purchase decision'])
```

In [626...]

df

Out[626...]

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
0	1	31		2
1	0	20		2
2	0	20		4
3	1	20		6
4	0	20		0
5	0	31		9
6	1	40		2
7	1	40		2
8	0	10		10
9	0	31		2
10	1	31		8
11	0	40		9
12	0	60		5
13	0	31		4

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
14	0	20		6
15	0	20		0
16	1	31		9
17	1	40		2
18	0	40		2
19	0	20		10
20	0	20		9
21	1	31		5
22	1	40		4
23	0	40		4
24	0	20		7
25	0	20		0
26	1	20		3
27	1	31		2
28	0	40		4
29	0	40		6
30	0	10		0

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
31	1	31		9
32	1	31		2
33	0	40		4
34	0	60		6
35	0	20		0
36	1	31		9
37	1	40		2
38	0	40		4
39	0	20		6
40	0	20		0
41	1	31		9
42	1	20		2
43	0	20		4
44	0	31		7
45	0	40		0
46	1	40		9
47	1	10		2
48	0	31		4

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
49	0	31		6
50	0	40		0
51	1	60		9
52	1	40		2
53	0	40		4
54	0	20		7
55	0	20		0
56	1	20		9
57	1	20		2
58	0	31		4
59	0	40		6
60	0	40		0
61	1	10		9
62	1	31		2
63	0	31		4
64	0	40		7
65	0	60		0
66	1	31		9
67	1	40		2

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
68	0	40	4	
69	0	20	7	
70	0	20	0	
71	1	31	9	
72	1	20	2	
73	0	20	4	
74	0	31	6	
75	0	40	0	
76	1	40	9	
77	1	10	2	
78	0	31	4	
79	0	31	6	
80	0	40	0	
81	1	60	9	
82	1	40	2	
83	0	40	4	
84	0	20	6	
85	0	20	0	
86	1	31	9	
87	1	40	2	

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
88	1	20		0
89	1	20		9
90	0	31		2
91	0	20		4
92	0	20		6
93	0	20		2
94	0	20		4
95	0	20		0
96	0	31		3
97	0	10		10
98	0	31		2
99	0	40		9
100	0	60		5
101	0	31		4
102	0	31		10
103	0	20		10
104	0	60		5
105	0	40		3
106	0	31		3
107	0	10		3
108	1	20		6

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

109	1	40	2	
110	1	40	2	
111	1	31	8	
112	1	31	1	
113	1	31	2	
114	0	20	2	
115	0	20	4	
116	0	20	0	
117	0	31	9	
118	0	10	10	
119	0	31	2	
120	0	40	9	
121	0	60	5	
122	0	31	4	
123	0	31	10	
124	0	20	10	
125	0	60	5	
126	0	40	3	
127	0	31	3	
128	0	10	3	
129	1	20	6	

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

130	1	40	2	
131	1	40	2	
132	1	31	8	
133	1	31	1	
134	1	31	2	
135	0	10	10	
136	0	31	9	
137	1	31	8	
138	0	20	4	
139	1	20	6	
140	1	40	2	
141	0	40	9	
142	0	20	0	
143	1	40	2	
144	0	31	2	
145	0	20	2	
146	0	60	5	
147	0	31	4	

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
148	0	31		4
149	0	40		0
150	0	20		4
151	0	31		6
152	0	60		5
153	0	31		4
154	0	40		4
155	0	60		5
156	0	40		7
157	0	60		0
158	0	20		0
159	0	31		6
160	0	31		2
161	0	20		6
162	0	20		0
163	0	31		2
164	0	31		4
165	0	40		4
166	0	20		7

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
167	0	31		4
168	0	20		4
169	0	20		2
170	0	20		4
171	0	40		9
172	0	40		6
173	0	20		0
174	0	31		3
175	0	10		3
176	0	40		0
177	0	31		3
178	0	40		0
179	0	20		6
180	0	10		10
181	0	31		10
182	0	20		10
183	0	40		3
184	1	40		2
185	1	10		2
186	1	31		9
187	1	10		9
188	1	31		2
189	1	20		2

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

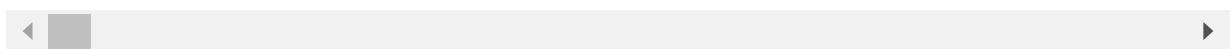
190	1	40	2
191	1	20	9
192	1	20	6
193	1	31	9
194	1	40	9
195	1	31	9
196	1	20	0
197	1	60	9
198	1	40	2
199	0	40	0
200	0	20	6
201	0	10	10
202	0	31	10
203	0	20	10
204	0	40	3
205	1	60	9
206	1	40	2
207	1	20	0
208	0	40	0
209	0	31	3
210	0	40	6
211	0	20	0

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
212	0	31		3
213	0	10		3
214	1	31		9
215	1	40		9
216	1	31		9
217	0	31		4
218	0	40		4
219	0	20		7
220	0	31		4
221	0	20		4
222	0	20		2
223	0	20		4
224	0	40		9
225	1	10		9
226	1	31		2
227	1	20		2
228	1	40		2
229	1	20		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
230	1	20		6
231	0	40		7
232	0	60		0
233	0	20		0
234	0	31		6
235	0	31		2
236	0	20		6
237	0	20		0
238	0	31		2
239	1	31		9
240	0	40		4
241	0	60		5
242	0	31		4
243	0	40		0
244	0	20		4
245	0	31		6
246	0	60		5
247	0	31		4
248	1	40		2
249	1	10		2
250	1	31		2

Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive? Whydidyouabandonthe“Bag”,“ShoppingCart”?

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
251	0	10		10
252	1	20		6
253	1	40		2
254	0	60		5
255	1	31		8
256	0	40		9
257	0	31		2
258	0	20		2
259	0	31		4
260	0	31		9
261	0	20		4
262	0	20		0
263	1	40		2
264	0	20		10
265	0	31		3
266	0	40		0
267	0	10		10
268	0	40		3



In [627]:

```
df['Whydidyouabandonthe“Bag”,“ShoppingCart”?'] = le.fit_transform(df['Whydidyouabandonthe“Bag”,“ShoppingCart”?'])
```

```
df['The content on the website must be easy to read and understand'] = le.fit_transform(df['The content on the website must be easy to read and understand'])
df['Information on similar product to the one highlighted is important for product comparison'] = le.fit_transform(df['Information on similar product to the one highlighted is important for product comparison'])
df['Complete information on listed seller and product being offered is important for purchase decision'] = le.fit_transform(df['Complete information on listed seller and product being offered is important for purchase decision'])
```

In [628...]

```
df['All relevant information on listed products must be stated clearly'] = le.fit_transform(df['All relevant information on listed products must be stated clearly'])
df['Ease of navigation in website'] = le.fit_transform(df['Ease of navigation in website'])
df['Loading and processing speed'] = le.fit_transform(df['Loading and processing speed'])
df['User friendly Interface of the website'] = le.fit_transform(df['User friendly Interface of the website'])
df['Convenient Payment methods'] = le.fit_transform(df['Convenient Payment methods'])
df['Being able to guarantee the privacy of the customer'] = le.fit_transform(df['Being able to guarantee the privacy of the customer'])
```

In [629...]

```
df['Trust that the online retailer store will fulfill its part of the transaction at the stipulated time'] = le.fit_transform(df['Trust that the online retailer store will fulfill its part of the transaction at the stipulated time'])
df['Empathy (readiness to assist with queries) towards the customers'] = le.fit_transform(df['Empathy (readiness to assist with queries) towards the customers'])
df['Responsiveness, availability of several communication channels (email, online rep, Twitter, etc.)'] = le.fit_transform(df['Responsiveness, availability of several communication channels (email, online rep, Twitter, etc.)'])
```

In [630...]

```
df['Online shopping gives monetary benefit and discounts'] = le.fit_transform(df['Online shopping gives monetary benefit and discounts'])
df['Enjoyment is derived from shopping online'] = le.fit_transform(df['Enjoyment is derived from shopping online'])
df['Shopping online is convenient and flexible'] = le.fit_transform(df['Shopping online is convenient and flexible'])
df['Return and replacement policy of the e-tailer is important for purchase decision'] = le.fit_transform(df['Return and replacement policy of the e-tailer is important for purchase decision'])
df['Gaining access to loyalty programs is a benefit of shopping online'] = le.fit_transform(df['Gaining access to loyalty programs is a benefit of shopping online'])
```

In [631...]

```
df['Displaying quality Information on the website improves satisfaction of customers'] = le.fit_transform(df['Displaying quality Information on the website improves satisfaction of customers'])
df['User derives satisfaction while shopping on a good quality website or application'] = le.fit_transform(df['User derives satisfaction while shopping on a good quality website or application'])
df['User satisfaction cannot exist without trust'] = le.fit_transform(df['User satisfaction cannot exist without trust'])
df['Offering a wide variety of listed product in several categories'] = le.fit_transform(df['Offering a wide variety of listed product in several categories'])
df['Provision of complete and relevant product information'] = le.fit_transform(df['Provision of complete and relevant product information'])

df['Monetary savings'] = le.fit_transform(df['Monetary savings'])
df['The Convenience of patronizing the online retailer'] = le.fit_transform(df['The Convenience of patronizing the online retailer'])
df['Shopping on the website gives you the sense of adventure'] = le.fit_transform(df['Shopping on the website gives you the sense of adventure'])
df['Shopping on your preferred e-tailer enhances your social status'] = le.fit_transform(df['Shopping on your preferred e-tailer enhances your social status'])
df['You feel gratification shopping on your favorite e-tailer'] = le.fit_transform(df['You feel gratification shopping on your favorite e-tailer'])

df['Shopping on the website helps you fulfill certain roles'] = le.fit_transform(df['Shopping on the website helps you fulfill certain roles'])
df['Getting value for money spent'] = le.fit_transform(df['Getting value for money spent'])
df['Net Benefit derived from shopping online can lead to user satisfaction'] = le.fit_transform(df['Net Benefit derived from shopping online can lead to user satisfaction'])
```

In [632...]

```
df.head()
```

Out[632...]

	Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you live?
0	1	31		2
1	0	20		2
2	0	20		4
3	1	20		6
4	0	20		0

```
In [633... df['From the following, tick any (or all) of the online retailers you have shopped from;'].unique()
```

```
Out[633... array(['Amazon.in', 'Paytm.com',
 'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com',
 'Amazon.in', 'Paytm.com', 'Myntra.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Snapdeal.com',
 'Amazon.in', 'Flipkart.com', 'Amazon.in', 'Flipkart.com', 'Snapdeal.com',
 'Amazon.in', 'Amazon.in', 'Flipkart.com', 'Paytm.com'], dtype=object)
```

```
In [634... df['From the following, tick any (or all) of the online retailers you have shopped from1'] = df['From the following, tick any (or all) of the online retailers you have shopped from'],
df['From the following, tick any (or all) of the online retailers you have shopped from2'] = df['From the following, tick any (or all) of the online retailers you have shopped from'],
df['From the following, tick any (or all) of the online retailers you have shopped from3'] = df['From the following, tick any (or all) of the online retailers you have shopped from'],
df['From the following, tick any (or all) of the online retailers you have shopped from4'] = df['From the following, tick any (or all) of the online retailers you have shopped from'],
df['From the following, tick any (or all) of the online retailers you have shopped from5'] = df['From the following, tick any (or all) of the online retailers you have shopped from']
```

```
In [635... df.drop('From the following, tick any (or all) of the online retailers you have shopped from;', inplace=True)
```

```
In [636... df['Easy to use website or application'].unique()
```

```
Out[636... array(['Paytm.com', 'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com',
 'Amazon.in', 'Paytm.com', 'Myntra.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Snapdeal.com',
 'Amazon.in', 'Flipkart.com', 'Amazon.in', 'Flipkart.com', 'Myntra.com',
 'Amazon.in', 'Amazon.in', 'Paytm.com', 'Flipkart.com'], dtype=object)
```

```
In [637... df['Easy to use website or application1'] = df['Easy to use website or application'].str.split(),
df['Easy to use website or application2'] = df['Easy to use website or application'].str.split(),
df['Easy to use website or application3'] = df['Easy to use website or application'].str.split(),
df['Easy to use website or application4'] = df['Easy to use website or application'].str.split(),
df['Easy to use website or application5'] = df['Easy to use website or application'].str.split()
```

```
In [638... df.drop('Easy to use website or application', inplace=True, axis=1)
```

```
In [639... df['Visual appealing web-page layout'].unique()
```

```
Out[639... array(['Flipkart.com', 'Amazon.in', 'Myntra.com',
 'Amazon.in', 'Paytm.com', 'Myntra.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com',
 'Myntra.com', 'Amazon.in', 'Flipkart.com',
 'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com',
 'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Snapdeal.com',
 'Flipkart.com', 'Myntra.com', 'Amazon.in'], dtype=object)
```

```
In [640... df['Visual appealing web-page layout1'] = df['Visual appealing web-page layout'].str.split(),
df['Visual appealing web-page layout2'] = df['Visual appealing web-page layout'].str.split(),
df['Visual appealing web-page layout3'] = df['Visual appealing web-page layout'].str.split(),
df['Visual appealing web-page layout4'] = df['Visual appealing web-page layout'].str.split(),
df['Visual appealing web-page layout5'] = df['Visual appealing web-page layout'].str.split()
```

```
In [641... df.drop('Visual appealing web-page layout', inplace=True, axis=1)
```

```
In [642... ] ## check the unique value
df['Wildvarietyofproductonoffer'].unique()
```

```
Out[642... ] array(['Flipkart.com', 'Flipkart.com', 'Myntra.com',
'Amazon.in', 'Myntra.com', 'Amazon.in', 'Flipkart.com', 'Myntra.com',
'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Amazon.in',
'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com', 'Paytm.com'],
dtype=object)
```

```
In [643... ] ##### separate with comma and store in new columns separately
df['Wildvarietyofproductonoffer1']= df['Wildvarietyofproductonoffer'].str.split(',')
df['Wildvarietyofproductonoffer2']= df['Wildvarietyofproductonoffer'].str.split(',')
df['Wildvarietyofproductonoffer3']= df['Wildvarietyofproductonoffer'].str.split(',')
df['Wildvarietyofproductonoffer4']= df['Wildvarietyofproductonoffer'].str.split(',')
df['Wildvarietyofproductonoffer5']= df['Wildvarietyofproductonoffer'].str.split(',')
```

```
In [644... ] #### after split drop the column
df.drop('Wildvarietyofproductonoffer', inplace=True, axis=1)
```

```
In [645... ] ## check the unique value
df['Complete,relevantdescriptioninformationofproducts'].unique()
```

```
Out[645... ] array(['Snapdeal.com', 'Amazon.in', 'Flipkart.com', 'Myntra.com',
'Amazon.in', 'Paytm.com', 'Myntra.com', 'Amazon.in', 'Flipkart.com',
'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com',
'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Flipkart.com', 'Snapdeal.com',
'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com', 'Amazon.in',
'Amazon.in', 'Flipkart.com', 'Snapdeal.com', 'Flipkart.com'],
dtype=object)
```

```
In [646... ] ##### separate with comma and store in new columns separately
df['Complete,relevantdescriptioninformationofproducts1']= df['Complete,relevantdescr
df['Complete,relevantdescriptioninformationofproducts2']= df['Complete,relevantdescr
df['Complete,relevantdescriptioninformationofproducts3']= df['Complete,relevantdescr
df['Complete,relevantdescriptioninformationofproducts4']= df['Complete,relevantdescr
df['Complete,relevantdescriptioninformationofproducts5']= df['Complete,relevantdescr
```

```
In [647... ] ##### after splitting the drop the columns
df.drop('Complete,relevantdescriptioninformationofproducts', inplace=True, axis=1)
```

```
In [648... ] ## check the unique value
df['Fastloadingwebsitespeedofwebsiteandapplication'].unique()
```

```
Out[648... ] array(['Snapdeal.com', 'Amazon.in', 'Flipkart.com', 'Myntra.com',
'Amazon.in', 'Paytm.com', 'Amazon.in', 'Flipkart.com', 'Snapdeal.com',
'Amazon.in',
'Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com',
'Amazon.in', 'Flipkart.com', 'Paytm.com',
'Amazon.in', 'Flipkart.com', 'Myntra.com', 'Snapdeal.com',
'Amazon.in', 'Flipkart.com', 'Flipkart.com'],
dtype=object)
```

```
In [649... ] ##### separate with comma and store in new columns separately
df['Fastloadingwebsitespeedofwebsiteandapplication1']= df['Fastloadingwebsitespeedof
df['Fastloadingwebsitespeedofwebsiteandapplication2']= df['Fastloadingwebsitespeedof
df['Fastloadingwebsitespeedofwebsiteandapplication3']= df['Fastloadingwebsitespeedof
```

```
df['Fastloadingwebsitespeedofwebsiteandapplication4']= df['Fastloadingwebsitespeedof
df['Fastloadingwebsitespeedofwebsiteandapplication5']= df['Fastloadingwebsitespeedof
```

In [650...]

```
#### after splitting the drop the columns
df.drop('Fastloadingwebsitespeedofwebsiteandapplication', inplace=True, axis=1)
```

In [651...]

```
## check the unique value
df['Reliabilityofthewebsiteorapplication'].unique()
```

Out[651...]

```
array(['Paytm.com', 'Myntra.com', 'Amazon.in', Paytm.com, Myntra.com',
      'Amazon.in', Flipkart.com, Paytm.com',
      'Amazon.in', Flipkart.com, Paytm.com, Snapdeal.com',
      'Amazon.in', Flipkart.com, Snapdeal.com', 'Amazon.in',
      'Amazon.in', Flipkart.com, Myntra.com, Snapdeal.com',
      'Amazon.in', Flipkart.com', 'Flipkart.com'], dtype=object)
```

In [652...]

```
#### separert each value from comma and store ine variable
#### separate with comma and store in new columns separately
df['Reliabilityofthewebsiteorapplication1']= df['Reliabilityofthewebsiteorapplication'
df['Reliabilityofthewebsiteorapplication2']= df['Reliabilityofthewebsiteorapplication'
df['Reliabilityofthewebsiteorapplication3']= df['Reliabilityofthewebsiteorapplication'
df['Reliabilityofthewebsiteorapplication4']= df['Reliabilityofthewebsiteorapplication'
df['Reliabilityofthewebsiteorapplication5']= df['Reliabilityofthewebsiteorapplication
```

In [653...]

```
#### after splitting the drop the columns
df.drop('Reliabilityofthewebsiteorapplication', inplace=True, axis=1)
```

In [654...]

```
df['Quicknesstocompletepurchase'].unique()
```

Out[654...]

```
array(['Paytm.com', 'Amazon.com', Flipkart.com, Myntra.com',
      'Amazon.com', Paytm.com, Myntra.com',
      'Amazon.com', Flipkart.com, Paytm.com',
      'Amazon.com', Flipkart.com, Paytm.com, Myntra.com, Snapdeal',
      'Amazon.com', 'Flipkart.com, Myntra.com, Snapdeal',
      'Amazon.com', Flipkart.com', 'Flipkart.com'], dtype=object)
```

In [655...]

```
#### separert each value from comma and store ine variable
df['Quicknesstocompletepurchase1']= df['Quicknesstocompletepurchase'].str.split(',')
df['Quicknesstocompletepurchase2']= df['Quicknesstocompletepurchase'].str.split(',')
df['Quicknesstocompletepurchase3']= df['Quicknesstocompletepurchase'].str.split(',')
df['Quicknesstocompletepurchase4']= df['Quicknesstocompletepurchase'].str.split(',')
df['Quicknesstocompletepurchase5']= df['Quicknesstocompletepurchase'].str.split(',')
```

In [656...]

```
#### after splitting the drop the columns
df.drop('Quicknesstocompletepurchase', inplace=True, axis=1)
```

In [657...]

```
df['Availabilityofseveralpaymentoptions'].unique()
```

Out[657...]

```
array(['Patym.com', 'Amazon.in', Flipkart.com, Myntra.com',
      'Patym.com, Myntra.com',
      'Amazon.in', Flipkart.com, Patym.com, Myntra.com, Snapdeal.com',
      'Amazon.in', Flipkart.com, Snapdeal.com', 'Amazon.in, Flipkart.com',
      'Flipkart.com, Myntra.com, Snapdeal.com', 'Amazon.in, Patym.com',
      'Amazon.in', Flipkart.com, Myntra.com, Snapdeal.com', 'Amazon.in',
      'Flipkart.com'], dtype=object)
```

```
In [658... ##### separat each value from comma and store in variable
df['Availabilityofseveralpaymentoptions1']= df['Availabilityofseveralpaymentoptions'
df['Availabilityofseveralpaymentoptions2']= df['Availabilityofseveralpaymentoptions'
df['Availabilityofseveralpaymentoptions3']= df['Availabilityofseveralpaymentoptions'
df['Availabilityofseveralpaymentoptions4']= df['Availabilityofseveralpaymentoptions'
df['Availabilityofseveralpaymentoptions5']= df['Availabilityofseveralpaymentoptions'
```

```
In [659... ##### after splitting the drop the columns
df.drop('Availabilityofseveralpaymentoptions',inplace=True,axis=1)
```

```
In [660... df['Speedyorderdelivery'].unique()
```

```
Out[660... array(['Amazon.in', 'Amazon.in, Flipkart.com',
'Amazon.in, Flipkart.com, Snapdeal.com',
'Flipkart.com, Myntra.com, Snapdeal.com',
'Amazon.in, Flipkart.com, Myntra.com', 'Flipkart.com'],
dtype=object)
```

```
In [661... ##### separat each value from comma and store in variable
df['Speedyorderdelivery1']= df['Speedyorderdelivery'].str.split(',').str[1]
df['Speedyorderdelivery2']= df['Speedyorderdelivery'].str.split(',').str[2]
df['Speedyorderdelivery3']= df['Speedyorderdelivery'].str.split(',').str[3]
df['Speedyorderdelivery4']= df['Speedyorderdelivery'].str.split(',').str[4]
df['Speedyorderdelivery5']= df['Speedyorderdelivery'].str.split(',').str[5]
```

```
In [662... ##### after splitting the drop the columns
df.drop('Speedyorderdelivery',inplace=True,axis=1)
```

```
In [663... ### check the unique value
df['Privacyofcustomers'information'].unique()
```

```
Out[663... array(['Amazon.in', 'Myntra.com', 'Amazon.in, Flipkart.com, Myntra.com',
'Amazon.in, Paytm.com',
'Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com',
'Paytm.com', 'Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com',
'Amazon.in, Flipkart.com', 'Amazon.in, Flipkart.com, Paytm.com',
'Amazon.in, Flipkart.com, Snapdeal.com', 'Flipkart.com'],
dtype=object)
```

```
In [664... ##### separat each value from comma and store in variable
df['Privacyofcustomers'information1']= df['Privacyofcustomers'information'].str.split(',')
df['Privacyofcustomers'information2']= df['Privacyofcustomers'information'].str.split(',')
df['Privacyofcustomers'information3']= df['Privacyofcustomers'information'].str.split(',')
df['Privacyofcustomers'information4']= df['Privacyofcustomers'information'].str.split(',')
df['Privacyofcustomers'information5']= df['Privacyofcustomers'information'].str.split(',')
```

```
In [665... ##### after splitting the drop the columns
df.drop('Privacyofcustomers'information',inplace=True,axis=1)
```

```
In [666... ### check the unique value
df['Securityofcustomerfinancialinformation'].unique()
```

```
Out[666... array(['Amazon.in', 'Myntra.com', 'Amazon.in, Paytm.com, Myntra.com',
'Amazon.in, Flipkart.com, Snapdeal.com', 'Paytm.com',
'Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com',
```

```
'Flipkart.com',
'Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com',
'Amazon.in, Flipkart.com', 'Amazon.in, Flipkart.com, Paytm.com',
'Amazon.in, Snapdeal.com'], dtype=object)
```

In [667...]

```
#### separate each value from comma and store in variable
df['Securityofcustomerfinancialinformation1']= df['Securityofcustomerfinancialinformation'].str.split(',').str[0]
df['Securityofcustomerfinancialinformation2']= df['Securityofcustomerfinancialinformation'].str.split(',').str[1]
df['Securityofcustomerfinancialinformation3']= df['Securityofcustomerfinancialinformation'].str.split(',').str[2]
df['Securityofcustomerfinancialinformation4']= df['Securityofcustomerfinancialinformation'].str.split(',').str[3]
df['Securityofcustomerfinancialinformation5']= df['Securityofcustomerfinancialinformation'].str.split(',').str[4]
```

In [668...]

```
#### after splitting the drop the columns
df.drop('Securityofcustomerfinancialinformation', inplace=True, axis=1)
```

In [669...]

```
df['PerceivedTrustworthiness'].unique()
```

Out[669...]

```
array(['Flipkart.com', 'Myntra.com', 'Amazon.in, Myntra.com',
       'Amazon.in, Flipkart.com, Snapdeal.com',
       'Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com',
       'Amazon.in', 'Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com',
       'Amazon.in, Flipkart.com', 'Amazon.in, Flipkart.com, Paytm.com'],
      dtype=object)
```

In [670...]

```
#### separate each value from comma and store in variable
df['PerceivedTrustworthiness1']= df['PerceivedTrustworthiness'].str.split(',').str[1]
df['PerceivedTrustworthiness2']= df['PerceivedTrustworthiness'].str.split(',').str[2]
df['PerceivedTrustworthiness3']= df['PerceivedTrustworthiness'].str.split(',').str[3]
df['PerceivedTrustworthiness4']= df['PerceivedTrustworthiness'].str.split(',').str[4]
df['PerceivedTrustworthiness5']= df['PerceivedTrustworthiness'].str.split(',').str[5]
```

In [671...]

```
#### after splitting the drop the columns
df.drop('PerceivedTrustworthiness', inplace=True, axis=1)
```

In [672...]

```
#### check the unique value
df['Presenceofonlineassistancethroughmulti-channel'].unique()
```

Out[672...]

```
array(['Paytm.com', 'Amazon.in, Flipkart.com, Myntra.com', 'Myntra.com',
       'Amazon.in, Flipkart.com, Myntra.com, Snapdeal',
       'Amazon.in, Myntra.com', 'Amazon.in, Flipkart.com, Paytm.com',
       'Amazon.in', 'Amazon.in, Flipkart.com', 'Amazon.in, Snapdeal',
       'Flipkart.com'], dtype=object)
```

In [673...]

```
#### separate each value from comma and store in variable
df['Presenceofonlineassistancethroughmulti-channel1']= df['Presenceofonlineassistancethroughmulti-channel'].str.split(',').str[1]
df['Presenceofonlineassistancethroughmulti-channel2']= df['Presenceofonlineassistancethroughmulti-channel'].str.split(',').str[2]
df['Presenceofonlineassistancethroughmulti-channel3']= df['Presenceofonlineassistancethroughmulti-channel'].str.split(',').str[3]
df['Presenceofonlineassistancethroughmulti-channel4']= df['Presenceofonlineassistancethroughmulti-channel'].str.split(',').str[4]
df['Presenceofonlineassistancethroughmulti-channel5']= df['Presenceofonlineassistancethroughmulti-channel'].str.split(',').str[5]
```

In [674...]

```
#### after splitting the drop the columns
df.drop('Presenceofonlineassistancethroughmulti-channel', inplace=True, axis=1)
```

In [675...]

```
df['Longtimetologgedin(promotion,salesperiod)'].unique()
```

```
Out[675... array(['Amazon.in', 'Amazon.in', 'Flipkart.com', 'Mynta.com',
   'Snapdeal.com', 'Flipkart.com', 'Paytm.com',
   'Flipkart.com', 'Paytm.com', 'Snapdeal.com',
   'Amazon.in', 'Flipkart.com', 'Snapdeal.com', 'Paytm.com',
   'Amazon.in', 'Paytm.com', 'Flipkart.com'], dtype=object)
```

In [676... ##### separat each value from comma and store in variable
`df['Longertimetologgedin(promotion,salesperiod)1']= df['Longertimetologgedin(p
df['Longertimetologgedin(promotion,salesperiod)2']= df['Longertimetologgedin(p
df['Longertimetologgedin(promotion,salesperiod)3']= df['Longertimetologgedin(p
df['Longertimetologgedin(promotion,salesperiod)4']= df['Longertimetologgedin(p
df['Longertimetologgedin(promotion,salesperiod)5']= df['Longertimetologgedin(p`

In [677... ##### after splitting the drop the columns
`df.drop('Longertimetologgedin(promotion,salesperiod)', inplace=True, axis=1)`

In [678... ##### check the unique value
`df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)'].unique()`

```
Out[678... array(['Amazon.in', 'Mynta.com', 'Mynta.com', 'Snapdeal.com', 'Paytm.com',
   'Amazon.in', 'Paytm.com', 'Amazon.in', 'Flipkart.com',
   'Amazon.in', 'Mynta.com', 'Snapdeal.com',
   'Flipkart.com', 'Snapdeal.com', 'Snapdeal.com', 'Flipkart.com'],
   dtype=object)
```

In [679... ##### separat each value from comma and store in variable
`df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1']= df['Longertim
df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)2']= df['Longertim
df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)3']= df['Longertim
df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)4']= df['Longertim
df['Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)5']= df['Longertim`

In [680... ##### after splitting the drop the columns
`df.drop('Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)', inplace=True,`

In [681... `df['Latedeclarationofprice(promotion,salesperiod)'].unique()`

```
Out[681... array(['Flipkart.com', 'snapdeal.com', 'Mynta.com', 'Paytm.com',
   'Amazon.in', 'Paytm.com', 'Amazon.in', 'Paytm.com', 'snapdeal.com',
   'Amazon.in', 'Flipkart.com'], dtype=object)
```

In [682... ##### separat each value from comma and store in variable
`df['Latedeclarationofprice(promotion,salesperiod)1']= df['Latedeclarationofprice(pro
df['Latedeclarationofprice(promotion,salesperiod)2']= df['Latedeclarationofprice(pro`

In [683... ##### after splitting the drop the columns
`df.drop('Latedeclarationofprice(promotion,salesperiod)', inplace=True, axis=1)`

In [684... ##### check the unique
`df['Longerpageloadingtime(promotion,salesperiod)'].unique()`

```
Out[684... array(['Flipkart.com', 'Snapdeal.com', 'Mynta.com', 'Paytm.com',
   'Amazon.in', 'Paytm.com', 'Amazon.in', 'Flipkart.com',
   'Amazon.in', 'Snapdeal.com', 'Flipkart.com', 'Snapdeal.com',
```

```
'Paytm.com, Snapdeal.com', 'Amazon.in',
'Amazon.in, Paytm.com, Myntra.com'], dtype=object)
```

In [685...]

```
#### separate each value from comma and store in variable
df['Longerpageloadingtime(promotion,salesperiod)1']= df['Longerpageloadingtime(promo
df['Longerpageloadingtime(promotion,salesperiod)2']= df['Longerpageloadingtime(promo
df['Longerpageloadingtime(promotion,salesperiod)3']= df['Longerpageloadingtime(promo
df['Longerpageloadingtime(promotion,salesperiod)4']= df['Longerpageloadingtime(promo
df['Longerpageloadingtime(promotion,salesperiod)5']= df['Longerpageloadingtime(promo
```

In [686...]

```
#### after splitting the drop the columns
df.drop('Longerpageloadingtime(promotion,salesperiod)', inplace=True, axis=1)
```

In [687...]

```
## check the unique value
df['Limitedmodeofpaymentonmostproducts(promotion,salesperiod)'].unique()
```

Out[687...]

```
array(['Amazon.in', 'Snapdeal.com', 'Paytm.com', 'Amazon.in, Paytm.com',
       'Flipkart.com', 'Amazon.in, Flipkart.com',
       'Paytm.com, Snapdeal.com', 'Myntra.com, Snapdeal.com'],
      dtype=object)
```

In [688...]

```
df['Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1']= df['Limitedmodeofp
df['Limitedmodeofpaymentonmostproducts(promotion,salesperiod)2']= df['Limitedmodeofp
```

In [689...]

```
#### after splitting the drop the columns
df.drop('Limitedmodeofpaymentonmostproducts(promotion,salesperiod)', inplace=True, axi
```

In [690...]

```
df['Longerdeliveryperiod'].unique()
```

Out[690...]

```
array(['Paytm.com', 'Snapdeal.com', 'Flipkart.com', 'Amazon.in',
       'Paytm.com, Snapdeal.com', 'Myntra.com'],
      dtype=object)
```

In [691...]

```
df['Longerdeliveryperiod1']= df['Longerdeliveryperiod'].str.split(',').str[1]
df['Longerdeliveryperiod2']= df['Longerdeliveryperiod'].str.split(',').str[2]
```

In [692...]

```
#### after splitting the drop the columns
df.drop('Longerdeliveryperiod', inplace=True, axis=1)
```

In [693...]

```
## check the unique
df['Changeinwebsite/Applicationdesign'].unique()
```

Out[693...]

```
array(['Flipkart.com', 'Amazon.in', 'Paytm.com',
       'Amazon.in, Flipkart.com', 'Myntra.com', 'Snapdeal.com',
       'Flipkart.com, Myntra.com'],
      dtype=object)
```

In [694...]

```
df['Changeinwebsite/Applicationdesign1']= df['Changeinwebsite/Applicationdesign'].st
df['Changeinwebsite/Applicationdesign']= df['Changeinwebsite/Applicationdesign'].str
```

In [695...]

```
## check the unique
df['Frequentdisruptionwhenmovingfromonepagetoanother'].unique()
```

Out[695...]

```
array(['Amazon.in', 'Myntra.com', 'Paytm.com', 'Amazon.in, Flipkart.com',
```

```
'Snapdeal.com', 'Flipkart.com', 'Myntra.com, Snapdeal.com',
'Flipkart.com, Snapdeal.com'], dtype=object)
```

In [696...]
`df['Frequentdisruptionwhenmovingfromonepagetoanother1']= df['Frequentdisruptionwhenm
df['Frequentdisruptionwhenmovingfromonepagetoanother2']= df['Frequentdisruptionwhenm`

In [697...]
after splitting the drop the columns
`df.drop(['Frequentdisruptionwhenmovingfromonepagetoanother', 'Changeinwebsite/Applica`

In [698...]
`df['Websiteisasefficientasbefore'].unique()`

Out[698...]
`array(['Amazon.in', 'Amazon.in, Flipkart.com',
'Amazon.in, Flipkart.com, Paytm.com', 'Paytm.com', 'Snapdeal.com',
'Myntra.com, Snapdeal.com', 'Flipkart.com', 'Amazon.in, Paytm.com'],
dtype=object)`

In [699...]
`df['Websiteisasefficientasbefore1']= df['Websiteisasefficientasbefore'].str.split(',
df['Websiteisasefficientasbefore2']= df['Websiteisasefficientasbefore'].str.split(',
df['Websiteisasefficientasbefore3']= df['Websiteisasefficientasbefore'].str.split(',
df['Websiteisasefficientasbefore4']= df['Websiteisasefficientasbefore'].str.split(',
df['Websiteisasefficientasbefore5']= df['Websiteisasefficientasbefore'].str.split(',
df['Websiteisasefficientasbefore6']= df['Websiteisasefficientasbefore'].str.split(',')]`

In [700...]
after splitting the drop the columns
`df.drop(['Websiteisasefficientasbefore'], inplace=True, axis=1)`

In [701...]
`df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?'].unique()`

Out[701...]
`array(['Flipkart.com', 'Amazon.in, Myntra.com',
'Amazon.in, Paytm.com, Myntra.com', 'Amazon.in, Flipkart.com',
'Amazon.in, Paytm.com',
'Flipkart.com, Paytm.com, Myntra.com, snapdeal.com', 'Amazon.in',
'Amazon.in, Flipkart.com, Myntra.com'], dtype=object)`

In [702...]
`df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?1']= df['WhichoftheIndi
df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2']= df['WhichoftheIndi
df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?3']= df['WhichoftheIndi
df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?4']= df['WhichoftheIndi
df['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?5']= df['WhichoftheIndi`

In [703...]
after splitting the drop the columns
`df.drop(['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?'], inplace=True, a`

In [704...]
`df['Whatisthescreensizeofyourmobiledevice?'].unique()`

Out[704...]
`array(['Others', '4.7 inches', '5.5 inches', '5 inches'], dtype=object)`

In [705...]
`df['Whatisthescreensizeofyourmobiledevice?'] = df['Whatisthescreensizeofyourmobilede
df['Whatisthescreensizeofyourmobiledevice?'] = df['Whatisthescreensizeofyourmobilede
df['Whatisthescreensizeofyourmobiledevice?'] = df['Whatisthescreensizeofyourmobilede
df['Whatisthescreensizeofyourmobiledevice?'] = df['Whatisthescreensizeofyourmobilede`

In [706...]
`df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchaseddecision?'].unique()`

`array(['6-10 mins', 'more than 15 mins', '11-15 mins', '1-5 mins',`

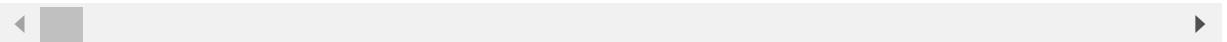
Out[706... 'Less than 1 min'], dtype=object)

In [707... df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?'] = df['Ho
df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?'] = df['Ho
df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?'] = df['Ho
df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?'] = df['Ho
df['Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?'] = df['Ho

In [708... df.head()

Out[708... Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwher

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwher
0	1	31		2
1	0	20		2
2	0	20		4
3	1	20		6
4	0	20		0



In [709... df.shape

Out[709... (269, 149)

In [710... df.isnull().sum()

Out[710... Genderofrespondent
0
Howoldareyou?
0
Whichcitydoyoushoponlinefrom?
0
WhatisthePinCodeofwher
0
youshoponlinefrom?
0
SinceHowLongYouareShoppingOnline?
0
Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?
0
Howdoyouaccesstheinternetwhileshoppingon-line?
0
Whichdevicedoyouusetoaccesstheonlineshopping?
0
Whatisthescreensizeofyourmobiledevice?
0
Whatistheoperatingsystem(OS)ofyourdevice?
0
Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?
0
Whichchanneldidyoufollowtoarriveatyourfavoriteonlinestoreforthefirsttime?
0
Afterfirstvisit, howdoyoureachtheonlineretailstore?
0
Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?
0
WhatisyourpreferredpaymentOption?
0
Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppin

gcart? 0
Why did you abandon the “Bag”, “ShoppingCart”?
0
The content on the website must be easy to read and understand
0
Information on similar products to the one highlighted is important for product comparison
0
Complete information on listed seller and product being offered is important for purchase decision.
n. 0
All relevant information on listed products must be stated clearly
0
Ease of navigation in website
0
Loading and processing speed
0
User friendly interface of the website
0
Convenient payment methods
0
Trust that the online retailer store will fulfill its part of the transaction at the stipulated time
0
Empathy (readiness to assist with queries) towards the customers
0
Being able to guarantee the privacy of the customer
0
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.) 0
Online shopping gives monetary benefit and discounts
0
Enjoyment is derived from shopping online
0
Shopping online is convenient and flexible
0
Return and replacement policy of the e-tailer is important for purchase decision
0
Gaining access to loyalty programs is a benefit of shopping online
0
Displaying quality information on the website improves satisfaction of customers
0
User derives satisfaction while shopping on a good quality website or application
0
Net Benefit derived from shopping online can lead to user satisfaction
0
User satisfaction cannot exist without trust
0
Offering a wide variety of listed products in several categories
0
Provision of complete and relevant product information
0
Monetary savings
0
The convenience of patronizing the online retailer
0
Shopping on the website gives you the sense of adventure
0
Shopping on your preferred e-tailer enhances your social status
0
You feel gratification shopping on your favorite e-tailer
0
Shopping on the website helps you fulfill certain roles
0
Getting value for money spent
0
From the following, tick any (or all) of the online retailers you have shopped from 1
16
From the following, tick any (or all) of the online retailers you have shopped from 2
60
From the following, tick any (or all) of the online retailers you have shopped from 3
114

Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom4
187
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom5
269
Easytousewebsiteorapplication1
49
Easytousewebsiteorapplication2
100
Easytousewebsiteorapplication3
139
Easytousewebsiteorapplication4
205
Easytousewebsiteorapplication5
269
Visualappealingweb-pagelayout1
71
Visualappealingweb-pagelayout2
188
Visualappealingweb-pagelayout3
208
Visualappealingweb-pagelayout4
233
Visualappealingweb-pagelayout5
269
Wildvarietyofproductonoffer1
77
Wildvarietyofproductonoffer2
242
Wildvarietyofproductonoffer3
255
Wildvarietyofproductonoffer4
269
Wildvarietyofproductonoffer5
269
Complete,relevantdescriptioninformationofproducts1
63
Complete,relevantdescriptioninformationofproducts2
174
Complete,relevantdescriptioninformationofproducts3
240
Complete,relevantdescriptioninformationofproducts4
254
Complete,relevantdescriptioninformationofproducts5
269
Fastloadingwebsitespeedofwebsiteandapplication1
71
Fastloadingwebsitespeedofwebsiteandapplication2
145
Fastloadingwebsitespeedofwebsiteandapplication3
225
Fastloadingwebsitespeedofwebsiteandapplication4
239
Fastloadingwebsitespeedofwebsiteandapplication5
269
Reliabilityofthewebsiteorapplication1
103
Reliabilityofthewebsiteorapplication2
153
Reliabilityofthewebsiteorapplication3
242
Reliabilityofthewebsiteorapplication4
269
Reliabilityofthewebsiteorapplication5
269
Quicknesstocompletepurchase1
106
Quicknesstocompletepurchase2
143
Quicknesstocompletepurchase3

254	
Quicknesstocompletepurchase4	
254	
Quicknesstocompletepurchase5	
269	
Availabilityofseveralpaymentoptions1	
43	
Availabilityofseveralpaymentoptions2	
139	
Availabilityofseveralpaymentoptions3	
211	
Availabilityofseveralpaymentoptions4	
230	
Availabilityofseveralpaymentoptions5	
269	
Speedyorderdelivery1	
122	
Speedyorderdelivery2	
204	
Speedyorderdelivery3	
269	
Speedyorderdelivery4	
269	
Speedyorderdelivery5	
269	
Privacyofcustomers'information1	
119	
Privacyofcustomers'information2	
188	
Privacyofcustomers'information3	
231	
Privacyofcustomers'information4	
245	
Privacyofcustomers'information5	
269	
Securityofcustomerfinancialinformation1	
114	
Securityofcustomerfinancialinformation2	
157	
Securityofcustomerfinancialinformation3	
213	
Securityofcustomerfinancialinformation4	
227	
Securityofcustomerfinancialinformation5	
269	
PerceivedTrustworthiness1	
118	
PerceivedTrustworthiness2	
184	
PerceivedTrustworthiness3	
231	
PerceivedTrustworthiness4	
256	
PerceivedTrustworthiness5	
269	
Presenceofonlineassistancethroughmulti-channel1	
100	
Presenceofonlineassistancethroughmulti-channel2	
180	
Presenceofonlineassistancethroughmulti-channel3	
208	
Presenceofonlineassistancethroughmulti-channel4	
269	
Presenceofonlineassistancethroughmulti-channel5	
269	
Longtimetologgedin(promotion,salesperiod)1	
163	
Longtimetologgedin(promotion,salesperiod)2	
227	

```

Longertimetologgedin(promotion,salesperiod)3
269
Longertimetologgedin(promotion,salesperiod)4
269
Longertimetologgedin(promotion,salesperiod)5
269
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1
138
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)2
255
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)3
269
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)4
269
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)5
269
Latedeclarationofprice(promotion,salesperiod)1
244
Latedeclarationofprice(promotion,salesperiod)2
269
Longerpageloadingtime(promotion,salesperiod)1
191
Longerpageloadingtime(promotion,salesperiod)2
262
Longerpageloadingtime(promotion,salesperiod)3
269
Longerpageloadingtime(promotion,salesperiod)4
269
Longerpageloadingtime(promotion,salesperiod)5
269
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1
205
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)2
269
Longerdeliveryperiod1
243
Longerdeliveryperiod2
269
Changeinwebsite/Applicationdesign1
217
Frequentdisruptionwhenmovingfromonepagetoanother1
219
Frequentdisruptionwhenmovingfromonepagetoanother2
269
Websiteisasefficientasbefore1
167
Websiteisasefficientasbefore2
244
Websiteisasefficientasbefore3
269
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?1
118
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2
223
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?3
258
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?4
269
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?5
269
dtype: int64

```

In [711...]

```
#### drop the unnecessary columns which no mean
df.drop(['Visualappealingweb-pagelayout5','Visualappealingweb-pagelayout4','Wildvari
```

In [712...]

```
df.drop(['FastloadingwebsITESPEEDOFWEBSITEANDAPPLICATION5','Reliabilityofthewebsiteo
```

```
In [713... df.drop(['Securityofcustomerfinancialinformation5','PerceivedTrustworthiness3','Perce
In [714... df.drop(['Latedeclarationofprice(promotion,salesperiod)2','Longerpageloadingtime(promo
In [715... df.drop(['WhichoftheIndianonlineretailerwouldyourecommendtoafriend?3','WhichoftheInd
In [716... df.drop(['Limitedmodeofpaymentonmostproducts(promotion,salesperiod)2','Longerpageloa
In [717... df.drop(['Longerpageloadingtime(promotion,salesperiod)3','Longertimeindisplayinggrap
In [718... df.drop(['Websiteisasefficientasbefore3','Speedyorderdelivery3','Speedyorderdelivery
In [719... df.drop(['Easytousewebsiteorapplication5','Completerelevantdescriptioninformationof
In [720... df.drop(['Securityofcustomerfinancialinformation1','WhichoftheIndianonlineretailerwo
In [721... ##### check for null value and fill the null value
df.isnull().sum()
```

```
Out[721... Genderofrespondent
0
Howoldareyou?
0
Whichcitydoyoushoponlinefrom?
0
WhatisthePinCodeofwheredyoushoponlinefrom?
0
SinceHowLongYouareShoppingOnline?
0
Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?
0
Howdoyouaccesstheinternetwhileshoppingon-line?
0
Whichdevicedoyouusetoaccesstheonlineshopping?
0
Whatisthescreensizeofyourmobiledevice?
0
Whatistheoperatingsystem(OS)ofyourdevice?
0
Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?
0
Whichchanneldidyoufollowtoarriveatyourfavoriteonlinestoreforthefirsttime?
0
Afterfirstvisit,howdoyoureachttheonlineretailstore?
0
Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?
0
WhatisyourspreferredpaymentOption?
0
Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppin
gcart?          0
Whydidyouabandonthe“Bag”,“ShoppingCart”?
0
Thecontentonthewebsitemustbeeasytoreadandunderstand
0
```

Information on similar product to the one highlighted is important for product comparison
0
Complete information on listed seller and product being offered is important for purchase decision
n. 0
All relevant information on listed products must be stated clearly
0
Ease of navigation in website
0
Loading and processing speed
0
User friendly interface of the website
0
Convenient payment methods
0
Trust that the online retailer will fulfill its part of the transaction at the stipulated time
0
Empathy (readiness to assist with queries) towards the customers
0
Being able to guarantee the privacy of the customer
0
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.) 0
Online shopping gives monetary benefit and discounts
0
Enjoyment is derived from shopping online
0
Shopping online is convenient and flexible
0
Return and replacement policy of the e-tailer is important for purchase decision
0
Gaining access to loyalty programs is a benefit of shopping online
0
Displaying quality information on the website improves satisfaction of customers
0
User derives satisfaction while shopping on a good quality website or application
0
Net Benefit derived from shopping online can lead to user satisfaction
0
User satisfaction cannot exist without trust
0
Offering a wide variety of listed products in several categories
0
Provision of complete and relevant product information
0
Monetary savings
0
The convenience of patronizing the online retailer
0
Shopping on the website gives you the sense of adventure
0
Shopping on your preferred e-tailer enhances your social status
0
You feel gratification shopping on your favorite e-tailer
0
Shopping on the website helps you fulfill certain roles
0
Getting value for money spent
0
From the following, tick any (or all) of the online retailers you have shopped from 1
16
From the following, tick any (or all) of the online retailers you have shopped from 2
60
From the following, tick any (or all) of the online retailers you have shopped from 3
114
From the following, tick any (or all) of the online retailers you have shopped from 4
187
Easy to use website or application 1
49
Easy to use website or application 2

100
Easytousewebsiteorapplication3
139
Easytousewebsiteorapplication4
205
Visualappealingweb-pagelayout1
71
Visualappealingweb-pagelayout2
188
Visualappealingweb-pagelayout3
208
Wildvarietyofproductonoffer1
77
Wildvarietyofproductonoffer2
242
Complete, relevant description information of products1
63
Complete, relevant description information of products2
174
Complete, relevant description information of products3
240
Fastloadingwebsites speed of website and application1
71
Fastloadingwebsites speed of website and application2
145
Fastloadingwebsites speed of website and application3
225
Fastloadingwebsites speed of website and application4
239
Reliability of the website or application1
103
Reliability of the website or application2
153
Quickness to complete purchase1
106
Quickness to complete purchase2
143
Availability of several payment options1
43
Availability of several payment options2
139
Availability of several payment options3
211
Availability of several payment options4
230
Speedy order delivery1
122
Speedy order delivery2
204
Privacy of customers' information1
119
Privacy of customers' information2
188
Privacy of customers' information3
231
Privacy of customers' information4
245
Security of customer financial information2
157
Security of customer financial information3
213
Security of customer financial information4
227
Perceived Trustworthiness1
118
Perceived Trustworthiness2
184
Presence of online assistance through multi-channel1
100

```
Presenceofonlineassistancethroughmulti-channel2
180
Presenceofonlineassistancethroughmulti-channel3
208
Longertimetologgedin(promotion,salesperiod)1
163
Longertimetologgedin(promotion,salesperiod)2
227
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1
138
Latedeclarationofprice(promotion,salesperiod)1
244
Longerpageloadingtime(promotion,salesperiod)1
191
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1
205
Longerdeliveryperiod1
243
Frequentdisruptionwhenmovingfromonepagetoanother1
219
Websiteisasefficientasbefore1
167
Websiteisasefficientasbefore2
244
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2
223
dtype: int64
```

In [722...]: *#### fill all NULL value with None because every filled contain store and it should*
`df = df.replace(np.nan, 'None')`

In [723...]: `df.isnull().sum()`

Out[723...]:

Genderofrespondent	0
Howoldareyou?	0
Whichcitydoyoushoponlinefrom?	0
WhatisthePinCodeofwheredyoushoponlinefrom?	0
SinceHowLongYouareShoppingOnline?	0
Howmanytimesyouthavemadeanonlinepurchaseinthepast1year?	0
Howdoyouaccesstheinternetwhileshoppingon-line?	0
Whichdevicedoyouusetoaccesstheonlineshopping?	0
Whatisthescreensizeofyourmobiledevice?	0
Whatistheoperatingsystem(OS)ofyourdevice?	0
Whatbrowserdoyourunonyourdevicetoaccessthewebsite?	0
Whichchanneldidyouthollowtoarriveatyourfavoriteonlinestoreforthefirsttime?	0
Afterfirstvisit,howdoyureachtheonlineretailstore?	0
Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?	0
WhatisyourspreferredpaymentOption?	0
Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppin gcart?	0
Whydidyouabandonthe“Bag”, “ShoppingCart”?	

0
The content on the website must be easy to read and understand
0
Information on similar products to the one highlighted is important for product comparison
0
Complete information on listed seller and product being offered is important for purchase decision.
n. 0
All relevant information on listed products must be stated clearly
0
Ease of navigation in website
0
Loading and processing speed
0
User friendly interface of the website
0
Convenient payment methods
0
Trust that the online retailer will fulfill its part of the transaction at the stipulated time
0
Empathy (readiness to assist with queries) towards the customers
0
Being able to guarantee the privacy of the customer
0
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.) 0
Online shopping gives monetary benefit and discounts
0
Enjoyment is derived from shopping online
0
Shopping online is convenient and flexible
0
Return and replacement policy of the e-tailer is important for purchase decision
0
Gaining access to loyalty programs is a benefit of shopping online
0
Displaying quality information on the website improves satisfaction of customers
0
User derives satisfaction while shopping on a good quality website or application
0
Net Benefit derived from shopping online can lead to user satisfaction
0
User satisfaction cannot exist without trust
0
Offering a wide variety of listed products in several categories
0
Provision of complete and relevant product information
0
Monetary savings
0
The convenience of patronizing the online retailer
0
Shopping on the website gives you the sense of adventure
0
Shopping on your preferred e-tailer enhances your social status
0
You feel gratification shopping on your favorite e-tailer
0
Shopping on the website helps you fulfill certain roles
0
Getting value for money spent
0
From the following, tick any (or all) of the online retailers you have shopped from 1
0
From the following, tick any (or all) of the online retailers you have shopped from 2
0
From the following, tick any (or all) of the online retailers you have shopped from 3
0
From the following, tick any (or all) of the online retailers you have shopped from 4
0

Easytousewebsiteorapplication1
0
Easytousewebsiteorapplication2
0
Easytousewebsiteorapplication3
0
Easytousewebsiteorapplication4
0
Visualappealingweb-pagelayout1
0
Visualappealingweb-pagelayout2
0
Visualappealingweb-pagelayout3
0
Wildvarietyofproductonoffer1
0
Wildvarietyofproductonoffer2
0
Complete, relevant description information of products1
0
Complete, relevant description information of products2
0
Complete, relevant description information of products3
0
Fastloadingwebsites speed of website and application1
0
Fastloadingwebsites speed of website and application2
0
Fastloadingwebsites speed of website and application3
0
Fastloadingwebsites speed of website and application4
0
Reliability of the website or application1
0
Reliability of the website or application2
0
Quickness to complete purchase1
0
Quickness to complete purchase2
0
Availability of several payment options1
0
Availability of several payment options2
0
Availability of several payment options3
0
Availability of several payment options4
0
Speedy order delivery1
0
Speedy order delivery2
0
Privacy of customers' information1
0
Privacy of customers' information2
0
Privacy of customers' information3
0
Privacy of customers' information4
0
Security of customer financial information2
0
Security of customer financial information3
0
Security of customer financial information4
0
Perceived Trustworthiness1
0
Perceived Trustworthiness2

```

0
Presenceofonlineassistancethroughmulti-channel1
0
Presenceofonlineassistancethroughmulti-channel2
0
Presenceofonlineassistancethroughmulti-channel3
0
Longertimetologgedin(promotion,salesperiod)1
0
Longertimetologgedin(promotion,salesperiod)2
0
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1
0
Latedeclarationofprice(promotion,salesperiod)1
0
Longerpageloadingtime(promotion,salesperiod)1
0
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1
0
Longerdeiveryperiod1
0
Frequentdisruptionwhenmovingfromonepagetoanother1
0
Websiteisasefficientasbefore1
0
Websiteisasefficientasbefore2
0
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2
0
dtype: int64

```

In [726... df.dtypes

```

Out[726... Genderofrespondent
int32
Howoldareyou?
object
Whichcitydoyoushoponlinefrom?
int32
WhatisthePinCodeofwheredyoushoponlinefrom?
int64
SinceHowLongYouareShoppingOnline?
object
Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?
object
Howdoyouaccesstheinternetwhileshoppingon-line?
int32
Whichdevicedoyouusetoaccesstheonlineshopping?
int32
Whatisthescreensizeofyourmobiledevice?
object
Whatistheoperatingsystem(OS)ofyourdevice?
int32
Whatbrowserdoyourunonyourdevicetoaccesstthewebsite?
int32
Whichchanneldidyouthefirsttimeyouarriveatyourfavoriteonlinestoreforthe
int32
Afterfirstvisit,howdoyoureachtheonlineretailstore?
int32
Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?
object
WhatisyourspreferredpaymentOption?
int32
Howfrequentlydoyouabandon(selectinganitemsandleavingwithoutmakingpayment)yourshoppin
gcart?      int32
Whydidyouabandonthe“Bag”,“ShoppingCart”?
int64
Thecontentonthewebsitemustbeeasytoreadandunderstand

```

```
int64
Informationonsimilarproducttotheonehighlightedisimportantforproductcomparison
int64
Completeinformationonlistedsellerandproductbeingofferedisimportantforpurchasedecision
n.           int64
Allrelevantinformationonlistedproductsmustbestatedclearly
int32
Easeofnavigationinwebsite
int32
Loadingandprocessingspeed
int32
UserfriendlyInterfaceofthewebsite
int32
ConvenientPaymentmethods
int32
Trustthattheonlineretailstorewillfulfillitspartofthetransactionatthetipulatedtime
int32
Empathy(readinesstoassistwithqueries)towardsthecustomers
int32
Beingabletoguaranteetheprivacyofthecustomer
int32
Responsiveness,availabilityofseveralcommunicationchannels(email,onlineRep,twitter,phoneetc.)    int32
Onlineshoppinggivesmonetarybenefitanddiscounts
int32
Enjoymentisderivedfromshoppingonline
int32
Shoppingonlineisconvenientandflexible
int32
Returnandreplacementpolicyoftheetailerisimportantforpurchasedecision
int32
Gainingaccesstoloyaltyprogramsisabenefitofshoppingonline
int32
DisplayingqualityInformationonthewebsiteimprovesatisfactionofcustomers
int32
Userderivesatisfactionwhileshoppingonagoodqualitywebsiteorapplication
int32
NetBenefitderivedfromshoppingonlinecanleadtouserssatisfaction
int32
Usersatisfactioncannotexistwithouttrust
int32
Offeringawidevarietyoflistedproductinseveralcategory
int32
Provisionofcompleteandrelevantproductinformation
int32
Monetarysavings
int32
TheConvenienceofpatronizingtheonlineretailer
int32
Shoppingonthewebsitedivesyouthesenseofadventure
int32
Shoppingonyourpreferrede-tailerenhancesyoursocialstatus
int32
Youfeelgratificationshoppingonyourfavoritee-tailer
int32
Shoppingonthewebsitehelpsyoufulfillcertainroles
int32
Gettingvalueformoneyspent
int32
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom1
object
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom2
object
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom3
object
Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom4
object
Easytousewebsiteorapplication1
object
```

Easytousewebsiteorapplication2
object
Easytousewebsiteorapplication3
object
Easytousewebsiteorapplication4
object
Visualappealingweb-pagelayout1
object
Visualappealingweb-pagelayout2
object
Visualappealingweb-pagelayout3
object
Wildvarietyofproductonoffer1
object
Wildvarietyofproductonoffer2
object
Complete,relevantdescriptioninformationofproducts1
object
Complete,relevantdescriptioninformationofproducts2
object
Complete,relevantdescriptioninformationofproducts3
object
Fastloadingwebsitespeedofwebsiteandapplication1
object
Fastloadingwebsitespeedofwebsiteandapplication2
object
Fastloadingwebsitespeedofwebsiteandapplication3
object
Fastloadingwebsitespeedofwebsiteandapplication4
object
Reliabilityofthewebsiteorapplication1
object
Reliabilityofthewebsiteorapplication2
object
Quicknesstocompletepurchase1
object
Quicknesstocompletepurchase2
object
Availabilityofseveralpaymentoptions1
object
Availabilityofseveralpaymentoptions2
object
Availabilityofseveralpaymentoptions3
object
Availabilityofseveralpaymentoptions4
object
Speedyorderdelivery1
object
Speedyorderdelivery2
object
Privacyofcustomers'information1
object
Privacyofcustomers'information2
object
Privacyofcustomers'information3
object
Privacyofcustomers'information4
object
Securityofcustomerfinancialinformation2
object
Securityofcustomerfinancialinformation3
object
Securityofcustomerfinancialinformation4
object
PerceivedTrustworthiness1
object
PerceivedTrustworthiness2
object
Presenceofonlineassistancethroughmulti-channel1

```

object
Presenceofonlineassistancethroughmulti-channel2
object
Presenceofonlineassistancethroughmulti-channel3
object
Longertimetologgedin(promotion,salesperiod)1
object
Longertimetologgedin(promotion,salesperiod)2
object
Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1
object
Latedeclarationofprice(promotion,salesperiod)1
object
Longerpageloadingtime(promotion,salesperiod)1
object
Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1
object
Longerdeliveryperiod1
object
Frequentdisruptionwhenmovingfromonepagetoanother1
object
Websiteisasefficientasbefore1
object
Websiteisasefficientasbefore2
object
WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2
object
dtype: object

```

In [728...]

```

##### find the catagorical value
columns = [columns for columns in df.columns if df[columns].dtypes== 'object']
columns

```

Out[728...]

```

['Howoldareyou?',
 'SinceHowLongYouareShoppingOnline?',
 'Howmanytimesyouhavemadeanonlinepurchaseinthepast1year?',
 'Whatisthescreensizeofyourmobiledevice?',
 'Howmuchtimedoyouexplorethee-retailstorebeforemakingapurchasedecision?',
 'Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom1',
 'Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom2',
 'Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom3',
 'Fromthefollowing,tickany(orall)oftheonlineretailersyouhaveshoppedfrom4',
 'Easytousewebsiteorapplication1',
 'Easytousewebsiteorapplication2',
 'Easytousewebsiteorapplication3',
 'Easytousewebsiteorapplication4',
 'Visualappealingweb-pagelayout1',
 'Visualappealingweb-pagelayout2',
 'Visualappealingweb-pagelayout3',
 'Wildvarietyofproductonoffer1',
 'Wildvarietyofproductonoffer2',
 'Complete,relevantdescriptioninformationofproducts1',
 'Complete,relevantdescriptioninformationofproducts2',
 'Complete,relevantdescriptioninformationofproducts3',
 'Fastloadingwebsitespeedofwebsiteandapplication1',
 'Fastloadingwebsitespeedofwebsiteandapplication2',
 'Fastloadingwebsitespeedofwebsiteandapplication3',
 'Fastloadingwebsitespeedofwebsiteandapplication4',
 'Reliabilityofthewebsiteorapplication1',
 'Reliabilityofthewebsiteorapplication2',
 'Quicknesstocompletepurchase1',
 'Quicknesstocompletepurchase2',
 'Availabilityofseveralpaymentoptions1',
 'Availabilityofseveralpaymentoptions2',
 'Availabilityofseveralpaymentoptions3',
 'Availabilityofseveralpaymentoptions4',
 'Speedyorderdelivery1',
 'Speedyorderdelivery2',

```

```
'Privacyofcustomers'information1',
'Privacyofcustomers'information2',
'Privacyofcustomers'information3',
'Privacyofcustomers'information4',
'Securityofcustomerfinancialinformation2',
'Securityofcustomerfinancialinformation3',
'Securityofcustomerfinancialinformation4',
'PerceivedTrustworthiness1',
'PerceivedTrustworthiness2',
'Presenceofonlineassistancethroughmulti-channel1',
'Presenceofonlineassistancethroughmulti-channel2',
'Presenceofonlineassistancethroughmulti-channel3',
'Longertimetologgedin(promotion,salesperiod)1',
'Longertimetologgedin(promotion,salesperiod)2',
'Longertimeindisplayinggraphicsandphotos(promotion,salesperiod)1',
'Latedeclarationofprice(promotion,salesperiod)1',
'Longerpageloadingtime(promotion,salesperiod)1',
'Limitedmodeofpaymentonmostproducts(promotion,salesperiod)1',
'Longerdeiveryperiod1',
'Frequentdisruptionwhenmovingfromonepagetoanother1',
'Websiteisasefficientasbefore1',
'Websiteisasefficientasbefore2',
'WhichoftheIndianonlineretailerwouldyourecommendtoafriend?2' ]
```

In [730...]

```
#### apply Label encoder in all catagorical column
```

```
for i in columns:
    df[i]=le.fit_transform(df[i])
```

In [731...]

```
df
```

Out[731...]

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
0	1	2		2
1	0	1		2
2	0	1		4
3	1	1		6
4	0	1		0
5	0	2		9
6	1	3		2
7	1	3		2
8	0	0		10
9	0	2		2
10	1	2		8
11	0	3		9
12	0	4		5
13	0	2		4
14	0	1		6
15	0	1		0
16	1	2		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
0	1	2		2
1	0	1		2
2	0	1		4
3	1	1		6
4	0	1		0
5	0	2		9
6	1	3		2
7	1	3		2
8	0	0		10
9	0	2		2
10	1	2		8
11	0	3		9
12	0	4		5
13	0	2		4
14	0	1		6
15	0	1		0
16	1	2		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
17	1	3		2
18	0	3		2
19	0	1		10
20	0	1		9
21	1	2		5
22	1	3		4
23	0	3		4
24	0	1		7
25	0	1		0
26	1	1		3
27	1	2		2
28	0	3		4
29	0	3		6
30	0	0		0
31	1	2		9
32	1	2		2
33	0	3		4
34	0	4		6
35	0	1		0
36	1	2		9
37	1	3		2
38	0	3		4
39	0	1		6
40	0	1		0
41	1	2		9
42	1	1		2
43	0	1		4
44	0	2		7
45	0	3		0
46	1	3		9
47	1	0		2
48	0	2		4
49	0	2		6
50	0	3		0
51	1	4		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
52	1	3		2
53	0	3		4
54	0	1		7
55	0	1		0
56	1	1		9
57	1	1		2
58	0	2		4
59	0	3		6
60	0	3		0
61	1	0		9
62	1	2		2
63	0	2		4
64	0	3		7
65	0	4		0
66	1	2		9
67	1	3		2
68	0	3		4
69	0	1		7
70	0	1		0
71	1	2		9
72	1	1		2
73	0	1		4
74	0	2		6
75	0	3		0
76	1	3		9
77	1	0		2
78	0	2		4
79	0	2		6
80	0	3		0
81	1	4		9
82	1	3		2
83	0	3		4
84	0	1		6
85	0	1		0
86	1	2		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
87	1	3		2
88	1	1		0
89	1	1		9
90	0	2		2
91	0	1		4
92	0	1		6
93	0	1		2
94	0	1		4
95	0	1		0
96	0	2		3
97	0	0		10
98	0	2		2
99	0	3		9
100	0	4		5
101	0	2		4
102	0	2		10
103	0	1		10
104	0	4		5
105	0	3		3
106	0	2		3
107	0	0		3
108	1	1		6
109	1	3		2
110	1	3		2
111	1	2		8
112	1	2		1
113	1	2		2
114	0	1		2
115	0	1		4
116	0	1		0
117	0	2		9
118	0	0		10
119	0	2		2
120	0	3		9
121	0	4		5

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
122	0	2		4
123	0	2		10
124	0	1		10
125	0	4		5
126	0	3		3
127	0	2		3
128	0	0		3
129	1	1		6
130	1	3		2
131	1	3		2
132	1	2		8
133	1	2		1
134	1	2		2
135	0	0		10
136	0	2		9
137	1	2		8
138	0	1		4
139	1	1		6
140	1	3		2
141	0	3		9
142	0	1		0
143	1	3		2
144	0	2		2
145	0	1		2
146	0	4		5
147	0	2		4
148	0	2		4
149	0	3		0
150	0	1		4
151	0	2		6
152	0	4		5
153	0	2		4
154	0	3		4
155	0	4		5
156	0	3		7

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
157	0	4		0
158	0	1		0
159	0	2		6
160	0	2		2
161	0	1		6
162	0	1		0
163	0	2		2
164	0	2		4
165	0	3		4
166	0	1		7
167	0	2		4
168	0	1		4
169	0	1		2
170	0	1		4
171	0	3		9
172	0	3		6
173	0	1		0
174	0	2		3
175	0	0		3
176	0	3		0
177	0	2		3
178	0	3		0
179	0	1		6
180	0	0		10
181	0	2		10
182	0	1		10
183	0	3		3
184	1	3		2
185	1	0		2
186	1	2		9
187	1	0		9
188	1	2		2
189	1	1		2
190	1	3		2
191	1	1		9

	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
192	1	1		6
193	1	2		9
194	1	3		9
195	1	2		9
196	1	1		0
197	1	4		9
198	1	3		2
199	0	3		0
200	0	1		6
201	0	0		10
202	0	2		10
203	0	1		10
204	0	3		3
205	1	4		9
206	1	3		2
207	1	1		0
208	0	3		0
209	0	2		3
210	0	3		6
211	0	1		0
212	0	2		3
213	0	0		3
214	1	2		9
215	1	3		9
216	1	2		9
217	0	2		4
218	0	3		4
219	0	1		7
220	0	2		4
221	0	1		4
222	0	1		2
223	0	1		4
224	0	3		9
225	1	0		9
226	1	2		2

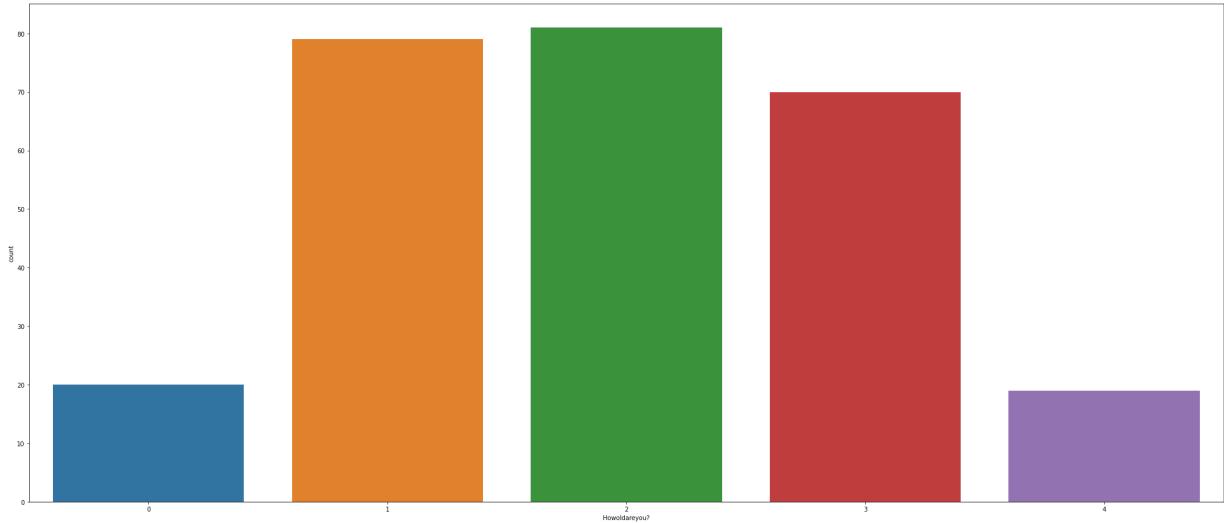
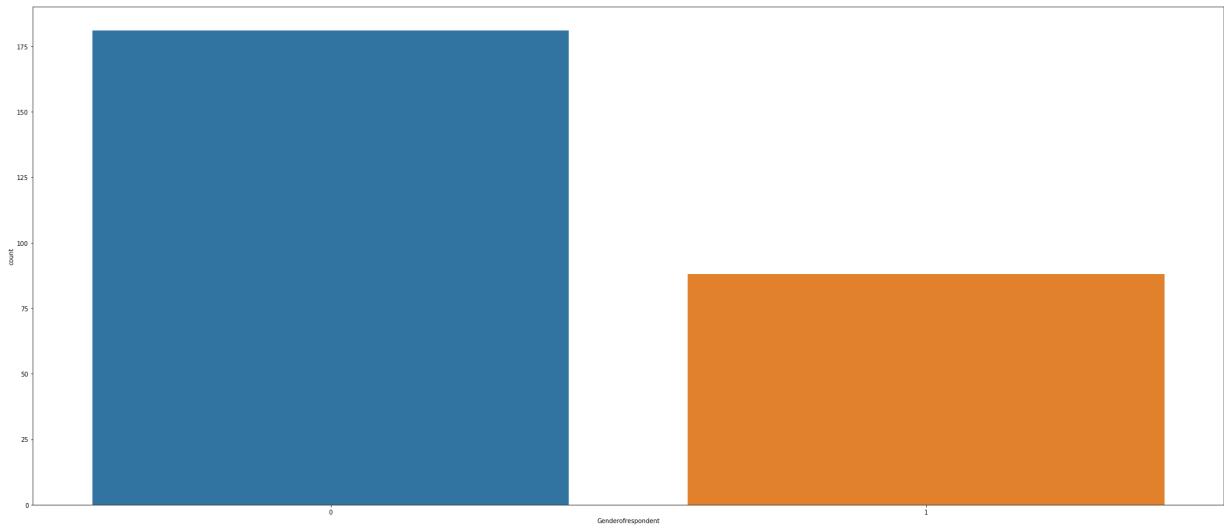
	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
227	1	1		2
228	1	3		2
229	1	1		9
230	1	1		6
231	0	3		7
232	0	4		0
233	0	1		0
234	0	2		6
235	0	2		2
236	0	1		6
237	0	1		0
238	0	2		2
239	1	2		9
240	0	3		4
241	0	4		5
242	0	2		4
243	0	3		0
244	0	1		4
245	0	2		6
246	0	4		5
247	0	2		4
248	1	3		2
249	1	0		2
250	1	2		2
251	0	0		10
252	1	1		6
253	1	3		2
254	0	4		5
255	1	2		8
256	0	3		9
257	0	2		2
258	0	1		2
259	0	2		4
260	0	2		9
261	0	1		4

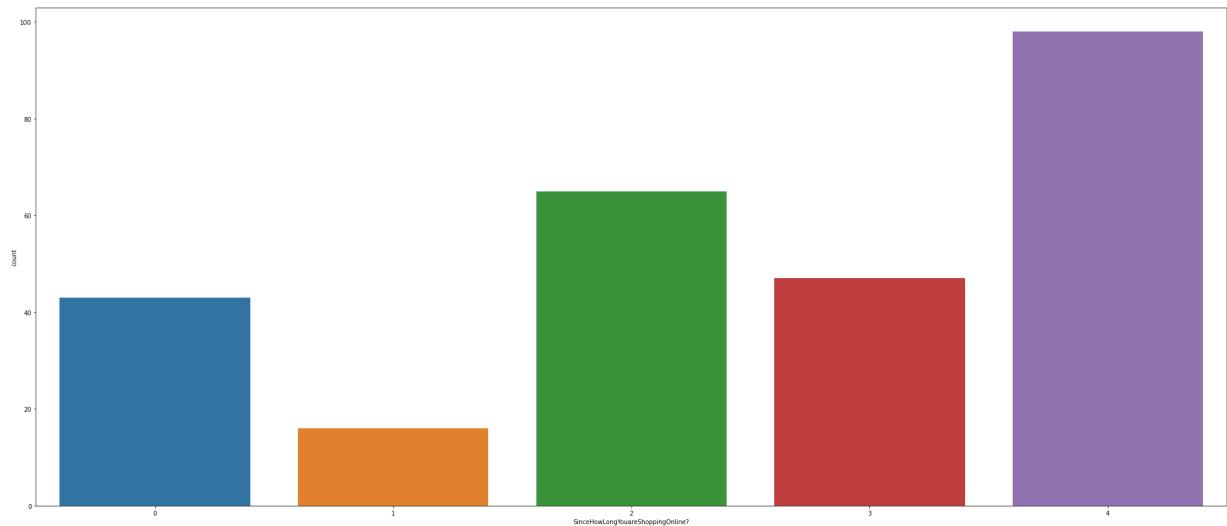
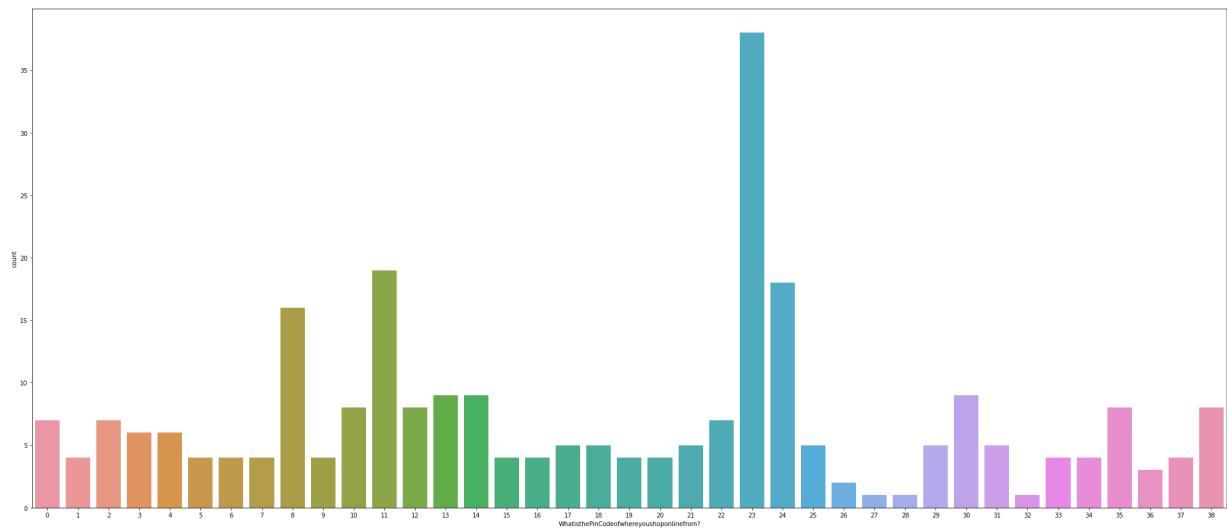
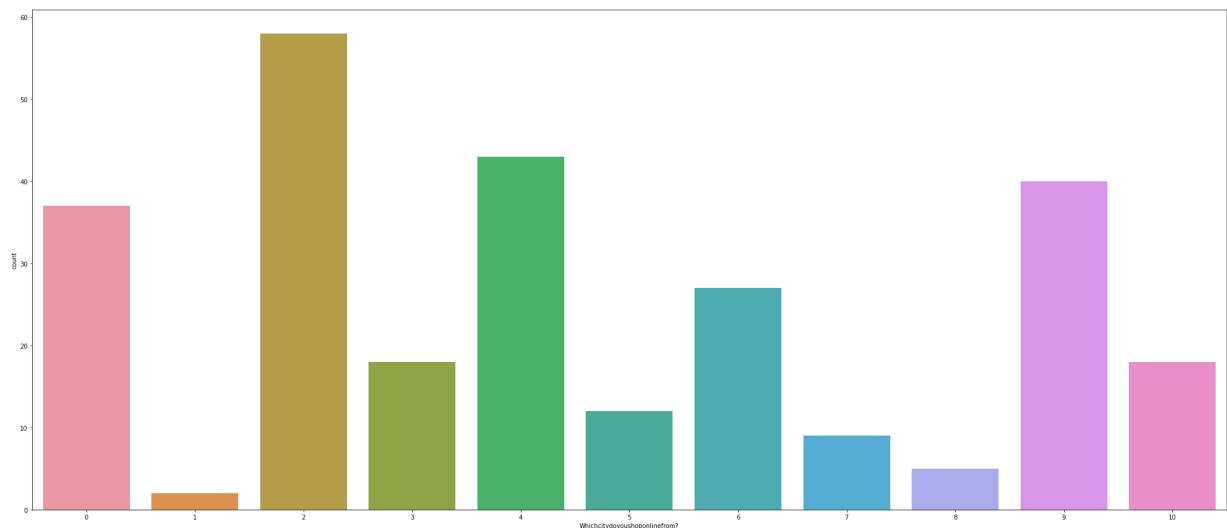
Genderofrespondent Howoldareyou? Whichcitydoyoushoponlinefrom? WhatisthePinCodeofwhereyoulive?

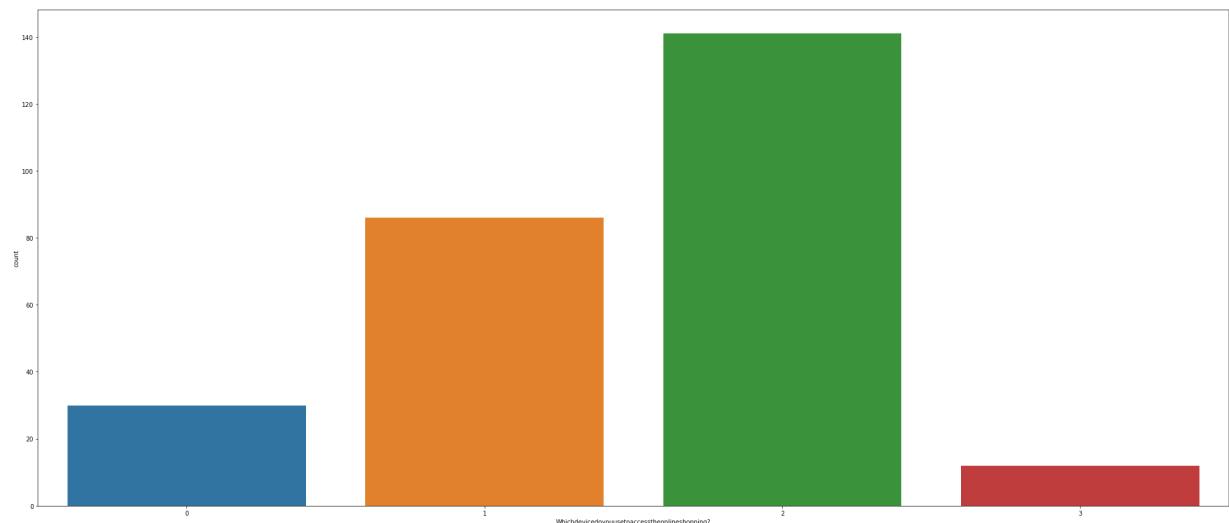
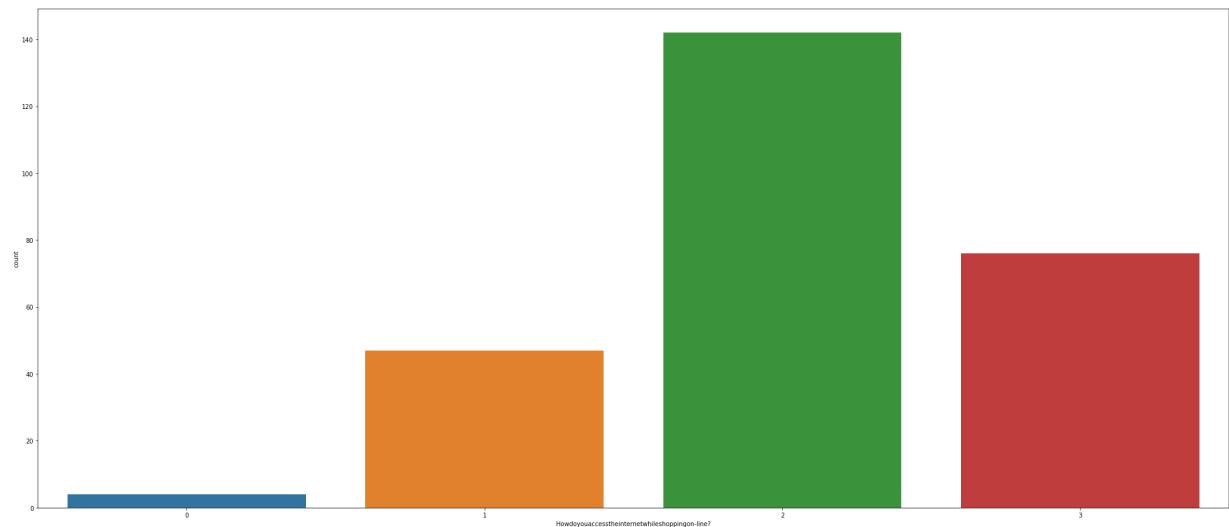
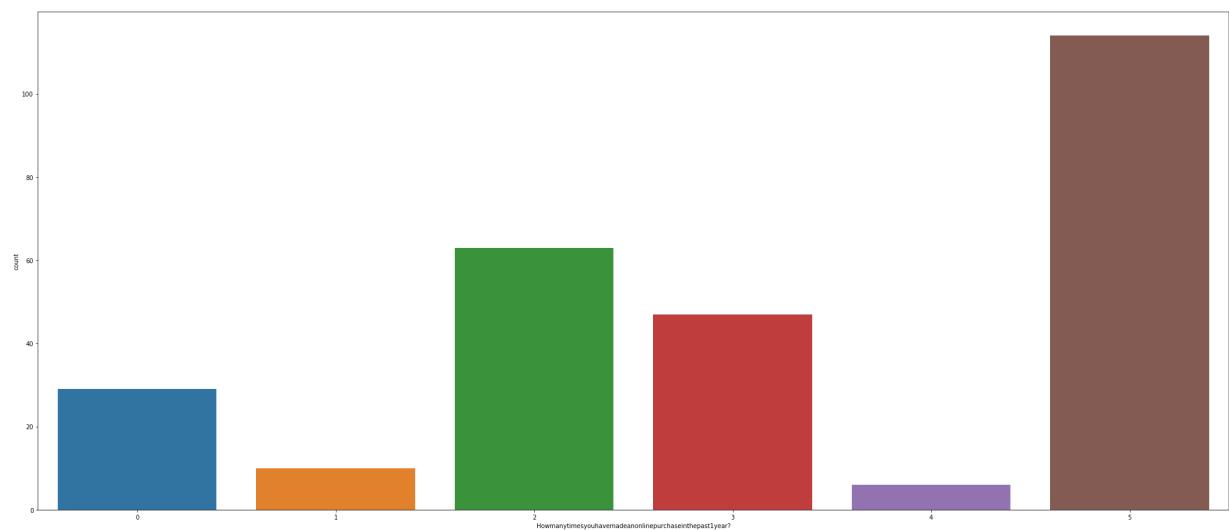
	Genderofrespondent	Howoldareyou?	Whichcitydoyoushoponlinefrom?	WhatisthePinCodeofwhereyoulive?
262	0	1		0
263	1	3		2
264	0	1		10
265	0	2		3
266	0	3		0
267	0	0		10
268	0	3		3

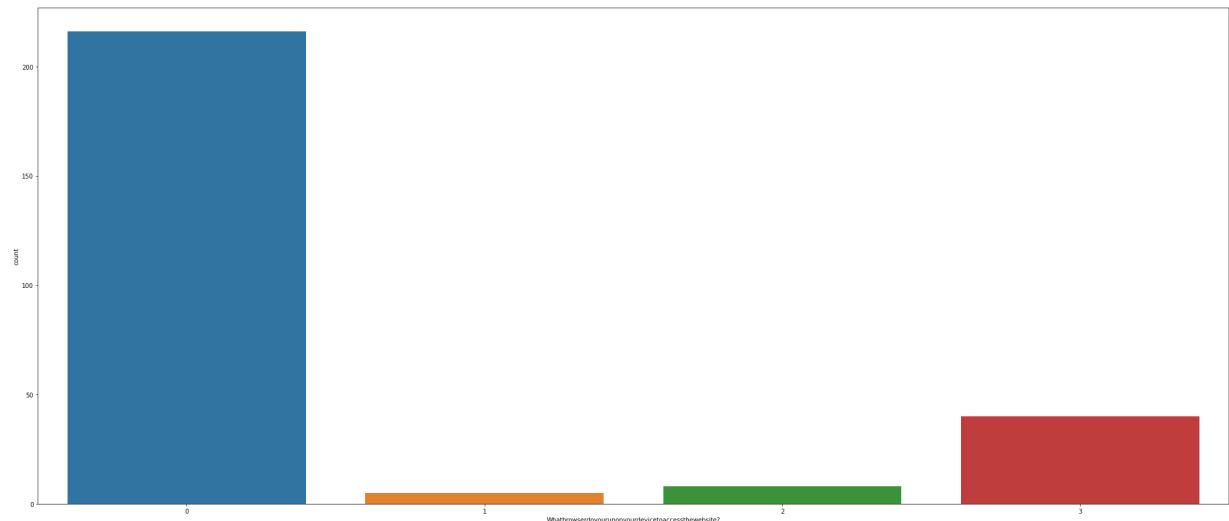
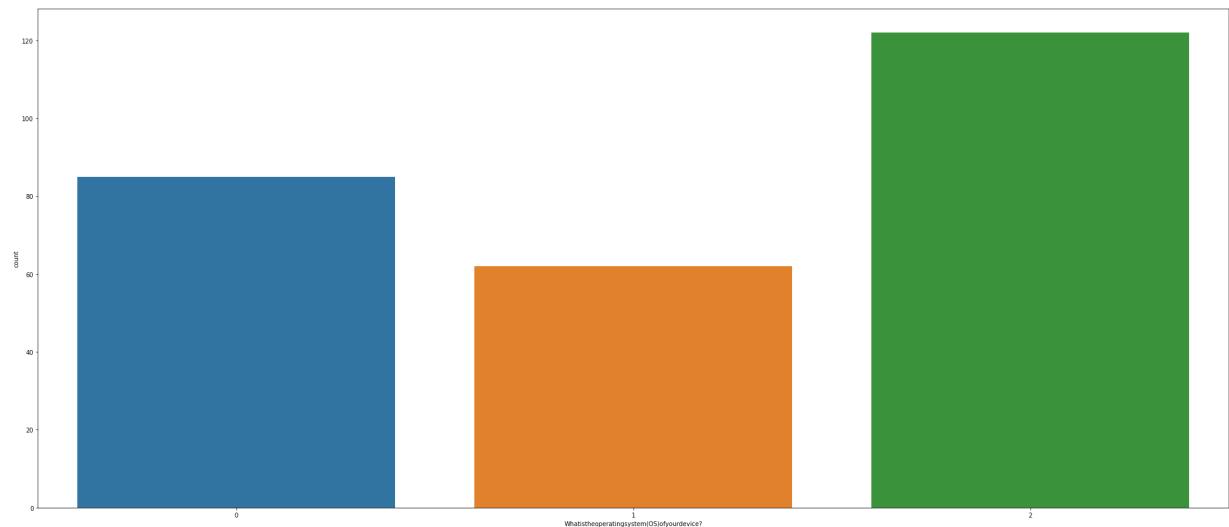
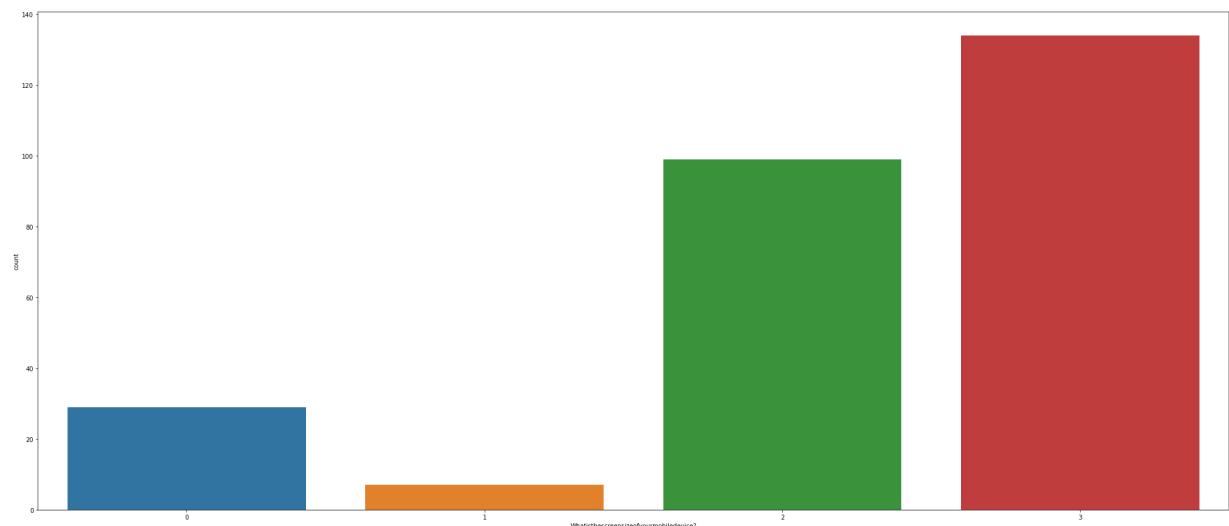
In [732...]

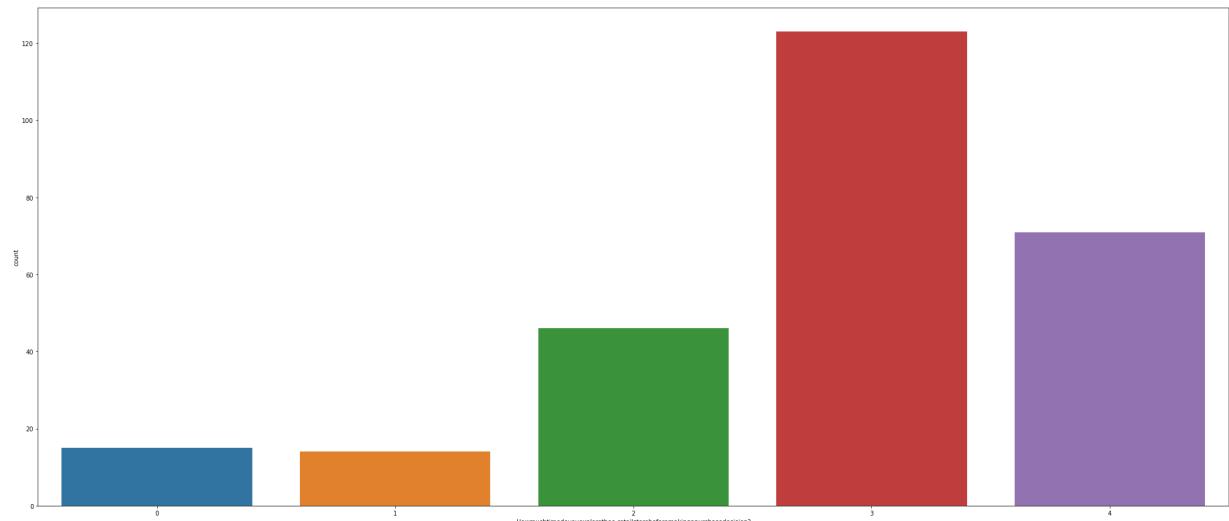
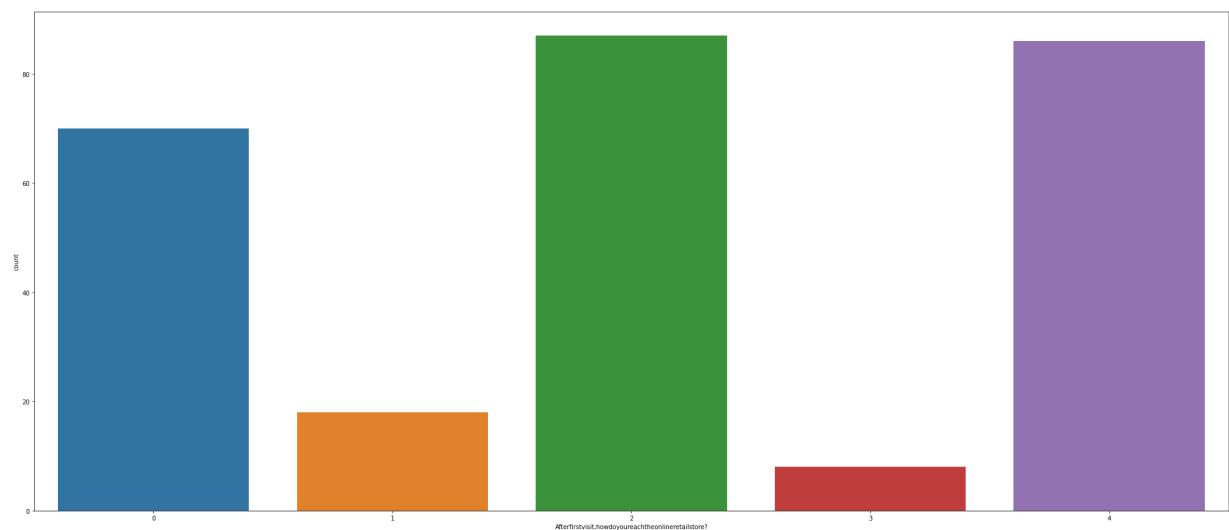
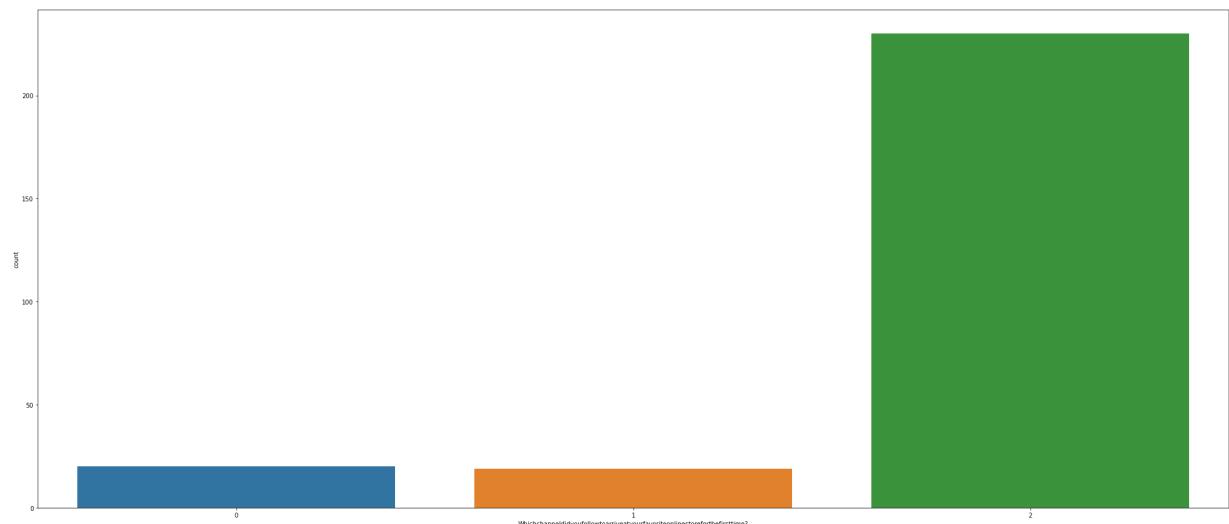
```
for i in df.columns:  
    plt.figure(figsize=(35,15))  
    sns.countplot(df[i])  
    plt.show()
```

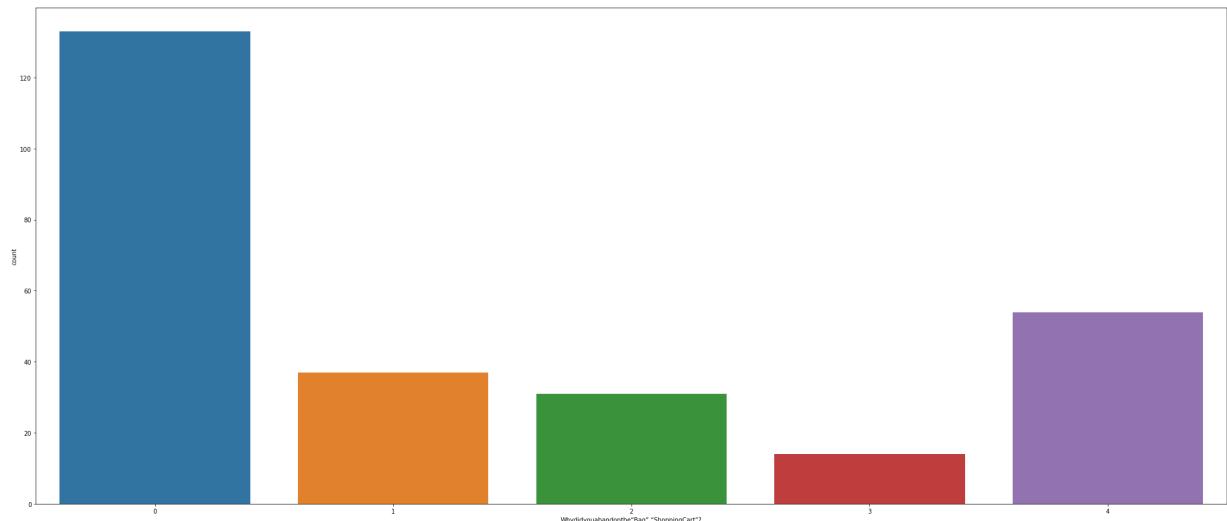
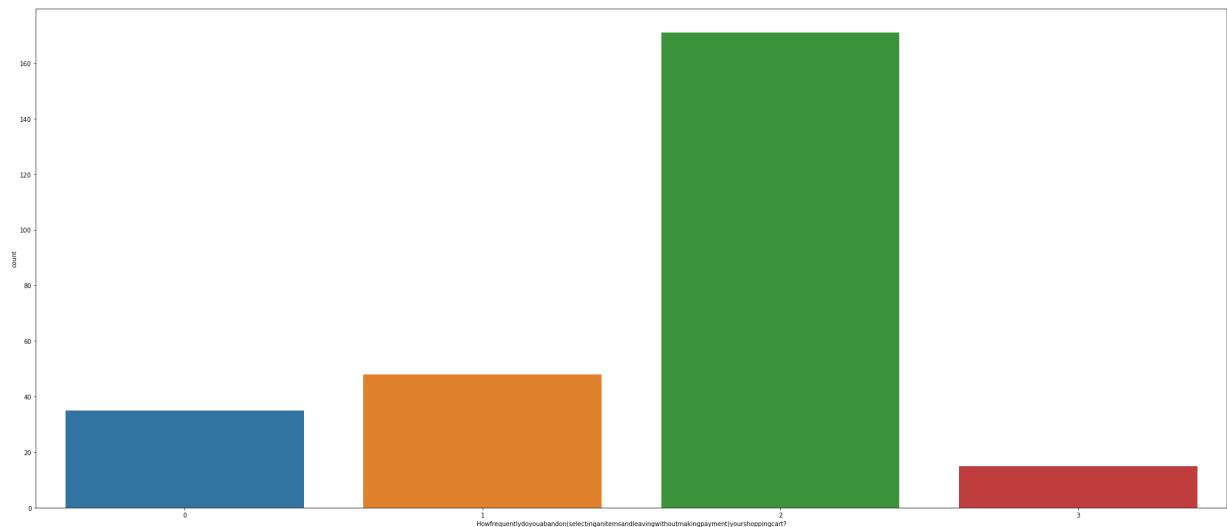
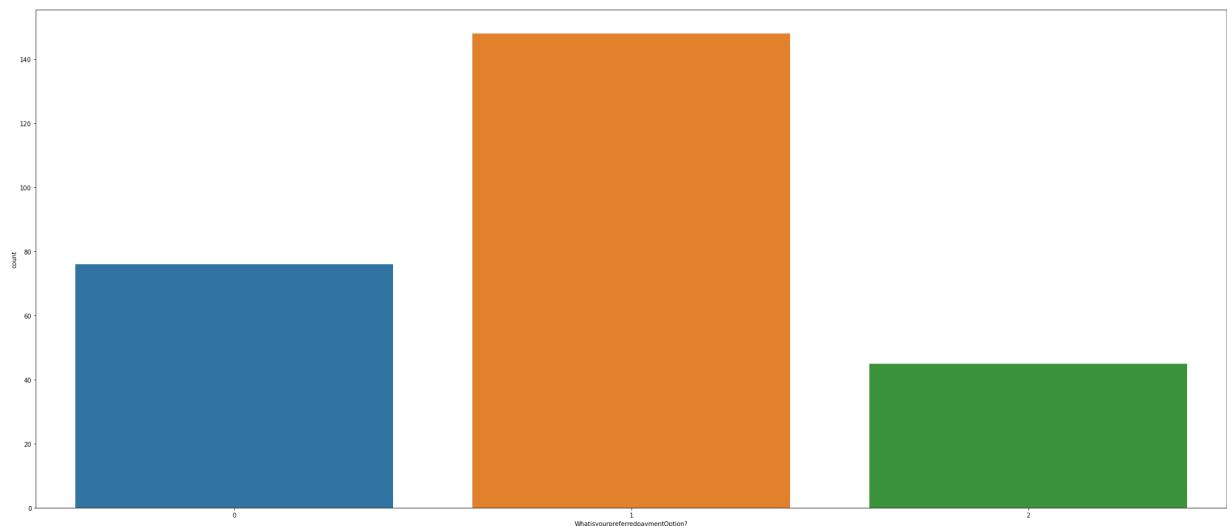


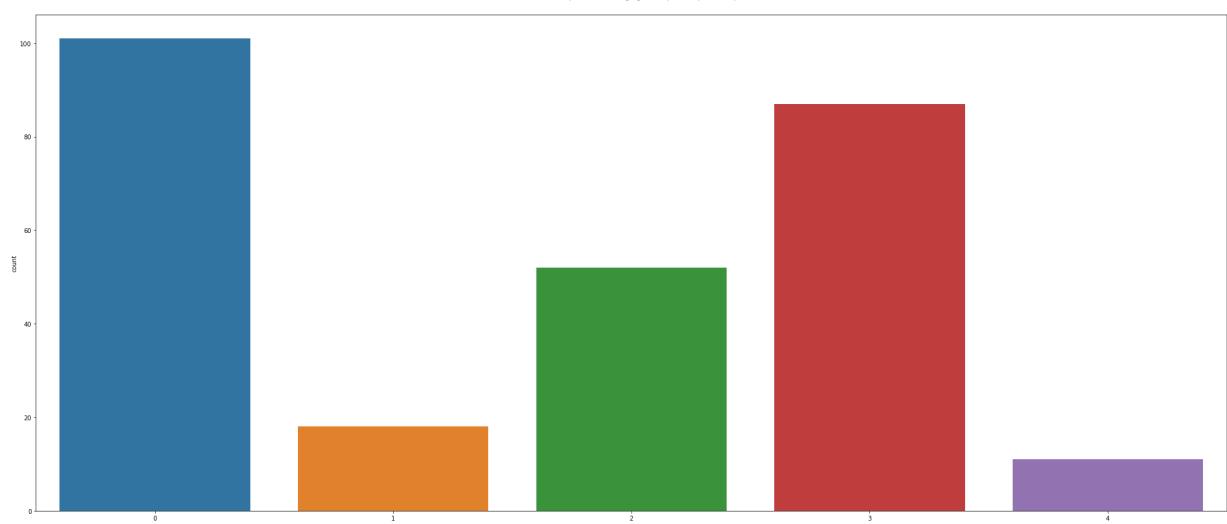
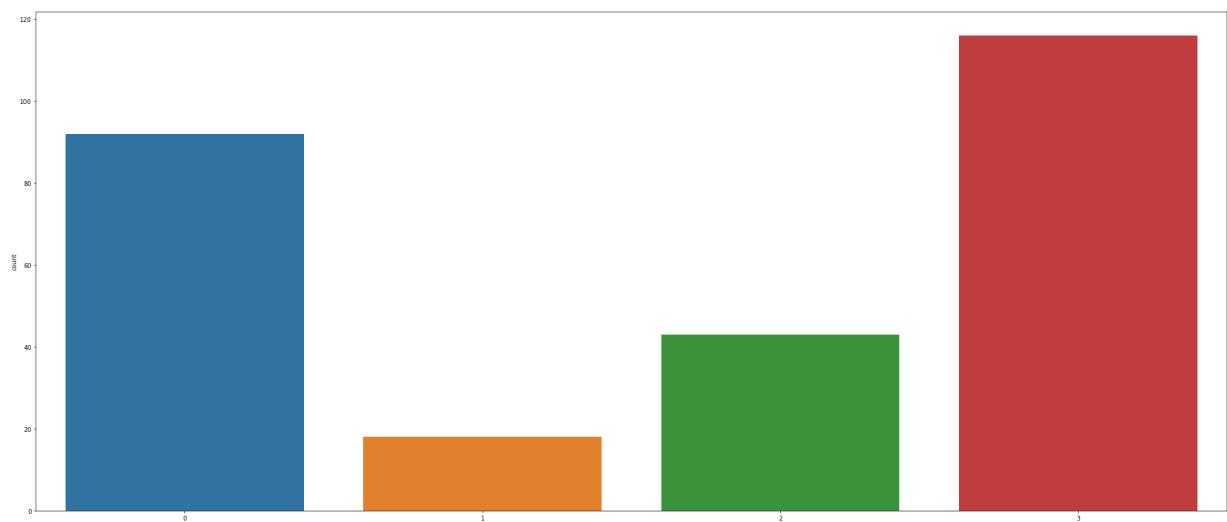
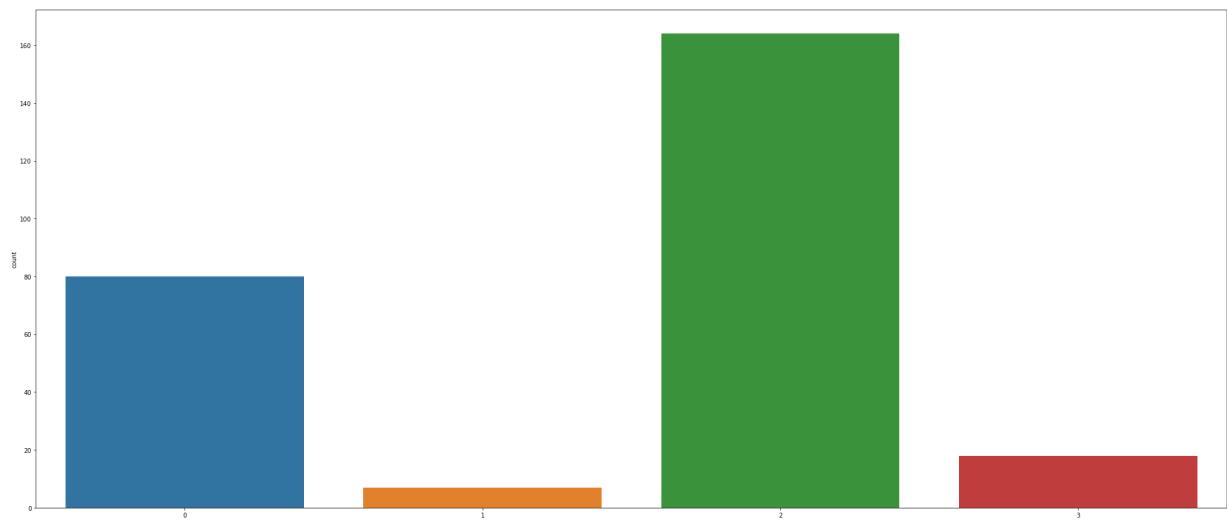


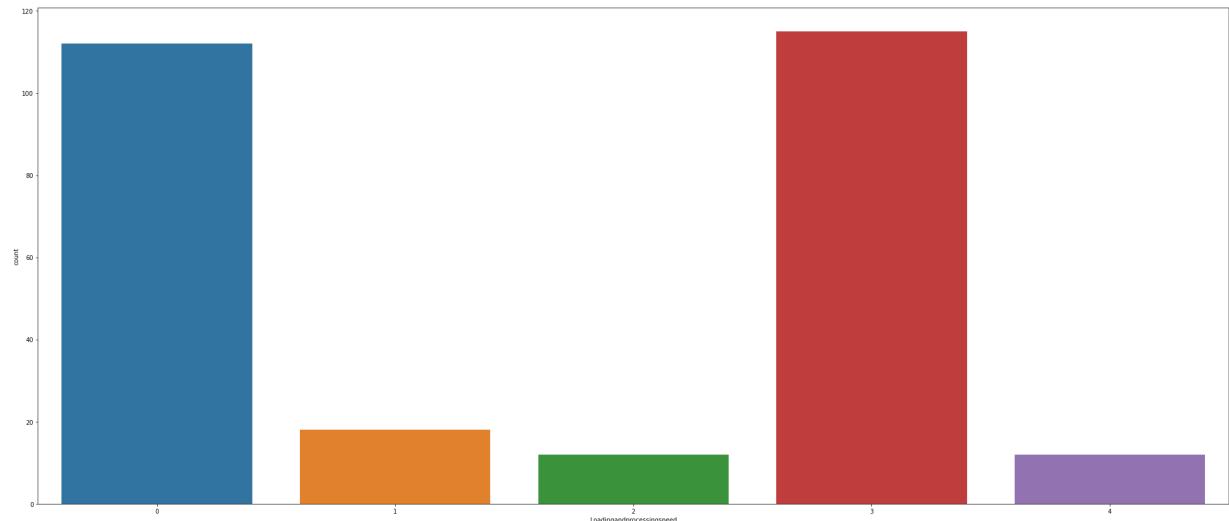
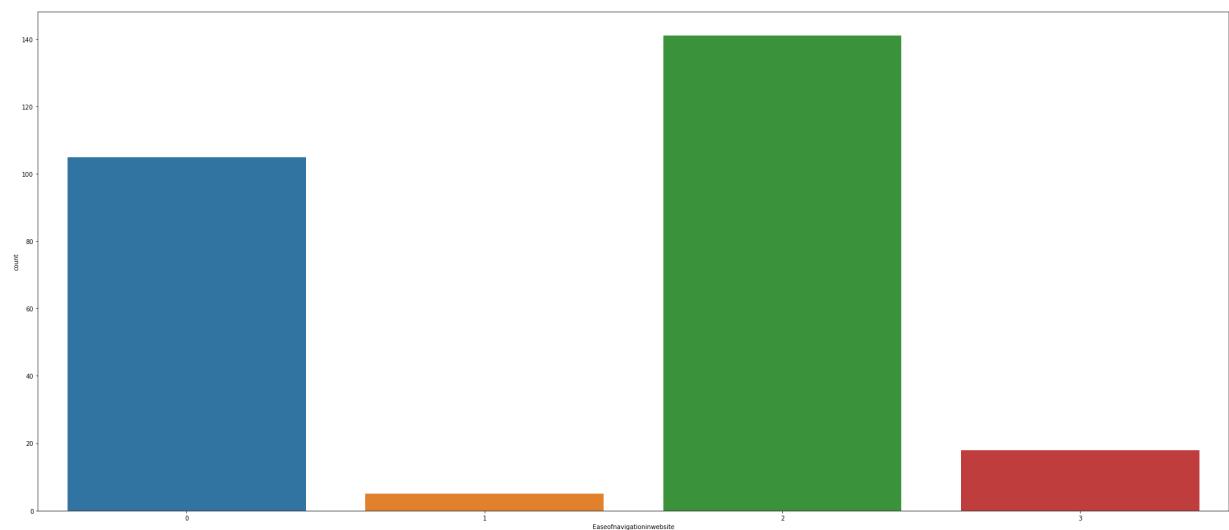
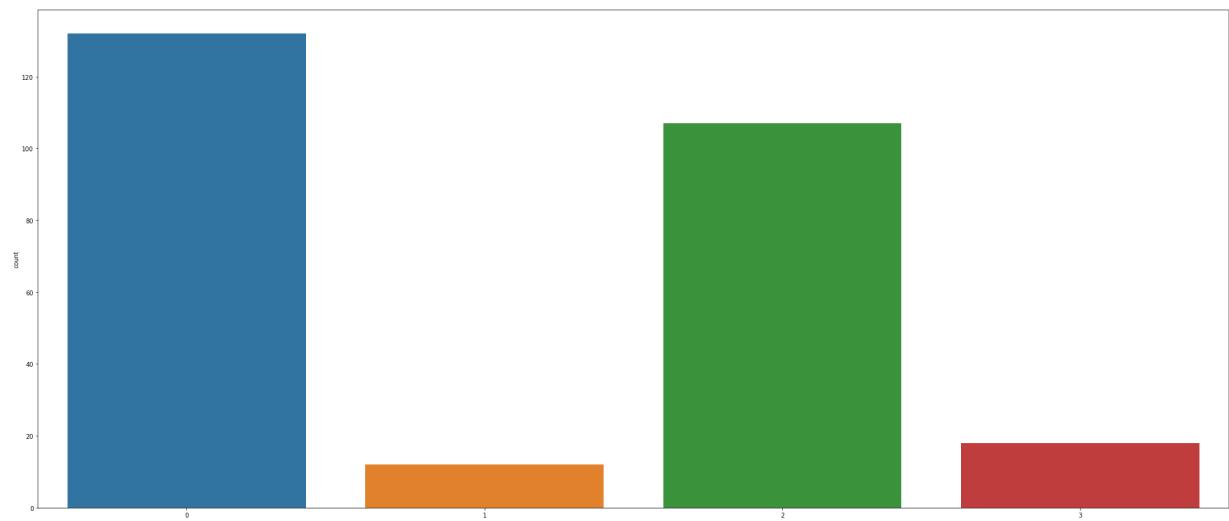


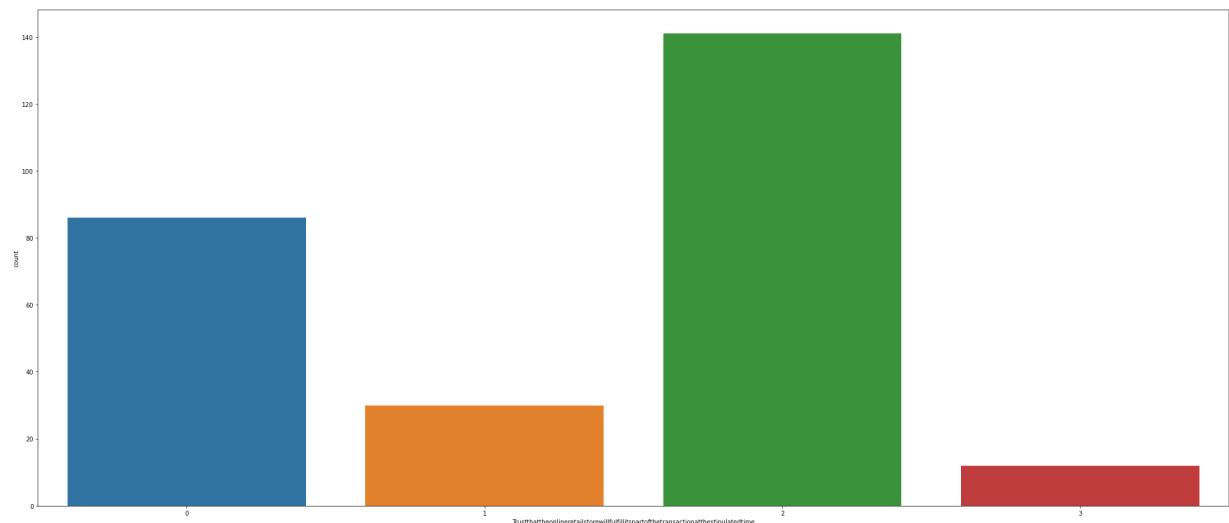
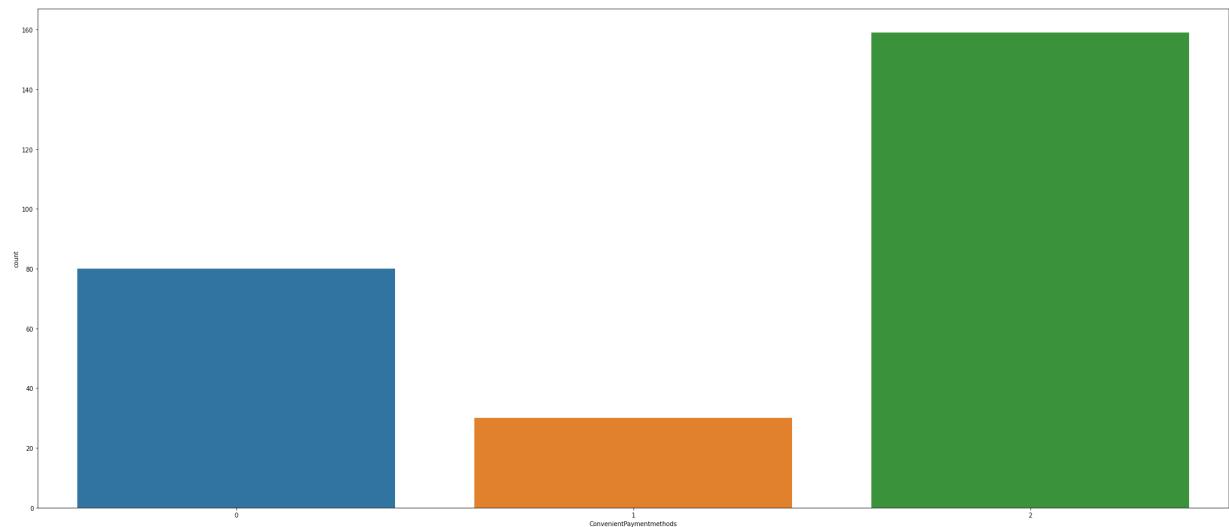
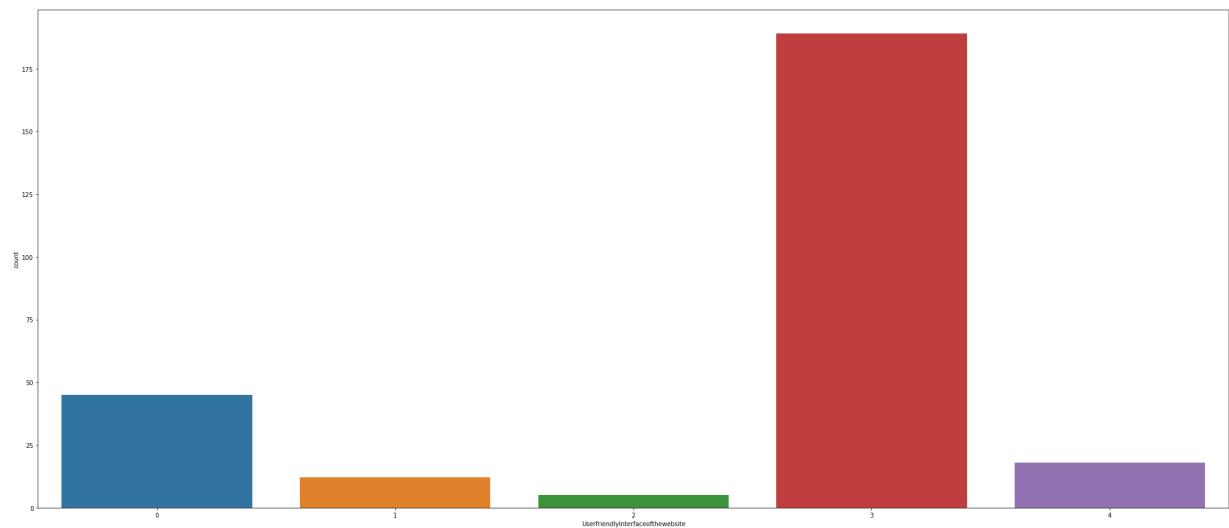


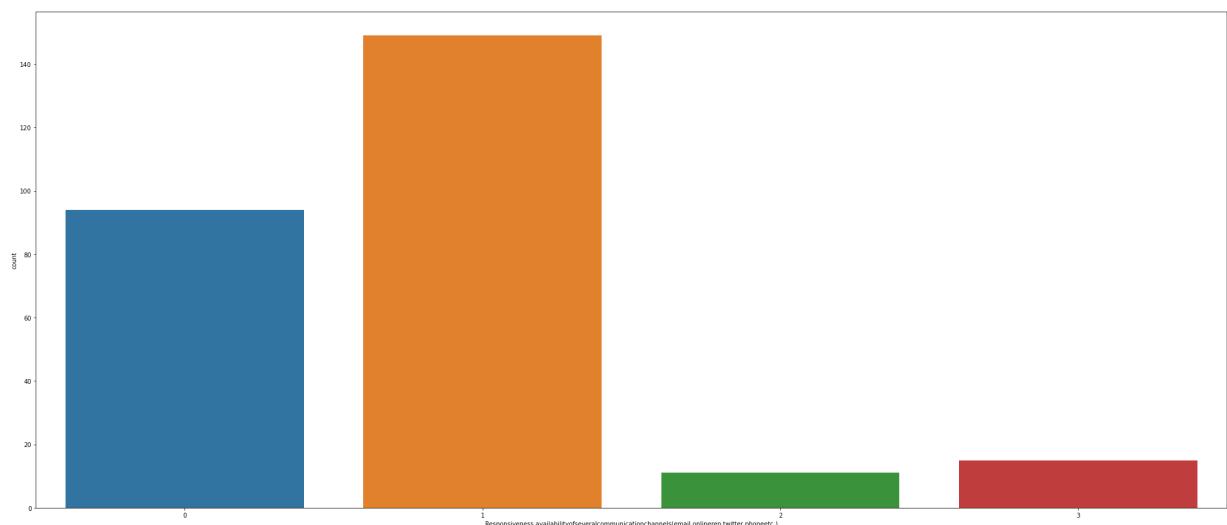
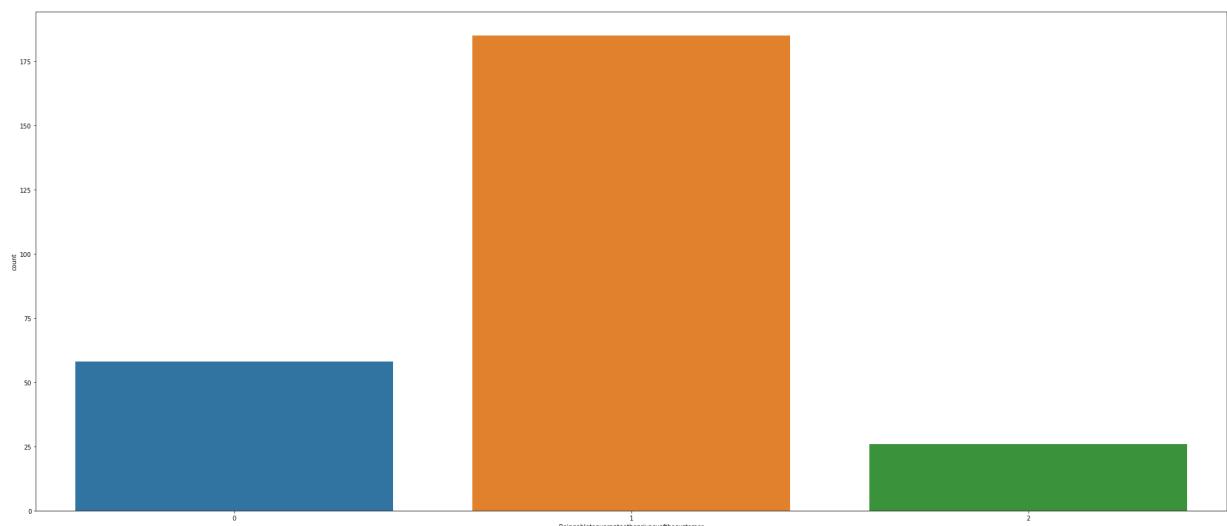
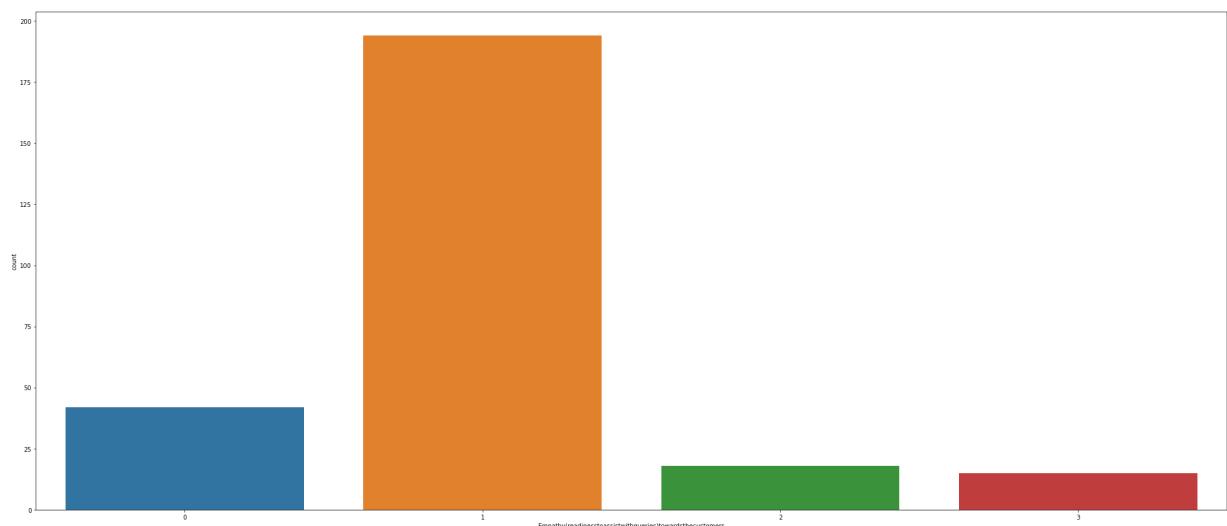


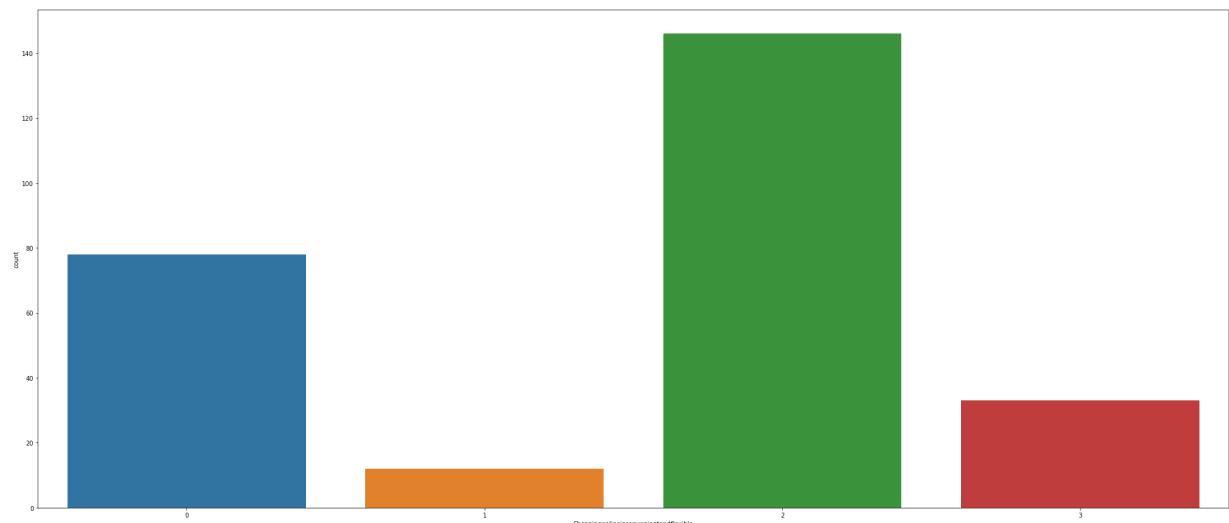
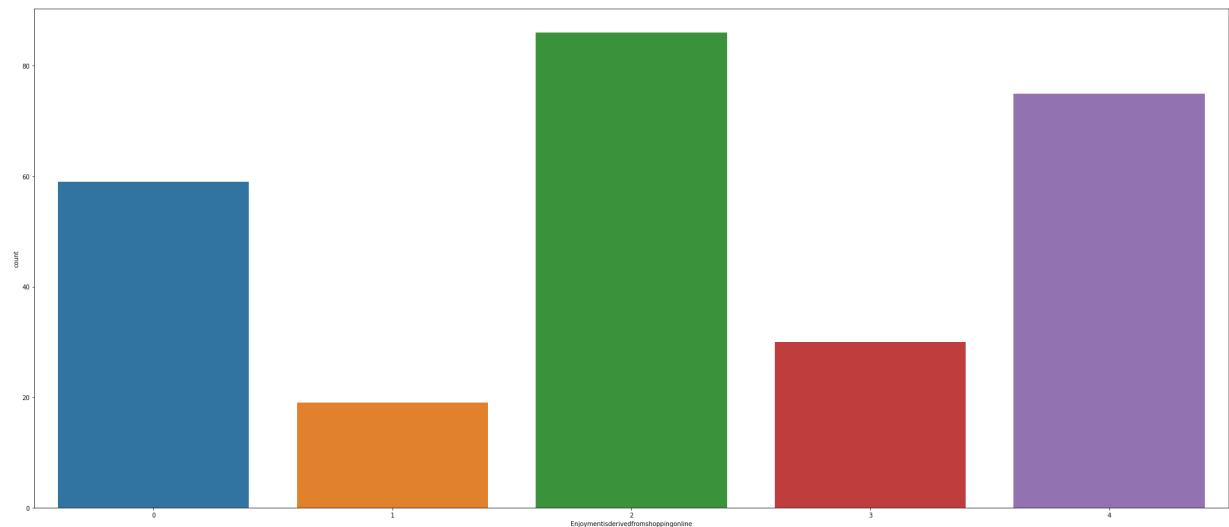
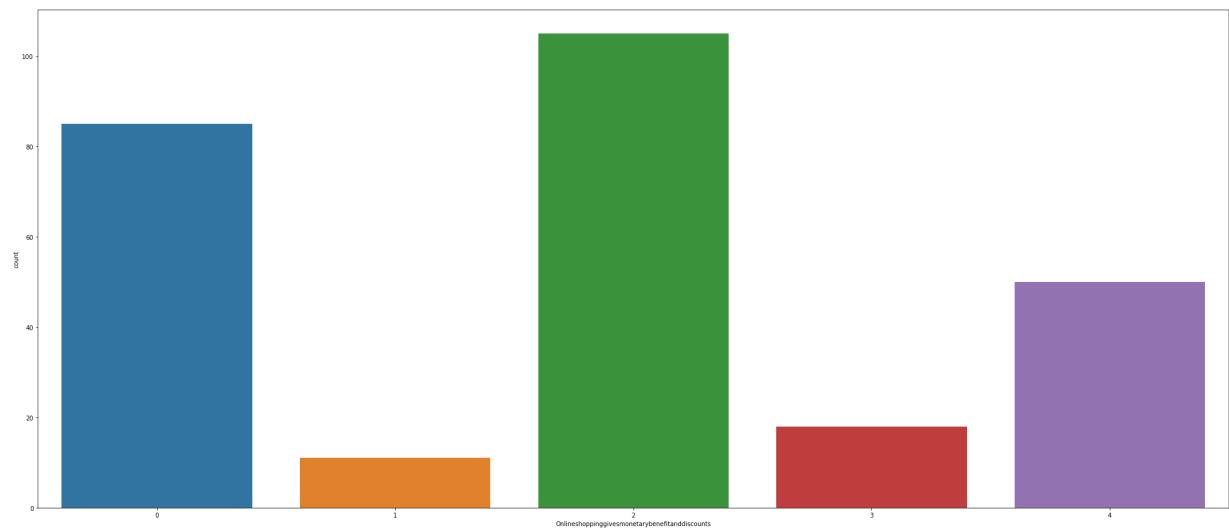


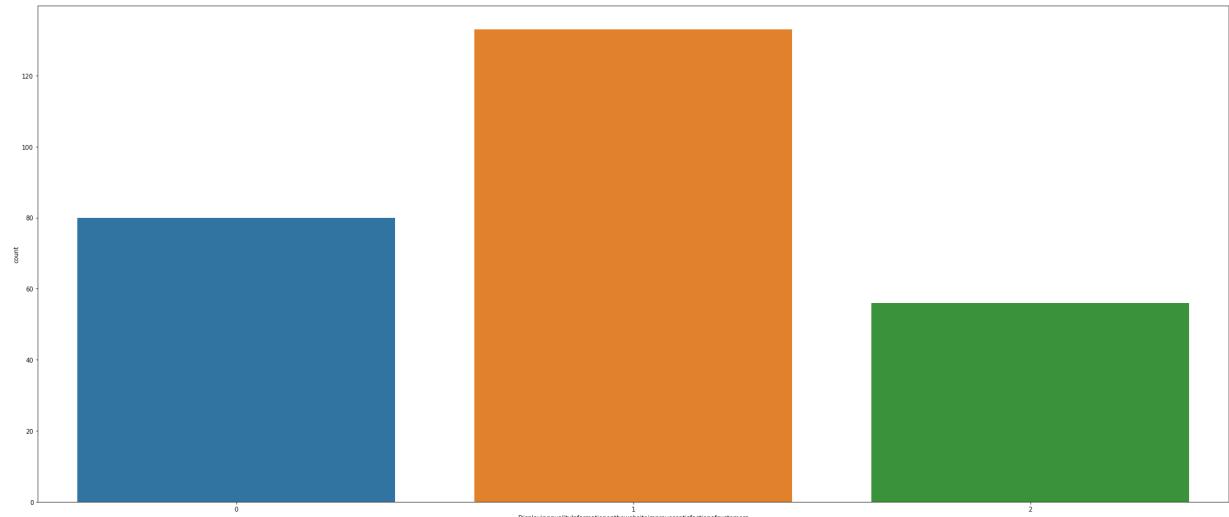
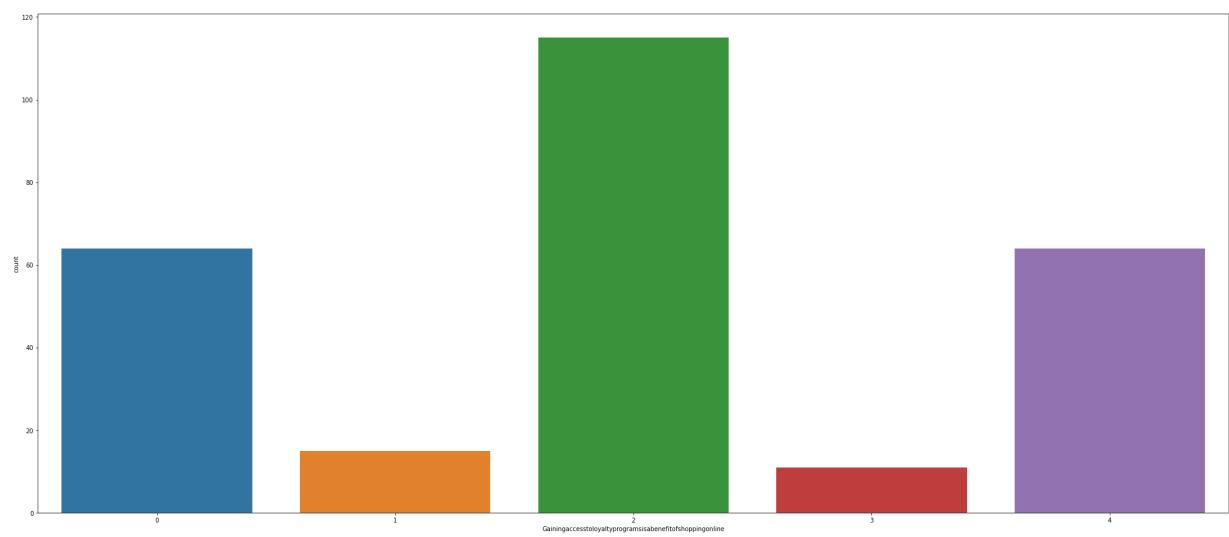
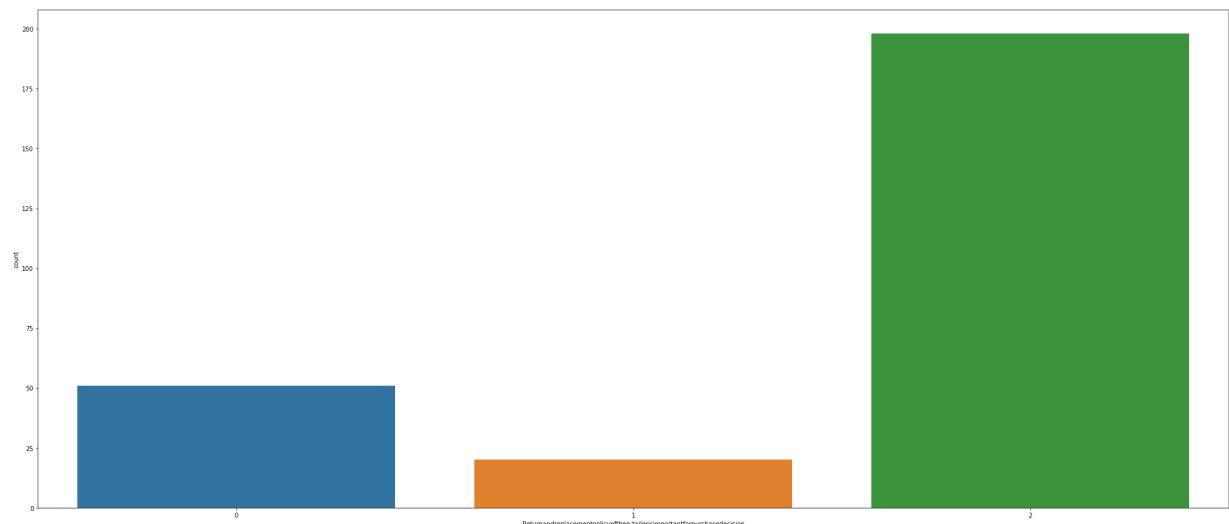


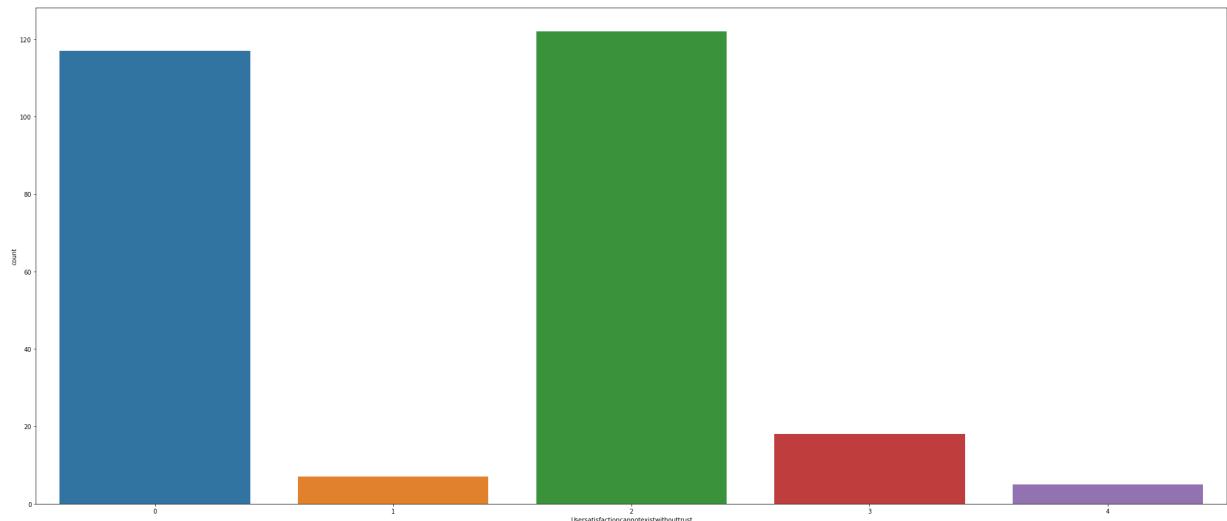
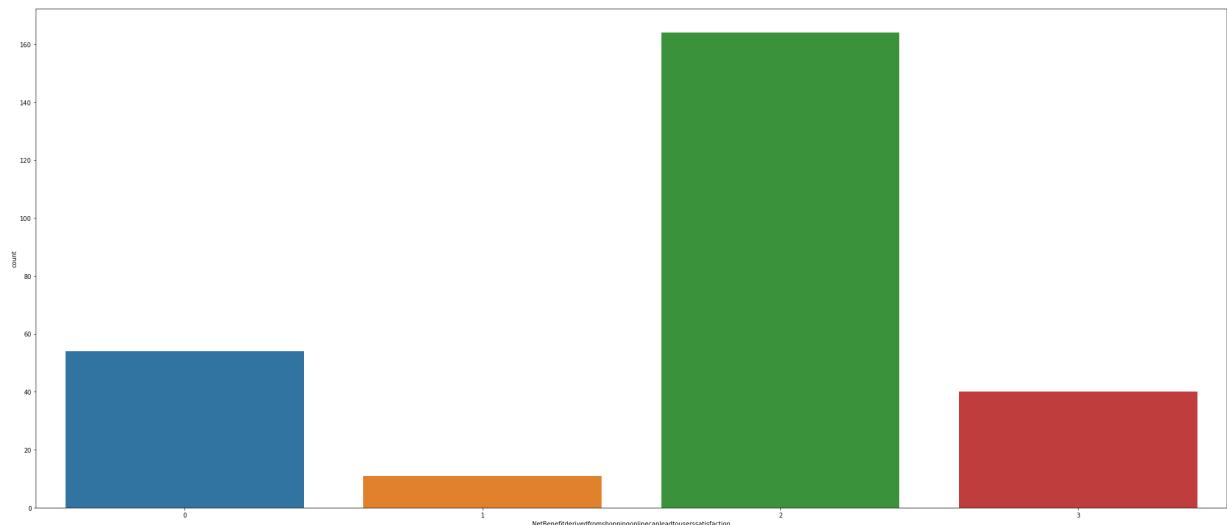
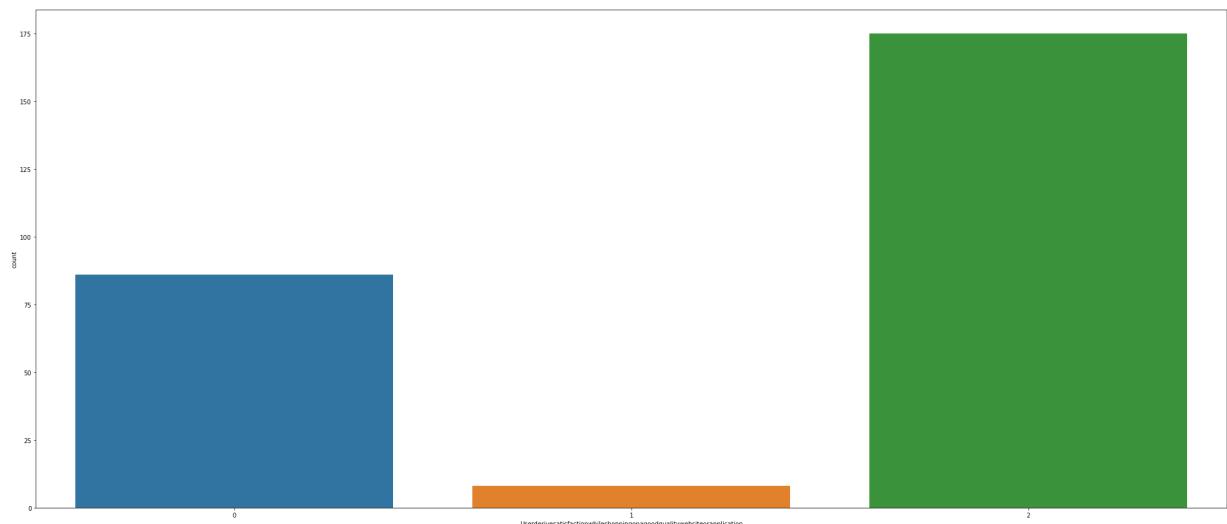


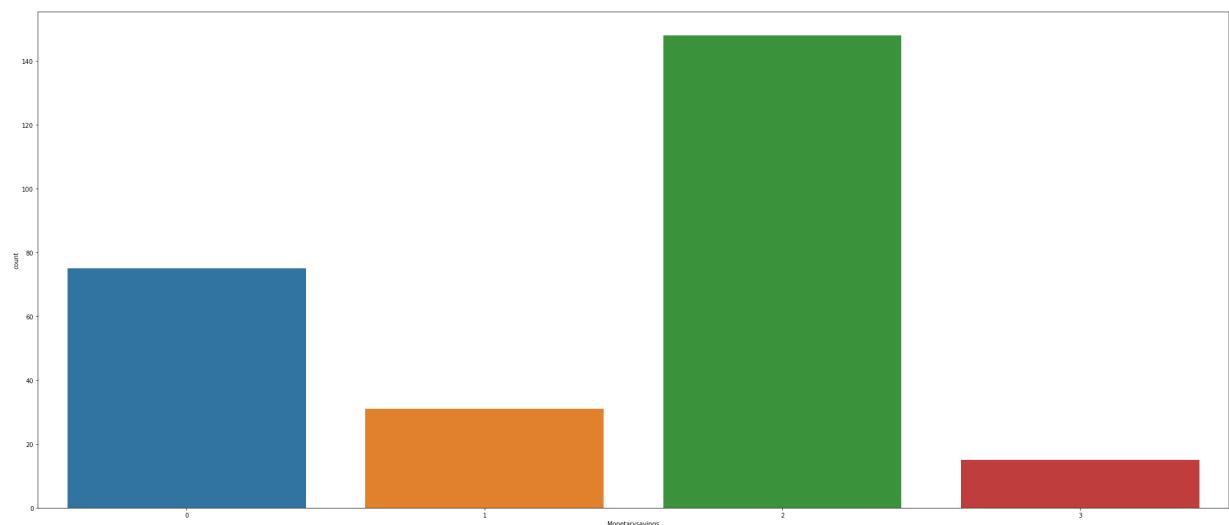
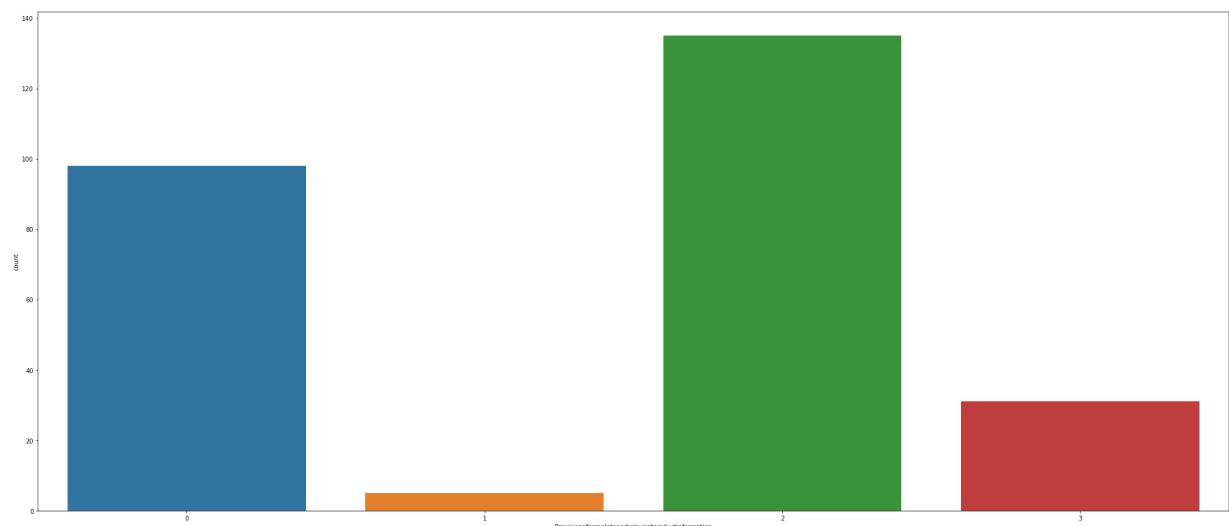
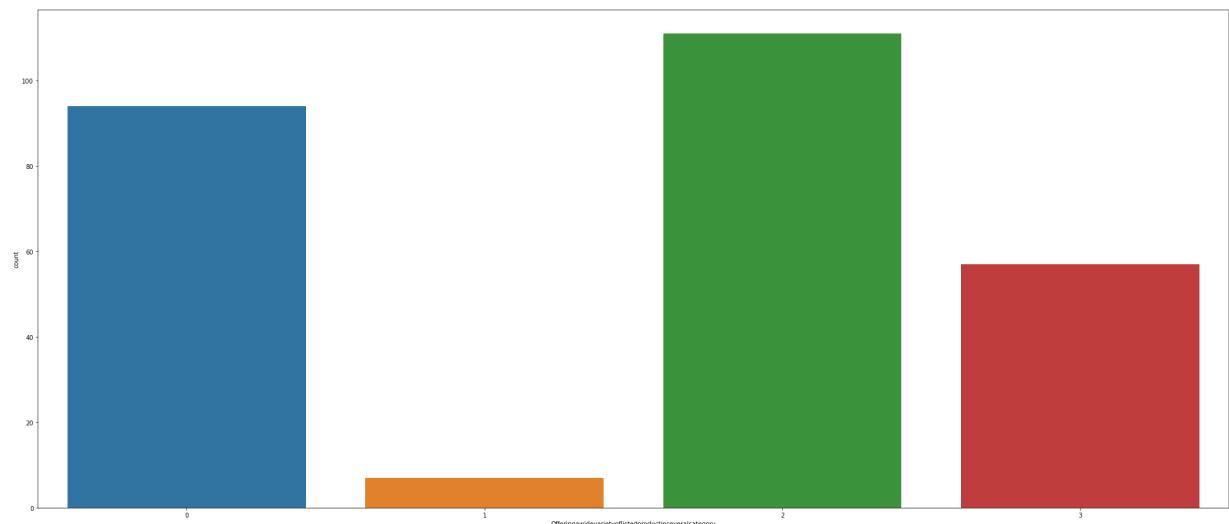


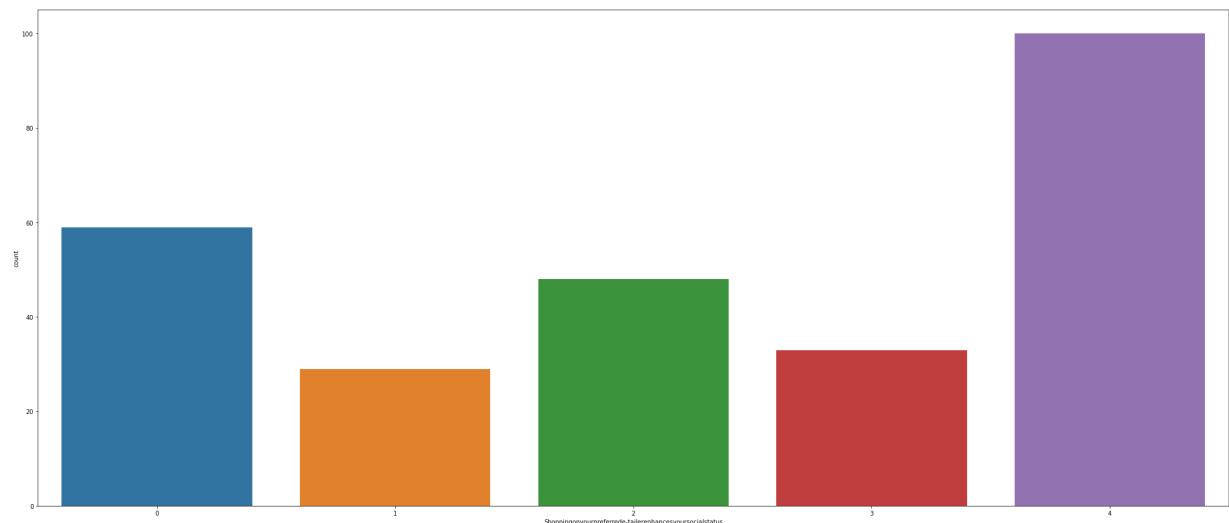
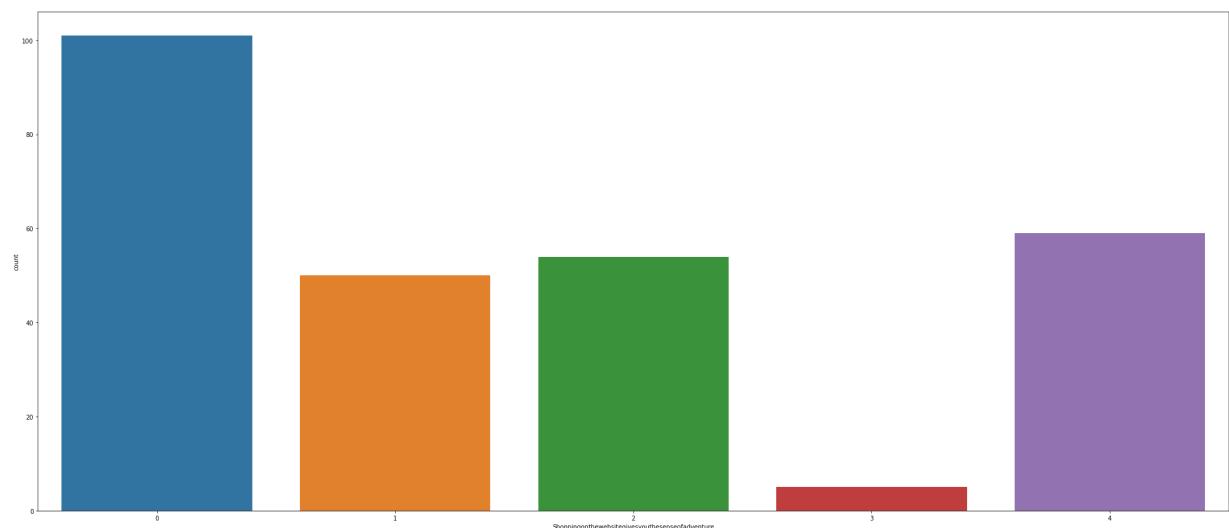
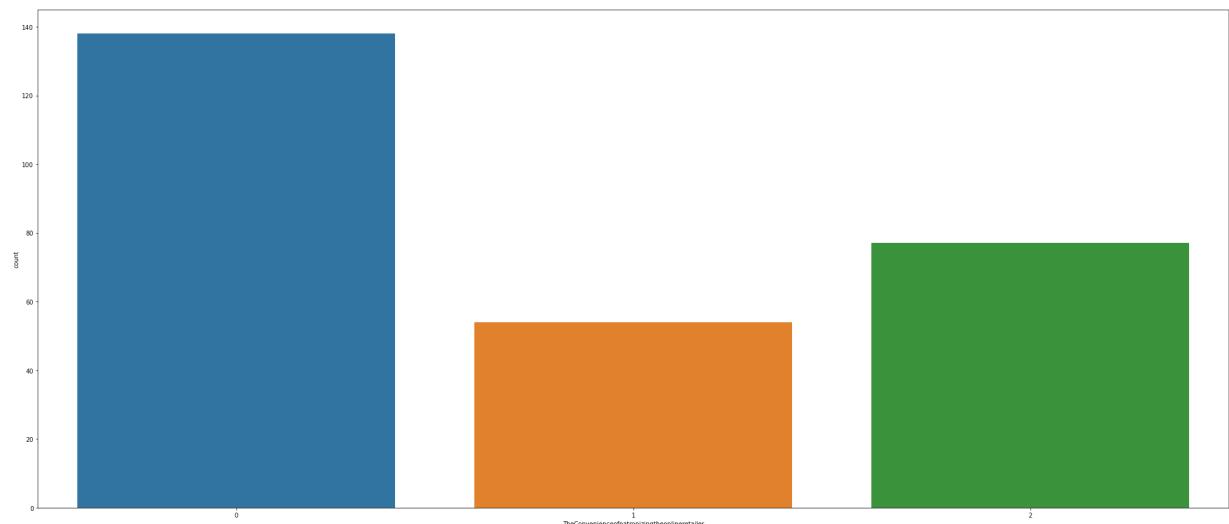


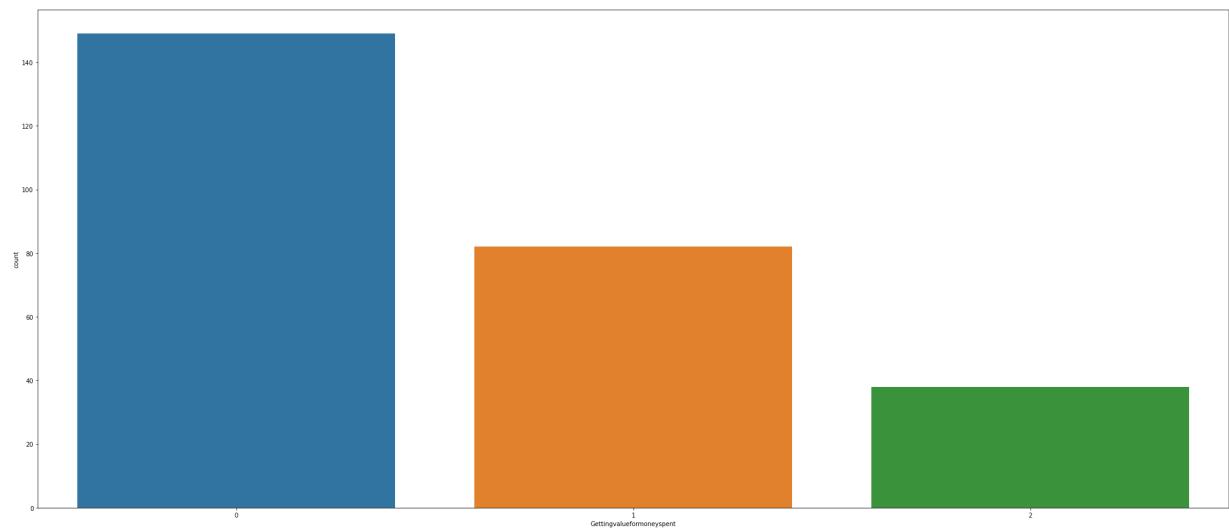
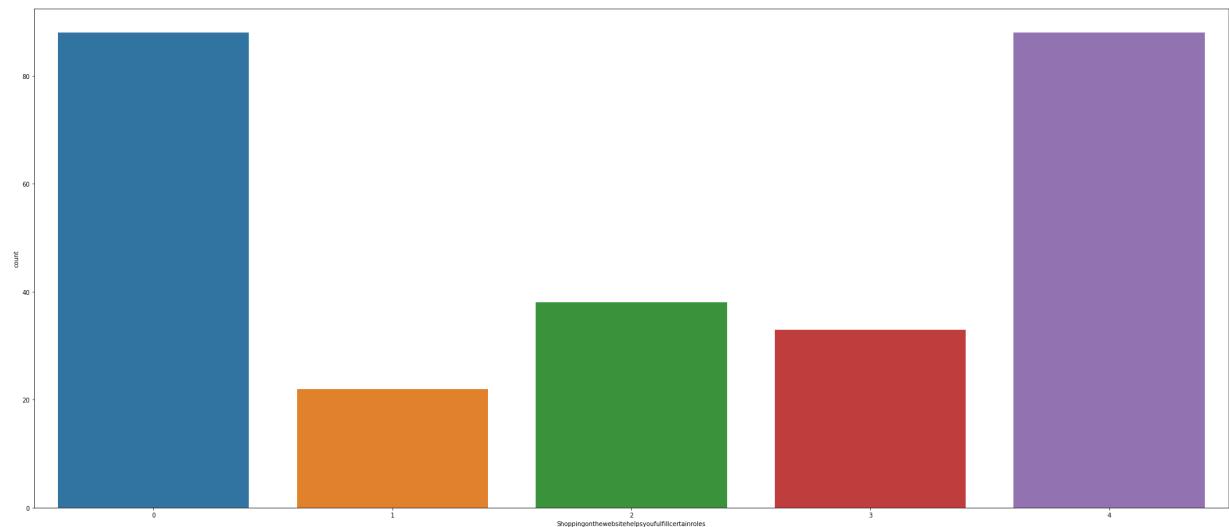
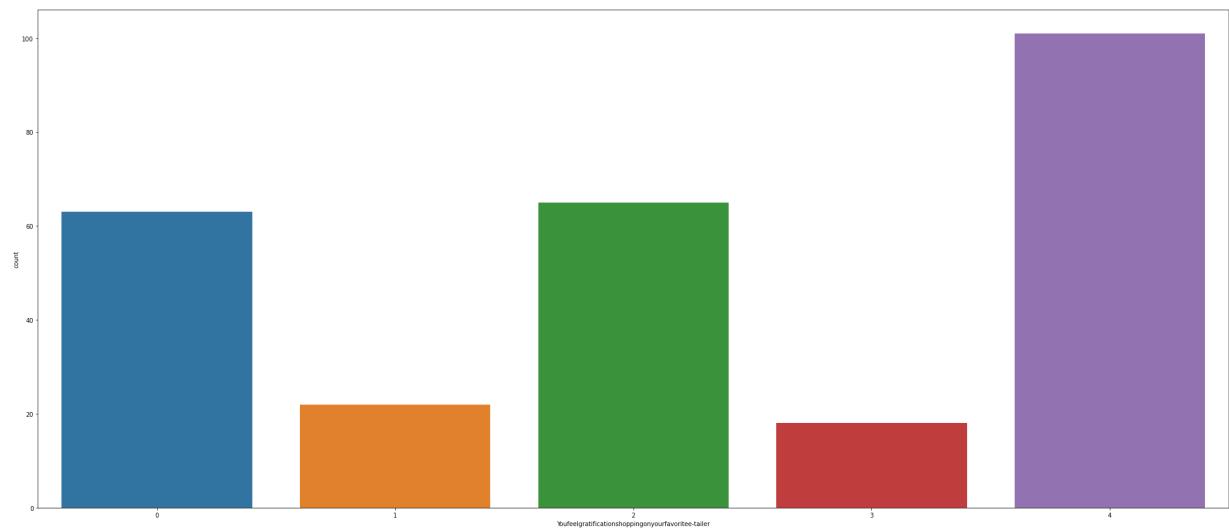


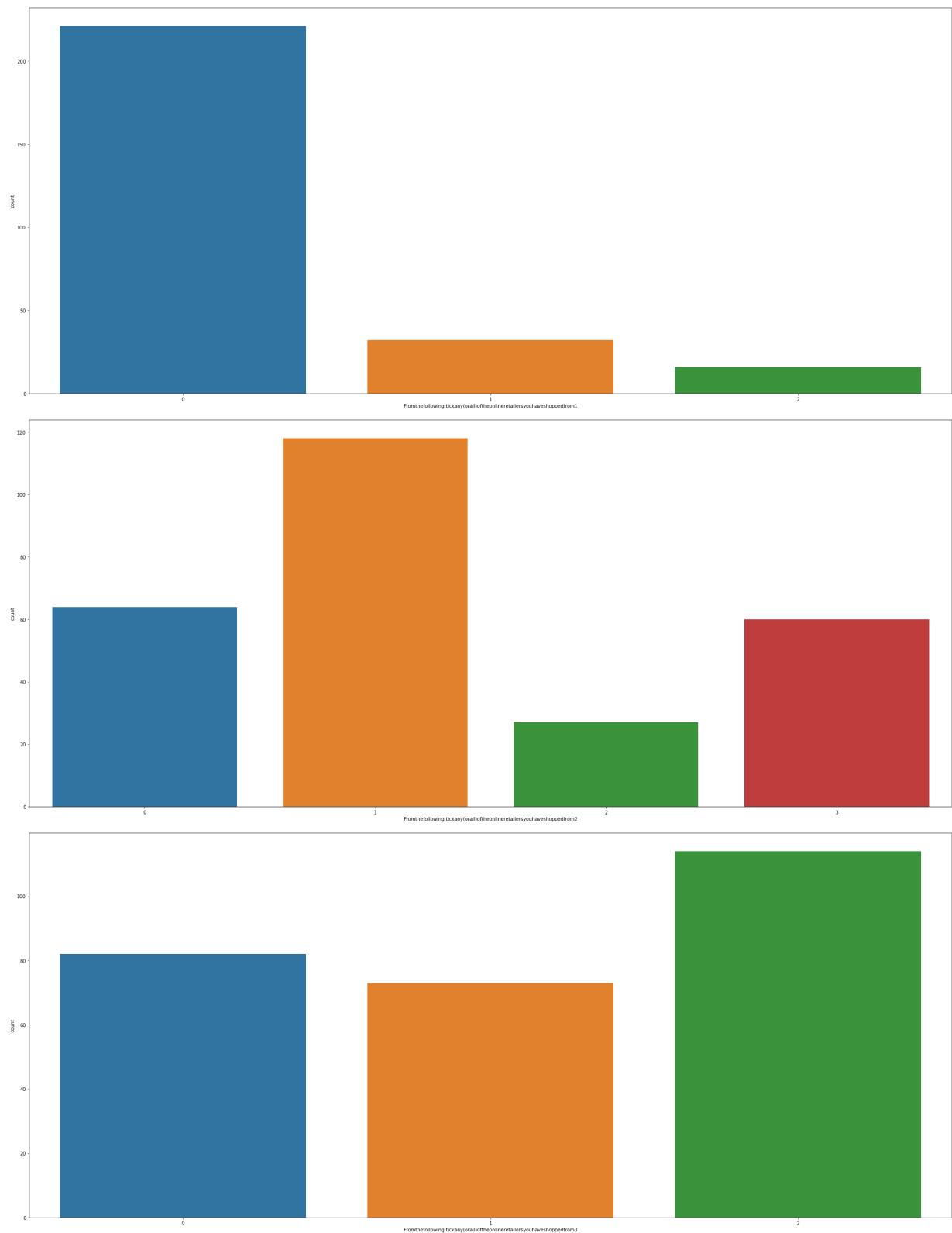


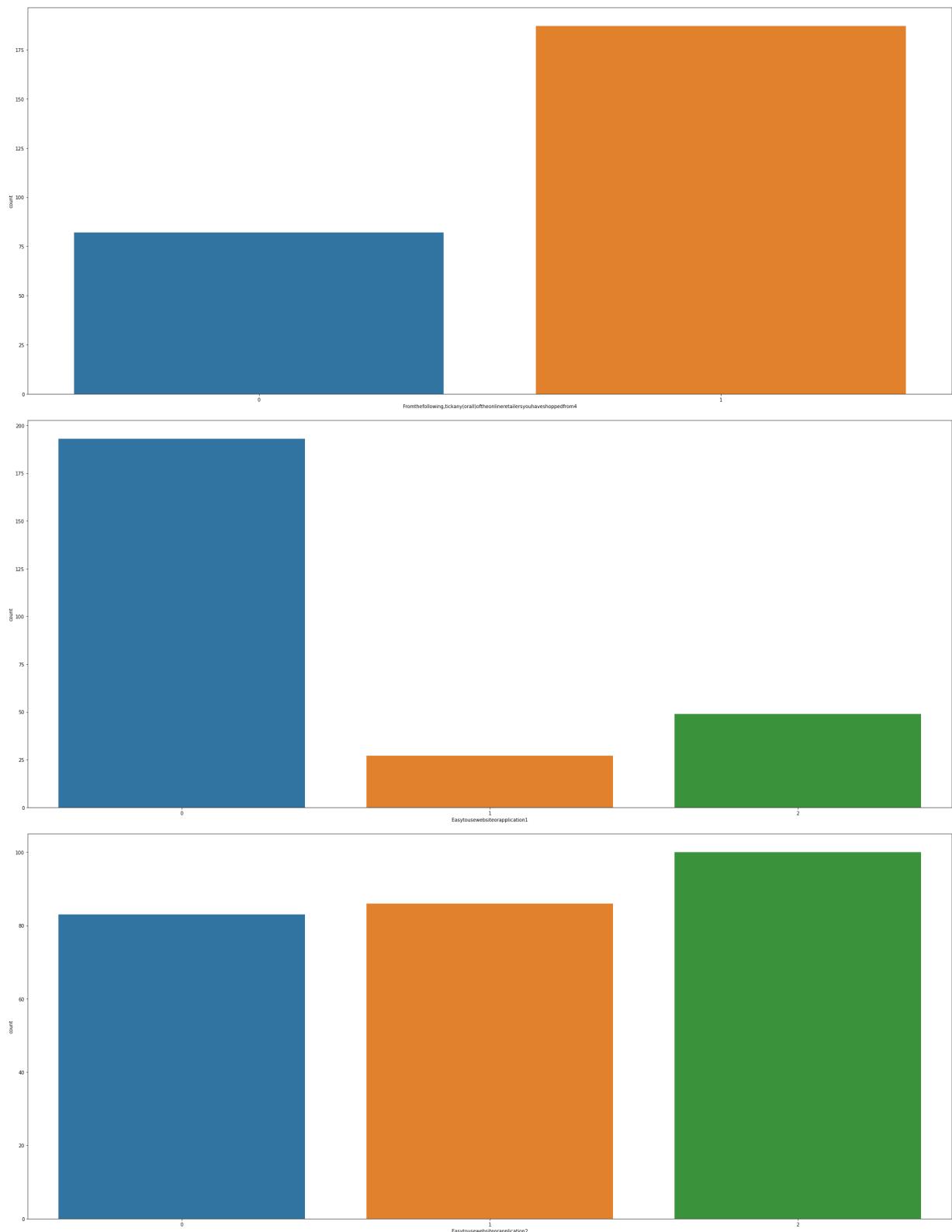


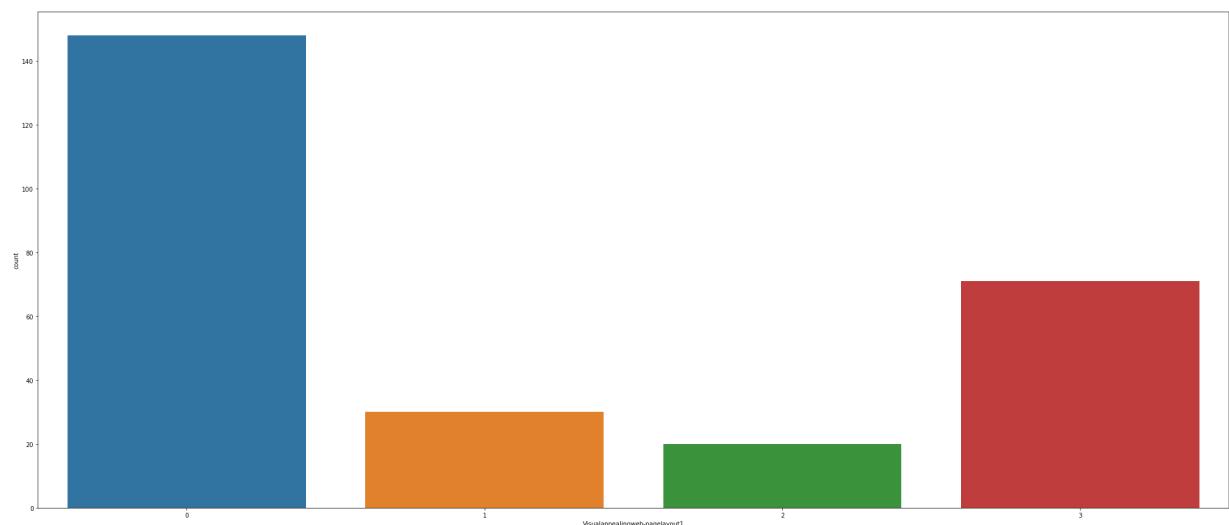
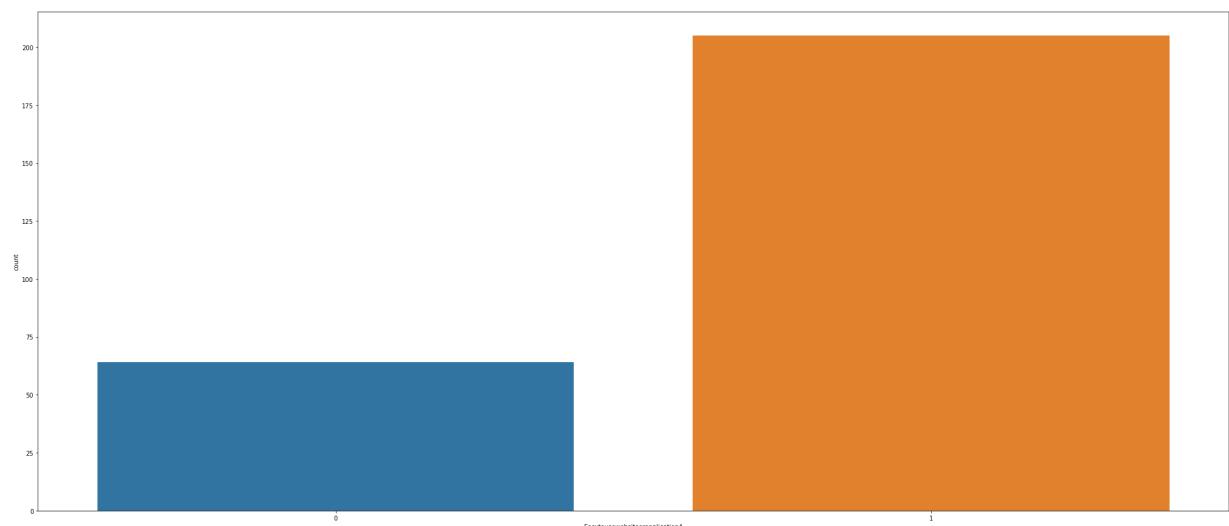
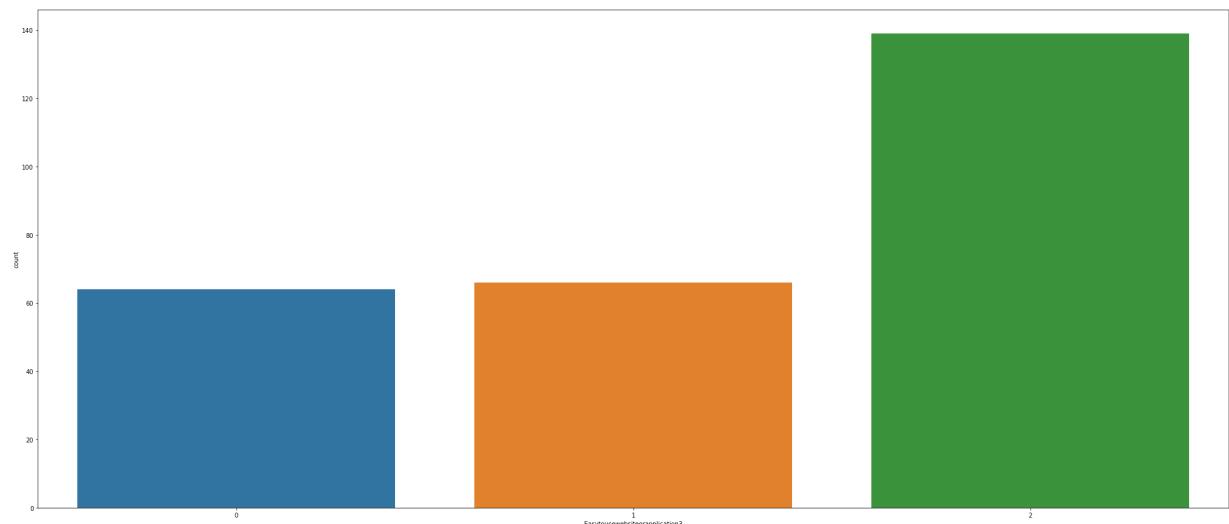


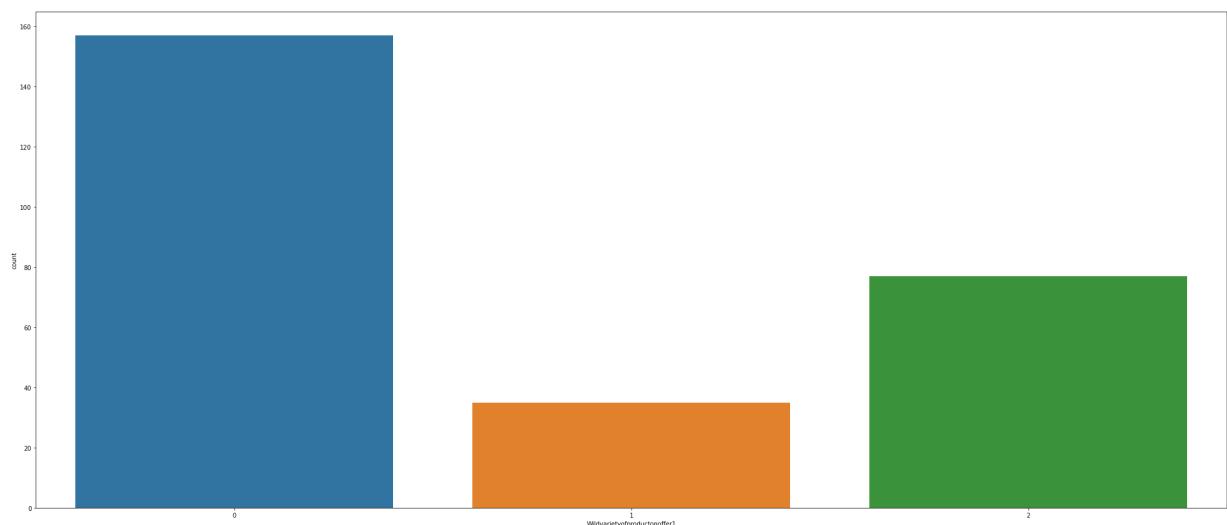
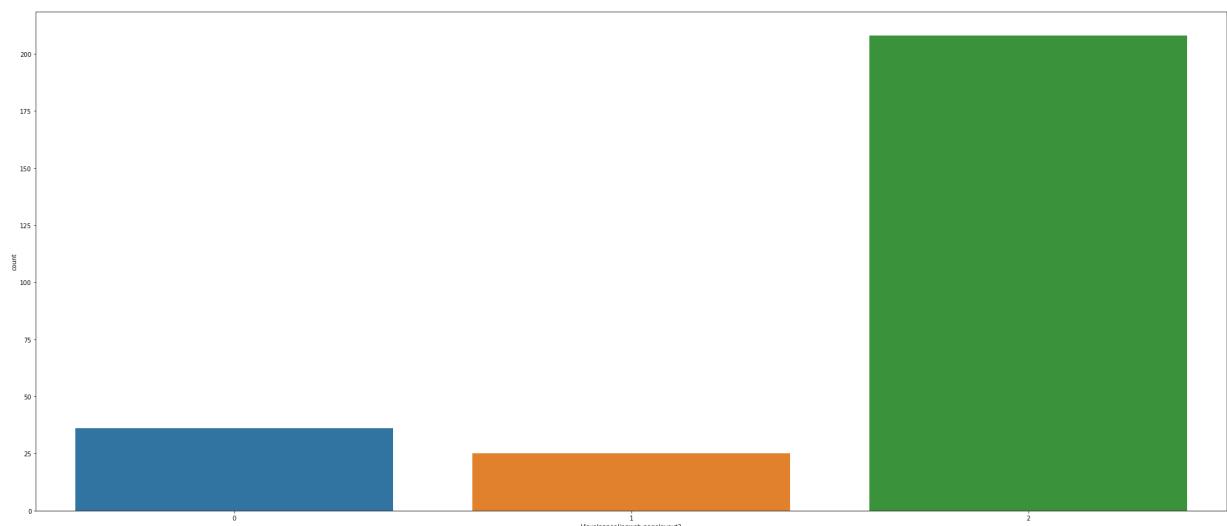
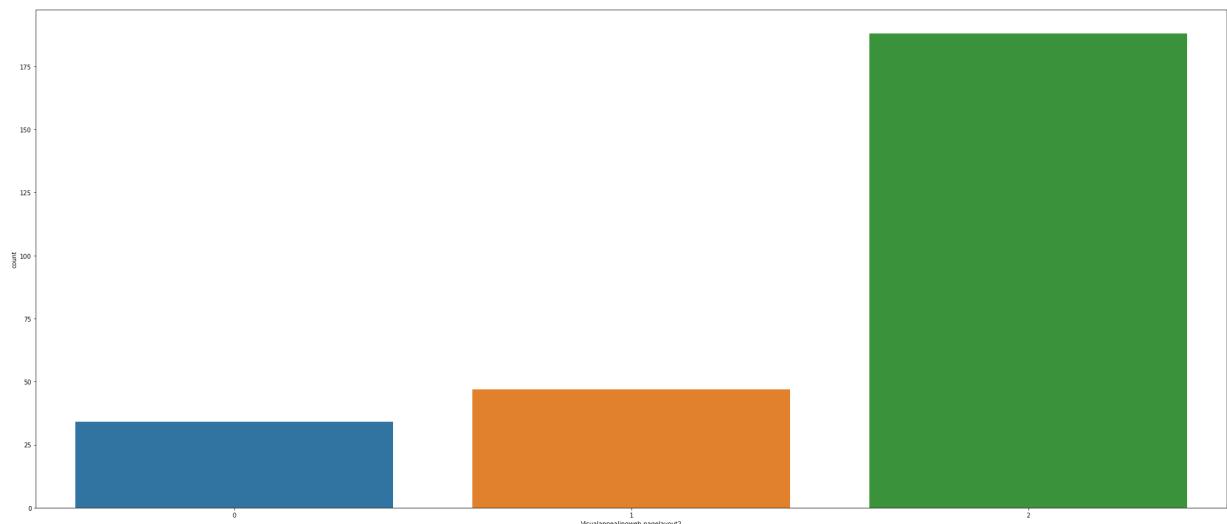


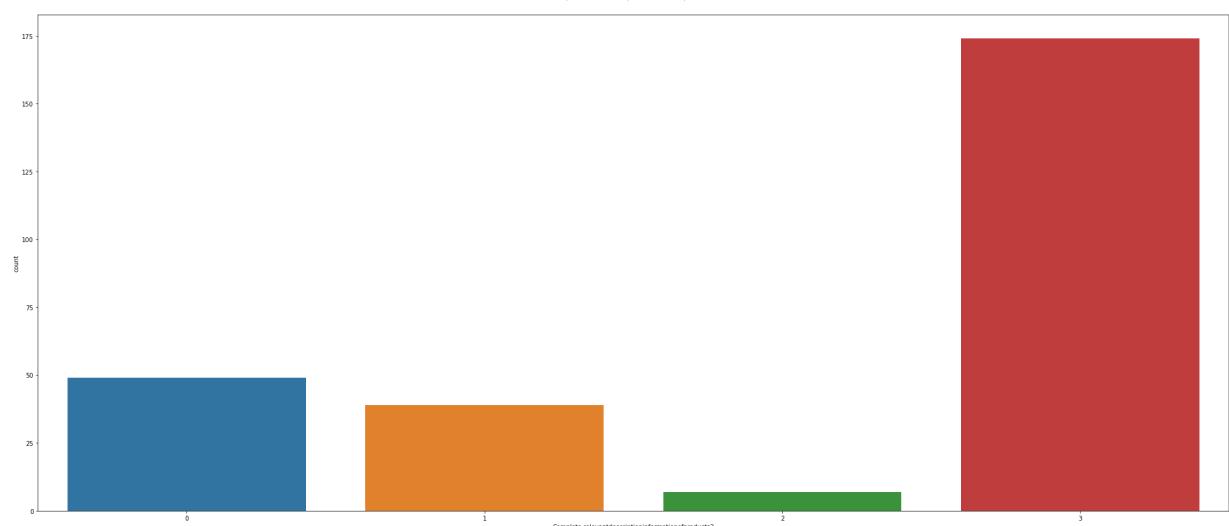
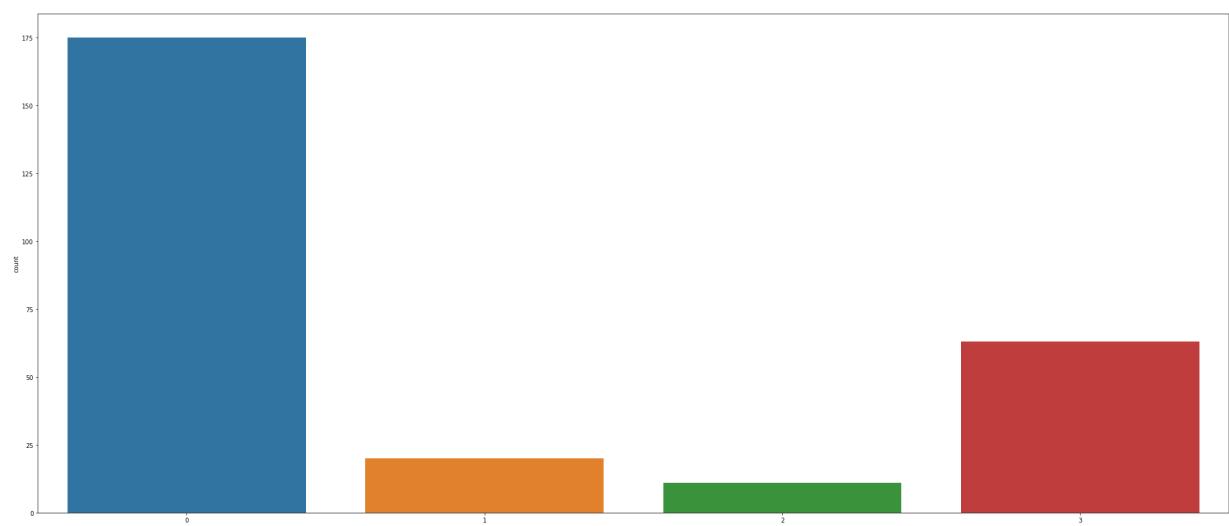
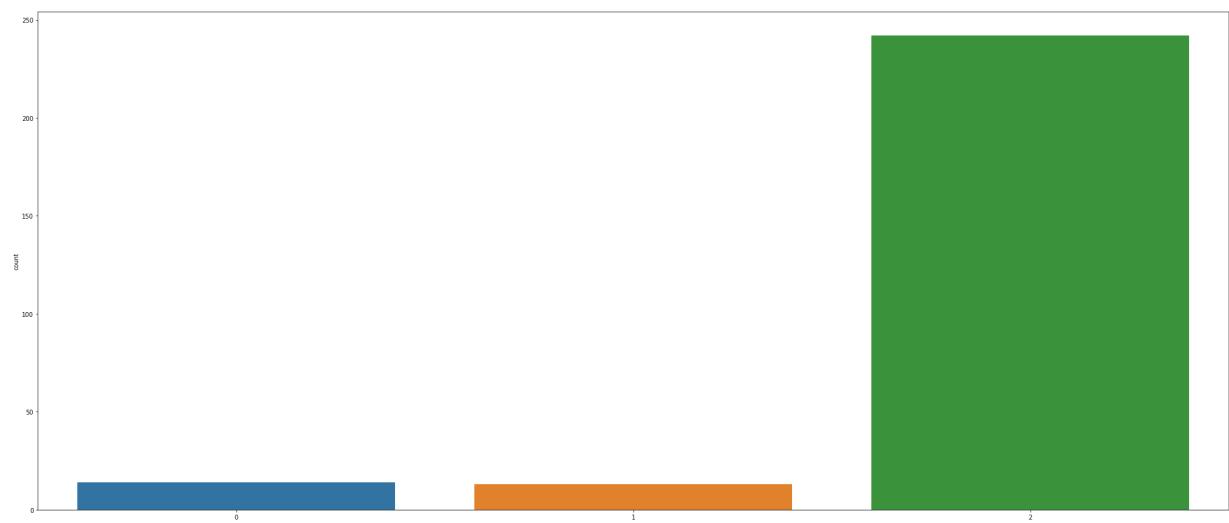


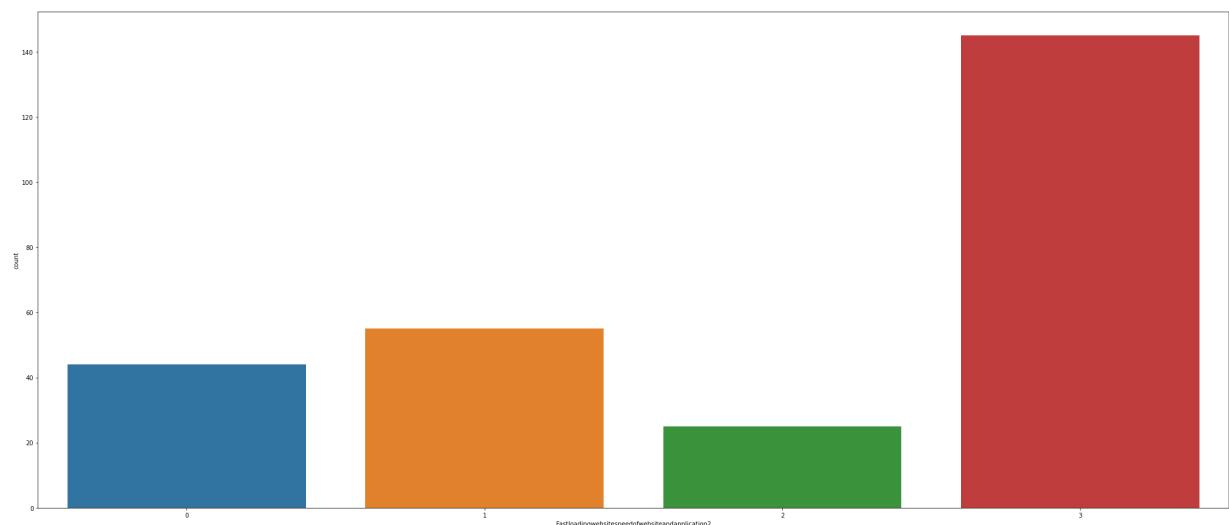
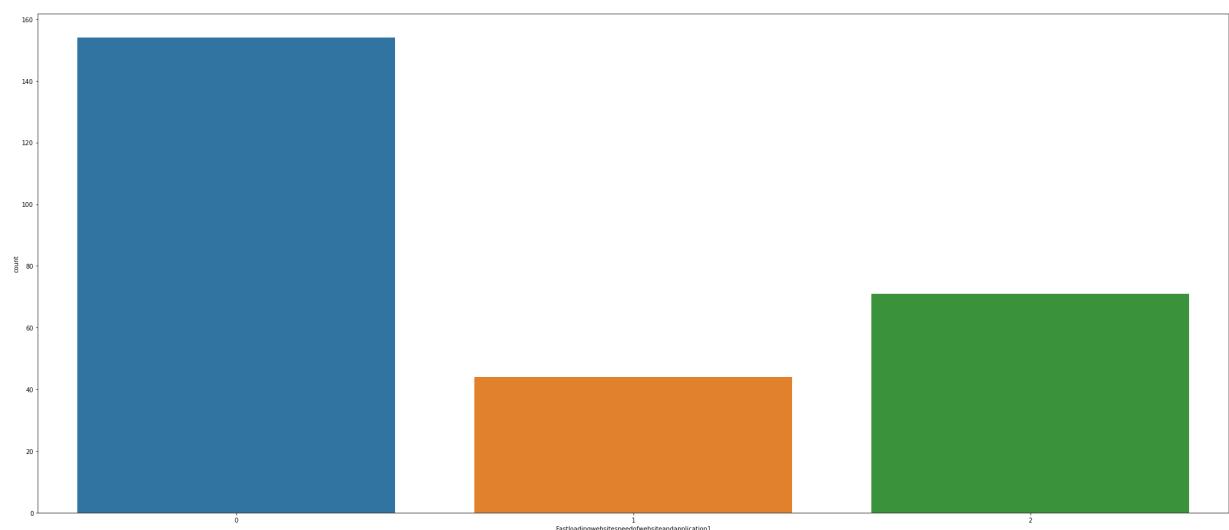
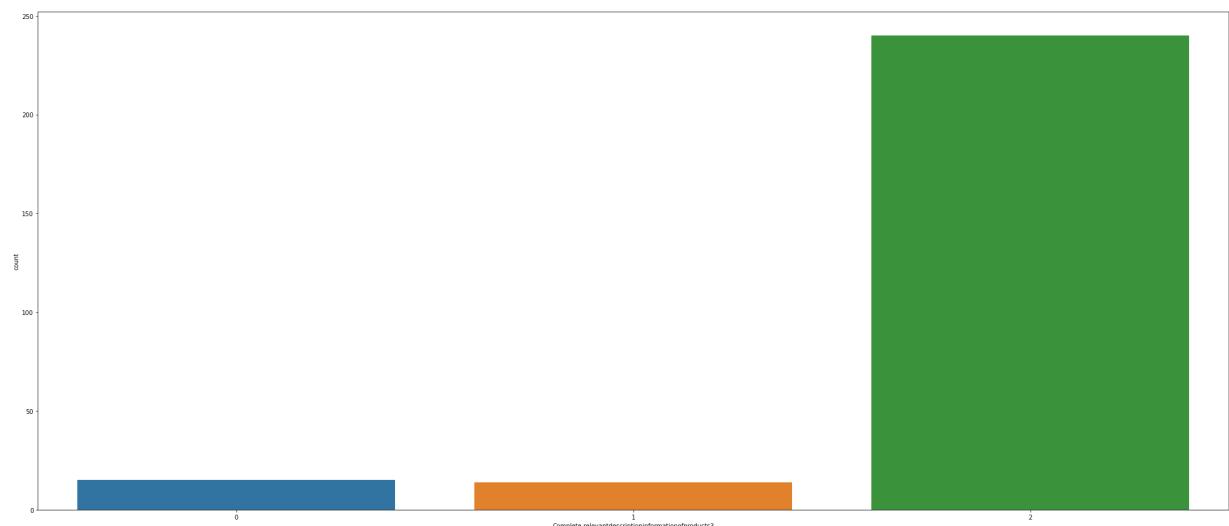


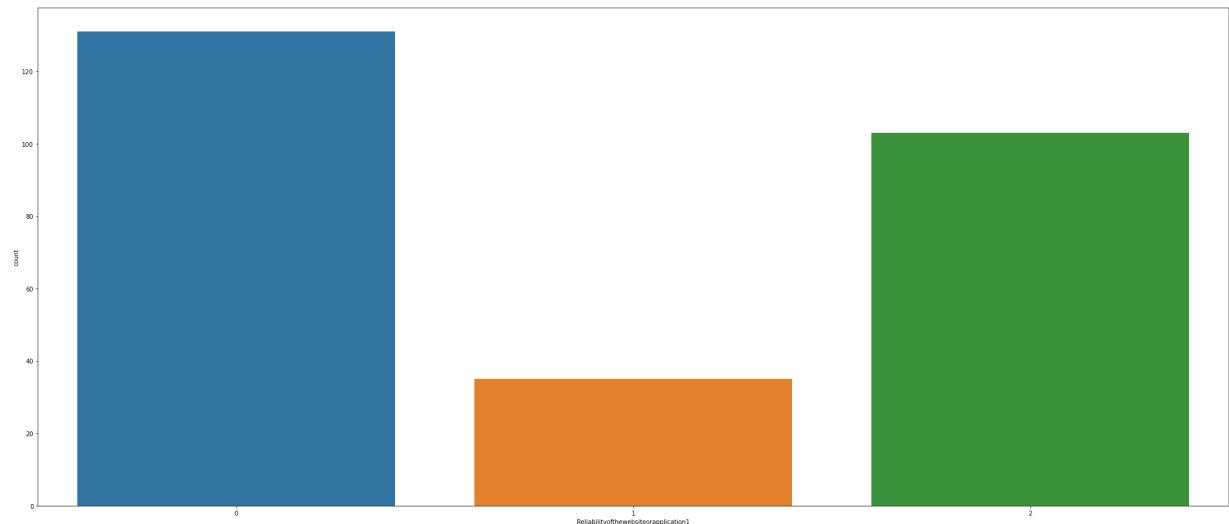
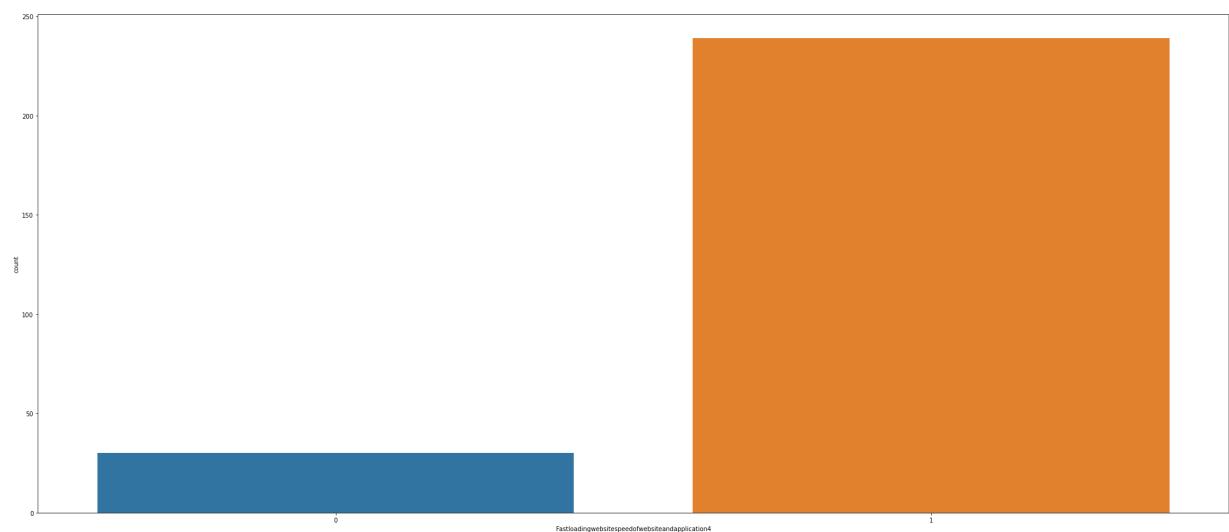
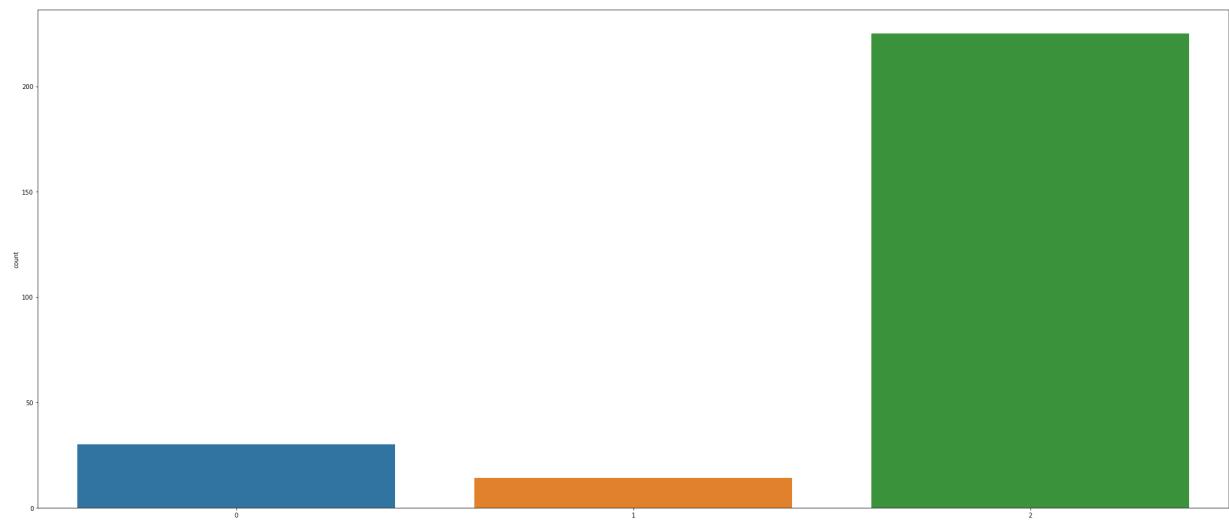


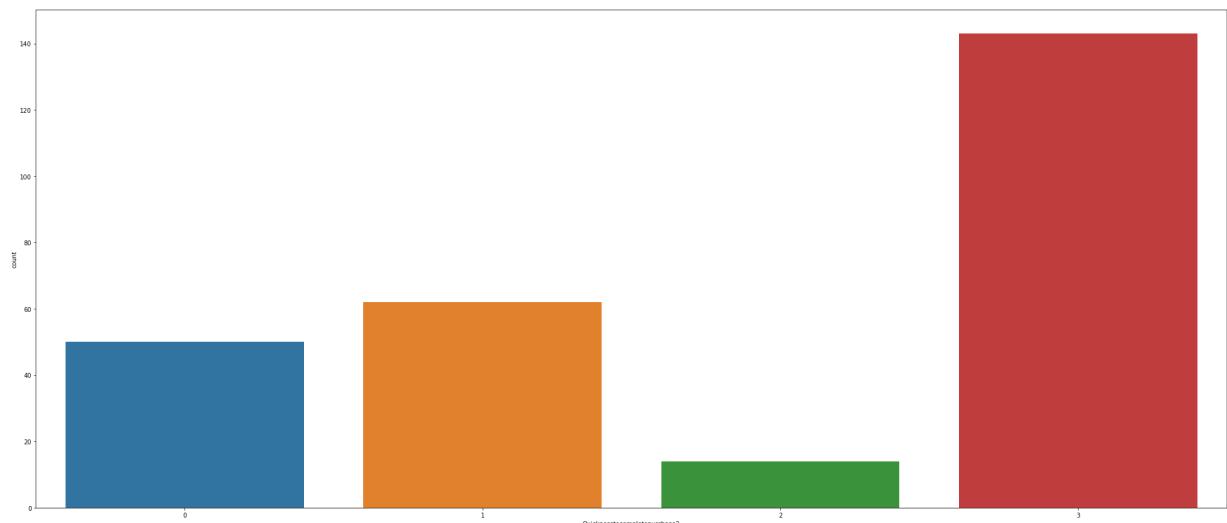
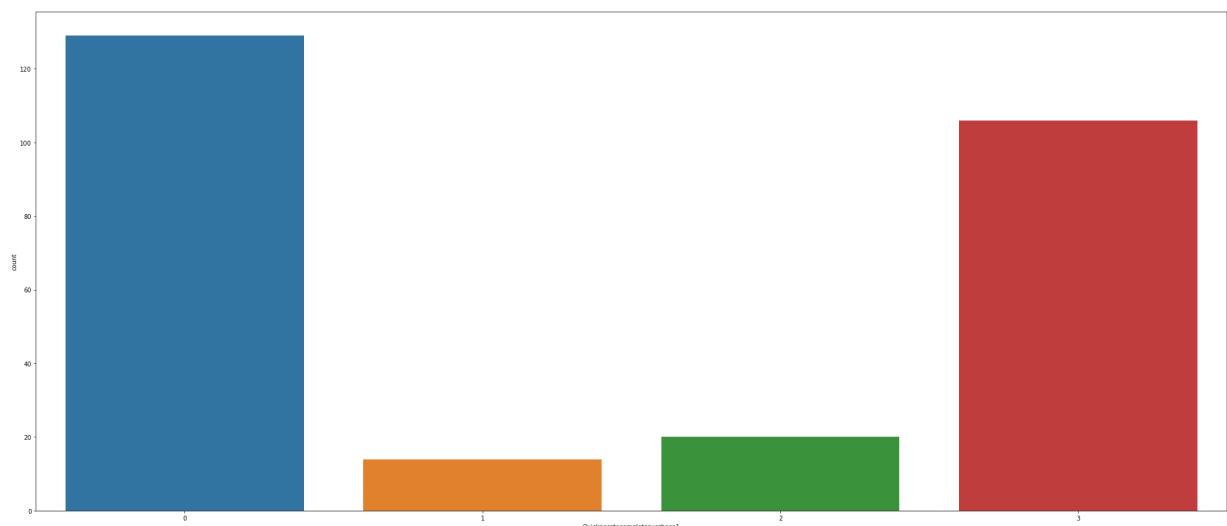
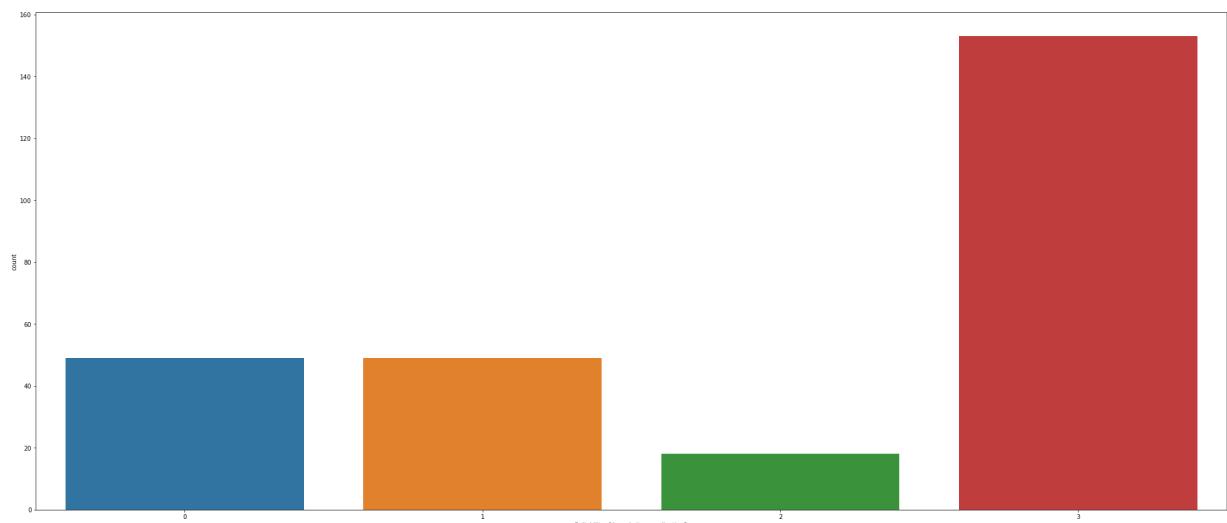


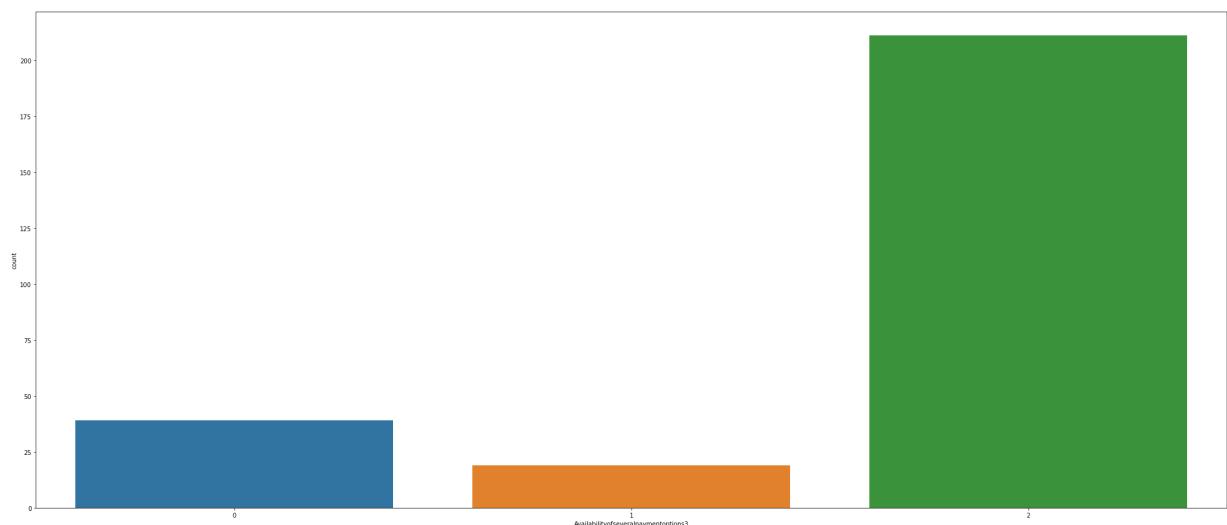
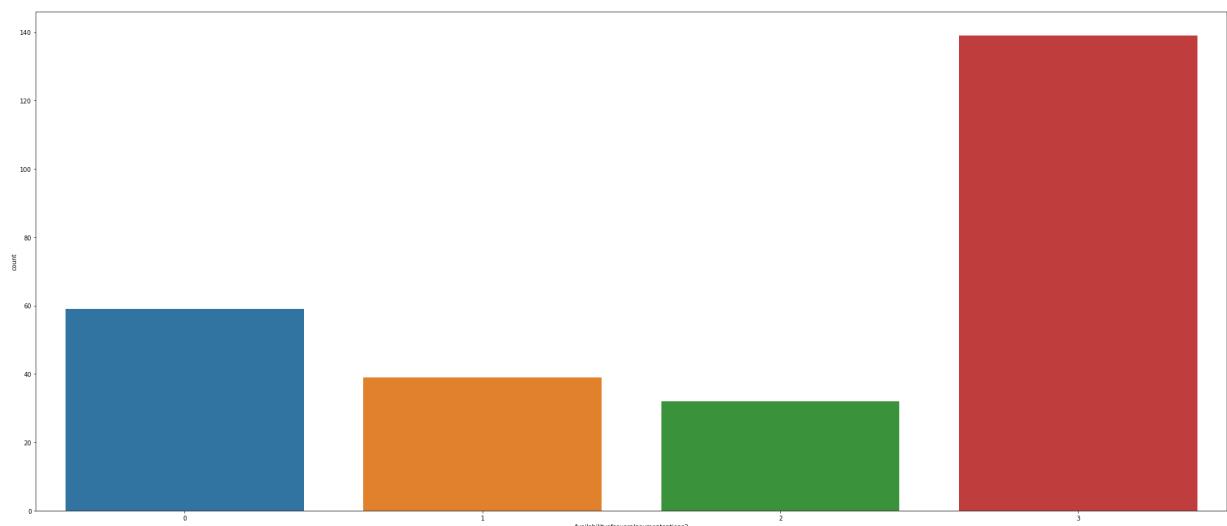
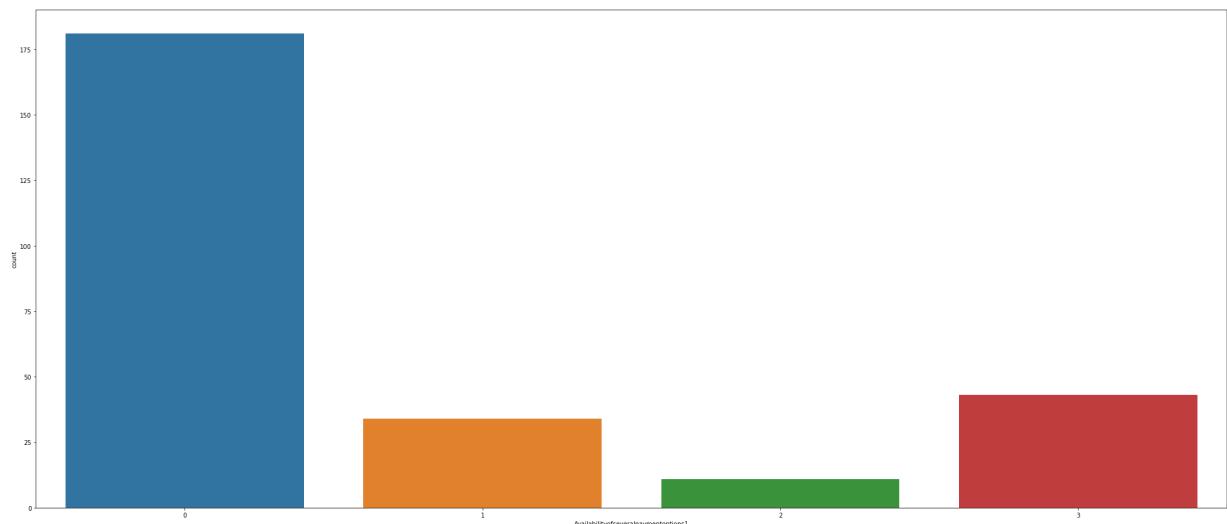


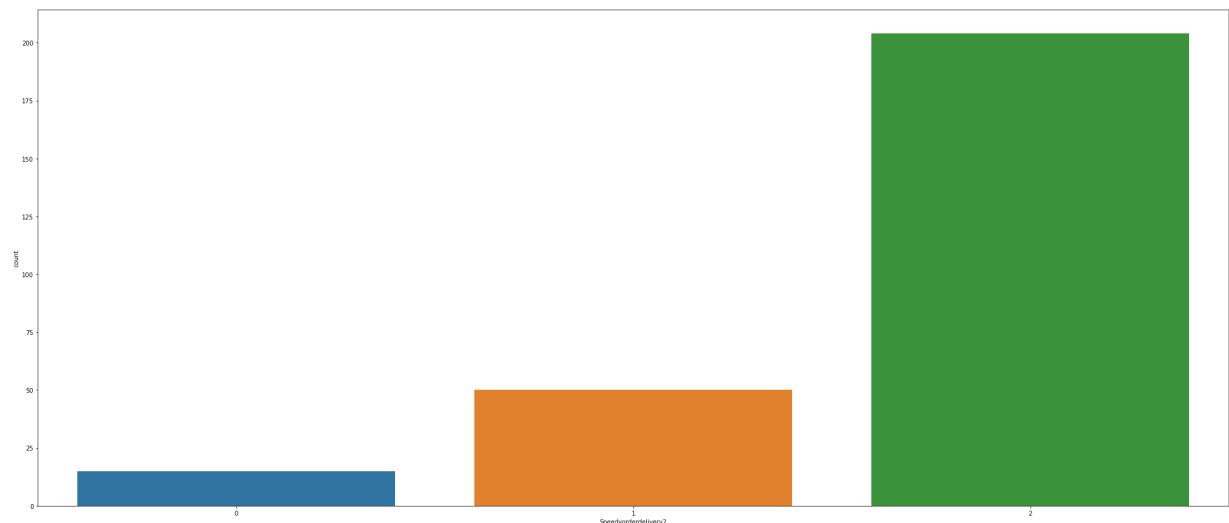
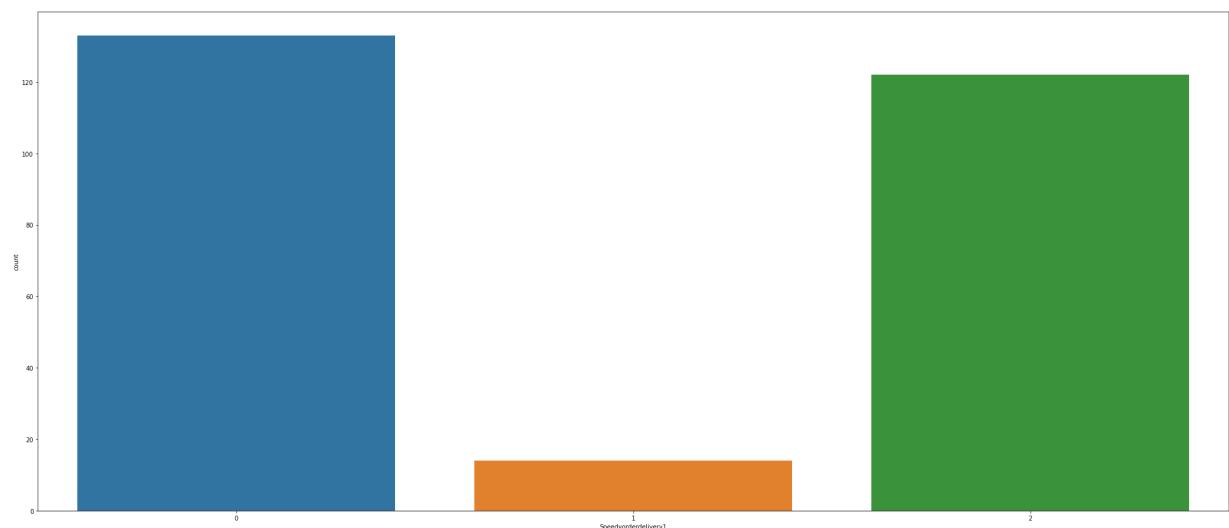
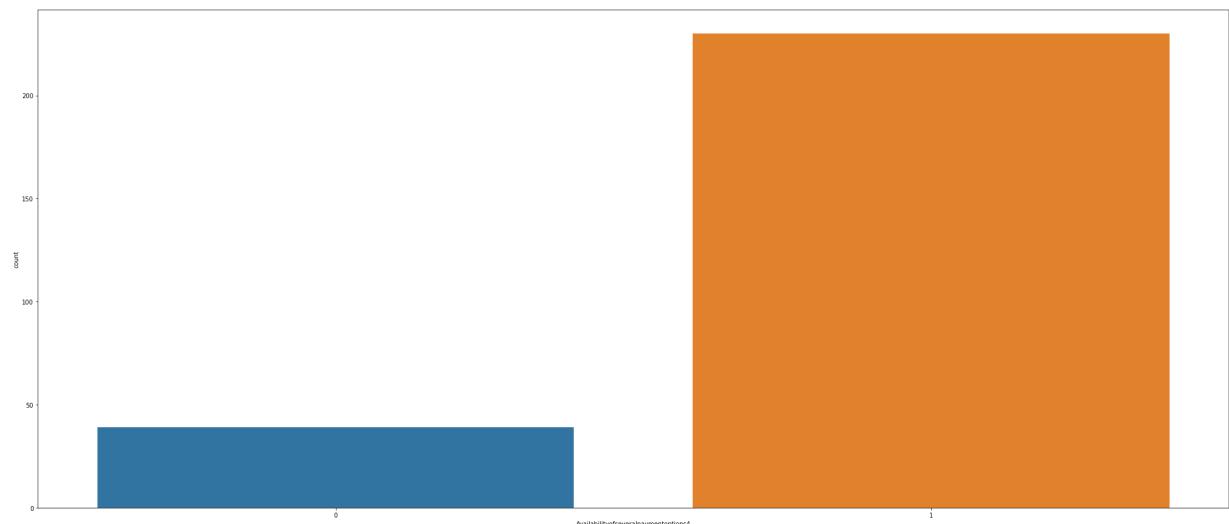


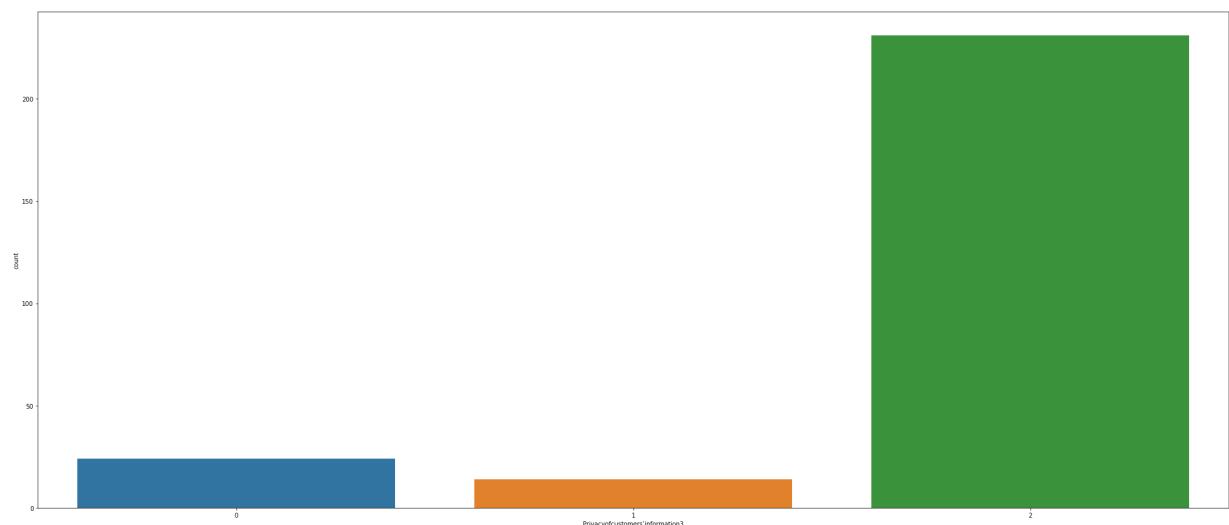
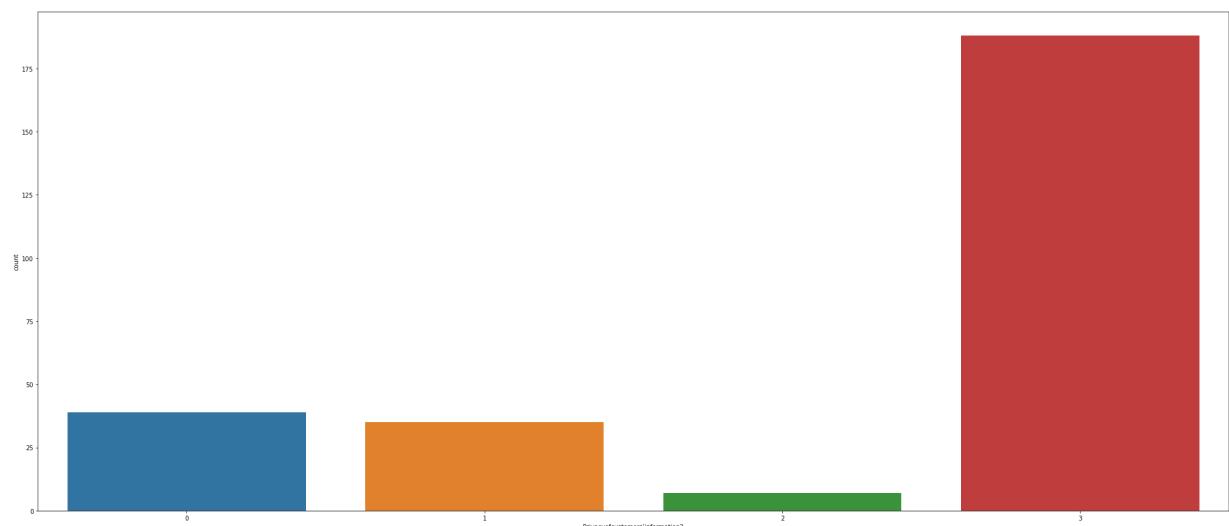
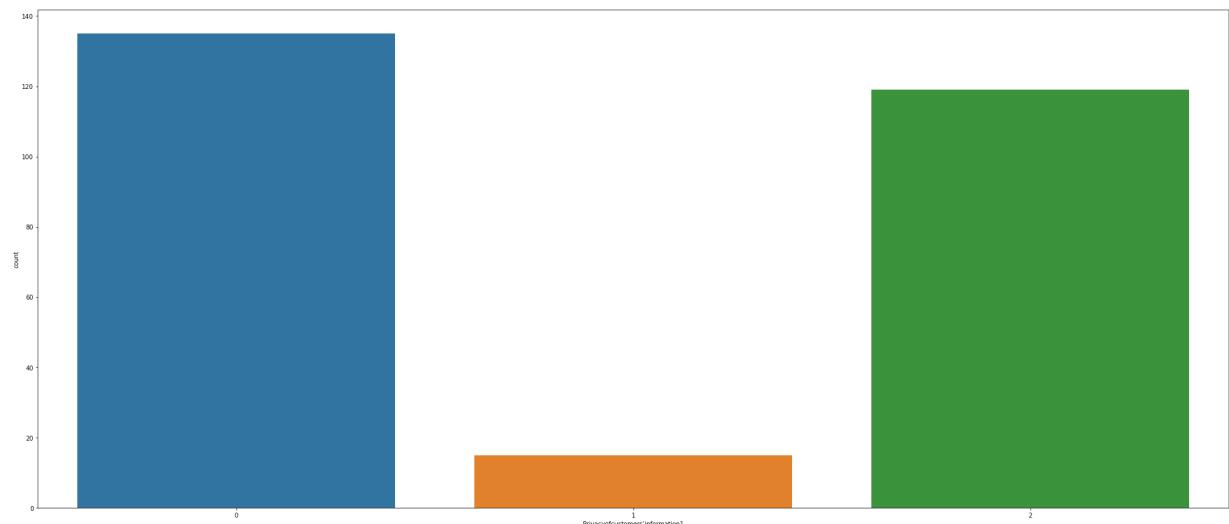


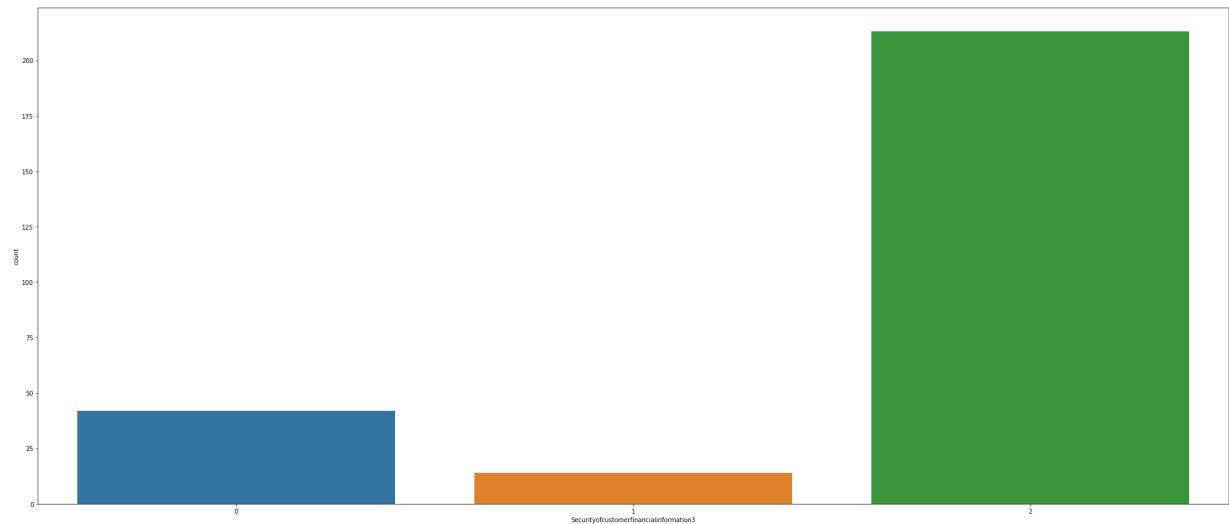
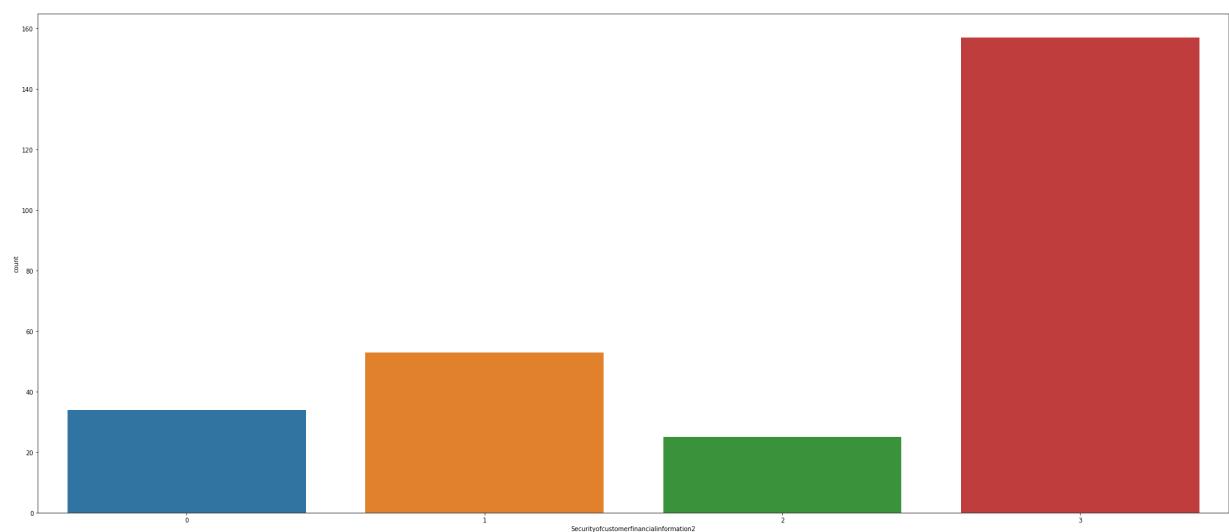
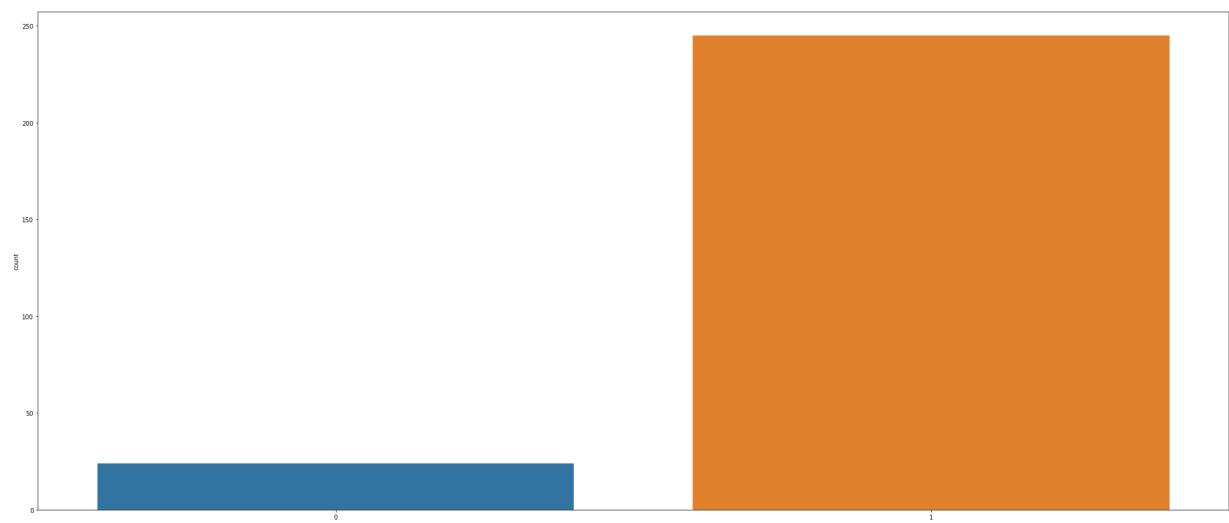


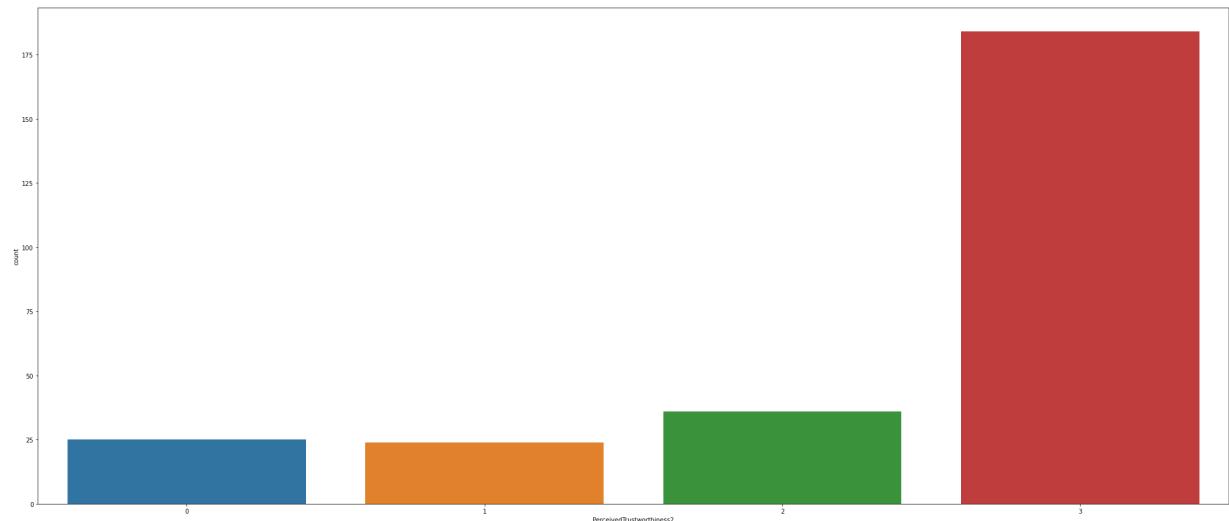
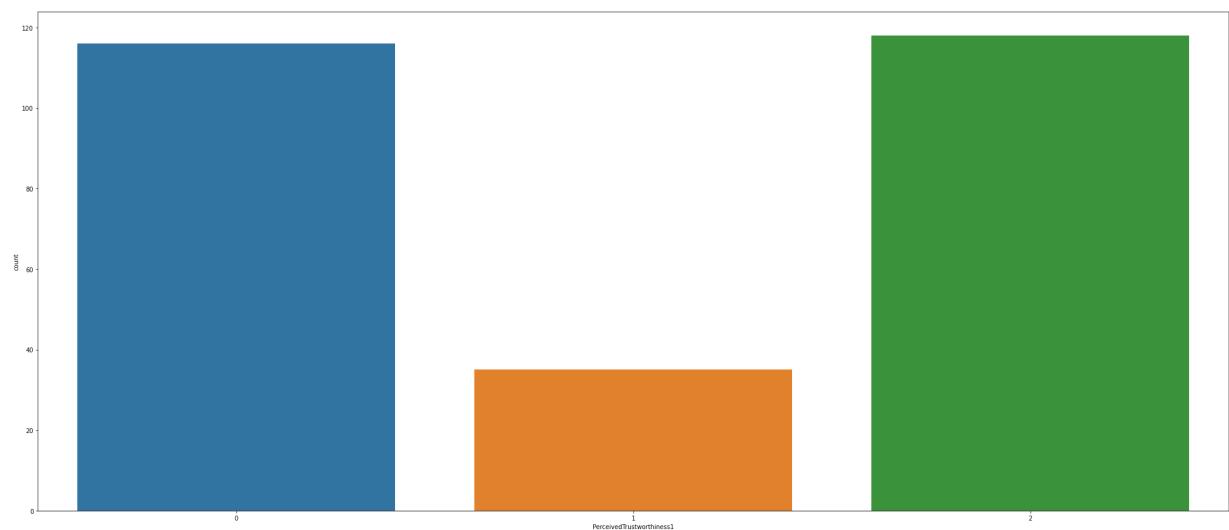
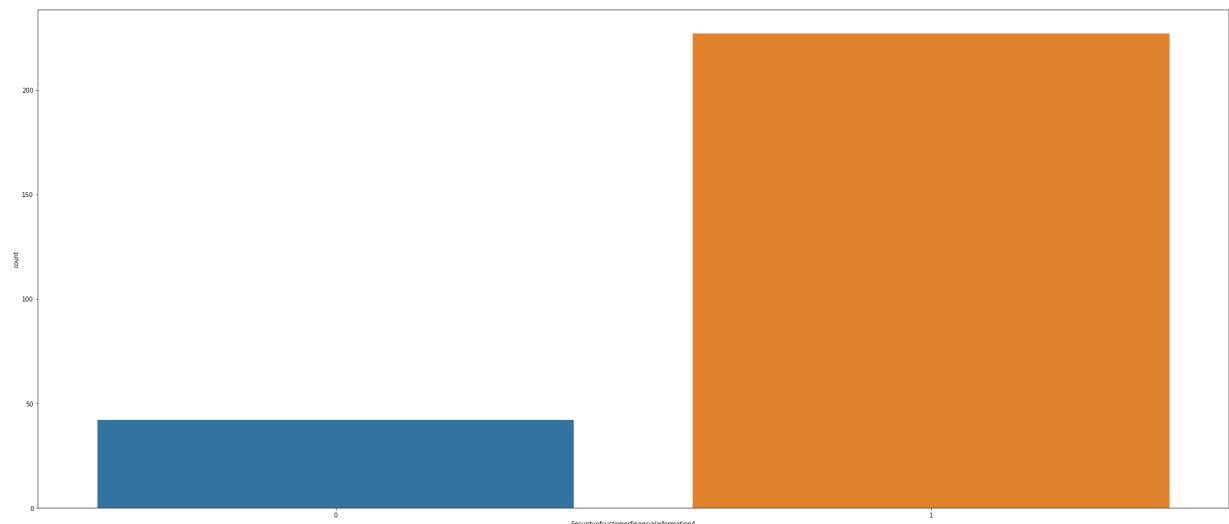


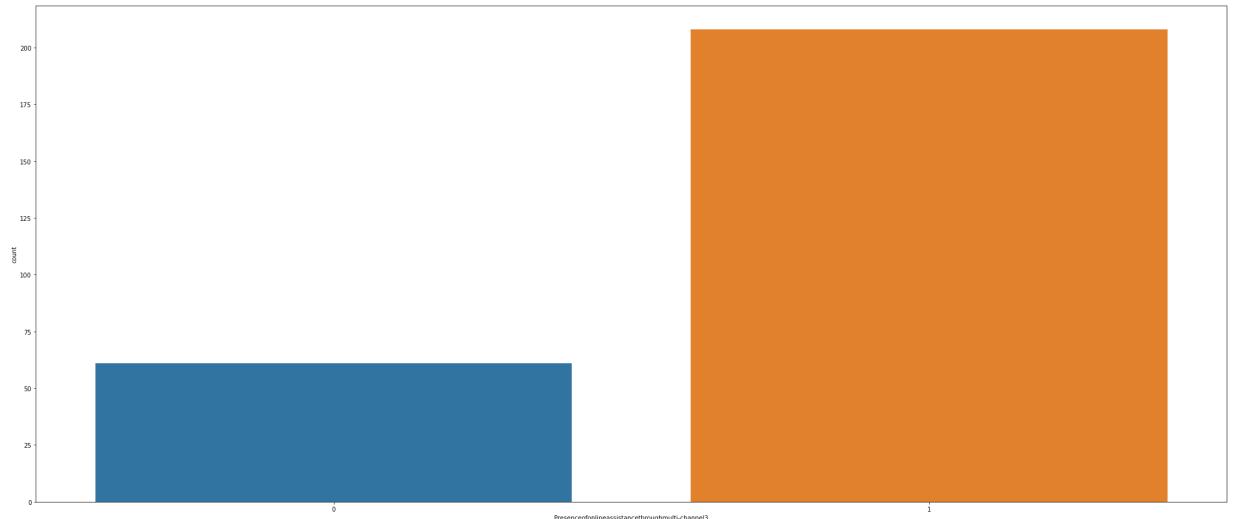
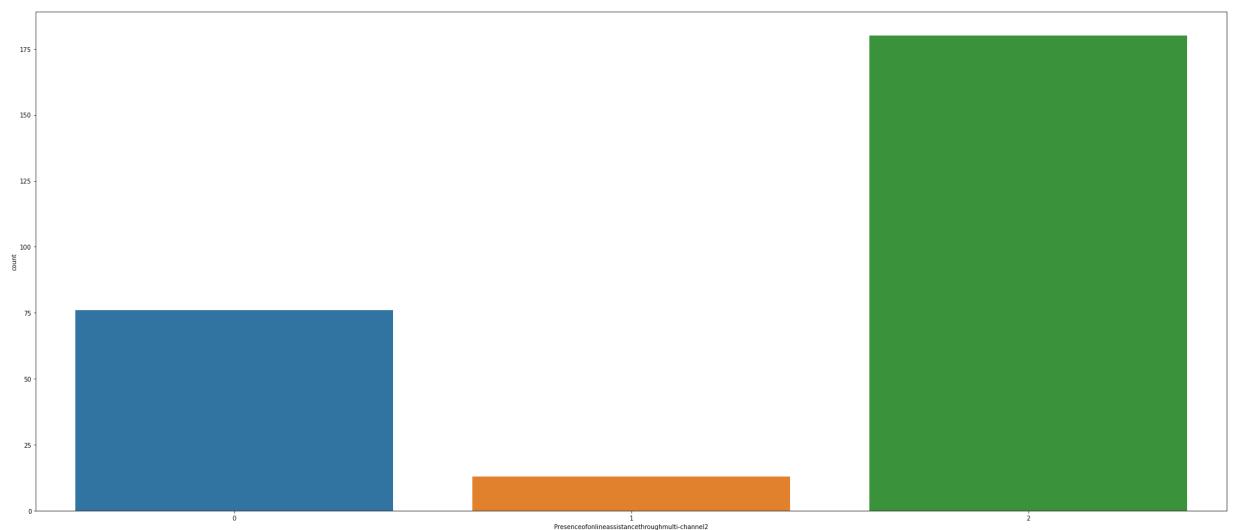
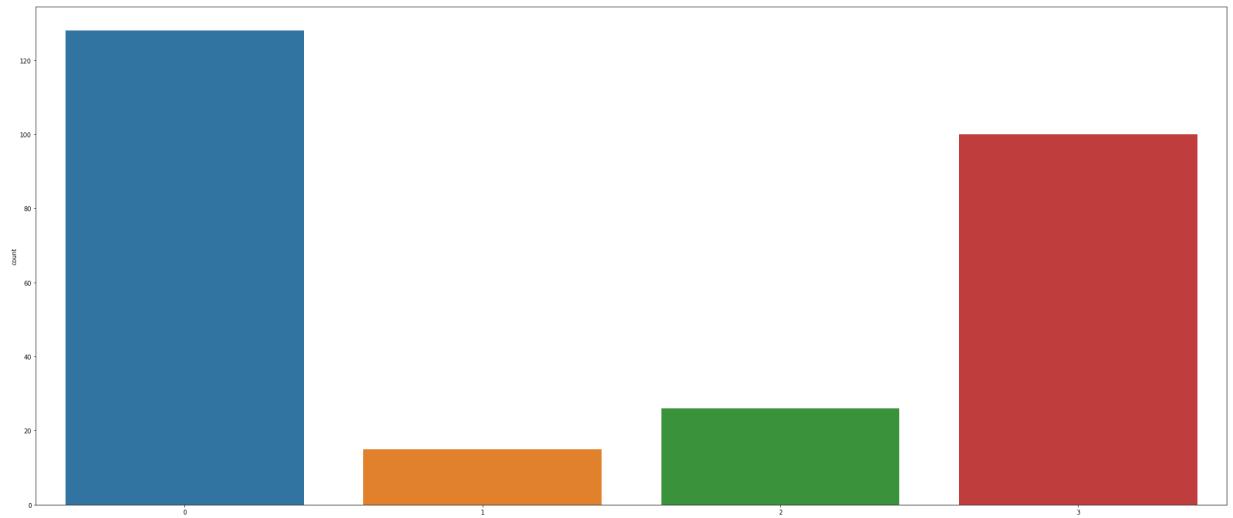


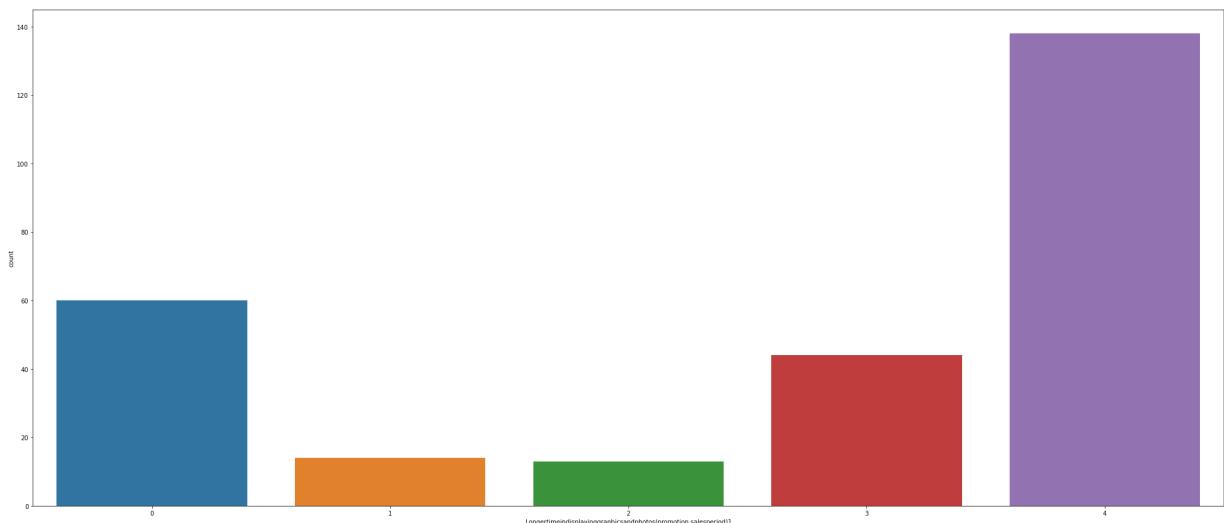
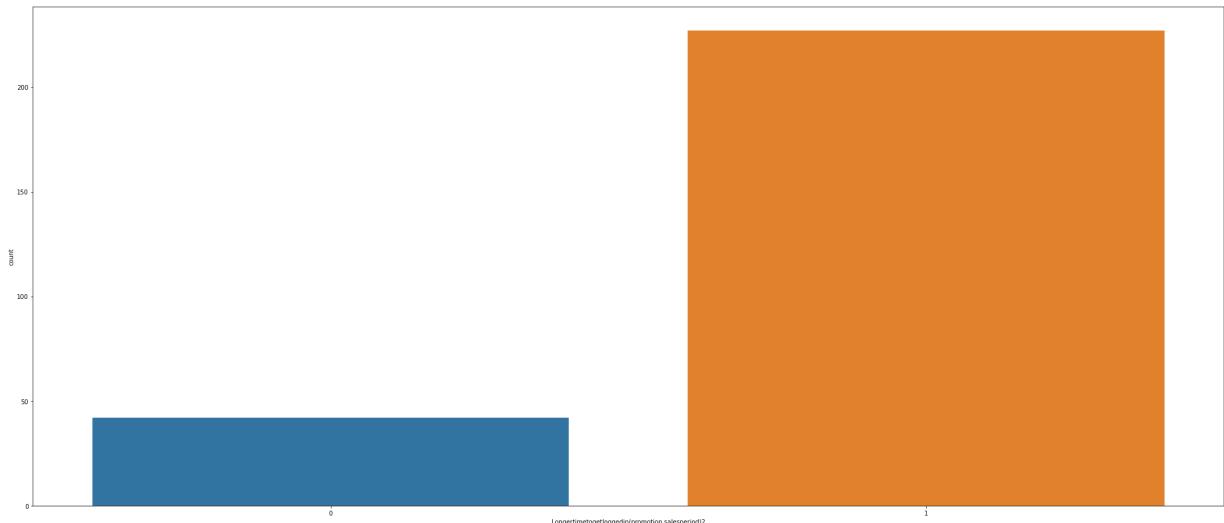
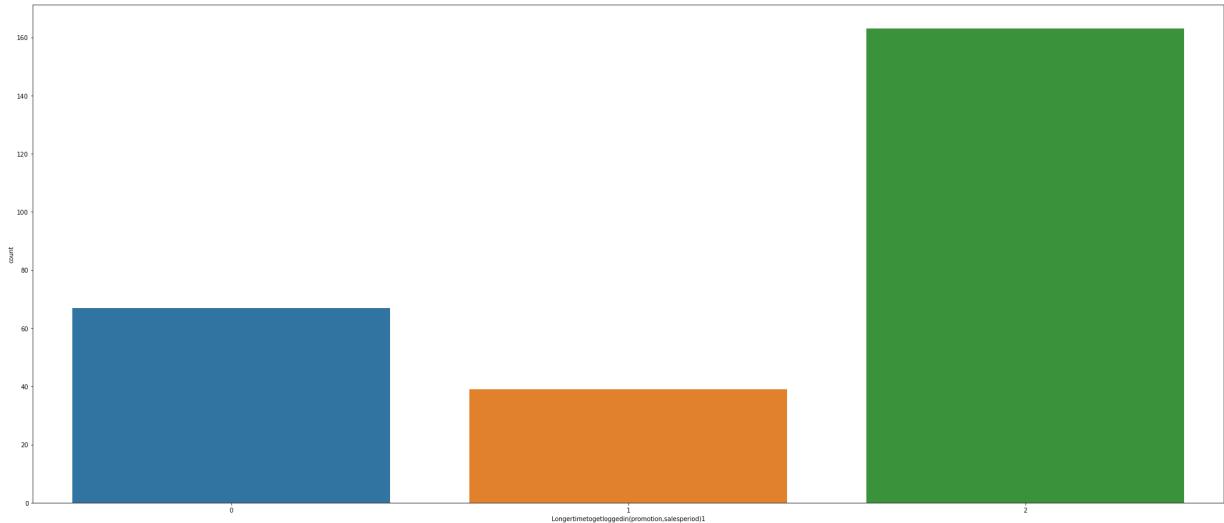


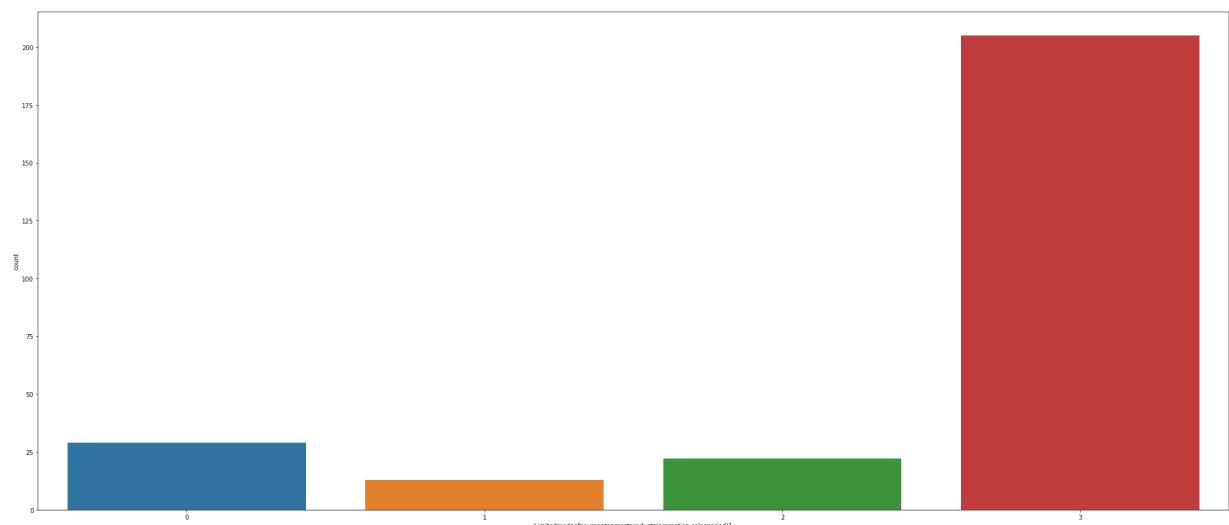
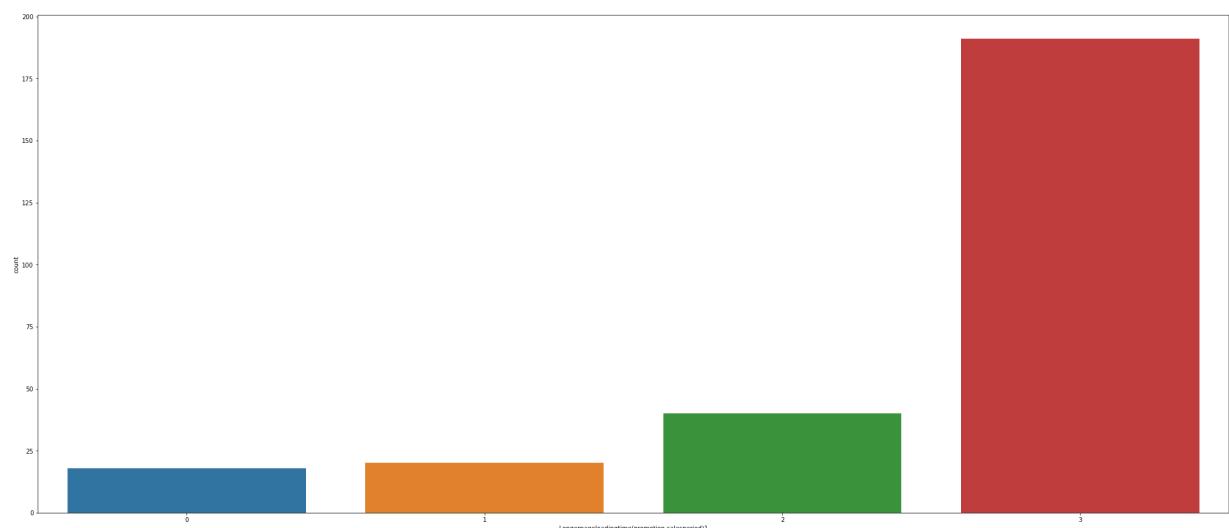
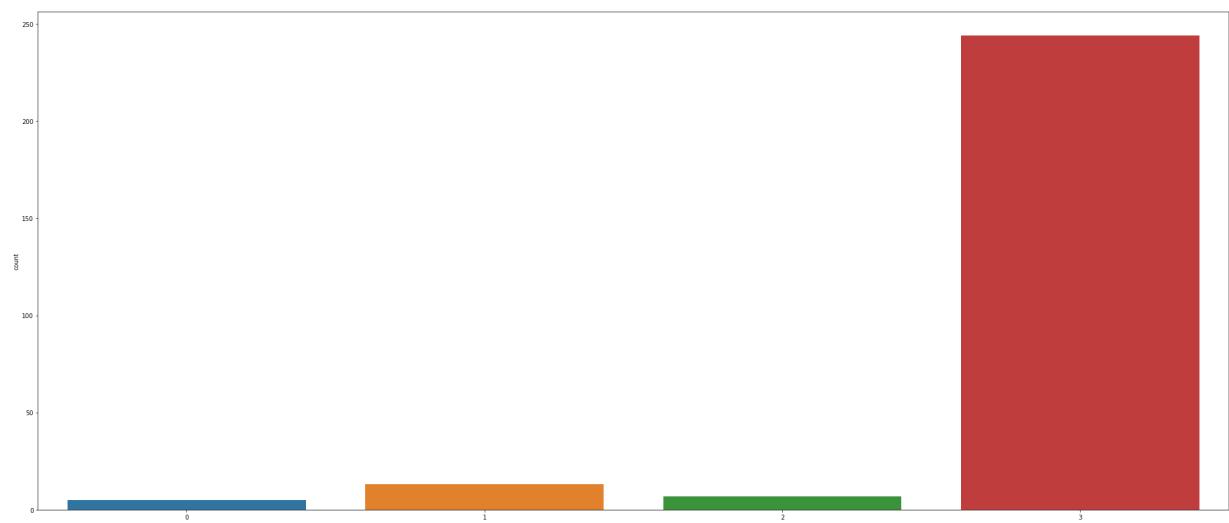


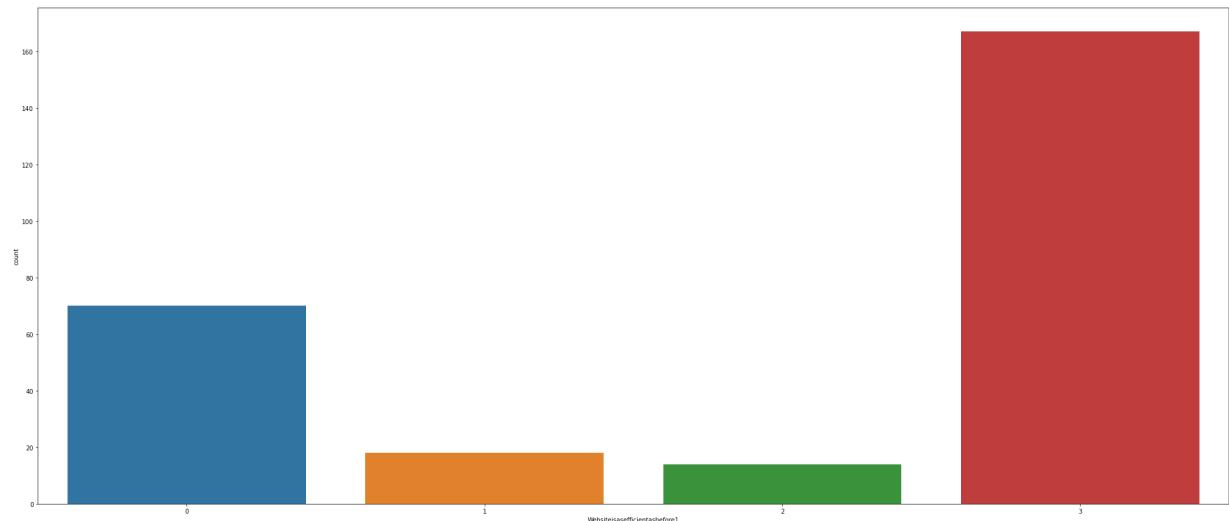
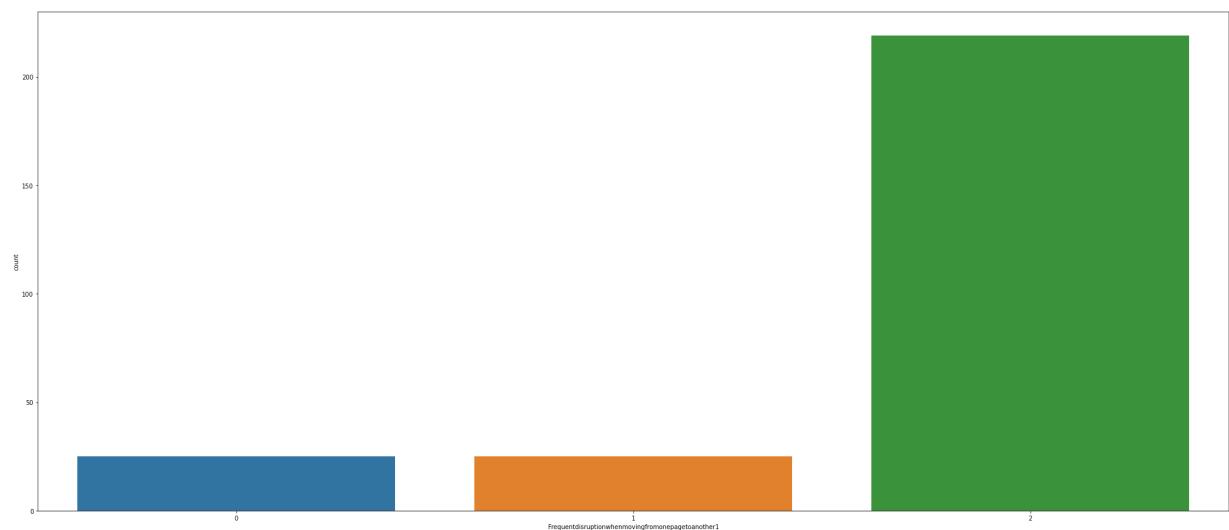
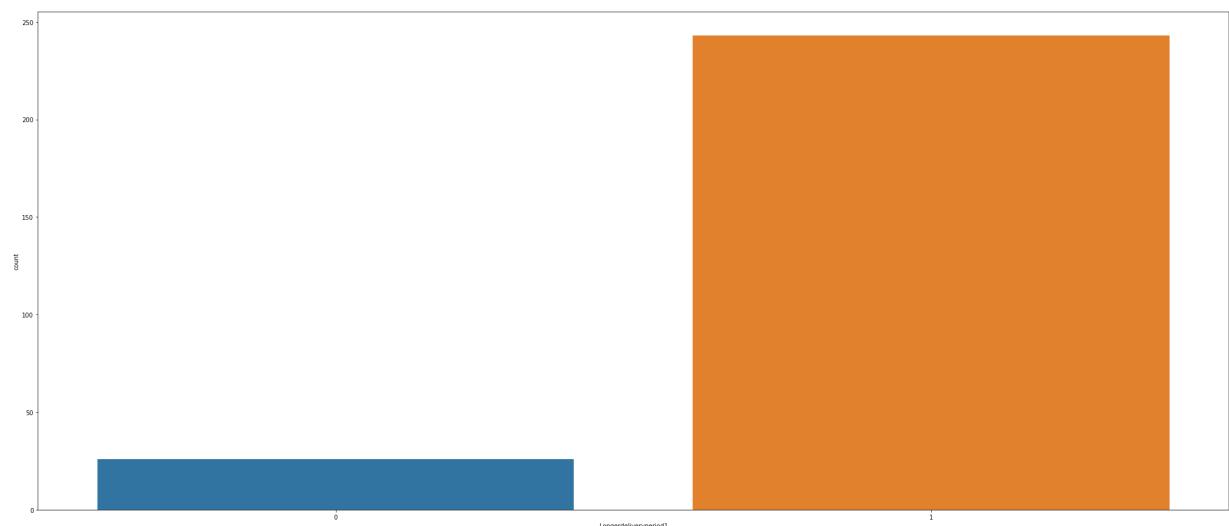


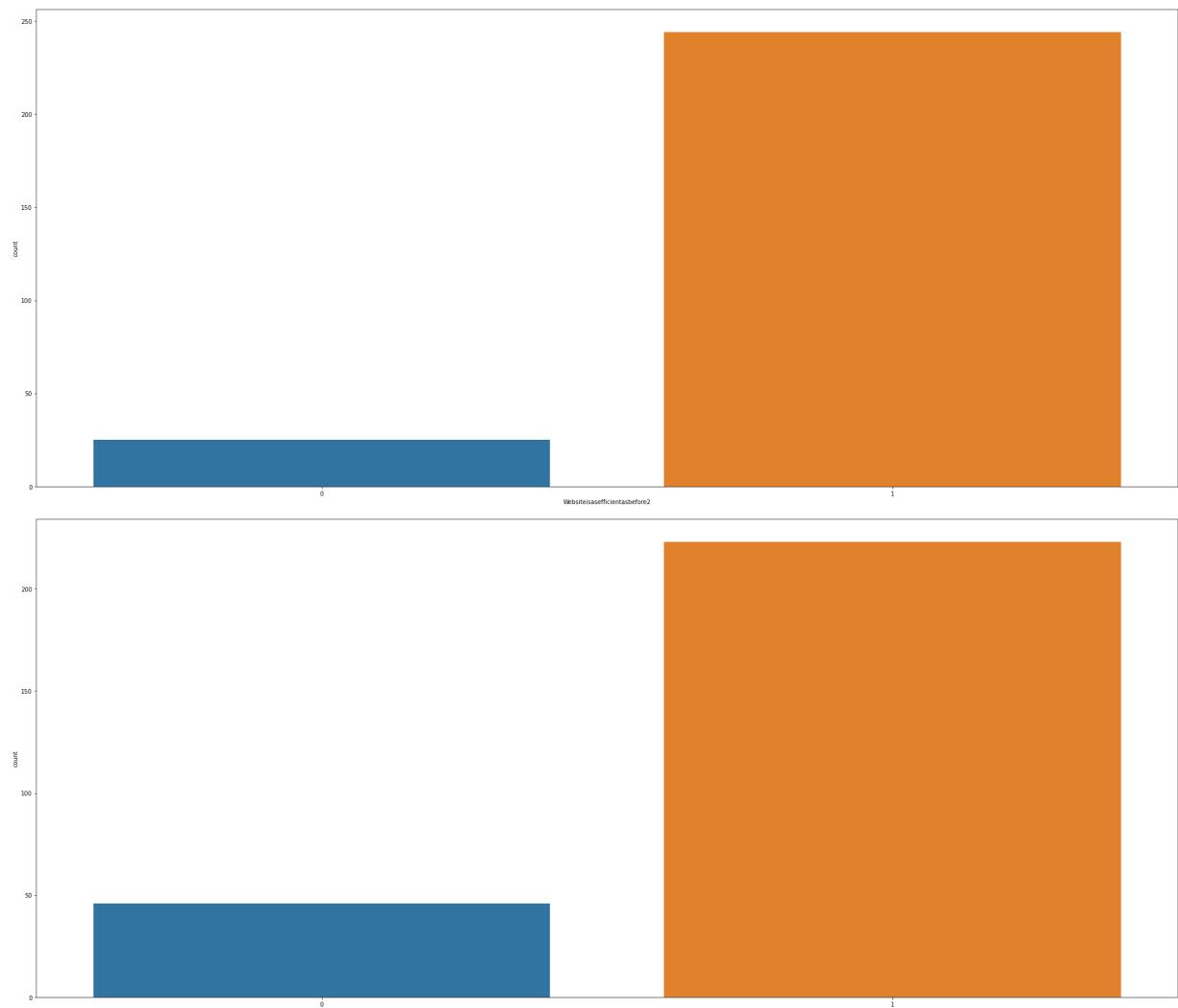












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