```
#Importing all necessary libraries
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import warnings
warnings.filterwarnings('ignore')
from sklearn.preprocessing import LabelEncoder
le=LabelEncoder()

#reading
df=pd.read_excel("customer_retention_dataset.xlsx")
df
```

```
    1Gender of respondent 2 How old are you?   \
0                    Male         31-40 years
1                  Female         21-30 years
2                  Female         21-30 years
3                    Male         21-30 years
4                  Female         21-30 years
..                    ...                 ...
264                Female         21-30 years
265                Female         31-40 years
266                Female         41-50 yaers
267                Female  Less than 20 years
268                Female         41-50 yaers

    3 Which city do you shop online from?  \
0                                   Delhi
1                                   Delhi
2                           Greater Noida
3                                 Karnal
4                              Bangalore
..                                   ...
264                                Solan
265                             Ghaziabad
266                            Bangalore
267                                Solan
268                             Ghaziabad

     4 What is the Pin Code of where you shop online from?  \
0                                                   110009
1                                                   110030
2                                                   201308
3                                                   132001
4                                                   530068
..                                                     ...
264                                                 173212
265                                                 201008
266                                                 560010
```

```
267                                                173229
268                                                201009

    5 Since How Long You are Shopping Online ?  \
0                                  Above 4 years
1                                  Above 4 years
2                                      3-4 years
3                                      3-4 years
4                                      2-3 years
..                                           ...
264                                    1-2 years
265                                    1-2 years
266                                    2-3 years
267                                    2-3 years
268                                    2-3 years

    6 How many times you have made an online purchase in the past 1
year?  \
0                                         31-40 times

1                                    41 times and above

2                                    41 times and above

3                                    Less than 10 times

4                                         11-20 times

..                                                ...

264                                  Less than 10 times

265                                       31-40 times

266                                  Less than 10 times

267                                  Less than 10 times

268                                       31-40 times


    7 How do you access the internet while shopping on-line?  \
0                                                 Dial-up
1                                                   Wi-Fi
2                                      Mobile Internet
3                                      Mobile Internet
4                                                   Wi-Fi
..                                                    ...
264                                    Mobile Internet
```

```
265                                    Mobile Internet
266                                    Mobile internet
267                                              Wi-Fi
268                                    Mobile Internet

    8 Which device do you use to access the online shopping?  \
0                                                 Desktop
1                                              Smartphone
2                                              Smartphone
3                                              Smartphone
4                                              Smartphone
..                                                    ...
264                                            Smartphone
265                                            Smartphone
266                                                Laptop
267                                            Smartphone
268                                            Smartphone

    9 What is the screen size of your mobile device?\t\t\t\t\t\t
\
0                                                  Others

1                                              4.7 inches

2                                              5.5 inches

3                                              5.5 inches

4                                              4.7 inches

..                                                    ...

264                                            5.5 inches

265                                                Others

266                                                Others

267                                            5.5 inches

268                                            5.5 inches


    10 What is the operating system (OS) of your device?\t\t\t\t
\
0                                Window/windows Mobile

1                                               IOS/Mac
```

```
2                                                 Android

3                                                 IOS/Mac

4                                                 IOS/Mac

..                                                    ...

264                                               Android

265                                               Android

266                                 Window/windows Mobile

267                                               Android

268                                               Android


     ... Longer time to get logged in (promotion, sales period)  \
0    ...                                                Amazon.in
1    ...                                Amazon.in, Flipkart.com
2    ...                                              Myntra.com
3    ...                                             Snapdeal.com
4    ...                                Flipkart.com, Paytm.com
..   ...                                                    ...
264  ...                                                Amazon.in
265  ...                                               Flipkart.com
266  ...                                                Amazon.in
267  ...                                                Amazon.in
268  ...                                                Amazon.in

    Longer time in displaying graphics and photos (promotion, sales
period)  \
0                                              Amazon.in

1                                             Myntra.com

2                                             Myntra.com

3                                Myntra.com, Snapdeal.com

4                                              Paytm.com

..                                                   ...

264                                            Amazon.in
```

```
265                                        Flipkart.com

266                                        Snapdeal.com

267                  Amazon.in, Myntra.com, Snapdeal.com

268                                           Amazon.in


    Late declaration of price (promotion, sales period)  \
0                                          Flipkart.com
1                                          snapdeal.com
2                                            Myntra.com
3                                            Myntra.com
4                                             Paytm.com
..                                                  ...
264                                           Amazon.in
265                                        Flipkart.com
266                                           Amazon.in
267                                           Amazon.in
268                                           Amazon.in

    Longer page loading time (promotion, sales period)  \
0                                          Flipkart.com
1                                          Snapdeal.com
2                                            Myntra.com
3                                             Paytm.com
4                                             Paytm.com
..                                                  ...
264                                           Amazon.in
265                                        Flipkart.com
266                                        Snapdeal.com
267                              Amazon.in, Snapdeal.com
268                                           Amazon.in

    Limited mode of payment on most products (promotion, sales period)
\
0                                             Amazon.in

1                                          Snapdeal.com

2                                             Amazon.in

3                                             Paytm.com

4                                          Snapdeal.com

..                                                  ...
```

```
264                                        Amazon.in

265                                     Flipkart.com

266                                     Snapdeal.com

267                                        Amazon.in

268                                        Amazon.in


    Longer delivery period Change in website/Application design  \
0                Paytm.com                            Flipkart.com
1             Snapdeal.com                               Amazon.in
2                Paytm.com                               Paytm.com
3                Paytm.com                Amazon.in, Flipkart.com
4                Paytm.com                               Amazon.in
..                     ...                                     ...
264              Amazon.in                               Amazon.in
265           Flipkart.com                            Flipkart.com
266           Snapdeal.com                            Snapdeal.com
267              Amazon.in                               Amazon.in
268              Amazon.in                               Amazon.in

    Frequent disruption when moving from one page to another  \
0                                          Amazon.in
1                                         Myntra.com
2                                          Paytm.com
3                            Amazon.in, Flipkart.com
4                                       Snapdeal.com
..                                               ...
264                                        Amazon.in
265                                     Flipkart.com
266                                     Snapdeal.com
267                          Myntra.com, Snapdeal.com
268                                        Amazon.in

      Website is as efficient as before  \
0                            Amazon.in
1              Amazon.in, Flipkart.com
2                            Amazon.in
3    Amazon.in, Flipkart.com, Paytm.com
4                            Paytm.com
..                                 ...
264                          Amazon.in
265                       Flipkart.com
266                          Amazon.in
267            Myntra.com, Snapdeal.com
268                          Amazon.in
```

```
    Which of the Indian online retailer would you recommend to a
friend?
0                                          Flipkart.com

1                                 Amazon.in, Myntra.com

2                      Amazon.in, Paytm.com, Myntra.com

3                               Amazon.in, Flipkart.com

4                                 Amazon.in, Myntra.com

..                                                   ...

264                                           Amazon.in

265                                        Flipkart.com

266                                           Amazon.in

267                                           Amazon.in

268                                           Amazon.in


[269 rows x 71 columns]
```

```
df.head()
```

```
  1Gender of respondent 2 How old are you?   \
0                  Male         31-40 years
1                Female         21-30 years
2                Female         21-30 years
3                  Male         21-30 years
4                Female         21-30 years

  3 Which city do you shop online from?  \
0                                 Delhi
1                                 Delhi
2                        Greater Noida
3                              Karnal
4                           Bangalore

   4 What is the Pin Code of where you shop online from?  \
0                                                 110009
1                                                 110030
2                                                 201308
3                                                 132001
```

```
4                                                530068

  5 Since How Long You are Shopping Online ?  \
0                               Above 4 years
1                               Above 4 years
2                                   3-4 years
3                                   3-4 years
4                                   2-3 years

  6 How many times you have made an online purchase in the past 1
year?  \
0                                        31-40 times

1                                   41 times and above

2                                   41 times and above

3                                   Less than 10 times

4                                          11-20 times


  7 How do you access the internet while shopping on-line?  \
0                                             Dial-up
1                                               Wi-Fi
2                                   Mobile Internet
3                                   Mobile Internet
4                                               Wi-Fi

  8 Which device do you use to access the online shopping?  \
0                                            Desktop
1                                         Smartphone
2                                         Smartphone
3                                         Smartphone
4                                         Smartphone

  9 What is the screen size of your mobile device?\t\t\t\t\t\t
\
0                                             Others

1                                         4.7 inches

2                                         5.5 inches

3                                         5.5 inches

4                                         4.7 inches
```

```
  10 What is the operating system (OS) of your device?\t\t\t\t
\
0                               Window/windows Mobile

1                                           IOS/Mac

2                                           Android

3                                           IOS/Mac

4                                           IOS/Mac


   ... Longer time to get logged in (promotion, sales period)  \
0  ...                                        Amazon.in
1  ...                            Amazon.in, Flipkart.com
2  ...                                      Myntra.com
3  ...                                      Snapdeal.com
4  ...                            Flipkart.com, Paytm.com

  Longer time in displaying graphics and photos (promotion, sales
period)  \
0                                        Amazon.in

1                                       Myntra.com

2                                       Myntra.com

3                          Myntra.com, Snapdeal.com

4                                        Paytm.com


  Late declaration of price (promotion, sales period)  \
0                                      Flipkart.com
1                                      snapdeal.com
2                                        Myntra.com
3                                        Myntra.com
4                                         Paytm.com

  Longer page loading time (promotion, sales period)  \
0                                      Flipkart.com
1                                      Snapdeal.com
2                                        Myntra.com
3                                         Paytm.com
4                                         Paytm.com

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

```
0                                        Amazon.in

1                                      Snapdeal.com

2                                        Amazon.in

3                                        Paytm.com

4                                      Snapdeal.com


  Longer delivery period Change in website/Application design  \
0              Paytm.com                           Flipkart.com
1           Snapdeal.com                              Amazon.in
2              Paytm.com                              Paytm.com
3              Paytm.com                Amazon.in, Flipkart.com
4              Paytm.com                              Amazon.in

  Frequent disruption when moving from one page to another  \
0                                        Amazon.in
1                                      Myntra.com
2                                       Paytm.com
3                           Amazon.in, Flipkart.com
4                                      Snapdeal.com

    Website is as efficient as before  \
0                           Amazon.in
1              Amazon.in, Flipkart.com
2                           Amazon.in
3  Amazon.in, Flipkart.com, Paytm.com
4                           Paytm.com

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

0                                      Flipkart.com

1                            Amazon.in, Myntra.com

2                   Amazon.in, Paytm.com, Myntra.com

3                           Amazon.in, Flipkart.com

4                            Amazon.in, Myntra.com


[5 rows x 71 columns]
```

```
df.shape
```

```
(269, 71)
```

```
# In the data set there are 269 rows(entries) and 71 columns(Features)
```

```
df.isnull().sum()
```

```
1Gender of respondent
0
2 How old are you?
0
3 Which city do you shop online from?
0
4 What is the Pin Code of where you shop online from?
0
5 Since How Long You are Shopping Online ?
0


..
Longer delivery period
0
Change in website/Application design
0
Frequent disruption when moving from one page to another
0
Website is as efficient as before
0
Which of the Indian online retailer would you recommend to a friend?
0
Length: 71, dtype: int64
```

```
#no null values
```

```
df.dtypes
```

```
1Gender of respondent
object
2 How old are you?
object
3 Which city do you shop online from?
object
4 What is the Pin Code of where you shop online from?
int64
5 Since How Long You are Shopping Online ?
object


...
Longer delivery period
object
Change in website/Application design
object
Frequent disruption when moving from one page to another
```

```
object
Website is as efficient as before
object
Which of the Indian online retailer would you recommend to a friend?
object
Length: 71, dtype: object
```

```
#data types is categorical;
```

```
df.columns
```

```
Index(['1Gender of respondent', '2 How old are you? ',
       '3 Which city do you shop online from?',
       '4 What is the Pin Code of where you shop online from?',
       '5 Since How Long You are Shopping Online ?',
       '6 How many times you have made an online purchase in the past
1 year?',
       '7 How do you access the internet while shopping on-line?',
       '8 Which device do you use to access the online shopping?',
       '9 What is the screen size of your mobile device?\t\t\t\t\t\t
',
       '10 What is the operating system (OS) of your device?\t\t\t\t
',
       '11 What browser do you run on your device to access the
website?\t\t\t
',
       '12 Which channel did you follow to arrive at your favorite
online store for the first time?
',
       '13 After first visit, how do you reach the online retail
store?\t\t\t\t                                                    ',
       '14 How much time do you explore the e- retail store before
making a purchase decision?
',
       '15 What is your preferred payment Option?\t\t\t\t\t
',
       '16 How frequently do you abandon (selecting an items and
leaving without making payment) your shopping cart?\t\t\t\t\t\t\t
',
       '17 Why did you abandon the “Bag”, “Shopping Cart”?\t\t\t\t\t
',
       '18 The content on the website must be easy to read and
understand',
       '19 Information on similar product to the one highlighted  is
important for product comparison',
       '20 Complete information on listed seller and product being
offered is important for purchase decision.',
       '21 All relevant information on listed products must be stated
clearly',
       '22 Ease of navigation in website', '23 Loading and processing
speed',
```

```
       '24 User friendly Interface of the website',
       '25 Convenient Payment methods',
       '26 Trust that the online retail store will fulfill its part of
the transaction at the stipulated time',
       '27 Empathy (readiness to assist with queries) towards the
customers',
       '28 Being able to guarantee the privacy of the customer',
       '29 Responsiveness, availability of several communication
channels (email, online rep, twitter, phone etc.)',
       '30 Online shopping gives monetary benefit and discounts',
       '31 Enjoyment is derived from shopping online',
       '32 Shopping online is convenient and flexible',
       '33 Return and replacement policy of the e-tailer is important
for purchase decision',
       '34 Gaining access to loyalty programs is a benefit of shopping
online',
       '35 Displaying quality Information on the website improves
satisfaction of customers',
       '36 User derive satisfaction while shopping on a good quality
website or application',
       '37 Net Benefit derived from shopping online can lead to users
satisfaction',
       '38 User satisfaction cannot exist without trust',
       '39 Offering a wide variety of listed product in several
category',
       '40 Provision of complete and relevant product information',
       '41 Monetary savings',
       '42 The Convenience of patronizing the online retailer',
       '43 Shopping on the website gives you the sense of adventure',
       '44 Shopping on your preferred e-tailer enhances your social
status',
       '45 You feel gratification shopping on your favorite e-tailer',
       '46 Shopping on the website helps you fulfill certain roles',
       '47 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')
```

Visualization of data

```
#Five major factors that contributed to the success of an e-commerce;
#service quality,system quality,information quality,trust and net
benefit

#Analysing Service factors

df1=df[['29 Responsiveness, availability of several communication
channels (email, online rep, twitter, phone etc.)','32 Shopping online
is convenient and flexible',
       '33 Return and replacement policy of the e-tailer is important
for purchase decision','45 You feel gratification shopping on your
favorite e-tailer','Availability of several payment options', 'Speedy
order delivery ','Presence of online assistance through multi-
channel','Longer delivery period','Late declaration of price
(promotion, sales period)','Limited mode of payment on most products
(promotion, sales period)']]

df1
```

```
    29 Responsiveness, availability of several communication channels
(email, online rep, twitter, phone etc.)  \
0                                                Agree (4)

1                                     Strongly agree (5)

2                                     Strongly agree (5)

3                                              Agree (4)

4                                     Strongly agree (5)

..                                                   ...
```

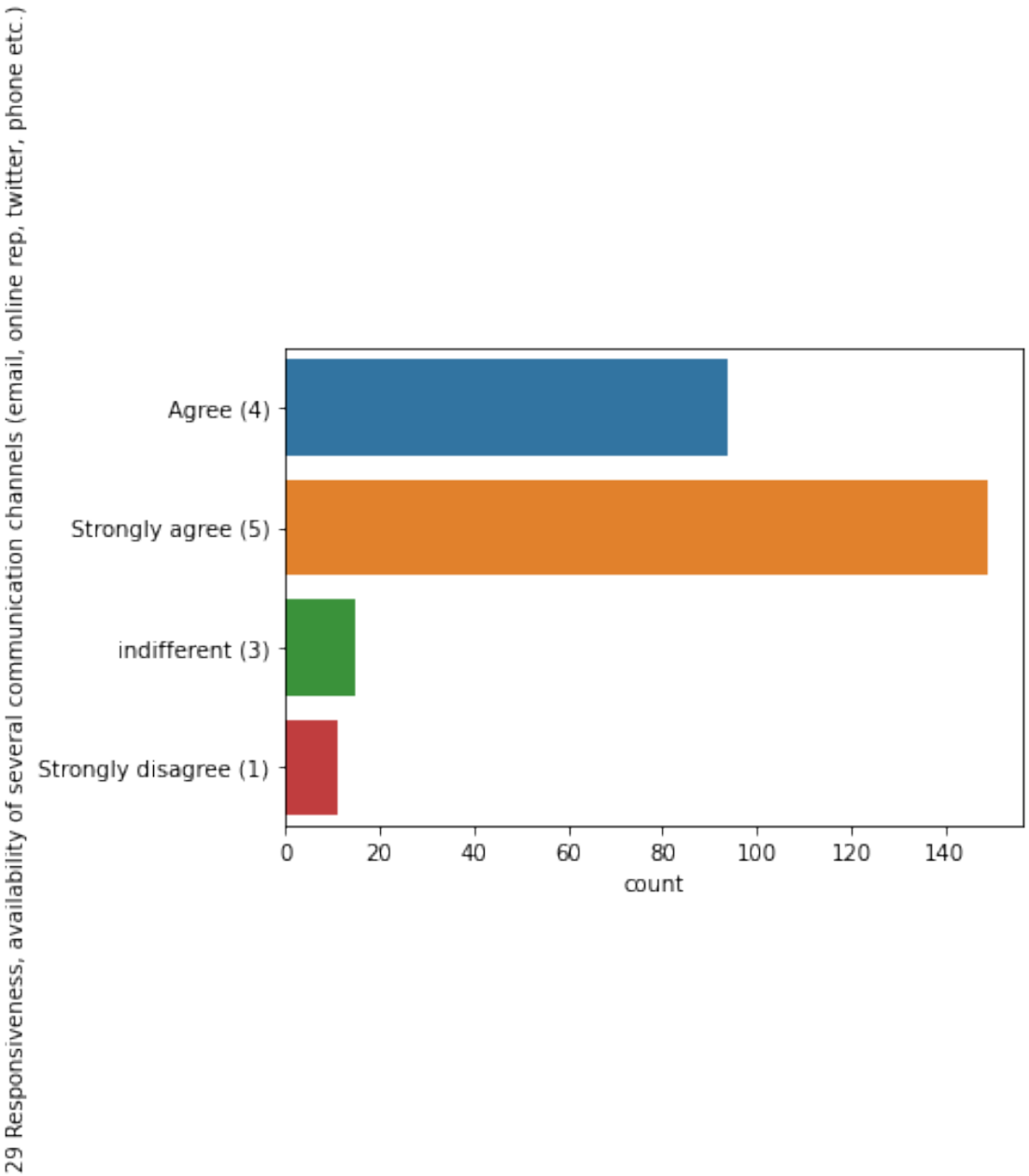
```
264                                        Agree (4)

265                                Strongly agree (5)

266                                        Agree (4)

267                                Strongly agree (5)

268                                Strongly agree (5)


    32 Shopping online is convenient and flexible  \
0                                     Dis-agree (2)
1                                Strongly agree (5)
2                                Strongly agree (5)
3                                   indifferent (3)
4                                Strongly agree (5)
..                                               ...
264                                 indifferent (3)
265                              Strongly agree (5)
266                                       Agree (4)
267                              Strongly agree (5)
268                              Strongly agree (5)

    33 Return and replacement policy of the e-tailer is important for
purchase decision  \
0                                          Dis-agree (2)

1                                  Strongly agree (5)

2                                  Strongly agree (5)

3                                          Agree (4)

4                                  Strongly agree (5)

..                                                 ...

264                                      Dis-agree (2)

265                                Strongly agree (5)

266                                Strongly agree (5)

267                                        Agree (4)

268                                Strongly agree (5)
```

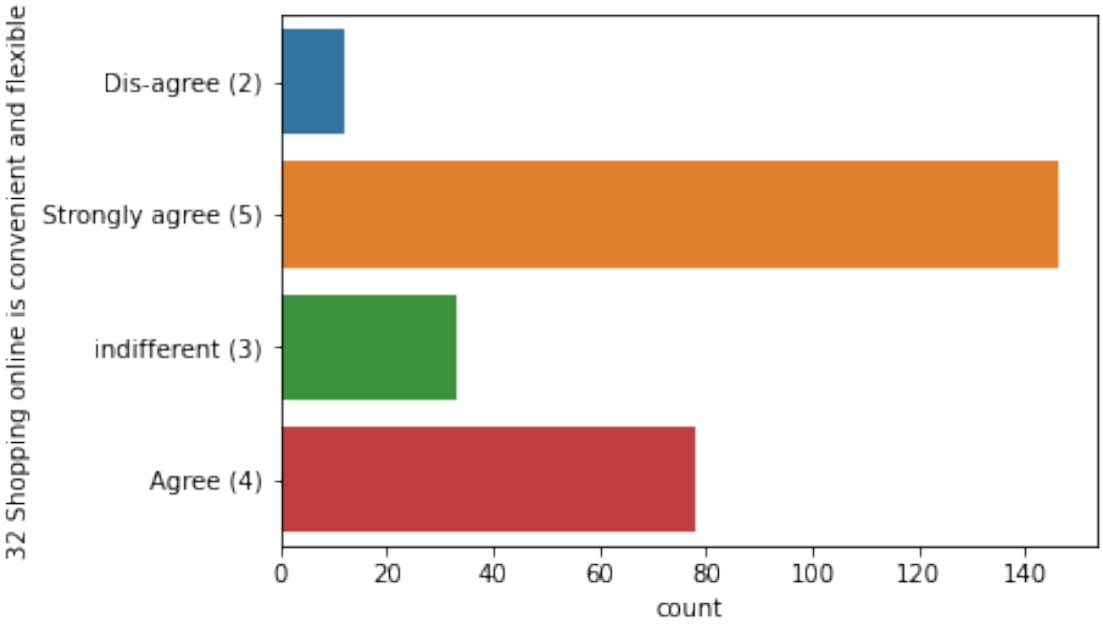
```
    45 You feel gratification shopping on your favorite e-tailer  \
0                                  Strongly agree (5)
1                                  Strongly agree (5)
2                                     indifferent (3)
3                                           Agree (4)
4                                  Strongly agree (5)
..                                                ...
264                                   indifferent (3)
265                                Strongly agree (5)
266                                         Agree (4)
267                                   indifferent (3)
268                                Strongly agree (5)

              Availability of several payment options  \
0                                              Patym.com
1                  Amazon.in, Flipkart.com, Myntra.com
2                                Patym.com, Myntra.com
3                  Amazon.in, Flipkart.com, Myntra.com
4    Amazon.in, Flipkart.com, Patym.com, Myntra.com...
..                                                  ...
264                                            Amazon.in
265                                          Flipkart.com
266                           Amazon.in, Flipkart.com
267            Flipkart.com, Myntra.com, Snapdeal.com
268                                            Amazon.in

                     Speedy order delivery   \
0                                  Amazon.in
1                   Amazon.in, Flipkart.com
2                                  Amazon.in
3     Amazon.in, Flipkart.com, Snapdeal.com
4                                  Amazon.in
..                                       ...
264                                Amazon.in
265                              Flipkart.com
266                                Amazon.in
267  Flipkart.com, Myntra.com, Snapdeal.com
268                                Amazon.in

    Presence of online assistance through multi-channel  \
0                                              Paytm.com
1                  Amazon.in, Flipkart.com, Myntra.com
2                                            Myntra.com
3        Amazon.in, Flipkart.com, Myntra.com, Snapdeal
4                              Amazon.in, Myntra.com
..                                                  ...
264                                            Amazon.in
265                                          Flipkart.com
266                                            Amazon.in
```

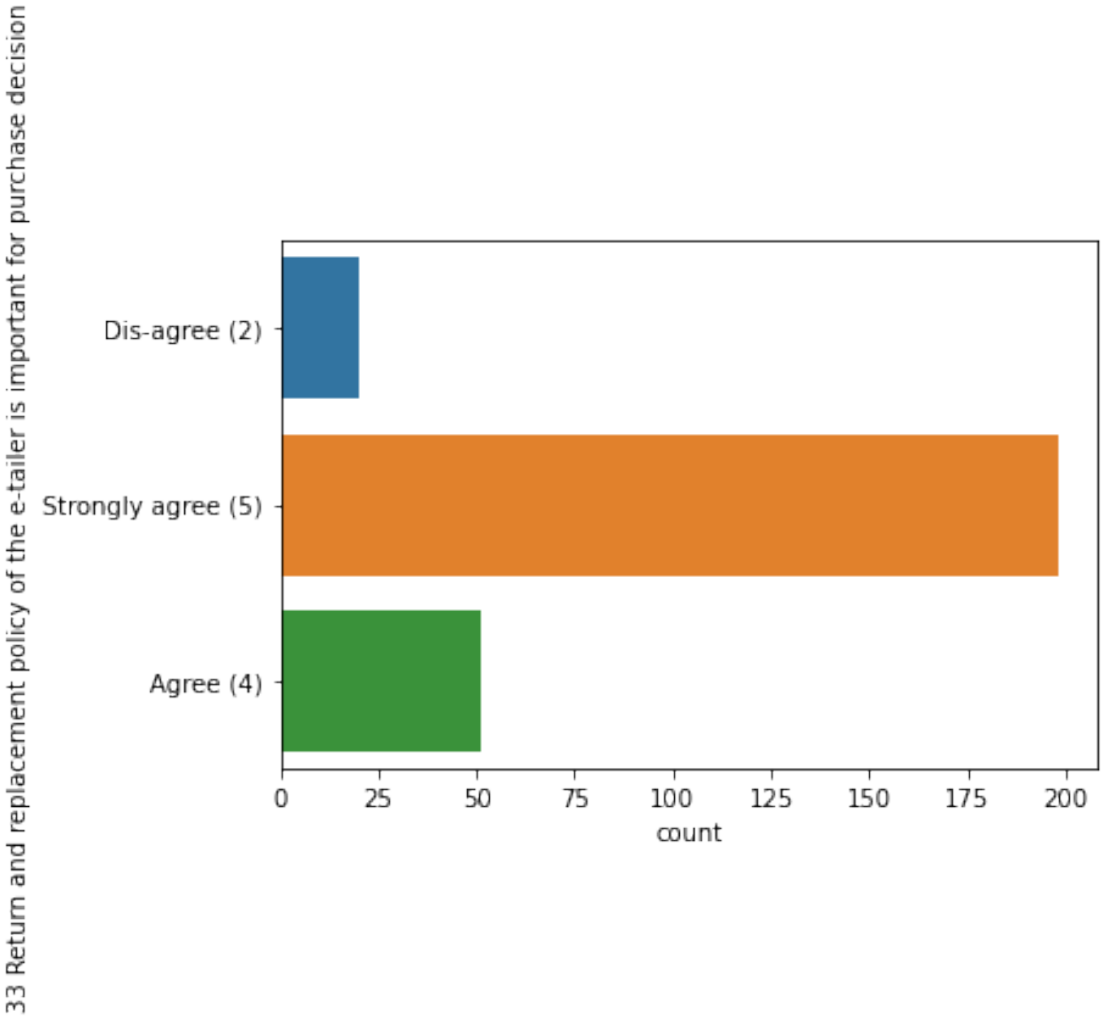
```
267      Amazon.in, Flipkart.com, Myntra.com, Snapdeal
268                                          Amazon.in

    Longer delivery period  \
0               Paytm.com
1            Snapdeal.com
2               Paytm.com
3               Paytm.com
4               Paytm.com
..                    ...
264             Amazon.in
265          Flipkart.com
266          Snapdeal.com
267             Amazon.in
268             Amazon.in

    Late declaration of price (promotion, sales period)  \
0                                        Flipkart.com
1                                        snapdeal.com
2                                          Myntra.com
3                                          Myntra.com
4                                           Paytm.com
..                                                ...
264                                        Amazon.in
265                                      Flipkart.com
266                                        Amazon.in
267                                        Amazon.in
268                                        Amazon.in

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

0                                          Amazon.in

1                                        Snapdeal.com

2                                          Amazon.in

3                                          Paytm.com

4                                        Snapdeal.com

..                                                ...

264                                        Amazon.in

265                                      Flipkart.com

266                                      Snapdeal.com
```

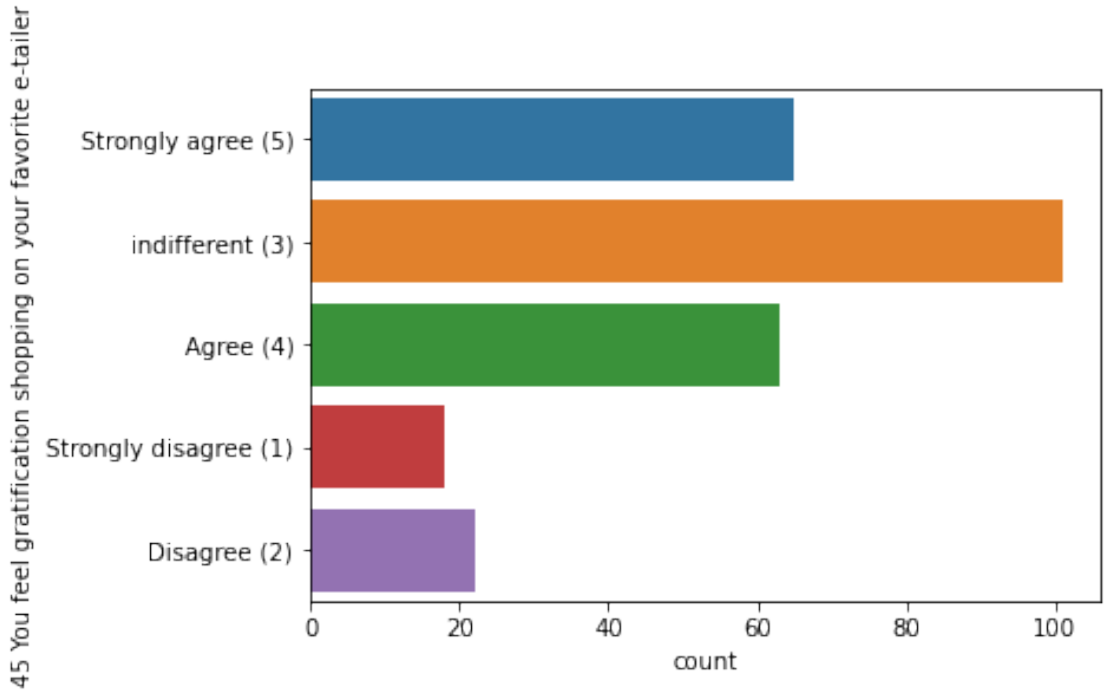
```
267                                                Amazon.in

268                                                Amazon.in

[269 rows x 10 columns]
```

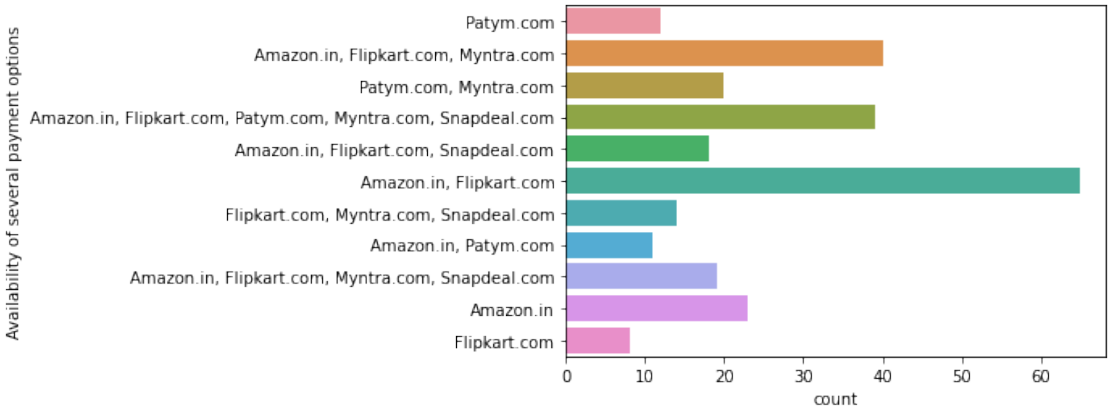
```
for i in df1:
    sns.countplot(y=df1[i])
    plt.show()
```

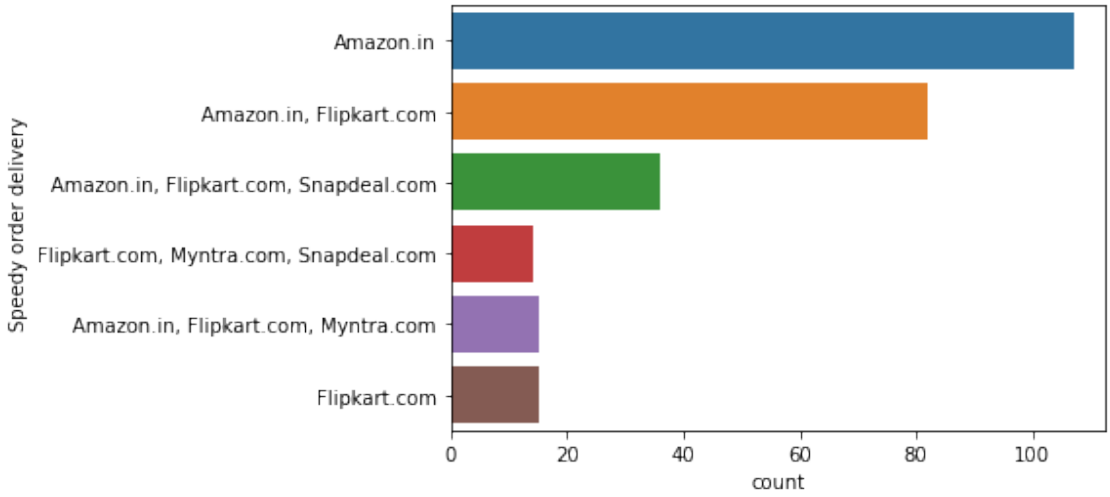


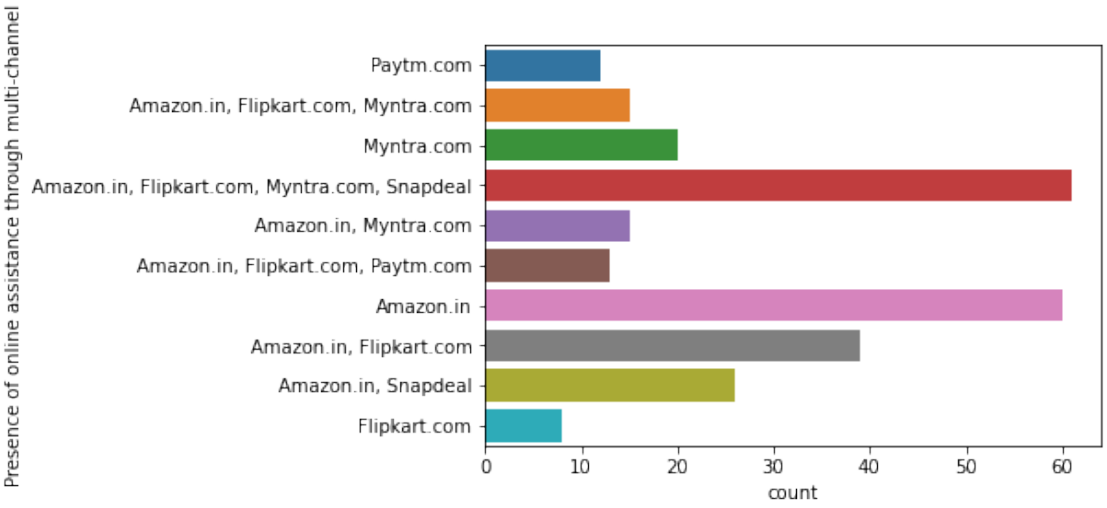

32 Shopping online is convenient and flexible
Dis-agree (2)
Strongly agree (5)
indifferent (3)
Agree (4)
0
20
40
60
80
100
120
140
count

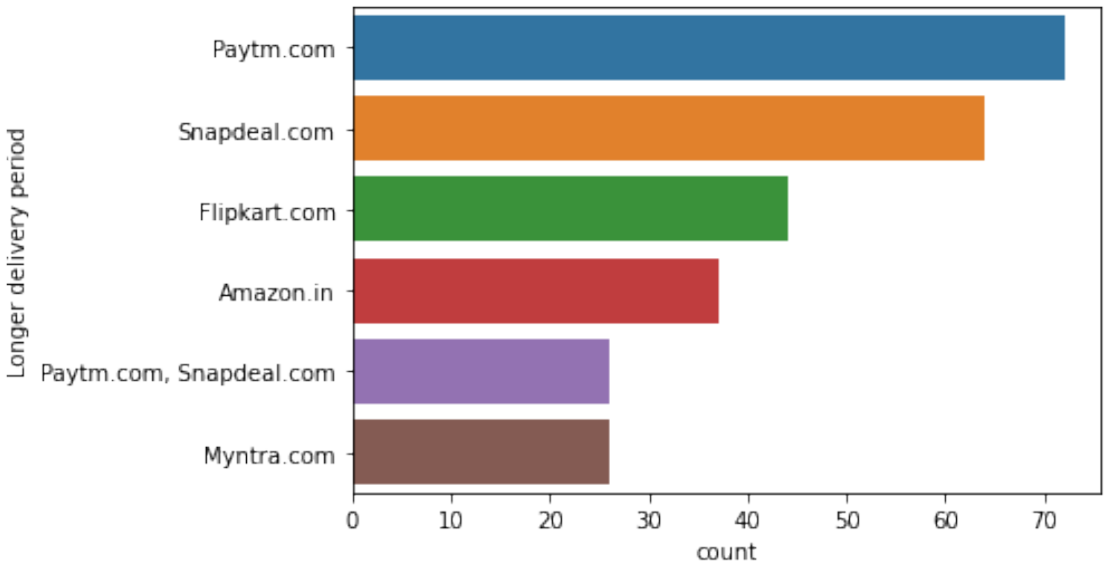

33 Return and replacement policy of the e-tailer is important for purchase decision
Dis-agree (2)
Strongly agree (5)
Agree (4)
0
25
50
75
100
125
150
175
200
count

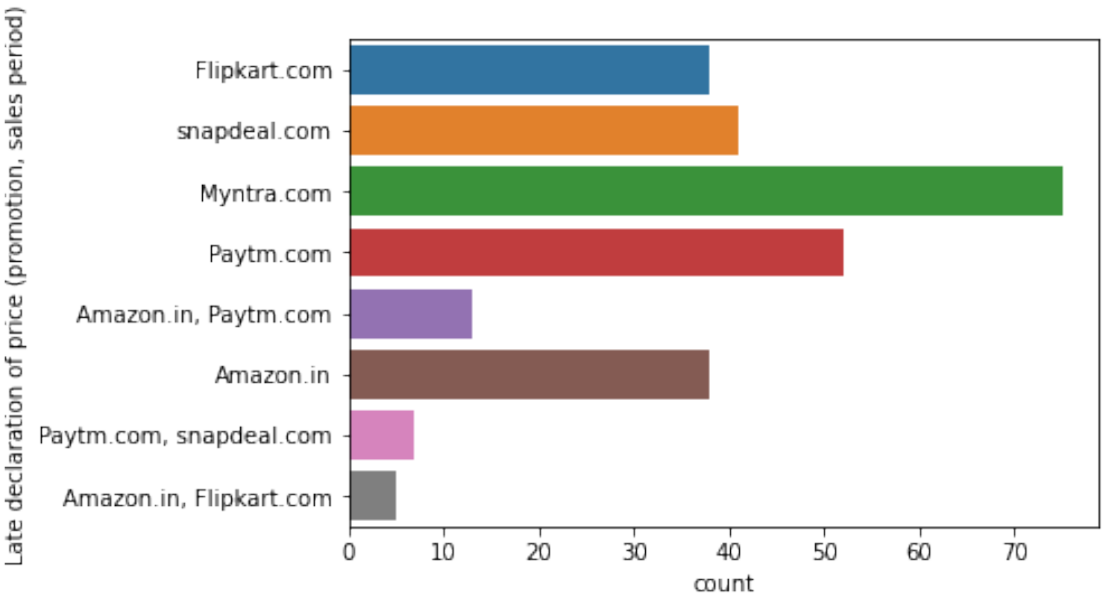

45 You feel gratification shopping on your favorite e-tailer
Strongly agree (5)
indifferent (3)
Agree (4)
Strongly disagree (1)
Disagree (2)
0
20
40
60
80
100
count

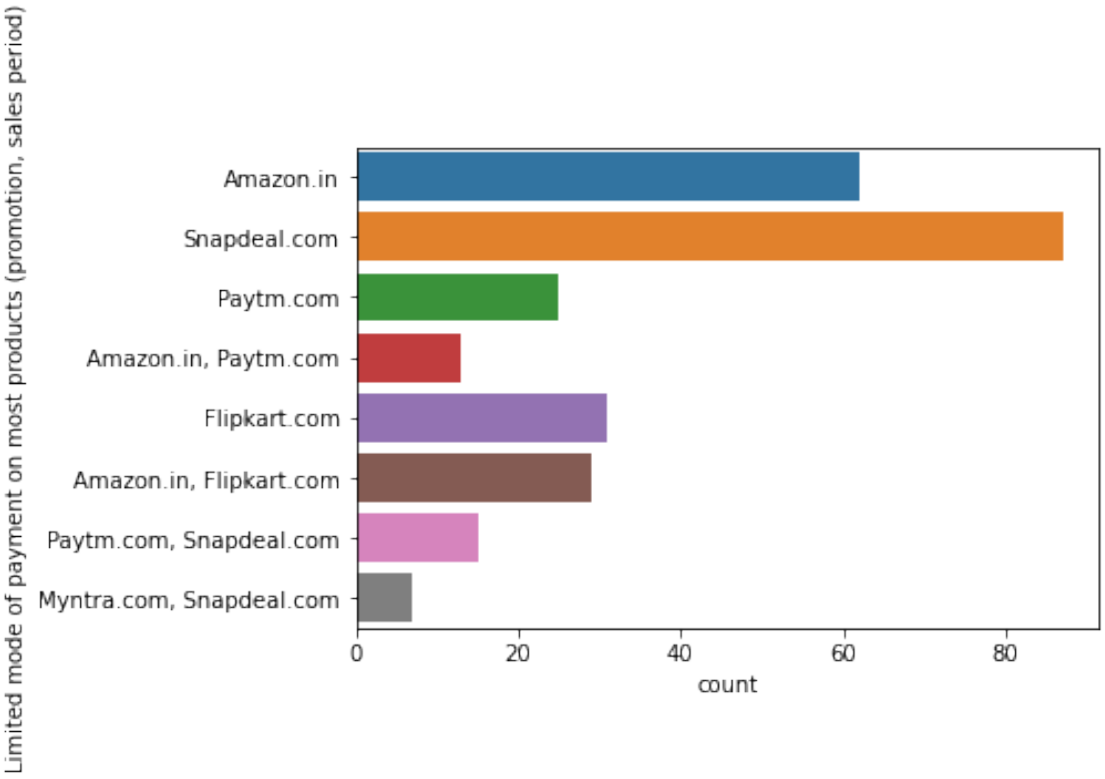

Availability of several payment options
Patym.com
Amazon.in, Flipkart.com, Myntra.com
Patym.com, Myntra.com
Amazon.in, Flipkart.com, Patym.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com, Snapdeal.com
Amazon.in, Flipkart.com
Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in, Patym.com
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in
Flipkart.com
0
10
20
30
40
50
60
count


Speedy order delivery
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
0
20
40
60
80
100
count


Presence of online assistance through multi-channel
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
0
10
20
30
40
50
60
count


Longer delivery period
Paytm.com
Snapdeal.com
Flipkart.com
Amazon.in
Paytm.com, Snapdeal.com
Myntra.com
0
10
20
30
40
50
60
70
count






```
for i in df1:
    print(df1[i].value_counts())
```

```
Strongly agree (5)       149
Agree (4)                 94
indifferent (3)           15
Strongly disagree (1)     11
```

```
Name: 29 Responsiveness, availability of several communication
channels (email, online rep, twitter, phone etc.), dtype: int64
Strongly agree (5)    146
Agree (4)              78
indifferent (3)        33
Dis-agree (2)          12
Name: 32 Shopping online is convenient and flexible, dtype: int64
Strongly agree (5)    198
Agree (4)              51
Dis-agree (2)          20
Name: 33 Return and replacement policy of the e-tailer is important
for purchase decision, dtype: int64
indifferent (3)          101
Strongly agree (5)        65
Agree (4)                 63
Disagree (2)              22
Strongly disagree (1)     18
Name: 45 You feel gratification shopping on your favorite e-tailer,
dtype: int64
Amazon.in, Flipkart.com                                          65
Amazon.in, Flipkart.com, Myntra.com                              40
Amazon.in, Flipkart.com, Patym.com, Myntra.com, Snapdeal.com     39
Amazon.in                                                        23
Patym.com, Myntra.com                                            20
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                19
Amazon.in, Flipkart.com, Snapdeal.com                            18
Flipkart.com, Myntra.com, Snapdeal.com                           14
Patym.com                                                        12
Amazon.in, Patym.com                                             11
Flipkart.com                                                      8
Name: Availability of several payment options, dtype: int64
Amazon.in                                  107
Amazon.in, Flipkart.com                     82
Amazon.in, Flipkart.com, Snapdeal.com       36
Amazon.in, Flipkart.com, Myntra.com         15
Flipkart.com                                15
Flipkart.com, Myntra.com, Snapdeal.com      14
Name: Speedy order delivery , dtype: int64
Amazon.in, Flipkart.com, Myntra.com, Snapdeal    61
Amazon.in                                        60
Amazon.in, Flipkart.com                          39
Amazon.in, Snapdeal                              26
Myntra.com                                       20
Amazon.in, Flipkart.com, Myntra.com              15
Amazon.in, Myntra.com                            15
Amazon.in, Flipkart.com, Paytm.com               13
Paytm.com                                        12
Flipkart.com                                      8
Name: Presence of online assistance through multi-channel, dtype:
int64
```

```
Paytm.com                  72
Snapdeal.com               64
Flipkart.com               44
Amazon.in                  37
Paytm.com, Snapdeal.com    26
Myntra.com                 26
Name: Longer delivery period, dtype: int64
Myntra.com                 75
Paytm.com                  52
snapdeal.com               41
Flipkart.com               38
Amazon.in                  38
Amazon.in, Paytm.com       13
Paytm.com, snapdeal.com     7
Amazon.in, Flipkart.com     5
Name: Late declaration of price (promotion, sales period), dtype:
int64
Snapdeal.com               87
Amazon.in                  62
Flipkart.com               31
Amazon.in, Flipkart.com    29
Paytm.com                  25
Paytm.com, Snapdeal.com    15
Amazon.in, Paytm.com       13
Myntra.com, Snapdeal.com    7
Name: Limited mode of payment on most products (promotion, sales
period), dtype: int64
```

```
#From column 29,32,33 it is clear that max customers are strongly
agree on Responsiveness availability,Shopping online is convenient and
flexible and  Return and replacement policy for purchase decision.
# from col. 45 customers have indiffernt views on feeling
gratification shopping on your favorite e-tailer
# from graph it is infered that max customer says that Amazon and
flipkart has several payment option,snapdeal has limited mode of
payment.
#Amazon has the fastest delivery system,amazon flipkart myntra &
snapdeal have presence of online assistance through multiple channel.
#Paytm has the longest delivery period
```

Analysing System factors

```
df2=df[[ '22 Ease of navigation in website', '23 Loading and
processing speed',
       '24 User friendly Interface of the website','25 Convenient
Payment methods','36 User derive satisfaction while shopping on a good
quality website or application', 'Easy to use website or
application','Visual appealing web-page layout','Fast loading website
speed of website and application','Reliability of the website or
application',
```

```
       'Quickness to complete purchase','Longer time to get logged in
(promotion, sales period)',
       'Longer time in displaying graphics and photos (promotion,
sales period)','Longer page loading time (promotion, sales
period)','Change in website/Application design',
       'Frequent disruption when moving from one page to another',
       'Website is as efficient as before']]
df2
```

```
    22 Ease of navigation in website 23 Loading and processing
speed  \
0                           Agree (4)           Strongly disagree (1)

1                 Strongly agree (5)              Strongly agree (5)

2                           Agree (4)                       Agree (4)

3                 Strongly agree (5)                       Agree (4)

4                           Agree (4)              Strongly agree (5)

..                                ...                             ...

264                         Agree (4)                       Agree (4)

265               Strongly agree (5)              Strongly agree (5)

266               Strongly agree (5)                       Agree (4)

267                         Agree (4)                       Agree (4)

268               Strongly agree (5)              Strongly agree (5)


    24 User friendly Interface of the website 25 Convenient Payment
methods  \
0                                Dis-agree (2)                  Dis-
agree (2)
1                           Strongly agree (5)             Strongly
agree (5)
2                           Strongly agree (5)             Strongly
agree (5)
3                           Strongly agree (5)             Strongly
agree (5)
4                           Strongly agree (5)             Strongly
agree (5)
..                                         ...
...
264                               Agree (4)
```

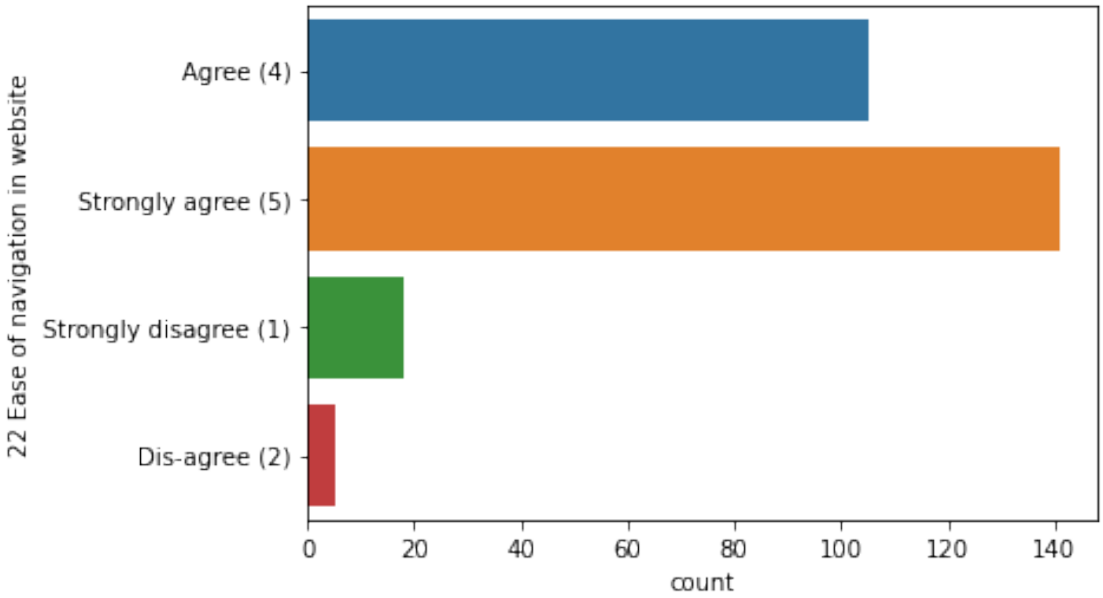
```
Agree (4)
265                        Strongly agree (5)            Strongly
agree (5)
266                                 Agree (4)            Strongly
agree (5)
267                        Strongly agree (5)            Strongly
agree (5)
268                        Strongly agree (5)            Strongly
agree (5)

    36 User derive satisfaction while shopping on a good quality
website or application  \
0                                   Strongly agree (5)

1                                   Strongly agree (5)

2                                   Strongly agree (5)

3                                            Agree (4)

4                                   Strongly agree (5)

..                                                  ...

264                                      Dis-agree (2)

265                                 Strongly agree (5)

266                                          Agree (4)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


                    Easy to use website or application  \
0                                                Paytm.com
1    Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
2                     Amazon.in, Paytm.com, Myntra.com
3    Amazon.in, Flipkart.com, Paytm.com, Myntra.com...
4    Amazon.in, Flipkart.com, Paytm.com, Myntra.com...
..                                                  ...
264                                              Amazon.in
265                                             Flipkart.com
266                                              Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                              Amazon.in

                      Visual appealing web-page layout  \
```

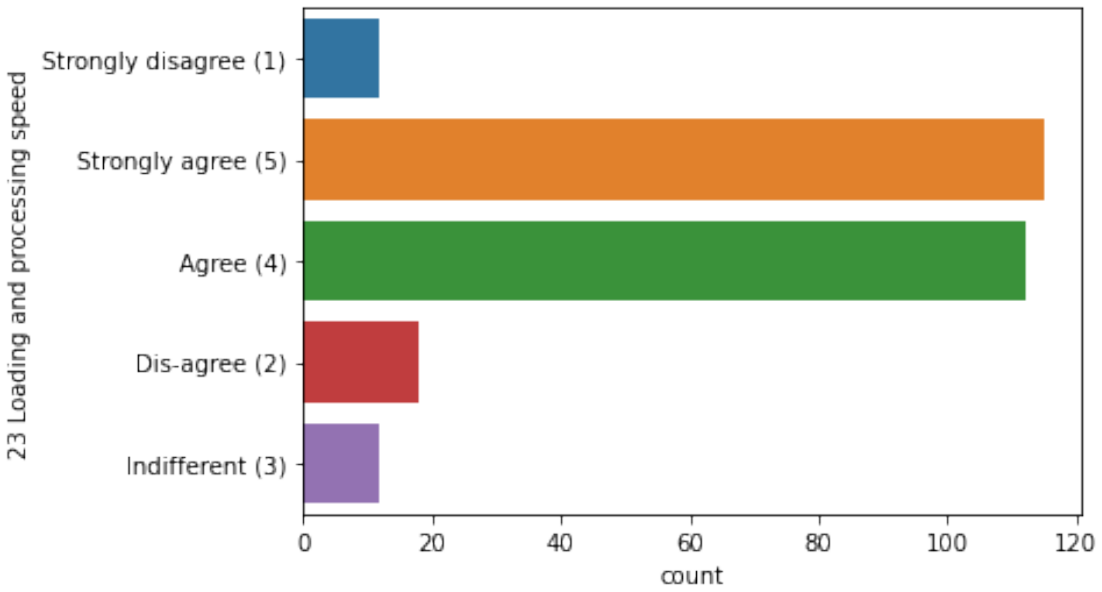
```
0                                        Flipkart.com
1                                Amazon.in, Myntra.com
2                      Amazon.in, Paytm.com, Myntra.com
3    Amazon.in, Flipkart.com, Paytm.com, Myntra.com...
4                                          Myntra.com
..                                                ...
264                                         Amazon.in
265                                         Amazon.in
266                                         Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                         Amazon.in

    Fast loading website speed of website and application  \
0                                        Snapdeal.com
1                  Amazon.in, Flipkart.com, Myntra.com
2                                Amazon.in, Paytm.com
3                Amazon.in, Flipkart.com, Snapdeal.com
4                                           Amazon.in
..                                                ...
264                                         Amazon.in
265                                       Flipkart.com
266                                         Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                         Amazon.in

             Reliability of the website or application  \
0                                           Paytm.com
1                                          Myntra.com
2                    Amazon.in, Paytm.com, Myntra.com
3                  Amazon.in, Flipkart.com, Paytm.com
4                    Amazon.in, Paytm.com, Myntra.com
..                                                ...
264                                         Amazon.in
265                                       Flipkart.com
266                                         Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                         Amazon.in

                        Quickness to complete purchase  \
0                                           Paytm.com
1                 Amazon.com, Flipkart.com, Myntra.com
2                    Amazon.com, Paytm.com, Myntra.com
3                  Amazon.com, Flipkart.com, Paytm.com
4    Amazon.com, Flipkart.com, Paytm.com, Myntra.co...
..                                                ...
264                                         Amazon.com
265                                       Flipkart.com
266                                         Amazon.com
267                Flipkart.com, Myntra.com, Snapdeal
268                                         Amazon.com
```

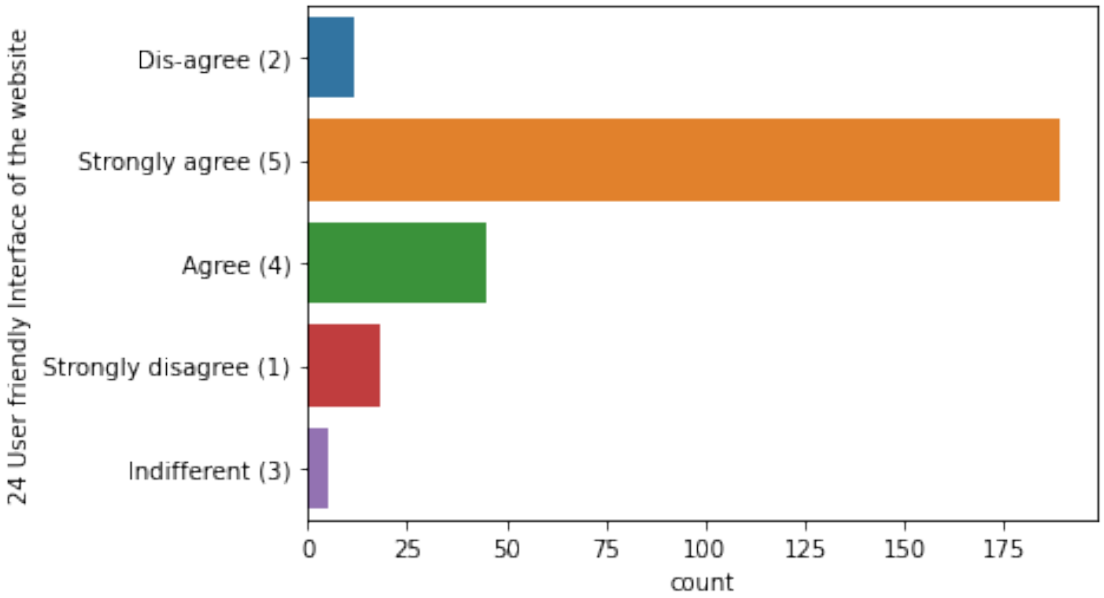
```
    Longer time to get logged in (promotion, sales period)  \
0                                           Amazon.in
1                              Amazon.in, Flipkart.com
2                                            Myntra.com
3                                          Snapdeal.com
4                              Flipkart.com, Paytm.com
..                                                  ...
264                                         Amazon.in
265                                        Flipkart.com
266                                         Amazon.in
267                                         Amazon.in
268                                         Amazon.in

    Longer time in displaying graphics and photos (promotion, sales
period)  \
0                                           Amazon.in

1                                            Myntra.com

2                                            Myntra.com

3                             Myntra.com, Snapdeal.com

4                                           Paytm.com

..                                                  ...

264                                         Amazon.in

265                                        Flipkart.com

266                                        Snapdeal.com

267                Amazon.in, Myntra.com, Snapdeal.com

268                                         Amazon.in


    Longer page loading time (promotion, sales period)  \
0                                          Flipkart.com
1                                          Snapdeal.com
2                                            Myntra.com
3                                           Paytm.com
4                                           Paytm.com
..                                                  ...
264                                         Amazon.in
265                                        Flipkart.com
266                                        Snapdeal.com
```

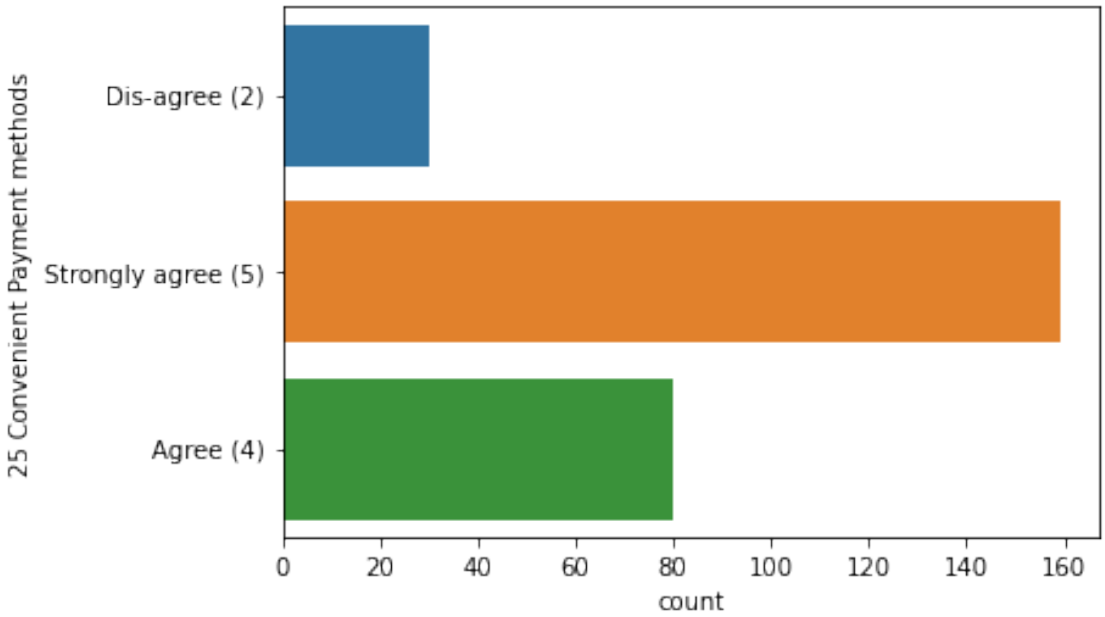
```
267                            Amazon.in, Snapdeal.com
268                                               Amazon.in

    Change in website/Application design  \
0                             Flipkart.com
1                                Amazon.in
2                                Paytm.com
3                  Amazon.in, Flipkart.com
4                                Amazon.in
..                                     ...
264                              Amazon.in
265                           Flipkart.com
266                           Snapdeal.com
267                              Amazon.in
268                              Amazon.in

    Frequent disruption when moving from one page to another  \
0                                                 Amazon.in
1                                                Myntra.com
2                                                 Paytm.com
3                                Amazon.in, Flipkart.com
4                                               Snapdeal.com
..                                                       ...
264                                               Amazon.in
265                                             Flipkart.com
266                                             Snapdeal.com
267                              Myntra.com, Snapdeal.com
268                                               Amazon.in

      Website is as efficient as before
0                                Amazon.in
1                  Amazon.in, Flipkart.com
2                                Amazon.in
3    Amazon.in, Flipkart.com, Paytm.com
4                                Paytm.com
..                                     ...
264                              Amazon.in
265                           Flipkart.com
266                              Amazon.in
267                Myntra.com, Snapdeal.com
268                              Amazon.in

[269 rows x 16 columns]
```

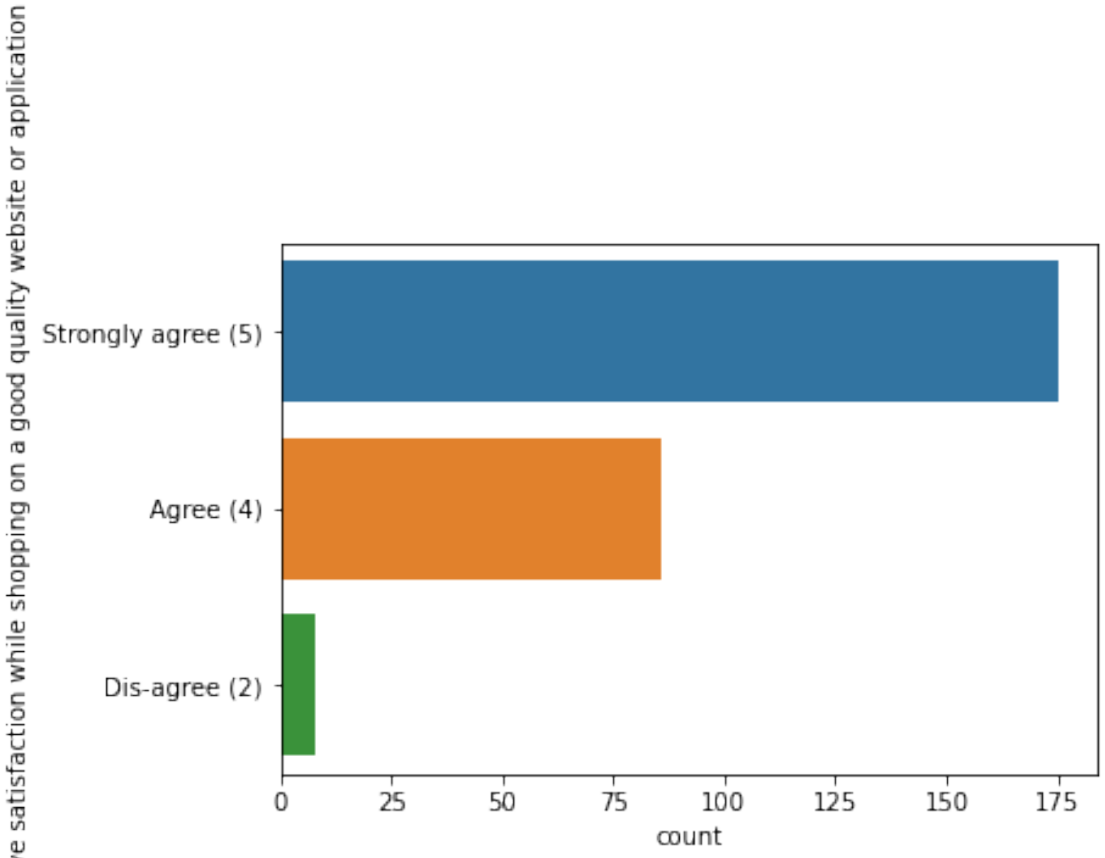
```
for i in df2:
    sns.countplot(y=df2[i])
    plt.show()
```

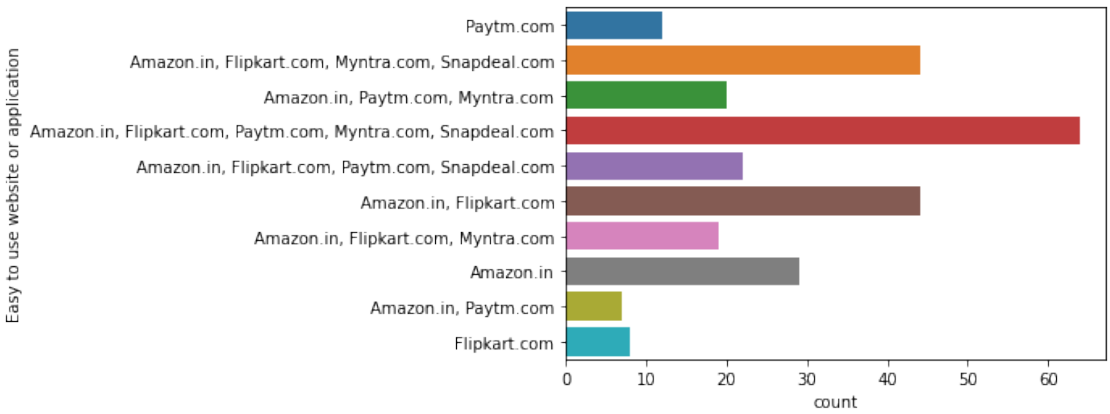

22 Ease of navigation in website
Agree (4)
Strongly agree (5)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
120
140
count

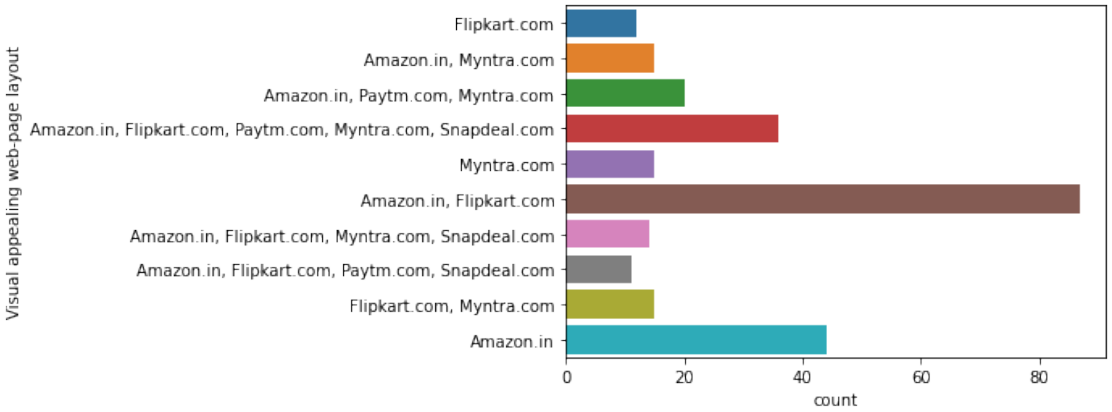

23 Loading and processing speed
Strongly disagree (1)
Strongly agree (5)
Agree (4)
Dis-agree (2)
Indifferent (3)
0
20
40
60
80
100
120
count

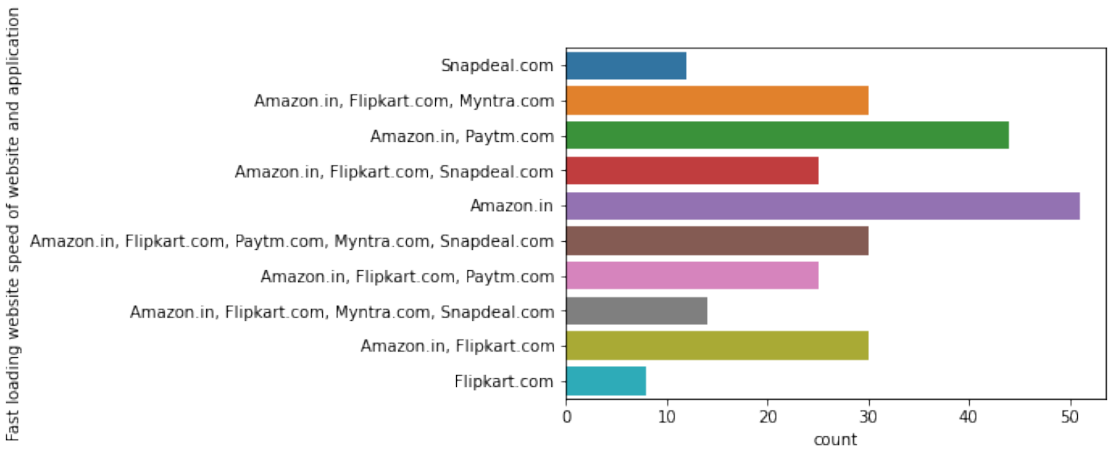

24 User friendly Interface of the website
Dis-agree (2)
Strongly agree (5)
Agree (4)
Strongly disagree (1)
Indifferent (3)
0
25
50
75
100
125
150
175
count

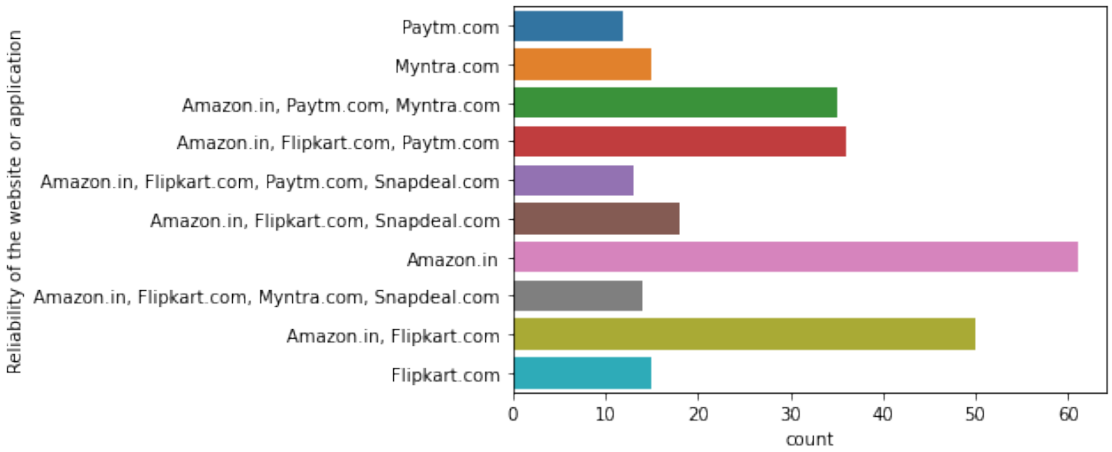

25 Convenient Payment methods
Dis-agree (2)
Strongly agree (5)
Agree (4)
0
20
40
60
80
100
120
140
160
count

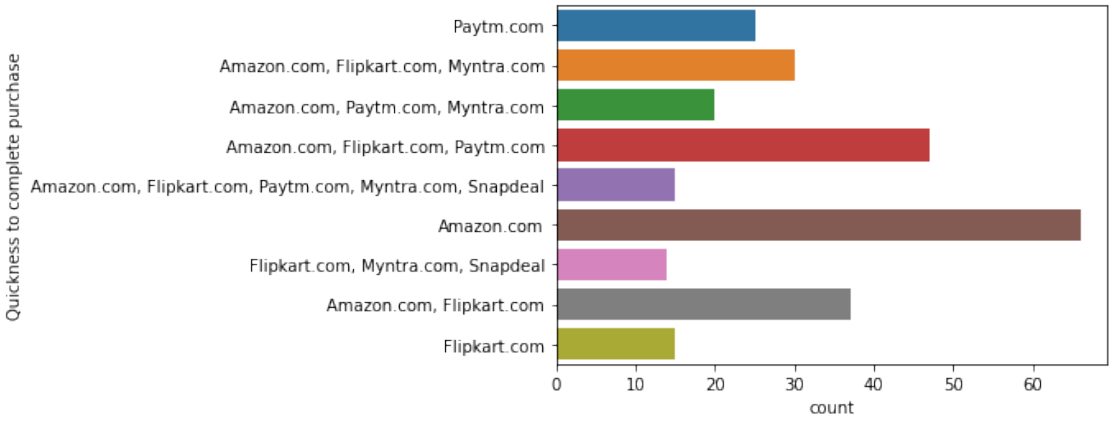

36 User derive satisfaction while shopping on a good quality website or application
Strongly agree (5)
Agree (4)
Dis-agree (2)
0
25
50
75
100
125
150
175
count

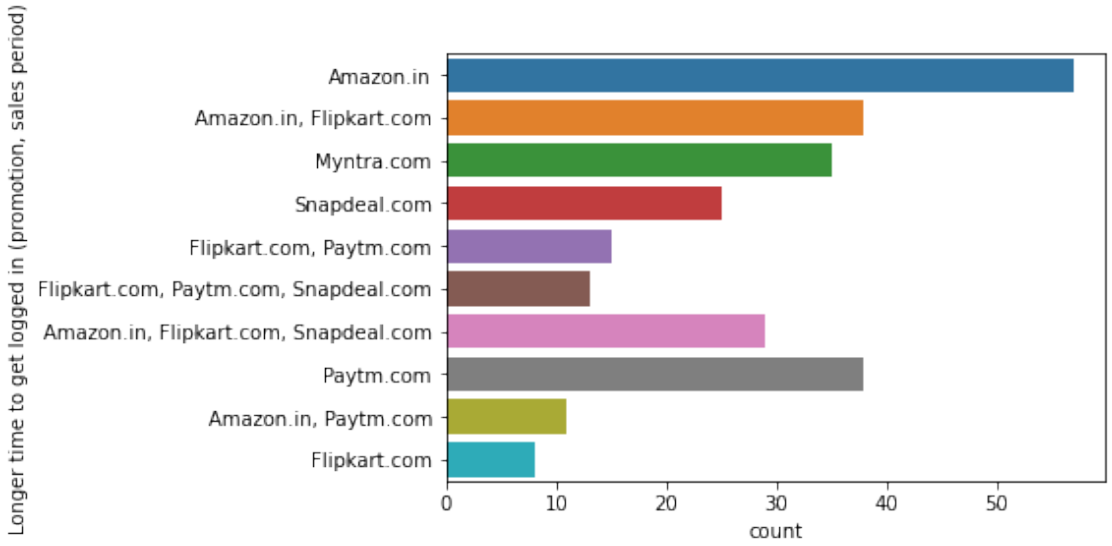

Easy to use website or application
Paytm.com
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in, Paytm.com, Myntra.com
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com
Amazon.in, Flipkart.com
Amazon.in, Flipkart.com, Myntra.com
Amazon.in
Amazon.in, Paytm.com
Flipkart.com
0
10
20
30
40
50
60
count

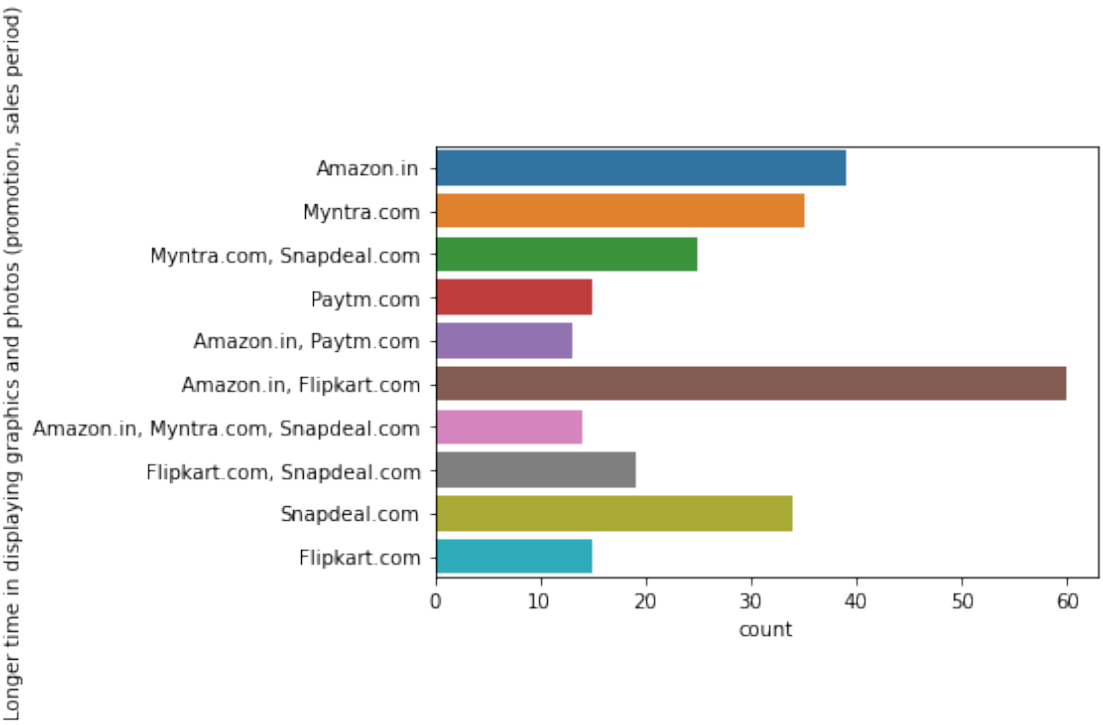

Visual appealing web-page layout
Flipkart.com
Amazon.in, Myntra.com
Amazon.in, Paytm.com, Myntra.com
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com
Myntra.com
Amazon.in, Flipkart.com
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com
Flipkart.com, Myntra.com
Amazon.in
0
20
40
60
80
count

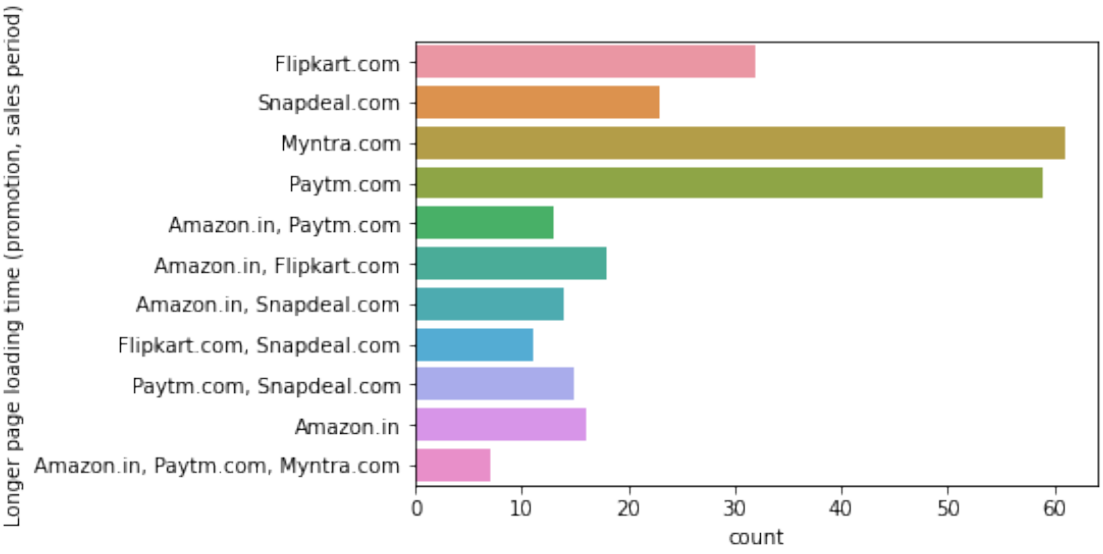

Fast loading website speed of website and application
Snapdeal.com
Amazon.in, Flipkart.com, Myntra.com
Amazon.in, Paytm.com
Amazon.in, Flipkart.com, Snapdeal.com
Amazon.in
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com, Paytm.com
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com
Flipkart.com
0
10
20
30
40
50
count

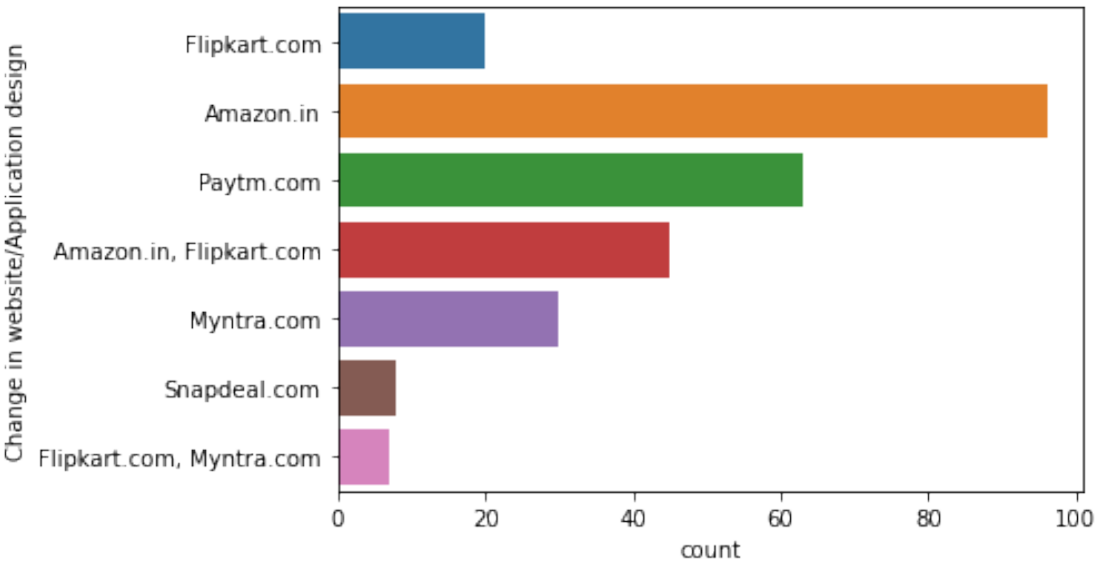

Reliability of the website or application
Paytm.com
Myntra.com
Amazon.in, Paytm.com, Myntra.com
Amazon.in, Flipkart.com, Paytm.com
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com
Amazon.in, Flipkart.com, Snapdeal.com
Amazon.in
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
Amazon.in, Flipkart.com
Flipkart.com
0
10
20
30
40
50
60
count

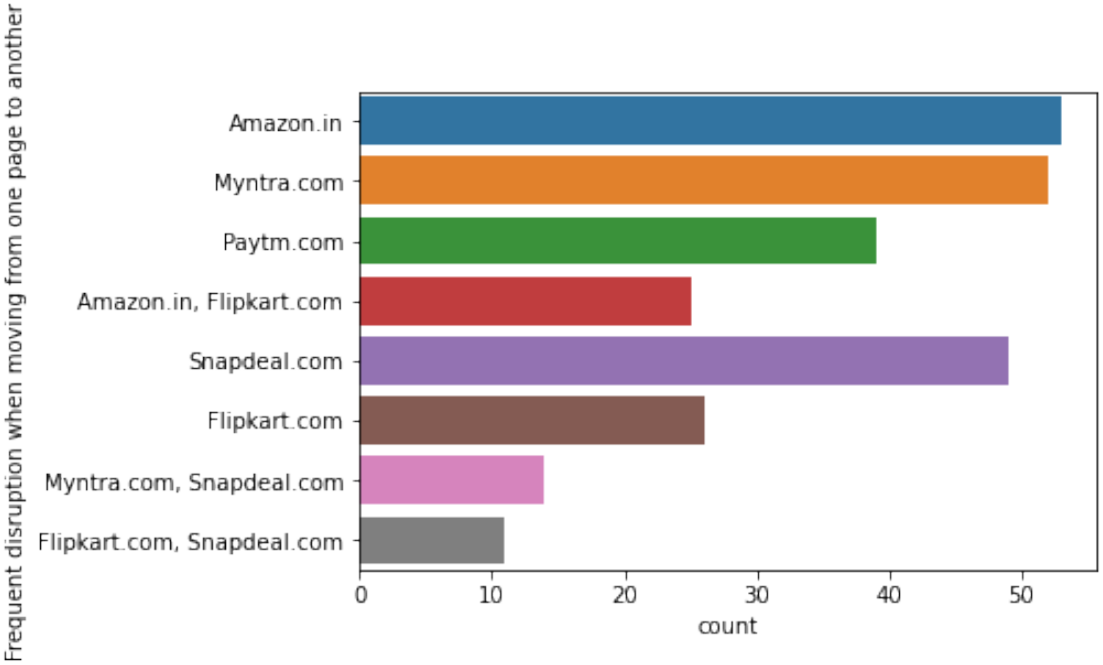

Quickness to complete purchase
Paytm.com
Amazon.com, Flipkart.com, Myntra.com
Amazon.com, Paytm.com, Myntra.com
Amazon.com, Flipkart.com, Paytm.com
Amazon.com, Flipkart.com, Paytm.com, Myntra.com, Snapdeal
Amazon.com
Flipkart.com, Myntra.com, Snapdeal
Amazon.com, Flipkart.com
Flipkart.com
0
10
20
30
40
50
60
count

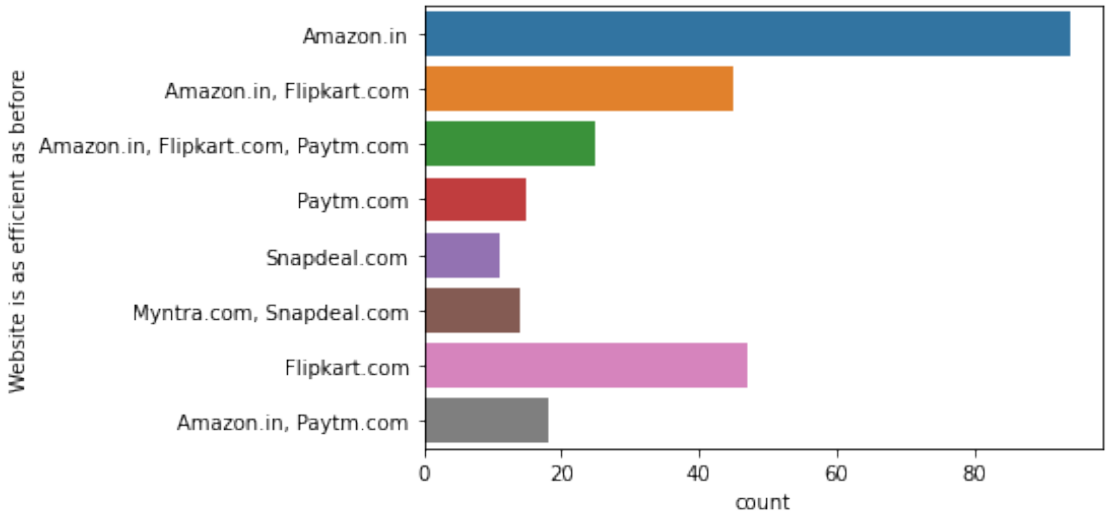

Longer time to get logged in (promotion, sales period)
Amazon.in
Amazon.in, Flipkart.com
Myntra.com
Snapdeal.com
Flipkart.com, Paytm.com
Flipkart.com, Paytm.com, Snapdeal.com
Amazon.in, Flipkart.com, Snapdeal.com
Paytm.com
Amazon.in, Paytm.com
Flipkart.com
0
10
20
30
40
50
count


Longer time in displaying graphics and photos (promotion, sales period)
Amazon.in
Myntra.com
Myntra.com, Snapdeal.com
Paytm.com
Amazon.in, Paytm.com
Amazon.in, Flipkart.com
Amazon.in, Myntra.com, Snapdeal.com
Flipkart.com, Snapdeal.com
Snapdeal.com
Flipkart.com
0
10
20
30
40
50
60
count


Longer page loading time (promotion, sales period)
Flipkart.com
Snapdeal.com
Myntra.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
0
10
20
30
40
50
60
count


Change in website/Application design
Flipkart.com
Amazon.in
Paytm.com
Amazon.in, Flipkart.com
Myntra.com
Snapdeal.com
Flipkart.com, Myntra.com
0
20
40
60
80
100
count


Frequent disruption when moving from one page to another
Amazon.in
Myntra.com
Paytm.com
Amazon.in, Flipkart.com
Snapdeal.com
Flipkart.com
Myntra.com, Snapdeal.com
Flipkart.com, Snapdeal.com
0
10
20
30
40
50
count




```
for i in df2:
    print(df2[i].value_counts())
```

```
Strongly agree (5)       141
Agree (4)                105
Strongly disagree (1)     18
Dis-agree (2)              5
Name: 22 Ease of navigation in website, dtype: int64
Strongly agree (5)       115
Agree (4)                112
Dis-agree (2)             18
Strongly disagree (1)     12
Indifferent (3)           12
Name: 23 Loading and processing speed, dtype: int64
Strongly agree (5)       189
Agree (4)                 45
Strongly disagree (1)     18
Dis-agree (2)             12
Indifferent (3)            5
Name: 24 User friendly Interface of the website, dtype: int64
Strongly agree (5)    159
Agree (4)              80
Dis-agree (2)          30
Name: 25 Convenient Payment methods, dtype: int64
Strongly agree (5)    175
Agree (4)              86
Dis-agree (2)           8
Name: 36 User derive satisfaction while shopping on a good quality
website or application, dtype: int64
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com    64
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com               44
Amazon.in, Flipkart.com                                         44
Amazon.in                                                       29
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com                22
```

```
Amazon.in, Paytm.com, Myntra.com                                    20
Amazon.in, Flipkart.com, Myntra.com                                 19
Paytm.com                                                           12
Flipkart.com                                                         8
Amazon.in, Paytm.com                                                 7
Name: Easy to use website or application, dtype: int64
Amazon.in, Flipkart.com                                             87
Amazon.in                                                           44
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com        36
Amazon.in, Paytm.com, Myntra.com                                    20
Amazon.in, Myntra.com                                               15
Myntra.com                                                          15
Flipkart.com, Myntra.com                                            15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                   14
Flipkart.com                                                        12
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com                    11
Name: Visual appealing web-page layout, dtype: int64
Amazon.in                                                           51
Amazon.in, Paytm.com                                                44
Amazon.in, Flipkart.com, Myntra.com                                 30
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com        30
Amazon.in, Flipkart.com                                             30
Amazon.in, Flipkart.com, Snapdeal.com                               25
Amazon.in, Flipkart.com, Paytm.com                                  25
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                   14
Snapdeal.com                                                        12
Flipkart.com                                                         8
Name: Fast loading website speed of website and application, dtype:
int64
Amazon.in                                                61
Amazon.in, Flipkart.com                                  50
Amazon.in, Flipkart.com, Paytm.com                       36
Amazon.in, Paytm.com, Myntra.com                         35
Amazon.in, Flipkart.com, Snapdeal.com                    18
Myntra.com                                               15
Flipkart.com                                             15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com        14
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com         13
Paytm.com                                                12
Name: Reliability of the website or application, dtype: int64
Amazon.com                                                        66
Amazon.com, Flipkart.com, Paytm.com                               47
Amazon.com, Flipkart.com                                          37
Amazon.com, Flipkart.com, Myntra.com                              30
Paytm.com                                                         25
Amazon.com, Paytm.com, Myntra.com                                 20
Amazon.com, Flipkart.com, Paytm.com, Myntra.com, Snapdeal         15
Flipkart.com                                                      15
Flipkart.com, Myntra.com, Snapdeal                                14
Name: Quickness to complete purchase, dtype: int64
```

```
Amazon.in                                57
Amazon.in, Flipkart.com                  38
Paytm.com                                38
Myntra.com                               35
Amazon.in, Flipkart.com, Snapdeal.com    29
Snapdeal.com                             25
Flipkart.com, Paytm.com                  15
Flipkart.com, Paytm.com, Snapdeal.com    13
Amazon.in, Paytm.com                     11
Flipkart.com                              8
Name: Longer time to get logged in (promotion, sales period), dtype:
int64
Amazon.in, Flipkart.com                60
Amazon.in                              39
Myntra.com                             35
Snapdeal.com                           34
Myntra.com, Snapdeal.com               25
Flipkart.com, Snapdeal.com             19
Paytm.com                              15
Flipkart.com                           15
Amazon.in, Myntra.com, Snapdeal.com    14
Amazon.in, Paytm.com                   13
Name: Longer time in displaying graphics and photos (promotion, sales
period), dtype: int64
Myntra.com                          61
Paytm.com                           59
Flipkart.com                        32
Snapdeal.com                        23
Amazon.in, Flipkart.com             18
Amazon.in                           16
Paytm.com, Snapdeal.com             15
Amazon.in, Snapdeal.com             14
Amazon.in, Paytm.com                13
Flipkart.com, Snapdeal.com          11
Amazon.in, Paytm.com, Myntra.com     7
Name: Longer page loading time (promotion, sales period), dtype: int64
Amazon.in                   96
Paytm.com                   63
Amazon.in, Flipkart.com     45
Myntra.com                  30
Flipkart.com                20
Snapdeal.com                 8
Flipkart.com, Myntra.com     7
Name: Change in website/Application design, dtype: int64
Amazon.in                     53
Myntra.com                    52
Snapdeal.com                  49
Paytm.com                     39
Flipkart.com                  26
Amazon.in, Flipkart.com       25
```

```
Myntra.com, Snapdeal.com      14
Flipkart.com, Snapdeal.com    11
Name: Frequent disruption when moving from one page to another, dtype:
int64
Amazon.in                             94
Flipkart.com                          47
Amazon.in, Flipkart.com               45
Amazon.in, Flipkart.com, Paytm.com    25
Amazon.in, Paytm.com                  18
Paytm.com                             15
Myntra.com, Snapdeal.com              14
Snapdeal.com                          11
Name: Website is as efficient as before, dtype: int64
```

```
#In system quality on most of the parameter max customer are strongly
agreed or agreed on ease of navigation,loading processing,ser friendly
Interface,Convenient Payment methods etc
#max customer says amazon and flipkart have visual appealing web page
#Amazon has the fastest loading speed of website,reliability,quickness
to complete purchas,change in website design,website efficient as
before.
#But amazon has longer time to get logged.Amazon & Flipkart takes
longer time in displaying phoyos and graphics
#Myntra and paytm have longer page loading time

#Analysing Information quality factors which are responsible for E
commerce success

df3=df[['18 The content on the website must be easy to read and
understand','19 Information on similar product to the one highlighted
is important for product comparison',
       '20 Complete information on listed seller and product being
offered is important for purchase decision.',
       '21 All relevant information on listed products must be stated
clearly','35 Displaying quality Information on the website improves
satisfaction of customers','40 Provision of complete and relevant
product information',
       'Complete, relevant description information of products',]]
df3
```

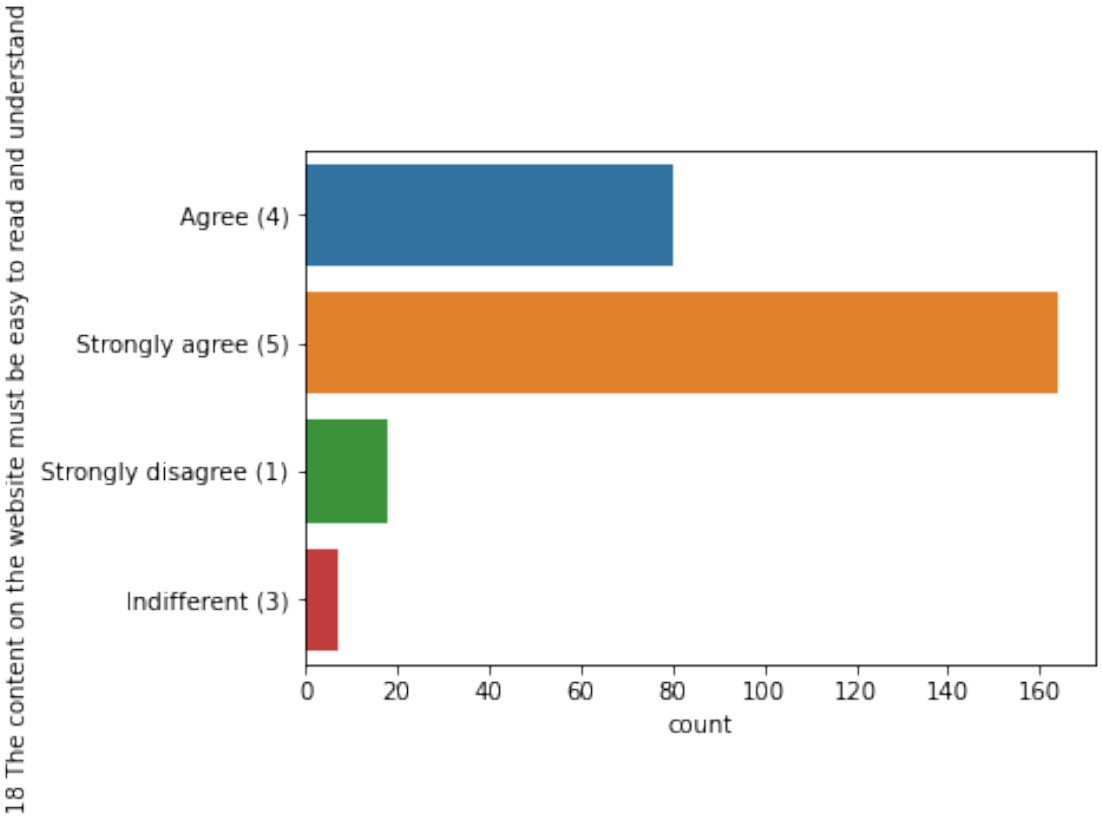
```
    18 The content on the website must be easy to read and understand
\
0                                          Agree (4)

1                                 Strongly agree (5)

2                                 Strongly agree (5)

3                                          Agree (4)

4                                 Strongly agree (5)
```

```
..                                                  ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                 Strongly agree (5)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


    19 Information on similar product to the one highlighted  is
important for product comparison  \
0                                      Indifferent (3)

1                                   Strongly agree (5)

2                                            Agree (4)

3                                            Agree (4)

4                                      Indifferent (3)

..                                                  ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                 Strongly agree (5)

267                                          Agree (4)

268                                 Strongly agree (5)


    20 Complete information on listed seller and product being offered
is important for purchase decision.  \
0                                      Indifferent (3)

1                                   Strongly agree (5)

2                                            Agree (4)

3                                      Indifferent (3)
```

```
4                                    Indifferent (3)

..                                                ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                          Agree (4)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


    21 All relevant information on listed products must be stated
clearly  \
0                                            Agree (4)

1                                   Strongly agree (5)

2                                            Agree (4)

3                                            Agree (4)

4                                            Agree (4)

..                                                ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                          Agree (4)

267                                          Agree (4)

268                                 Strongly agree (5)


    35 Displaying quality Information on the website improves
satisfaction of customers  \
0                                    indifferent (3)

1                                   Strongly agree (5)

2                                   Strongly agree (5)
```

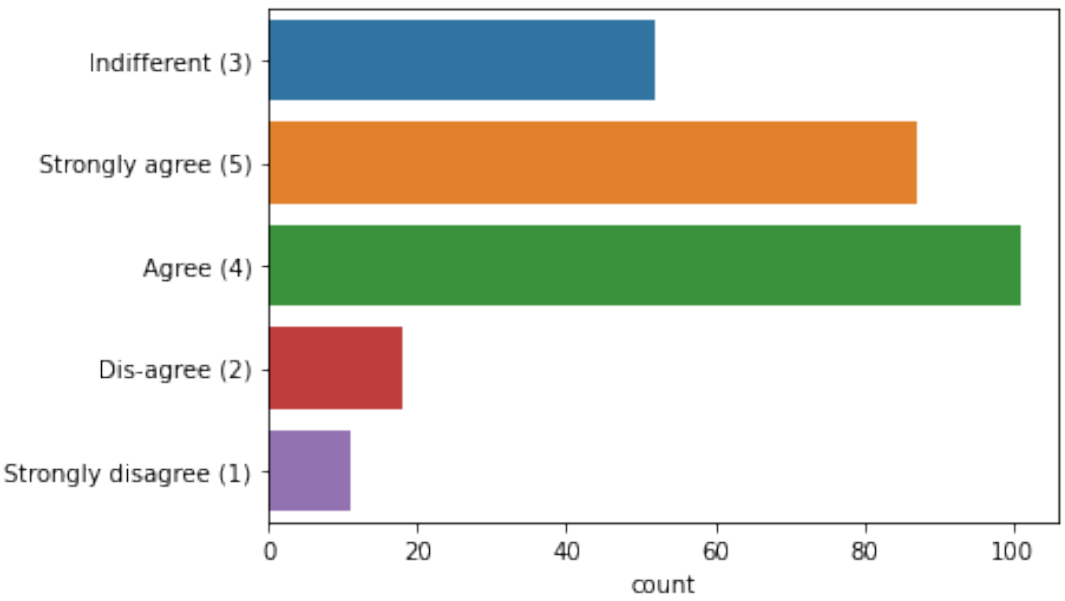
```
3                                    indifferent (3)

4                                         Agree (4)

..                                                ...

264                                  indifferent (3)

265                                Strongly agree (5)

266                                       Agree (4)

267                                Strongly agree (5)

268                                       Agree (4)


    40 Provision of complete and relevant product information  \
0                                    indifferent (3)
1                                  Strongly agree (5)
2                                  Strongly agree (5)
3                                         Agree (4)
4                                         Agree (4)
..                                                ...
264                                  indifferent (3)
265                                Strongly agree (5)
266                                Strongly agree (5)
267                                       Agree (4)
268                                Strongly agree (5)

    Complete, relevant description information of products
0                                          Snapdeal.com
1                  Amazon.in, Flipkart.com, Myntra.com
2                     Amazon.in, Paytm.com, Myntra.com
3                               Amazon.in, Flipkart.com
4    Amazon.in, Flipkart.com, Paytm.com, Myntra.com...
..                                                ...
264                                          Amazon.in
265                                        Flipkart.com
266                                          Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                          Amazon.in

[269 rows x 7 columns]
```

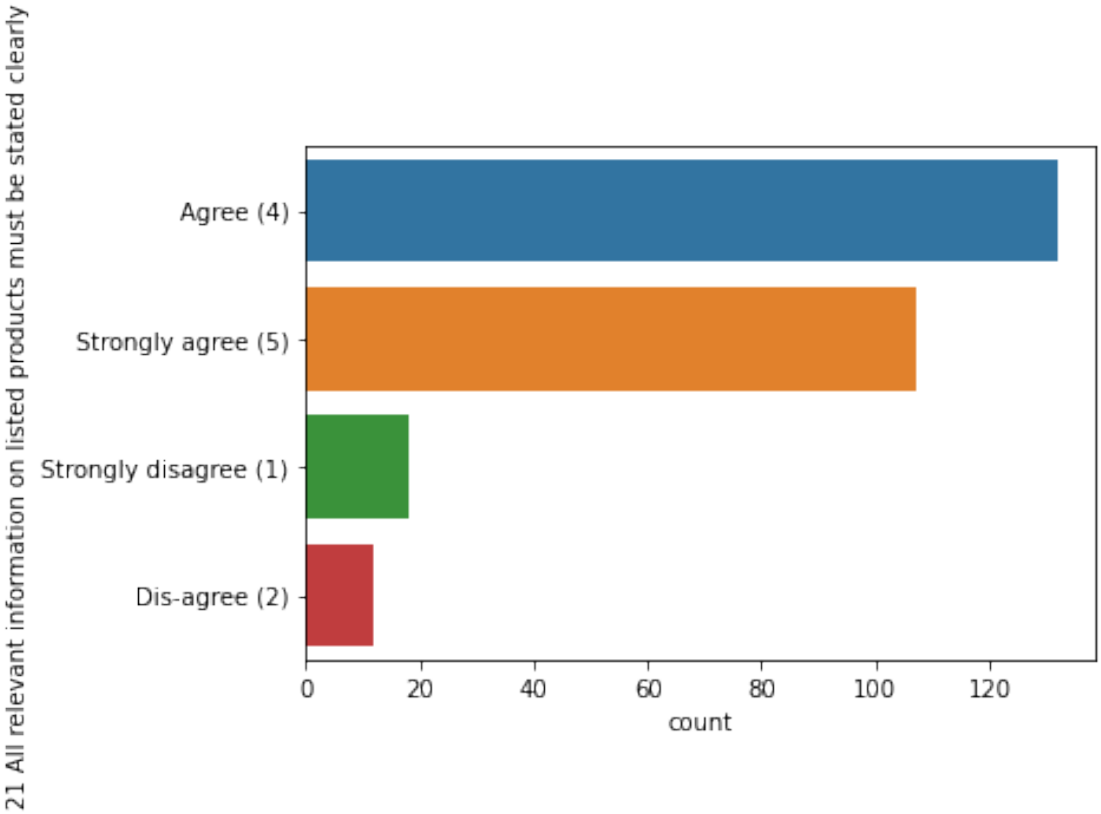
```
 for i in df3:
    sns.countplot(y=df3[i])
    plt.show()
```

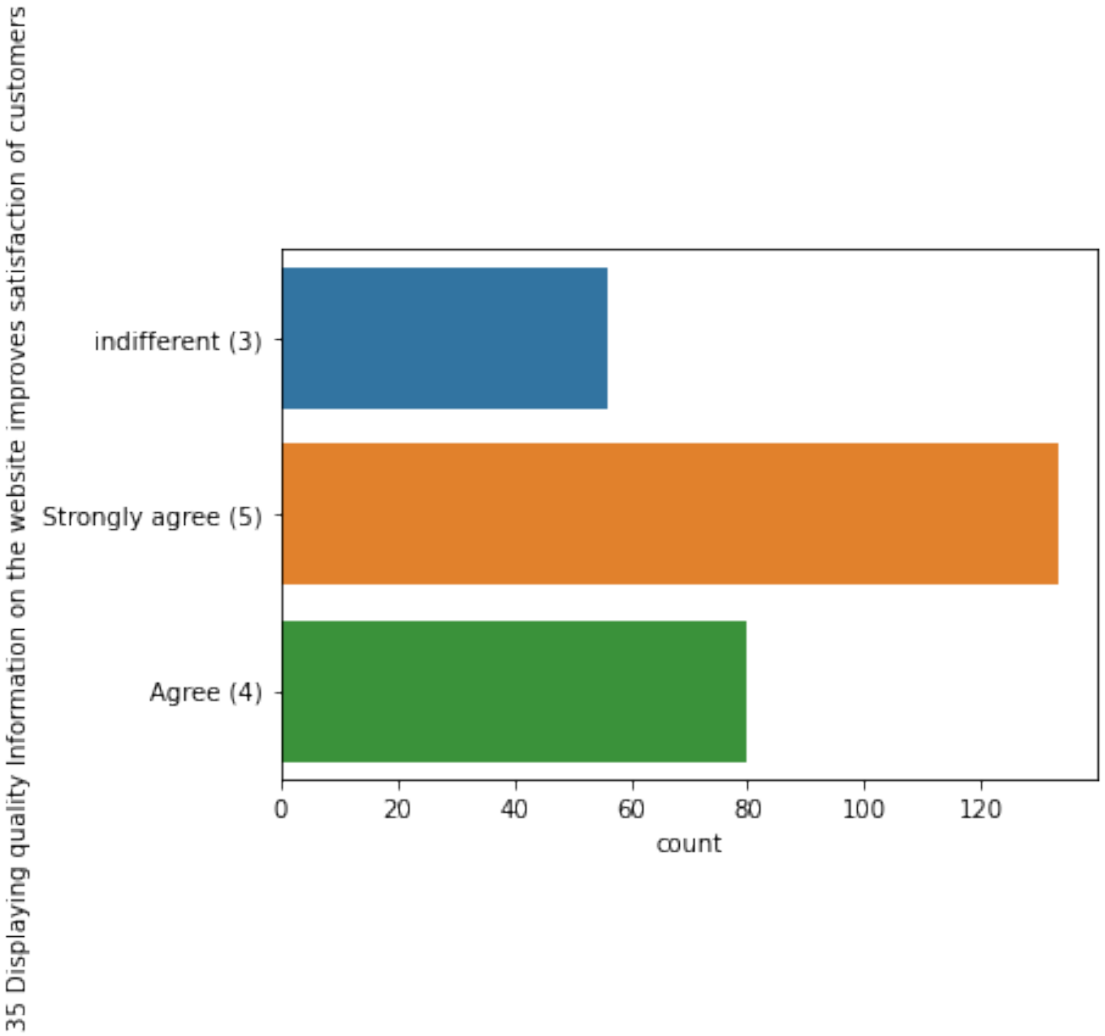

18 The content on the website must be easy to read and understand
Agree (4)
Strongly agree (5)
Strongly disagree (1)
Indifferent (3)
0
20
40
60
80
100
120
140
160
count

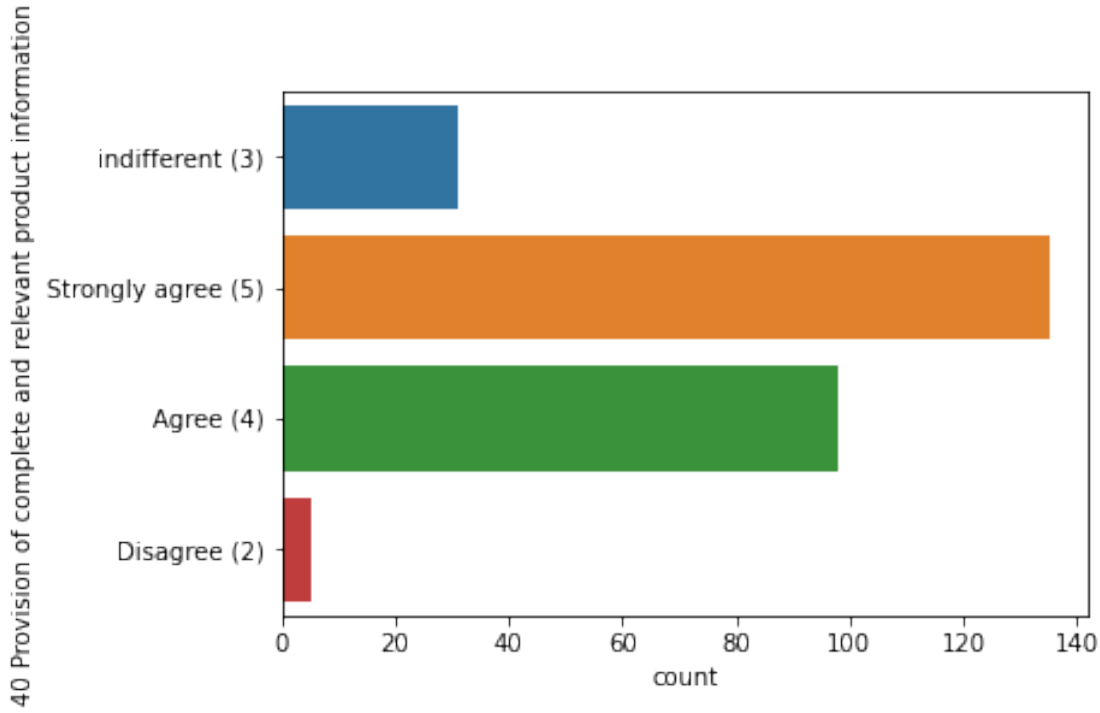
19 Information on similar product to the one highlighted is important for product comparison

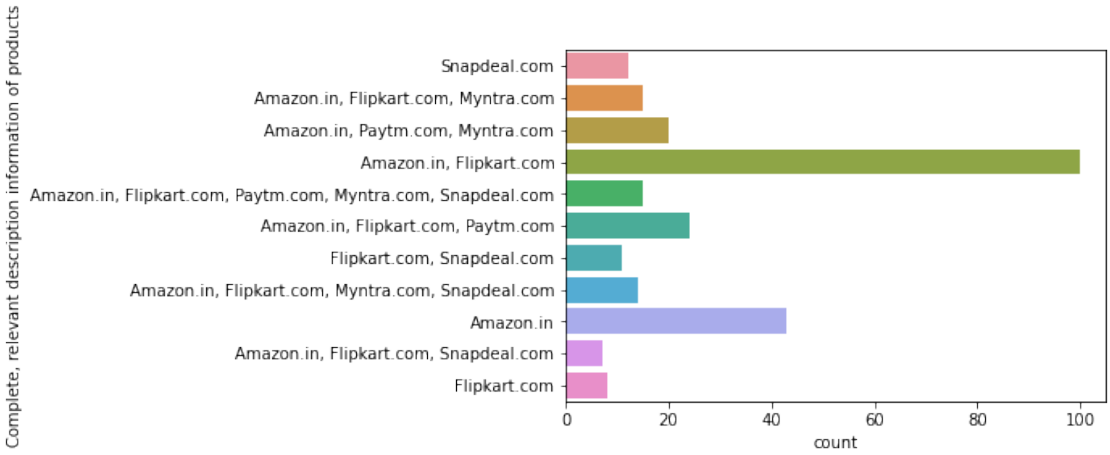
20 Complete information on listed seller and product being offered is important for purchase decision.




21 All relevant information on listed products must be stated clearly
Agree (4)
Strongly agree (5)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
120
count


35 Displaying quality Information on the website improves satisfaction of customers
indifferent (3)
Strongly agree (5)
Agree (4)
0
20
40
60
80
100
120
count





#Analysis of information quality
#Max customer agree or strongly on the content on the website must be easy to read and understand,information on listed products must be stated clearly,Displaying quality Information,Complete information on listed seller and product.
#Amazon and flipkart have complete,relevant description information of products.

```
for i in df3:
    print(df3[i].value_counts())
```

```
Strongly agree (5)       164
Agree (4)                 80
Strongly disagree (1)     18
```

```
Indifferent (3)            7
Name: 18 The content on the website must be easy to read and
understand, dtype: int64
Strongly agree (5)    116
Agree (4)              92
Indifferent (3)        43
Dis-agree (2)          18
Name: 19 Information on similar product to the one highlighted  is
important for product comparison, dtype: int64
Agree (4)                101
Strongly agree (5)        87
Indifferent (3)           52
Dis-agree (2)             18
Strongly disagree (1)     11
Name: 20 Complete information on listed seller and product being
offered is important for purchase decision., dtype: int64
Agree (4)                132
Strongly agree (5)       107
Strongly disagree (1)     18
Dis-agree (2)             12
Name: 21 All relevant information on listed products must be stated
clearly, dtype: int64
Strongly agree (5)    133
Agree (4)              80
indifferent (3)        56
Name: 35 Displaying quality Information on the website improves
satisfaction of customers, dtype: int64
Strongly agree (5)    135
Agree (4)              98
indifferent (3)        31
Disagree (2)            5
Name: 40 Provision of complete and relevant product information,
dtype: int64
Amazon.in, Flipkart.com                                          100
Amazon.in                                                         43
Amazon.in, Flipkart.com, Paytm.com                                24
Amazon.in, Paytm.com, Myntra.com                                  20
Amazon.in, Flipkart.com, Myntra.com                               15
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com      15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                 14
Snapdeal.com                                                      12
Flipkart.com, Snapdeal.com                                        11
Flipkart.com                                                       8
Amazon.in, Flipkart.com, Snapdeal.com                              7
Name: Complete, relevant description information of products, dtype:
int64
```

```
#Analysing trust factors which are responsible for E commerce success

trust=df[['26 Trust that the online retail store will fulfill its part
of the transaction at the stipulated time',
```

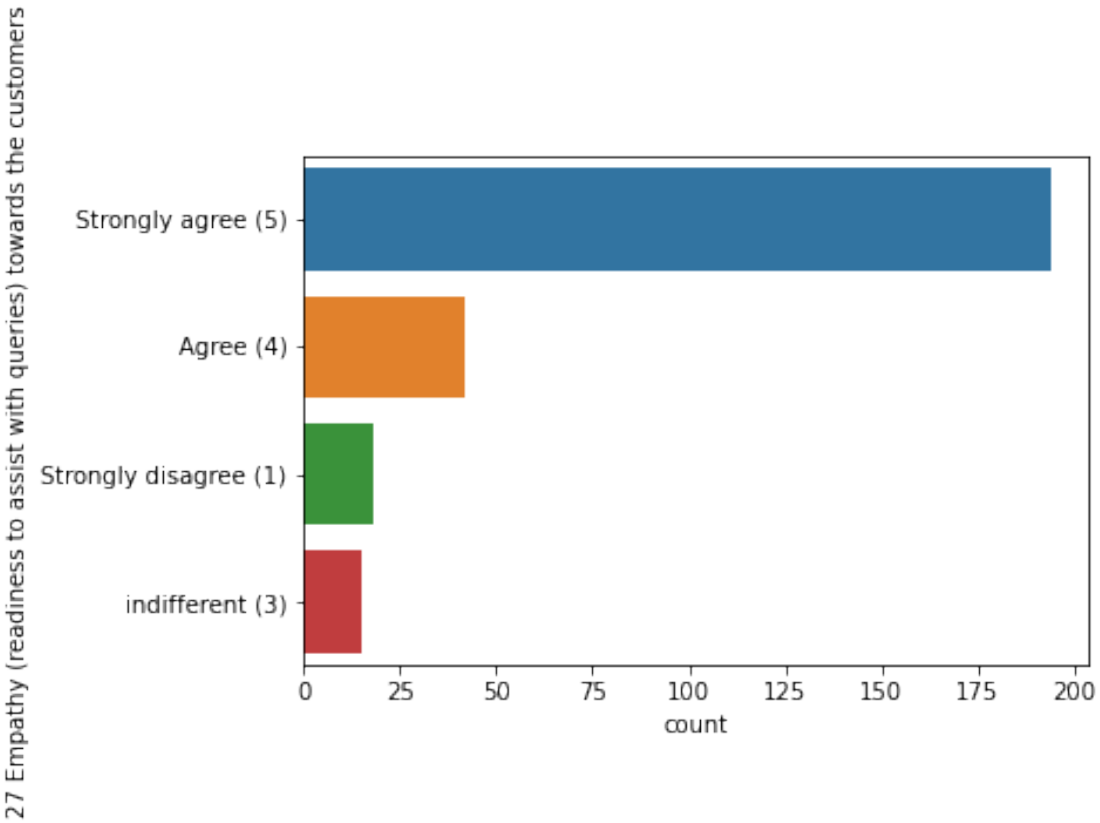
```
       '27 Empathy (readiness to assist with queries) towards the
customers',
       '28 Being able to guarantee the privacy of the customer','38
User satisfaction cannot exist without trust','Privacy of customers'
information',
       'Security of customer financial information',
       'Perceived Trustworthiness']]

trust

    26 Trust that the online retail store will fulfill its part of the
transaction at the stipulated time  \
0                                          Disagree (2)

1                                   Strongly agree (5)

2                                   Strongly agree (5)

3                                            Agree (4)

4                                            Agree (4)

..                                                 ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                          Agree (4)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


    27 Empathy (readiness to assist with queries) towards the
customers  \
0                                   Strongly agree (5)

1                                   Strongly agree (5)

2                                   Strongly agree (5)

3                                   Strongly agree (5)

4                                   Strongly agree (5)

..                                                 ...
```

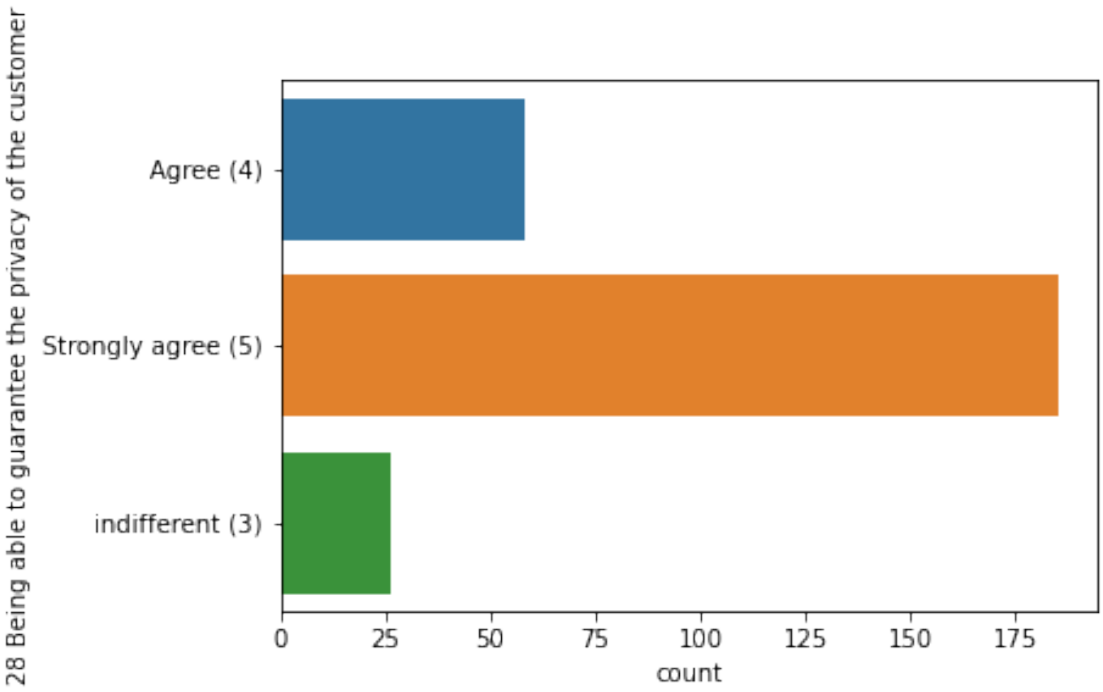
```
264                                        Agree (4)

265                                Strongly agree (5)

266                                   indifferent (3)

267                                Strongly agree (5)

268                                Strongly agree (5)


    28 Being able to guarantee the privacy of the customer  \
0                                          Agree (4)
1                                  Strongly agree (5)
2                                  Strongly agree (5)
3                                  Strongly agree (5)
4                                          Agree (4)
..                                               ...
264                                        Agree (4)
265                                Strongly agree (5)
266                                   indifferent (3)
267                                Strongly agree (5)
268                                Strongly agree (5)

    38 User satisfaction cannot exist without trust  \
0                                Strongly agree (5)
1                                Strongly agree (5)
2                                        Agree (4)
3                                        Agree (4)
4                                Strongly agree (5)
..                                               ...
264                                      Agree (4)
265                              Strongly agree (5)
266                                      Agree (4)
267                              Strongly agree (5)
268                              Strongly agree (5)

                    Privacy of customers’ information  \
0                                          Amazon.in
1                                         Myntra.com
2                                          Amazon.in
3                 Amazon.in, Flipkart.com, Myntra.com
4                              Amazon.in, Paytm.com
..                                               ...
264                                        Amazon.in
265                                      Flipkart.com
266                                        Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                        Amazon.in
```

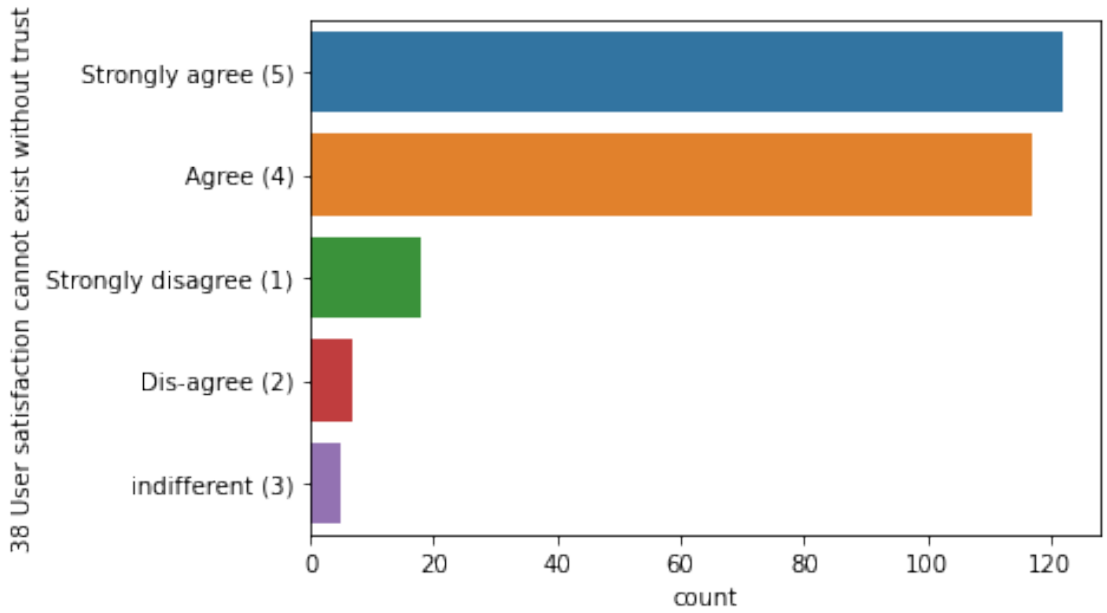
```
            Security of customer financial information  \
0                                                Amazon.in
1                                               Myntra.com
2                     Amazon.in, Paytm.com, Myntra.com
3                Amazon.in, Flipkart.com, Snapdeal.com
4                                                Paytm.com
..                                                     ...
264                                              Amazon.in
265                                             Flipkart.com
266                                              Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                              Amazon.in

                            Perceived Trustworthiness
0                                               Flipkart.com
1                                                 Myntra.com
2                                Amazon.in, Myntra.com
3                Amazon.in, Flipkart.com, Snapdeal.com
4                                Amazon.in, Myntra.com
..                                                     ...
264                                              Amazon.in
265                                             Flipkart.com
266                                              Amazon.in
267  Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com
268                                              Amazon.in

[269 rows x 7 columns]
```

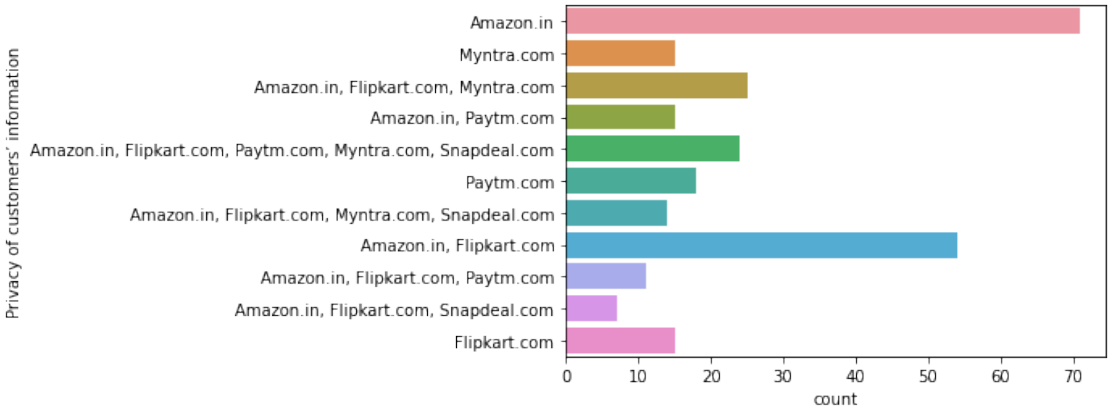
```
for i in trust:
    sns.countplot(y=trust[i])
    plt.show()
```

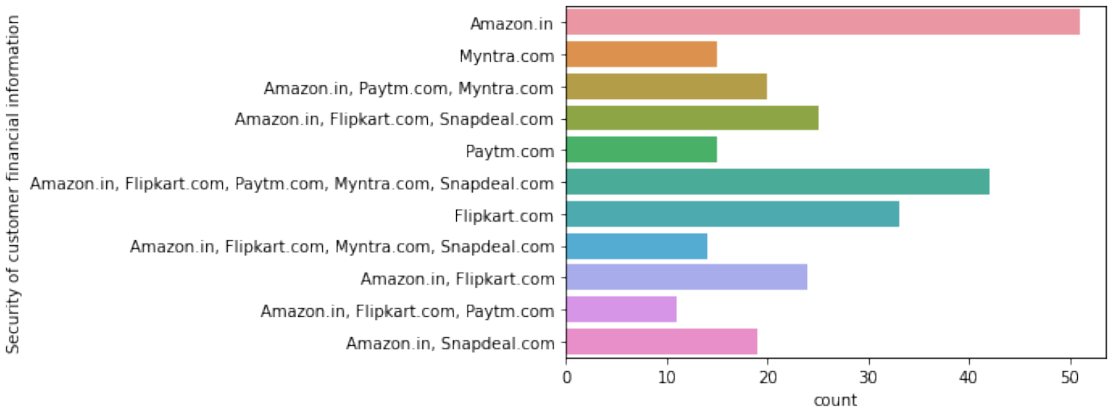
26 Trust that the online retail store will fulfill its part of the transaction at the stipulated time
Disagree (2)
Strongly agree (5)
Agree (4)
indifferent (3)
0
20
40
60
80
100
120
140
count

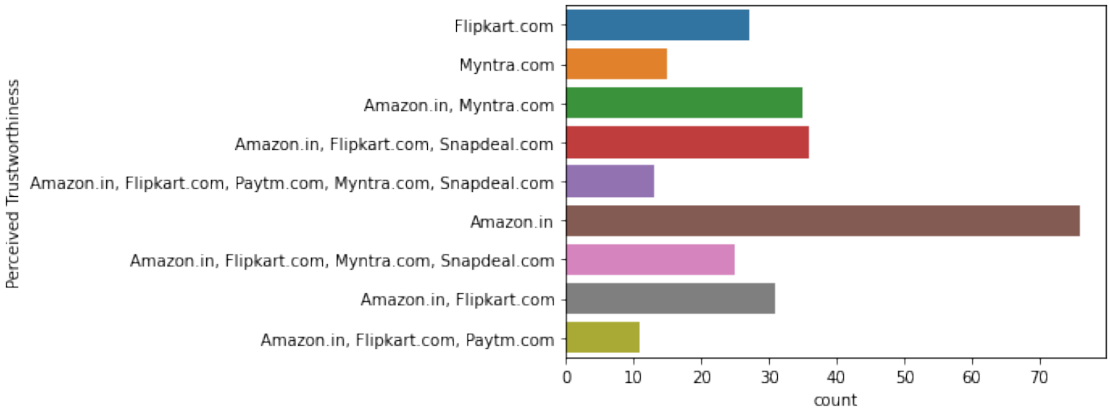

27 Empathy (readiness to assist with queries) towards the customers
Strongly agree (5)
Agree (4)
Strongly disagree (1)
indifferent (3)
0
25
50
75
100
125
150
175
200
count


28 Being able to guarantee the privacy of the customer
Agree (4)
Strongly agree (5)
indifferent (3)
0
25
50
75
100
125
150
175
count


38 User satisfaction cannot exist without trust
Strongly agree (5)
Agree (4)
Strongly disagree (1)
Dis-agree (2)
indifferent (3)
0
20
40
60
80
100
120
count


Privacy of customers' information
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
0
10
20
30
40
50
60
70
count


Security of customer financial information
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
0
10
20
30
40
50
count




```
#Analysis of Trust factors
#Amazon maintain highest privacy of customer information also it
maintain highest security of customer financial information
#Amazon perceived highest trustworthiness and myntra has low
trustwothiness.
```

```
for i in trust:
    print(trust[i].value_counts())
```

```
Strongly agree (5)    141
Agree (4)              86
Disagree (2)           30
indifferent  (3)       12
Name: 26 Trust that the online retail store will fulfill its part of
the transaction at the stipulated time, dtype: int64
Strongly agree (5)       194
Agree (4)                 42
Strongly disagree (1)     18
indifferent (3)           15
Name: 27 Empathy (readiness to assist with queries) towards the
customers, dtype: int64
Strongly agree (5)    185
Agree (4)              58
indifferent (3)        26
Name: 28 Being able to guarantee the privacy of the customer, dtype:
int64
Strongly agree (5)       122
Agree (4)                117
Strongly disagree (1)     18
Dis-agree (2)              7
indifferent (3)            5
Name: 38 User satisfaction cannot exist without trust, dtype: int64
Amazon.in                                                          71
Amazon.in, Flipkart.com                                            54
Amazon.in, Flipkart.com, Myntra.com                                25
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com       24
Paytm.com                                                          18
```

```
Myntra.com                                                          15
Amazon.in, Paytm.com                                                15
Flipkart.com                                                        15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                   14
Amazon.in, Flipkart.com, Paytm.com                                  11
Amazon.in, Flipkart.com, Snapdeal.com                                7
Name: Privacy of customers' information, dtype: int64
Amazon.in                                                           51
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com        42
Flipkart.com                                                        33
Amazon.in, Flipkart.com, Snapdeal.com                               25
Amazon.in, Flipkart.com                                             24
Amazon.in, Paytm.com, Myntra.com                                    20
Amazon.in, Snapdeal.com                                             19
Myntra.com                                                          15
Paytm.com                                                           15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                   14
Amazon.in, Flipkart.com, Paytm.com                                  11
Name: Security of customer financial information, dtype: int64
Amazon.in                                                           76
Amazon.in, Flipkart.com, Snapdeal.com                               36
Amazon.in, Myntra.com                                               35
Amazon.in, Flipkart.com                                             31
Flipkart.com                                                        27
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                   25
Myntra.com                                                          15
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com        13
Amazon.in, Flipkart.com, Paytm.com                                  11
Name: Perceived Trustworthiness, dtype: int64
```

```
#Analysing  net benefit factors which are responsible for E commerce
success
```

```
nb=df[['30 Online shopping gives monetary benefit and discounts', '34
Gaining access to loyalty programs is a benefit of shopping
online','37 Net Benefit derived from shopping online can lead to users
satisfaction','41 Monetary savings']]
```

```
nb #net benefit
```

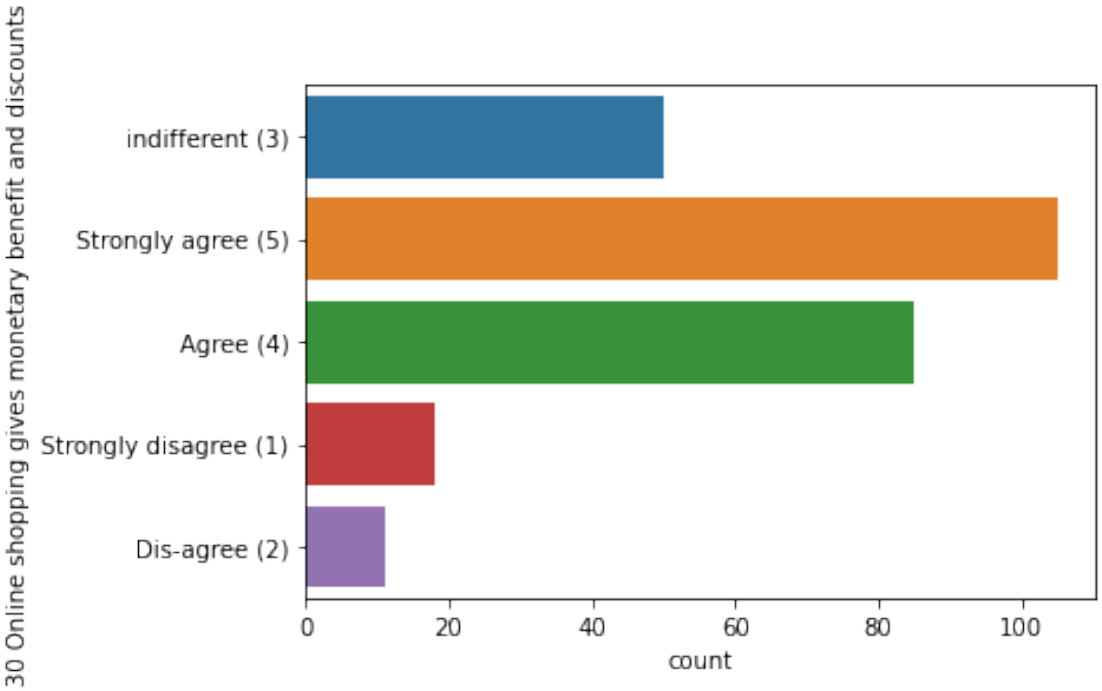
```
    30 Online shopping gives monetary benefit and discounts  \
0                                      indifferent (3)
1                                   Strongly agree (5)
2                                   Strongly agree (5)
3                                            Agree (4)
4                                   Strongly agree (5)
..                                                 ...
264                                    indifferent (3)
265                                 Strongly agree (5)
266                                          Agree (4)
267                                 Strongly agree (5)
```

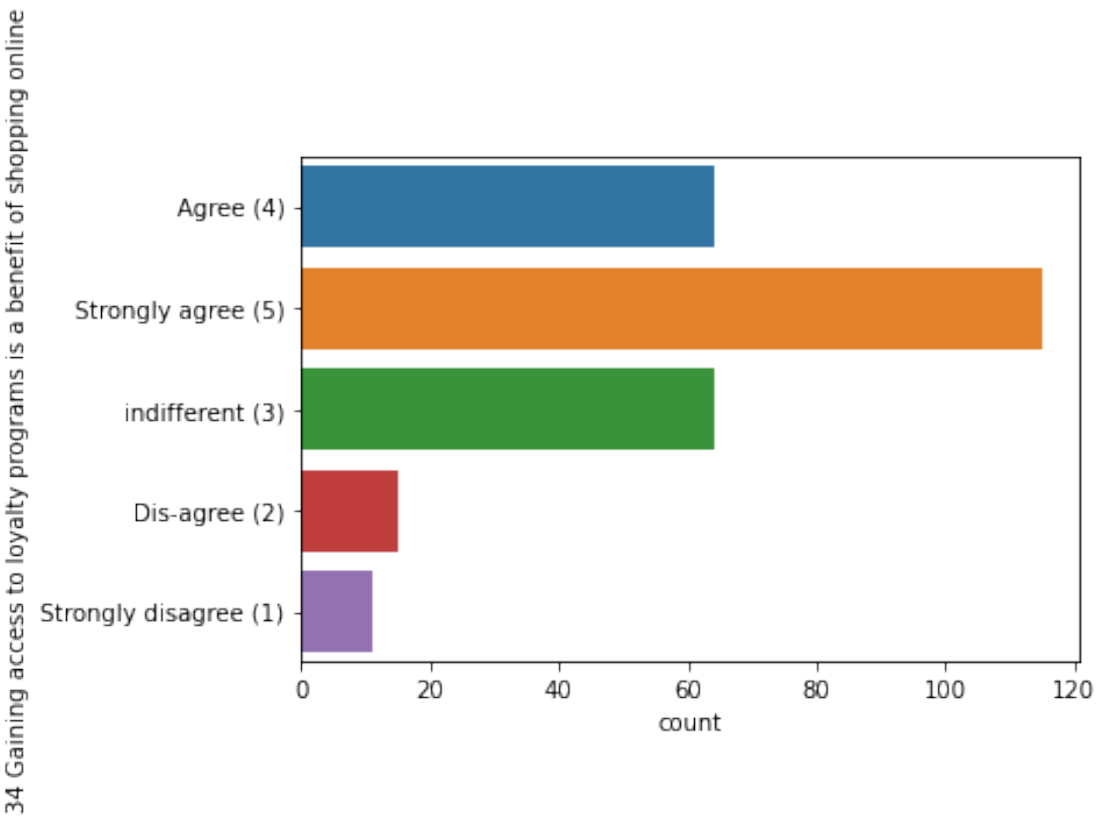
```
268                                  Strongly agree (5)

    34 Gaining access to loyalty programs is a benefit of shopping
online  \
0                                              Agree (4)

1                                    Strongly agree (5)

2                                    Strongly agree (5)

3                                       indifferent (3)

4                                         Dis-agree (2)

..                                                  ...

264                                     indifferent (3)

265                                  Strongly agree (5)

266                                     indifferent (3)

267                                            Agree (4)

268                                  Strongly agree (5)


    37 Net Benefit derived from shopping online can lead to users
satisfaction  \
0                                              Agree (4)

1                                    Strongly agree (5)

2                                    Strongly agree (5)

3                                       indifferent (3)

4                                    Strongly agree (5)

..                                                  ...

264                                     indifferent (3)

265                                  Strongly agree (5)

266                                            Agree (4)

267                                  Strongly agree (5)
```

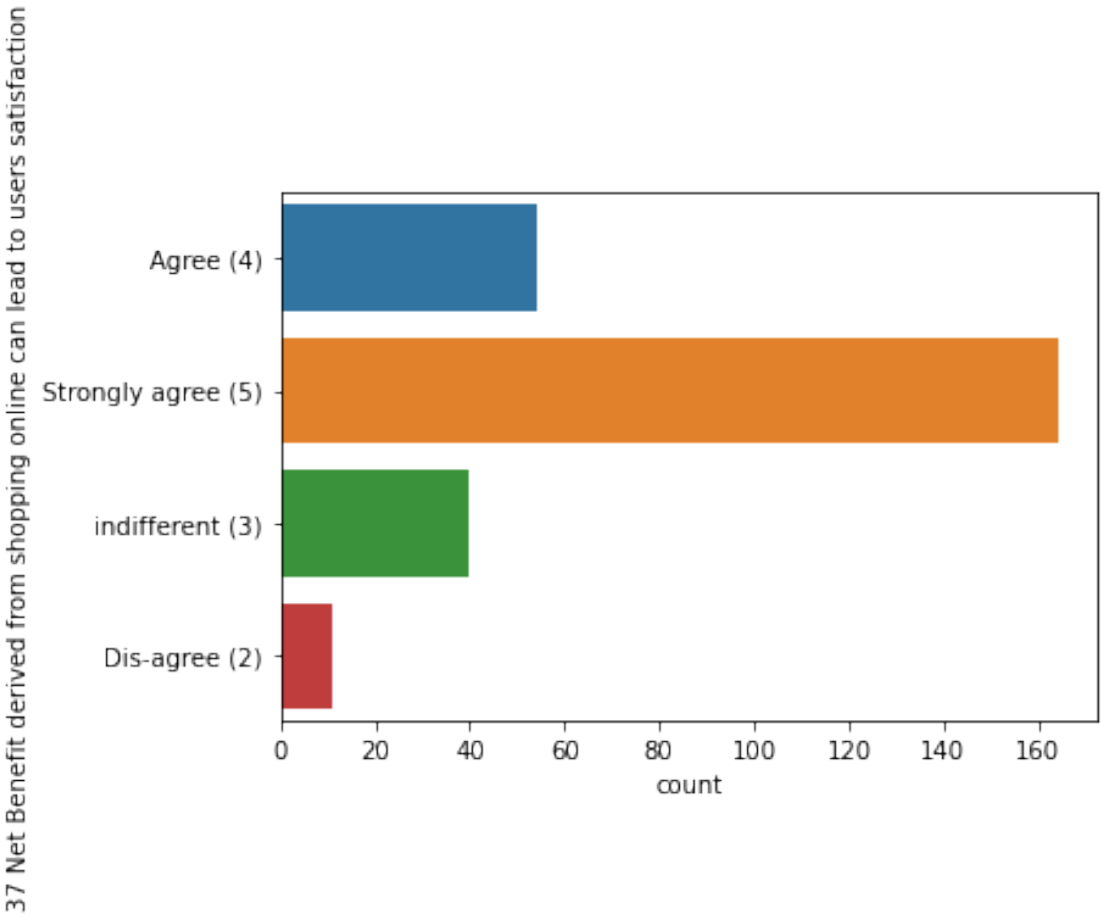
```
268                                  Strongly agree (5)
```

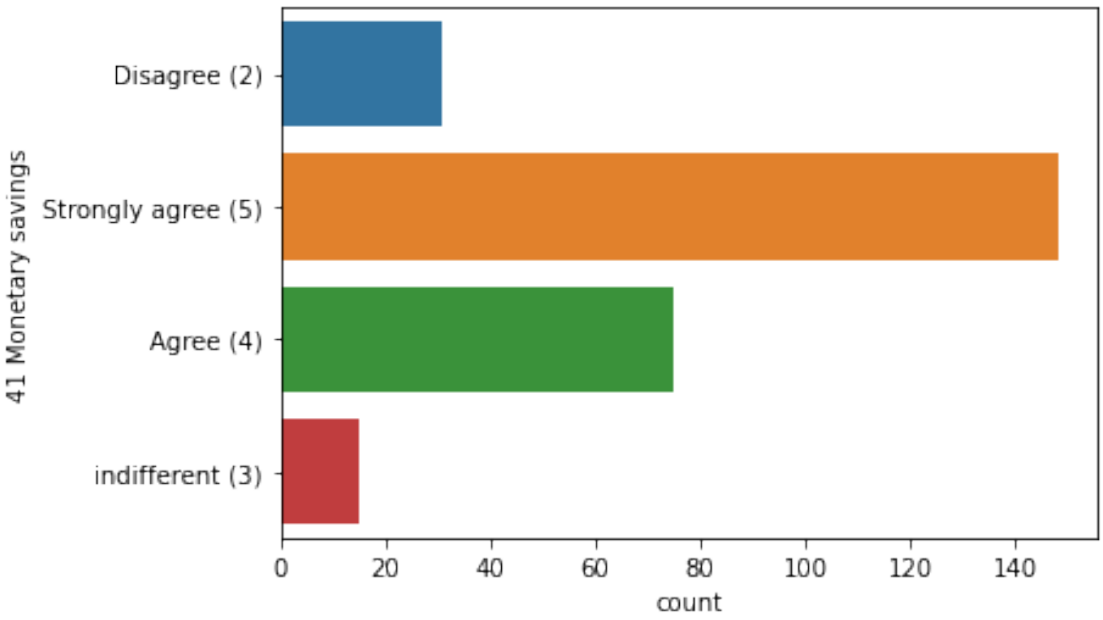
```
    41 Monetary savings
0           Disagree (2)
1    Strongly agree (5)
2    Strongly agree (5)
3    Strongly agree (5)
4    Strongly agree (5)
..                   ...
264         Disagree (2)
265  Strongly agree (5)
266            Agree (4)
267            Agree (4)
268  Strongly agree (5)

[269 rows x 4 columns]
```

```
for i in nb:
    sns.countplot(y=nb[i])
    plt.show()
```




34 Gaining access to loyalty programs is a benefit of shopping online
Agree (4)
Strongly agree (5)
indifferent (3)
Dis-agree (2)
Strongly disagree (1)
0
20
40
60
80
100
120
count






```
for i in nb:
    print(nb[i].value_counts())
```

```
Strongly agree (5)       105
Agree (4)                 85
indifferent (3)           50
Strongly disagree (1)     18
Dis-agree (2)             11
Name: 30 Online shopping gives monetary benefit and discounts, dtype:
int64
Strongly agree (5)       115
Agree (4)                 64
indifferent (3)           64
Dis-agree (2)             15
Strongly disagree (1)     11
Name: 34 Gaining access to loyalty programs is a benefit of shopping
online, dtype: int64
Strongly agree (5)    164
Agree (4)              54
indifferent (3)        40
Dis-agree (2)          11
Name: 37 Net Benefit derived from shopping online can lead to users
satisfaction, dtype: int64
Strongly agree (5)    148
Agree (4)              75
Disagree (2)           31
indifferent (3)        15
Name: 41 Monetary savings, dtype: int64
```

The factors that influence the online customers repeat purchase intention.

```
#factors that affect the repeat purchase intention

#utilitarian value=uv

uv=df[['18 The content on the website must be easy to read and
understand',
       '19 Information on similar product to the one highlighted  is
important for product comparison',
       '20 Complete information on listed seller and product being
offered is important for purchase decision.',
       '21 All relevant information on listed products must be stated
clearly','25 Convenient Payment methods','30 Online shopping gives
monetary benefit and discounts','32 Shopping online is convenient and
flexible','35 Displaying quality Information on the website improves
satisfaction of customers','39 Offering a wide variety of listed
product in several category','40 Provision of complete and relevant
product information',
       '41 Monetary savings','42 The Convenience of patronizing the
online retailer','47 Getting value for money spent','Easy to use
website or application','Wild variety of product on offer','Complete,
relevant description information of products','Availability of several
```

```
payment options']]
uv

    18 The content on the website must be easy to read and understand
\
0                                              Agree (4)

1                                   Strongly agree (5)

2                                   Strongly agree (5)

3                                            Agree (4)

4                                   Strongly agree (5)

..                                                 ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                 Strongly agree (5)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


    19 Information on similar product to the one highlighted  is
important for product comparison  \
0                                        Indifferent (3)

1                                   Strongly agree (5)

2                                            Agree (4)

3                                            Agree (4)

4                                        Indifferent (3)

..                                                 ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                 Strongly agree (5)
```

267 Agree (4)

268 Strongly agree (5)

20 Complete information on listed seller and product being offered is important for purchase decision. \
0 Indifferent (3)

1 Strongly agree (5)

2 Agree (4)

3 Indifferent (3)

4 Indifferent (3)

.. ...

264 Agree (4)

265 Strongly agree (5)

266 Agree (4)

267 Strongly agree (5)

268 Strongly agree (5)

21 All relevant information on listed products must be stated clearly \
0 Agree (4)

1 Strongly agree (5)

2 Agree (4)

3 Agree (4)

4 Agree (4)

.. ...

264 Agree (4)

265 Strongly agree (5)

```
266                                          Agree (4)

267                                          Agree (4)

268                                 Strongly agree (5)


    25 Convenient Payment methods  \
0                    Dis-agree (2)
1               Strongly agree (5)
2               Strongly agree (5)
3               Strongly agree (5)
4               Strongly agree (5)
..                             ...
264                       Agree (4)
265             Strongly agree (5)
266             Strongly agree (5)
267             Strongly agree (5)
268             Strongly agree (5)

    30 Online shopping gives monetary benefit and discounts  \
0                                       indifferent (3)
1                                   Strongly agree (5)
2                                   Strongly agree (5)
3                                            Agree (4)
4                                   Strongly agree (5)
..                                                 ...
264                                     indifferent (3)
265                                 Strongly agree (5)
266                                          Agree (4)
267                                 Strongly agree (5)
268                                 Strongly agree (5)

    32 Shopping online is convenient and flexible  \
0                                    Dis-agree (2)
1                               Strongly agree (5)
2                               Strongly agree (5)
3                                  indifferent (3)
4                               Strongly agree (5)
..                                              ...
264                                indifferent (3)
265                             Strongly agree (5)
266                                      Agree (4)
267                             Strongly agree (5)
268                             Strongly agree (5)

    35 Displaying quality Information on the website improves
satisfaction of customers  \
0                                       indifferent (3)
```

1	Strongly agree (5)
2	Strongly agree (5)
3	indifferent (3)
4	Agree (4)
..	...
264	indifferent (3)
265	Strongly agree (5)
266	Agree (4)
267	Strongly agree (5)
268	Agree (4)

	39 Offering a wide variety of listed product in several category \
0	indifferent (3)
1	Strongly agree (5)
2	Strongly agree (5)
3	Agree (4)
4	Agree (4)
..	...
264	Agree (4)
265	Strongly agree (5)
266	indifferent (3)
267	Strongly agree (5)
268	Strongly agree (5)

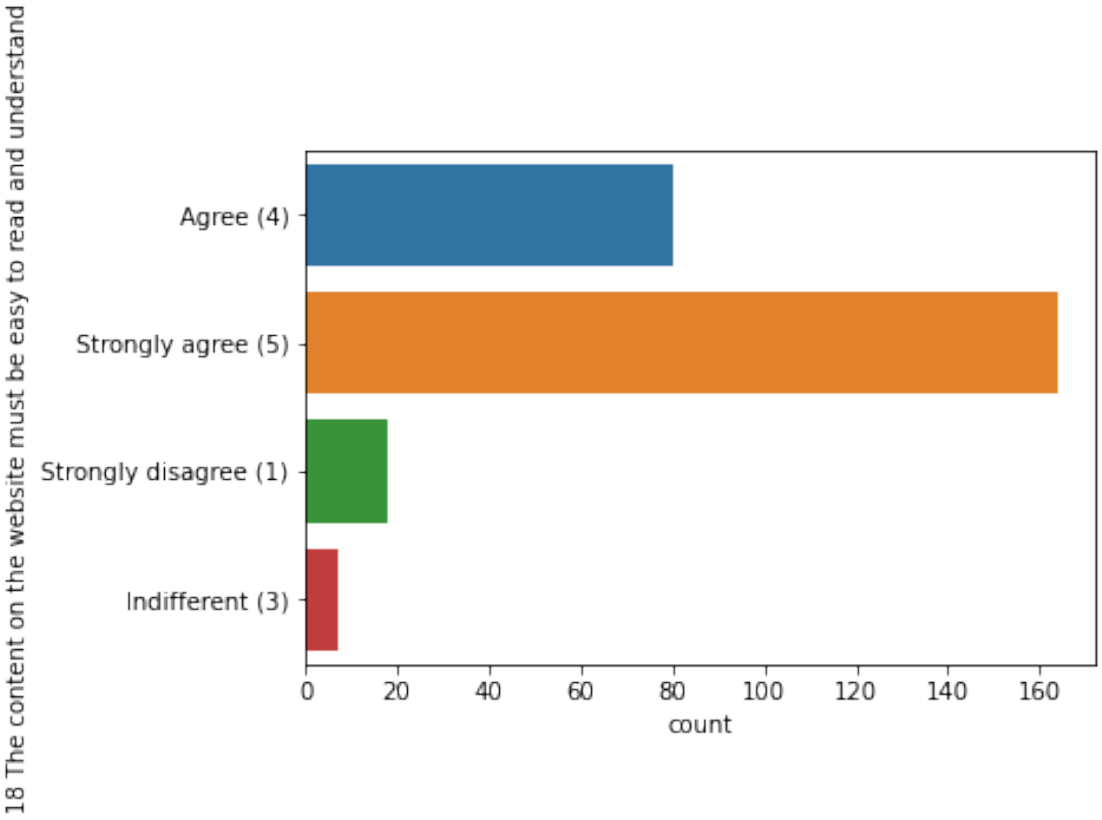
	40 Provision of complete and relevant product information \

```
0                                   indifferent (3)
1                                Strongly agree (5)
2                                Strongly agree (5)
3                                         Agree (4)
4                                         Agree (4)
..                                               ...
264                                 indifferent (3)
265                              Strongly agree (5)
266                              Strongly agree (5)
267                                       Agree (4)
268                              Strongly agree (5)

    41 Monetary savings 42 The Convenience of patronizing the online
retailer  \
0          Disagree (2)                                      indifferent
(3)
1    Strongly agree (5)                                      indifferent
(3)
2    Strongly agree (5)                                            Agree
(4)
3    Strongly agree (5)                                            Agree
(4)
4    Strongly agree (5)                                            Agree
(4)
..                  ...
...
264        Disagree (2)                                      indifferent
(3)
265  Strongly agree (5)                                   Strongly agree
(5)
266           Agree (4)                                            Agree
(4)
267           Agree (4)                                            Agree
(4)
268  Strongly agree (5)                                   Strongly agree
(5)

    47 Getting value for money spent  \
0                Strongly agree (5)
1                Strongly agree (5)
2                         Agree (4)
3                         Agree (4)
4                Strongly agree (5)
..                               ...
264                 indifferent (3)
265              Strongly agree (5)
266                       Agree (4)
267                 indifferent (3)
268              Strongly agree (5)
```

	Easy to use website or application	Wild variety of product on offer	Complete, relevant description information of products	Availability of several payment options
0	Paytm.com	Flipkart.com	Snapdeal.com	Patym.com
1	Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com	Flipkart.com, Myntra.com	Amazon.in, Flipkart.com, Myntra.com	Amazon.in, Flipkart.com, Myntra.com
2	Amazon.in, Paytm.com, Myntra.com	Amazon.in, Myntra.com	Amazon.in, Paytm.com, Myntra.com	Patym.com, Myntra.com
3	Amazon.in, Flipkart.com, Paytm.com, Myntra.com...	Amazon.in, Flipkart.com	Amazon.in, Flipkart.com	Amazon.in, Flipkart.com, Myntra.com
4	Amazon.in, Flipkart.com, Paytm.com, Myntra.com...	Myntra.com	Amazon.in, Flipkart.com, Paytm.com, Myntra.com...	Amazon.in, Flipkart.com, Patym.com, Myntra.com...
..	...	...	...	...
264	Amazon.in	Amazon.in	Amazon.in	Amazon.in
265	Flipkart.com	Amazon.in	Flipkart.com	Flipkart.com
266	Amazon.in	Amazon.in	Amazon.in	Amazon.in, Flipkart.com
267	Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com	Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com	Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com	Flipkart.com, Myntra.com, Snapdeal.com
268	Amazon.in	Amazon.in	Amazon.in	

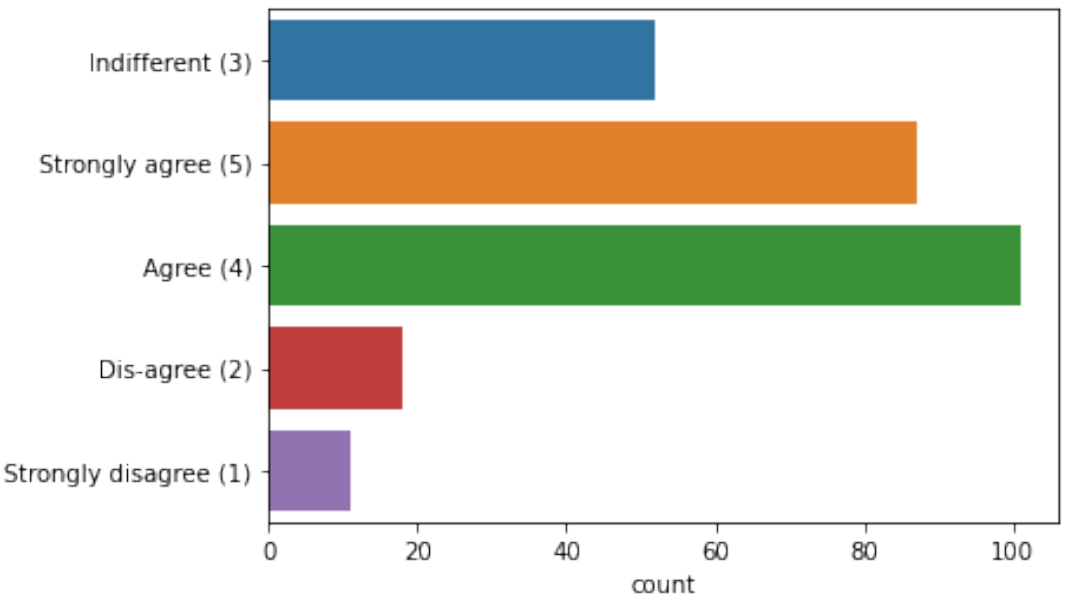
```
[269 rows x 17 columns]
```

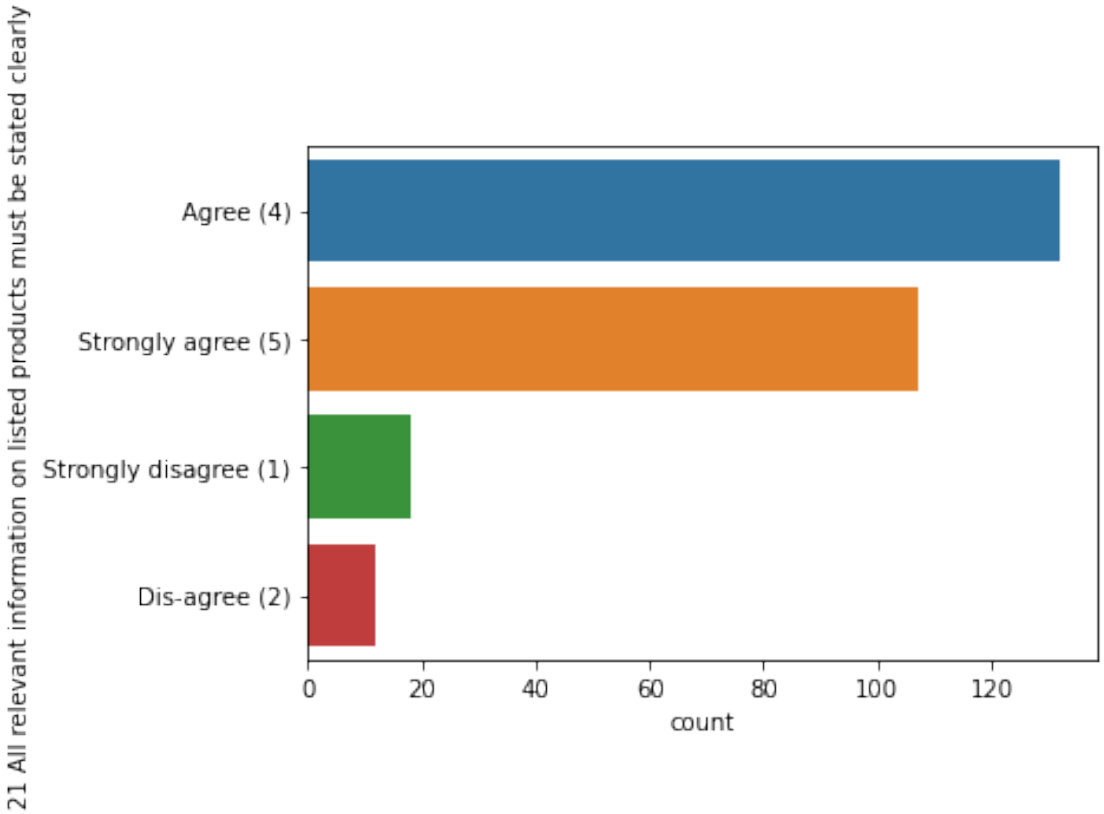
```
for i in uv:
    sns.countplot(y=uv[i])
    plt.show()
```

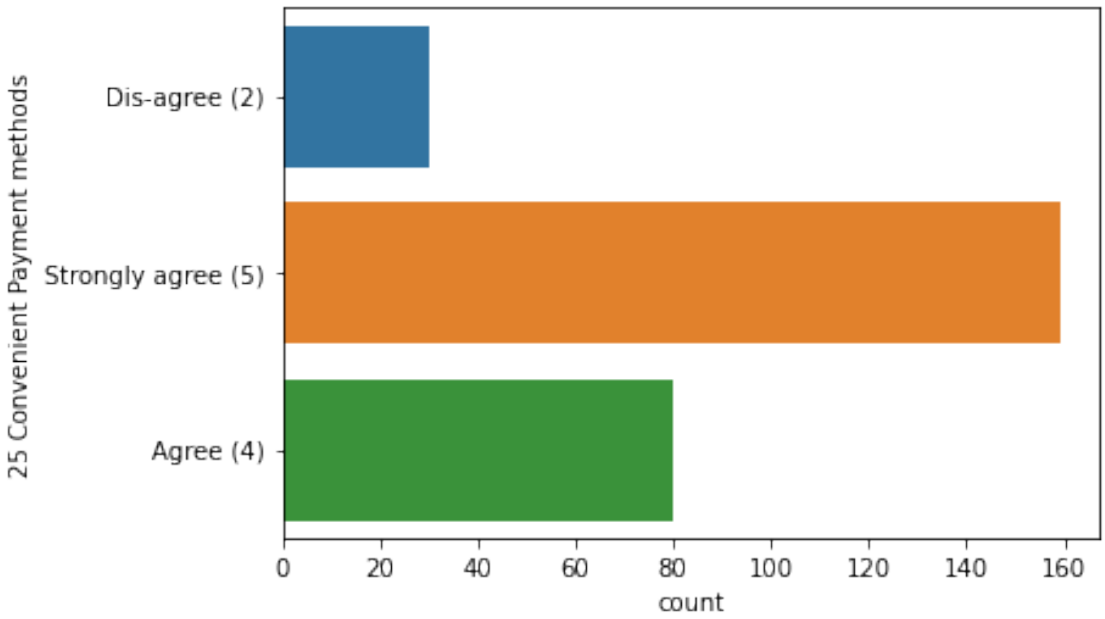


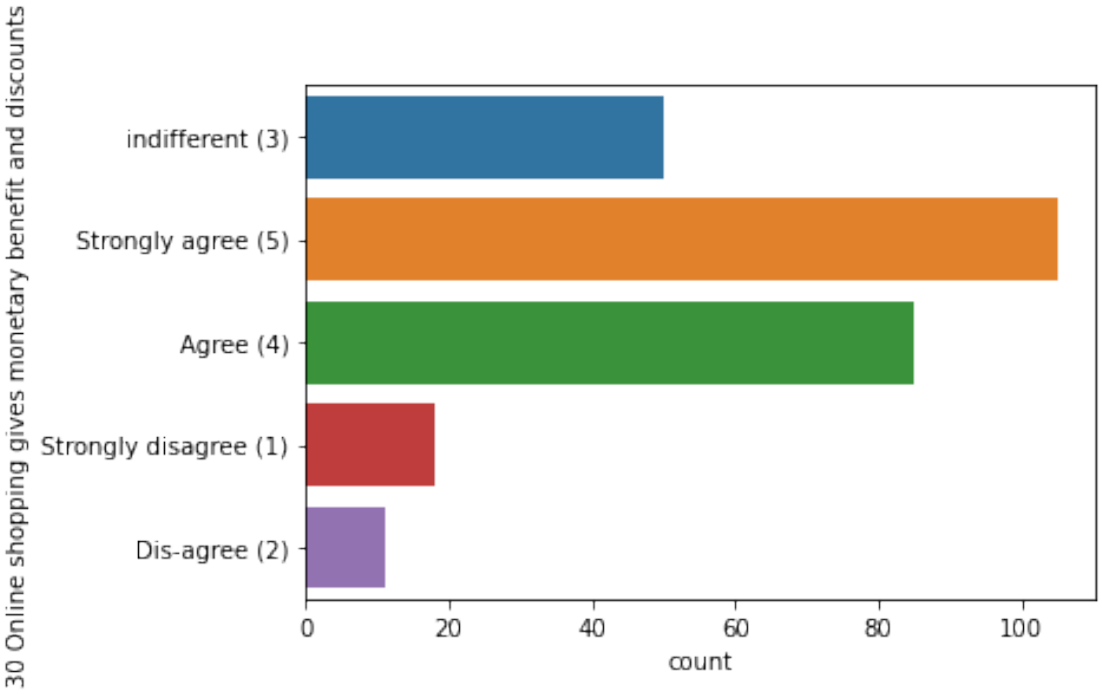
19 Information on similar product to the one highlighted is important for product comparison

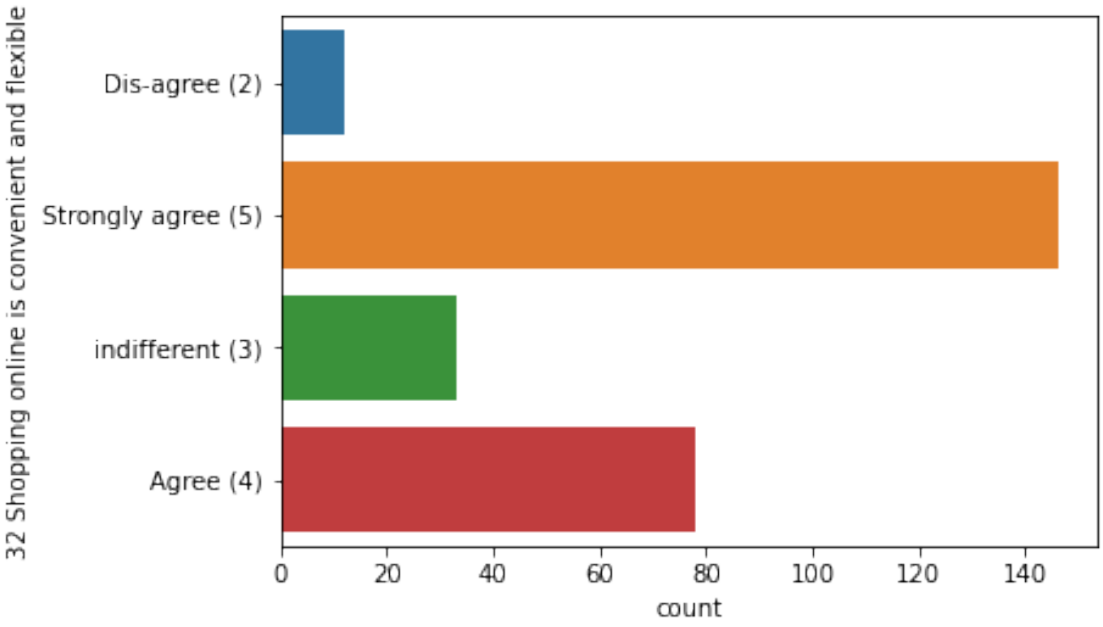
20 Complete information on listed seller and product being offered is important for purchase decision.

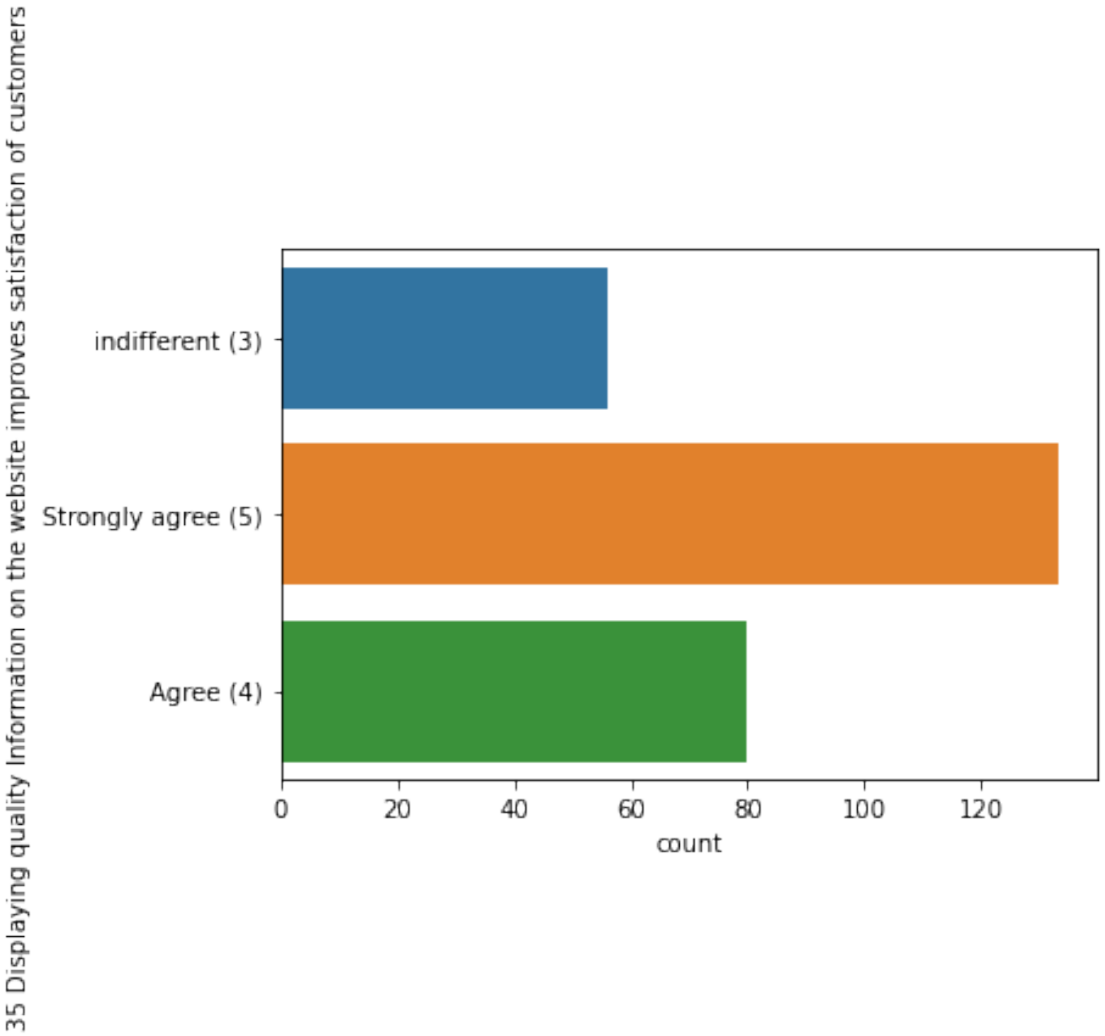


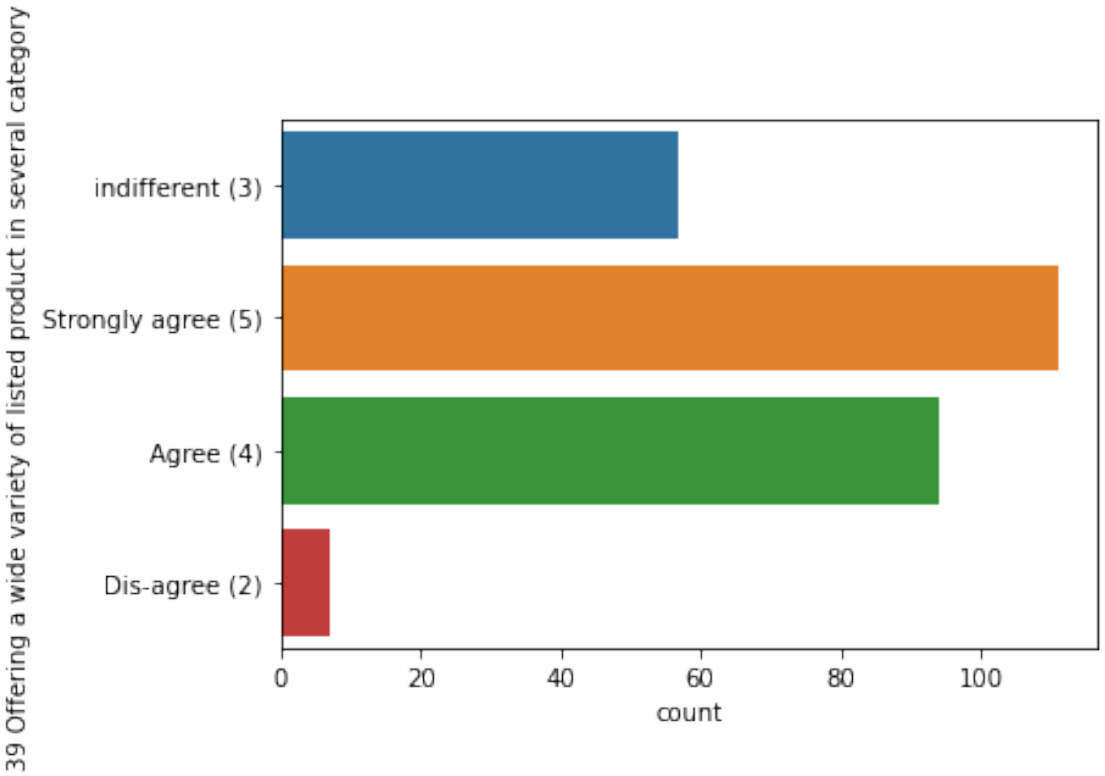

21 All relevant information on listed products must be stated clearly
Agree (4)
Strongly agree (5)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
120
count

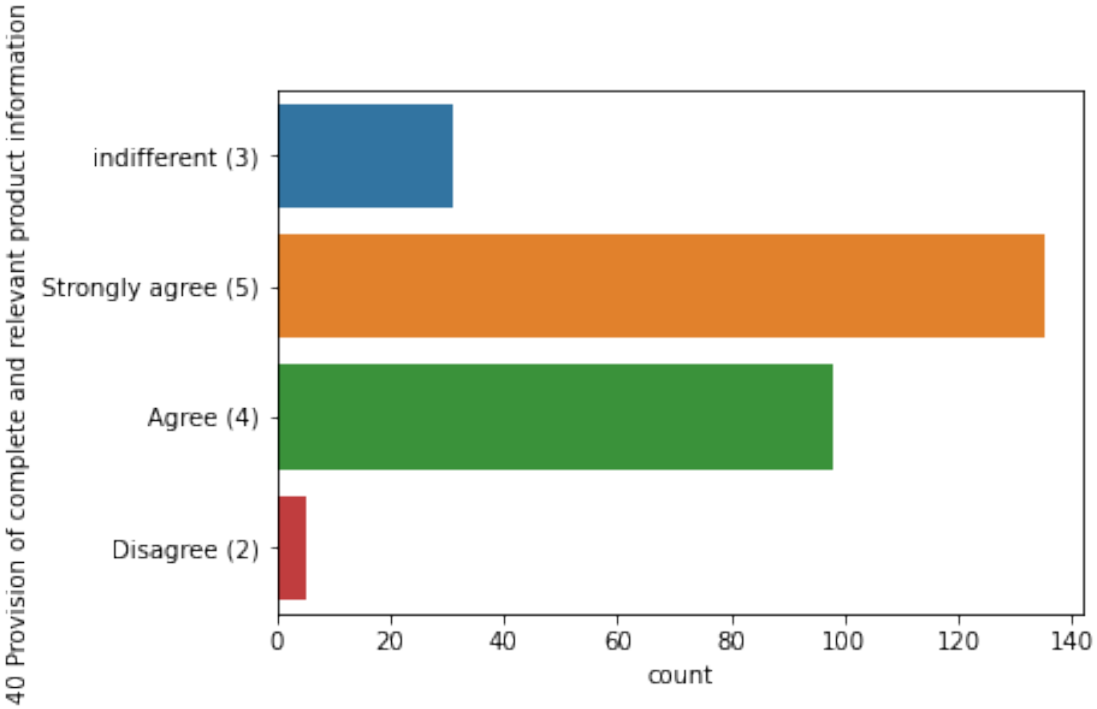

25 Convenient Payment methods
Dis-agree (2)
Strongly agree (5)
Agree (4)
0
20
40
60
80
100
120
140
160
count

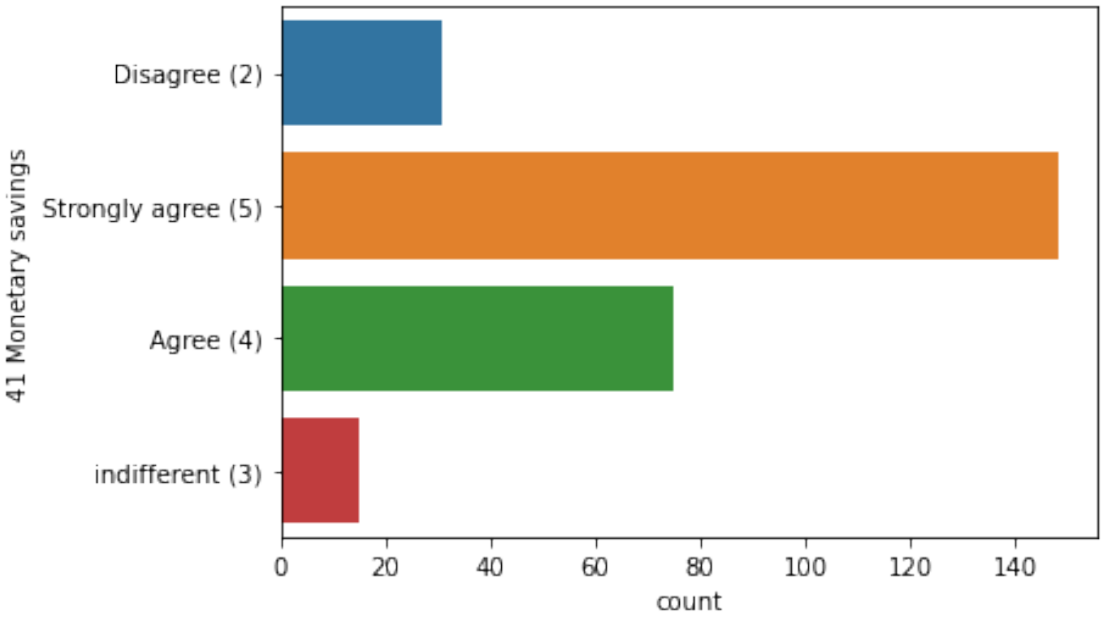

30 Online shopping gives monetary benefit and discounts
indifferent (3)
Strongly agree (5)
Agree (4)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
count

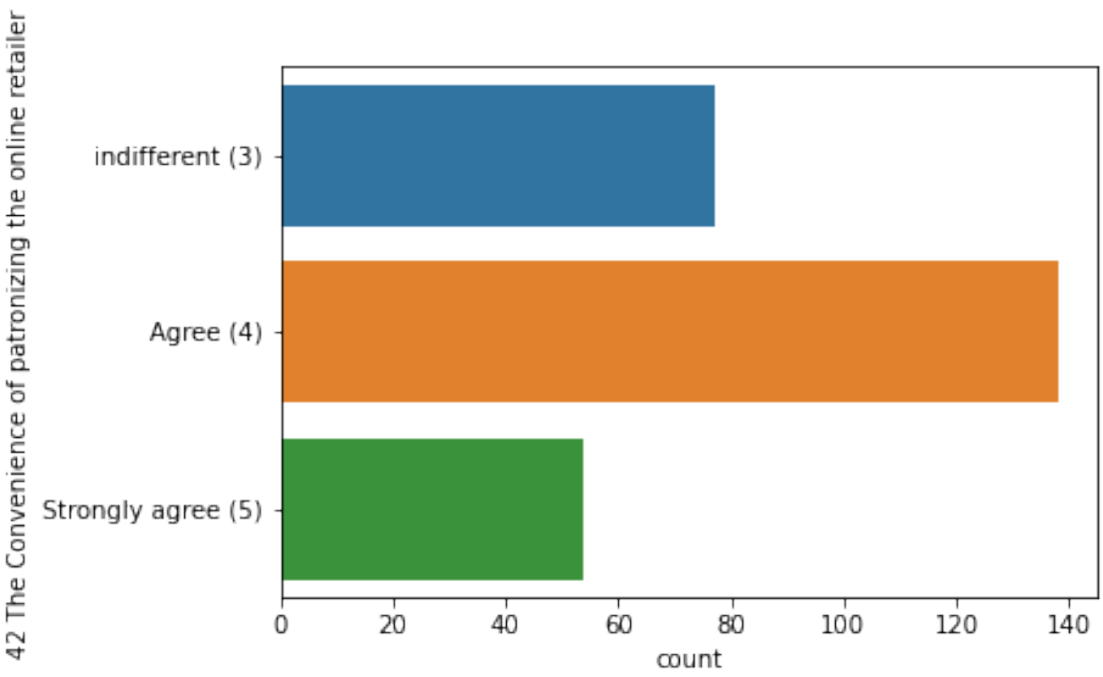

32 Shopping online is convenient and flexible
Dis-agree (2)
Strongly agree (5)
indifferent (3)
Agree (4)
0
20
40
60
80
100
120
140
count

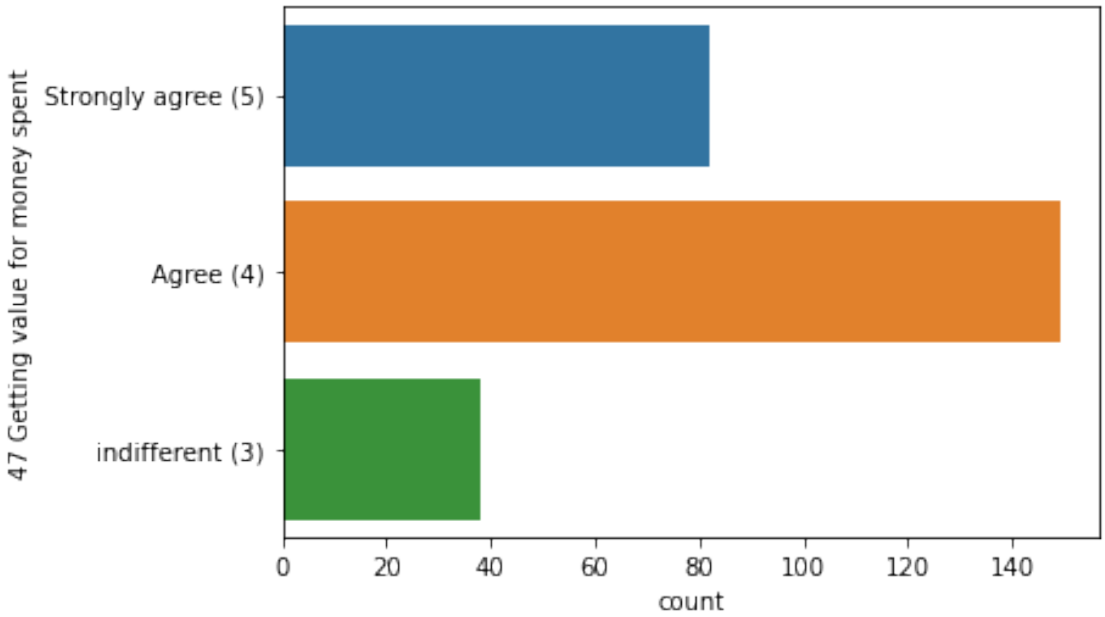

35 Displaying quality Information on the website improves satisfaction of customers
indifferent (3)
Strongly agree (5)
Agree (4)
0
20
40
60
80
100
120
count

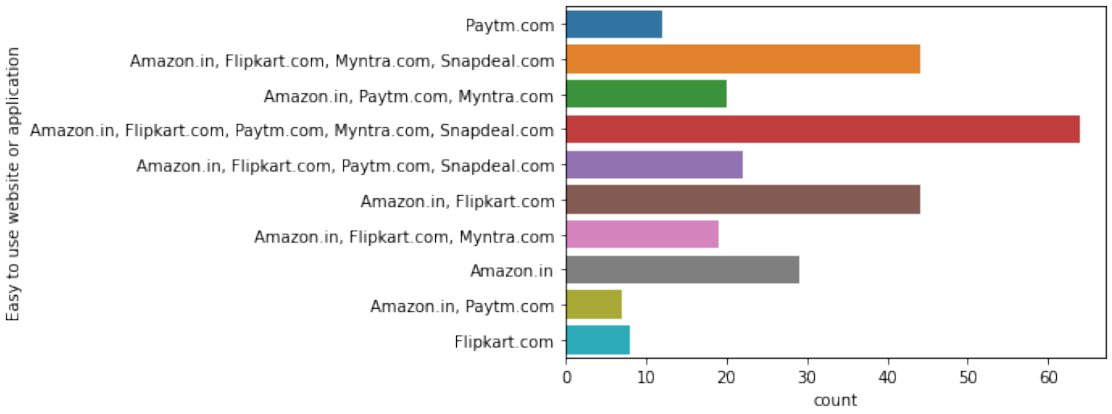

39 Offering a wide variety of listed product in several category
indifferent (3)
Strongly agree (5)
Agree (4)
Dis-agree (2)
0
20
40
60
80
100
count

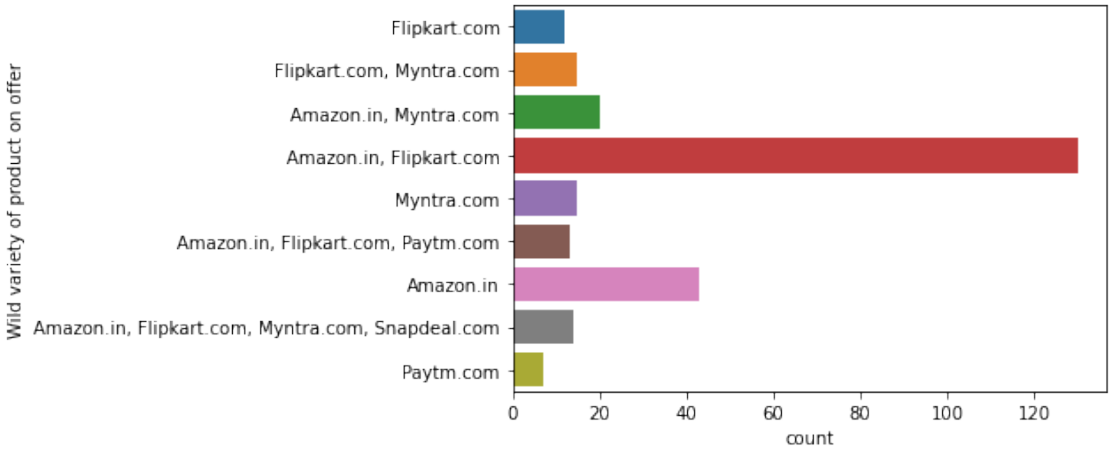

40 Provision of complete and relevant product information
indifferent (3)
Strongly agree (5)
Agree (4)
Disagree (2)
0
20
40
60
80
100
120
140
count

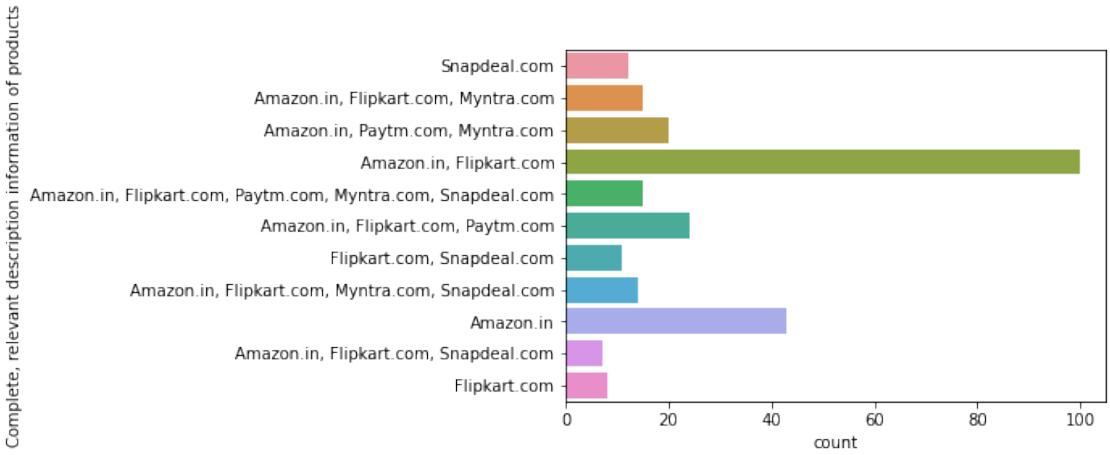

41 Monetary savings
Disagree (2)
Strongly agree (5)
Agree (4)
indifferent (3)
0
20
40
60
80
100
120
140
count

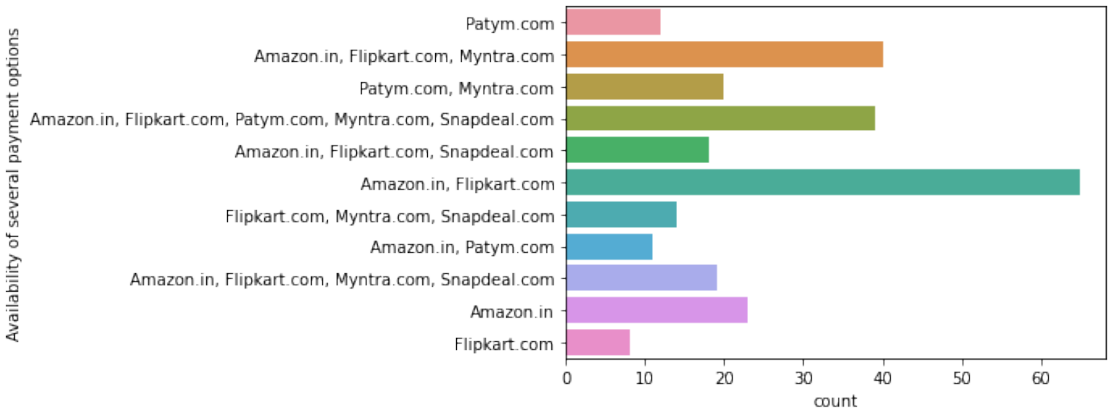

42 The Convenience of patronizing the online retailer
indifferent (3)
Agree (4)
Strongly agree (5)
0
20
40
60
80
100
120
140
count


47 Getting value for money spent
Strongly agree (5)
Agree (4)
indifferent (3)
0
20
40
60
80
100
120
140
count


Easy to use website or application
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
0
10
20
30
40
50
60
count


Wild variety of product on offer
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
0
20
40
60
80
100
120
count






```
#Analysisng utilitarian value
#amazon,flipkart,paytm,myntra,snapdeal are easy to use in website and
application
#amazon and flipkart have wild variety of product on offer,they also
have complete relevant description information of products.They have
availability of several payment options
```

```
for i in uv:
    print(uv[i].value_counts())
```

```
Strongly agree (5)       164
Agree (4)                 80
Strongly disagree (1)     18
Indifferent (3)            7
Name: 18 The content on the website must be easy to read and
understand, dtype: int64
Strongly agree (5)    116
Agree (4)              92
Indifferent (3)        43
Dis-agree (2)          18
Name: 19 Information on similar product to the one highlighted  is
important for product comparison, dtype: int64
Agree (4)                101
```

```
Strongly agree (5)        87
Indifferent (3)           52
Dis-agree (2)             18
Strongly disagree (1)     11
Name: 20 Complete information on listed seller and product being
offered is important for purchase decision., dtype: int64
Agree (4)                132
Strongly agree (5)       107
Strongly disagree (1)     18
Dis-agree (2)             12
Name: 21 All relevant information on listed products must be stated
clearly, dtype: int64
Strongly agree (5)    159
Agree (4)              80
Dis-agree (2)          30
Name: 25 Convenient Payment methods, dtype: int64
Strongly agree (5)       105
Agree (4)                 85
indifferent (3)           50
Strongly disagree (1)     18
Dis-agree (2)             11
Name: 30 Online shopping gives monetary benefit and discounts, dtype:
int64
Strongly agree (5)    146
Agree (4)              78
indifferent (3)        33
Dis-agree (2)          12
Name: 32 Shopping online is convenient and flexible, dtype: int64
Strongly agree (5)    133
Agree (4)              80
indifferent (3)        56
Name: 35 Displaying quality Information on the website improves
satisfaction of customers, dtype: int64
Strongly agree (5)    111
Agree (4)              94
indifferent (3)        57
Dis-agree (2)           7
Name: 39 Offering a wide variety of listed product in several
category, dtype: int64
Strongly agree (5)    135
Agree (4)              98
indifferent (3)        31
Disagree (2)            5
Name: 40 Provision of complete and relevant product information,
dtype: int64
Strongly agree (5)    148
Agree (4)              75
Disagree (2)           31
indifferent (3)        15
Name: 41 Monetary savings, dtype: int64
```

```
Agree (4)             138
indifferent (3)        77
Strongly agree (5)     54
Name: 42 The Convenience of patronizing the online retailer, dtype:
int64
Agree (4)             149
Strongly agree (5)     82
indifferent (3)        38
Name: 47 Getting value for money spent, dtype: int64
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com    64
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com               44
Amazon.in, Flipkart.com                                         44
Amazon.in                                                       29
Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com                22
Amazon.in, Paytm.com, Myntra.com                                20
Amazon.in, Flipkart.com, Myntra.com                             19
Paytm.com                                                       12
Flipkart.com                                                     8
Amazon.in, Paytm.com                                             7
Name: Easy to use website or application, dtype: int64
Amazon.in, Flipkart.com                                 130
Amazon.in                                                43
Amazon.in, Myntra.com                                    20
Flipkart.com, Myntra.com                                 15
Myntra.com                                               15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com        14
Amazon.in, Flipkart.com, Paytm.com                       13
Flipkart.com                                             12
Paytm.com                                                 7
Name: Wild variety of product on offer, dtype: int64
Amazon.in, Flipkart.com                                         100
Amazon.in                                                        43
Amazon.in, Flipkart.com, Paytm.com                               24
Amazon.in, Paytm.com, Myntra.com                                 20
Amazon.in, Flipkart.com, Myntra.com                              15
Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com     15
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com                14
Snapdeal.com                                                     12
Flipkart.com, Snapdeal.com                                       11
Flipkart.com                                                      8
Amazon.in, Flipkart.com, Snapdeal.com                             7
Name: Complete, relevant description information of products, dtype:
int64
Amazon.in, Flipkart.com                                         65
Amazon.in, Flipkart.com, Myntra.com                             40
Amazon.in, Flipkart.com, Patym.com, Myntra.com, Snapdeal.com    39
Amazon.in                                                       23
Patym.com, Myntra.com                                           20
Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com               19
Amazon.in, Flipkart.com, Snapdeal.com                           18
```

```
Flipkart.com, Myntra.com, Snapdeal.com                          14
Patym.com                                                       12
Amazon.in, Patym.com                                            11
Flipkart.com                                                     8
Name: Availability of several payment options, dtype: int64
```

```
#hv is hedonic value
```

```
hv=df[['45 You feel gratification shopping on your favorite e-
tailer','46 Shopping on the website helps you fulfill certain
roles','30 Online shopping gives monetary benefit and discounts','39
Offering a wide variety of listed product in several category','44
Shopping on your preferred e-tailer enhances your social status','43
Shopping on the website gives you the sense of adventure','Which of
the Indian online retailer would you recommend to a friend?']]
```

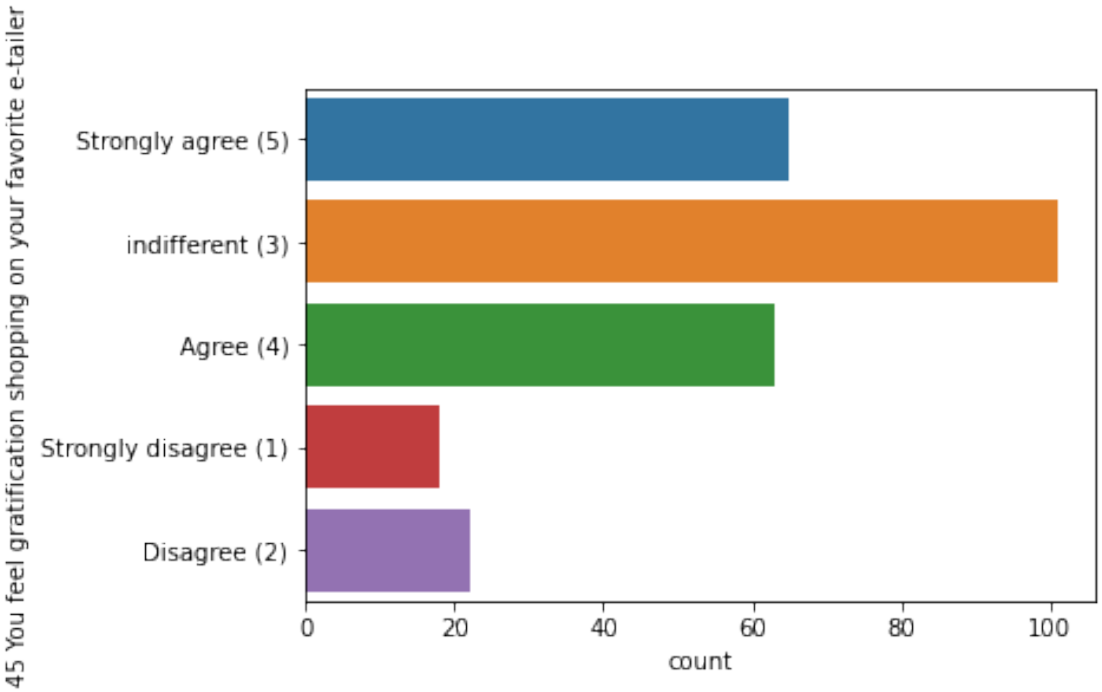
```
hv
```

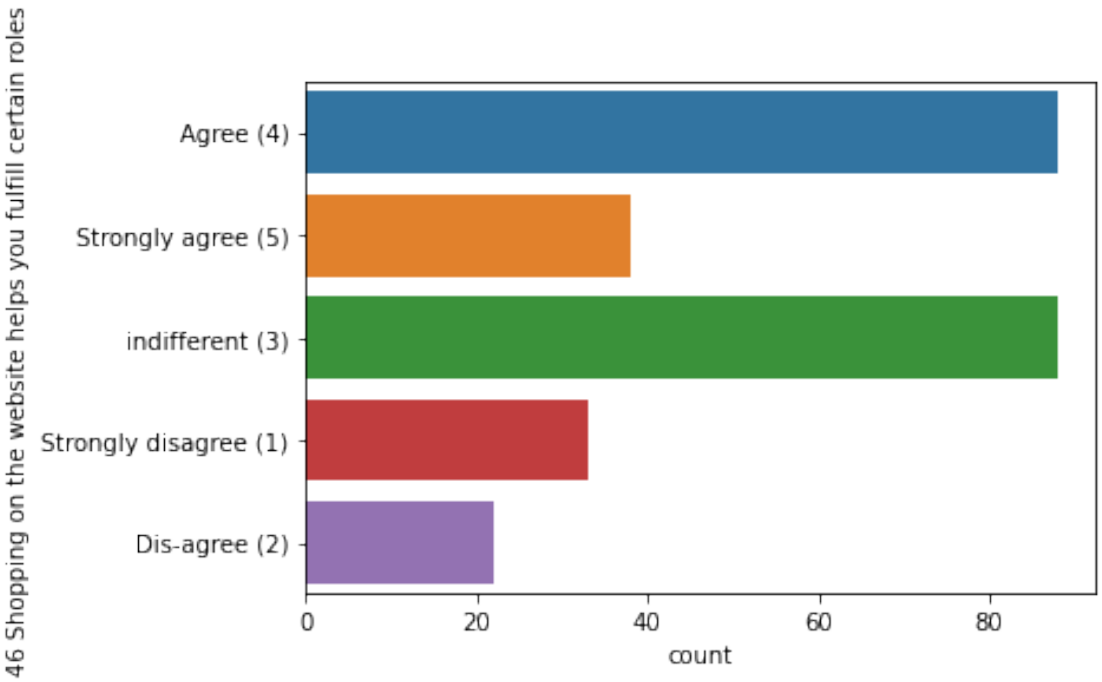
```
    45 You feel gratification shopping on your favorite e-tailer  \
0                                    Strongly agree (5)
1                                    Strongly agree (5)
2                                       indifferent (3)
3                                             Agree (4)
4                                    Strongly agree (5)
..                                                  ...
264                                     indifferent (3)
265                                  Strongly agree (5)
266                                           Agree (4)
267                                     indifferent (3)
268                                  Strongly agree (5)

    46 Shopping on the website helps you fulfill certain roles  \
0                                             Agree (4)
1                                    Strongly agree (5)
2                                       indifferent (3)
3                                       indifferent (3)
4                                 Strongly disagree (1)
..                                                  ...
264                                           Agree (4)
265                                  Strongly agree (5)
266                                           Agree (4)
267                                           Agree (4)
268                                  Strongly agree (5)

    30 Online shopping gives monetary benefit and discounts  \
0                                       indifferent (3)
1                                    Strongly agree (5)
2                                    Strongly agree (5)
3                                             Agree (4)
4                                    Strongly agree (5)
..                                                  ...
```

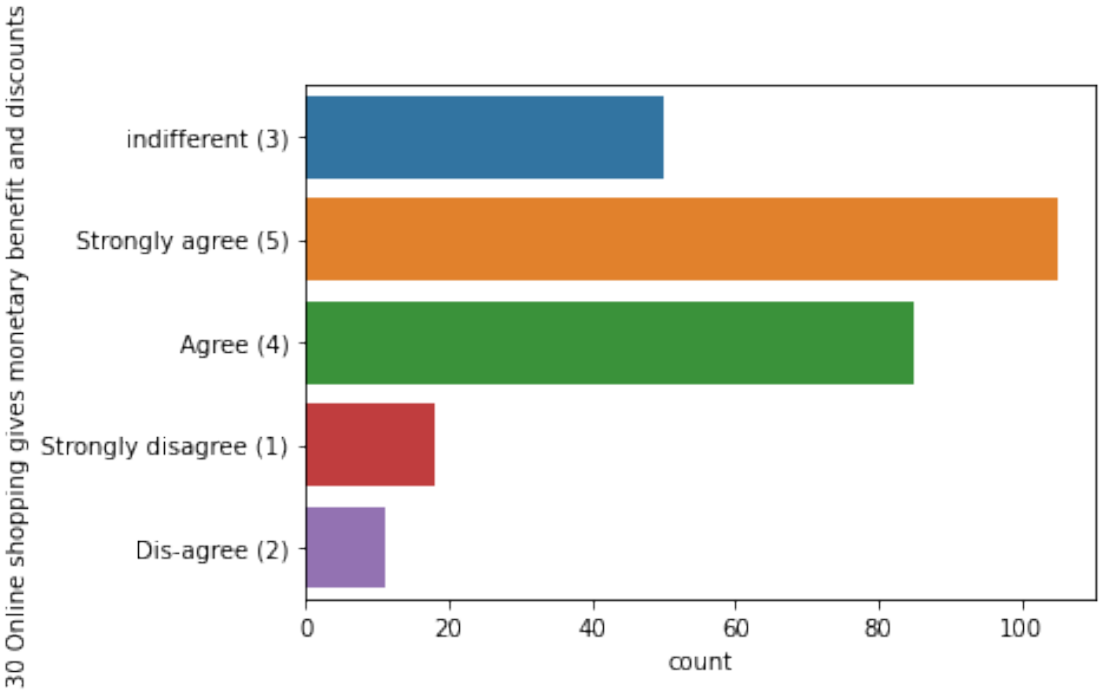
```
264                                    indifferent (3)
265                                 Strongly agree (5)
266                                          Agree (4)
267                                 Strongly agree (5)
268                                 Strongly agree (5)

    39 Offering a wide variety of listed product in several
category  \
0                                      indifferent (3)

1                                   Strongly agree (5)

2                                   Strongly agree (5)

3                                            Agree (4)

4                                            Agree (4)

..                                                 ...

264                                          Agree (4)

265                                 Strongly agree (5)

266                                    indifferent (3)

267                                 Strongly agree (5)

268                                 Strongly agree (5)


    44 Shopping on your preferred e-tailer enhances your social status
\
0                                            Agree (4)

1                                      indifferent (3)

2                                            Agree (4)

3                                   Strongly agree (5)

4                                Strongly disagree (1)

..                                                 ...

264                                          Agree (4)

265                                 Strongly agree (5)
```

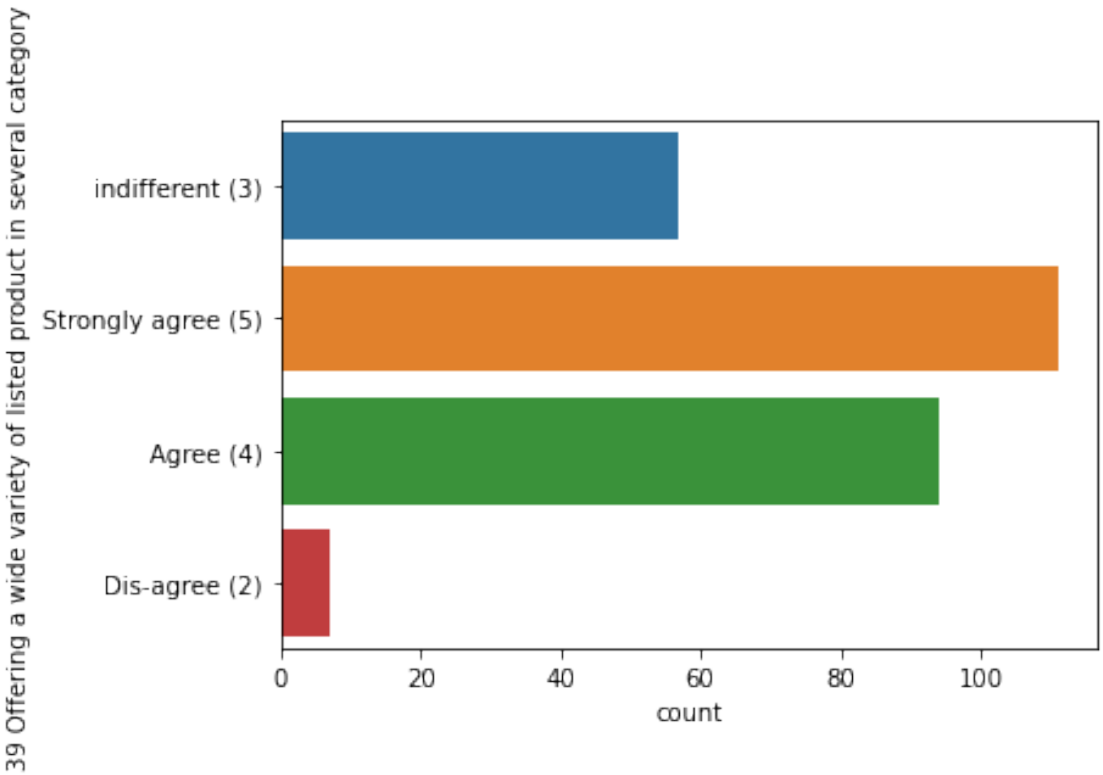
```
266                                    indifferent (3)

267                                    indifferent (3)

268                                 Strongly agree (5)


    43 Shopping on the website gives you the sense of adventure  \
0                                           Agree (4)
1                                      indifferent (3)
2                                           Agree (4)
3                                           Agree (4)
4                                      indifferent (3)
..                                                ...
264                                      Dis-agree (2)
265                                 Strongly agree (5)
266                                      Dis-agree (2)
267                                         Agree (4)
268                                 Strongly agree (5)

    Which of the Indian online retailer would you recommend to a
friend?
0                                         Flipkart.com

1                                 Amazon.in, Myntra.com

2                       Amazon.in, Paytm.com, Myntra.com

3                               Amazon.in, Flipkart.com

4                                 Amazon.in, Myntra.com

..                                                ...

264                                          Amazon.in

265                                       Flipkart.com

266                                          Amazon.in

267                                          Amazon.in

268                                          Amazon.in


[269 rows x 7 columns]
```

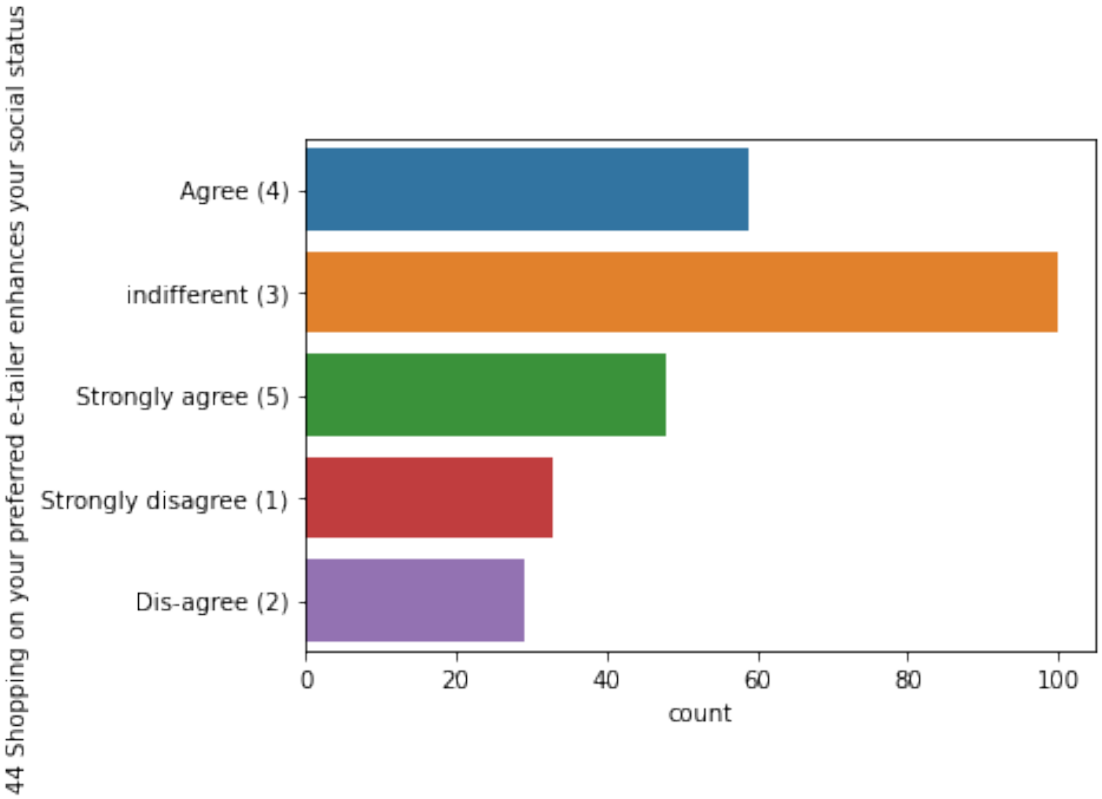
```
for i in hv:
    sns.countplot(y=hv[i])
    plt.show()
```

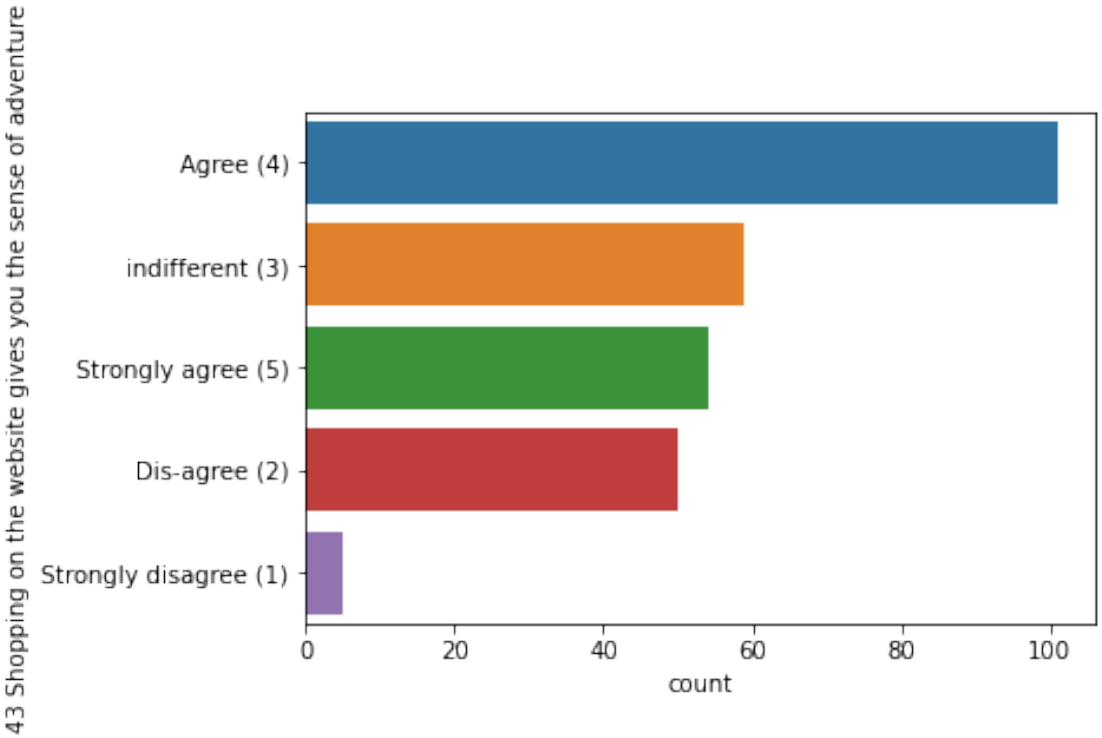


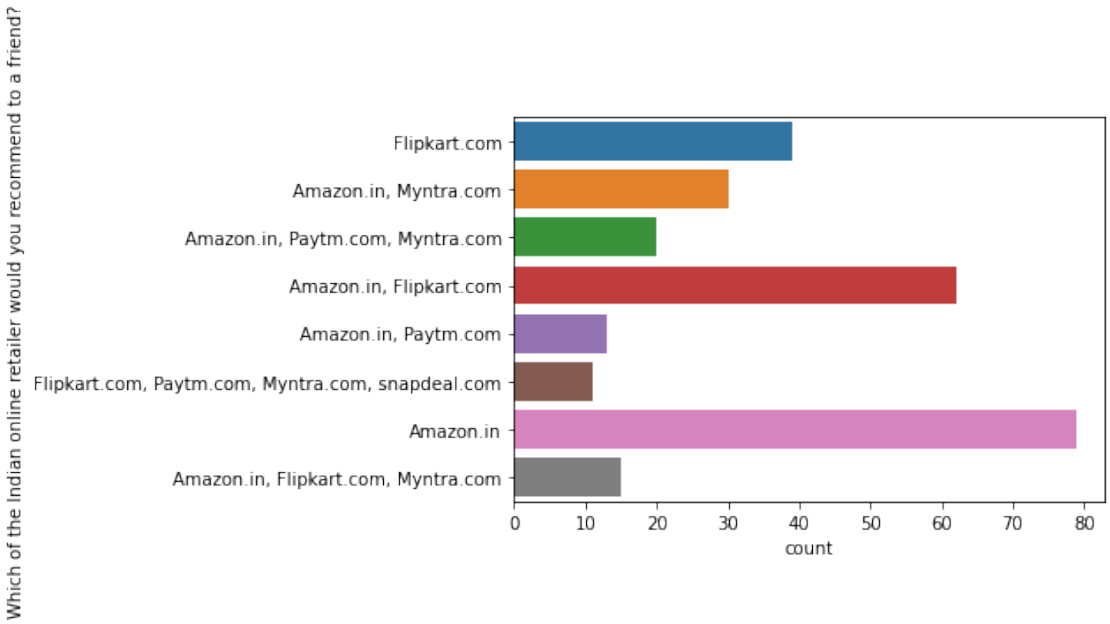



30 Online shopping gives monetary benefit and discounts
indifferent (3)
Strongly agree (5)
Agree (4)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
count


39 Offering a wide variety of listed product in several category
indifferent (3)
Strongly agree (5)
Agree (4)
Dis-agree (2)
0
20
40
60
80
100
count


44 Shopping on your preferred e-tailer enhances your social status
Agree (4)
indifferent (3)
Strongly agree (5)
Strongly disagree (1)
Dis-agree (2)
0
20
40
60
80
100
count


43 Shopping on the website gives you the sense of adventure
Agree (4)
indifferent (3)
Strongly agree (5)
Dis-agree (2)
Strongly disagree (1)
0
20
40
60
80
100
count




```
#Analysis of hedonic value
#Max customer has indifferent view on shopping on your preferrred e-tailer enhances your social status
#Max customer says that would recommend Amazon to their friend.
```

```
for i in hv:
    print(hv[i].value_counts())
```

```
indifferent (3)          101
Strongly agree (5)        65
Agree (4)                 63
Disagree (2)              22
Strongly disagree (1)     18
Name: 45 You feel gratification shopping on your favorite e-tailer, dtype: int64
Agree (4)                 88
indifferent (3)           88
Strongly agree (5)        38
Strongly disagree (1)     33
Dis-agree (2)             22
Name: 46 Shopping on the website helps you fulfill certain roles, dtype: int64
Strongly agree (5)       105
Agree (4)                 85
indifferent (3)           50
Strongly disagree (1)     18
Dis-agree (2)             11
Name: 30 Online shopping gives monetary benefit and discounts, dtype: int64
Strongly agree (5)    111
Agree (4)              94
```

```
indifferent (3)        57
Dis-agree (2)           7
Name: 39 Offering a wide variety of listed product in several
category, dtype: int64
indifferent (3)          100
Agree (4)                 59
Strongly agree (5)        48
Strongly disagree (1)     33
Dis-agree (2)             29
Name: 44 Shopping on your preferred e-tailer enhances your social
status, dtype: int64
Agree (4)                101
indifferent (3)           59
Strongly agree (5)        54
Dis-agree (2)             50
Strongly disagree (1)      5
Name: 43 Shopping on the website gives you the sense of adventure,
dtype: int64
Amazon.in                                              79
Amazon.in, Flipkart.com                                62
Flipkart.com                                           39
Amazon.in, Myntra.com                                  30
Amazon.in, Paytm.com, Myntra.com                       20
Amazon.in, Flipkart.com, Myntra.com                    15
Amazon.in, Paytm.com                                   13
Flipkart.com, Paytm.com, Myntra.com, snapdeal.com      11
Name: Which of the Indian online retailer would you recommend to a
friend?, dtype: int64
```