NAME: Dipesh Ramesh Limaje

INTERNSHIP BATCH : 33

SME : Mr. Shwetank Mishra

Report On Customer Retention

OBJECTIVES

1) To apply analytical skills and to give findings and conclusions in detail about data analysis.

2) To determine the services influencing customer retention.

3) To classify whether the customer is satisfied or unsatisfied based on values such as utilitarian value and hedonistic values.

VARIABLES

V1 = Gender

1 = Male   2 = Female

V2 = How old are you?

1 = Less than 20 year   2 = 21-30 year   3 = 31-40 year   4 = 41-50 year   5 = 51 year & above

V3 = Which city do you shop online from?

Bangalore   Bulandshahr Delhi Ghaziabad Greater-Noida Gurgaon Karnal Merrut Moradabad Noida Solan

V4 = Pin Code

V5 = Since How Long You are Shopping Online ?

1 = Less than 1 year   2 = 1-2 years   3 = 2-3 years   4 = 3-4 years   5 = Above 4 years

V6 = How many times you have made an online purchase in the past 1 year?

1 = Less than 10 times   2 = 11-20 times   3 = 21-30 times   4 = 31-40 times 5 = 41 times and above

V7 = How do you access the internet while shopping on-line?

2 = WIFI   3 = Mobile Internet   4 = Dial-UP

V8 = Which device do you use to access the online shopping?

1 = SmartPhones   2 = Laptop   3 = Desktop   4 = Tablet

V9 = What is the screen size of your mobile device?

1 = 4.7 inch   2 = 5 inch   3 = 5.5 inch   4 = others

V10 = What is the operating system (OS) of your device?

1 = Windows/Windows Mobile   2 = Android   3 = IOS/Mac

V11 = What browser do you run on your device to access the website?

1 = Google Chrome   2 = Safari   3 = Mozilla Firefox   4 = Opera

V12 = Which channel did you follow to arrive at your favorite online store for the first time?

1 = Content Marketing   2 = Display Adverts   3 = Search Engine

V13 = After first visit, how do you reach the online retail store?

1 = Search Engine   2 = Email   3 = Direct URL   4 = Via Application   5 = Social Media

V14 = How much time do you explore the e- retail store before making a purchase decision?

1 = Less than 1 min   2 = 1-5 min   3 = 6-10 min   4 = 11-15 min   5 = More than 15 min

V15 = What is your preferred payment Option?

1 = Credit / Debit cards   2 = Cash on Delivery (COD)   3 = E-Wallets (Paytm, Freecharge)

V16 = How frequently do you abandon (selecting an items and leaving without making payment) your shopping cart?

1 = Never   3 = Sometimes   4 = Frequently   5 = Very Frequently

V17 = Why did you abandon the "Bag", "Shopping Cart"?

1 = Change in price   2 = Better Alternative offer   3 = Lack of trust
4 = No preferred mode of payment   5 = Promo-code not applicable

V18 = The content on the website must be easy to read and understand?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V19 = Information on similar product to the one highlighted is important for product comparison?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V20 = Complete information on listed seller and product being offered is important for purchase decision.

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V21 = All relevant information on listed products must be stated clearly?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V22 = Ease of navigation in website?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V23 = Loading and processing speed?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V24 = User friendly Interface of the website?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V25 = Convenient Payment methods?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V26 = Trust that the online retail store will fulfill its part of the transaction at the stipulated time?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V27 = Empathy (readiness to assist with queries) towards the customers?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V28 = Being able to guarantee the privacy of the customer?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V29 = Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V30 = Online shopping gives monetary benefit and discounts?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V31 = Enjoyment is derived from shopping online?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V32 = Shopping online is convenient and flexible?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V33 = Return and replacement policy of the e-tailer is important for purchase decision?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V34 = Gaining access to loyalty programs is a benefit of shopping online?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V35 = Displaying quality Information on the website improves satisfaction of customers?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V36 = User derive satisfaction while shopping on a good quality website or application?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V37 = Net Benefit derived from shopping online can lead to users satisfaction?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V38 = User satisfaction cannot exist without trust?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V39 = Offering a wide variety of listed product in several category?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V40 = Provision of complete and relevant product information?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V41 = Monetary savings?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V42 = The Convenience of patronizing the online retailer?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V43 = Shopping on the website gives you the sense of adventure?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V44 = Shopping on your preferred e-tailer enhances your social status?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V45 = You feel gratification shopping on your favorite e-tailer?

1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V46 = Shopping on the website helps you fulfill certain roles?
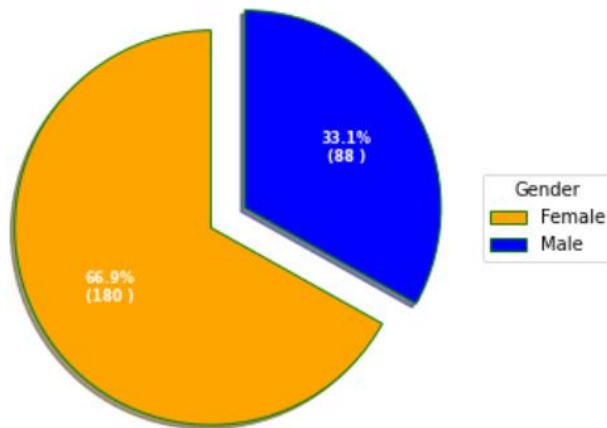
1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

V47 = Getting value for money spent?

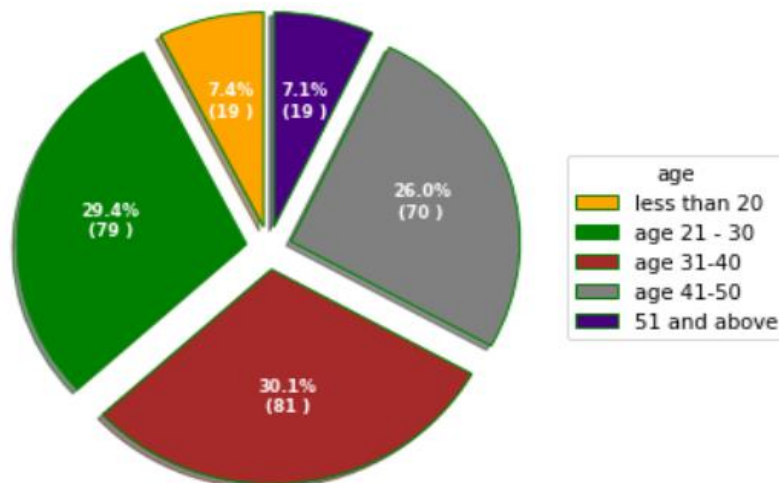1 = Strongly Disagree   2 = Disagree   3 = Indifferent   4 = Agree   5 = Strongly Agree

DEMOGRAPHIC INFORMATION

Gender pie chart

✓ The above pie chart shows that the data consist of 67% females and 33%, males

Pie chart for Age

✓ From the above pie chart, we can say that 31% of people belong to the age group 31-40 followed by the age group 21-30 which is 29% followed by the age group 41-50 which 26% followed by Less than 20 & 51 and above which is 7% Each

Customers vs Cities
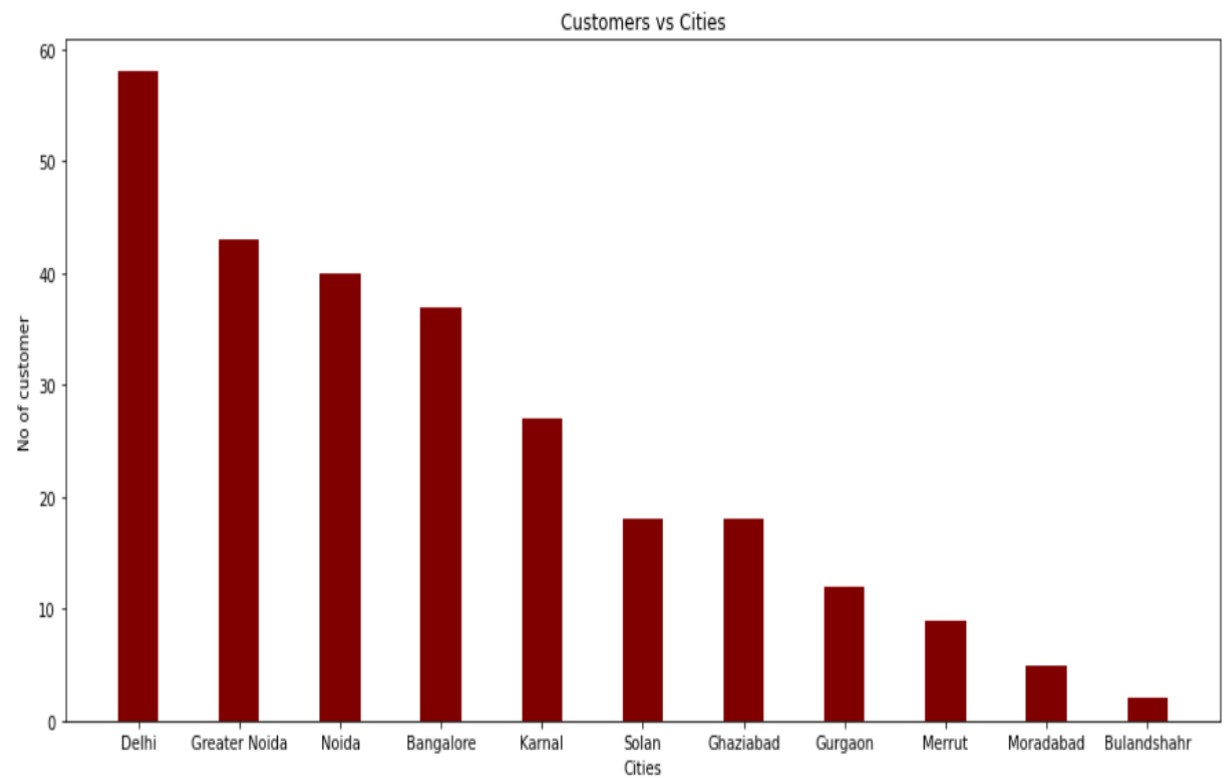
✓ Above bar chart shows that most of the customers belong to Delhi , Greater Noida , Noida and followed by other cities.

EDA STEPS

1) Check data shape(Num. of Rows, Num. of Columns)

(269, 71)
 So there are 269 Rows and 71 Columns.

2) Check each data type of columns and missing Values
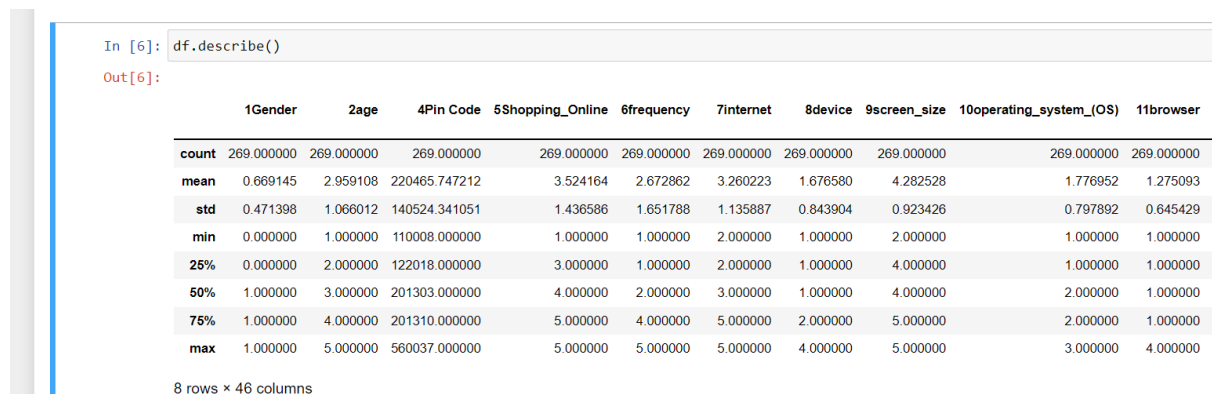
So from data.info, we get all the information related to data types, and after observing all data types they are all ok.

And after observing all values from columns there are no missing values.

3) Change the data types

After all observations, the data looks good we don't need to change any of the data types.

4) Summary Statistics

```
In [6]: df.describe()
Out[6]:
```

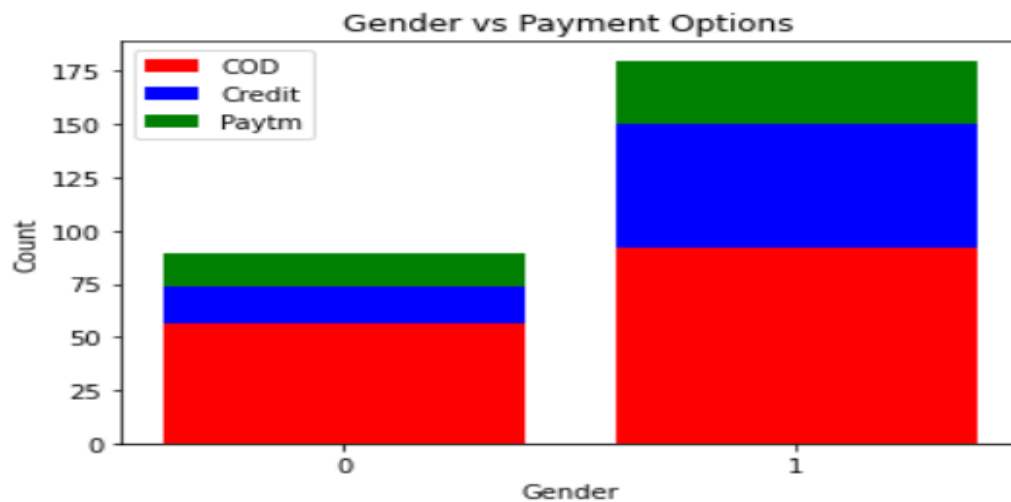|	1Gender	2age	4Pin Code	5Shopping_Online	6frequency	7internet	8device	9screen_size	10operating_system_(OS)	11browser
count	269.000000	269.000000	269.000000	269.000000	269.000000	269.000000	269.000000	269.000000	269.000000	269.000000
mean	0.669145	2.959108	220465.747212	3.524164	2.672862	3.260223	1.676580	4.282528	1.776952	1.275093
std	0.471398	1.066012	140524.341051	1.436586	1.651788	1.135887	0.843904	0.923426	0.797892	0.645429
min	0.000000	1.000000	110008.000000	1.000000	1.000000	2.000000	1.000000	2.000000	1.000000	1.000000
25%	0.000000	2.000000	122018.000000	3.000000	1.000000	2.000000	1.000000	4.000000	1.000000	1.000000
50%	1.000000	3.000000	201303.000000	4.000000	2.000000	3.000000	1.000000	4.000000	2.000000	1.000000
75%	1.000000	4.000000	201310.000000	5.000000	4.000000	5.000000	2.000000	5.000000	2.000000	1.000000
max	1.000000	5.000000	560037.000000	5.000000	5.000000	5.000000	4.000000	5.000000	3.000000	4.000000

8 rows × 46 columns

From this, we can see the data distribution that you have for each and determine whether there are outliers or not.

5) Check Duplicate values

Here we don't have any specific unique ID so here we can't remove the duplicate, and if try to remove it the data will become useless.
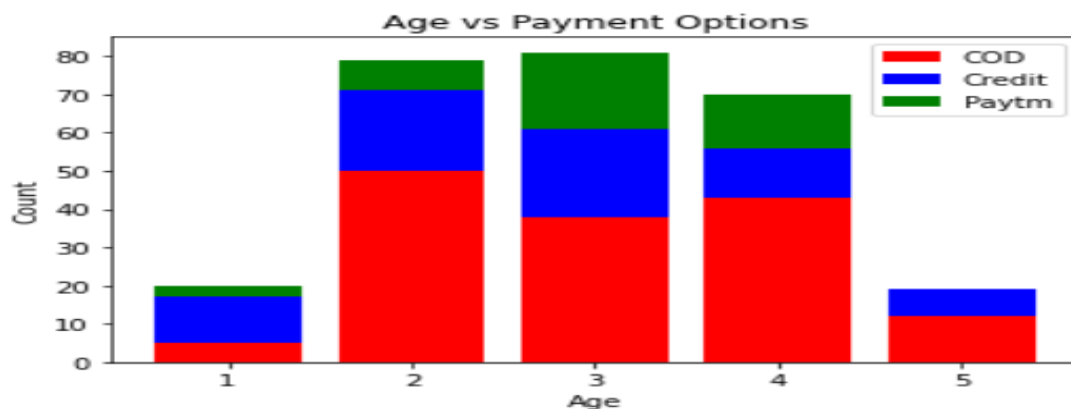
6) See the data distribution and data anomaly

Gender vs Payment Options

Gender VS Payment Option

* There are 180 no of the count of female in which 92 female preferred the payment option as COD and followed by Credit card

* There are 89 No of the count of males in which 56 males preferred payment option COD and followed by Credit card
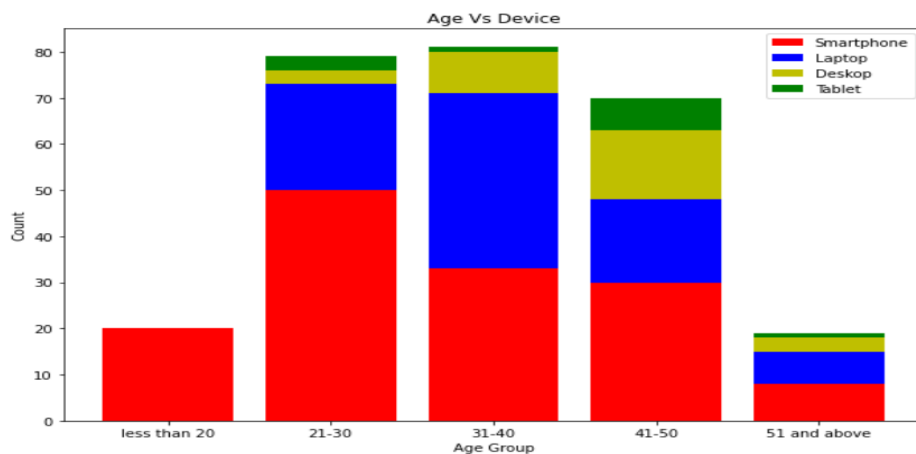

Age vs Payment Options

Age VS Payment Options

* In age group 1 there are 20 people whom they tend to pay money by credit card mostly followed by Paytm

* In the age group 2 there are 79 people in whom they tend to pay money by COD the most followed by credit card and least by Paytm.

* In the age group 3 there are 81 people in whom they tend to pay money by COD the most followed by credit card and least by Paytm.

* In the age group there are 19 people who tend to pay money by only COD and credit but most are of COD.
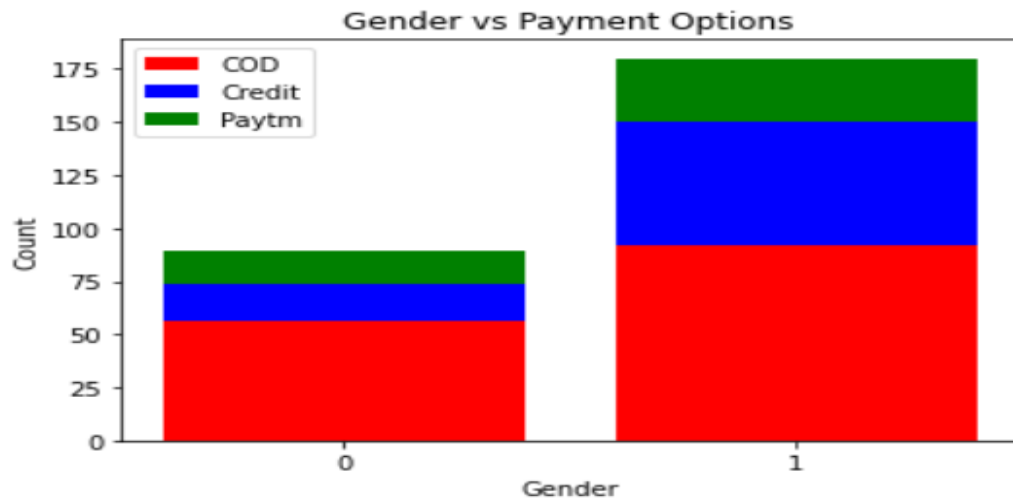
Age group VS Device

* from the above graph we observe that most of the people preferred smartphone

* then next most used device is a laptop
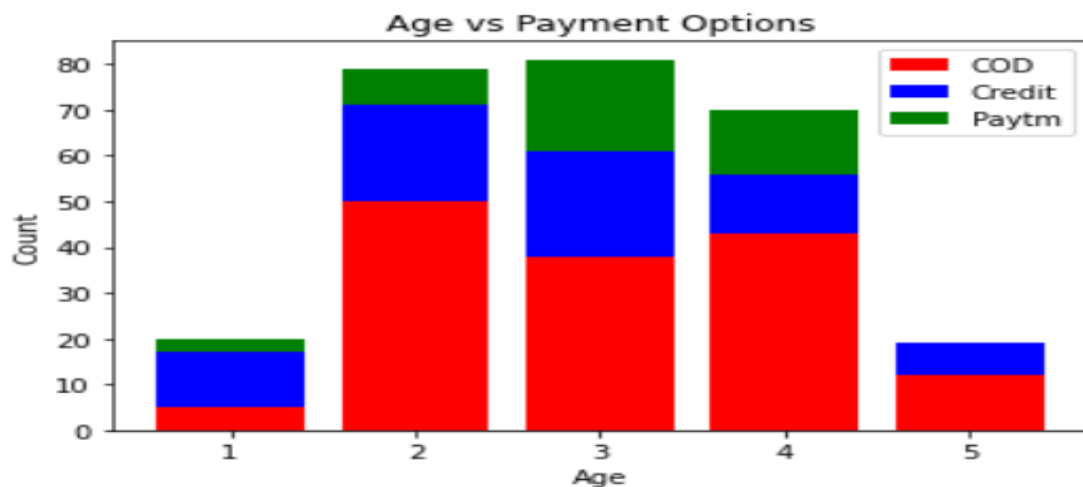
* the use of tablets is less in all group
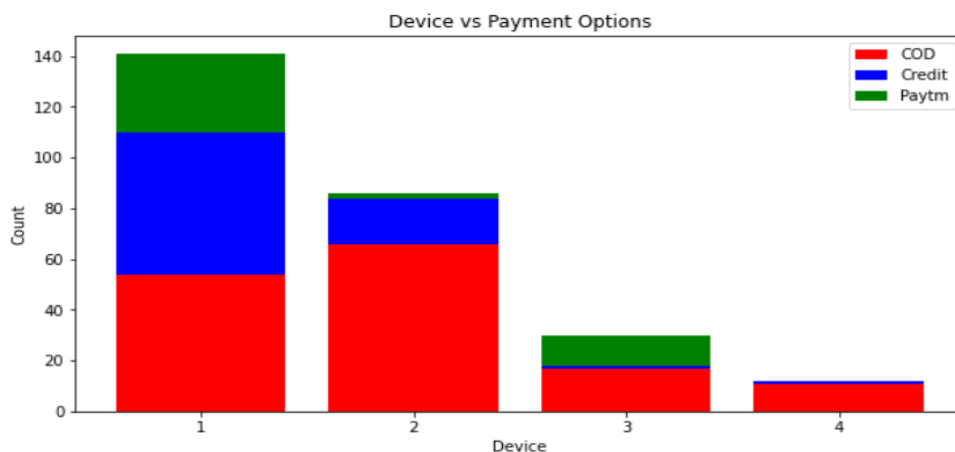
Device VS Payment Options

* So around 141 were using smartphones in which most people use the credit card option followed by COD and Paytm

* So around 86 were using laptops in which most people use COD as a payment option followed by Credit card

* So around 30 people use desktops in which COD was most followed by Paytm

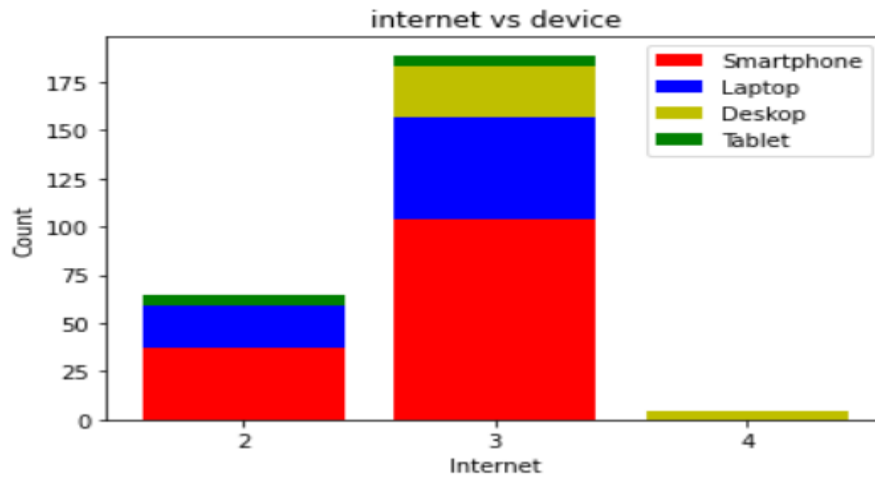* So around 12 people use the tablet in which the Paytm option is only COD and Credit

Gender VS Payment Option

* There are 180 no of the count of female in which 92 female preferred the payment option as COD and followed by Credit card

* There are 89 No of the count of males in which 56 males preferred payment option COD and followed by Credit card

Age VS Payment Options

* In age group 1 there are 20 people whom they tend to pay money by credit card mostly followed by Paytm

* In the age group 2 there are 79 people in whom they tend to pay money by COD the most followed by credit card and least by Paytm.

* In the age group 3 there are 81 people in whom they tend to pay money by COD the most followed by credit card and least by Paytm.

* In the age group there are 19 people who tend to pay money by only COD and credit but most are of COD.

Internet VS Device

* From the graph, we observe the use of Wi-Fi is moderate in that mostly used is by smartphones followed by laptops, and least by tablets, in this no use of the desktop.

* From the graph, we observe the use of mobile internet is high in that mostly used by smartphones followed by laptops, followed by desktops, and least by tablets.

* From the graph, we observe the use of Dial-up internet is very low in that it is only used by tablets.
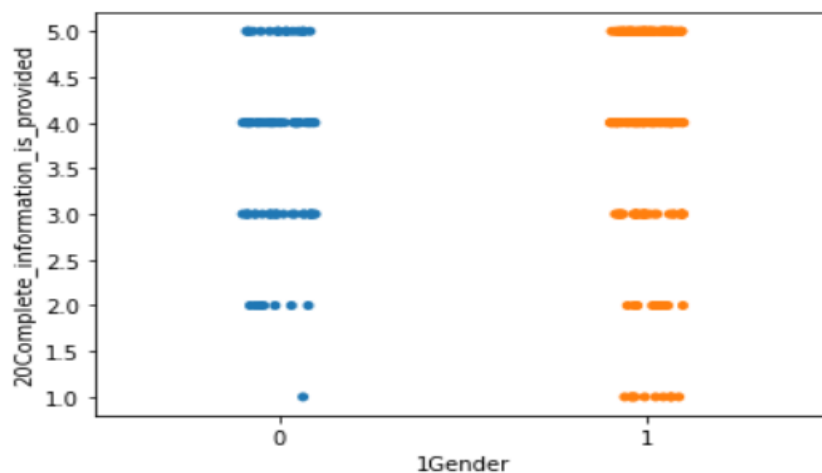

Gender VS Complete information on listed seller and product being offered is important for purchase decision.

From the graph, we observe that the female review (Complete information on the listed seller and the product being offered is important for the purchase decision.) is mixed, but the male has a review that is mostly agreed.
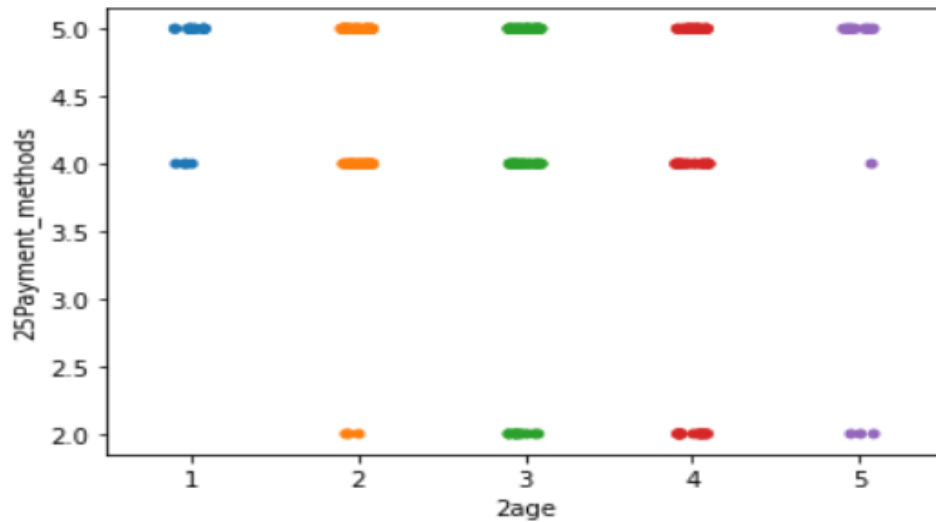
Age VS Convenient Payment methods

People of all age groups, they find the payment method convenient but only age group 3&4 has mixed reviews.
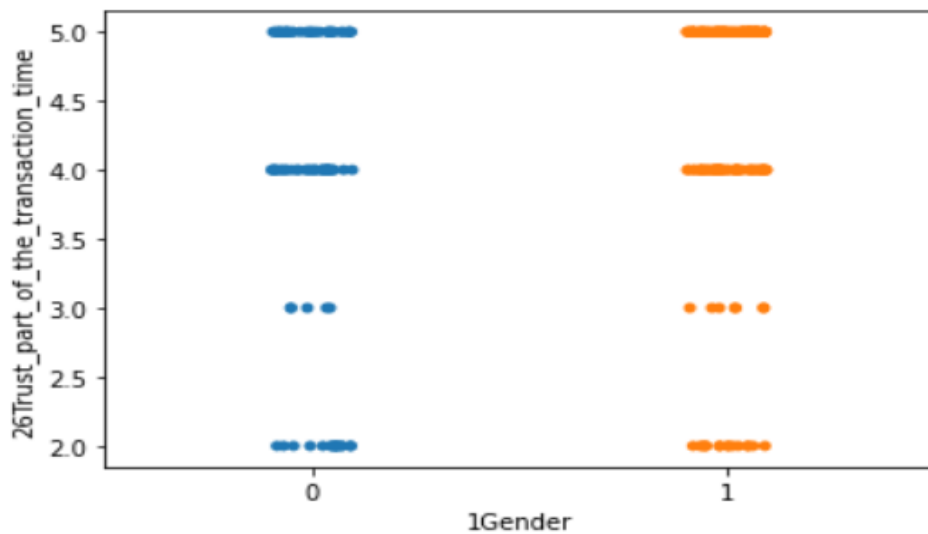

Gender VS Trust that the online retail store will fulfill its part of the transaction at the stipulated time

All people both have mixed reviews but most of the part tend that they rust that the online retail store will fulfill its part of the transaction at the stipulated time.
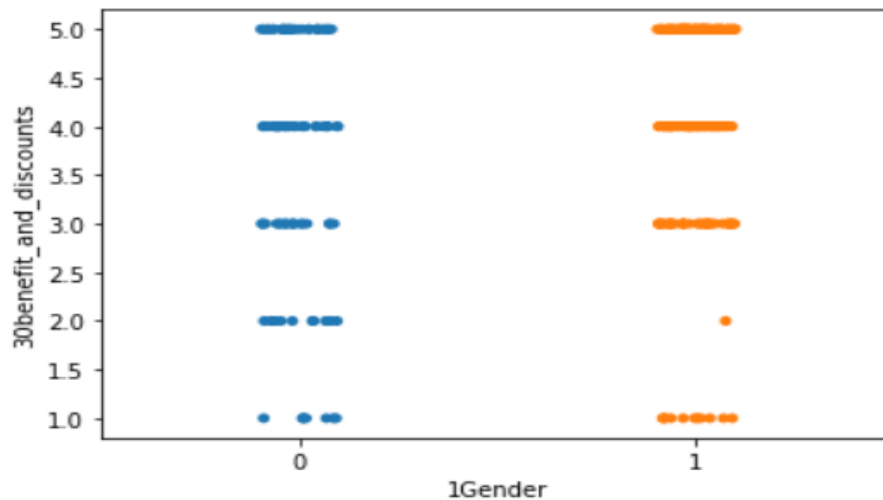
Gender VS Online shopping gives monetary benefit and discounts

From the graph, we observe that almost all the females say that they agree that Online shopping gives monetary benefits and discounts but for males, we have mixed reviews.
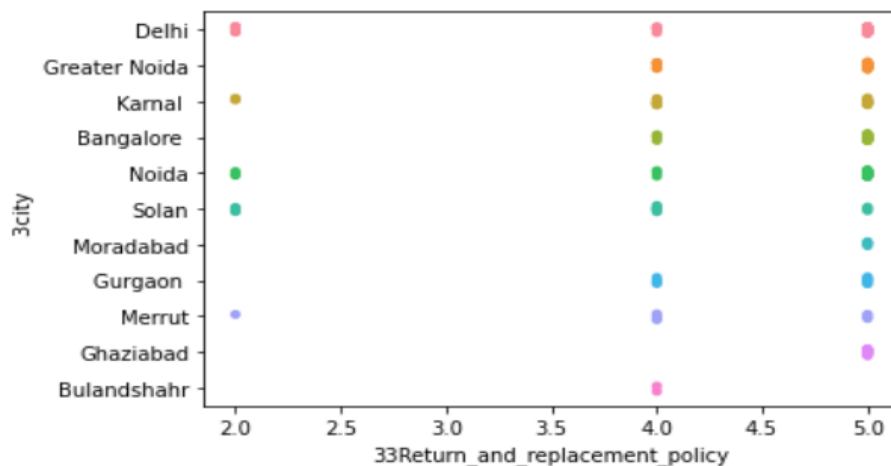

Return and replacement policy of the e-tailer is important for purchase decision VS City

From the graph, we observe all the cities offers Return and the replacement policy of the e-tailer is important for a purchase decision.
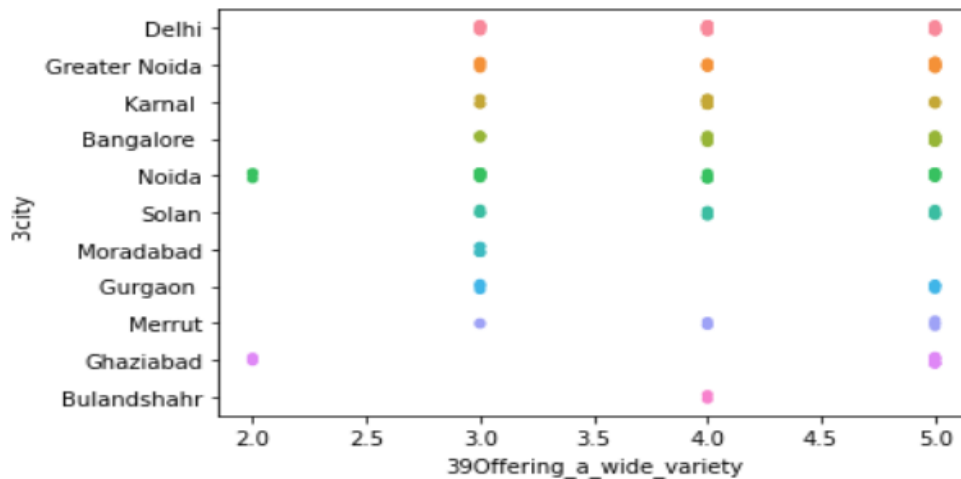
**Offering a wide variety of listed product in several category VS City**

From the graph, we observe it is positive feedback that they offer a wide variety of listed products in several categories for both males and females.
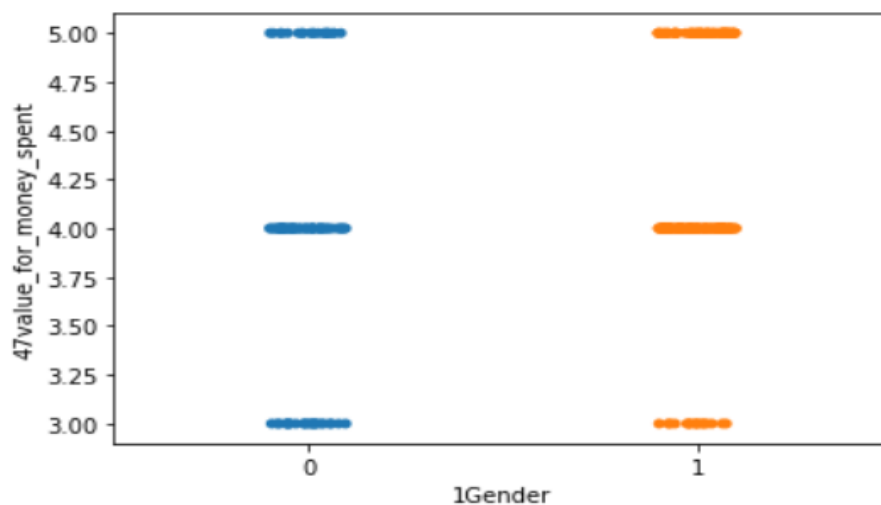

Gender VS Getting value for money spent

From the graph, we observe that only males agree with Getting value for money spent, but females strongly agree on a value for their products.
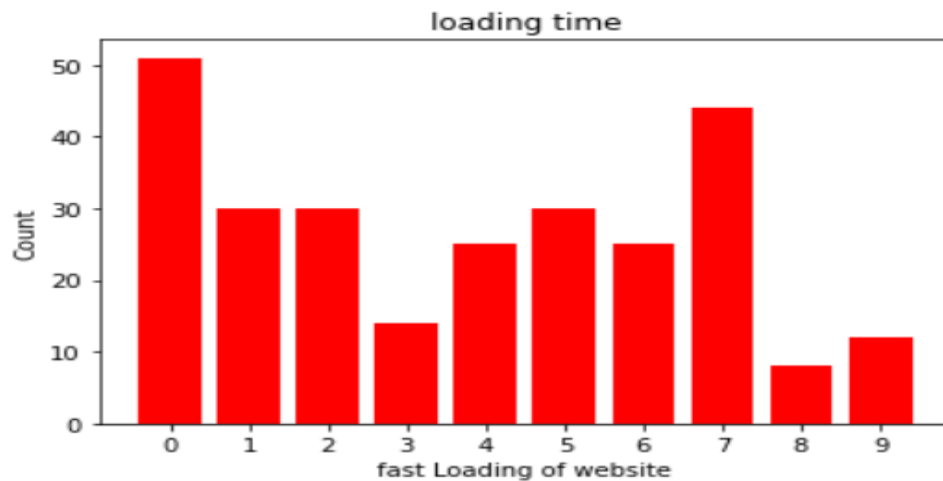
loading time

Web page loading time VS Gender

* From the graph, we observe the most used site are 0,7 due to their fast loading.

* From the graph, we observe that the moderate use of the site is 1,2,4,5,6 due to their load time.

* From the graph, we observe that the least use of the site is 3,9,8 due to their load slow loading time of the site.

Website VS Delivery Time
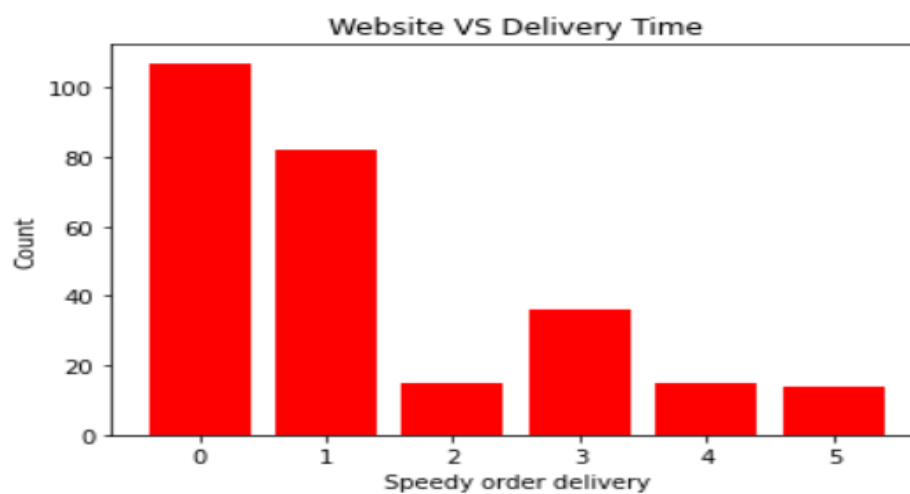
Speed delivery from site VS Gender

* From the graph, we observe that sites 0,1 provide great delivery time or delivery time is less as compared to other sites.

* From the graph, we observe that site 3 delivery time is moderate.

* From the graph, we observe that sites 2,4,5 their or delivery time is more as compared to other sites.

7) Check Value Counts For Specific Columns

✓ **Hedonistic Values**

    1 Gratification
    2 Role
    3 Best Deals
    4 social
    5 Adventure

1) Shopping on the website gives you a sense of adventure

```
4    101
3     59
5     54
2     50
1      5
```

From the value counts (Shopping on the website gives you a sense of adventure), 155 people agree that shopping on the website gives you a sense of advantage, we can retain them but there are 59 people also we whose say it is indifferent we cannot say anything about them but there are 55 people also who disagree we cant retained them.

2) Shopping on your preferred e-tailer enhances your social status

```
3    100
4     59
5     48
1     33
2     29
```

From the value counts (Shopping on your preferred e-tailer enhances your social status), 107 people agree that shopping on your preferred e-tailer enhances your social status we can retain them but there are 100 people also we whose say it is indifferent we cannot say anything about them but there are 62 people also who disagree we cant retained them.

3) You feel gratification shopping on your favorite e-tailer

```
3    101
5     65
4     63
2     22
1     18
```

From the value counts (You feel gratification shopping on your favorite e-tailer), 128 people agree for they feel gratification shopping on your favorite e-tailer, we can retain but there are 101 people also we whose say it is indifferent we cannot say anything about them but there are 40 people also who disagree we cant retained them.

4) Shopping on the website helps you fulfill certain roles

```
4    88
3    88
5    38
1    33
2    22
```

From the value counts for (Shopping on the website helps you fulfill certain roles), 126 people agree for shopping on the website helps you fulfill certain roles, we can retain them but there are 88 people also we whose say it is indifferent we cannot say anything about them, but there are 55 people also who disagree we cant retained them.

5) Getting value for money spent

```
4    149
5     82
3     38
```

From the value counts for (Getting value for money spent), 231 people strongly agree with shopping on the website Getting value for money spent, we can retain them but there are 38 people also we whose say it is indifferent we cannot say anything about them.

Where,
1 = Strongly Disagree
2 = Disagree
3 = Indifference
4 = Agree
5 = Strongly Agree

✓ **Utilitarian Value**

1 Products Offerings
2 Convenience
3 Product Information
4 Monetary Saving

1) Offering a wide variety of listed product in several category

```
5     111
4      94
3      57
2       7
```

From the value counts for (Offering a wide variety of listed products in several categories), 205 people strongly agree with Offering a wide variety of listed products in several categories, we can retain them but there are 57 people also who say it is indifferent we cannot say anything about them, but there are 7 people who disagree we cannot retain them.

2) Provision of complete and relevant product information

```
5     135
4      98
3      31
2       5
```

From the value counts for (Provision of complete and relevant product information), 233 people strongly agree with Provision of complete and relevant product information, we can retain them but there are 31 people also who say it is indifferent we cannot say anything about them, but there are 5 people who disagree we cannot retain them.

3) Monetary savings

```
5     148
4      75
2      31
3      15
```

From the value counts for (Monetary savings), 223 people strongly agree with Monetary savings, we can retain them but there are 15 people also who say it is indifferent we cannot say anything about them, but there are 31 people who disagree we cannot retain them.

4) The Convenience of patronizing the online retailer

```
4     138
3      77
5      54
```

From the value counts for (The Convenience of patronizing the online retailer), 192 people strongly agree with The Convenience of patronizing the online retailer, we can retain them but there are 77 people also who say it is indifferent we cannot say anything about them.

Where,
1 = Strongly Disagree
2 = Disagree
3 = Indifference
4 = Agree
5 = Strongly Agree

CONCLUSION

1] From the above analysis showcased using charts and value counts we can observe that based on the hedonistic and Utilitarian values most people are satisfied with the service provided by their respective service providers

2] In addition to this there are few people for whom the services do not matter as such and only a fewer customers which are not satisfied with their respective services.

3] So we can conclude that based on the factors analyzed in the above analysis customers are satisfied and can be retained.