FLIP ROBO

CUSTOMER RETENTION PROJECT

Submitted by:

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ACKNOWLEDGMENT

INTRODUCTION

- # Business Problem Framing

Customer retention is the collection of activities a business uses to increase the number of repeat customers and to increase the profitability of each existing customer.

Customer retention strategies enable you to both provide and extract more value from your existing customer base. You want to ensure the customers you worked so hard to acquire stay with you, have a great customer experience, and continue to get value from your products.

In short, acquisition creates a foundation of customers while your retention strategy is how you build customer relationships and maximize revenue for each one. But how much time and resources should you devote to your retention program.

- # Conceptual Background of the Domain Problem

A successful business strategy today is not only developing cost-effective and highly targeted ways to reach out the new customers, it is more about keeping the existing customers engaged in the company. It has been acknowledged that bringing in new customers is expensive . Investment in the acquisition of new customers is six times higher than investing in existing customers . Increased performance in customer retention practices, on the other hand, has been found to create five times more impact than a similar amount of discount or cost of the capital, leading into the more profitable customer relationship. The situation in the market has changed, and the competition has become tougher. Customers have the luxury to choose between many providers. The increasing number of actors in the market has caused a rise in the significance and relevance of customer retention and the planning of a customer retention process is essential in order to achieve the desired level of outcome which is determined in the modern management literature. Although, the development of the customer retention process still is a rather unknown concept due to the lack of research in this specific field. The limited research around the metrics and segments of the customer retention processes has turned out to be the root cause for the problematic implementation of customer retention on companies' business strategies.

Overall, customer retention has been recognized to be an effective way to lower the maintenance costs per se and yield economic benefits .Progress in retention activities enables the growth in revenue more cost-efficiently than in the acquisition of new customers .

- # Review of Literature

In today's challenging economy and competitive business world, retaining their customer base is critical to organization success. If the company doesn't give their customer some good reason to stay, organization's competitors will give the customer a reason to leave. Customer retention and customer satisfaction drive profits. It's far less expensive to cultivate organization existing customer base and sell more service to the customer than it to seek new, single-transaction customers. Most surveys across industries shows that keeping one existing customer is five to seven times more profitable than attracting one new customer. A customer-focused approach among its employees is still not present. In this era of intense competition .it is very important for any service company to understand that merely acquiring customer is not sufficient because there is a direct link between customer retention over time and profitability & growth. Customer retention to a great extent depends on service quality and customer satisfaction. Complaints are natural part of any service activity as mistakes are an unavoidable feature of all human endeavour and thus also of service recovery. Service recovery is the process of putting things right after something goes wrong in the service delivery. Customer retention is the maintenance of continuous trading relationships with customers over the long term. Customer retention is the mirror image of customer defection or chum.

Analytical Problem Framing

- ## Data Sources and their formats

  In this project we are given excel file containing dataset of customer retention.
  There are 71 columns by which we can analyze how an e-commerce sector can look after its customers to improve their service.

- ## Mathematical/ Analytical Modeling of the Problem

  First of all we will load necessary libraries and then will load our customer retention file

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

```python
df=pd.read_excel('Customer_Retention data.xlsx')
pd.set_option('display.max_columns',None)
pd.set_option('display.max_rows',None)
df.head(5)
```

	Gender of respondent	How old are you?	Which city do you shop online from?	What is the Pin Code of where you shop online from?	Since How Long You are Shopping Online ?	How many times you have made an online purchase in the past 1 year?	How do you access the internet while shopping on-line?	Which device do you use to access the online shopping?	What is the screen size of your mobile device?	What is the operating system (OS) of your device?	What browser do you run on your device to access the website?	Which channel did you follow to arrive at your favorite online store for the first time?	After first visit, how do you reach the online retail store?	How much time do you explore the e-retail store before making a purchase decision?
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Others	Window/windows Mobile	Google chrome	Search Engine	Search Engine	6-10 mins
1	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	Google chrome	Search Engine	Via application	more than 15 mins
2	Female	21-30 years	Greater Noida	201308	3-4 years	41 times and above	Mobile Internet	Smartphone	5.5 inches	Android	Google chrome	Search Engine	Via application	11-15 mins
3	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inches	IOS/Mac	Safari	Search Engine	Search Engine	6-10 mins

Now we will check the columns and shape of the dataset

```
df.columns
```

```
Index(['Gender of respondent', 'How old are you? ',
       'Which city do you shop online from?',
       'What is the Pin Code of where you shop online from?',
       'Since How Long You are Shopping Online ?',
       'How many times you have made an online purchase in the past 1 year?',
       'How do you access the internet while shopping on-line?',
       'Which device do you use to access the online shopping?',
       'What is the screen size of your mobile device?',
       'What is the operating system (OS) of your device?',
       'What browser do you run on your device to access the website?',
       'Which channel did you follow to arrive at your favorite online store for the first time?',
       'After first visit, how do you reach the online retail store?',
       'How much time do you explore the e- retail store before making a purchase decision?',
       'What is your preferred payment Option?',
       'How frequently do you abandon (selecting an items and leaving without making payment) your shopping cart?',
       'Why did you abandon the "Bag", "Shopping Cart"?',
       'The content on the website must be easy to read and understand',
       'Information on similar product to the one highlighted  is important for product comparison',
       'Complete information on listed seller and product being offered is important for purchase decision.',
       'All relevant information on listed products must be stated clearly',
       'Ease of navigation in website', 'Loading and processing speed',
       'User friendly Interface of the website', 'Convenient Payment methods',
       'Trust that the online retail store will fulfill its part of the transaction at the stipulated time',
       'Empathy (readiness to assist with queries) towards the customers',
       'Being able to guarantee the privacy of the customer',
       'Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)',
       'Online shopping gives monetary benefit and discounts',
       'Enjoyment is derived from shopping online',
       'Shopping online is convenient and flexible',
       'Return and replacement policy of the e-tailer is important for purchase decision',
       'Gaining access to loyalty programs is a benefit of shopping online',
       'Displaying quality Information on the website improves satisfaction of customers',
       'User derive satisfaction while shopping on a good quality website or application',
       'Net Benefit derived from shopping online can lead to users satisfaction',
       'User satisfaction cannot exist without trust',
       'Offering a wide variety of listed product in several category',
       'Provision of complete and relevant product information',
       'Monetary savings',
       'The Convenience of patronizing the online retailer',
       'Shopping on the website gives you the sense of adventure',
       'Shopping on your preferred e-tailer enhances your social status',
       'You feel gratification shopping on your favorite e-tailer',
       'Shopping on the website helps you fulfill certain roles',
       'Getting value for money spent',
       'From the following, tick any (or all) of the online retailers you have shopped from',
       'Easy to use website or application',
       'Visual appealing web-page layout', 'Wild variety of product on offer',
       'Complete, relevant description information of products',
       'Fast loading website speed of website and application',
       'Reliability of the website or application',
       'Quickness to complete purchase',
       'Availability of several payment options', 'Speedy order delivery',
       'Privacy of customers' information',
       'Security of customer financial information',
       'Perceived Trustworthiness',
       'Presence of online assistance through multi-channel',
       'Longer time to get logged in (promotion, sales period)',
       'Longer time in displaying graphics and photos (promotion, sales period)',
       'Late declaration of price (promotion, sales period)',
       'Longer page loading time (promotion, sales period)',
       'Limited mode of payment on most products (promotion, sales period)',
       'Longer delivery period', 'Change in website/Application design',
       'Frequent disruption when moving from one page to another',
       'Website is as efficient as before',
       'Which of the Indian online retailer would you recommend to a friend?'],
      dtype='object')
```
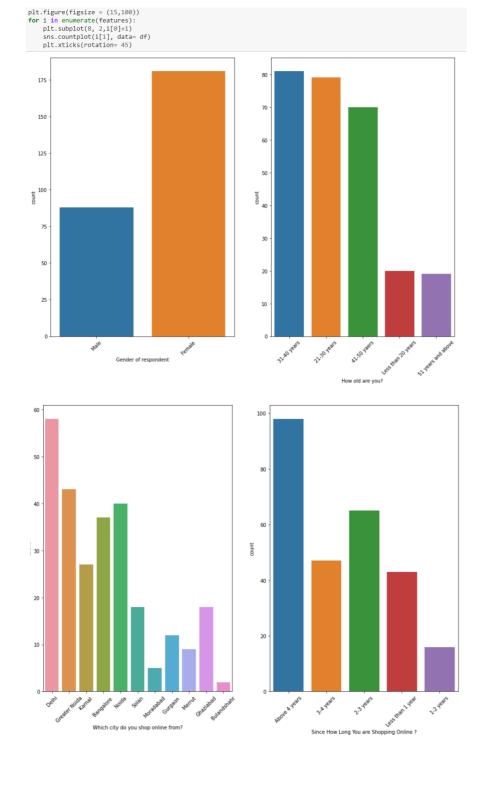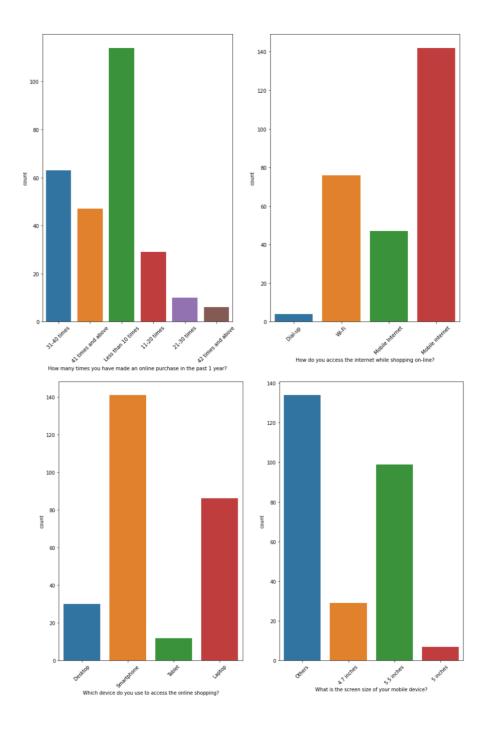
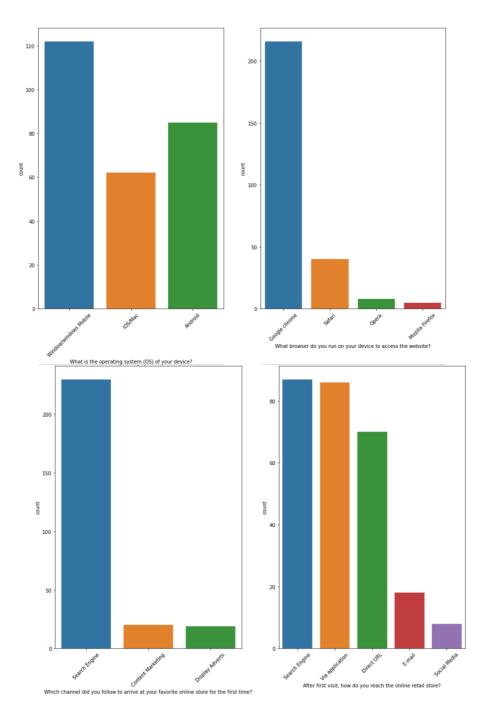Let's check null values in both the data set.

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

```
Gender of respondent                                                                                        0
How old are you?                                                                                            0
Which city do you shop online from?                                                                         0
What is the Pin Code of where you shop online from?                                                         0
Since How Long You are Shopping Online ?                                                                    0
How many times you have made an online purchase in the past 1 year?                                         0
How do you access the internet while shopping on-line?                                                      0
Which device do you use to access the online shopping?                                                      0
What is the screen size of your mobile device?                                                              0
What is the operating system (OS) of your device?                                                           0
What browser do you run on your device to access the website?                                               0
Which channel did you follow to arrive at your favorite online store for the first time?                    0
After first visit, how do you reach the online retail store?                                                0
How much time do you explore the e- retail store before making a purchase decision?                         0
What is your preferred payment Option?                                                                      0
How frequently do you abandon (selecting an items and leaving without making payment) your shopping cart?   0
Why did you abandon the "Bag", "Shopping Cart"?                                                              0
The content on the website must be easy to read and understand                                              0
Information on similar product to the one highlighted  is important for product comparison                  0
Complete information on listed seller and product being offered is important for purchase decision.         0
All relevant information on listed products must be stated clearly                                          0
Ease of navigation in website                                                                               0
Loading and processing speed                                                                                0
User friendly Interface of the website                                                                      0
Convenient Payment methods                                                                                  0
Trust that the online retail store will fulfill its part of the transaction at the stipulated time          0
Empathy (readiness to assist with queries) towards the customers                                            0
Being able to guarantee the privacy of the customer                                                         0
Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc.)     0
Online shopping gives monetary benefit and discounts                                                        0
Enjoyment is derived from shopping online                                                                   0
Shopping online is convenient and flexible                                                                  0
Return and replacement policy of the e-tailer is important for purchase decision                            0
Gaining access to loyalty programs is a benefit of shopping online                                          0
Displaying quality Information on the website improves satisfaction of customers                            0
User derive satisfaction while shopping on a good quality website or application                            0
Net Benefit derived from shopping online can lead to users satisfaction                                     0
User satisfaction cannot exist without trust                                                                0
Offering a wide variety of listed product in several category                                               0
Provision of complete and relevant product information                                                      0
Monetary savings                                                                                            0
 The Convenience of patronizing the online retailer                                                         0
 Shopping on the website gives you the sense of adventure                                                   0
 Shopping on your preferred e-tailer enhances your social status                                            0
 You feel gratification shopping on your favorite e-tailer                                                  0
 Shopping on the website helps you fulfill certain roles                                                    0
 Getting value for money spent                                                                              0
 From the following, tick any (or all) of the online retailers you have shopped from                        0
 Easy to use website or application                                                                         0
 Visual appealing web-page layout                                                                           0
 Wild variety of product on offer                                                                           0
 Complete, relevant description information of products                                                     0
 Fast loading website speed of website and application                                                      0
 Reliability of the website or application                                                                  0
 Quickness to complete purchase                                                                             0
 Availability of several payment options                                                                    0
 Speedy order delivery                                                                                      0
 Privacy of customers' information                                                                          0
 Security of customer financial information                                                                 0
 Perceived Trustworthiness                                                                                  0
 Presence of online assistance through multi-channel                                                        0
 Longer time to get logged in (promotion, sales period)                                                     0
 Longer time in displaying graphics and photos (promotion, sales period)                                    0
 Late declaration of price (promotion, sales period)                                                        0
 Longer page loading time (promotion, sales period)                                                         0
 Limited mode of payment on most products (promotion, sales period)                                         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
```

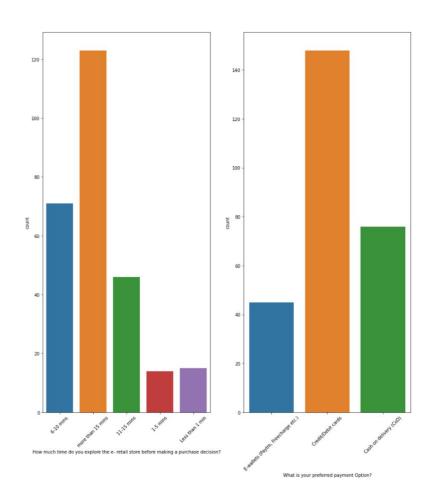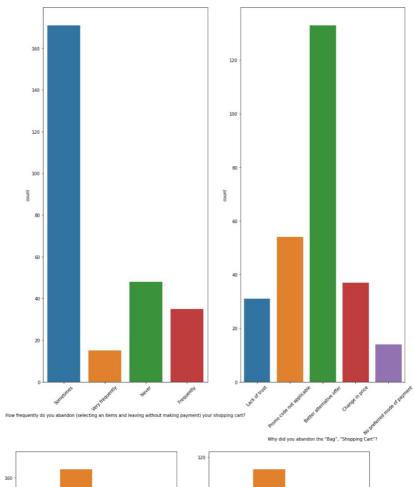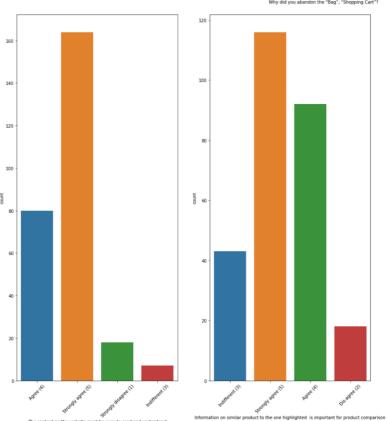Here we can see that there are no null values present in dataset.
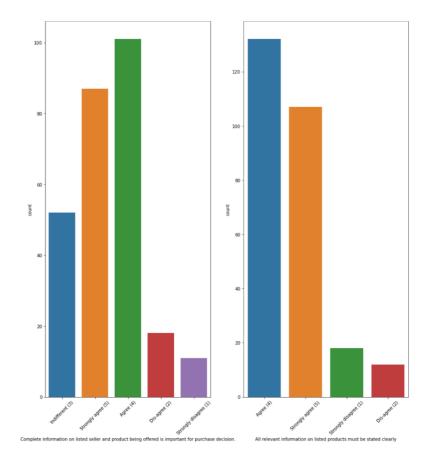
• Visualization

```
plt.figure(figsize = (15,100))
for i in enumerate(features):
    plt.subplot(8, 2,i[0]+1)
    sns.countplot(i[1], data= df)
    plt.xticks(rotation= 45)
```

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

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

Which device do you use to access the online shopping?

What is the screen size of your mobile device?

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

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

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

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

Key findings from features

1-> No of female respondents are more than male respondents while doing online shopping.

2-> Customers belonging to age group 21 to 50 are more indulge in online shopping as compared to other age group.

3-> People residing in delhi are most intrested in online shopping as compared to other cities.

4-> As we can see people shopping for more than 4 years are more as compared to others.

5-> Most of the respondants use mobile internet and smartphone for online shopping.
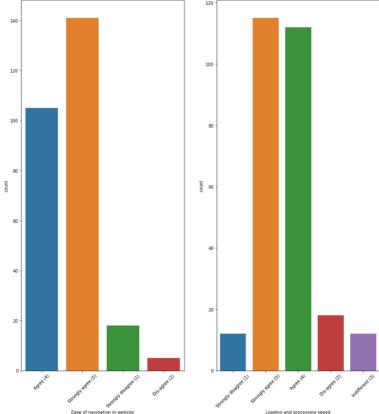
6-> People having windows as operating system(OS) have maximum count.

7-> As google chrome has most user friendly interface so no of respondents are more who choose chrome for online shopping.

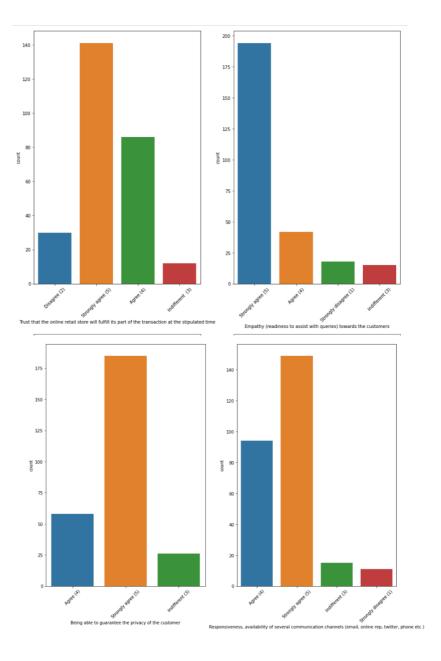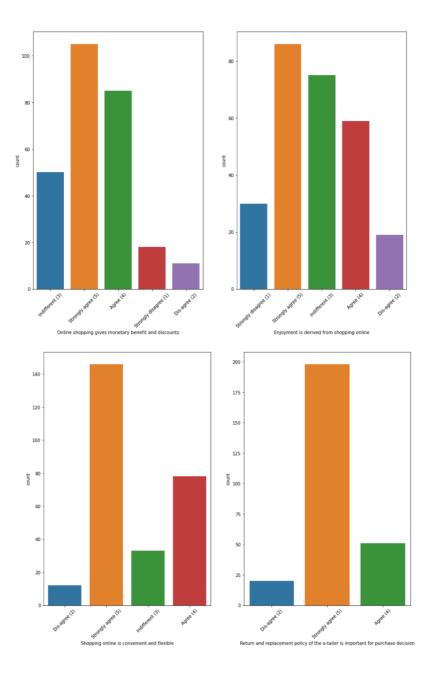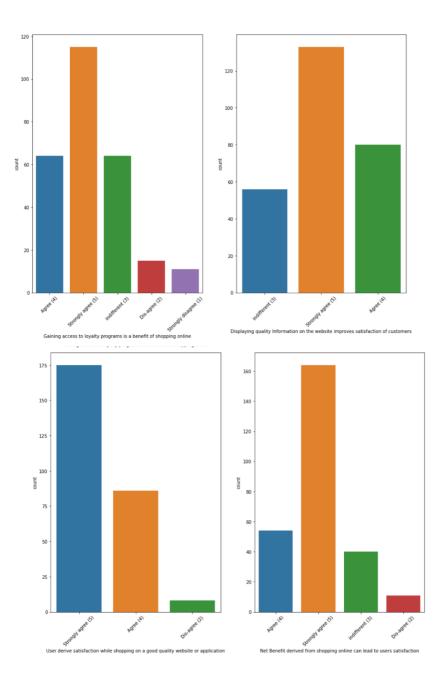8-> After first visit respondents using application and search engine to access website has more no of count

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

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

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

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

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

All relevant information on listed products must be stated clearly

Ease of navigation in website

Loading and processing speed

Key findings from feature 1

1-> Most of the respondents explore for more than 15 mins and pay through credit or debit card as per their convenience.

2-> People abandon the Bag or Shopping Cart when they get better alternative offers.

3-> Most of the respondants strongly agree that content on the website should be easy to read and underdstand and their should be ease in navigation in website

4-> Most of the Respondents agree that Information on similar product to the one highlighted is important for product comparison and complete information on listed seller and product being offered is important for purchase decision.

5-> Most of the respondents agree that All relevant information on listed products must be stated clearly.

6-> Loading and Processing time should be low and Website should has user friendly interface and also payment method should be convenient
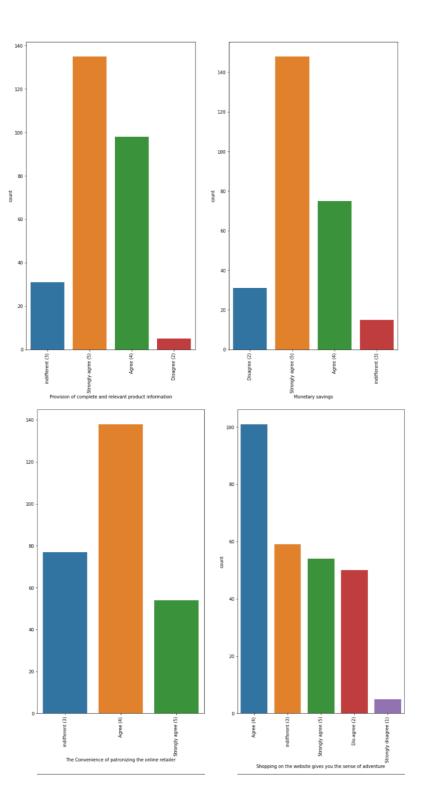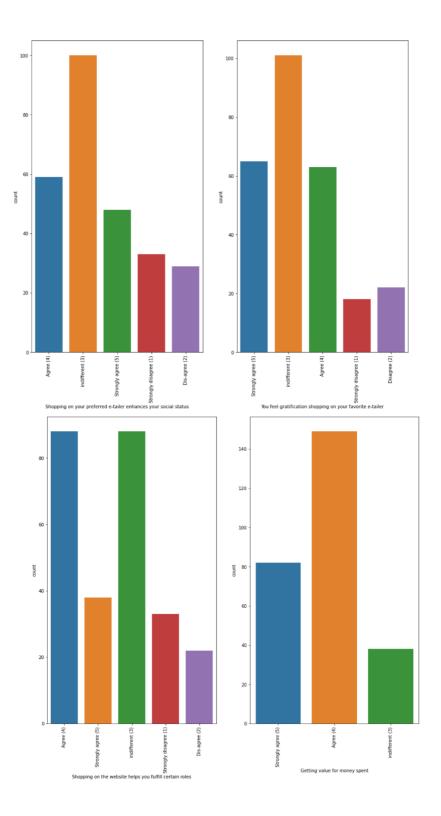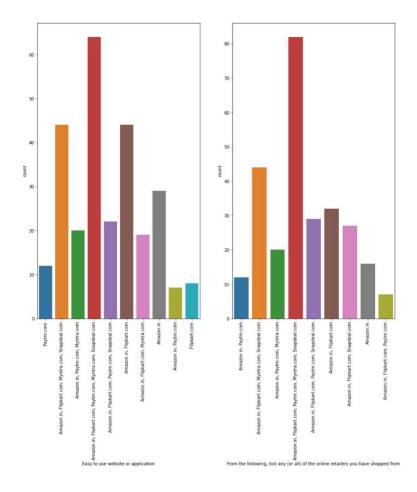
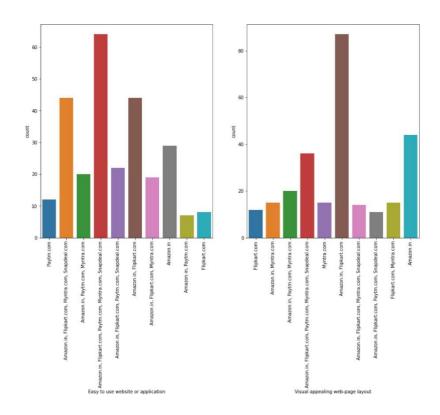Trust that the online retail store will fulfill its part of the transaction at the stipulated time

Empathy (readiness to assist with queries) towards the customers

Being able to guarantee the privacy of the customer

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

Online shopping gives monetary benefit and discounts

Enjoyment is derived from shopping online

Shopping online is convenient and flexible

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

Gaining access to loyalty programs is a benefit of shopping online

Displaying quality Information on the website improves satisfaction of customers

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

Net Benefit derived from shopping online can lead to users satisfaction

Key findings from feature 2

People strongly agree that

1-> Website should be readiness to assist with queries towards the customers and Website should able to guarantee the privacy of the customer.

2-> Responsiveness, availability of several communication channels (email, online rep, twitter, phone etc) is necessary.

3->Online shopping gives monetary benefit and discounts to the customers

4-> Shopping online is convenient and flexible , Return and replacement policy of the e-tailer is important for purchase decision.

5-> Gaining access to loyalty programs is a benefit of shopping online.

6-> Displaying quality Information on the website improves satisfaction of customers.

7-> User derive satisfaction while shopping on a good quality website or application and Net benifit derived from shopping online can lead to user satisfaction.

8-> User satisfaction exist when they have a trusted website.

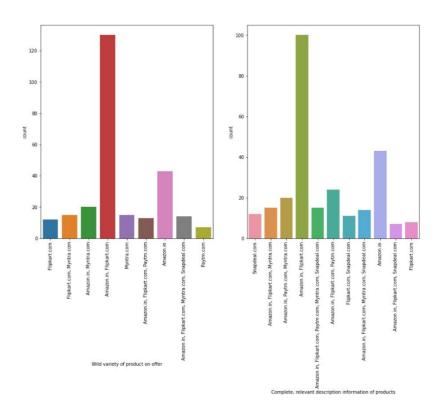9-> Website offering a wide variety of listed product in several category makes the website user friendly.

Chart 1 (top left): count vs Provision of complete and relevant product information

- Indifferent (3)
- Strongly agree (5)
- Agree (4)
- Disagree (2)

Chart 2 (top right): count vs Monetary savings

- Disagree (2)
- Strongly agree (5)
- Agree (4)
- Indifferent (3)

Chart 3 (bottom left): The Convenience of patronizing the online retailer

- Indifferent (3)
- Agree (4)
- Strongly agree (5)

Chart 4 (bottom right): count vs Shopping on the website gives you the sense of adventure

- Agree (4)
- Indifferent (3)
- Strongly agree (5)
- Dis-agree (2)
- Strongly disagree (1)

Shopping on your preferred e-tailer enhances your social status

You feel gratification shopping on your favorite e-tailer

Shopping on the website helps you fulfill certain roles

Getting value for money spent

The two bar charts show "count" on the y-axis. The left chart is labelled "Easy to use website or application" and the right chart is labelled "From the following, tick any (or all) of the online retailers you have shopped from". Category labels along the x-axis include: 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; Amazon.in, Flipkart.com, Paytm.com.

Key findings from feature 3

1-> Most of the Users strongly agree that their should be provision of complete and relevant product information website and online shopping give monetary savings.

2-> Most of the Users agree that shopping on the website give them sense of adventure

3-> Users have indifferent opnion that shopping on their preferred e-tailer enhances their social status.

4-> Users have mixed reaction on wheither shopping on website helps them to fulfil certain roles some agree it some are indifferent.

5-> Most of the Users agree that doing online shopping give them value of money spend.

6-> Most of the User uses mainly ecommerce website Amazon.in , Flipkart.com , paytm.com , Myntra.com , snapdeal.com to shop online as these websites have a user frienly interface.

Easy to use website or application

Visual appealing web-page layout

Key findings from feature 4¶
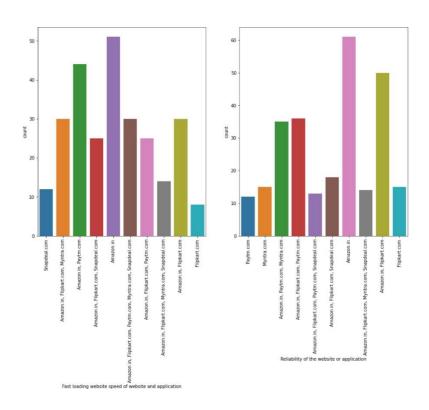
1-> Amazon.in , Flipkart.com , paytm.com , Myntra.com , snapdeal.com have a user frienly interface and are easy to use.
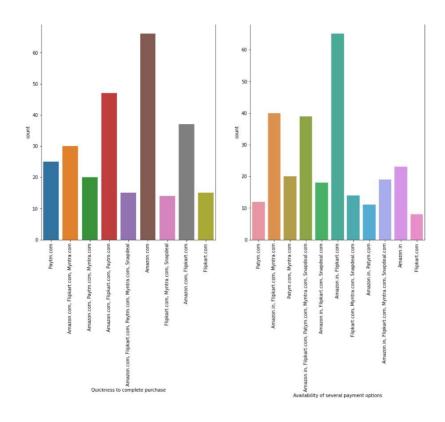
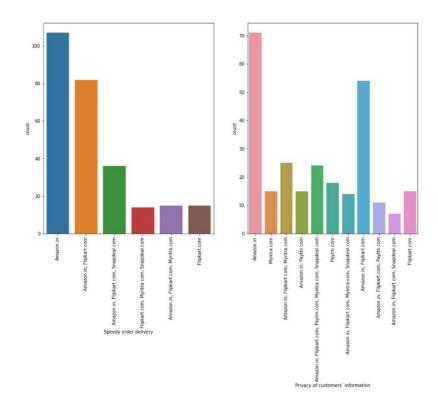2-> Websites like Amazon and Flipkart have visual appealing webpage layout

Wild variety of product on offer

Complete, relevant description information of products

Key findings from feature 5¶

Website like amazon.in and flipkart.in have wide variety of products and gives complete, relevant description information of products

Fast loading website speed of website and application

Reliability of the website or application

Key findings from feature 6¶
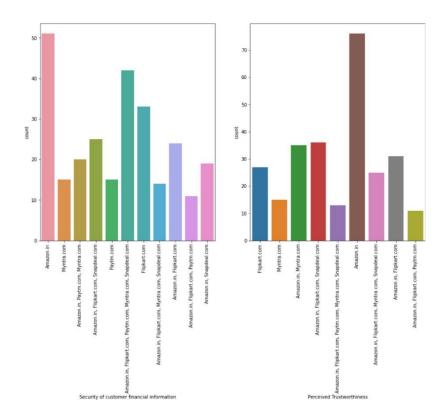
Amazon top the list of fast loading websites , reliability of the website and application application.

Key findings from feature 7
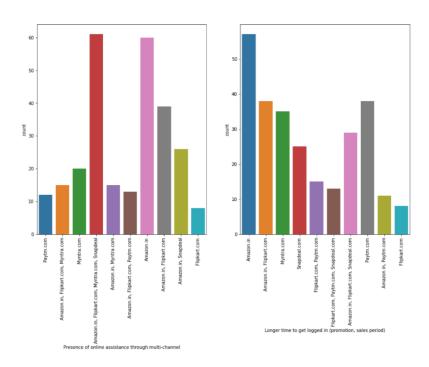
1-> Among all the e-commerce website Amazon provides quickness to complete the purchase.

2-> Among all the e-commerce website Amazon and Flipkart provides several payment options.

Key findings from feature 8
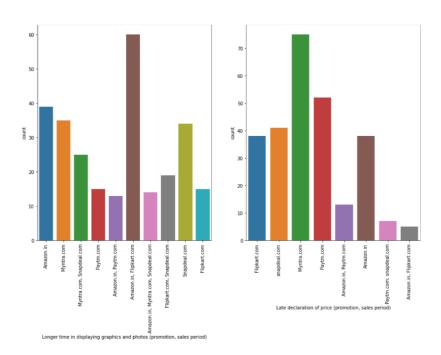
1-> Among all the websites Amazon top the list of speedy order delivery and privacy of customer's information

Security of customer financial information

Perceived Trustworthiness

Key findings from feature 9
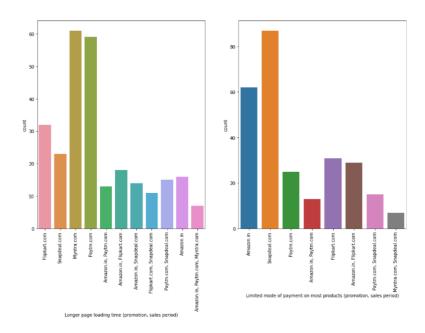
Among all the websites Amazon top the list of security of customer financial information and Perceived Trustworthness.

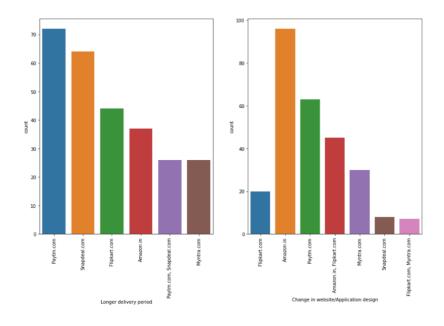Presence of online assistance through multi-channel

Longer time to get logged in (promotion, sales period)

Key findings from feature 10

1-> In Presense of online assistance through multi-channel wesbite amazon.in , flipkart , myntra and snapdeal topped the list.

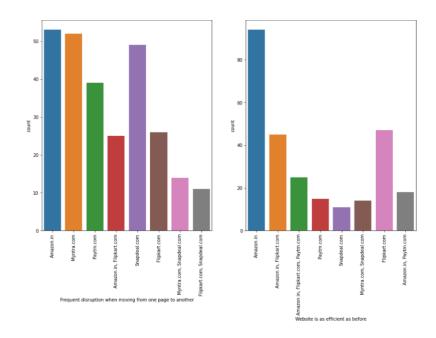2-> Among all the websites Amazon top the list of Longer time to get logged in (promotion, sales period

Key findings from feature 11

1-> Longer time in displaying graphics and photos (promotion, sales period) amazon.in and flipkart.com topped the list.

2-> Among all the e-commerce website Myntra topped the list of Late declaration of price (promotion, sales period

Key findings from feature 12

Among all the e-commerce website Myntra topped the list in Longer page loading time and snapdeal topped the list of Limited mode of payment.
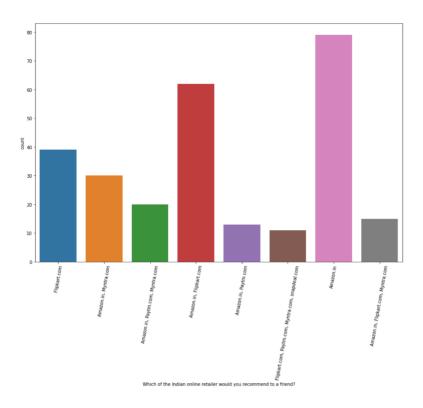

Key findings from feature 13

1->Among all the e-commerce website paytm topped the list in Longer delivery period and its a negative sign for any e commerce website.

2-> Among all the e-commerce website amazon.in topped the list in Change in website/Application design.

Key findings from feature 14

Among all the e-commerce website amazon.in topped the list in Frequent disruption when moving from one page to another and Website is as efficient as before

CONCLUSION

- Key Findings and Conclusions of the Case -Study

count

Flipkart.com
Amazon.in, Paytm.com
Amazon.in, Paytm.com, Myntra.com
Amazon.in, Flipkart.com
Amazon.in, Paytm.com
Flipkart.com, Paytm.com, Myntra.com, snapdeal.com
Amazon.in
Amazon.in, Flipkart.com, Myntra.com

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

As in the final countplot in which user were asked which online retailer they would recommend to a friend. Most of the respondents says Amazon.in because it is providing all the features that users want. Website is efficient and it is fast loading , It give complete , relevant description and information of products . It is reliable and quick to complete the purchase. Amazon give speedy delivery to its customers and their is several payment option avaliable on the website. It provide online assistance through multi channels.Providing good deals on products. Amazon have a user friendly interface and has visual appealing webpage layout. Amazon also offers wide variety of products and its application is easy to use . lastly the main thing why user recommend it is because of its Trustworthiness and also its robust Security in protecting customer financial information and their Privacy information .

They are some cons like the amazon website topping the list In Frequent disruption when moving from one page to another this con company should see and improve it to give overall best experience to the users.