Project Report
On

"Customer Retention"

Submitted by
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ACKNOWLEDGEMENT

It is my sensual gratification to present this report. Working on this project was an incredible experience that have given me a very informative knowledge. I would like to express my sincere thanks to MR. SAJID CHOUDHARY for a regular follow up and valuable suggestions provided throughout. And also thankful to FlipRobo for providing this opportunity.

OVERVIEW

1. INTRODUCTION

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? The answer to that depends on your store [1].

Retaining customers in highly competitive business environments is critical for any company's survival because a lost customer represents more than the loss of the next sale. The company might lose all future sales and profits from that customer's lifetime of purchases. Also, keeping customers satisfied and happy makes the cost of selling to existing customers lower than the cost of selling to new customers. Therefore, acquisition should be secondary to retaining customers and enhancing relationships with them. That is because, according to Levy (2008), new customers are more difficult to find and reach, they buy 10% less than existing customers, and they are less engaged in the buying process and relationship with retailers in general existing customers tend to buy more, which in turn generates more profit through more cash flow. In addition, repeat customers were tested and shown to be less price-sensitive, they provide positive word of mouth, and they generate a fall in transaction costs, all of which increases firms" sales and profits, which lead to sales referrals [2].

This paper has been written by understanding and analyzing different parameters, aspects of customer retention strategies
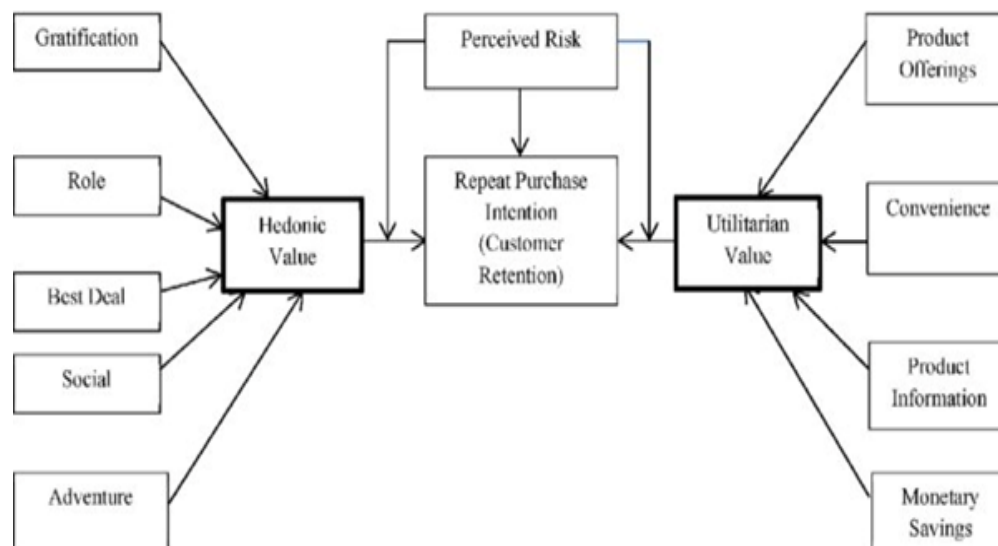
Figure 1 Customer Retention chart

1.1 Benefits of Customer Retention:

1. Retention is cheaper than acquisition

While the old adage about "it costs five times as much to acquire a new customer" may not be accurate in every case, the basic principle is spot on: it's more cost-effective to keep someone in the fold than to bring in new customers.
Even still, if it's data you want, there has been plenty of research into acquisition vs retention, and every one of them has come back with the economics favoring retention as the more economically viable focus.

One caveat though: retention is cheaper than acquisition, but it isn't necessarily easier.

2. Loyal customers are more profitable

Not only is loyalty cheaper, it has better returns. According to research, engaged consumers buy 90% more frequently, spend 60% more per transaction and are five times more likely to indicate it is the only brand they would purchase in the future. On average, they're delivering 23% more revenue and profitability over the average customer.
While loyal customers are more profitable, don't take their loyalty for granted. They'll be more open to price increases, but be cautious not to raise prices simply to see how long they'll stick around. Lifetime revenue is the end goal, not just today's revenue.
Consider the flipside: "Actively disengaged" customers (people who oppose the brand and may be actively spreading that opinion) can cost a brand 13% of its revenue.

3. Your brand will stand out from the crowd

Put your consumer hat on, and consider how many brands you interact with that actually seem to value your patronage.You can probably only think of one or two.
Most brands focus on acquisition, which makes the retention-centric among us stand out even more. People see around 10,000 marketing exposures a day, but only engage with a few of them. The ones that earn continual engagement are those with whom they feel an emotional connection with on some level.
Forget a unique selling proposition; the best brands have a unique retention proposition.

4. You'll earn more word of mouth referrals

Your loyal customers will be your best source of new business.
Despite all the efforts into online and mobile marketing and social media, people are still most strongly influenced by referrals from friends and family.
Millennials in particular will spread the word of a brand's exploits: 90% share their brand preferences online.

5. Engaged Customers Provide More Feedback

Feedback is critical to the success of any business.

Customers who provide feedbacks are often willing to give brands the benefit of the doubt. They're telling you how to earn their business repeatedly. As research has shown, people who have complained and seen their issue resolved are 84% less likely to decrease their spend.

Need help dealing with the customers who are providing nasty feedback? Read this.

6. Customers will explore your brand

That's a nice way of saying you'll be able to sell them more stuff. Once a brand has proven itself with one product or service, customers are six times more likely to say they would try a new product or service from the brand as soon as it becomes available.

That's not just valuable for sales, but these folks can be utilized to help with #5 above as beta testers - a critical element in product development.

7. Loyal Customers are more forgiving

An Accenture study states over $1.6 trillion is lost each year due to customers bailing after a poor service experience. We've gone so far as to claim that it's the top reason people will ditch a brand. But customers who consider themselves loyal will let some misdeeds slide - just don't let it happen too often.

8. Customers will welcome your marketing

No one likes being marketed to. Except for loyal customers!

Those folks are four times more likely to say they "appreciate when this brand reaches out to me" and seven times more likely to "always respond to this brand's promotional offers."

9. You earn wiggle room to try new things

Loyalty is fickle, so too many changes could chase people away. But once you've established a core base of proven customers, your brand can expand its boundaries. Maybe it's new messaging or a new product line, or even a new logo. The bottom line is as long as you maintain the basic premises that keep people in your corner; they'll stick with you through thin and thin.

In fact, some of them will be excited to see what you can do. Existing customers are 50% more likely to try new products, according to a study [3].

2. ANALYTICAL PROBLEM FRAMING

2.1 Data Overview:

In Jupyter notebook first we need to import necessary libraries which are required to handle data and for visualization. And after that I have loaded the dataset by using panda commands. Check for shape of the data to know number of columns and number of samples present in it. Then check the data types of all the columns, is there any null value present in the data set or not

```
In [1]:   #import Neccessory Libraries
          import pandas as pd
          import numpy as np
          import matplotlib.pyplot as plt
          import seaborn as sns

          import warnings
          warnings.filterwarnings('ignore')
          %matplotlib inline
```

Figure 2 Importing Libraries

I have imported some necessary libraries

- Pandas: 'pandas' is a dependency of statsmodels, making it an important part of the statistical computing ecosystem in Python.
- Numpy: NumPy is the fundamental package for scientific computing in Python. ... NumPy arrays facilitate advanced mathematical and other types of operations on large numbers of data
- Matplotlib: Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python.
- Seaborn : is a Python data visualization library based on matplotlib

```
In [2]:   #lets load the dataset
          data = pd.read_excel("customer_retention_dataset.xlsx")
          data.head()
```

Out[2]:

	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	10 What is the operating system (OS) of your device? \t\t\t\t	...	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)
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Others	Window/windows Mobile	...	Amazon.in	Amazon.in	Flipkart.com
1	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	...	Amazon.in, Flipkart.com	Myntra.com	snapdeal.com
2	Female	21-30 years	Greater Noida	201308	3-4 years	41 times and above	Mobile Internet	Smartphone	5.5 inches	Android	...	Myntra.com	Myntra.com	Myntra.com
3	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inches	IOS/Mac	...	Snapdeal.com	Myntra.com, Snapdeal.com	Myntra.com
4	Female	21-30 years	Bangalore	530068	2-3 years	11-20 times	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	...	Flipkart.com, Paytm.com	Paytm.com	Paytm.com

5 rows × 71 columns

Figure 3 Data Loading

```
In [3]:  #check the shape of data
         data.shape
Out[3]:  (269, 71)
```

Figure 4 Shape of the data

By checking the shape of the dataset I observed that data having 269 samples with 71 different features related to customer retention.

```
In [4]:  #check for Null values
         data.isnull().sum()
Out[4]:  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
```

Figure 5 Checking for null values

```
In [5]:  #lets check the data type of columns
         data.dtypes
Out[5]:  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
```

Figure 6 Data types of every column

By looking at the data types I observed all data having categorical (object type) data except "4 What is the Pin Code of where you shop online from?" column which has integer values. And the dataset is not having any null values in it.

Columns:

'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?

Among these 71 columns our target variable is *'6 How many times you have made an online purchase in the past 1 year?*', and rest columns are features/ independent variables.

3. DATA PROCESSING

```
#As pin code represent address, we will convert it into object data type
data['4 What is the Pin Code of where you shop online from?'] = data['4 What is the Pin Code of where you shop online from?'].asty
pe("object")
```

```
# In column How do you access the internet while shopping on-line I observed two categories, Mobile internet and Mobile Internet
#lets combine these two
data['7 How do you access the internet while shopping on-line?'].replace('Mobile Internet','Mobile internet', inplace = True)
```

Figure 5

I observed that the pin code is in integer type and it is a 6 digit number for different regions, so it is better to treat as object type data, otherwise it will affect our prediction or will carry wrong information.

In column "How do you access the internet while shopping on-line?" it is been observed that two categories one is 'Mobile Internet' and another one is 'Mobile internet', both of which are carrying same information, so I have combined these two categories by replacing one with another.

4. DATA ANALYSIS/EDA:
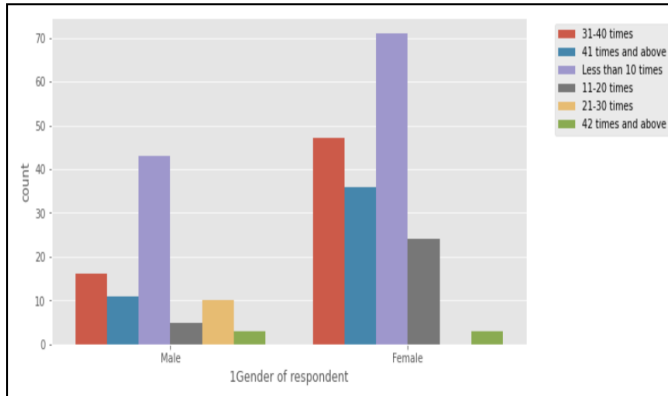
Figure 8 Gender VS number of times of online purchases in a year
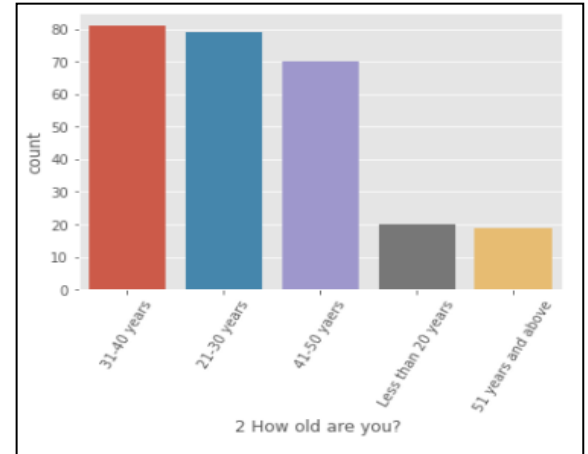
Figure 9 Age of customer

Figure 10 City from customers shop online
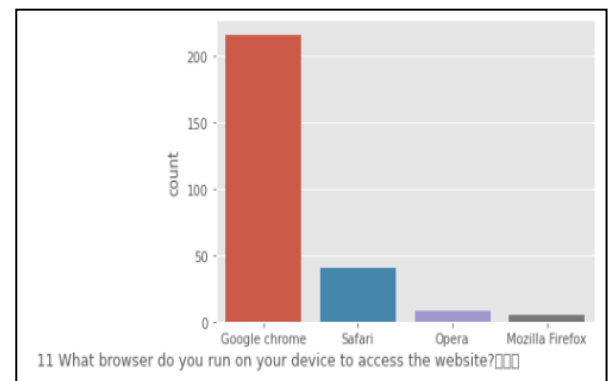
Figure 11 Browser used by customers

By observing above plots –

- Fig 8 shows count plot for how many times a customer shops in a year based on their Gender, by looking at this plot we can say that female customer's number is higher than males and also female customer shops for more time in a year when it is compared to males.
- Fig 9 shows the age range of customers; here we can see the number of customers more in the age range 21 – 30 as well as 31 – 40.
- In Fig 10 the bar plot for cities from where customers shop online is represented, this will tell us that large number of customers are from Delhi, Greater Noida and Noida. And very less customers from Merrut, Moradabad, Bulandshahr.
- Fig 11 shows count plot of browser used by customers, we can say by looking at this plot large number of customers uses Google chrome browser.
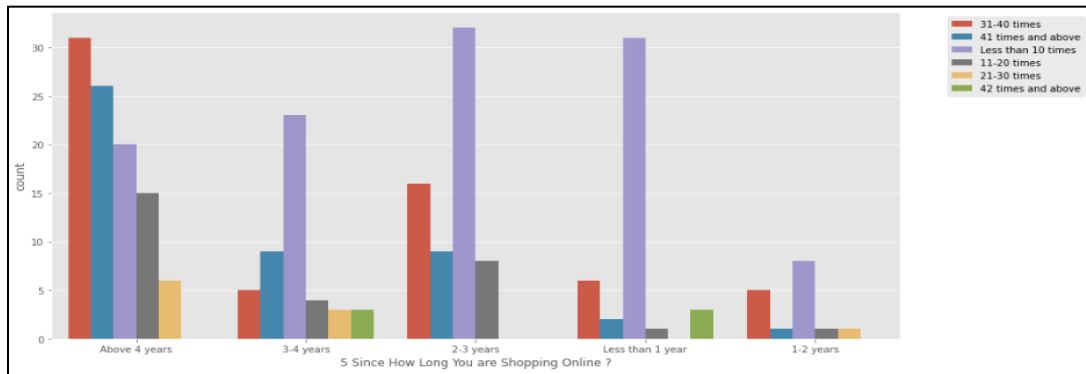
Figure 12 Number of times of shopping based on since how long customers shopping

This plot will tell us customers shopping since 2-3 years and above 4 years are shopping large number of times in a year compared to others. And customers who are shopping since 1-2 years are having very less tendency to purchase things online.
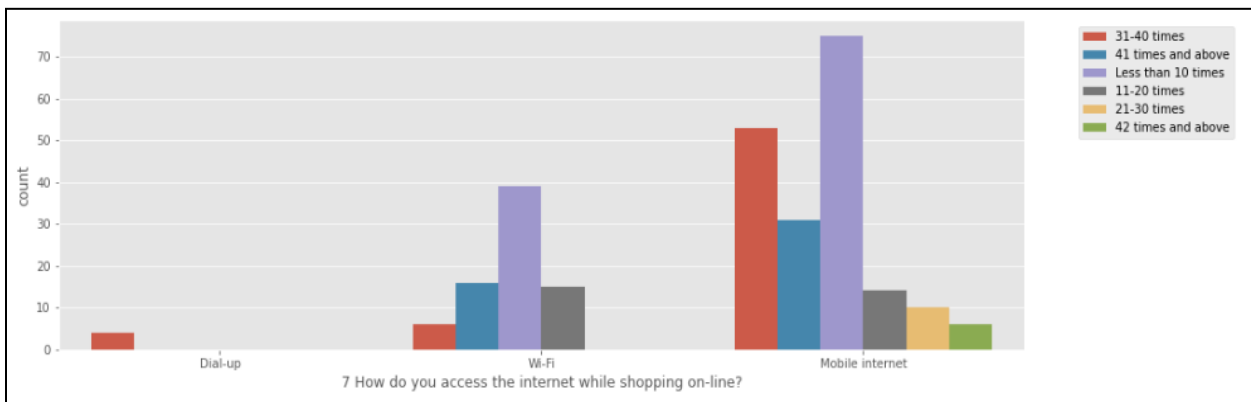
Figure 13 How customers access internet while shopping online

By looking at above plot we can say most of the people uses mobile internet for shopping, and also they shops for more times compared to others. Very less number of customers uses Dial-up to access internet.
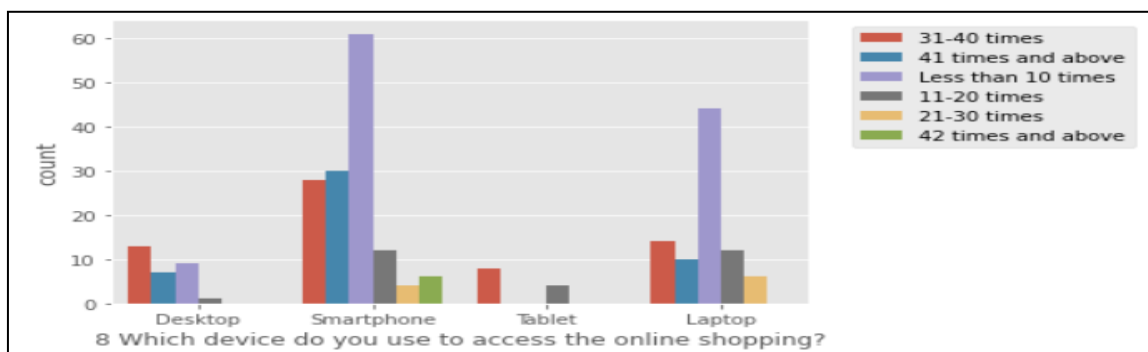
Figure 14 Device used to access online shopping

Looking at the above plot we can conclude that most of the customers are using smart phones for shopping online and very less customer's uses tablet and desktop for online shopping.

Figure 15 After first visit, how do customers reach the online store
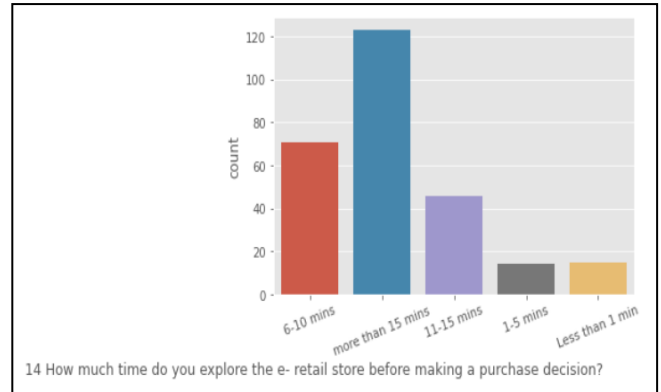
Figure 16 Time took to make a decision of

Looking at the above two figures first one shows through what media customer visit online retail shop after first visit. By this plot we can say most of the customers use search engine and applications to visit the store again.

Second figure represents time taken by customers to make a decision to purchase a thing; we can say more number of people took more than 15 minutes for making the decision.
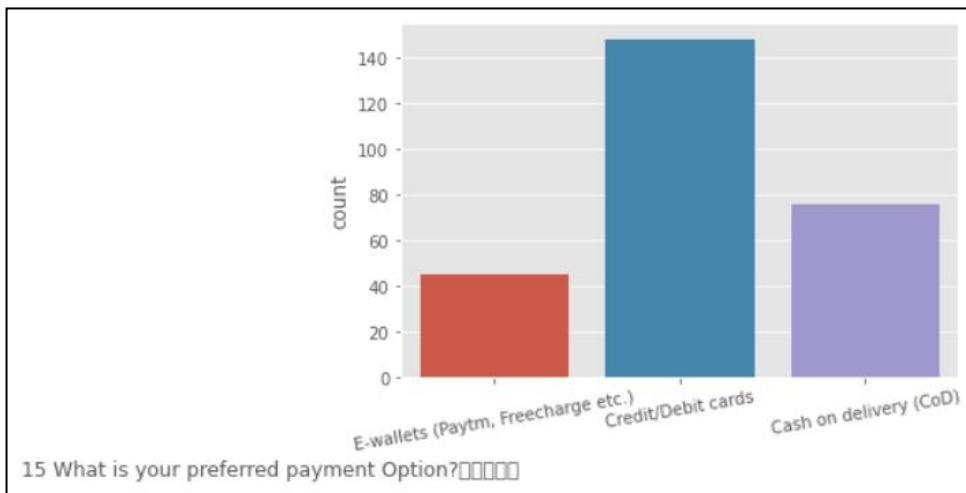
Figure 17 Preferred Payment option

By observing preferred payment option plot we can say most of the customers prefer to pay by credit/debit card and also cash on delivery.
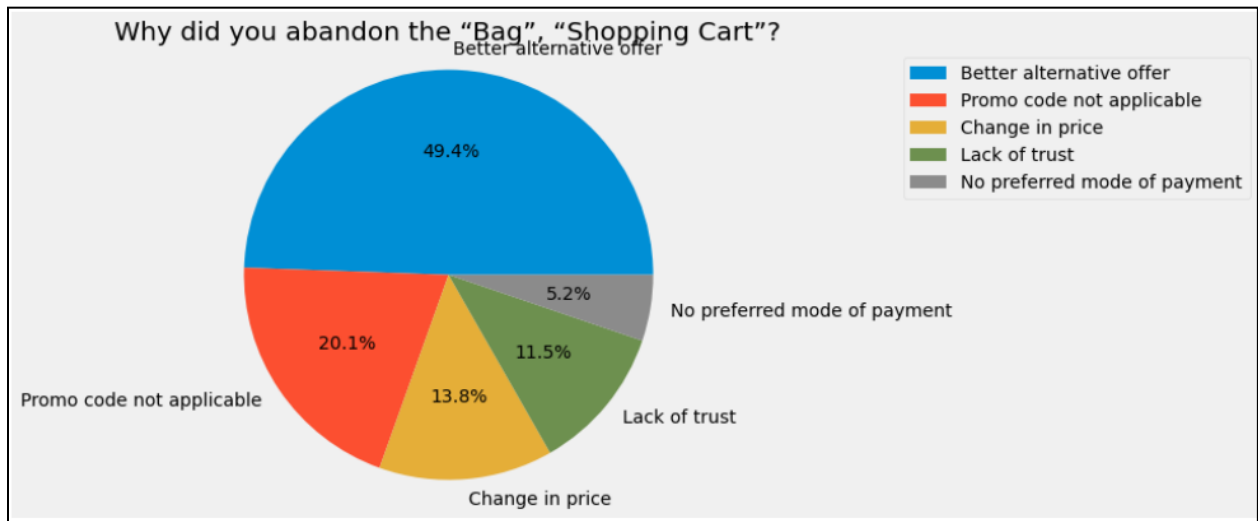
Figure 18 why did you abandon 'Bag', 'Shopping Cart'

Above plot represents the percentage of customers who abandon the 'bag' or 'shopping cart' due to some mentioned reasons, we can see nearly 50% of the customers are abandon the cart because of other better alternative offer and nearly 20% of customers due to the reason of 'promo code not applicable'.

For retaining our customers we need to provide better offers to our existing customers so that we can retain their loyalty towards organization/company.

Using columns 18 to 47; I have derived different points which can be used as suggestions by most of the customers.

Points on which most of the customers strongly agree:

- 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
- Ease of navigation in website
- Loading and processing speed
- 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

Points on which most of the customers are agree:

- Complete information on listed seller and product being offered is important for purchase decision.
- All relevant information on listed products must be stated clearly
- The Convenience of patronizing the online retailer
- Shopping on the website gives you the sense of adventure
- Getting value for money spent

Points on which most of the customers are indifferent:

- 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

From column number 48 to 71; I observed that these columns contain data which is derived by taking reviews or feedback from every customers on different aspects.
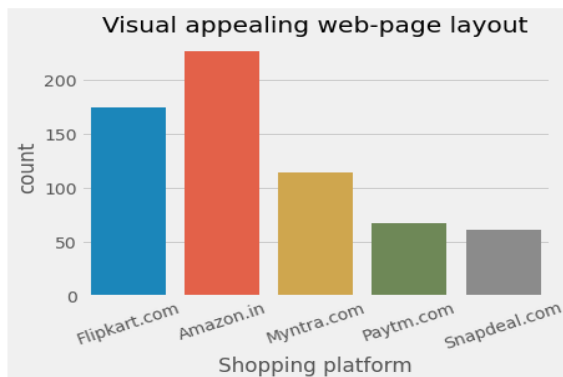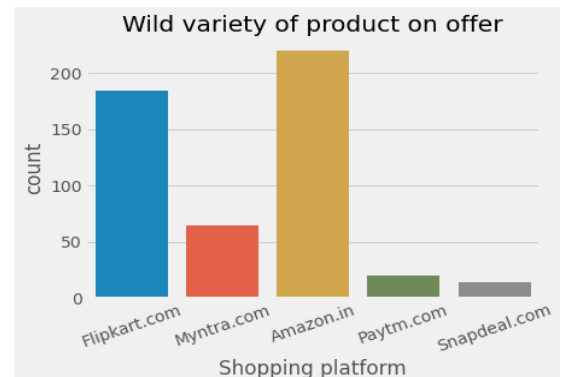

Figure 19

Figure 20

- Figure 19 represents the data regarding which website or applications are easy to use according to customers, and most customers says amazon.in and flipkart.com are much easier sites compared to others.
- Figure 20 represents the data regarding sites from customers have shopped. Here also we can say most number of customers have shopped from amazon.in and flipkart.com.

Figure 21

Figure 22

- By seeing Figure 21 we can say according to most of the customers the visual appealing of web-page layout is good in case of amazon.in and flipkart.com.
- Figure 22 represents the variety of products made available on offer by the online retail company. According to customers amazon and flipkart provides wild variety of products and vary few customers' votes for this criteria for snapdeal.com and paytm.com.
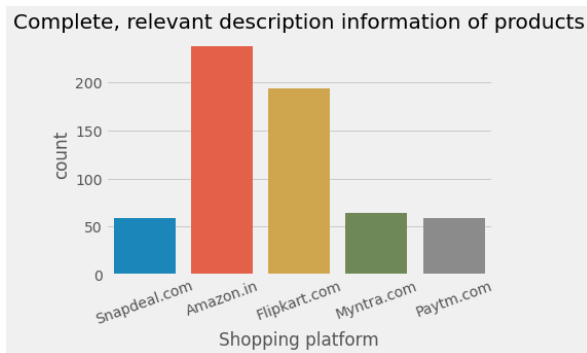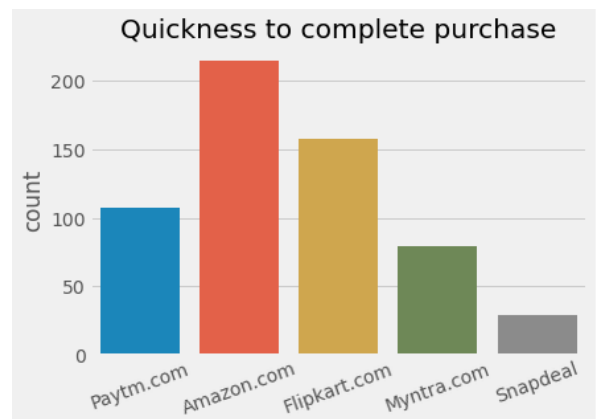
Figure 23
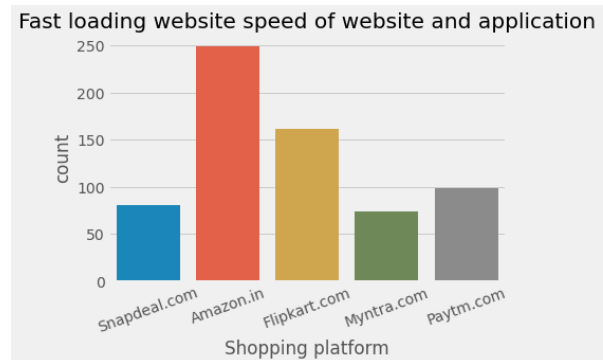
Figure 24

Fig 23 represents customers voting on the bases of complete, relevant information of product and most of the customers votes for amazon.in and flipkart.com in this case.

Fig 24 represents customers voting based on fast loading website or application, by observing this plot we can say according to most of the customers amazon.in is a fast loading website whereas very few customers votes for myntra.com and snapdeal.com in this aspect.
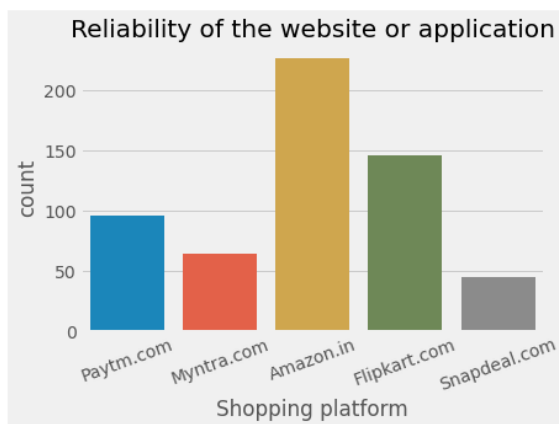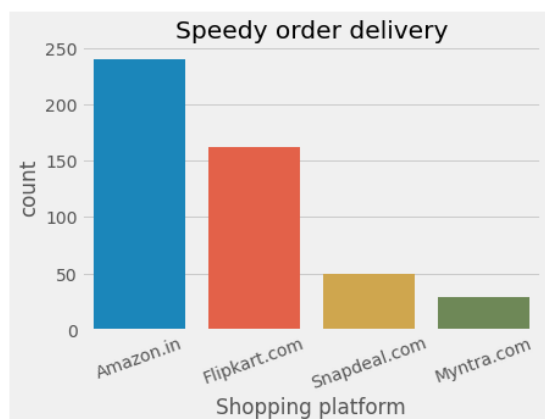

Figure 25

Figure 26

Fig 25 represents reliability of the website; according to most of our customer amazon.in is a reliable website and very less customers says snapdeal.com is as a reliable website.

Fig 26 represents the customer voting's on the bases of quickness to complete a purchase and in this case also most of the customers say amazon.in has quickness to complete a purchase. Very less number of customers votes for snapdeal.com in this aspect.
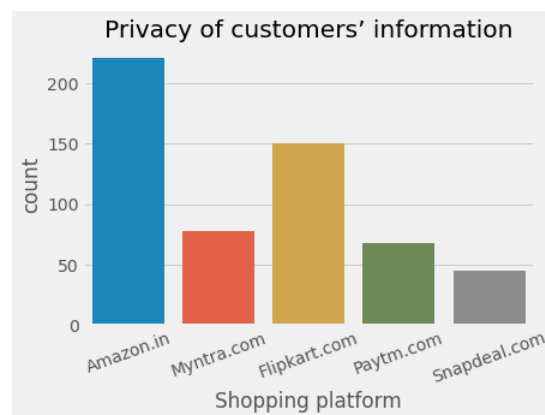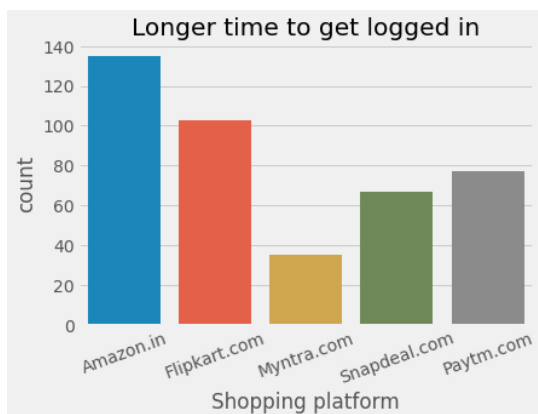
Figure 27

Figure 28

Fig 27 tell us which online retail shopping platform is providing speedy order delivery according to most customers, and by looking at this plot we can say most customers says amazon.in is good at providing speedy delivery, very less customers says myntra.com is giving speedy delivery.

Fig 28 represents the customers voting on the bases of privacy of customers' information. According to most of the customers we can say amazon.in providing good privacy security for customers' information.

Figure 29

Figure 30

Fig 29 represents customers voting based on longer time to logged in a website, which may somewhat disappointing for any customer, by looking at the above plot we can say according to most customers amazon.in and flipcart.com are taking much time to logged in, very few customers say myntra.com is taking longer time which is good thing for myntra.com
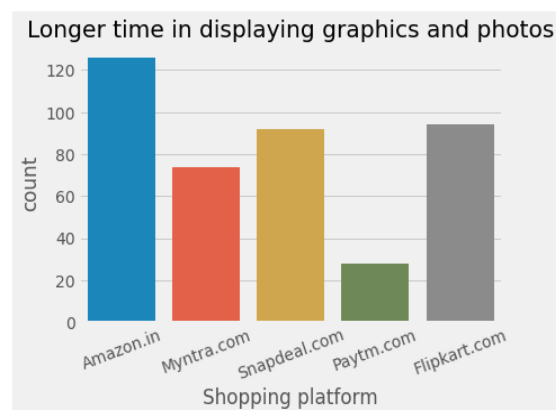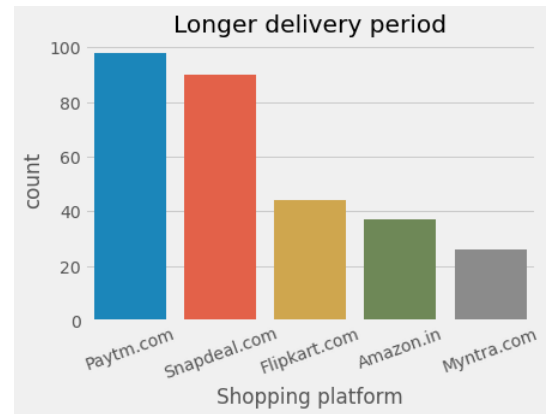
Fig 30 represents longer time in displaying graphics and photos, this feature also may not satisfactory for customers. Most of the customers say amazon.in takes longer time in displaying graphics and photos but very less number of customers says paytm.com is taking longer time which is good for paytm.com

Figure 31

Figure 32

Fig 31 shows customers voting based on late declaration of price, this factor may not satisfactory for customers and by looking at this plot it seems like this problem will be there in every website as there is significant voting for every website. Higher voting is observed in case of myntra.com and paytm.com

Fig 32 represents voting of customers based on delivery period. According to most of the customers paytm.com and snapdeal.com will take longer delivery period and less people says myntra.com is taking longer duration which is good thing about myntra.com

Figure 33

By looking at the Fig 33, we can conclude that most number of customers would recommend their friends for amazon.in for online shopping next to which is flipkart.com. Very less customers would recommend snapdeal.com for their friends.

5. CONCLUSION:

This study gives an insight about the opportunity as well as the challenges of retaining customers.

By observing and analyzing various features given in this dataset I can conclude few things –

It is noticed that companies cannot hold on to existing customers when the old strategies are being used, therefore to be able to retain customers new retention strategies should be used. An organizations' total output greatly depends on existing customers.

It seems like companies like 'Snapdeal' and 'Paytm' are not using new customer retention strategies hence the performance as well as the profit of such companies goes down.

And companies like 'amazon' and 'Flipkart' implementing new customer retention strategies hence these are able to retain existing customers and became reliable online shopping platforms.

6. REFERENCES

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