FLIP ROBO

CUSTOMER RETENTION PROJECT

Submitted by:

Saransh Sharda

ACKNOWLEDGMENT

The research, references and data source I got for this Customer retention project is from Flip robo technologies which guided me to get complete analysis through this project.

INTRODUCTION

Business Problem Framing

[E-retail factors for customer activation and retention: A case study from Indian e-commerce customers](#)

Conceptual Background of the Domain Problem

Customer satisfaction has emerged as one of the most important factors that guarantee the success of online store; it has been posited as a key stimulant of purchase, repurchase intentions and customer loyalty. A comprehensive review of the literature, theories and models have been carried out to propose the models for customer activation and customer retention. Five major factors that contributed to the success of an e-commerce store have been identified as: service quality, system quality, information quality, trust and net benefit. The research furthermore investigated the factors that influence the online customers repeat purchase intention. The combination of both utilitarian value and hedonistic values are needed to affect the repeat purchase intention (loyalty) positively. The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.

Motivation for the Problem Undertaken

My objective behind to make this project is to get findings and conclusion in detailed data analysis of the customer retention project so that for the applications/websites it can be concluded that which factors can help them for customer retention.

Analytical Problem Framing

Mathematical/ Analytical Modelling of the Problem

Descriptive and prescriptive modelling is performed during the model construction with having data set of 269 records with 71 columns.

Data Sources and their formats

Data contains 269 entries each having 71 variables.

DATA SOURCE is from flip-robo technologies where I was required to get findings and conclusion in detailed data analysis of the customer retention project so that for the applications/websites it can be concluded that which factors can help them for customer retention

Data Pre-processing Done

In data pre-processing null values were checked but there were no null values and data was mostly categorical so only uni- variate analysis was done in steps and count plot was used mostly for analysis.

Data Inputs- Logic- Output Relationships

The train dataset has 269 rows and 71 columns.

```
In [156]: #checking the number of columns
          df.columns

Out[156]: Index(['1Gender of respondent', '2 How old are you? ',
                 '3 Which city do you shop online from?',
                 '4 What is the Pin Code of where you shop online from?',
                 '5 Since How Long You are Shopping Online ?',
                 '6 How many times you have made an online purchase in the past 1 year?',
                 '7 How do you access the internet while shopping on-line?',
                 '8 Which device do you use to access the online shopping?',
                 '9 What is the screen size of your mobile device?\t\t\t\t\t       ',
                 '10 What is the operating system (OS) of your device?\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'.
```

Starting from the person details and the access of internet to the website, every column helped to get the data analysis of customer retention project.

State the set of assumptions (if any) related to the problem under consideration

Descriptive and prescriptive modelling is performed during the model construction with having data set of 269 records with 71 columns, here in dataset there were no null values and only columns names were set.

Hardware and Software Requirements and Tools Used

Listing down the hardware and software requirements along with the tools, libraries and packages used-

```
]:  import numpy as np

    import pandas as pd

    import matplotlib.pyplot as plt
    import seaborn as sns

    from scipy import stats

    import warnings
    warnings.filterwarnings('ignore')
```

These packages were used for making lot of graph to check the effect of columns for data analysis, data cleaning and feature engineering

Model/s Development and Evaluation

Identification of possible problem-solving approaches (methods)

For visualization , every column was checked for the effect of input to output via count plot via package sea born and matplotlib etc.

Model
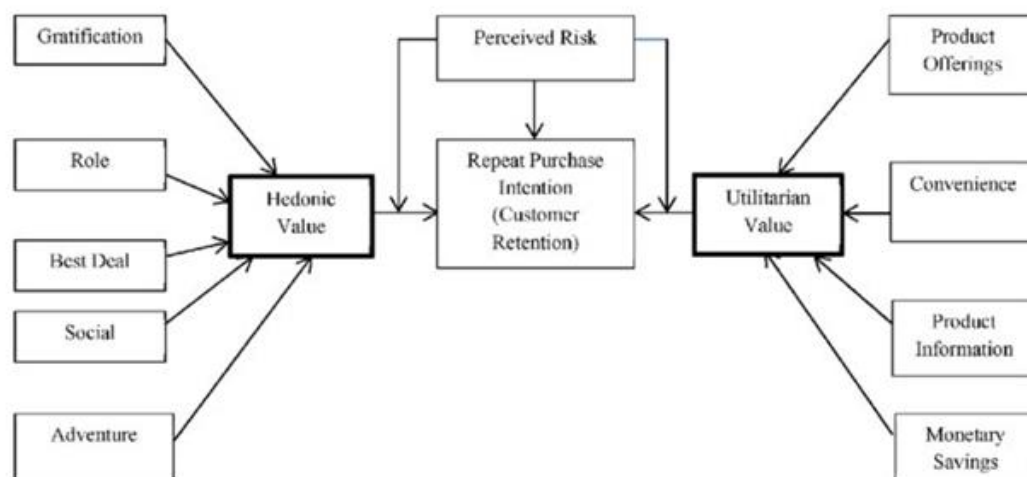
Hedonic value – includes gratification, role, best deal, social, adventure

Utilitarian value – product offering, convenience, product information, monetary savings.

All columns includes questions from Indian customer and below I have made observation/analysis regarding all columns and found out that what parameters are required to be website for customer retention.
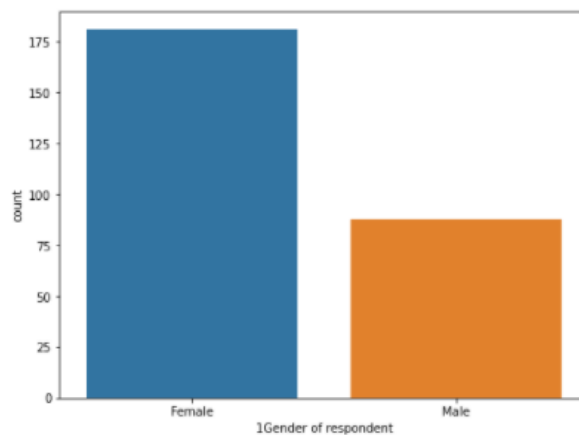
Univariate analysis/observation

1Gender of respondent –

```
In [164]: plt.figure(figsize=(8,6))
          print(df['1Gender of respondent'].value_counts())
          print("-"*70)
          sns.countplot(df['1Gender of respondent'].sort_values())

          Female    181
          Male       88
          Name: 1Gender of respondent, dtype: int64
          ----------------------------------------------------------------------

Out[164]: <AxesSubplot:xlabel='1Gender of respondent', ylabel='count'>
```


observation:- There are 181 female and 88 male, meaning women usually shop more through online mode.

2. How old are you?

Observation :- there are 81 peoples in age between 31 and 40 years. there are 70 peoples in the age between 41 and 50 years there are 20 peoples in less than 20 years there are 19 peoples 51 years and above, meaning people who has jobs or earning themselves spend time on online shopping, young generation usually are dependent so don't shop themselves much.

3 Which city do you shop online from?

observation:-1. 58 people shop online from Dehli 2. 43 people shop online from Greater Noida 3.40 people shop online from Noida 4. 37 People shop online from Noida 5.27 People shop online from karnal 6.12 People shop online from Gurgaon 7.9 People shop online from Merrut 8. 5 People shop online from Moradabad 9. 2 People shop online from Bulandshahr 10. 18 people shop online from Ghaziabad, meaning metropolitan cities have demand and customers shop mostly online in metro cities else due to more crowd in metro politan as compared to other cities

5 Since How Long you are Shopping Online?

observation:-1. there are 98 people are shopping online above 4 years 2. there are 65 people are shopping online between 2 and 3 years 3. there are 47 people are shopping online between 3 and 4 years 4. there are 43 peoples are shopping online less than 1 year 5. there are 16 peoples are shopping online in between 1 and 2 years, meaning as there is sudden growth of e commerce with last 5 years so yeah maximum people are now indulge towards e commerce

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

observation:- 1. There are 114 people have made online purchase less than 10 times 2. There are 63 peoples have made online purchase in between 31 and 40 times. 3. There are 47 peoples have made online purchase 41 times and above 4. There are 29 peoples have made online purchase 11-20 times 5.There are 10 peoples have made online purchase 21-30 times 6. there are 6 peoples have made online purchase 42 times and above, meaning yes people do shop frequently but yes people are also inclined towards buying from store rather than online

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

observation:- 1.There are 189 people accessing the mobile internet 2. There are 76 people accessing the wi-fi network 3. There are 4 people accessing the Dial-up network, meaning people usually shop online via mobiles as there applications and makes superfast and easy and can shop anywhere without the need to wi-fi particularly

8 Which device do you use to access the online shopping?

observation:- 1. 141 people use smart phone to access the shopping online 2. 86 people use laptop to access the shopping online 3. 30 people use desktop to access the shopping online. 4. 12 people use tablet to access the shopping online, meaning people have smartphones in pocket which makes it super easy to just click and shop rather than open laptop or desktop for shopping

9 What is the screen size of your mobile device?

observation:-1. The screen size of Mobile device of the people shopping online of 5.5 inches are 99 2. The screen size of Mobile device of the people shopping online of 4.7 inches are 29 3. The screen size of Mobile device of the people shopping online of 5 inches are 7 4. The screen size of Mobile device of the people shopping online of others are 134, meaning now a days average mobile size is 5.5 inches that's why the count is high

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

observation:- 1. The operating system used by people who are shopping online in windows/ windows Mobile are 122. 2.The operating system used by people who are shopping online in Android are 85. 3. The operating system used by people who are shopping online in IOS/MAC are 62, meaning operating system in mobile phone is usually windows, very few people have ios

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

observation:- 1. the browser used by people in the device to access the website in Google Chrome are 216 2. the browser used by people in the device to access the website in safari are 40. 3. the browser used by people in the device to access the website in opera are 8 4. the browser used by people in the device to access the website in Mozilla fire Fox are 5, meaning google chrome is easy to access and fast so maximum people just use chrome only.

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

observation:- 1.There are 230 people who follow the search engine channel to arrive at your favourite online store for the first time. 2.There are 20 people who follow the content marketing channel to arrive at your favourite online store for the first time. 3.There are 19 people who follow the Display Adverts to arrive at your favourite online store for the first time, meaning search engines are mostly used channels to arrive at favourite online store

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

observation:- 1.after the first visit, people do reach the online retail score through the search engine are 87 2.after the first visit, people do reach the online retail score through the Via Application are 86 3.after the first visit, people do reach the online retail score through the Direct URL are 70. 4. after the first visit, people do reach the online retail score through the E-mail are 18. 5.after the first visit, people do reach the online retail score through the Social Media are 8,meaning either people run via search engine or now a days application have taken a high road makes it easy to access for shopping rather than website

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

observation:- 1.the people exploring the e-retail store before making the purchase decision more than 15 minutes are 123. 2. the people exploring the e-retail store before making the purchase decision between 6 and 10 minutes are 71. 3. the people exploring the e-retail store before making the purchase decision between 11 and 15 minutes are 46.

4.the people exploring the e-retail store before making the purchase decision less than 1 mins are 15. 5.the people exploring the e-retail store before making the purchase decision between 1and 5 mins are 14, meaning people usually explore all options before shopping and payment.

15 What is your preferred payment Option?

observation:- 1. The number of people who preferred payment location as credit/debit cards are 148 2.The number of people who preferred payment location as cash on delivery are 76 3.The number of people who preferred payment location as E-wallets(paytm, Free charge etc) cards are 45, meaning now a days people carry credit/debit card saved over application makes easy payment online rather than cash on delivery.

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

observation:-1.the people abandon on the shopping cart sometimes are 171 2.the people never abandon on the shopping cart are 48 3.the people abandon on the shopping cart frequently are 35 4.the people abandon on the shopping cart very Frequently are 15,meaning people add to cart the item but keep exploring other options with buying it.

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

observation:- 1. The people abandon the bag for better alternative offer are 133 2.The people abandon the bag for Promo code not applicable are 54 3.The people abandon the bag for change in price are 37 4. The people abandon the bag for lack of trust are 31 5. The people abandon the bag for no preferred mode of payment are 14, meaning people explore all options and do fine alternative offer on other application frequently

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

Observation:-in this data mostly people strongly agree to the point where data must be easy to understand, only 25 people does not agree to the statement

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

observation:- 1.information on similar product people who strongly agree are 116 2.information on similar product people who agree are 92 3.information on similar product people who are indifferent are 43 4.information on similar product people who dis-agree are 18,meaning customer should be aware of the comparison before shopping which makes easy for him to explore

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

observation:- 1.people who agree on complete information on listed seller and product being offered is important by purchase factor are 101. 2. people who strongly agree on complete information on listed seller and product being offered is important by purchase factor are 87. 3. people who become indifferent on complete information on listed seller and product being offered is important by purchase factor are 52. 4. people who disagree on complete information on listed seller and product being offered is important by purchase factor are 18. 5. people who strongly disagree on complete information on listed seller and product being offered is important by purchase factor are 11, meaning more information can help the customer to buy easily and here maximum agree.

21. All relevant information on listed products must be stated clearly

observation:-1. people who agree on all relevant information on listed products are 132 2.people who strongly agree on all relevant information on listed products are 107 3.people who strongly dis-agree on all relevant information on listed products are 18 4.people who disagree on all relevant information on listed products are 12, as relevent information can lead the customer to buy product easily and here everyone agree

22. Ease of navigation in website

observation:-1.people who strongly agree on ease of navigation are 141. 2.people who agree on ease of navigation are 105 3.people who strongly disagree on ease of navigation are 18 4.people who disagree on ease of navigation are 5, meaning more the complex application/website , more the customer will be leaving

23. Loading and processing speed

observation :- 1.people who strongly agree on loading and processing speed are 115. 2.people who agree and loading and processing the speed are 112. 3.people who dis-agree on loading and processing the speed are 18. 4.people who are indifferent in loading and processing the speed are 12. 5.people who are strongly dis-agree on loading and processing the speed are 12,meaning loading speed should be fast for easy access for customer

24. User friendly Interface of the website

observation:-1. people who strongly agree on user friendly interface of the website are 45. 2. people who strongly disagree on user friendly interface of website are 18. 3.people who dis-agree on user friendly interface of website are 12 4. people who are indifferent on user friendly interface on website are 5, meaning yes interface should not be complex which will drive customers away

25. Convenient Payment methods

observation:-1.people who strongly agree on convenient payment methods are 159. 2.people who are on convenient payment methods are 80. 3. people who dis-agree on convenient payment methods are 30,meaning in the world of digitalisation, customer should have numbers of payment methods and here everyone agree

26. Trust that the online retail store will fulfil its part of the transaction at the stipulated time

observation:-1.people who strongly agree on the trust that online retail score will fulfil its part of transaction at the stipulated time are 141 2.people who agree on the trust that online retail score will fulfil its part of transaction at the stipulated time are 86 3.people who disagree on the trust that online retail score will fulfil its part of transaction at the stipulated time are 30. 4.people who are indifferent on the trust that online retail score will fulfil its part of transaction at the stipulated time are 12, meaning if the online store isnt fulfilling the customer needs within time then it will drive customers away

27 Empathy (readiness to assist with queries) towards the customers

observation:-1. people who strongly agree on empathy towards the consumer are 194. 2.people who agree on empathy towards the consumer are 42 3.people who strongly disagree on empathy towards the consumer are 18. 4.people who are indifferent on empathy towards the consumer are 15, meaning for purchasing customer do have queries so here i agree that assistance about products should be great

28. Being able to guarantee the privacy of the customer

observation:-1.people who are strongly agree on being able to guarantee the privacy of the customer are 185. 2. people who agree on being able to guarantee the privacy of the customer are 58. 3. people who are indifferent on being able to guarantee the privacy of the customer are 26, meaning if company is able to guarantee the privacy of customer then customer will obviously trust the website

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

observation:-1.people who are strongly agree on the responsiveness, availability of several communication channels are 149. 2.people who are agree on the responsiveness, availability of several communication channels are 94. 3.people who are indifferent on the responsiveness, availability of several communication channels are 15. 4.people who are strongly disagree on the resposivness, availability of several communication channels are 11, meaning response from company should be quick with all channels available

30 Online shopping give monetary benefit and discounts

observation:-1. people who are strongly agree on the online shopping gives monetary benefit are 105 2. people who are agree on the online shopping gives monetary benefit are 85. 3.people who are indifferent on the online shopping gives monetary benefit are 50. 4.people who are strongly disagree on the online shopping gives monetary benefit are 18. 5.people who are dis-agree on the online shopping gives monetary benefit are 11, meaning online shopping have all discounts makes customer trust the product and easy to buy

31 Enjoyment is derived from shopping online

observation:-1. people who are strongly agree on the enjoyment is derived from shopping online are 86. 2.people who are indifferent on the enjoyment is derived from shopping online are 75. 3.people who are agree on the enjoyment is derived from shopping online are 59. 4.people who are strongly disagree on enjoyment is derived from shopping online are 30. 5.people who are disagree on the enjoyment is derived from shopping online are 19, meaning yes people enjoy online shopping as it's easy to buy.

32 Shopping online is convenient and flexible

observation:-1.People who are strongly agree on the shopping online is convenient and flexible are 146 2.People who are agree on the shopping online is convenient and flexible are 78. 3.people who are indifferent on the shopping online is convenient and flexible are 33 4.people who are disagree on the shopping online are 12, meaning online shopping is simplest way to save time and its flexible

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

observation:-1.people who strongly agree on return and replacement policy of the e-tailor is important for the purchase decision are 198. 2.people who agree on return and replacement policy of the e-tailor is important for the purchase decision are 51. 3.people who dis-agree on return and replacement policy of the e-tailor is important for the purchase decision are 20, meaning online stores should have replacement policy as sometimes product doesn't suit customer.

34 Gaining access to loyalty programs is a benefit of shopping online

observation:-1. people who are strongly agree on the gaining access to loyalty programs is a benefit of shopping online are 115 2.people who are indifferent on the gaining access to loyalty programs is a benefit of shopping online are 64. 3.people who are agree on the gaining access to loyalty programs is a benefit of shopping online are 64 4.people who are disagree on the gaining access to loyalty programs is a benefit of shopping online are 15 5.people who are strongly disagree on the gaining access to loyalty programs is a benefit of shopping online are 11, meaning gaining access to loyalty program is benefit

35 Displaying quality Information on the website improves satisfaction of customers

observation:-1.people who are strongly agree on displaying the quality information of the website improves satisfaction of the customer are 133. 2.people who are agree on displaying the quality information of the website improves satisfaction of the customer are 80. 3.people who are indifferent on displaying the quality information of the website improves satisfaction of the customer are 56, meaning quality information helps customers to attract and trust

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

observation:-1. people who are strongly agree on User device satisfaction while shopping on a good quality website or application are 175. 2.people who are agree on User device satisfaction while shopping on a good quality website or application are 86. 3.people who are disagree on User device satisfaction while shopping on a good quality website or application are 8,meaning better the quality, better the count of customer.

37 Net Benefit derived from shopping online can lead to users satisfaction

observation:-1.people who are strongly agree on Net Benefit derived from shopping online can lead users satisfaction are 164. 2.people who are agree on Net Benefit derived from shopping online can lead users satisfaction are 54 3.people who are indifferent on Net Benefit derived from shopping online can lead users satisfaction are 40. 4.people who are disagree on Net Benefit derived from shopping online can lead users satisfaction are 11, meaning net benifit can lead to user satisfaction.

38 User satisfaction cannot exist without trust

observation:-1.people who are strongly agree on the user satisfaction cannot exist without trust are 122. 2.people who are agree on the user satisfaction cannot exist without trust are 122. 3.people who are strongly disagree on the user satisfaction cannot exist without trust are 122. 4.people who are disagree on the user satisfaction cannot exist without trust are 122. 5.people who are indifferent on the user satisfaction cannot exist without trust are 122, meaning user wont trust unless he is satisfied and can trust easily.

39 Offering a wide variety of listed product in several category

observation:-1.people who strongly agree on Offering a wide variety of listed product in several category are 111 2.people who agree on Offering a wide variety of listed product in several category are 94. 3. people who are indifferent on Offering a wide variety of listed product in several category are 57 4.people who are disagree on Offering a wide variety of listed product in several category are 7, meaning more the option under one website, more the count of customers

40 Provision of complete and relevant product information

observation:-1.people who strongly agree on the Provision of complete and relevant product information are 135 2.people who agree on the Provision of complete and relevant product information are 98 3.people who are indifferent on the Provision of complete and relevant product information are 31 4.people who are disagree on the Provision of complete and relevant product information are 5, meaning more the information , more the customers will be attracted

41 Monetary savings

observation:-1.people who are strongly agree on the monetary savings are 148 2.people who are agree on the monetary savings are 75 3.people who are disagree on the monetary savings are 31 4.people who are indifferent on the monetary savings are 15

42 The Convenience of patronizing the online retailer

observation:-1.people who are strongly agree on The convenience of patronizing the online retailer are 138 2.people who are indifferent on The convenience of patronizing the online retailer are 77 3.people who are strongly agree on The convenience of patronizing the online retailer are 54

43 Shopping on the website gives you the sense of adventure

observation:-1.people who agree on Shopping on the website gives you the sense of adventure are 101 2.people who are indifferent on Shopping on the website gives you the sense of adventure are 59 3.people who strongly-agree on Shopping on the website gives you the sense of adventure are 54 4.people

who dis-agree on Shopping on the website gives you the sense of adventure are 50. 5. people who strongly disagree on Shopping on the website gives you the sense of adventure are 5, meaning yes it is easy but complex applications or website can make customer go away , meaning it should be complex it should be easy to access

44 Shopping on your preferred e-tailer enhance your social status

observation:-1.people who agree on Shopping on the e-tailer enhances social status are 59 2.people who are indifferent on Shopping e-tailer enhances social status are 100 3.people who strongly-agree on Shopping on the website e-tailer enhances social status are 48 4.people who dis-agree on Shopping on the website e-tailer enhances social status are 33. 5. people who strongly disagree on Shopping on the website e-tailer enhances social status are 29, meaning every person have different view on enhancement of social status

45 You feel gratification shopping on your favourite e-tailer

Observation:-almost 100 have indifferent views on feel gratification shopping on their favourite e-tailer, meaning people have different views

46 Shopping on the website helps you fulfil certain roles

observation:- observation says 50 % says yes , 50% doesn't agree with this

47 Getting value for money spent

observation:-1.people who are agree on Getting value for money spent are 149 2.people who are strongly agree on Getting value for money spent are 82 3.people who are indifferent on Getting value for money spent are 38, meaning customer should feel satisfied for his getting value for his money spent which makes trust

48 From the following, tick any (or all) of the online retailers you have shopped from

observation:- 1.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 82 2.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 44 3.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, are 32 4.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com are 29 5.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Snapdeal.com are 27 6.From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com are 20. 7. From the following, the online retailers people have shopped from Amazon.in are 16. 8. From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Paytm.com are 12. 9. From the following, the online retailers people have shopped from Amazon.in, Flipkart.com, Paytm.com are 7, meaning usually people explore famous website options.

49 Easy to use website or application

observation:-1.people Easy to use website or application in Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 64 2.people Easy to use website or application in Amazon.in, Flipkart.com are 44 3.people Easy to use website or application in Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 44. 4.people Easy to use website or application in Amazon.in are 29. 5.people Easy to use website or application in Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com are 22. 6.people Easy to use website or application in Amazon.in, Paytm.com, Myntra.com are 20 7.people Easy to use website or application in Amazon.in, Flipkart.com, Myntra.com are 19. 8.people Easy to use website or application in paytm.com are 12 9.people Easy to use website or application in Flipkart.com are 8 10.people Easy to use website or application in Amazon.in, paytm.com are 7, meaning website like Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are easy to access

50 Visual appealing web-page lay out

observation:-1.people who visual appealing the web page layout in Amazon.in, Flipkart.com are 87 2.people who visual appealing the web page layout in Amazon.in, Flipkart.com, paytm.com, myntra.com, snapdeal.com are 44. 3.people who visual appealing the web page layout in Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 36 4.people who visual appealing the web page layout in Amazon.in, Paytm.com, Myntra.com are 20 5.people who visual appealing the web page layout in Amazon.in, Myntra.com are 15 6.people who visual appealing the web page layout in Myntra.com are 15. 7.people who visual appealing the web page layout in Flipkart.com, Myntra.com are 15 8.people who visual appealing the web page layout in Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 14 9.people who visual appealing the web page layout in

Flipkart.com are 12 10.people who visual appealing the web page layout in Amazon.in, Flipkart.com, paytm.com, Snapdeal.com are 11, meaning websites like Amazon.in, Flipkart.com has visual appealing.

51 Wild variety of product on offer

observation:-1.wide variety of product on offer in Amazon.in, Flipkart.com are 130 2.wide variety of product on offer in Amazon.in are 43 3.wide variety of product on offer in Amazon.in, myntra.com are 20 4.wide variety of product on offer in Myntra.com, Flipkart.com are 15 5.wide variety of product on offer in Myntra.com are 15 6.wide variety of product on offer in Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 14 7.wide variety of product on offer in Amazon.in, Flipkart.com, Paytm.com are 13 8.wide variety of product on offer in flipkart.com are 12 9.wide variety of product on offer in paytm.com are 12 7, meaning website Amazon.in, Flipkart.com have wide variety of products on offer

52 Complete, relevant description information of products

observation:1.-people know the Complete, relevant description information of products on Amazon.in, Flipkart.com are 100 2.people know the Complete, relevant description information of products on Amazon.in are 43 3.people know the Complete, relevant description information of products on Amazon.in, Flipkart.com, paytm.com are 24 4.people know the Complete, relevant description information of products on Amazon.in, Paytm.com, Myntra.com are 20 5.people know the Complete, relevant description information of products on Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 15 6.people know the Complete, relevant description information of products on Amazon.in, Flipkart.com, Myntra.com are 15. 7.people know the Complete, relevant description information of products on Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 14. 8.people know the Complete, relevant description information of products on Snapdeal.com are 12. 9.people know the Complete, relevant description information of products on Flipkart.com, Snapdeal.com are 11. 10.people know the Complete, relevant description information of products on Flipkart.com are 8 11.people know the Complete, relevant description information of products on Amazon.com, Flipkart.com, Snapdeal.com are 7, meaning Amazon.in, Flipkart.com have relevent quality information

53 Fast loading website speed of website and application

observation:- 1.fast loading website speed of website and application in Amazon.in are 51 2.fast loading website speed of website and application in Amazon.in, Paytm.com are 44 3.fast loading website speed of website and application in Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 30 4.fast loading website speed of website and application

in Amazon.in, Flipkart.com, Snapdeal.com are 25 5.fast loading website speed of website and application in Amazon.in, Flipkart.com, Paytm.com are 25 6.fast loading website speed of website and application in Amazon.in, Flipkart.com, Paytm.com.com, Myntra.com are 14 7.fast loading website speed of website and application in snapdeal.com are 12. 8.fast loading website speed of website and application in Flipkart.com are 8, meaning Amazon.in has fastest loading speed.

54 Reliability of the website or application

observation:-1.Reliability of the website or application on Amazon.in are 61 2.Reliability of the website or application on Amazon.in, flipkart.com are 50 3.Reliability of the website or application on Amazon.in, Flipkart.com, Paytm.com are 36 4.Reliability of the website or application on Amazon.in, Paytm.com, Myntra.com are 35 5.Reliability of the website or application on Amazon.in, Flipkart.com, Snapdeal.com are 18 6.Reliability of the website or application on Flipkart.com are 15 7.Reliability of the website or application on Myntra.com are 15 8.Reliability of the website or application on Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 14 9.Reliability of the website or application on Amazon.in, Flipkart.com, Paytm.com, Snapdeal.com are 13 10.Reliability of the website or application on Paytm.com are 12, meaning Amazon.in, Flipkart.com are most reliable for users

55 Quickness to complete purchase

observation:-1.Quickness to complete purchase on Amazon.in are 66 2.Quickness to complete purchase on Amazon.com, Flipkart.com, Paytm.com are 37 3.Quickness to complete purchase on Amazon.com, Flipkart.com are 30. 4.Quickness to complete purchase on Amazon.com, Flipkart.com, Paytm.com are 20 5.Quickness to complete purchase on Amazon.com, Flipkart.com, Myntra.com are 30. 6.Quickness to complete purchase on Paytm.com are 25. 7.Quickness to complete purchase on Amazon.com, Flipkart.com, Myntra.com are 30 8.Quickness to complete purchase on Amazon.com, Flipkart.com, Myntra.com are 30, means amazon.in is easy to access and completing purchase

56 Availability of several payment options

observation:- 1.Availability of several payment options on Amazon.in, Flipkart.com by people is 65 2.Availability of several payment options on Amazon.in, Flipkart.com, Myntra.com by people is 40. 3. Availability of several payment options on Amazon.in, Flipkart.com, Patym.com, Myntra.com, Snapdeal.com by people is 39. 4. Availability of several payment options on Amazon.in by people is 23 5. Availability of several payment options on Patym.com, Myntra.com by people is 20. 6. Availability of several payment options on Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com by people is 19

7.Availability of several payment options on Amazon.in, Flipkart.com, Snapdeal.com by people is 18. 8. Availability of several payment options on Flipkart.com, Myntra.com, Snapdeal.com by people is 14. 9. Availability of several payment options on paytm.com by people is 12. 10. Availability of several payment options on Amazon.in, Patym.com by people is 11. 11. Availability of several payment options on Flipkart.com by people is 8, meaning Amazon.in, Flipkart.com have all possible options for payments.

57 Speedy order delivery

observation:- 1.speedy order delivery on Amazon.in are 107. 2. speedy order delivery on Amazon.in, Flipkart.com are 82. 3. speedy order delivery on Amazon.in, Flipkart.com, Snapdeal.com are 36. 4. speedy order delivery on Flipkart.com are 36. 5. speedy order delivery on Amazon.in, Flipkart.com, Myntra.com are 15. 6. speedy order delivery on Flipkart.com, Myntra.com, Snapdeal.com are 14, meaning Amazon.in has speedy order delivery than others.

58 Privacy of customers' information

observation:- privacy of customers information by people in Amazon.in are 71 privacy of customers information by people in Amazon.in, Flipkart.com are 54 privacy of customers information by people in Amazon.in, Flipkart.com, Myntra.com are 25 privacy of customers information by people in Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 24 privacy of customers information by people in Paytm.com are 18 privacy of customers information by people in Flipkart.com are 15 privacy of customers information by people in Myntra.com are 15 privacy of customers information by people in Amazon.in, Patym.com are 15. privacy of customers information by people in Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 14 privacy of customers information by people in Amazon.in, Flipkart.com, Paytm.com are 11 privacy of customers information by people in Amazon.in, Flipkart.com, Snapdeal.com are 7, meaning Amazon.in is reliable and have privacy of customer information like phone number

59 Security of customer financial information

observation:- Security of customer financial information on Amazon.in is 51 Security of customer financial information on Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com is 33 Security of customer financial information on Flipkart.com is 33 Security of customer financial information on Amazon.in, Flipkart.com, Snapdeal.com is 25 Security of customer financial information on Amazon.in, Flipkart.com is 24 Security of customer financial information on Amazon.in, Paytm.com, Myntra.com is 20 Security of customer financial information on Amazon.in, Snapdeal.com is 19 Security of customer financial information on Myntra.com is 15 Security of customer financial information on paytm.com is 15. Security of customer financial information on Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com is 14. Security of customer financial information on

Amazon.in, Flipkart.com, paytm.com is 11, meaning Amazon.in has also security for financial information of users like credit card details.

59 Perceived Trustworthiness

observation:-1. perceived trustworthiness on Amazon.in are 76 2.perceived trustworthiness on Amazon.in, Flipkart.com, Snapdeal.com are 36 3.perceived trustworthiness on Amazon.in, Myntra.com are 35 4.perceived trustworthiness on Amazon.in, flipkart.com are 31 5.perceived trustworthiness on flipkart.com are 27 6.perceived trustworthiness on Amazon.in, Flipkart.com, Myntra.com, Snapdeal.com are 25 7.perceived trustworthiness on Amazon.in, Flipkart.com, Paytm.com, Myntra.com, Snapdeal.com are 13 8.perceived trustworthiness on Amazon.in, Flipkart.com, Paytm.com are 11, meaning Amazon.in is most trustworthy

60 Presence of online assistance through multi-channel

observation:-Presence of online assistance through multi-channel on Amazon.in, Flipkart.com, Myntra.com, Snapdeal are 61 Presence of online assistance through multi-channel on Amazon.in is 60 Presence of online assistance through multi-channel on Amazon.in, Flipkart.com is 39 Presence of online assistance through multi-channel on Amazon.in, Snapdeal.com is 26 Presence of online assistance through multi-channel on Myntra.com is 20 Presence of online assistance through multi-channel on Amazon.in, Flipkart.com, Myntra.com is 15 presence of online assistance through multi-channel on Amazon.in, Myntra.com is 15 presence of online assistance through multi-channel on Amazon.in, Flipkart.com, Paytm.com is 13 presence of online assistance through multi-channel on Flipkart.com is 8, meaning maximum websites have online assistance which is easy to access more.

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

observation:-1.Longer time to get logged in Amazon.in are 57 2.Longer time to get logged in paytm.com are 38 3.Longer time to get logged in Amazon.in, Flipkart.com are 38 4. Longer time to get logged in Myntra.com are 35 5.Longer time to get logged in Amazon.in, Flipkart.com, Snapdeal.com are 29 6.Longer time to get logged in Flipkart.com, Paytm.com are 15 7.Longer time to get logged in Flipkart.com, Paytm.com, Snapdeal.com are 13 8.Longer time to get logged in Amazon.in, Paytm.com are 11 9.Longer time to get logged in Flipkart.com are 8, means Amazon.in takes longer time to get logged in

62 Longer time in displaying graphics and photos (promotion, sales,period)

observation:- 1.Longer time in displaying graphics and photos on Amazon.in, Flipkart.com are 60 2.Longer time in displaying graphics and photos on Amazon.in are 39 3.Longer time in displaying graphics and photos on Myntra.com are 35 4.Longer time in displaying graphics and photos on snapdeal.com are 34 5.Longer time in displaying graphics and photos on Myntra.com snapdeal.com are 25 6.Longer time in displaying graphics and photos on Flipkart.com snapdeal.com are 19 7.Longer time in displaying graphics and photos on paytm.com are 15 8.Longer time in displaying graphics and photos on Amazon.in, Myntra.com, Snapdeal.com are 14 9.Longer time in displaying graphics and photos on Amazon.in, paytm.com are 13, meaning as maimum people access so Amazon.in, Flipkart.com takes longer time to display

63 Late declaration of price (promotion, sales period)

observation:-Late declaration of price (promotion, sales period) on Myntra.com are 75 Late declaration of price (promotion, sales period) on paytm.com are 41 Late declaration of price (promotion, sales period) on paytm.com are 52 Late declaration of price (promotion, sales period) on snapdeal.com are 41 Late declaration of price (promotion, sales period) on flipkart.com are 38 Late declaration of price (promotion, sales period) on Amazon.in are 38 Late declaration of price (promotion, sales period) on Amazon.in, Paytm.com are 13. Late declaration of price (promotion, sales period) on Paytm.com, snapdeal.com are 7. Late declaration of price (promotion, sales period) on Amazon.in, Flipkart.com are 5, meaning myntra.com do de clear late of prices.

64 Longer page loading time (promotion, sales period)

observation:-Longer page loading time (promotion, sales period) on Myntra.com are 61 Longer page loading time (promotion, sales period) on paytm.com are 59 Longer page loading time (promotion, sales period) on FlipKart.com are 32 Longer page loading time (promotion, sales period) on snapdeal.com are 23 Longer page loading time (promotion, sales period) on Amazon.in, Flipkart.com are 18 Longer page loading time (promotion, sales period) on Amazon.in are 16 Longer page loading time (promotion, sales period) on Paytm.com, Snapdeal.com are 15 Longer page loading time (promotion, sales period) on Amazon.in, Snapdeal.com are 14 Longer page loading time (promotion, sales period) on Amazon.in, Paytm.com are 13 Longer page loading time (promotion, sales period) on Flipkart.com, Snapdeal.com are 11 Longer page loading time (promotion, sales period) on

Amazon.in, Paytm.com, Myntra.com are 7, meaning myntra.com takes longer time to load its page

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

observation:-Limited mode of payment on most products (promotion, sales period) on Snapdeal.com are 87 Limited mode of payment on most products (promotion, sales period) on Amazon.in are 62 Limited mode of payment on most products (promotion, sales period) on Flipkart.com are 31 Limited mode of payment on most products (promotion, sales period) on Amazon.in, Flipkart.com are 29 Limited mode of payment on most products (promotion, sales period) on paytm.com are 25 Limited mode of payment on most products (promotion, sales period) on Paytm.com, Snapdeal.com are 15 Limited mode of payment on most products (promotion, sales period) on Amazon.in, Paytm.com are 13 Limited mode of payment on most products (promotion, sales period) on Myntra.com, Snapdeal.com are 7, means snapdeal.com hasnt much mode of payment options

66 Longer delivery period

observation:-1.Longer delivery period on paytm.com are 72 2. longer delivery period on snapdeal.com are 64 3.longer delivery period on Flipkart.com are 44 4.longer delivery period on Amazon.in are 37 5.longer delivery period on Paytm.com, Snapdeal.com are 26 6.longer delivery period on myntra.com are 26, meaning paytm.com takes longer deliever time which drive customer crazy

67 Change in website/Application design

observation:- 1.Change in website/Application design in Amazon.com is 96 2.Change in website/Application design in Paytm.com is 63 3.Change in website/Application design in Amazon.in, Flipkart.com is 45 4.Change in website/Application design in Myntra.com is 45 5.Change in website/Application design in Flipkart.com is 20. 6.Change in website/Application design in Snapdeal.com is 8. 7.Change in website/Application design in Flipkart.com, Myntra.com is 7, meaning amazon.in frequently change its designs.

68 Frequent disruption when moving from one page to another

observation:-1. Frequent disruption when moving from one page to another in Amazon.in are 53 2. Frequent disruption when moving from one page to another in Myntra.com are 52 3. Frequent disruption when moving from one page to another in snapdeal.com are 49 4. Frequent disruption when moving from one page to another in paytm.com are 39 5.Frequent disruption when moving from one page to another in Flipkart.com are 26 6. Frequent disruption when moving from one page to another in Amazon.in, Flipkart.com are 25 7.Frequent disruption when moving from one page to another in Myntra.com, Snapdeal.com are 14 8.Frequent disruption when moving from one page to another in Flipkart.com, Snapdeal.com are 11, meaning amazon doesn't get frequent desruption while moving to another page

69 Website is as efficient as before

observation:-1.Website is as efficient as before in Amazon.in for 94 peoples 2.Website is as efficient as before in Flipkart.com for 47 peoples 3.Website is as efficient as before in Amazon.in, Flipkart.com for 45 peoples 4.Website is as efficient as before in Amazon.in, Flipkart.com, paytm.com for 25 peoples 5.Website is as efficient as before in Amazon.in, paytm.com for 18 peoples 6.Website is as efficient as before in paytm.com for 15 peoples 7.Website is as efficient as before in amazon.in, Paytm.com for 18 peoples 8.Website is as efficient as before in Paytm.com for 15 peoples 9.Website is as efficient as before in Paytm.com for 15 peoples 10. Website is as efficient as before in Myntra.com, Snapdeal.com for 14 peoples 11.Website is as efficient as before in Snapdeal.com for 11 peoples, meaning Amazon.in, Flipkart.com are efficient as well

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

observation:-1.the Indian online retailer would you recommend to a friend by people in Amazon.in are 79 2. the Indian online retailer would you recommend to a friend by people in Amazon.in, Flipkart.com are 39 3.the Indian online retailer would you recommend to a friend by people in Amazon.in, Flipkart.com are 62 4.the Indian online retailer would you recommend to a friend by people in Flipkart.com are 39 5.the Indian online retailer would you recommend to a friend by people in Amazon.in, Myntra.com are 30 6.the Indian online retailer would you recommend to a friend by people in Amazon.in, Paytm.com, Myntra.com are 20 7.the Indian online retailer would you recommend to a friend by people in Amazon.in, Flipkart.com, Myntra.com are 15 8.the Indian online retailer would you recommend to a friend by people in Amazon.in, Paytm.com are 13 9.the Indian online retailer would you recommend to a friend by people in Flipkart.com, Paytm.com, Myntra.com, snapdeal.com are 11, meainngAmazon.in, Flipkart.com are most reliable and can be recommended.

Interpretation of the Results

Overall, after the visualization of the dataset, it results out that for a customer retention he will look for above parameters like ease of access and payment methods or security which a website company should consider above all factors so that customer should trust the website and after all analysis amazon.in and flipkart are most reliable to recommend someone.

CONCLUSION

Key Findings and Conclusions of the Study→

After all visualization, I conclude that amazon and flipkart are most reliable websites to recommend someone.

Limitations of this work and Scope for Future Work

Limitations are there for few websites where customer can be defrauded via payment methods or quality wise where in

these case customer can leave from website and company can lose a customer and also too much error in website can also lose customers.

THANKYOU