

TOPIC

E-retail factors for customer activation and retention: A case study from Indian e-commerce customers

By: Atish Kalangutkar

Data Science Intern: Flip Robo Technologies

Introduction:

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.

What I have understood about this project:

So this a project based on customer activation and retention of online retailers that is E-retail. So this data set have been collected from a online shoppers. This project is categorical project. So what they have done is that they have given forms to 269 online shoppers and told them to give there feedback, so they were provided tick mark forms In which certain things are present such as if there should be ease of navigation in website or not, so they have to tick mark whether they agree or strongly agree something like that. So in this what people think about particular online retailers, such as they have included Amazon, Flipkart, Snapdeal, Myntra and Paytm. So this online shoppers have to choose what are there plus points, why they are choosing only specific online retailers and all other factors are mentioned in a tick mark form. So at last we need to decide which online retailer we will suggest to our friends.

About Columns/Features:

So there are about 269 rows and 71 columns in the data set. So there are basically 70 features. They are:

1-Gender of respondent

This column gives the information about how many male and females are there in this data set.

2-How old are you?

This column gives us the information of peoples age, as there groups in which they belong to.

3- Which city do you shop online from

In this we get to know about the city of the people

4-What is the Pin Code of where you shop online from?

In this we are getting the pin code of the people so that we will be able to know from which city and locality they belong to.

5-Since How Long You are Shopping Online ?

In this we get to know from how many months a particular person is shopping online.

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

In this column we get to know about the number of times a person have purchased online in past one year.

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

In this we come to know about the type internet meaning whether you are using internet via WiFi or mobile internet or something like that.

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

We get to know about the device he or she using while shopping online.

9-What is the screen size of your mobile device?

It shows the screen size of the device.

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

In this we get to know about the operating system of the device he or she using.

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

It tells about which browser does people like to use.

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

So when you came to know about a particular e-retail,how he or she first visited that app or website.

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

It gives the info about the medium or how he or she reached to the online retail store.

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

This gives us the info about how much time a person takes to explore the e-retail before making any purchase decision.

14-What is your preferred payment Option?

Its about the payment option.

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

Its about how many times a person abandon the selected item and leaving without making payment.

17-Why did you abandon the “Bag”, “Shopping Cart”?

Reason behind the abandoned item.

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-retailer 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-retailer enhances your social status
- 45-You feel gratification shopping on your favorite e-retailer
- 46-Shopping on the website helps you fulfill certain roles
- 47-Getting value for money spent

From column 18 to column 47, this columns are like the viewpoints of the people, meaning If they agree or strongly agree or they don't agree on certain things.

- 48-From the following, tick any (or all) of the online retailers you have shopped from
- 49-Easy to use website or application
- 50-Visual appealing web-page layout
- 51-Wild variety of product on offer
- 52-Complete, relevant description information of products
- 53-Fast loading website speed of website and application
- 54-Reliability of the website or application
- 55-Quickness to complete purchase
- 56-Availability of several payment options.
- 57-Speedy order delivery
- 58-Privacy of customers' information
- 59-Security of customer financial information
- 60-Perceived Trustworthiness
- 61-Presence of online assistance through multi-channel
- 62-Longer time to get logged in (promotion, sales period)
- 63-Longer time in displaying graphics and photos (promotion, sales period)
- 64-Late declaration of price (promotion, sales period)
- 65-Longer page loading time (promotion, sales period)
- 66-Limited mode of payment on most products (promotion, sales period)
- 67-Longer delivery period
- 68-Change in website/Application design
- 69-Frequent disruption when moving from one page to another

70-Website is as efficient as before

From column 48 to column 70, in this columns we are getting the information about which online retailer people are choosing according to certain conditions, meaning suppose if the conditions is about the faster delivery, so which online retailer is faster in terms of delivery of the material, whether it is Amazon or myntra or any other, so people have tick marked according to their view.

Exploratory Data Analysis:

- So in this project firstly I tried to understand the features in what way it is linked with the label. After that I imported the required libraries.
- I used pandas and numpy to load the dataset, also to find shape of the dataset meaning to know the rows and columns present in the data set, than to find the data types of the each of every column, than to find if there are any null values present in the data set, than to check the names of the column, than to find the duplicates, than to find the unique values of a particular column and the count of that unique values in the column.
- Than used seaborn and matplotlib to plot the several types of plots for visualization.
- So firstly loaded the data set, and by using `data.head()` code I checked the overview of the data set.
- Than I checked for the shape of the data set, meaning how many rows and columns are there in data set, So there are 269 rows and 71 columns.
- After that I checked if there are any null values present in the data set or not as I didn't find any null values present.
- After that I tried to find the data types of the columns. So in that only one column has integer data type and rest of the columns has string data type meaning object.
- Than I checked the each and every names of the columns .
- After that I checked if there any duplicates or not, and I found that there are about 166 duplicates, so I deleted them all and again checked the shape, now my rows reduced from 269 to 103.
- After that I checked for the unique values present In first column that is gender. So In that male and females were present. Than I checked how many males and females are present, so there are about 66 females and 37 males present in the dataset.
- After that I tried to plot the count plot, so in that we were clearly able to see that females were more than males.
- So after that I checked for the for age group of the people. Further I checked for unique values In that I found the different age group and so I checked for the counts and plotted count plot of that different age groups to visualize.
- So By looking at the plot it I was able to analyse that the people with age between 21 to 30 years are more in numbers followed by the people with age between 31-40 years and 41-50years. Least are from the age between 51 years and above and less than 20

years. That means most of the people that shops online are from the age group between 21-30 years followed by 31-40 years and least are from the age group between 51 years and above and less than 20 years

- In this by using panda I tried to find how many males and females are there in this age groups. and then I used count plot to visualize.
- So by looking at the plot I was able to say that from age group 21-30years most of the females purchase online compared to male. And like from every age group we can notice that number of females purchase online more than number of males. So we can say that most of the females who purchase online are from age group 21-30years and for male they are from group 31-40years.
- After that checked for the cities.I wanted to know from which cities people are purchasing online.So again checked for the unique values and then counts and then used to count plot to visualize.
- So by looking at the plot we can say that the most of the people are from Delhi followed by Greater Noida,Bangalore and Noida. And least are from bulandshahr. So that means that most of the orders come from Delhi followed by Greater Noida, Bangalore and Noida.. Least of the orders come from bulandshahr.
- So in this I further checked like I wanted to know who is purchasing more whether it is male or female from a particular city, so I used group by method and plotted count plot.
- By looking at the plot we can say that most of the females who shops online are from Greater Noida and Bangalore, whereas most of the males who shops online are from Delhi. Least of the females and males who shops online are from merut and greater Noida.
- After that I went through the pincode column to check from which pincode or locality most of the orders are coming and who shopping more from that pincode or locality is it males or females and I used count plot also.So by looking at the plot I came to know that most of the orders comes from area with pincode 201308 and most of the females purchases from that pincode.
- Then I looked up for how long this people are shopping online, so it looks like most of people are shopping online from 4 years and above so its shows that if the people are purchasing online from 4 years and above means the online retailers are giving good quality of material, or may be good discount on the products or some other reasons because most of the people are consistent with them for more than 4 years.
- Further I checked for the number of purchases done by the people for past one year, so it seems that most of the people have done online purchase less than 10 times followed by 31-40 times a year.
- Further I came to know that the most of the people use data from mobile(mobile internet) to access the internet. And most of them use smartphone to purchase online.
- Further it came into my notice that before making any decision of purchasing any item/product, most of the people spends more than 15 minutes on app or website.

- According to the people it seems that credit/debit cards is the preferred payment option followed by cash on delivery and e-wallets.
- After further analysis I came to know that most of the people have shopped from all five online retailers that is Amazon, Flipkart, Myntra, Snapdeal and Paytm.
- According to the most of the people it seems website is better to use than app because they find it very easy to use.
- Most of the people strongly agree that return and replacement policy of the e-retailer is important for purchase decision, not that all the people but seriously I also feel that it is important because while shopping online we don't know a particular item will fit us in terms of size or with our looks may be it is shoes or clothes or anything, so return and replacement policy plays an important role for purchase decision.
- Most of the people feel that Amazon website is the most reliable one followed by Flipkart.
- So further analysis shows that according to most of the online shoppers Amazon and Flipkart gives complete, relevant description and information about the products so that people should know what is the product/item. From what it is made up of and all. Some people want specific material products so it is important to give complete and relevant description and information about the product.
- According to most of the online shoppers it seems that Amazon and Paytm websites are the fast loading websites. It is important because if it is taking a long time to load the website then some of the online shoppers get irritated and then directly come out of the website, some of them don't have patience to wait every time to load the website. So it is important for online retailers to check the loading speed of the website because of this they may lose their valuable customers.
- Quickness to complete purchase also plays an important role because if you are selecting a certain product/item for purchase then the further steps to purchase should be very smooth and easy to understand. There should not be any unwanted popups or u-turn while doing purchase. So by analyzing it seems that Amazon is the quickest to complete the purchase.
- Now the speedy order delivery plays an important role because some of the people really need the item or product as fast as possible may be because it is not available in the shops nearby. So at that time speedy delivery plays an important role. So by analyzing it came into my notice that most of these online shoppers think that Amazon does the fastest delivery compared to other e-retailers which is a very important positive thing for the people to choose Amazon over other online retailers.
- Now about the longer delivery period, I don't have to explain about this because it makes a vast impact on the purchasing because no person likes to wait for a longer period once the item/product is ordered. So by going through the dataset and analyzing it seems that Paytm takes a long time to deliver the material.
- When these online shoppers were asked about the loading and processing speed is important or not, so most of them strongly believe that loading and processing speed should be good.

- About the payment methods most of them strongly agree that there should be convenient payment methods.
- Also most of them think that there should be wide variety of listed product in several categories because it becomes easy for a person to choose and also to compare.
- And here comes the discount or offer, So by analyzing it seems that Amazon and Flipkart has a wide variety of products on offer, so obviously people will get attracted to that website because offers on products plays a major role to attract the people.
- So in above one point I had mentioned about what this online shoppers think about the loading and processing speed, so most of them strongly agreed for it that there should be no problem loading page or it should take a lot of time to load the page. So by analyzing I came to know that Paytm takes the longer time to load the page.
- Snapdeal has the limited mode of payments and I think if there is a good discount on any of the product, and a person wants to purchase that item/product and if there is a suitable mode of payment than that person obviously will go to other website and if he finds the same offer over there with the suitable mode of payment than surely he will purchase from that website.
- Now coming to the monetary benefits and discounts, as it also attracts people, as it gives them extra benefits while purchasing, so it seems that most of the people strongly agree that online shopping gives them monetary benefits and discounts.
- Trust, this word is very important in any business. So most of them strongly agree that they have trust on the online retailers that they will fulfill its part of transaction at the stipulated time, this thing comes into notice when the person asks for refund and when your money is refunded within a time period. So in this what happens people start trusting that online retailer and which also gives a user a satisfaction that whatever that was being promised is being accomplished.
- Now about the privacy of customer information and security of the customer's financial information, it is very important that this thing should not be leaked outside as the financial information are very confidential. So after doing analysis it comes into my notice that Amazon keeps its customer private information and as well its financial information very safely and under high security so that it should not get leaked. By this people get confident that nothing wrong will happen if we purchase through this online retailer.

Conclusion:

By going through each and every aspect, analyzing each and every thing and keeping above points in mind I would recommend Amazon as the best online retailer because of particular reasons, they are:

- Firstly they provide better privacy and security for the customer's personal as well as financial information.
- It provides with wide variety of products with offer and also it gives wide variety of items/products to choose and compare.

- It delivers the product/items as as fast as possible compared to others(speedy order delivery).
- Quickness to complete purchase.
- Loading and processing speed of the website is faster than others.
- It gives complete, relevant description and information about the products.
- Website is very easy to use.

And about the other 4 websites that is Flipkart, Myntra,Paytm and Snapdeal.

I can say that Flipkart and myntra are also good but they lack some x factors such as speedy delivery.

And about Paytm and Snapdeal as they takes a longer delivery time as well as it has less mode of payments so I wont recommend it.