

MYNTRA.com
India's Largest Online Fashion Store

snapdeal.com

✓ **SHOPCLUES**.com

paytm

JABONG

COM

HOME SHOP 18

amazon.in

flipkart.com



ABSTRACT

Customer Retention is marketing process of engaging existing customers to continue buying products or services from your business.

Deepak Singh



E-retail factors for customer activation and retention

ACKNOWLEDGMENT

- This includes mentioning of all the references, research papers, data sources, professionals and other resources that helped you and guided you in completion of the project.
- I would like to thank FlipRobo Technologies for providing me this opportunity and guidance throughout the project and all the steps that are implemented.
- I have primarily referred to various articles scattered across various websites for the purpose of getting an idea on E-Commerce in general.
- I would like to thank the technical support team also for helping me out and reaching out to me on clearing all my doubts as early as possible.
- I would like to thank my project SME M/S Sapna Verma for providing the flexibility in time and also for giving us guidance in creating the project.
- My experience in E-Commerce also helped me start certain parts of the topic.
- I have referred to various articles in Towards Data Science and Kaggle and following are some of the articles I referred to in this project.

<https://sumo.com/stories/ecommerce-success-stories>

[https://www.campaignmonitor.com/blog/email-marketing/12-effective-ecommerce-customer-retention-](https://www.campaignmonitor.com/blog/email-marketing/12-effective-ecommerce-customer-retention-strategies/#:~:text=Customer%20loyalty%20and%20reward%20programs,even%20more%20with%20your%20brand.)

[strategies/#:~:text=Customer%20loyalty%20and%20reward%20programs,even%20more%20with%20your%20brand.](https://www.campaignmonitor.com/blog/email-marketing/12-effective-ecommerce-customer-retention-strategies/#:~:text=Customer%20loyalty%20and%20reward%20programs,even%20more%20with%20your%20brand.)

<https://www.bigcommerce.com/blog/amazon-competitors/>

[Thematic \(getthematic.com\)](https://www.bigcommerce.com/blog/amazon-competitors/Thematic (getthematic.com))

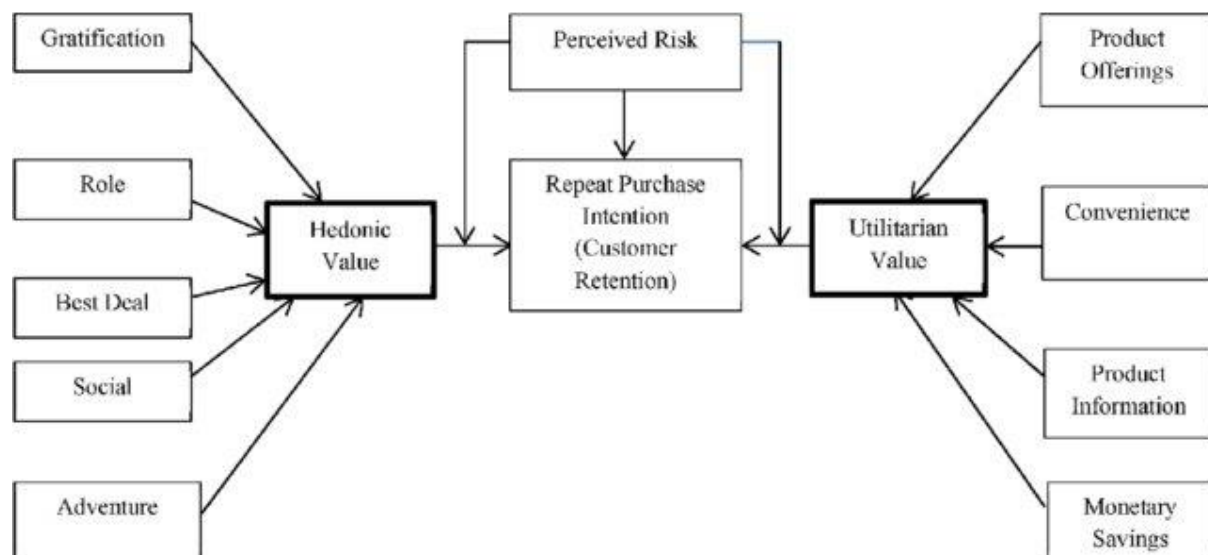
<https://www.shopify.in/blog/best-ecommerce-platforms-india>

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

INTRODUCTION

Business Problem Framing

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.

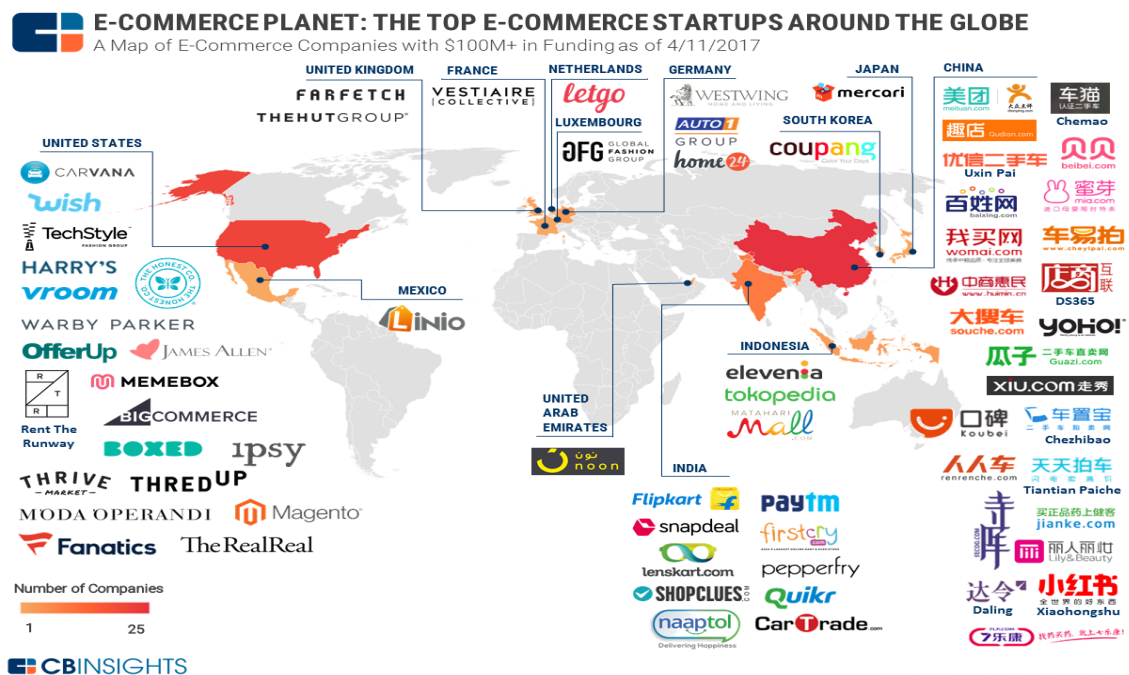


5 Key success factors for E-Commerce Business :

1. Branding.
2. USP. USP stands for Unique Selling Proposition.
3. Store Experience. A good store experience is a must have for Ecommerce success
4. Customer Retention. A business is never going to be a success without the army of Loyal Customers. Customer retention is helpful to get more sales and to build your brand. A loyal customer not only buys from you but he also spreads the good words in his network.
Already being used the product and they won't be affected by FUD (Fear, Uncertainty and Doubts).

5. Multi-Channel Marketing

There are opportunities lying everywhere in Internet. Some businesses are making millions from Facebook. Some businesses are killing their competition with Search Engine Marketing.



• Conceptual Background of the Domain Problem

Describe the domain related concepts that you think will be useful for better understanding of the project.

- This is an E-Commerce domain related problem and in general there are 4 types of domains within:

- B2C: This refers to selling of products from a business entity to a customer i.e. and individual person.
- B2B: When a business entity sells products or services to another business through online, it's B2B ecommerce. It could be wholesale, equipment's, manufacture to retailer etc.
- C2B: This is where a customer or consumer give's their services to businesses. Eg: companies pay the customers to give ratings or reviews exchange for money.
- C2C: When individual sells products or services to other individual online. Eg: Olx, Ebay where we can buy products from other customers directly.
- E-Commerce could be selling of products and could also be providing services. Eg: Web hosting, online memory management etc. But in our case, it's the physical products selling platform.



- **Motivation for the Problem Undertaken**

There was a time when monopoly existed between E-Commerce giants. Often times, if you ask a person about E-Commerce, they immediately relate it to online shopping. But is it limited only to that? We know some key factors like service quality, system quality, information quality, trust and net benefit are necessary for the success of any E-commerce brand. But are they the only factors? Could there be a possibility or scope of finding some other attributes that either benefit or create a negative credibility of a brand? After all, customer satisfaction is something we cannot measure or assume directly. This is how I got a keen interest in understanding how and why the factors or principles that were once used in “Brick and Mortar” stores are gradually decreasing and are implemented with little or complete change for omni-channel or ecommerce domains.

In this scenario, my objective is to determine whether the factors described as above truly live up to the mark or could there be other reasons also for the success or failure of customer satisfaction.

Analytical Problem Framing

- Mathematical/ Analytical Modelling of the Problem

Although there are many types of analytics, the dataset I worked on is of Descriptive Analytics.

We have a dataset that narrates the past actions that has occurred with respect to the customer's purchasing satisfaction.

This data inclines more towards all the Indian E-Commerce platform.

- Data Sources and their formats

Data set was in CSV format, it needs to be cleaned(columns mainly)

columns contains respondents analysis as to which website has the best in the factor

The dataset is provided by FlipRobo and is available for academic purpose only and not for any kind of commercial activities.

There are no details on the years during which this data was collected and is applied to and this appears to be a generic dataset.

The dataset contains the customer purchasing preferences of Indian E-Tailers with 269 records (rows) and 71 features (columns).

The columns contain the factors which can potentially affect the customer retention, where the factors contain how strongly the respondents agree to the factor in hand

Gender	Age	City	Which c	What is	Since H	How ma	How do	Which d	What is	What is	What b	Which	After fi	How m	What i	How fr	Why di	The co	Inform
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Female	21-30 year	Bangalore	530068	2-3 years	11-20 time	Wi-Fi	Smartphor	4.7 inches	IOS/Mac	Safari	Content M	Via applica	more than	Credit/Det	Frequently	Better alte	Strongly a	Indifferent	Inc
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Female	21-30 year	Bangalore	560037	2-3 years	41 times a	Mobile Inte	Smartphor	5.5 inches	IOS/Mac	Safari	Search En	Search En	6-10 mins	Credit/Det	Never	Better alte	Agree (4)	Agree (4)	Inc
Vale	31-40 year	Noida	201308	1-2 years	21-30 time	Mobile Inte	Laptop	Others	IOS/Mac	Safari	Content M	Via applica	more than	Credit/Det	Frequently	Better alte	Strongly a	Indifferent	Inc
Vale	41-50 year	Delhi	110011	Less than	Less than	Wi-Fi	Laptop	Others	Window/w	Google ch	Search En	Via applica	more than	E-wallets	(Frequently	Better alte	Strongly a	Strongly a	Sti
Female	41-50 year	Delhi	110018	1-2 years	Less than	Wi-Fi	Laptop	Others	Window/w	Google ch	Display Ad	Direct URL	more than	Credit/Det	Sometime	Promo coc	Agree (4)	Agree (4)	Ag

	v	vv
1	22 Ease of navigation in website	23 Loading and processing speed
2	Agree (4)	Strongly disagree (1)
3	Strongly agree (5)	Strongly agree (5)
4	Agree (4)	Agree (4)
5	Strongly agree (5)	Agree (4)

Navigation: < > | **datasheet** | codedsheet | +

- Data Inputs- Logic- Output Relationships

Data input and output are both categorical. The input is all the columns which are the factors and the output/label is the website that the respondent will refer a friend.

- For the purpose of EDA I used “datasheet” tab as the visualization I used need to have specific sub headings rather than just numerical values.

- After all the pre-processing, the data was split into x having all features and y with target feature and further into training and testing datasets for the purpose of building and predicting outputs.

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

- No features were dropped or deleted and all features were considered as the dataset is too small and I wanted to see if I can get best accuracy without the alteration.

As the dataset is very small to consider a base dataset, the predictions that we make may not impact on a very large scale.

- From the dataset “Which of the Indian online retailer would you recommend to a friend?” is assumed to be the target variable.

- The set of assumptions (if any) related to the problem under consideration :

The assumption taken here are that the respondent has knowledge about Amazon, Flipkart, Snapdeal, Paytm and Myntra

- Hardware and Software Requirements and Tools Used

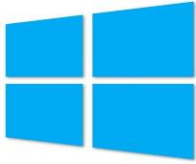
Listing down the hardware and software requirements along with the tools, libraries and packages used. Describe all the software tools used along with a detailed description of tasks done with those tools.

Hardware / Software specifications

Windows 10 64bit

Anaconda 2021 / Python version – Python 3.9.5

Software: Jupyter notebook, Panda library, numpy library, Matplotlib library, Seaborn library



Model/s Development and Evaluation

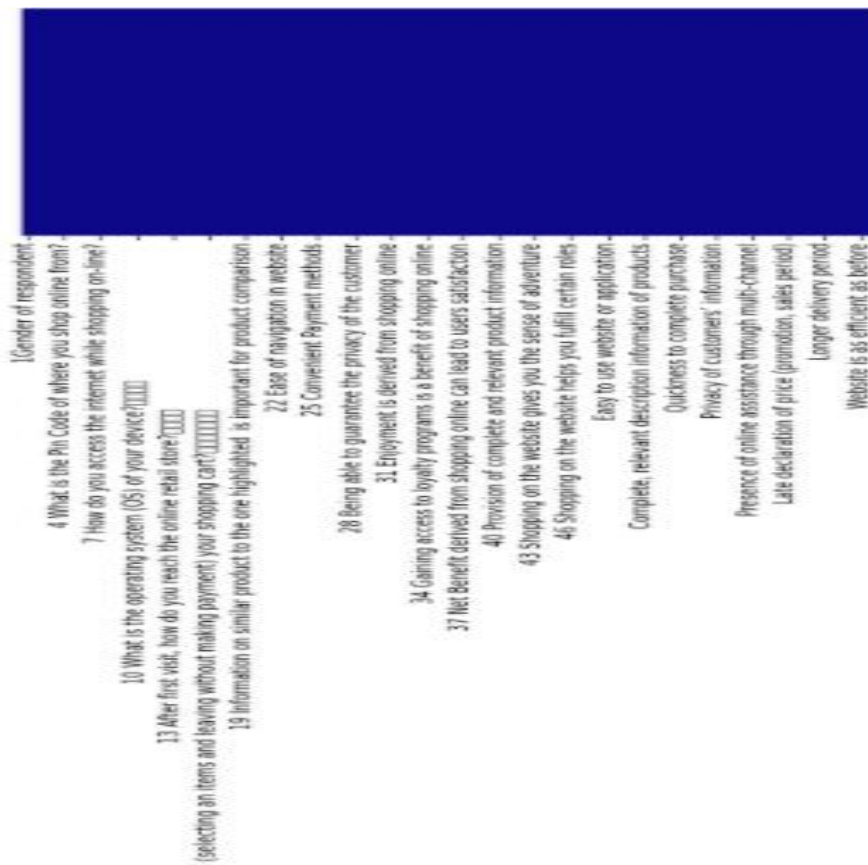
Identification of possible problem-solving approaches (methods)

The factors need to be found which can impact the customer retention capacity. This can be done by analysing the various factors and the store the respondent prefers. This will be done by checking each of the factors impacts the respondents decision making.

Visualizations

Explore the dataset with Pandas Profiling:

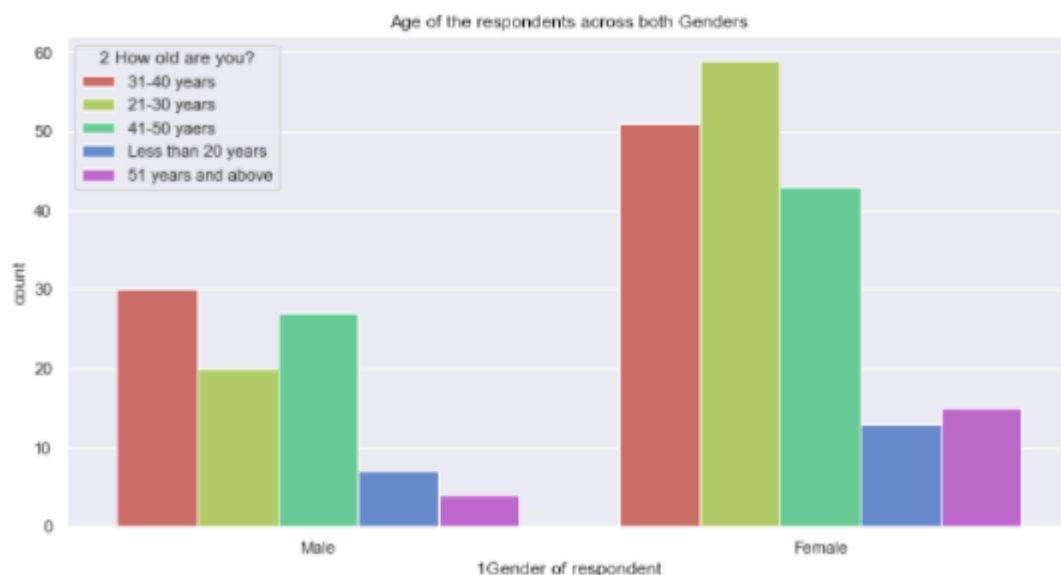
This heatmap shows us if there is any null values in the dataset. From this we can see that there are no null values



- The following dataset appears to have approximately 67% of Female respondents and approximately 32 % of Male respondents
we simply assume that Female purchase more online than Male, This dataset has only 269 records and it's merely difficult to conclude the majority in general.
- However we can assume that the data when this was recorded Female made more purchases than Male customers.
- Below is the percentage count followed with a plot to give us an idea of how it looks like in general.

```
gender_percent = (df["1Gender of respondent"].value_counts()/df.shape[0])*100
print(gender_percent)
```

```
Female    67.286245
Male      32.713755
Name: 1Gender of respondent, dtype: float64
```



Let's observe if there is any relationship between online purchases and the city

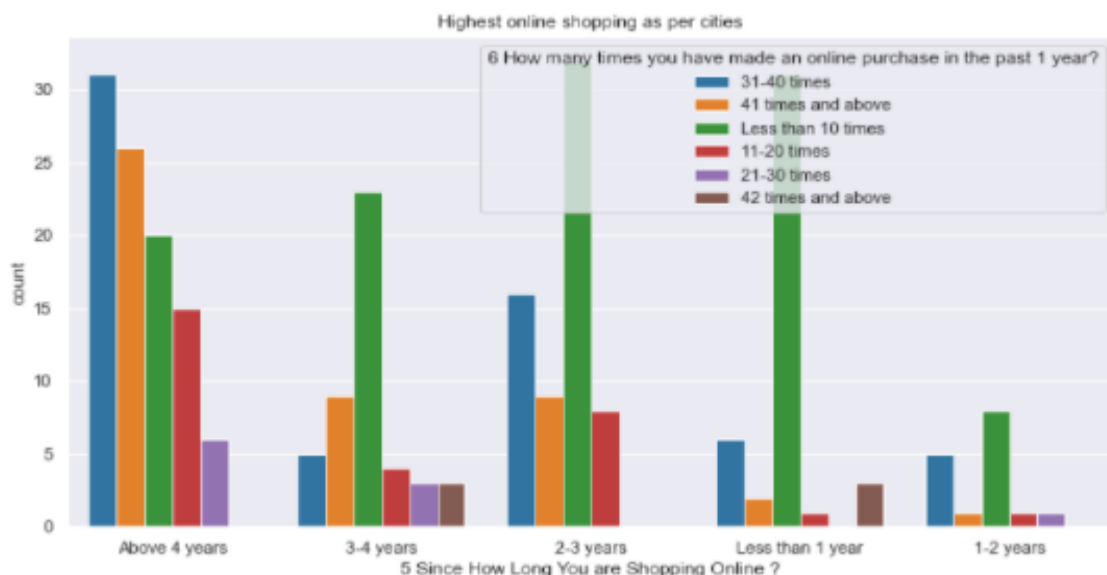
- We can see that the respondents in this case appear to be majorly from "Delhi" as it has highest online purchases followed by "Greater Noida", "Noida" and "Bangalore" seem to have high traffic in online purchases

We can observe that these are metropolitan or semi metropolitan cities at least, known for multiple companies and IT sector in general. A lot of outsiders come here and population is also very high.

- This could in a way may have created a pavement for more online purchases as opposed to going to Brick-and-Mortar stores



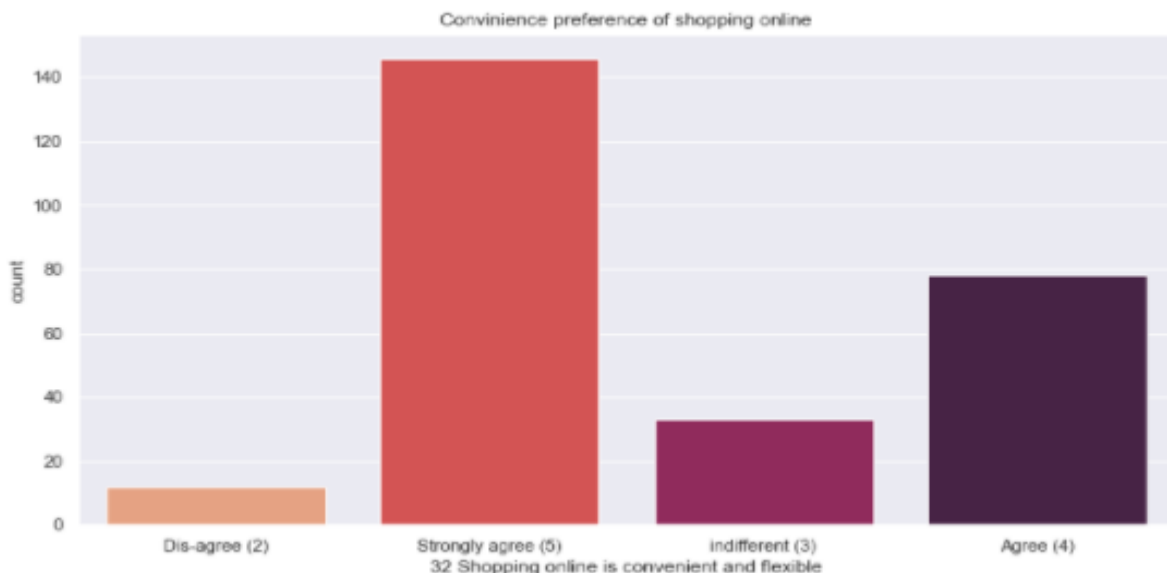
- We can see in every case, majority of people have bought products less than 10 times atleast in 1 the last 1 year
- As the customer gives more number of years to online purchase, the quantity of purchase also increases
- We can see that customer who have been purchasing online for more than 4 years and above have bought atleast 31- 40 times



Majority of customers prefer and are of the opinion that shopping online is convenient and flexible.

- At present, given the work conditions a person may not prefer going out. Going out for shopping also means spending more time and spending money to commute etc.

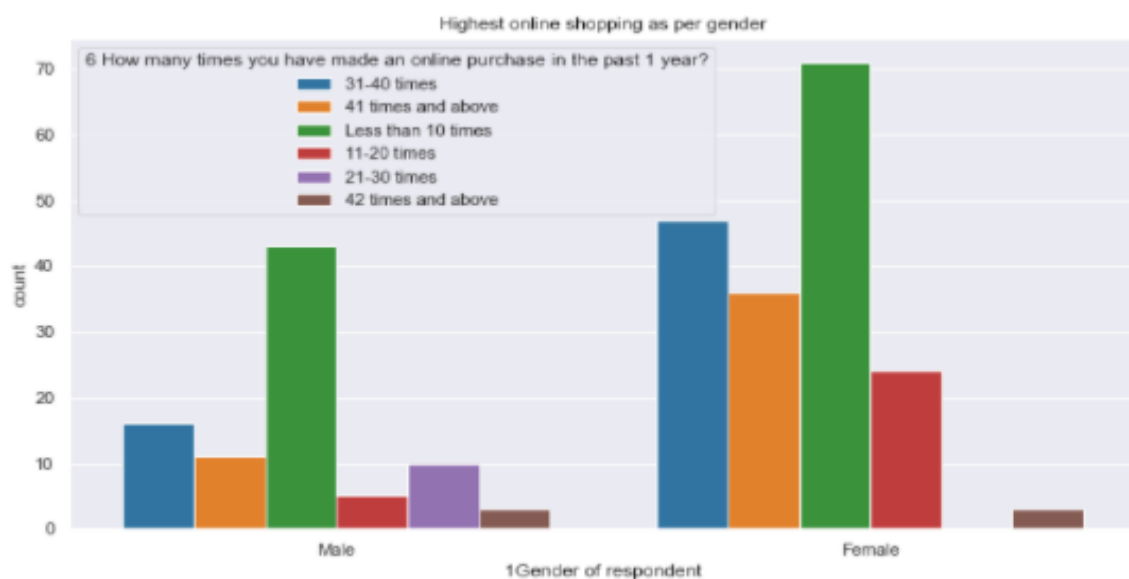
- It may not be a big deal, but imagine all you want is to buy a product that is relatively cheaper, or if products are manufacture or found in specific location, provinces etc. Travelling to that place for that product makes no sense.
- Also, the amount of time we may spend to investigate or compare physically can be reduced considerably by browsing online .



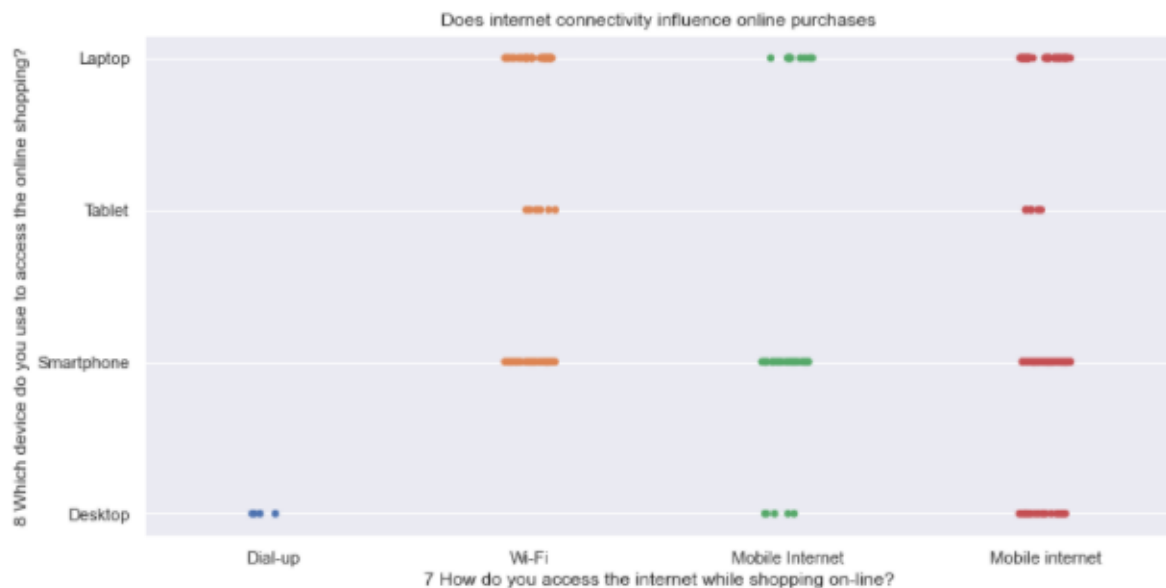
Gender of respondent:

From this graphs it was found that we have more Female customers and we can see very few customers have bought more than 42 times and above in a year among both the genders.

- But the rate of purchase of items at least "31- 40 times" or "less than 10 times" is more among "Women" than the total count of "Men"



we can assume that the data when this was recorded Female made more purchases than Male customers in the past 1 year.



This indicates the customers prefer ordering / shopping online and prefer "Smartphones" followed by "Laptops". These are 2 devices that are very common to have with most of the people whether they are working class or not

Devices customers prefer using to make online purchases

- If we observe the points carefully, we can see for "Laptop" and "Smartphone" it's almost full and "Smartphone" has more complete point of line.

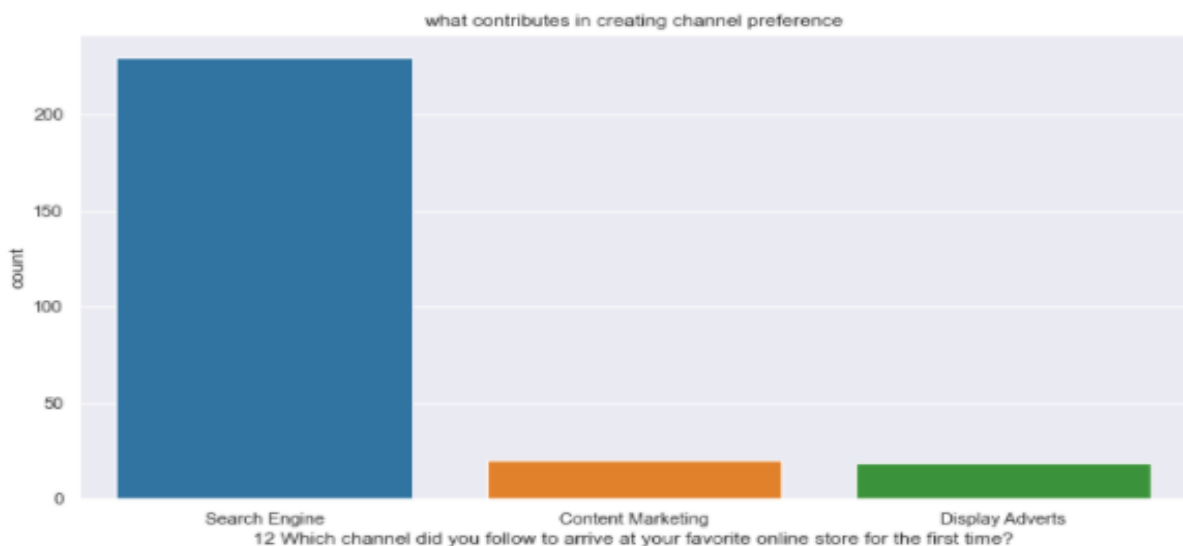
- This indicates the customers prefer ordering / shopping online and prefer "Smartphones" followed by "Laptops". These are 2 devices that are very common to have with most of the people whether they are working class or not.

- We also know that internet services and basic smartphones in India are relatively cheaper compared to most of the countries including the already developed nations.

- The indirect supply and demand seems to boost one's needs towards online shopping, not only because one wants to use but also because one can simply do it anywhere and from any device.

Relationship between channel and online store.

- We can see majority of people got to know about a specif store through search engines. These days it's quite common to search for an item online before buying products and the moment we do search, we get tonns of ads.
- The system understands our needs and in a way acts as a recommendation systems by targetting specific portions of that product by indirectly placing it in the search feeds.
- If we consider the other categories "Content Marketing" and "Display Adverts", we can see the count if very less and these categories could also be influencing customers through online medium.



Plot shows that a person shopping online would prefer browsing through "Search Engine" as mentioned earlier, "Via application" or direct through the "URL" .

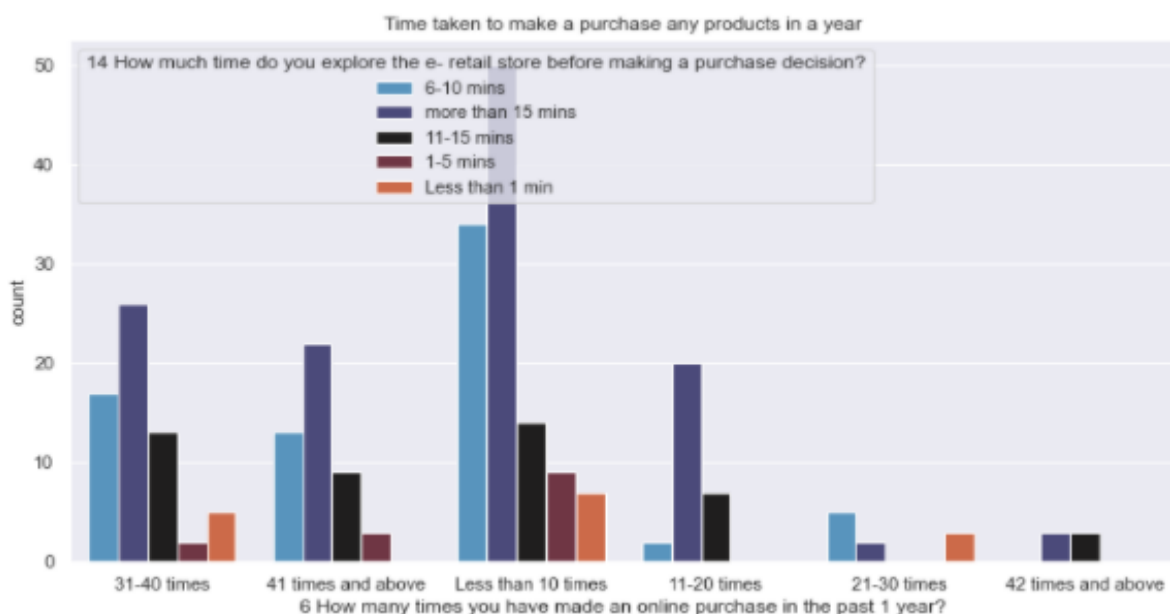
- We can see if a person purchase "within 1-5 mins" they may prefer going to specific online store directly. They know the services provided, they may have some kind of bias or inclination towards that E-commerce store and end up buying products impulsively or simply by trust.
- But majority of spend more than 15 mins before they make any purchases online as they spend time on exploring the channel, or may compare prices etc.

- We can also see that when it comes to "Search Engine" a person may spend somewhere between "6 - 10 mins". When we do not know what we are looking for and if we have a limited or irrelevant information, we tend to search through search engine like Google, Bing etc. which then directs us to relevant E-commerce stores.



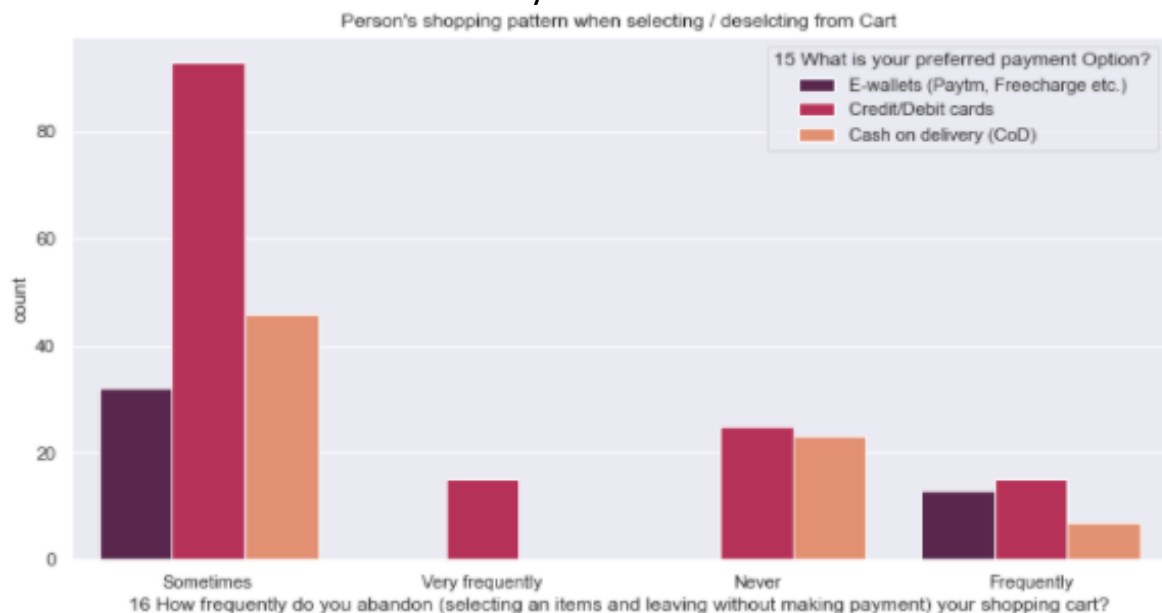
Observation that a person shops online frequently or not .

- We can see that a person's likely to spend more time if they seldom bought anything online. We can see from the below plot that a person may spend "more than 15 mins" if they have bought less than 10 products in a year.
- As and when a person's purchases increase the time spent on looking or comparing is less. The customer is familiar with the brand, they may have already done a proper research before shopping online.

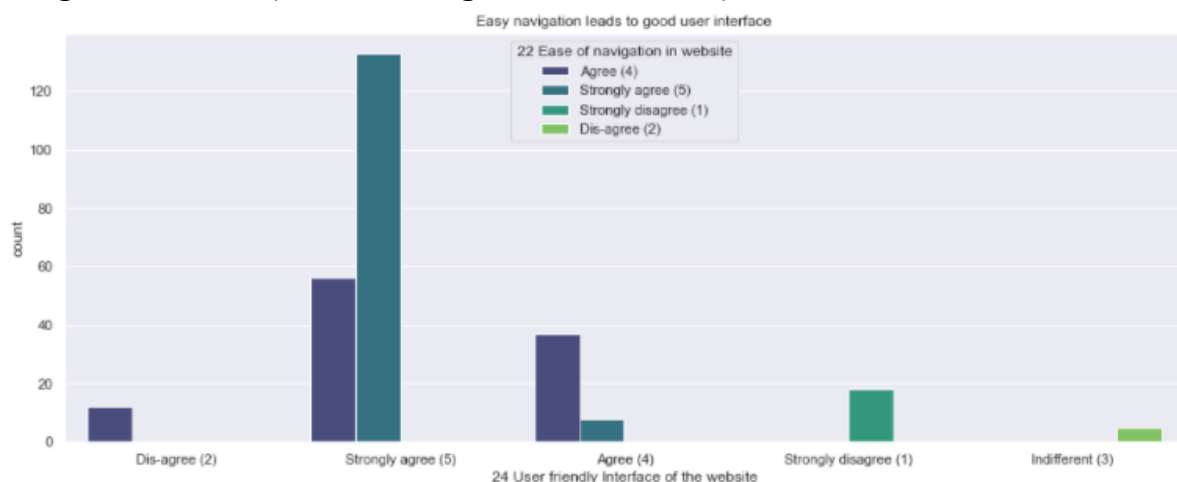


Decision to make a purchase right before making payment. :

- We can see that majority of customers don't do this and only "Sometimes" end up not shopping online. This could be due to decline in Credit/Debit cards, no availability of EMI or availability of EMI on specific Banks cards only etc.
- We can also consider "Phonepe" or "GooglePay" as options as they are directly linked to Debit cards and although seem like E-Wallets they are much different.
- It's also a typical mindset amongst most Indians when shopping online they don't prefer online payment for expensive items. There could be scenarios where there is no cash on delivery or even chances where a person's online transaction is cancelled due to daily limit



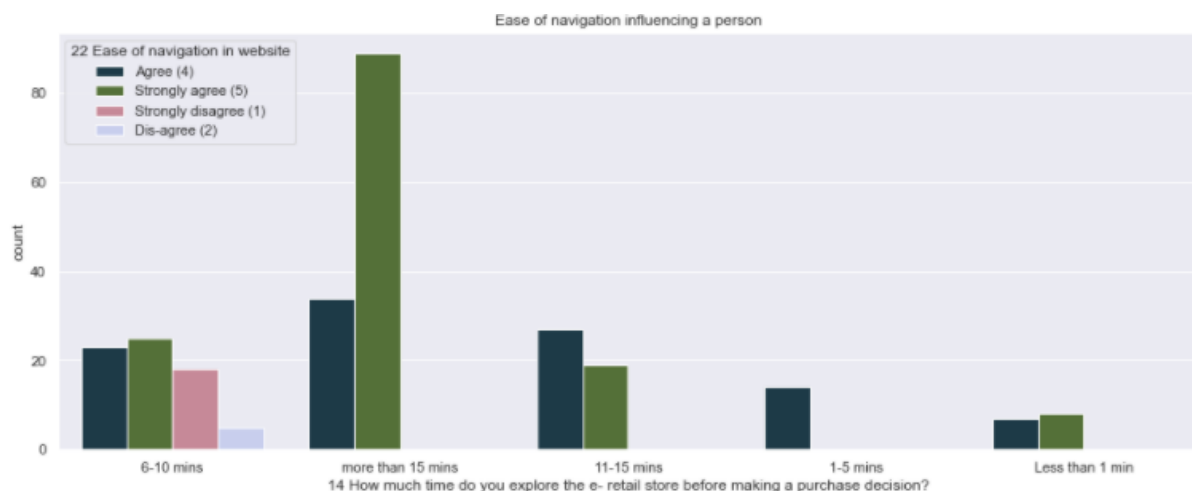
Usage of website (Ease of navigation in website) :



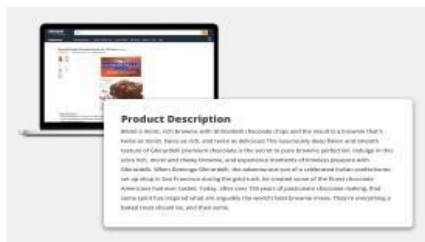
- We can see a person prefers a very good user interface that in turn helps in ease of navigation.
- Today we have multiple E-Commerce channels but still we pick only handful of them for most of our shopping needs.
- A good-looking website with proper navigation that can include selection, comparison, etc till the payment mode will help in creating a good user interface.

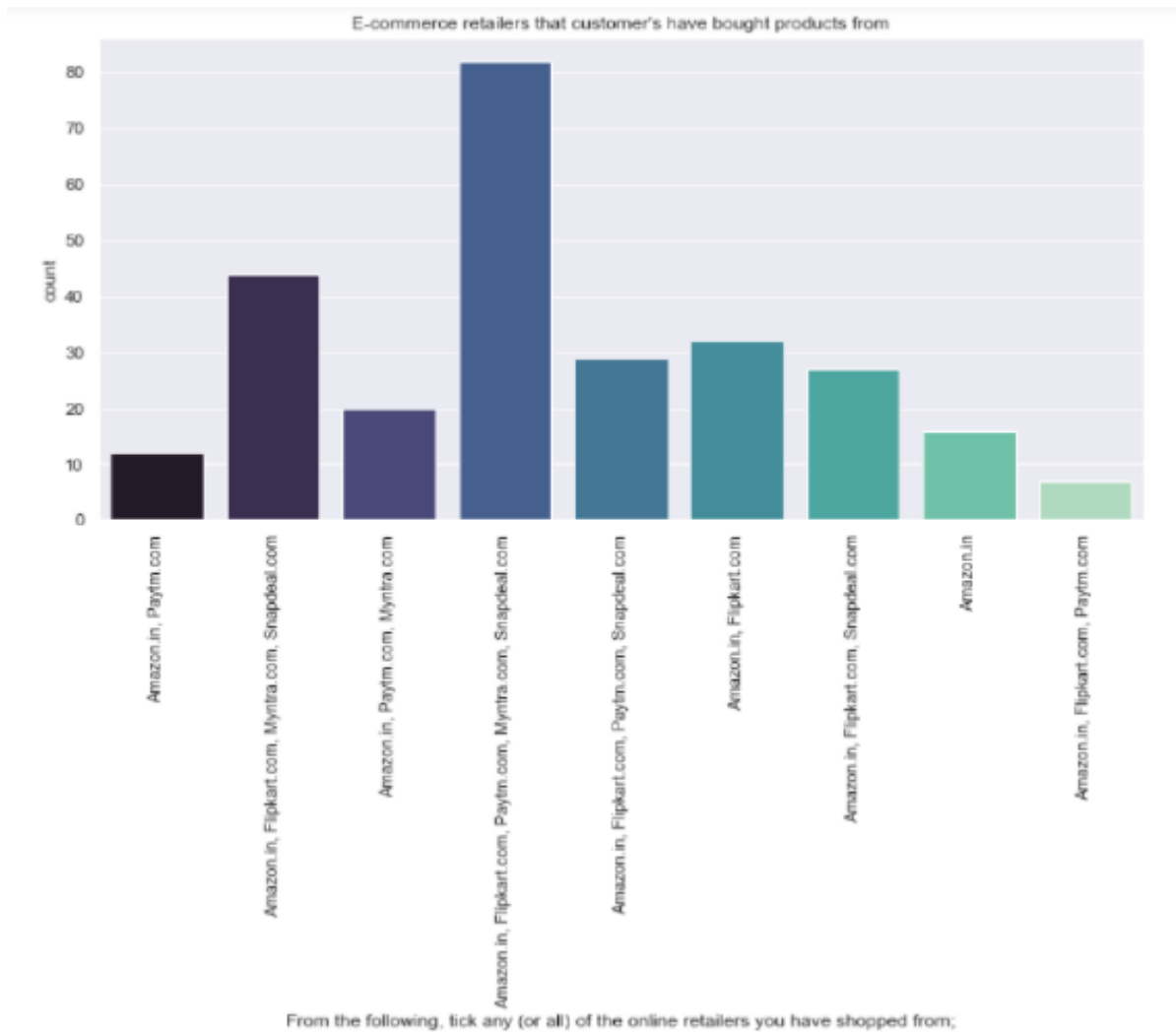
Ease of navigation, there is good chances for a person ending up buying:

- This is an understatement and based on this alone we cannot determine the outcome of purchasing behaviour but it surely keeps you occupied for longer time to browse some more products.
- If the user interface and navigation are good, we can even find similar products quite easily and this reduces the person's option of moving out of the cart by increasing the pool of products to select from.



Preference of E-Commerce retailers the customer prefer in general. Websites Amazon, Flipkart, Paytm, Myntra and Snapdeal are the most preferred online retailers.

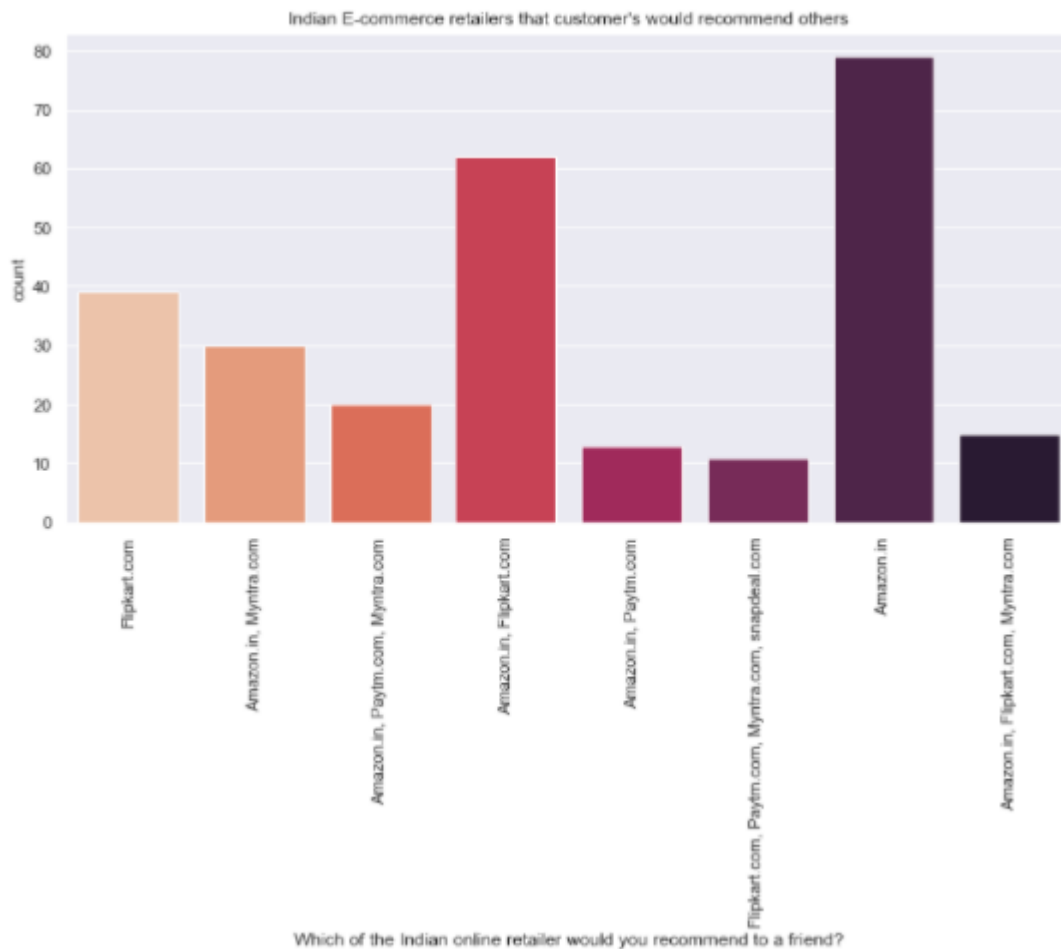




We can see that Amazon, Flipkart, Paytm, Myntra and Snapdeal are the most preferred online retailers

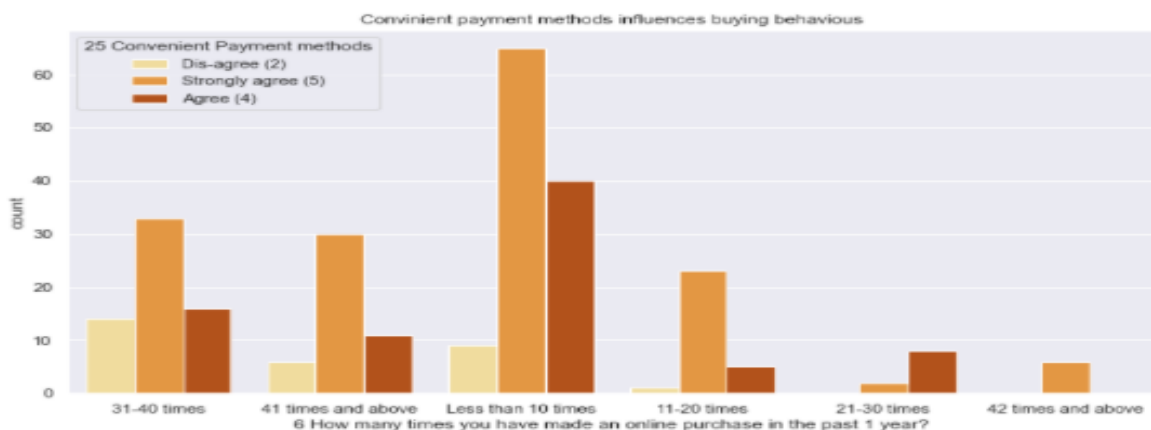
Majority of Indians prefer Amazon.in than other E-Commerce retailers.:

- We know that Flipkart is an Indian brand and still people prefer Amazon. We can say factors like good user interface, feasible price, good quality etc. comes into place even when selecting E-Commerce platform.
- Good purchasing experience and work of mouth can play an important role. More than any means if advert work of mouth has more power and Amazon may have achieved that so far
- Flipkart seems to be catching up with Amazon and other E-Commerce brands have an average recommendation



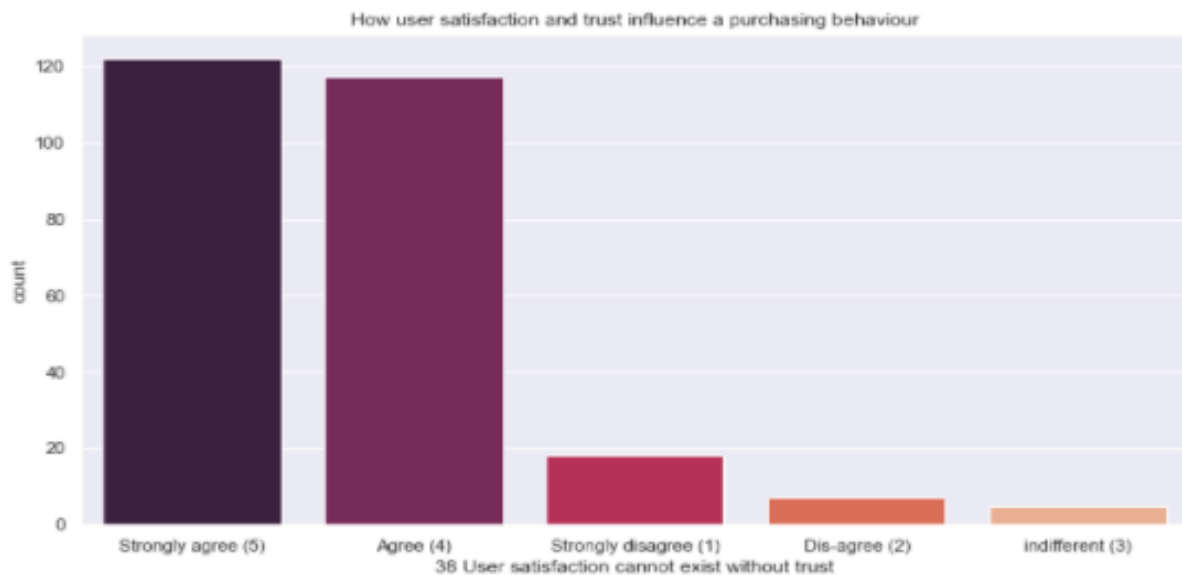
Customer agree on the importance of convenient payment method.:

- This also implies availability to have cash on delivery options which most of the Indians prefer when it comes to expensive purchases.
- Having multiple and credible options of payments adds confidence in customers and could also lead to more purchases.
- We can see that people "Strongly agree" in most of the cases



Trust is very much important if a person makes purchases online.

- If we observe specifically, many of the E-Commerce retailers provide ratings of products, rating of retailers, positive and negative feedbacks, reviews etc along with product for our ease of reference.
- Each factor describes differently to individual customer. Eg: for someone having 4.5 or 5 star rating means it's good quality, for someone having long term warranty is important over other attributes.
- Since E-Commerce gathers crowd with various mentality and thoughts, trust is very much important in building a value-added relationship amongst each other.

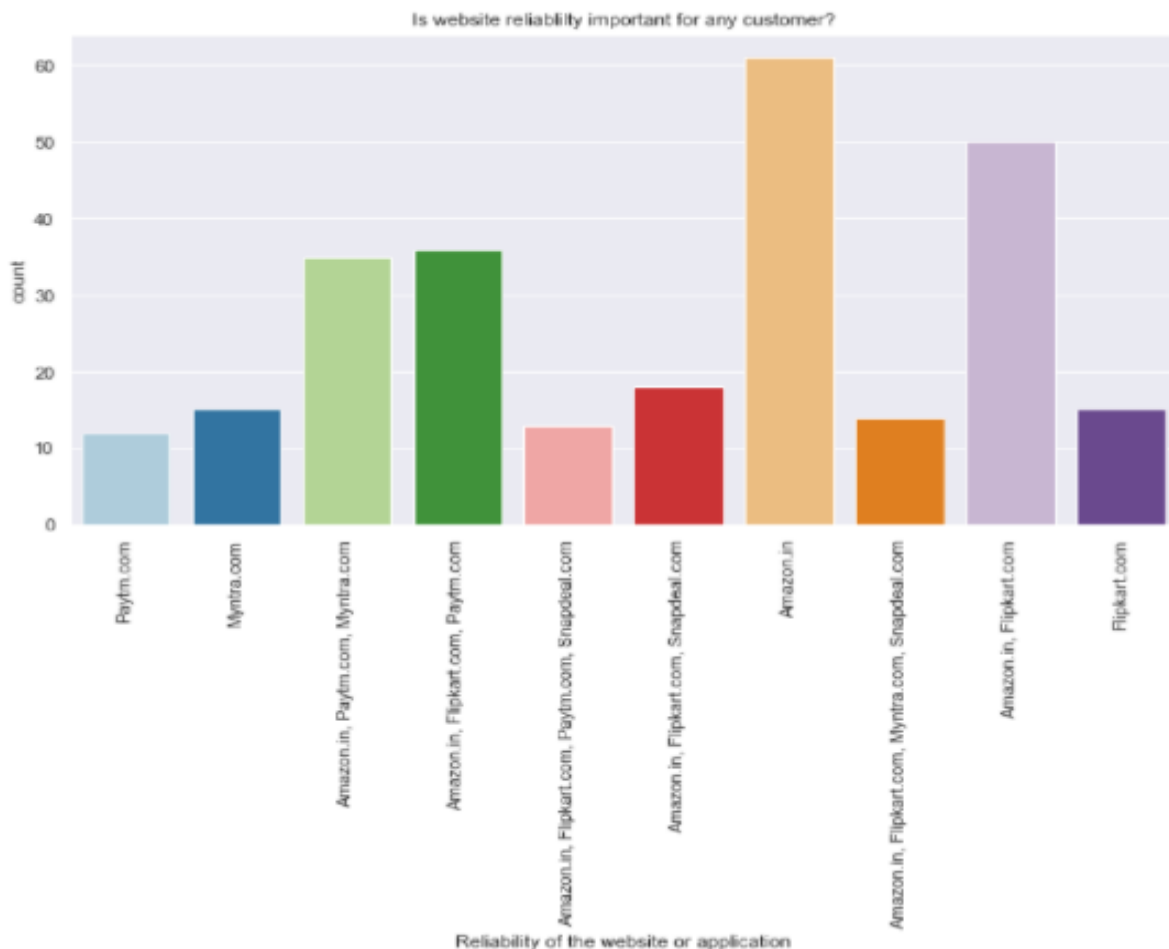


People are flexible to the website that toggled on Laptops and Smartphones.

- This also explains the past user experience and no matter how good it was, if there is a very bad experience, the customer is lost for good and may not prefer that channel next time

In this case we can see Amazon has good customer base followed by Flipkart and are have more reliable and stable platform / website compared to others. In short, these are trusted openly compared to other E-Commerce brands.

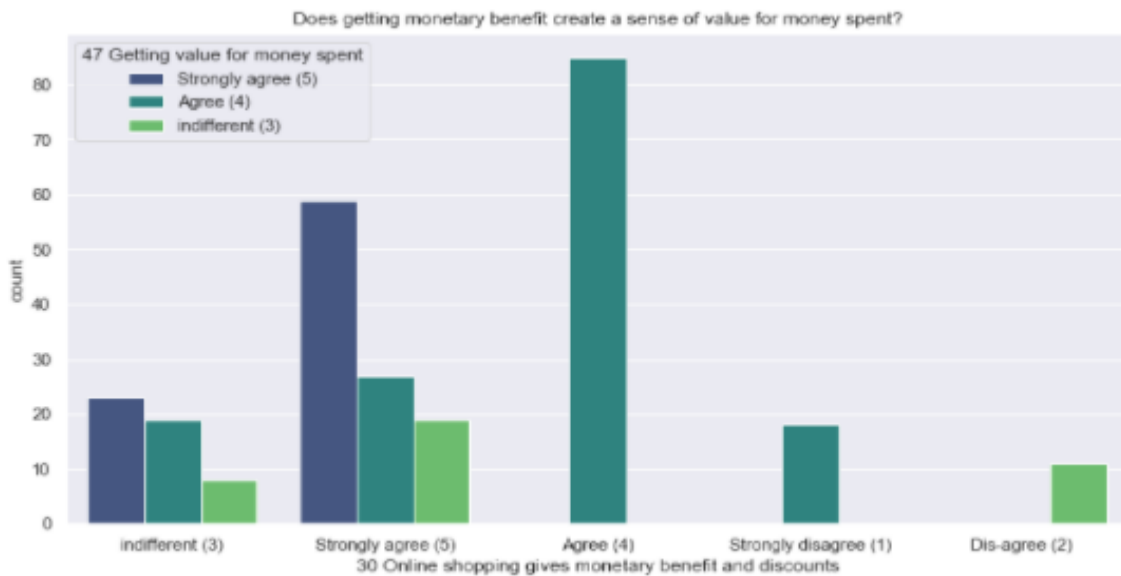




People prefer purchasing online not just for discounts but value for money.

- Value for money is a satisfaction a person feels or adheres to when purchasing any product. No matter how important that product could be, if a person's financial budget doesn't fit or if they feel it's not that worth in terms of monetary value that person is likely to drop the Cart.
- By giving good discounts, providing EMI options and payment flexibility there is a good chance that that person could end up being a potential customer.
- Value for money and monetary benefit could also be seen since delivery charges and packaging would be free, once can order from anywhere and get it delivered it anywhere which intern saves money that we end up spending if we go to a Brick and Mortar store.





Majority of Indians prefer Amazon.in over other E-Commerce retailers.

Amazon ,flipkart,paytm and myntra all are easy to use websites.

Amazon takes most amount of time to get logged in due to promotions and sales

Loading speed of amazon is fastest

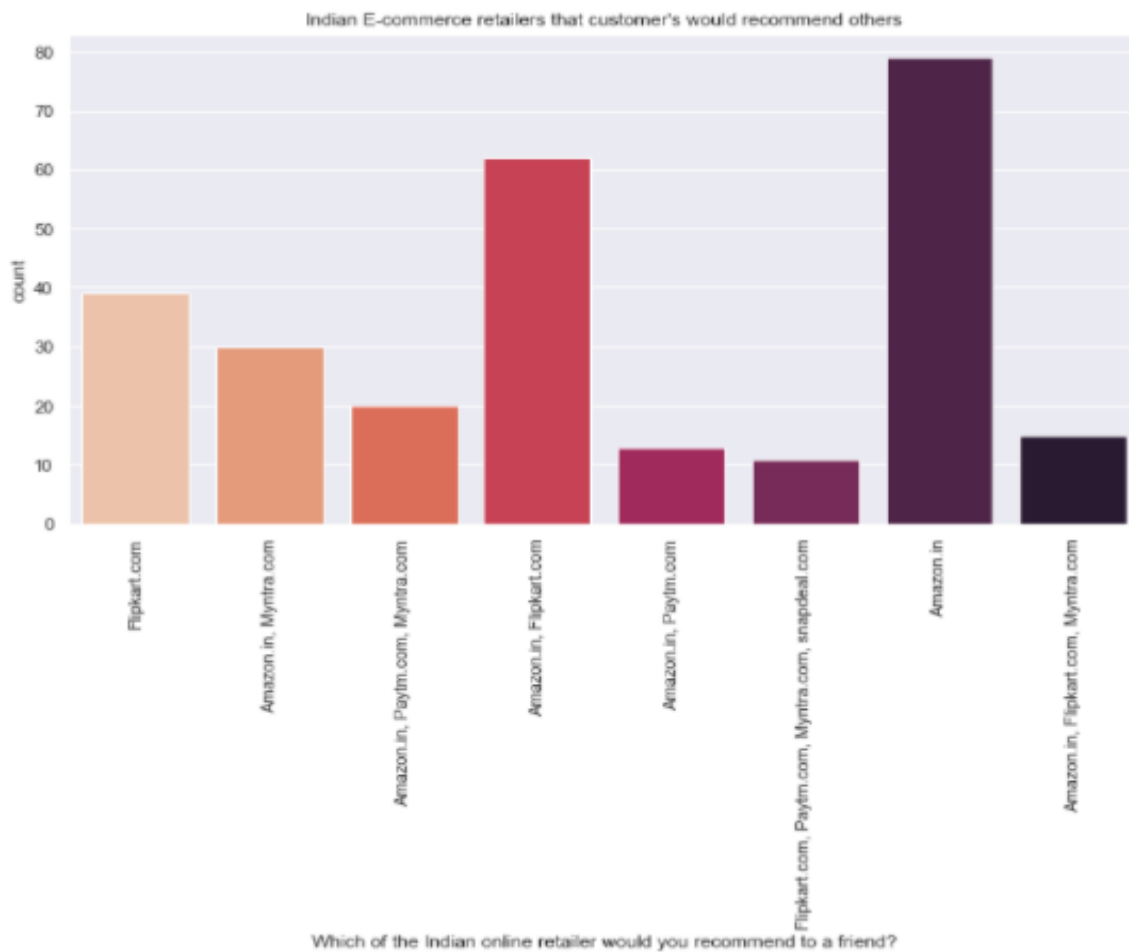
Longest time in displaying graphics and photos is amazon and flipkart

Amazon is the quickest for transactions & Delivery speed is highest for Amazon.

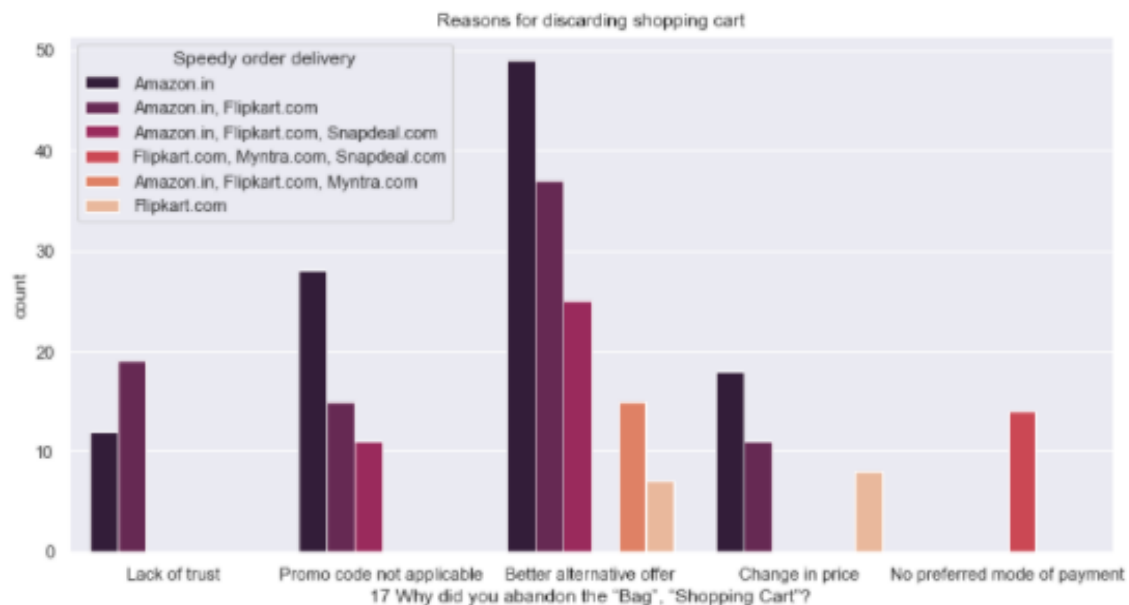
It is very significant to show similar products descriptions as more than 70% have agreed to it

Offers, goodies, slight savings etc. highly influence a person's purchasing behaviour

- We can see that Amazon appears to have such perks more than other websites. We can see majority of people do abandon for either "Better alternative offer" or if "Promo code isn't applicable" compared to other reasons.
- This plot can also suggest us the discounts the product would offer, other additional items that can come along with the actual product etc.
- Such discounts are very common if you try purchasing electronic goods like Laptops, Smartphones or Smart TV's etc. as different retailer sell same or similar product and location from where the product is manufacture or shipped from can increase or decrease price to some extent.

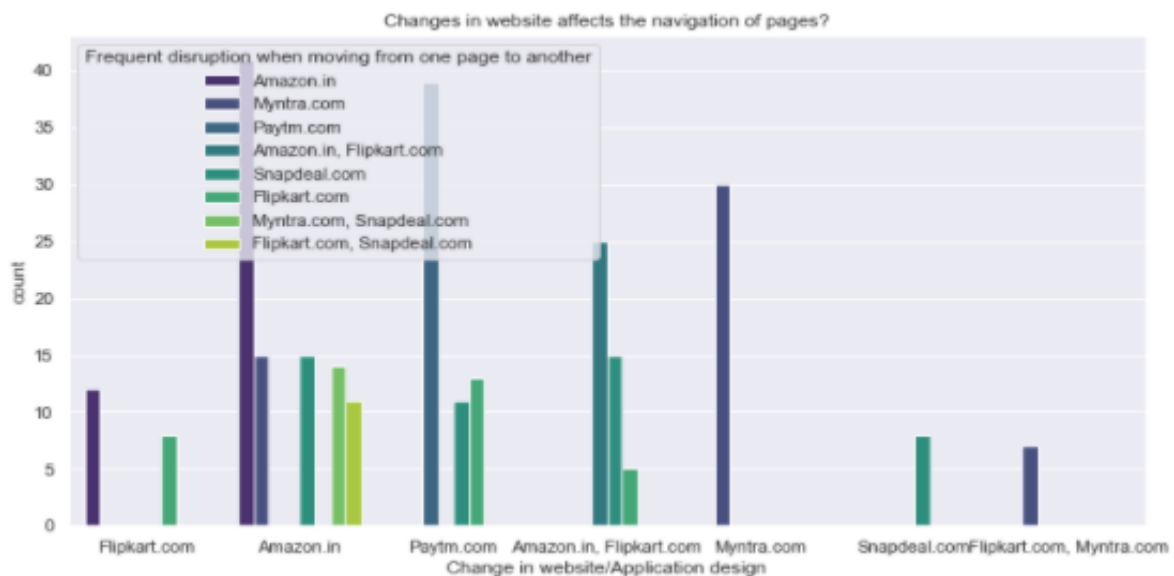


Observe from plot that majority of Indians prefer Amazon.in rather than other E-Commerce retailers.

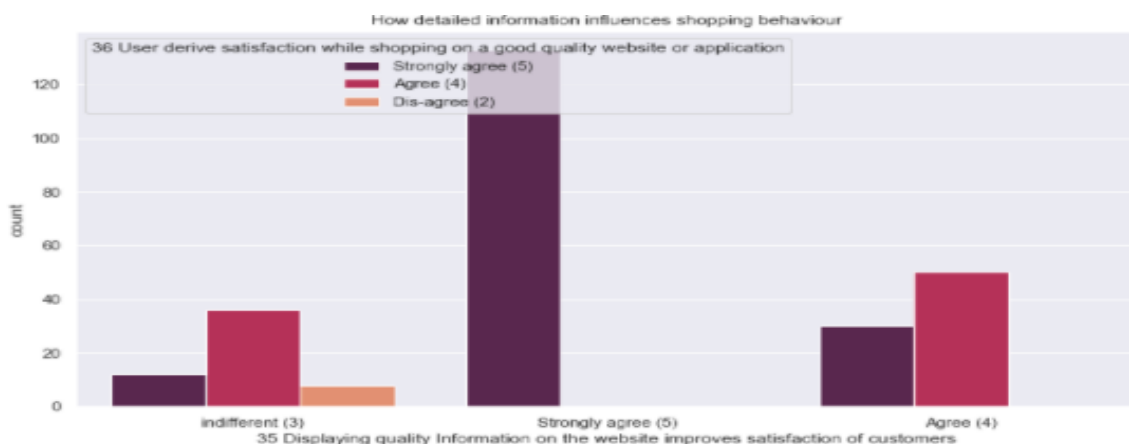


Website change or shutdown affects the smooth purchasing.

- Majority of people have noticed such incidents happening on Amazon followed by Paytm and Myntra. if disruptions happen especially during payment, one may end up paying accidentally and some issues may arise.
- It is also not appealing to see constant changes as a person get's used to certain designs and is perceived that such interfaces are user friendly. Rather than sudden changes, such changes could be done on certain occasions to see the reaction or get feedback of customers and implement on a longer run if it's proven beneficial.
- Since people use different devices that may or may not support certain browsers, changes made on website should be as efficient as possible so that anyone can access on any devices with less fluctuations as possible.



Purchasing satisfaction also because of good quality of website.



Refund and return policy is highly influence costumer purchasing choice.

- Amazon's seems to have good policies when it comes to Refund and return. This turn increases the loyalty of customers .



Even though a large group of people are drawn towards online shopping through discounts and loyalty shopping, a large group of people are indifferent to it

CONCLUSION:

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:

1. service quality
2. System quality
3. Information quality
4. Trust
5. Net benefit.

By hypothesising that a combination of both utilitarian value and hedonistic values are needed to affect the repeat purchase intention (loyalty) positively, Structural equation model has been presented on the primary data collected from the Indian online shoppers.

Results indicate the e-retail success factors, which are very much critical for customer satisfaction. By increasing the utilitarian value and hedonistic values

derived by the customers, customer satisfaction and hence the customers repeat purchase intention can be increased significantly.

Here highest customer retention and satisfaction goes to Amazon and Flipkart.

Learning Outcomes of the Study in respect to Data Science

Matplotlib and Seaborn helped in making the vast data into more understandable and hence helping person to analyse the data.

Thanks