E-retail factors for customer activation and retention

A case study from Indian e-commerce customers

Submitted by:

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ACKNOWLEDGEMENT

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This is a great pleasure to express my deep sense of gratitude and thanks to SME for his valuable ideas, instantaneous help, effective support and continued encouragement which enabled for the successful completion of the project. I also like to thank the data trained mentors and Technical team members for helping me with technical queries.

These are the following website which I referred for the references.

1. https://scikit-learn.org/
2. https://kaggle.com
3. www.google.com
4. www.geeksforgeeks.org

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 on the basis of the Means End Chain theory (MEC) and Prospect theory. 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.

PROBLEM STATEMENT

The primary goal of this research is to analyze the customer satisfaction and loyalty of the online customers. The theoretical framework discusses in brief about the effects of customer loyalty and retention on customer satisfaction

A comprehensive review of the literature ,theories and models have been carried out to propose the models for customer activation and customer retention.

As more and more retailers are focusing on online selling, the ecommerce industry is facing stiff competition. Thus, in order to carve out your own niche in ecommerce, you need to implement several strategies keeping in mind the most important factors for successful hacking. They are Service quality, system quality, information quality, trust and net benefit.

Motivation for the Problem Undertaken

The objective of this research study is to investigate online consumer behavior, which in turn provides E-marketers with a constructional framework for fine-tuning their E-businesses' strategies. The specific objectives of this research are:

1. To analysis the consumers awareness about online shopping.

2. To know the various factors which motivate a consumer towards online shopping.

3. To know the problems they face during online shopping

4. To offer suggestions for solving the problems faced by online consumers.

Data Sources

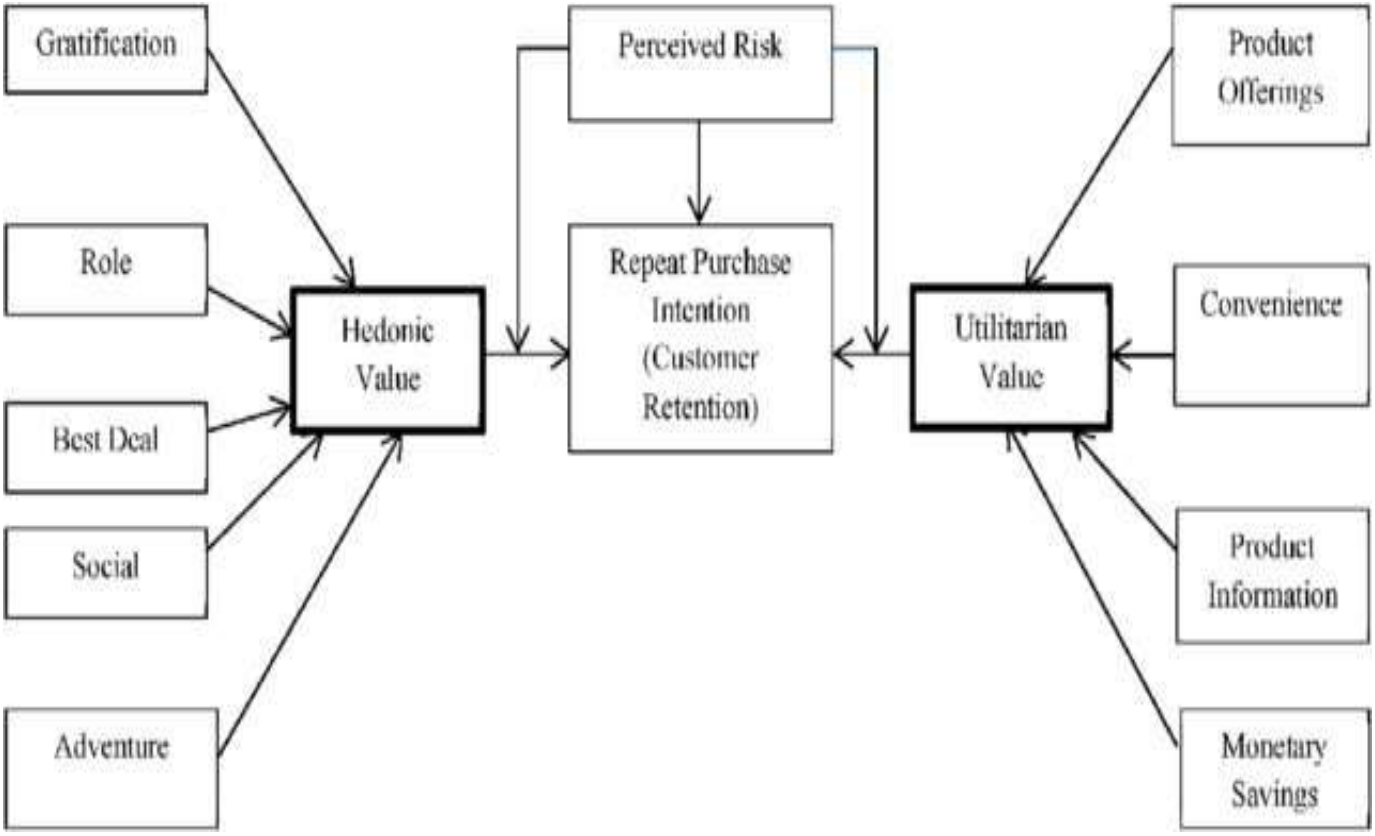
The data is collecting from the Indian online shoppers. Online store customer data offers many opportunities to improve shopping experience. The use of various types of data sets aims at personalization, better customer service and a better understanding of users.

The data is been given by a highly-confidential company and they gave it to us in an excel file.They also had provided the problem statement by explaining what they need from us and also the required criteria to be satisfied

They are totally 269 rows and 71 columns in this dataset. Our target is to find the insights of the data and to do thorough data analysis

There are many comprehensive tools that use customer data analytics and artificial intelligence to support business, and integrating them with your store is easy.

DIAGRAMMATIC REPRESENTATION OF CUSTOMER RETENTION

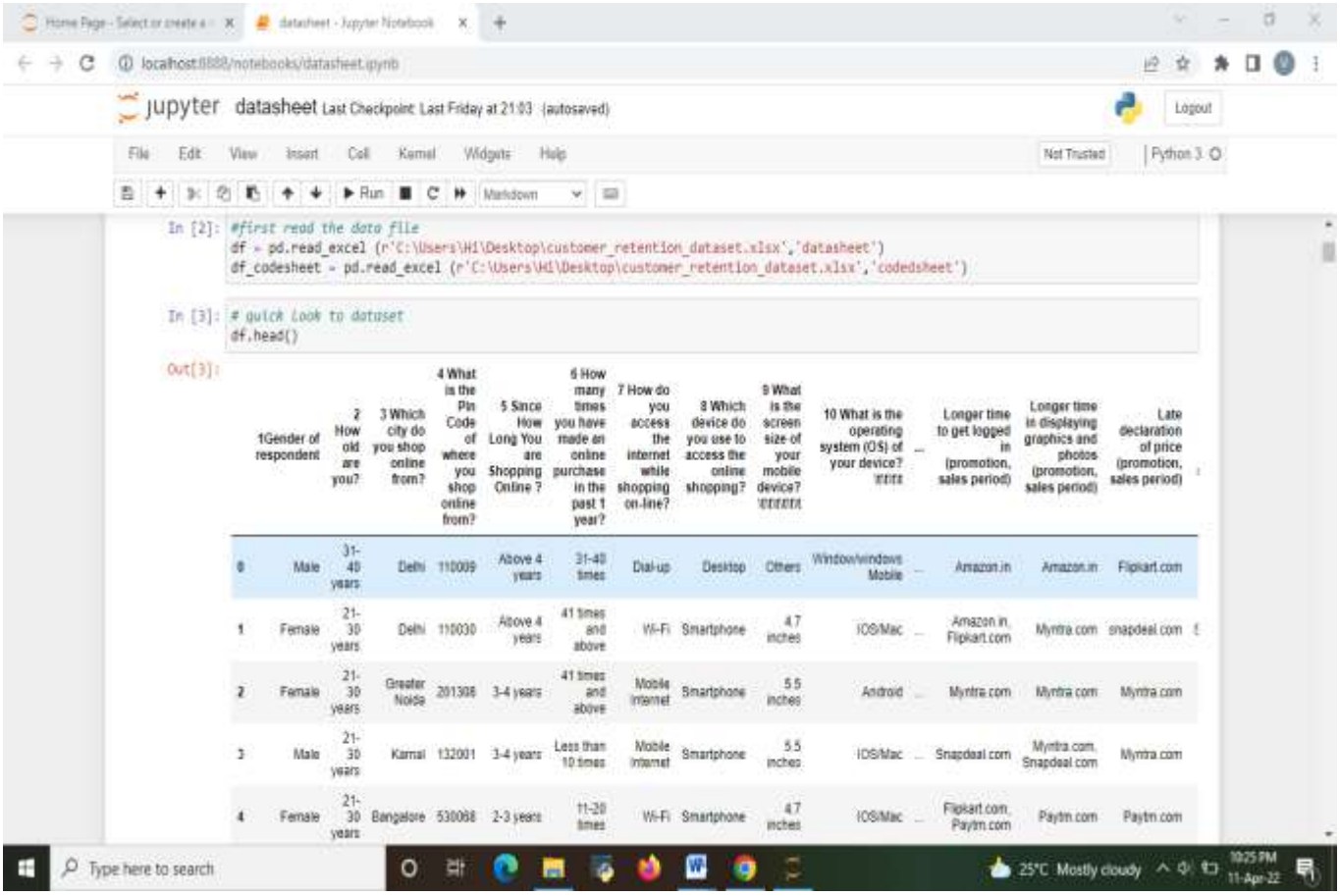


UPLOADING DATA SET

We have to import libraries necessary for data analysis. After we have to uploading the data using the excel file provided in two different Data Frames.

- ❖ df - contain the detailed description of datasets .Enable us to analysis the data in encoded form
- ❖ df_codesheet - contain the Encoded form of dataset. Enabling us to analysis the data in encoded form.

snapshot of the data set:



Hardware and Software Requirements and Tools Used

Hardware used for doing the project is a ‘Laptop’ with high end specification and stable internet connection .while coming to the software part I had used ‘python jupyter notebook’ for do my python program and data analysis.

Excel file and Microsoft excel are required for the data handling. In jupyter notebook I had imported lot of python libraries are carried to this project and I have mentioned below detailed.

1.Pandas-a library which is used to read the data ,visualisation and analysis of data.

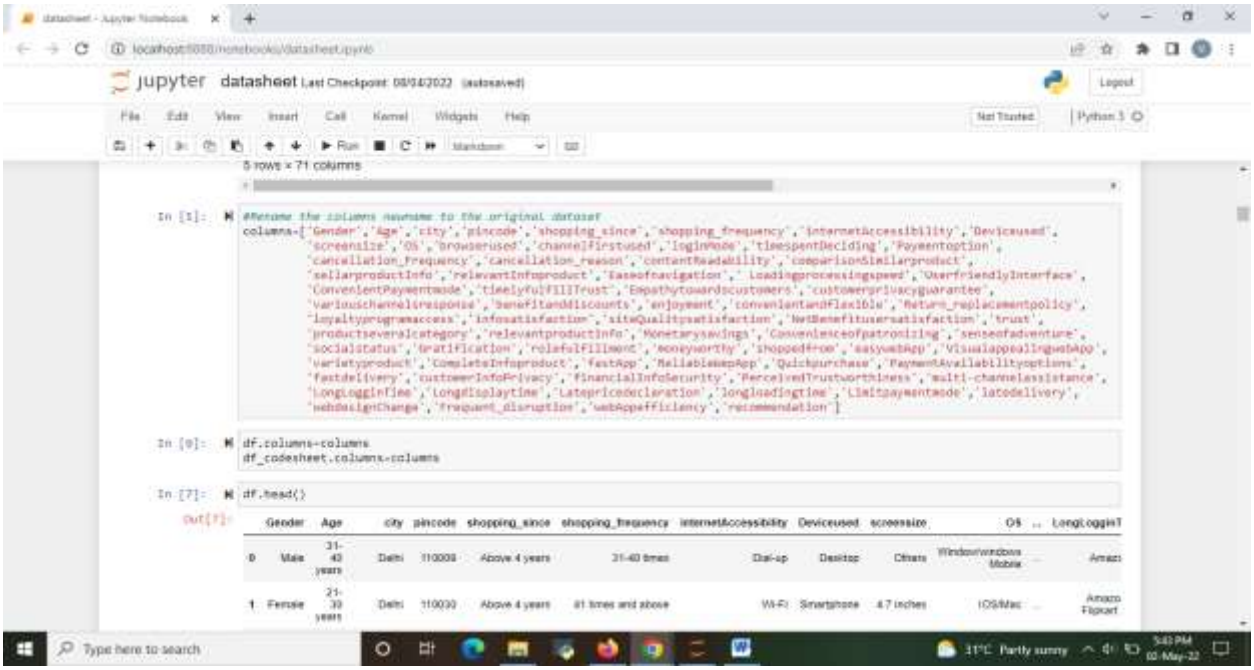
2.Numpy-used for working with array and various mathematical operations in python.

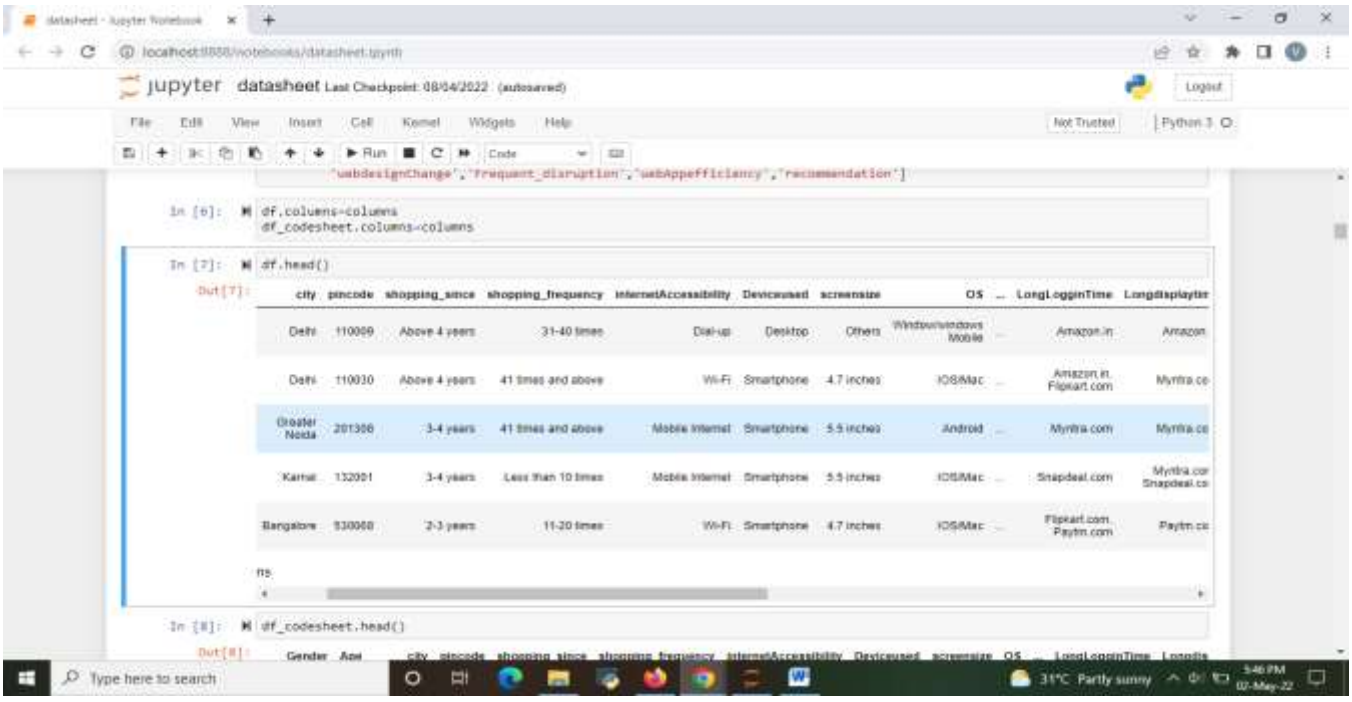
3.Seaborn- visualization for plotting different type of plot.

4.Matplotlib- It provides an object-oriented API for embedding plots into applications .

DATA ANALYSIS

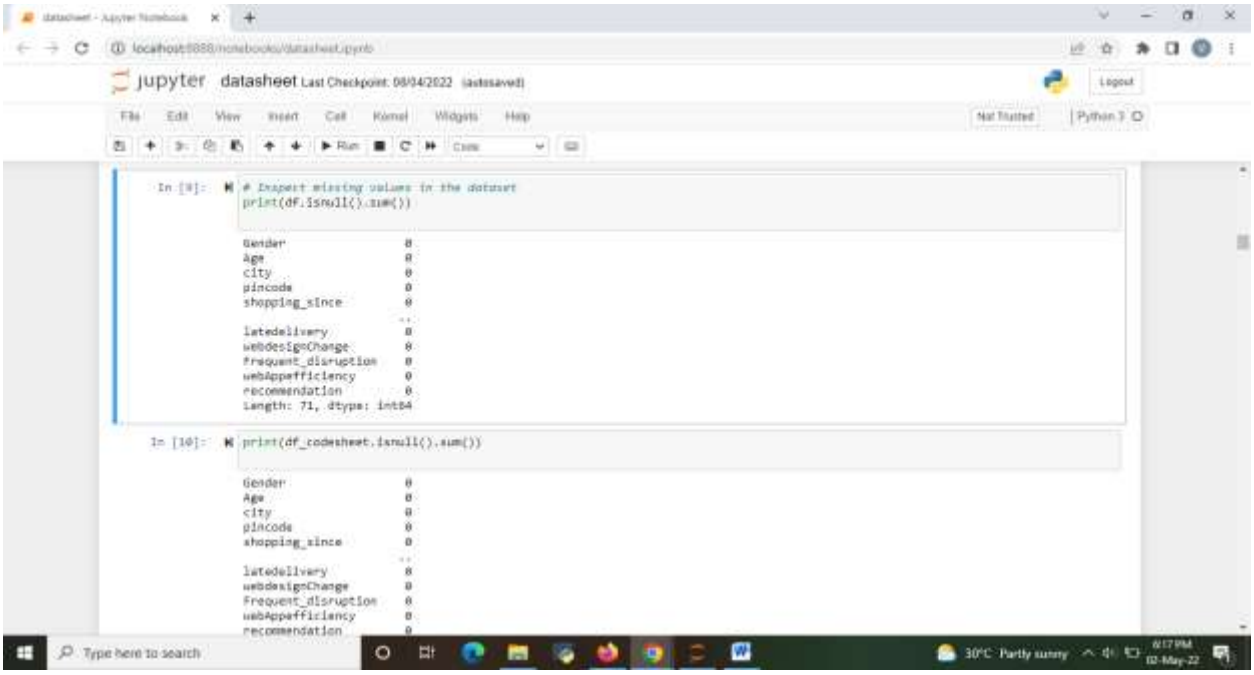
a) **shortening the column names with original dataset**





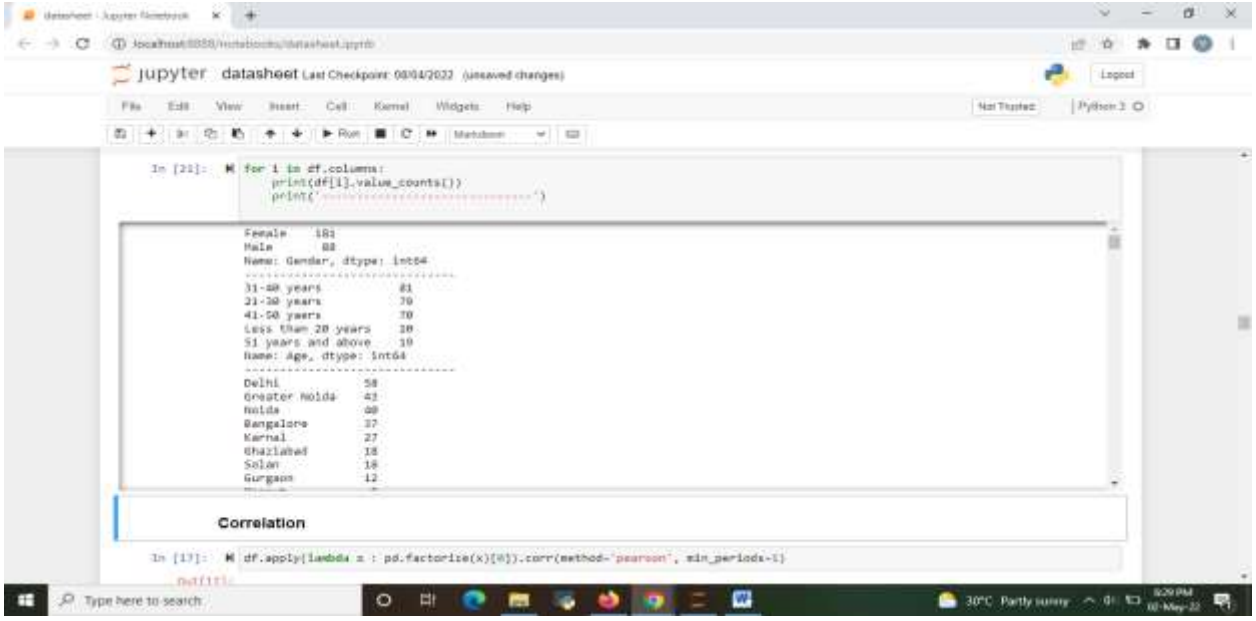
b) **Checking missing value from the data set.**

- There is no null values in the dataset



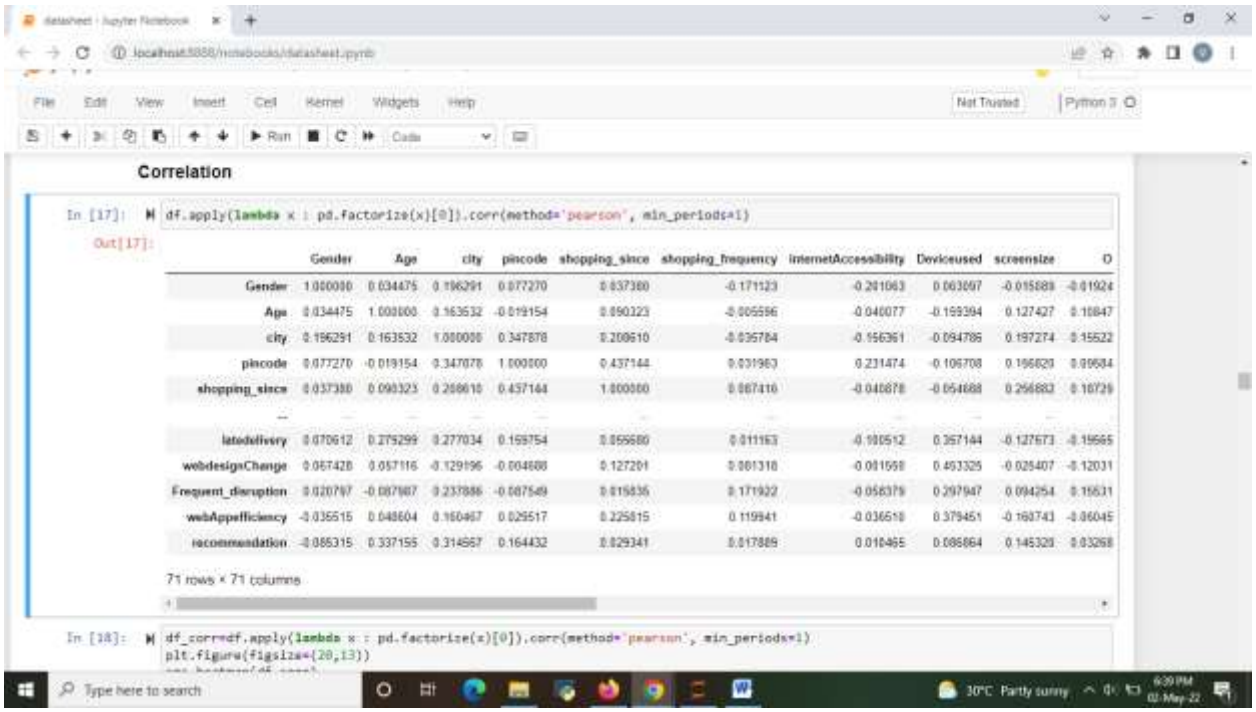
c) **There is a detailed value count of each columns**

- Iterate each column by using for loop. We can see some value counts of the columns like Gender ,age ,city ,ect.



d) **CORRELATION**

- Correlation between all the columns in the datasets.



Correlation

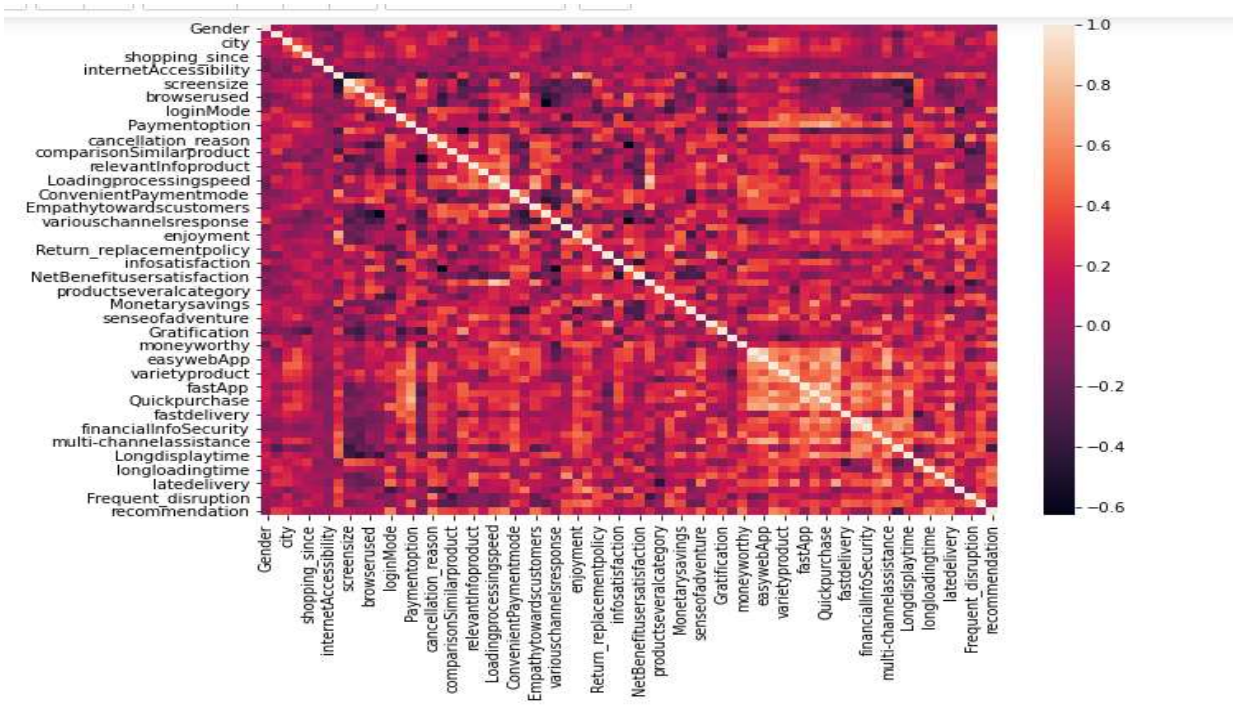
```
In [17]: df.apply(lambda x : pd.factorize(x)[0]).corr(method='pearson', min_periods=1)
```

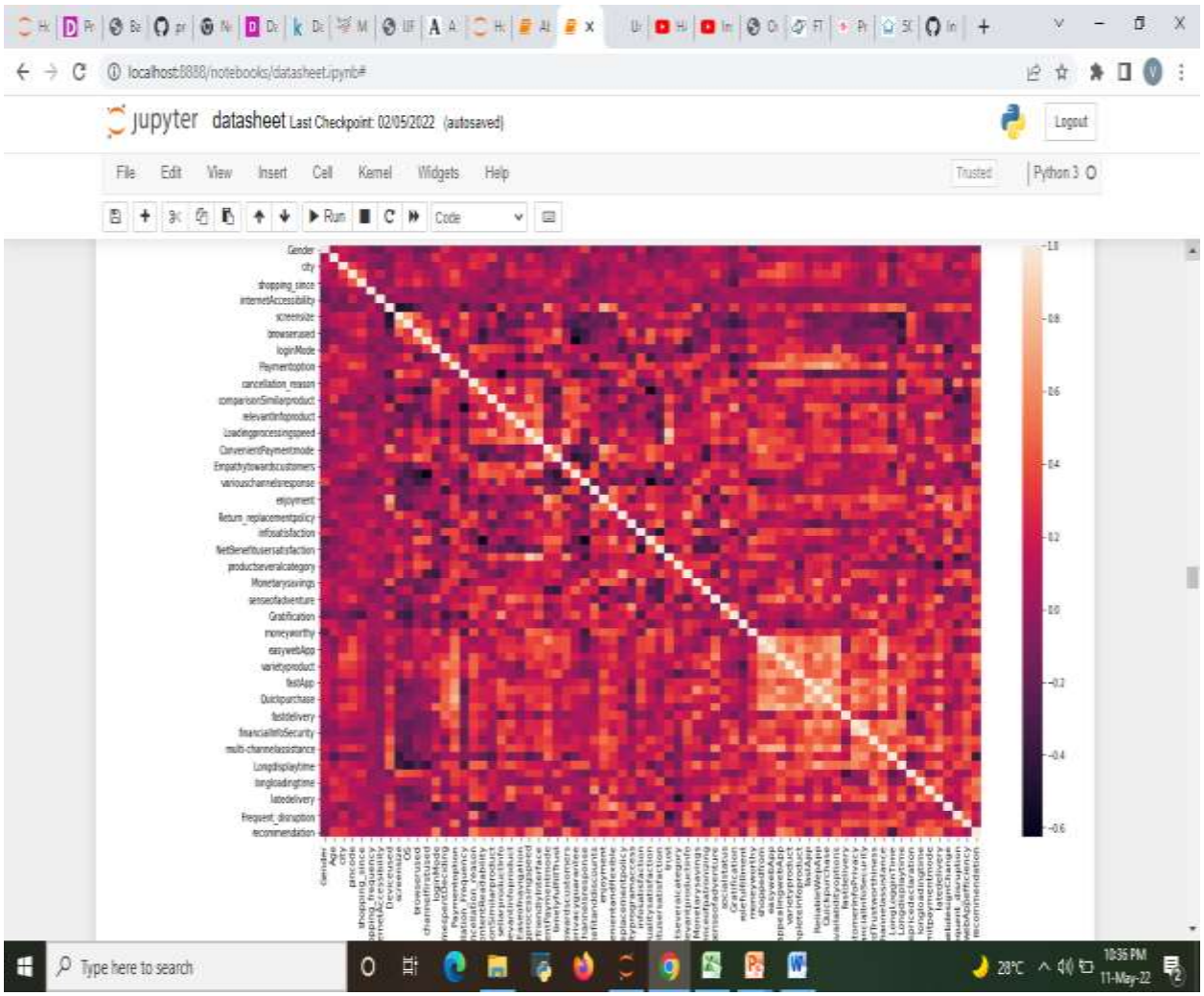
Out[17]:

	Gender	Age	city	pincode	shopping_since	shopping_frequency	internetAccessibility	Deviceused	screensize	O
Gender	1.000000	0.034475	0.196291	0.077270	0.037380	-0.171123	-0.261063	0.063097	-0.015689	-0.01924
Age	0.034475	1.000000	0.163532	-0.019154	0.090323	-0.005596	-0.040077	-0.159394	0.127427	0.10847
city	0.196291	0.163532	1.000000	0.347878	0.268610	-0.035784	-0.156361	-0.094786	0.197274	0.15522
pincode	0.077270	-0.019154	0.347878	1.000000	0.437144	0.031963	0.231474	-0.109708	0.156829	0.09684
shopping_since	0.037380	0.090323	0.268610	0.437144	1.000000	0.067416	-0.040878	-0.054688	0.256882	0.16729
...	...	...	...	...	...	...	...	...	...	...
latedelivery	0.070612	0.279299	0.277034	0.159754	0.056680	0.011163	-0.180512	0.357144	-0.127673	-0.19665
webdesignChange	0.057428	0.057116	-0.129196	-0.004688	0.127201	0.001318	-0.081558	0.453325	-0.025407	-0.12031
Frequent_disruption	0.020797	-0.087987	0.237886	-0.087549	0.015835	0.171922	-0.056379	0.297947	0.094254	0.15631
webAppefficiency	-0.035515	0.048604	0.160467	0.029517	0.225815	0.119941	-0.036518	0.379451	-0.160743	-0.06045
recommendation	-0.085315	0.337155	0.314557	0.164432	0.029341	0.017889	0.010465	0.086864	0.145329	0.03268

71 rows × 71 columns

```
In [18]: df_corr=df.apply(lambda x : pd.factorize(x)[0]).corr(method='pearson', min_periods=1)
plt.figure(figsize=(20,13))
```





In above correlation Heat map, we have the following observations:

- Most of the high correlation factors are return replacement policy, convenient payment mode and Relevant payment policy, Monetary saving.
- Screensize and operating system has the lowest correlation.
- ‘Ease to read and understand website’ and ‘privacy of customers’ have high correlation.

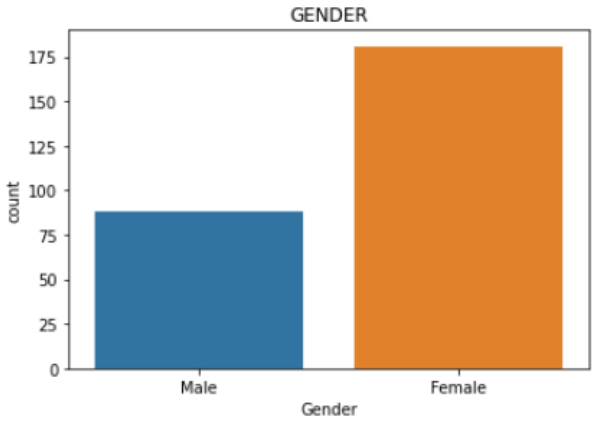
Data Visualizations and Inference

- MEN VS WOMEN: ONLINE SHOPPING BEHAVIOUR

Gender

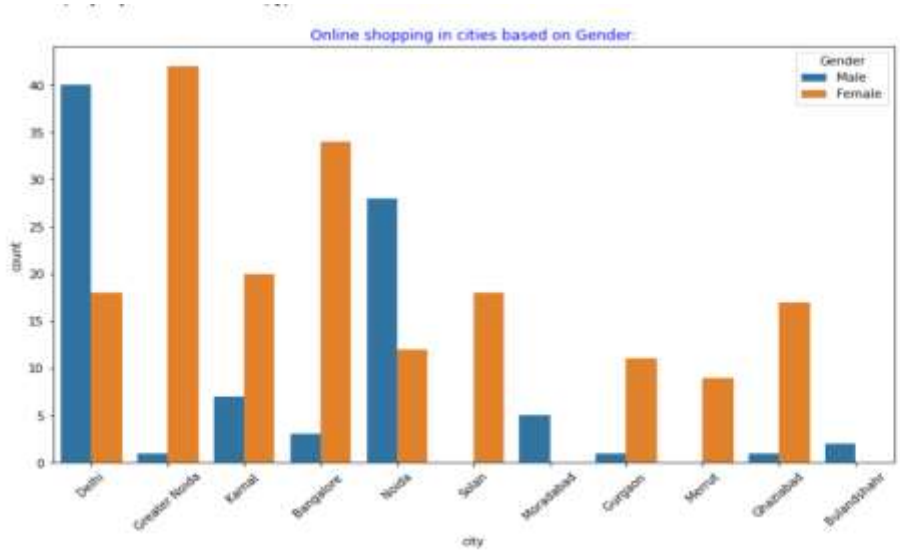
```
In [20]: sns.countplot(df['Gender'])
         plt.title('GENDER')
```

```
Out[20]: Text(0.5, 1.0, 'GENDER')
```

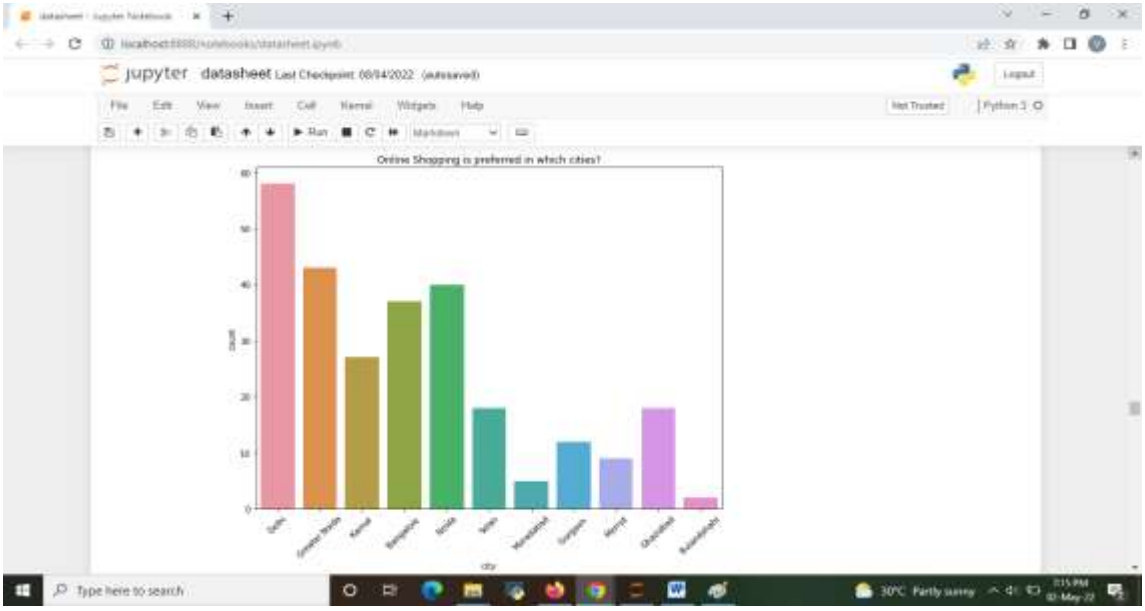


INFERENCE:we can understand that Women do Shop More Than Men

- Which city do you shop online from?

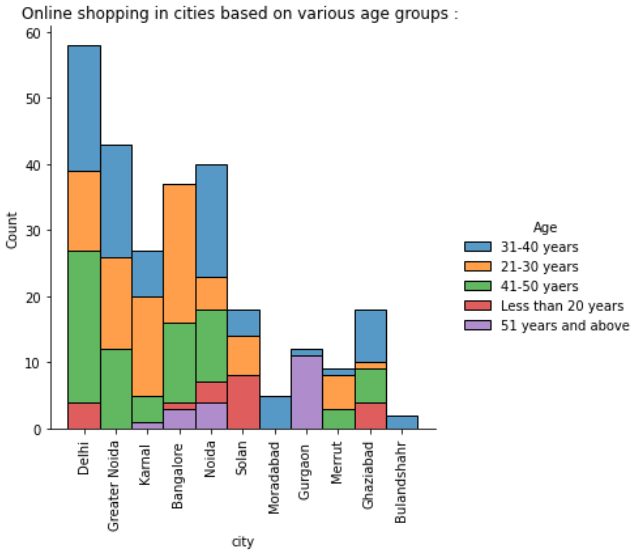


- Only Delhi, Noida are male shoppers more when compare with Bulandshahr , Moradabad.
- In Moradabad and Bulandshahr there is no female shopper. In Solan and Merrut only have female shopper.
  - Online shopping based on cities



- people from Delhi,Greater Noida,Noida shope more when compare with Bulandshahr,Moradabad.

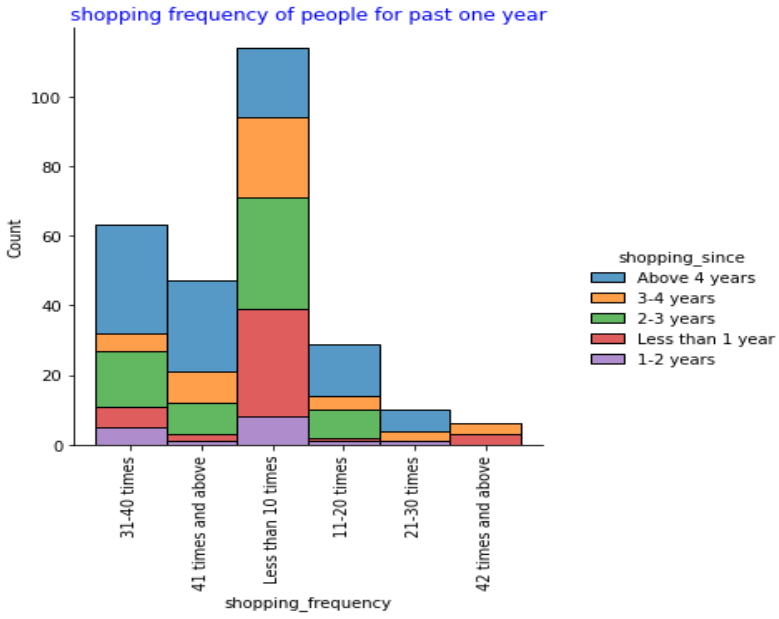
➢ **How many times you have made an online purchase in the past 1 year?**



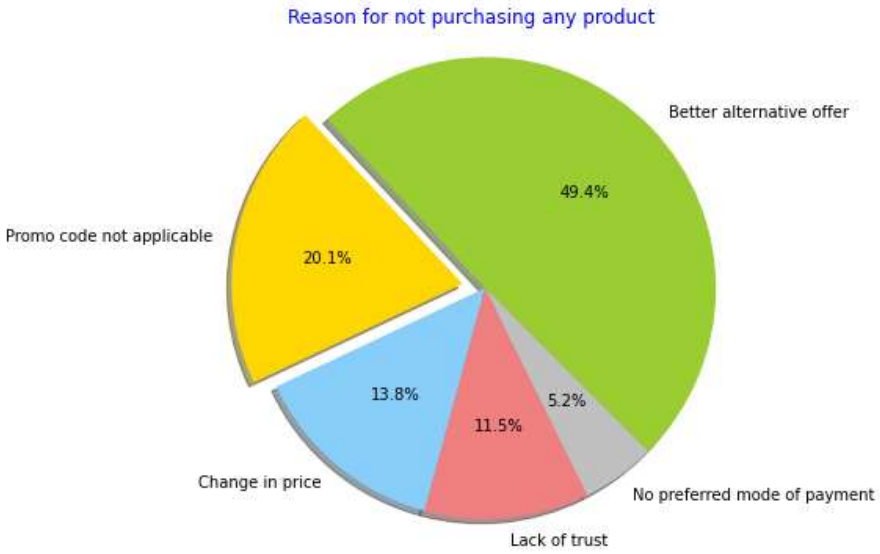
In Delhi city 41-50 years shoppers are high and less than 20 years shoppers are low In bangalore 21-30 years customer are maximum

- In city like Bangalore and karnal young people(21-30) shop higher
- In city like Delhi,Noida,Greater Noida mid age (31-40) people shop higher
- In Bulandshahr and Moradabad only (31-40) age group shopper are there

➢ shopping frequency of people for past one year

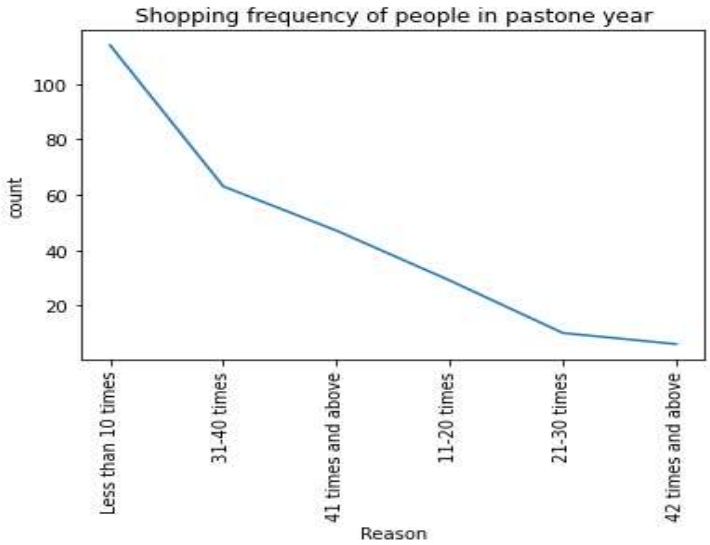


- **Many people Reason for not purchasing any product**



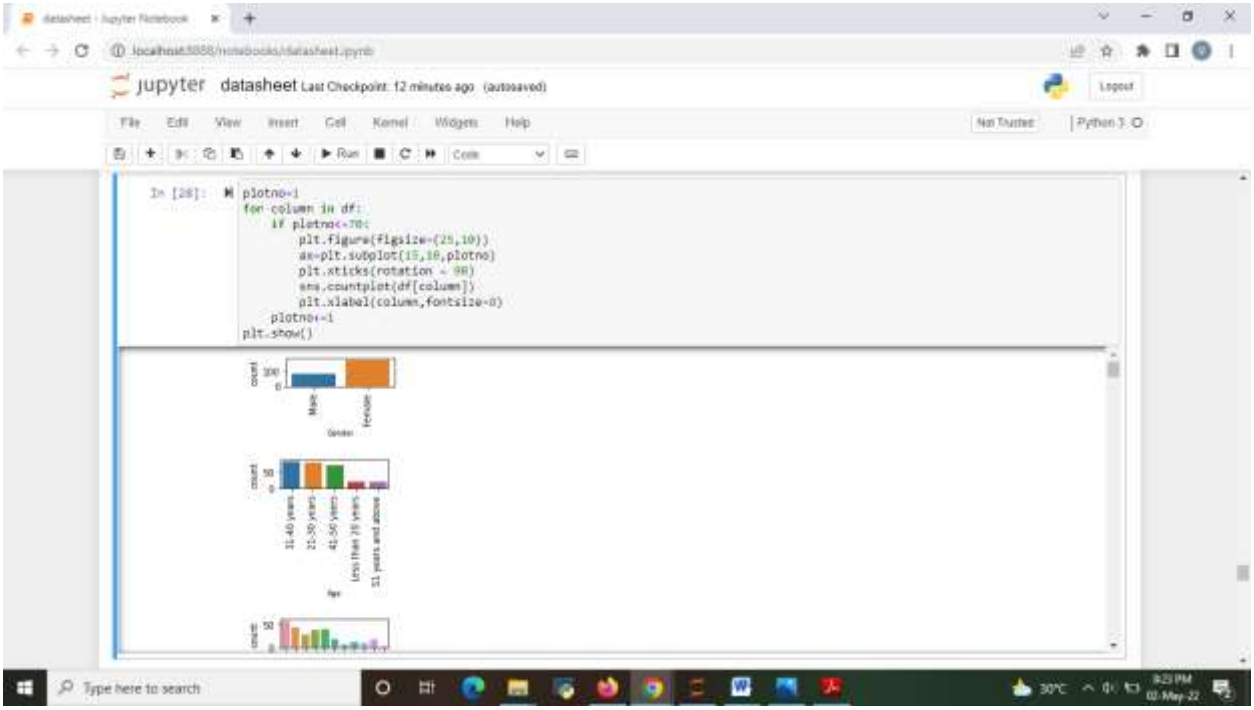
- In Delhi and Nodia city male shopper are higher than other city.
- In both Moradabad and Bulandshahr city only have male shoppers.

❖ online purchase in the past 1 year?



- shopping Frequency are decrease for past one year

- We polt the visualization of all 71 columns above and we iterated using on for loop.we can some visualization of the columns like gender, age, city, ect.



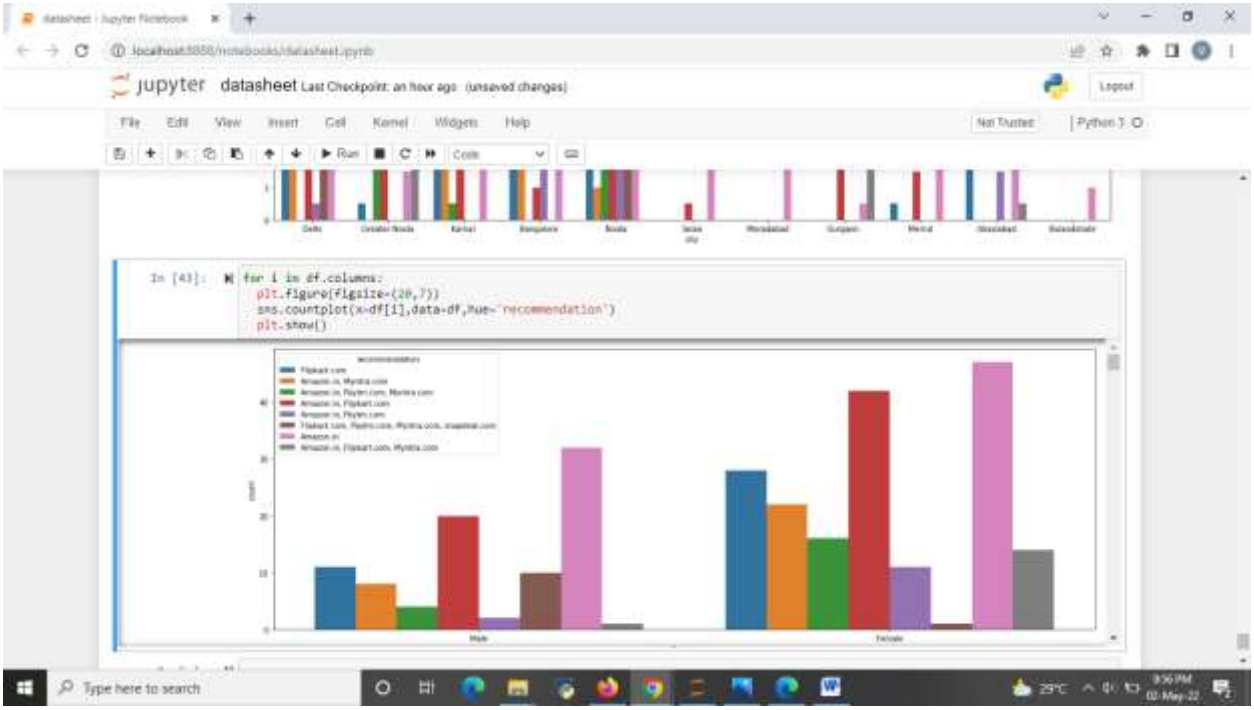
Observation of the plot

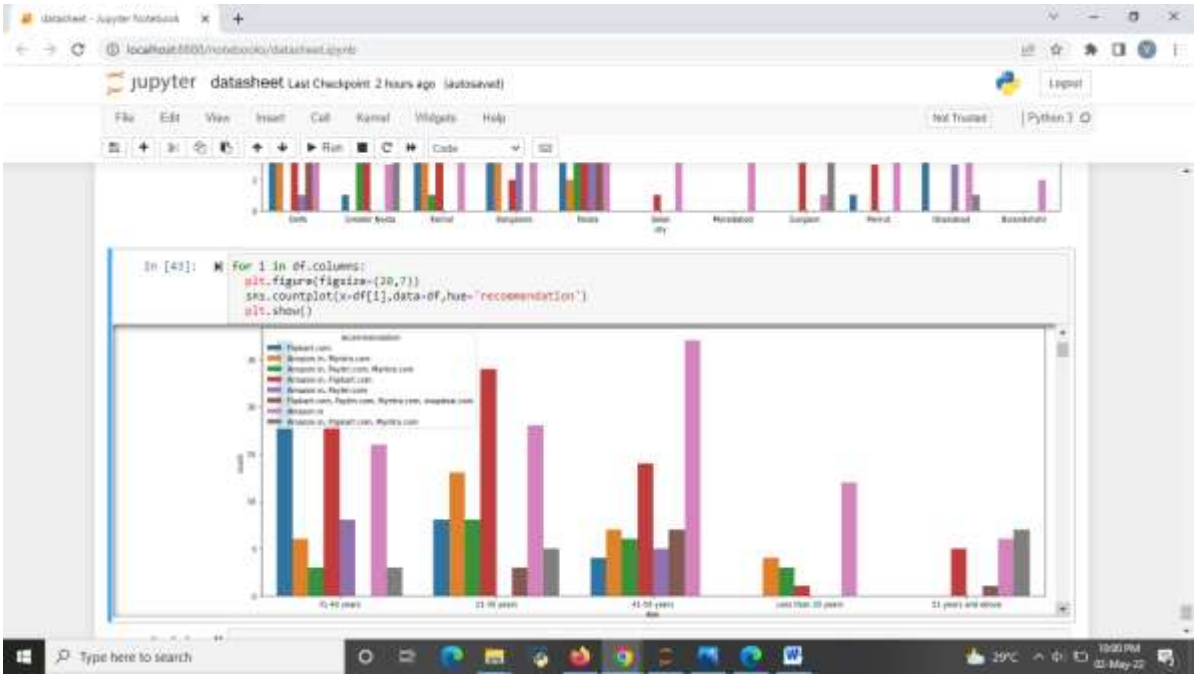
- Female do shop than male.
- 21-50 years age of consumers most prefer to shop online.
- Age of less than 20 and 51 years and above people are do shop online are less.
- Most of the online shoppers are from Delhi ,Greater Noida ,Noida ,Bangalore.
- The maximum people have an experience of above 4 years. Only less of people have an experience of 1-2 years.
- The maximum consumers said they shop online at less than 10 times, few of consumers shop online at 42 times and above.

- The maximum number of consumers mobile internet use while shopping on-line.
- large percentage of people use Google chrome browser to access the website.
- Search Engine channel is most used to arrive favorite online store for the first time.
- Consumers spend more than 15 minutes explore the e- retail store before making a purchase decision.
- The majority of the respondents use cash on credit/Debit cards option for payment.
- Most of people abandon shopping cart sometimes as opposed to never and frequently.
- The main reason for abandon shopping cart is Better alternative offer.
- Amazon and Filpkart are Speedy order delivery website.
- Paytm.com and Snapdeal.com are take Longer delivery period.
- Most of the respondents are Strongly agree with the product return and replacement policy of online shopping sites.
- The maximum consumers said they Strongly agree with the privacy of the customer are safe.

- **Brands image -Customer Satisfaction and Customer Loyalty**

We checked the visualization and recommendation of all 71 columns with respect to suggested website above and we iterated using a for loop.





INFERENCE FROM VISUALIZATIONS

1. Maximum people have shopped from these 5 companies like Amazon.in, FlipKart.com ,paytm.com ,myntra.com ,Snapdeal.com.

2. These companies are easy to use website or application.

3. In terms of Visual appealing web-page layout and Wild variety of product on offer Amazon.in, Flipkart.com are the major choice of customers.

4. The maximum number of people chosen with Amazon.in, Flipkart.com based on Complete, relevant description information of products. Snapdeal.com have least one

5. Amazon have high score when it comes to fast loading website and Reliability of the website, although Paytm.com are not far behind.

6. When it comes to Quickness to complete purchase, Amazon have high score and next high score is Flipkart.com, Paytm.com.

7. Amazon.in, Flipkart.com have several availability of payment options. Patym.com have least options.

8. Amazon is the best Speedy order delivery website. Flipkart.com, Myntra.com, Snapdeal.com had the least one.

9. Privacy of customers' information have highly maintained by Amazon, followed by Flipkart.

10. Amazon having good trustworthiness. Flipkart.com, Snapdeal.com both also have trustworthiness.

11. Amazon.in, Flipkart.com, Myntra.com, Snapdeal all are provide online assistance through multi-channel.

12. Amazon, Paytm takes longer time to get logged in. Flipkart.com doesn't take longer time to get logged in.

13. Amazon.in, Flipkart.com both are takes longer time in displaying graphics and photos. Paytm.com not takes longer time in displaying graphics and photos.

14. Myntra.com and Paytm.com both are work on late declaration of price.

15. Myntra.com and Paytm.com both are negative feedback in longer page loading time.

16. Amazon.in, Paytm.com, Myntra.com are doesn't take longer page loading time.

17. Snapdeal.com and Amazon.in have limited mode of payment on most products.

18. Paytm.com and Snapdeal.com take longer delivery period.

19. The shopper told that Amazon.in and Paytm.com are frequently Change in website/Applicati on design.

20. While using Amazon.in, Myntra.com and Snapdeal.com. Frequent disruption when moving f rom one page to another.

21. Amazon.in and Flipkart.com are most recommended Indian online retailer for shopper.

MAJOR FINDINGS

- Many customers have shopped from amazon and flipkart.it is one of easy to use website. All age group customers are there.
- Amazon and flipkart have been suggested as most Visual appealing web-pag e layout and Wild variety of product on offer.
- Amazon and flipkart have got more positive feedbacks than other website wi th high content readability, information on similar product, relevant informat ion on listed product, ease of navigation in website, Convenient Payment.
- Flipkart gives important to the user friendly Interface, high Empathy towards t he customers, able to guarantee the privacy of the customer
- Paytm has got less feedbacks in show least Empathy towards the customers, p erceived trustworthiness, speed order delivery.
- Myntra and paytm have low guarantee the privacy of the customer ,trust towar ds website is low.
- Amazon and Myntra both are gives monetary benefit and discount.
- Amazon gives Return and replacement policy to the shoppers.
- In Flipkart, Myntra, paytm and Snapdeal Return and replacement policy are l ower percentage.
- Amazon and flipkart give complete and relevant product information compare with this Myntra and paytm are least one.
- Myntra has got the least feedbacks in website as efficient as before,followed b y snapdeal.
- Snapdeal.com has got a smaller number of feedbacks in change of websites/ap plication design.

SUGGESTIONS

1. Providing more competitive price can attract customers.
2. Online shopping sites should increase the security for online payment.
3. More attractive offers on products can attract more customers.
4. Measures to be taken in order to avoid delivery of duplicate products.
5. Measures to be taken in order to delivery product speedly
6. Transaction should be safe and security assured to the people
7. Attractive discounting offers should be introduce to attract to more customers for online shopping.

Conclusion

Online shopping is preferred by customers due to the reason that they can shop anytime, anywhere, anything conveniently while comparing prices, features of the products among available varieties and brands at online shopping sites. Further the prompt services by online retailers and wide spread internet has acted as enablers of online shopping. Online shopping can be made more attractive by clarifying the apprehension of consumers with respect to financial and security risk.

The young population is the biggest attraction of this industry and they may contribute substantially to the growth of online shopping in India. The majority of internet use are youngsters, the majority of goods and services demanded are related to only this segment. Travel planning is one of the biggest services used by Indian online shoppers. For factors that affect consumers while shopping online, and that affect satisfaction, they consider that convenience, and trust are the most important variables, the next which are important for them are prices and quality of products. Those variables are the most essential ones for consumers when they decide to shop online.

For online retailers, understand the consumers shopping behaviors and approach them strategically is the way to stand out from the crowd, especially in this competitive online retail world.

So, make use of the e-commerce statistics data to increase your competitive advantage on the online purchase trends.