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Customer Retention Case Study Report

FLIP ROBO

Submitted by:

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ACKNOWLEDGMENT

I am highly indebted to my Subject Matter Expert **MR. Shubham Yadav** for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

I would like to express my Gratitude to FlipRobo Technologies also who gave me the opportunity to do this project on Customer Retention Project, which also helped me in doing lots of research wherein I came to know about so many new things also, I have utilized a few external resources that helped me to complete the project. I ensured that I learn from the samples and modify things according to my project requirement. All the external resources that were used in creating this project are listed below:

1) https://www.google.com/
2) https://www.youtube.com/
3) https://www.geeksforgeeks.org/
4) https://towardsdatascience.com/
5) https://www.analyticsvidhya.com/
6) https://www.kdnuggets.com/
7) https://www.kaggle.com/
8) https://medium.com/

__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 or 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.

- ## __Business Problem Framing__
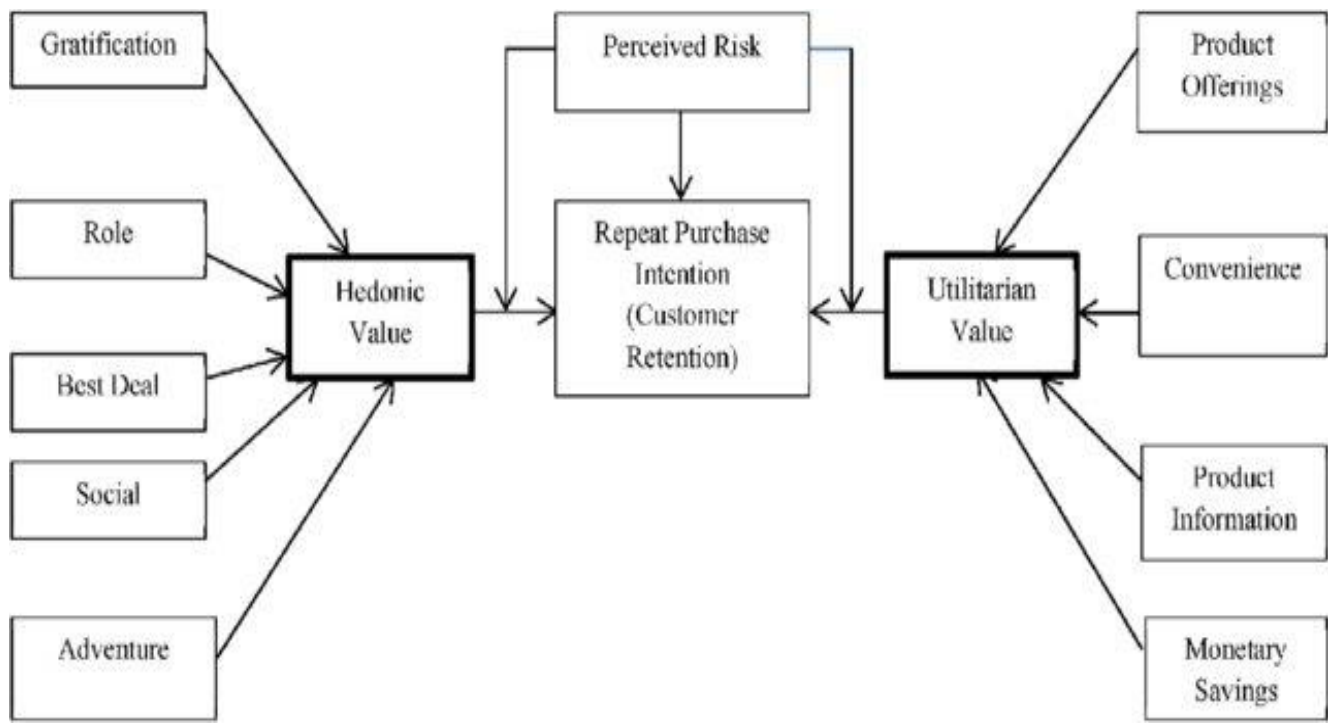
Use Case Diagram

In the above use case diagram, we can see that the Repeat Purchase Intention basically our Customer Retention strategy relies on Hedonic value and Utilitarian value. Also, we see that there are perceived risks affecting the purchase and re purchase intentions of our customers. The Hedonic value has 5 major parts such as gratification, role, best deal, social aspect and adventure feeling criterions. Where as in Utilitarian value we have product offerings, convenience, product information and monetary savings.

Motivation for the Problem Undertaken

Our main objective of doing this project is to analyze whether the users are shopping products from e-commerce websites.How did they give feedbacks to these websites on the basis of several positive and negative factors and also the details of the users on basis of factors like age, gender, city etc.

Benefits of Customer Retention:

1. Retention is cheaper than acquisition

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

2. Loyal customers are more profitable

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

3. Your brand will stand out from the crowd

- Put your consumer hat on, and consider how many brands you interact with that actually seem to value your patronage.
- You can probably only think of one or two.
- Most brands focus on acquisition, which makes the retention-centric among us stand out even more.

- People see around 10K marketing exposures a day, but only engage with a few of them.

- The ones that earn continual engagement are those with whom they feel an emotional connection with on some level.
- Forget a unique selling proposition; the best brands have a unique retention proposition.

4. You'll earn more word-of-mouth referrals
- Your loyal customers will be your best source of new business.
- Despite all the efforts into online and mobile marketing and social media, people are still most strongly influenced by referrals from friends and family.

5. Engaged Customers Provide More Feedback
- Feedback is critical to the success of any business.
- Customers who provide feedbacks are often willing to give brands the benefit of the doubt.
- They'retelling you how to earn their business repeatedly. As research has shown, people who have complained and seen their issue resolved are 84% less likely to decrease their spend.
- Need help dealing with the customers who are providing nasty feedback?

6. Customers will explore your brand
- That's a nice way of saying you'll be able to sell them more stuff.
- Once a brand has proven itself with one product or service, customers are six times more likely to say they would try a new product or service from the brand as soon as it becomes available.
- That's not just valuable for sales, but these folks can be utilized to help with #5 above as betatesters - a critical element in product development.

7. Loyal Customers are more forgiving
- An Accenture study states over $1.6 trillion is lost each year due to customers bailing after a poor service experience.
- We've gone so far as to claim that it's the top reason people will ditch a brand.

- But customers who consider themselves loyal will let some misdeeds slide - just don't let it happen too often.

8. Customers will welcome your marketing

- No one likes being marketed to.
- Except for loyal customers!
- Those folks are four times more likely to say they "appreciate when this brand reaches out to me "and seven times more likely to "always respond to this brand's promotional offers."

9. You earn wiggle room to try new things
- Loyalty is fickle, so too many changes could chase people away.
- But once you've established acre base of proven customers, your brand can expand its boundaries.
- Maybe it's new messaging or a new product line, or even a new logo. The bottom line is as long as you maintain the basic premises that keep people in your corner; they'll stick with you through thin and thin.
- In fact, some of them will be excited to see what you can do.
- Existing customers are 50% more likely to try new products, according to a study.

Dataset Details:

First, I imported all the necessary libraries and dependencies to create a detailed data analysis in Python.

Importing Libraries

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
import warnings
warnings.filterwarnings('ignore')
```

Loading data set

```
pd.set_option("display.max_columns",None)
pd.set_option("display.max_rows",None)
df=pd.read_excel(r'C:\Users\m\Desktop\csv files\Customer_retention_dataset\customer_retention_dataset.xlsx',
            header=None,skiprows=1)
```

Checking shape of data

```
df.shape
```

```
(269, 71)
```

Our data set has 269 rows and 71 columns.

Let's Check the DataFrame

```
df.head()
```

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Others	Window/windows Mobile	Google chrome	Search Engine	Search Engine	6-10 mins	E-wallets (Paytm, Freecharge etc.)	Sometimes
1	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	Google chrome	Search Engine	Via application	more than 15 mins	Credit/Debit cards	Very frequently
2	Female	21-30 years	Greater Noida	201308	3-4 years	41 times and above	Mobile Internet	Smartphone	5.5 inches	Android	Google chrome	Search Engine	Via application	11-15 mins	E-wallets (Paytm, Freecharge etc.)	Sometimes
3	Male	21-30 years	Karnal	132001	3-4 years	Less than 10 times	Mobile Internet	Smartphone	5.5 inches	IOS/Mac	Safari	Search Engine	Search Engine	6-10 mins	Credit/Debit cards	Never
4	Female	21-30 years	Bangalore	530068	2-3 years	11-20 times	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	Safari	Content Marketing	Via application	more than 15 mins	Credit/Debit cards	Frequently

This is how our data looks like but we can observe that column names are not appropriate so we are going to rename columns.

```
df.head(2)
```

	Gender	Age	Shopping City	Pincode	Since How Long You are Shopping Online	times online purchase in past 1 year	internet access	device use	screensize of Device	OS of device	browser used	Which channel did you follow to arrive at your favorite online store for the first time	After first visit, how do you reach the online retail store	How much time do you explore the e-retail store before making a purchase decision	preferr payme Opti
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Others	Window/windows Mobile	Google chrome	Search Engine	Search Engine	6-10 mins	E-walle (Payt Freechar et
1	Female	21-30 years	Delhi	110030	Above 4 years	41 times and above	Wi-Fi	Smartphone	4.7 inches	IOS/Mac	Google chrome	Search Engine	Via application	more than 15 mins	Credit/De car

After renaming columns

Data Cleaning

```
df['times online purchase in past 1 year'].replace('42 times and above','41 times and above',inplace=True)
df["internet access"].replace('Mobile internet',"Mobile Internet",inplace=True)
```

Checking For Null Values

```
df.isnull().sum().sum()

0
```

Data has no missing values

Visualization:

What is Data Visualization?
Data visualization is defined as a graphical representation that contains the information and the data.
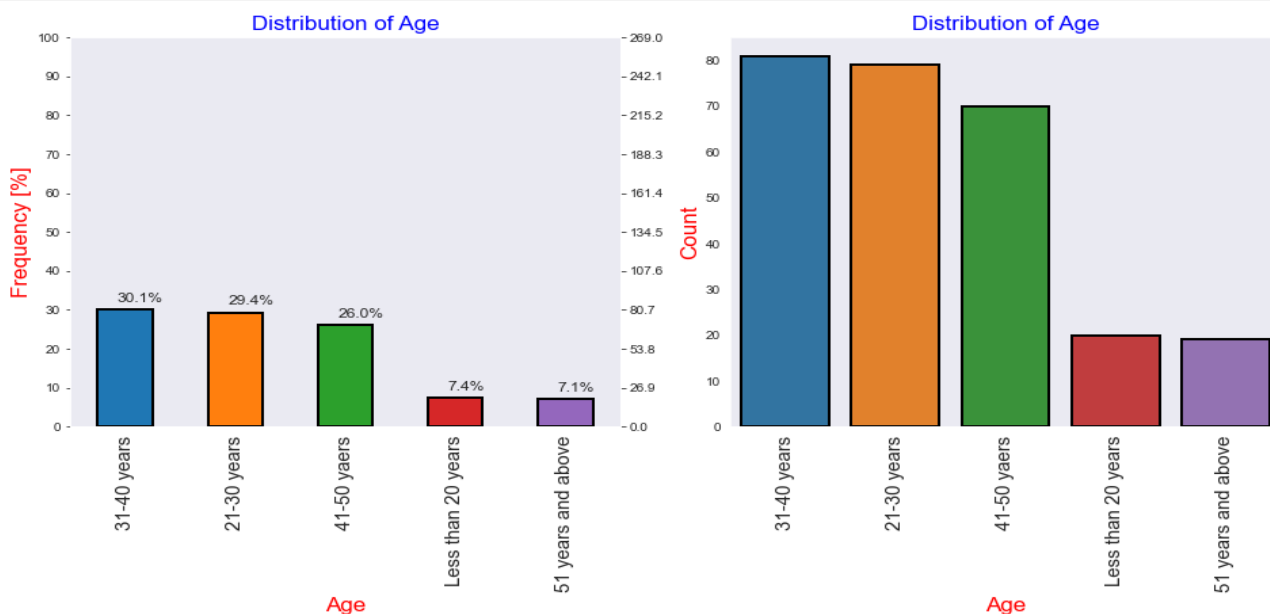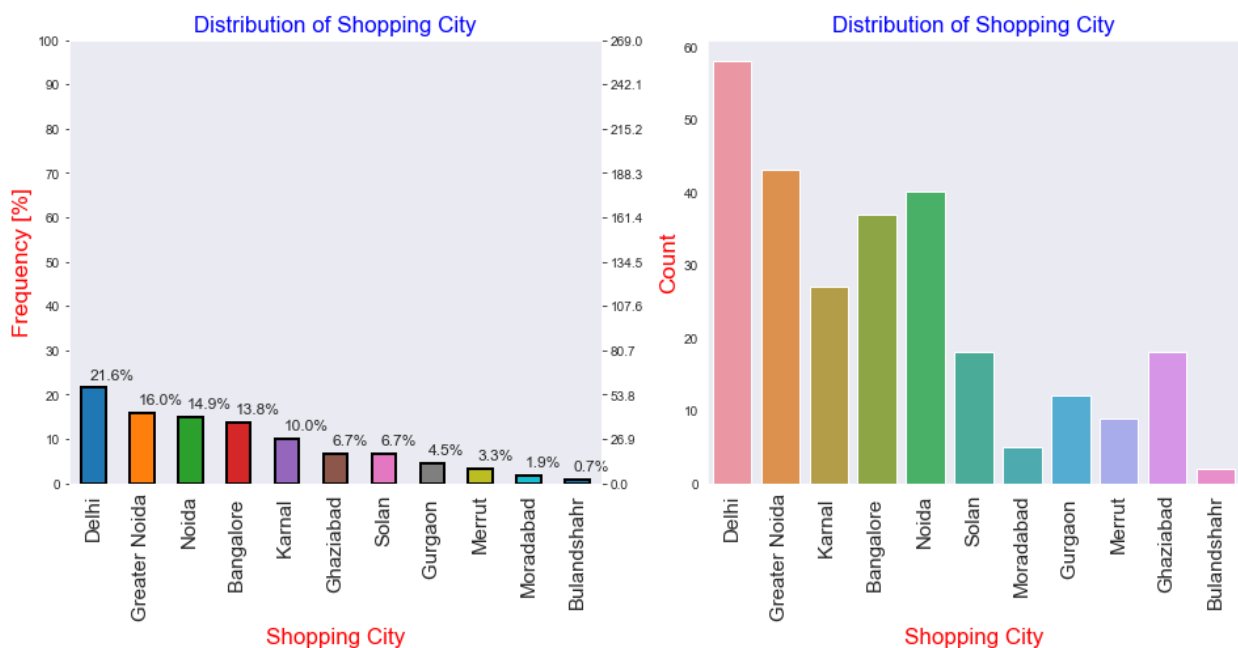
Let's start the Analysis

```python
sns.set_style('dark')
plt.figure(figsize=(8,6))
plt.title('Distribution of Gender',fontsize=17,color="b")
plt.xlabel("Gender",fontsize=17,color="r")
plt.ylabel('Frequency [%]',fontsize=17,color="r")
plt.xticks(fontsize=15)
ax = (df.Gender.value_counts()/len(df)*100).sort_index().plot(kind="bar", rot=0 ,color=['#F05EDA','#08B7CF'],
                                                linewidth=2,edgecolor='k')
ax.set_yticks(np.arange(0, 110, 10))
ax2 = ax.twinx()
ax2.set_yticks(np.arange(0, 110, 10)*len(df)/100)
for p in ax.patches:
    ax.annotate('{:.2f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )
```
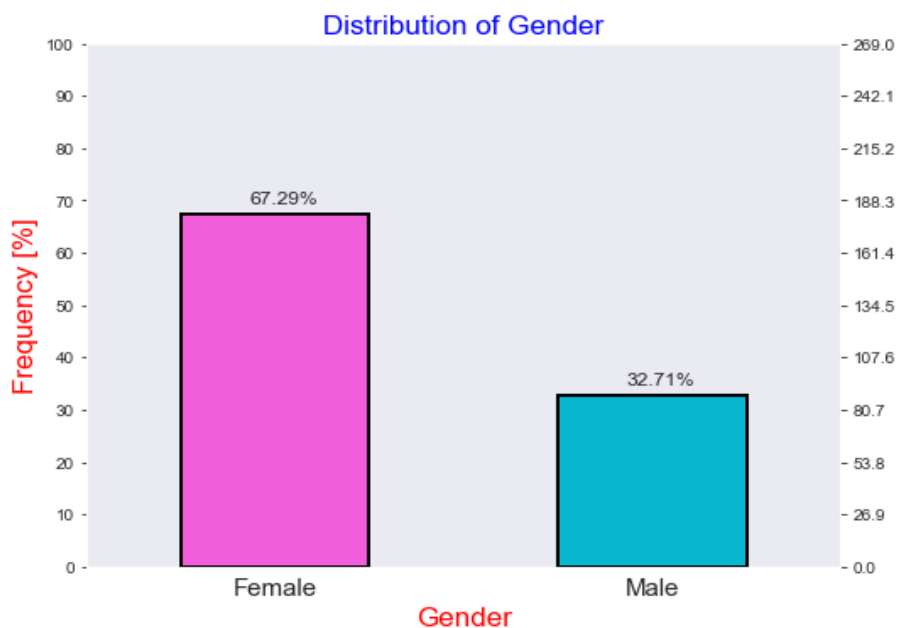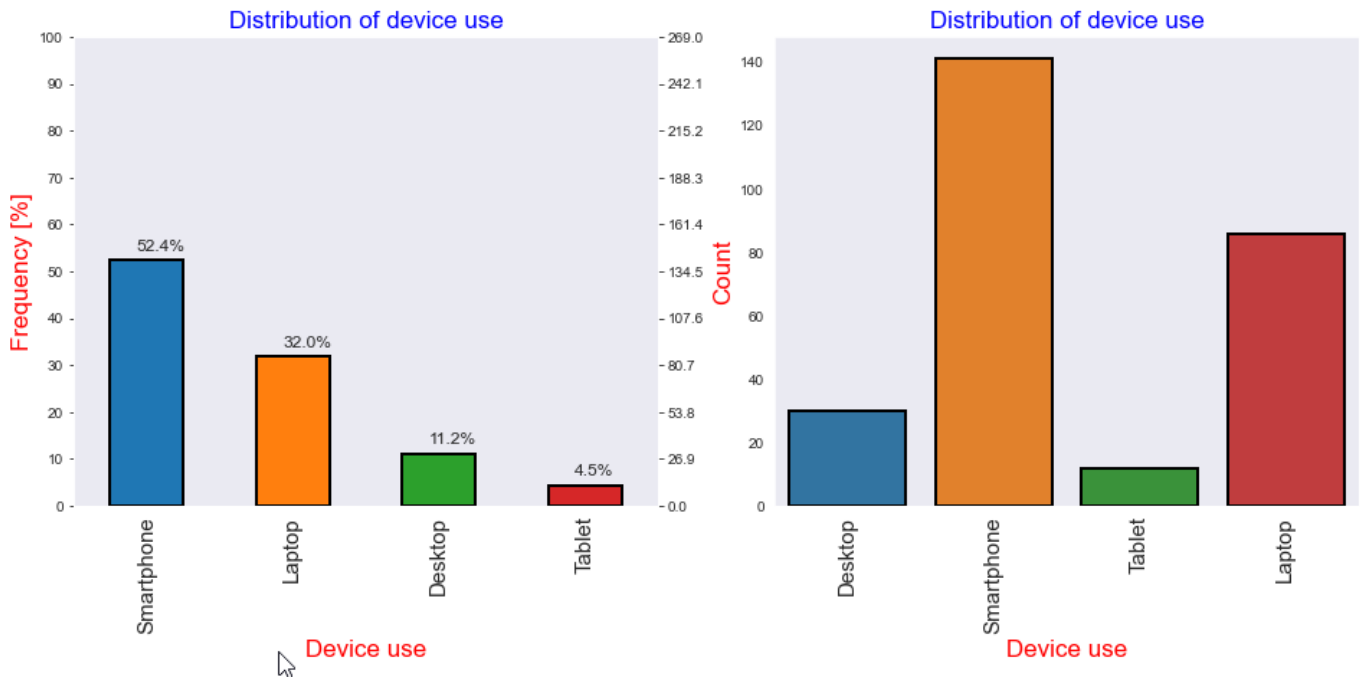
```
plt.figure(figsize=(16,6))
plt.subplot(1,2,1)
sns.set_style('dark')
plt.title('Distribution of Shopping City',fontsize=17,color="b")
plt.xlabel("Shopping City",fontsize=17,color="r")
plt.ylabel('Frequency [%]',fontsize=17,color="r")
plt.xticks(fontsize=15,rotation=90)
ax = (df['Shopping City'].value_counts()/len(df)*100).plot(kind="bar", rot=90,
    linewidth=2,edgecolor='k',color=["#1f77b4","#ff7f0e","#2ca02c","#d62728","#9467bd","#8c564b",
                                     "#e377c2","#7f7f7f", "#bcbd22","#17becf"],)
ax.set_yticks(np.arange(0, 110, 10))
ax2 = ax.twinx()
ax2.set_yticks(np.arange(0, 110, 10)*len(df)/100)
for p in ax.patches:
    ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )

plt.subplot(1,2,2)
sns.countplot(df['Shopping City'])
plt.title('Distribution of Shopping City',fontsize=17,color="b")
plt.xlabel("Shopping City",fontsize=17,color="r")
plt.ylabel('Count',fontsize=17,color="r")
plt.xticks(fontsize=15,rotation=90)
plt.show()
```
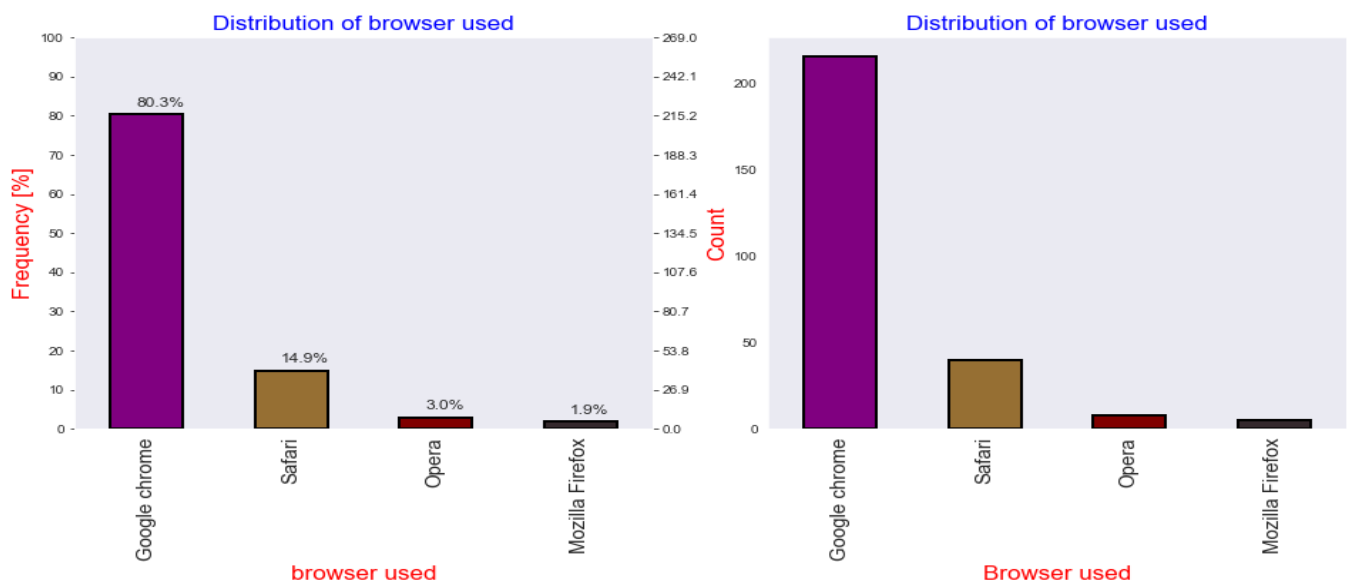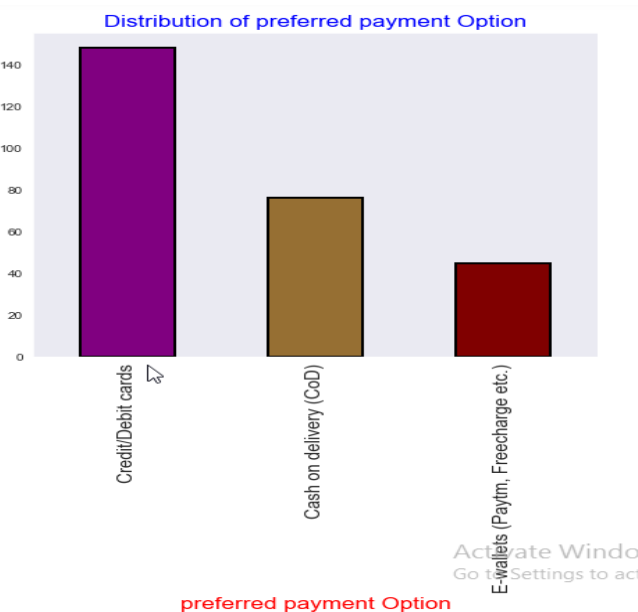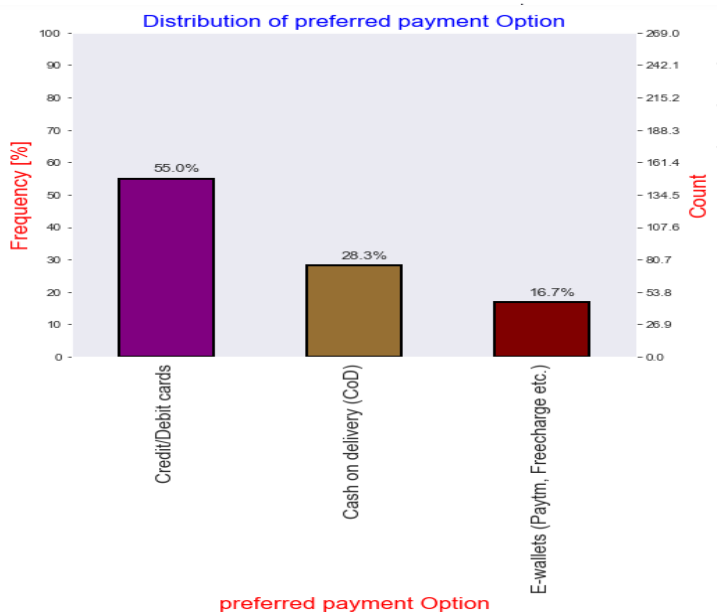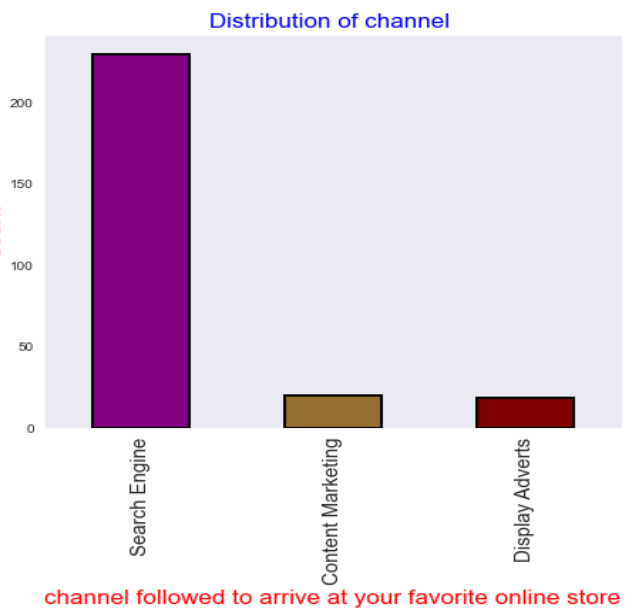
Distribution of Since How Long You are Shopping Online

(Left chart — Frequency [%] / Count vs Years)

- Above 4 years: 36.4%
- 2-3 years: 24.2%
- 3-4 years: 17.5%
- Less than 1 year: 16.0%
- 1-2 years: 5.9%

Distribution of Since How Long You are Shopping Online

(Right chart — Count vs Years)

- Above 4 years
- 3-4 years
- 2-3 years
- Less than 1 year
- 1-2 years

Distribution of times online purchase in past 1 year

(Left chart — Frequency [%] / Count vs Number of times)

- Less than 10 times: 42.4%
- 31-40 times: 23.4%
- 41 times and above: 19.7%
- 11-20 times: 10.8%
- 21-30 times: 3.7%

Distribution of times online purchase in past 1 year

(Right chart — Count vs Number of times)

- 31-40 times
- 41 times and above
- Less than 10 times
- 11-20 times
- 21-30 times

Distribution of internet access

(Left chart — Frequency [%] / Count vs source of internet)

- Mobile Internet: 70.3%
- Wi-Fi: 28.3%
- Dial-up: 1.5%

Distribution of internet access

(Right chart — Count vs source of internet)

- Dial-up
- Wi-Fi
- Mobile Internet

Distribution of device use

```python
plt.figure(figsize=(16,6))
plt.subplot(1,2,1)
sns.set_style('dark')
plt.title('Distribution of browser used',fontsize=17,color="b")
plt.xlabel("browser used",fontsize=17,color="r")
plt.ylabel('Frequency [%]',fontsize=17,color="r")
plt.xticks(fontsize=15,rotation=90)
ax = (df['browser used'].value_counts()/len(df)*100).plot(kind="bar", rot=90 ,linewidth=2,
    edgecolor='k',color=["#800080","#966F33","#800000","#34282C","#E8ADAA","#4CC417","#98FF98","#FF6700"],)
ax.set_yticks(np.arange(0, 110, 10))
ax2 = ax.twinx()
ax2.set_yticks(np.arange(0, 110, 10)*len(df)/100)
for p in ax.patches:
    ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )

plt.subplot(1,2,2)
df['browser used'].value_counts().plot(kind='bar',linewidth=2,edgecolor='k',
    color=["#800080","#966F33","#800000","#34282C","#E8ADAA","#4CC417","#98FF98","#FF6700"])
plt.title('Distribution of browser used',fontsize=17,color="b")
plt.xlabel("Browser used",fontsize=17,color="r")
plt.ylabel('Count',fontsize=17,color="r")
plt.xticks(fontsize=15,rotation=90)
plt.show()
```
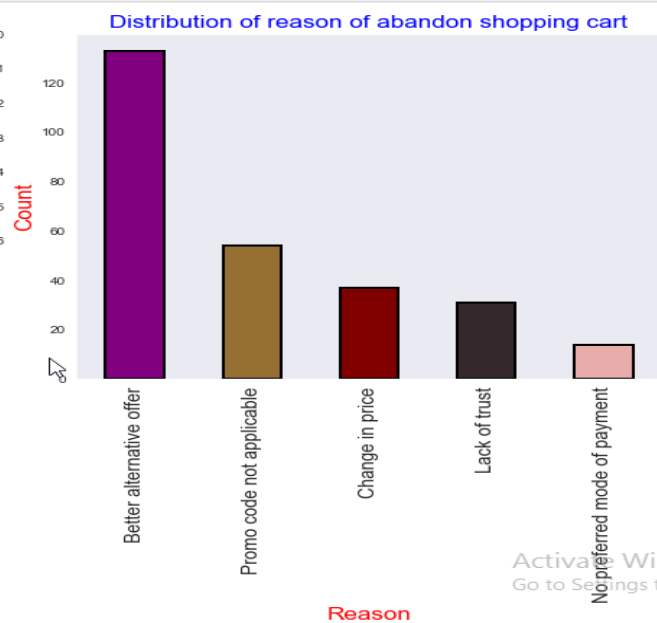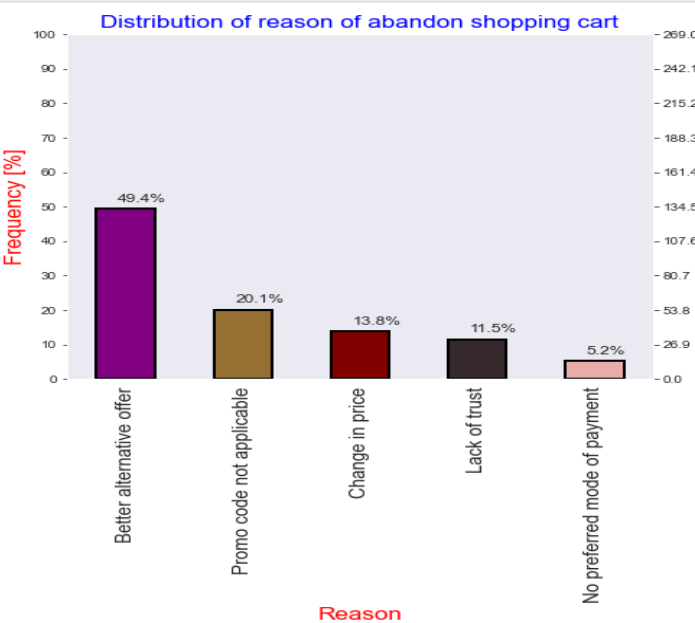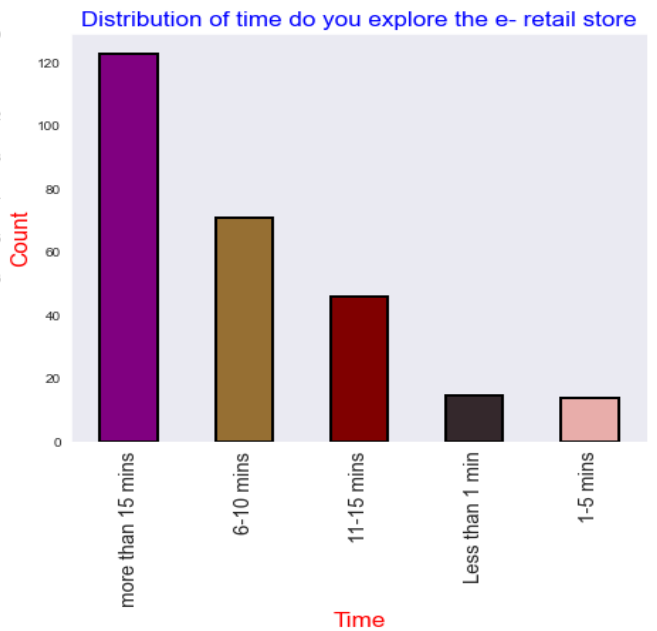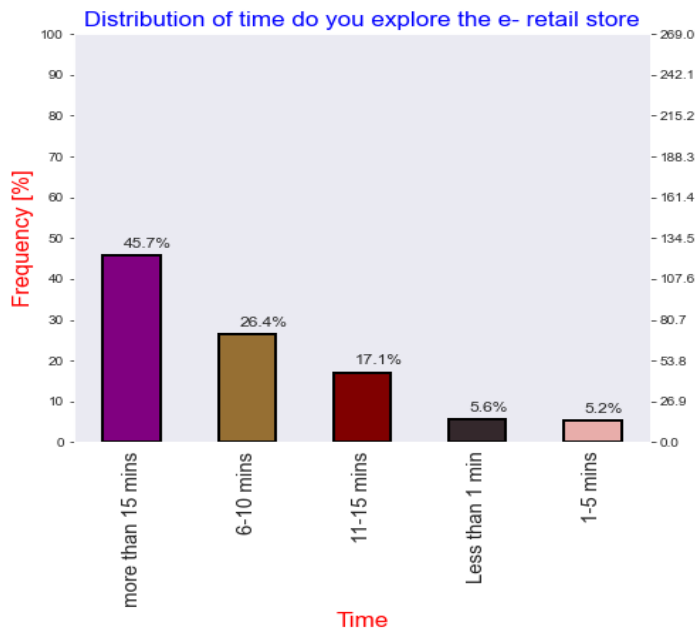

Distribution of browser used

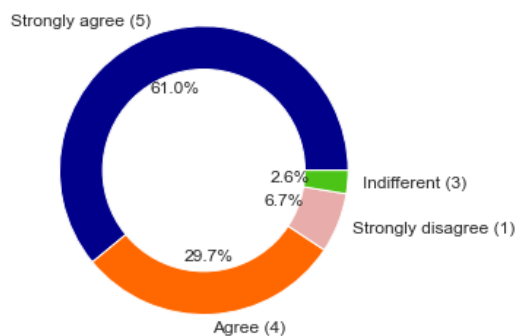## Distribution of way to reach online retail store

Distribution of channel

Distribution of preferred payment Option

Distribution of time do you explore the e- retail store

Left chart (Frequency %): more than 15 mins 45.7%, 6-10 mins 26.4%, 11-15 mins 17.1%, Less than 1 min 5.6%, 1-5 mins 5.2%

Distribution of abandon your shopping cart

Left chart (Frequency %): Sometimes 63.6%, Never 17.8%, Frequently 13.0%, Very frequently 5.6%

Distribution of reason of abandon shopping cart

Left chart (Frequency %): Better alternative offer 49.4%, Promo code not applicable 20.1%, Change in price 13.8%, Lack of trust 11.5%, No preferred mode of payment 5.2%

```
plt.rcParams['axes.prop_cycle'] = plt.cycler(color=['#08B7CF','#F05EDA'])
sns.catplot(x = 'Age', data = df, kind = 'count', hue = 'Gender',height=6, aspect=14/8,linewidth=2,edgecolor='k')
plt.xlabel("Shopping City",fontsize=17,color="r")
plt.ylabel('Count',fontsize=17,color="r")
plt.xticks(fontsize=15,rotation=90)
plt.legend(fontsize=17)
plt.show()
```
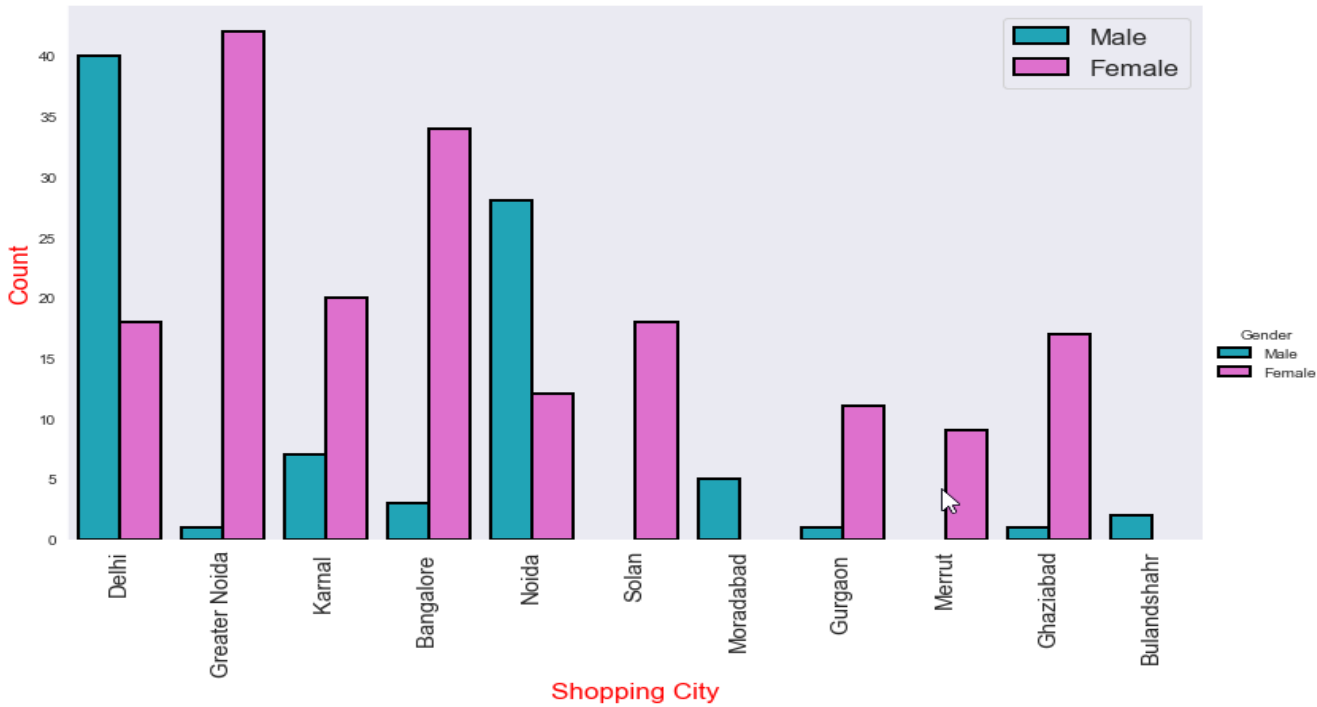
```python
plt.figure(figsize=(15,10))
plt.subplot(2,2,1)
df["content on the website must be easy to read and understand"].value_counts().plot.pie(autopct="%.1f%%",
        fontsize=12,colors=["#00008B","#FF6700","#E8ADAA","#4CC417","#800080","#966F33","#800000","#34282C"])
circle = plt.Circle( (0,0), 0.7, color='white')
p=plt.gcf()
p.gca().add_artist(circle)
plt.title("Content on the website must be easy to read and understand",fontsize=17,color="red")
plt.ylabel(' ',fontsize=13,color="r")

plt.subplot(2,2,2)
male=df[df['Gender']=='Male']
plt.title("Male's Opinion",fontsize=17,color="b")
plt.xlabel("Opinion",fontsize=17,color="r")
plt.ylabel('Frequency [%]',fontsize=17,color="r")
plt.xticks(fontsize=11,rotation=90)
ax=(male["content on the website must be easy to read and understand"].value_counts()/len(male)*100).plot(kind="bar",
                        color=['#08B7CF'],rot=0 ,linewidth=2,edgecolor='k')
ax.set_yticks(np.arange(0, 110, 10))
ax2 = ax.twinx()
ax2.set_yticks(np.arange(0, 110, 10)*len(male)/100)
for p in ax.patches:
    ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )

plt.subplot(2,2,3)
female=df[df['Gender']=='Female']
plt.title("Female's Opinion",fontsize=17,color="b")
plt.xlabel("Opinion",fontsize=17,color="r")
plt.ylabel('Frequency [%]',fontsize=17,color="r")
plt.xticks(fontsize=11,rotation=90)
ax=(female["content on the website must be easy to read and understand"].value_counts()/len(female)*100).plot(kind="bar",
                        color=['#F05EDA'],rot=0 ,linewidth=2,edgecolor='k')
ax.set_yticks(np.arange(0, 110, 10))
ax2 = ax.twinx()
ax2.set_yticks(np.arange(0, 110, 10)*len(female)/100)
for p in ax.patches:
    ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )
plt.show()
```
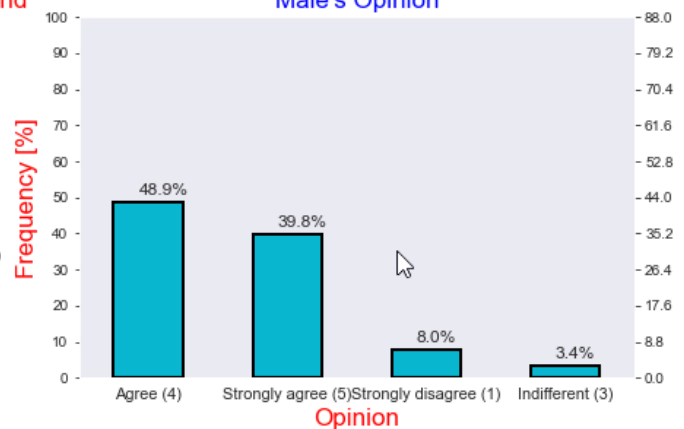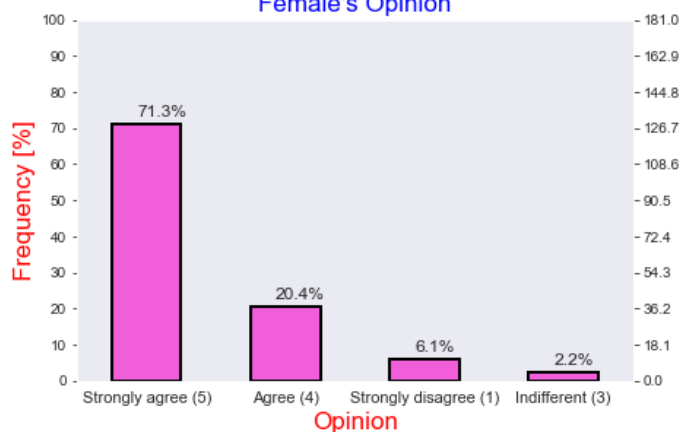
Why did you abandon the Shopping Cart

Better alternative offer — 49.4%
Promo code not applicable — 20.1%
Change in price — 13.8%
Lack of trust — 11.5%
No preferred mode of payment — 5.2%

Male's Opinion

Frequency [%]

Better alternative offer — 39.8%
Promo code not applicable — 23.9%
Change in price — 19.3%
Lack of trust — 12.5%
No preferred mode of payment — 4.5%

Reason

Female's Opinion

Frequency [%]

54.1%
18.2%
11.0%
11.0%
5.5%
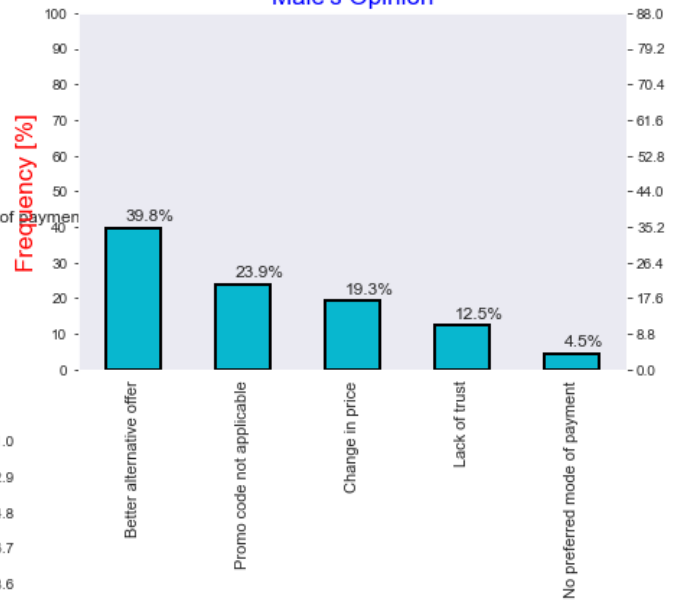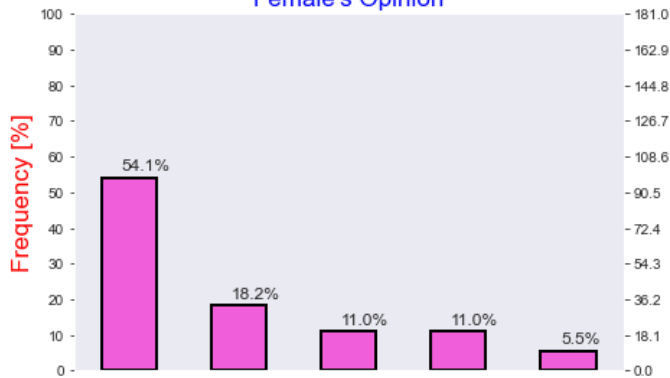
Information on similar product comparison
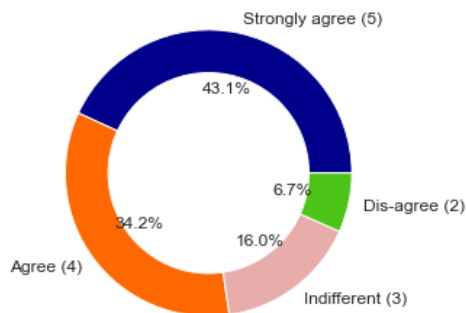
Strongly agree (5) — 43.1%
Agree (4) — 34.2%
Indifferent (3) — 16.0%
Dis-agree (2) — 6.7%

Male's Opinion

Frequency [%]

Agree (4) — 43.2%
Indifferent (3) — 27.3%
Strongly agree (5) — 21.6%
Dis-agree (2) — 8.0%

Opinion

Female's Opinion

Frequency [%]

Strongly agree (5) — 53.6%
Agree (4) — 29.8%
Indifferent (3) — 10.5%
Dis-agree (2) — 6.1%
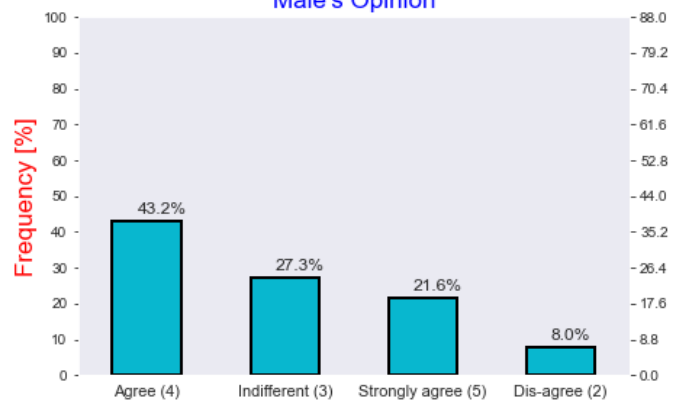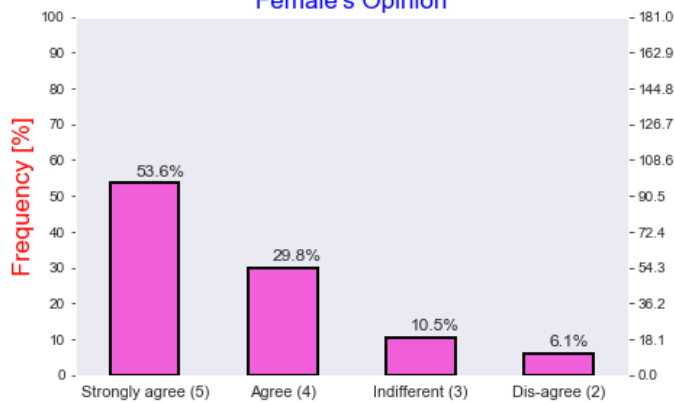
Opinion

```python
for i in df.columns[19:-24]:
    print(i)
    plt.figure(figsize=(15,5))
    plt.subplot(1,2,1)
    male=df[df['Gender']=='Male']
    plt.title("Male's Opinion",fontsize=17,color="b")
    plt.xlabel("Opinion",fontsize=17,color="r")
    plt.ylabel('Frequency [%]',fontsize=17,color="r")
    plt.xticks(fontsize=11,rotation=90)
    ax=(male[i].value_counts()/len(male)*100).plot(kind="bar",color=['#08B7CF'],rot=0 ,linewidth=2,edgecolor='k')
    ax.set_yticks(np.arange(0, 110, 10))
    ax2 = ax.twinx()
    ax2.set_yticks(np.arange(0, 110, 10)*len(male)/100)
    for p in ax.patches:
        ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )

    plt.subplot(1,2,2)
    female=df[df['Gender']=='Female']
    plt.title("Female's Opinion",fontsize=17,color="b")
    plt.xlabel("Opinion",fontsize=17,color="r")
    plt.ylabel('Frequency [%]',fontsize=17,color="r")
    plt.xticks(fontsize=11,rotation=90)
    ax=(female[i].value_counts()/len(female)*100).plot(kind="bar",color=['#F05EDA'],rot=0 ,linewidth=2,edgecolor='k')
    ax.set_yticks(np.arange(0, 110, 10))
    ax2 = ax.twinx()
    ax2.set_yticks(np.arange(0, 110, 10)*len(female)/100)
    for p in ax.patches:
        ax.annotate('{:.1f}%'.format(p.get_height()), (p.get_x()+0.18, p.get_height()+2),fontsize=12 )
    plt.show()
plt.show()
```
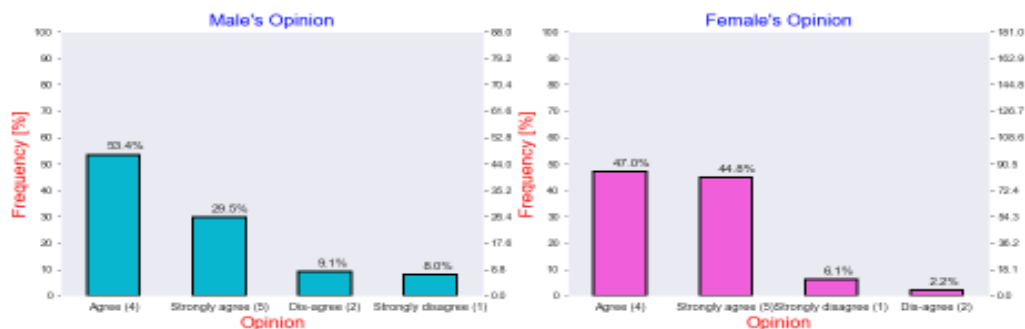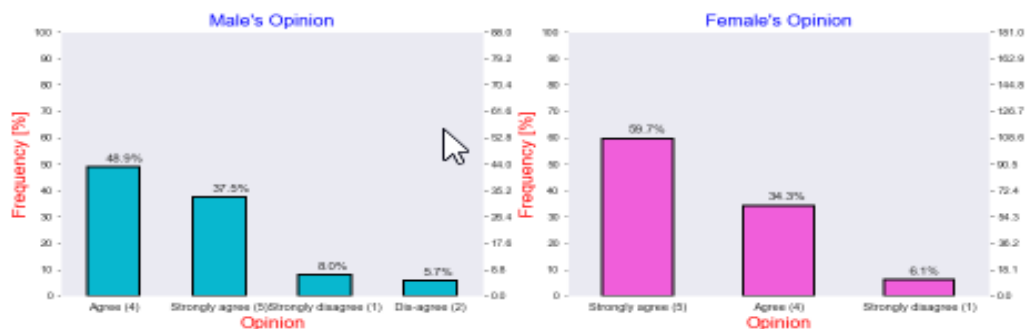

Complete information on listed seller and product being offered is important for purchase decision
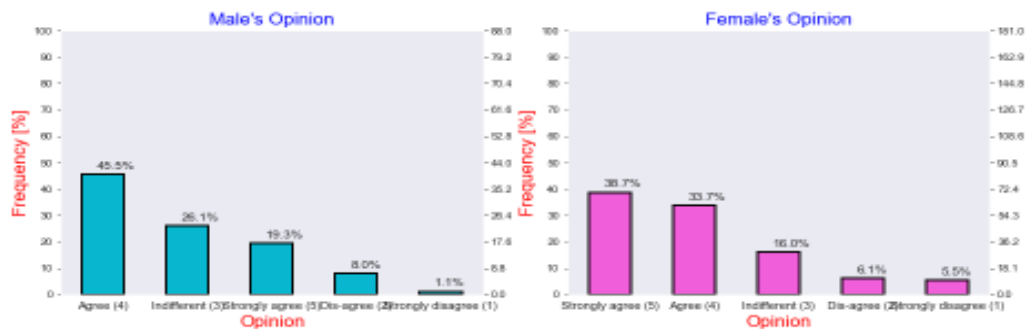
All relevant information on listed products must be stated clearly
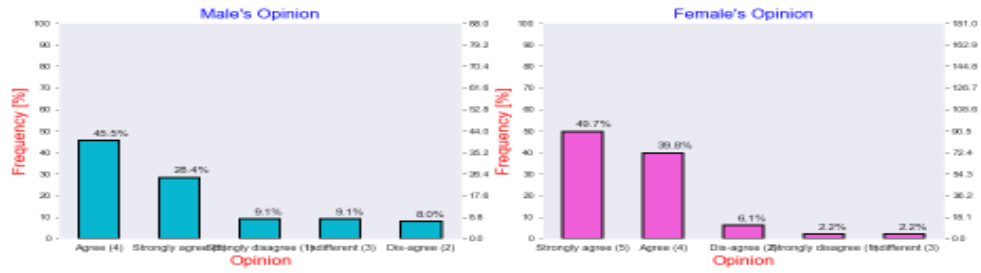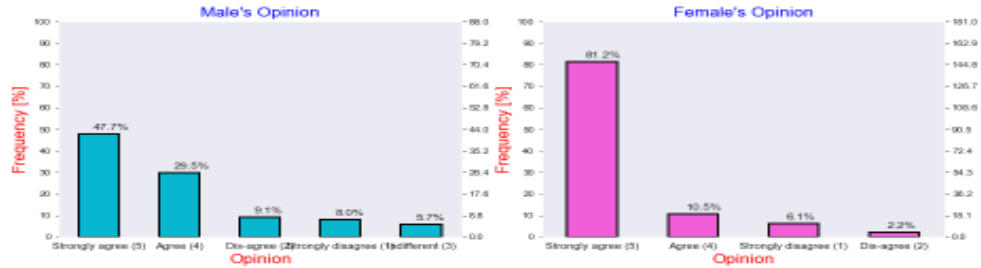

Ease of navigation in website
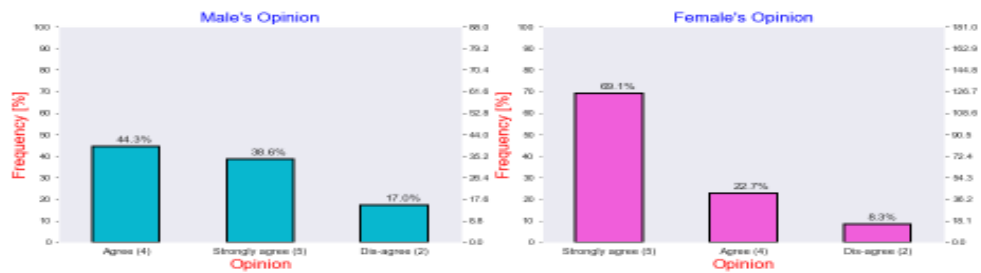
Loading and processing speed
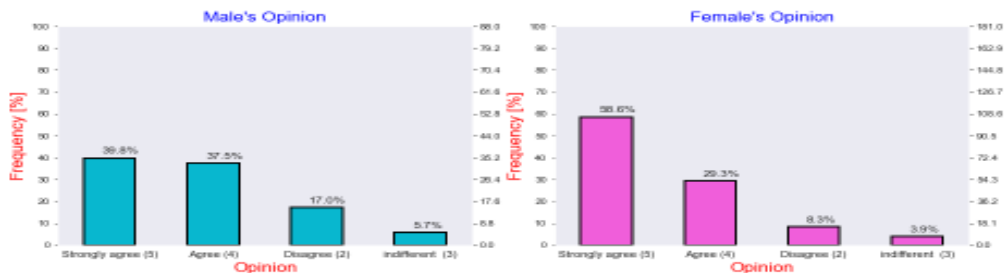
Loading and processing speed

Male's Opinion — Agree (4): 45.5%, Strongly agree (5): 28.4%, Strongly disagree (1): 9.1%, Indifferent (3): 9.1%, Dis-agree (2): 8.0%

Female's Opinion — Strongly agree (5): 49.7%, Agree (4): 39.8%, Dis-agree (2): 6.1%, Strongly disagree (1): 2.2%, Indifferent (3): 2.2%

User friendly Interface of the website

Male's Opinion — Strongly agree (5): 47.7%, Agree (4): 29.5%, Dis-agree (2): 9.1%, Strongly disagree (1): 8.0%, Indifferent (3): 5.7%

Female's Opinion — Strongly agree (5): 81.2%, Agree (4): 10.5%, Strongly disagree (1): 6.1%, Dis-agree (2): 2.2%

Convenient Payment methods

Male's Opinion — Agree (4): 44.3%, Strongly agree (5): 38.6%, Dis-agree (2): 17.0%

Female's Opinion — Strongly agree (5): 69.1%, Agree (4): 22.7%, Dis-agree (2): 8.3%

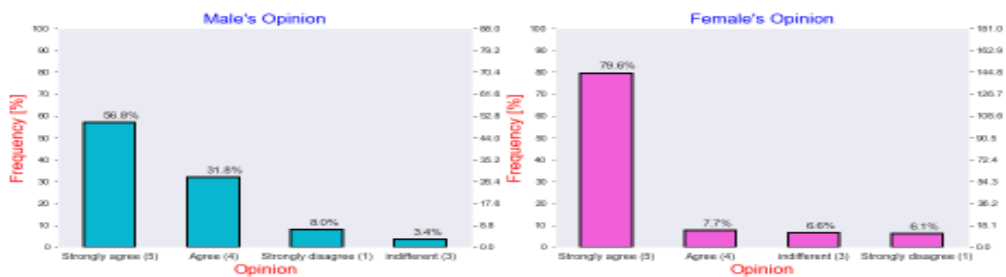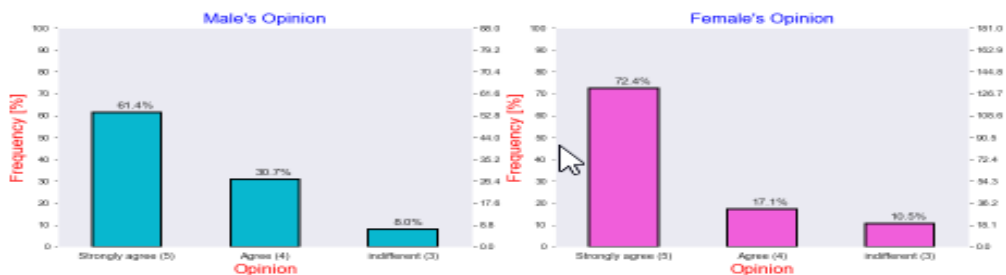## Trust that the online retail store will fulfill its part of the transaction at the stipulated time

Male's Opinion — Strongly agree (5): 39.8%, Agree (4): 37.5%, Disagree (2): 17.0%, Indifferent (3): 5.7%

Female's Opinion — Strongly agree (5): 58.6%, Agree (4): 29.3%, Disagree (2): 8.3%, Indifferent (3): 3.9%

Empathy towards the customers

Male's Opinion — Strongly agree (5): 56.8%, Agree (4): 31.8%, Strongly disagree (1): 8.0%, Indifferent (3): 3.4%

Female's Opinion — Strongly agree (5): 79.6%, Agree (4): 7.7%, Indifferent (3): 6.6%, Strongly disagree (1): 6.1%

Being able to guarantee the privacy of the customer

Male's Opinion — Strongly agree (5): 61.4%, Agree (4): 30.7%, Indifferent (3): 8.0%

Female's Opinion — Strongly agree (5): 72.4%, Agree (4): 17.1%, Indifferent (3): 10.5%

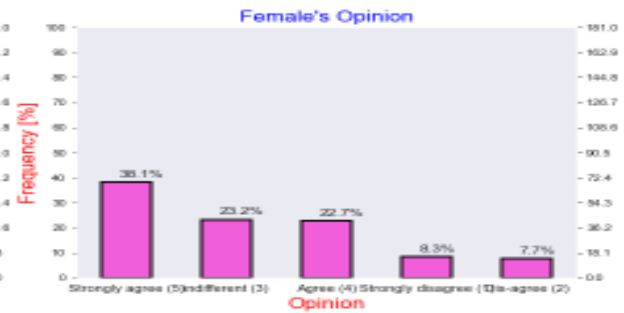## Responsiveness, availability of several communication channels

Male's Opinion

Agree (4): 60.2%
Strongly agree (5): 37.5%
Strongly disagree (1): 1.1%
indifferent (3): 1.1%

Female's Opinion

Strongly agree (5): 64.1%
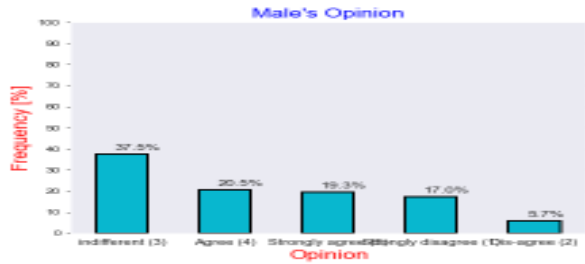Agree (4): 22.7%
indifferent (3): 7.7%
Strongly disagree (1): 5.5%
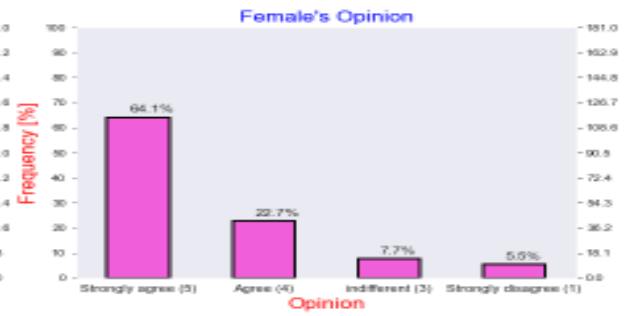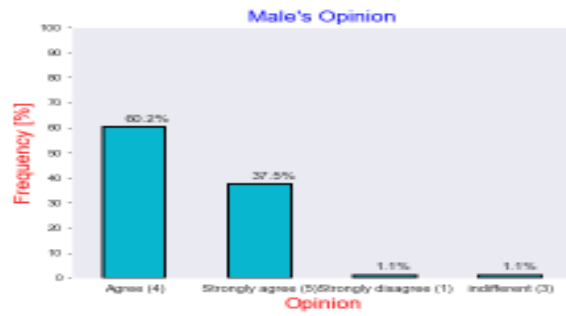
Online shopping gives monetary benefit and discounts

Male's Opinion

Agree (4): 31.8%
Strongly agree (5): 29.5%
indifferent (3): 19.3%
Dis-agree (2): 11.4%
Strongly disagree (1): 8.0%

Female's Opinion

Strongly agree (5): 43.6%
Agree (4): 31.5%
indifferent (3): 18.2%
Strongly disagree (1): 6.1%
Dis-agree (2): 0.6%

Enjoyment is derived from shopping online

Male's Opinion

indifferent (3): 37.5%
Agree (4): 20.5%
Strongly agree (5): 19.3%
Strongly disagree (1): 17.0%
Dis-agree (2): 5.7%

Female's Opinion

Strongly agree (5): 38.1%
indifferent (3): 23.2%
Agree (4): 22.7%
Strongly disagree (1): 8.3%
Dis-agree (2): 7.7%

Enjoyment is derived from shopping online

Male's Opinion

indifferent (3): 37.5%
Agree (4): 20.5%
Strongly agree (5): 19.3%
Strongly disagree (1): 17.0%
Dis-agree (2): 5.7%

Female's Opinion

Strongly agree (5): 38.1%
indifferent (3): 23.2%
Agree (4): 22.7%
Strongly disagree (1): 8.3%
Dis-agree (2): 7.7%

Shopping online is convenient and flexible

Male's Opinion

Strongly agree (5): 40.9%
Agree (4): 30.7%
indifferent (3): 19.3%
Dis-agree (2): 9.1%

Female's Opinion

Strongly agree (5): 60.8%
Agree (4): 28.2%
indifferent (3): 8.8%
Dis-agree (2): 2.2%

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

Male's Opinion

Strongly agree (5): 61.4%
Agree (4): 26.1%
Dis-agree (2): 12.5%

Female's Opinion

Strongly agree (5): 79.6%
Agree (4): 15.5%
Dis-agree (2): 5.0%

Opinion
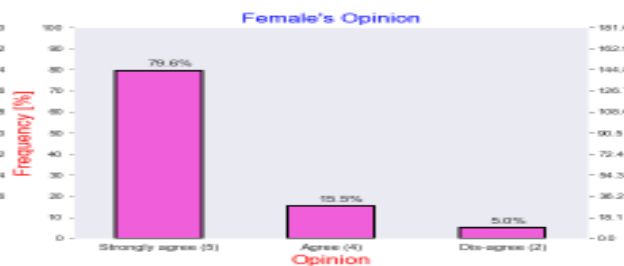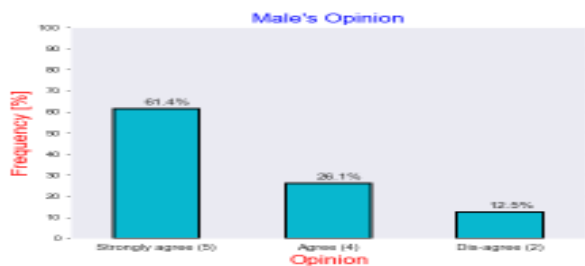
The Convenience of patronizing the online retailer

Male's Opinion

Frequency [%]

43.2% 43.2%

13.6%

Indifferent (3)   Agree (4)   Strongly agree (5)
Opinion

Female's Opinion

Frequency [%]

55.2%

23.2%   21.5%

Agree (4)   Strongly agree (5)   Indifferent (3)
Opinion
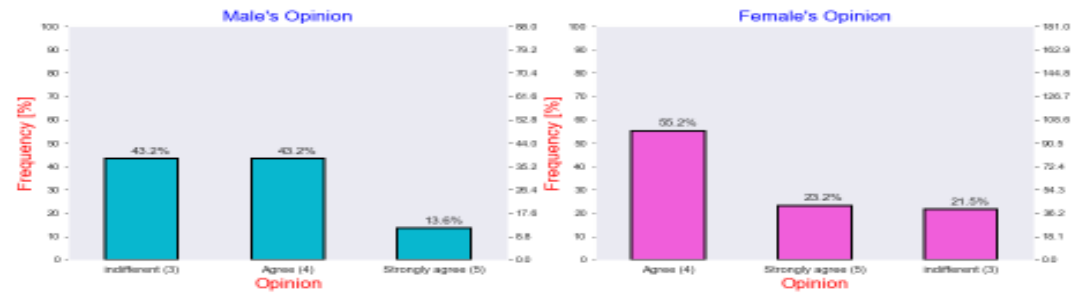
Shopping on the website gives you the sense of adventure

Male's Opinion

Frequency [%]

48.9%

21.6%
13.6% 10.2% 5.7%

Agree (4) Indifferent (3) Strongly agree (5) Dis-agree (2) Strongly disagree (1)
Opinion

Female's Opinion

Frequency [%]

32.0%
23.2% 22.7% 22.1%

Agree (4) Strongly agree (5) Dis-agree (2) Indifferent (3)
Opinion
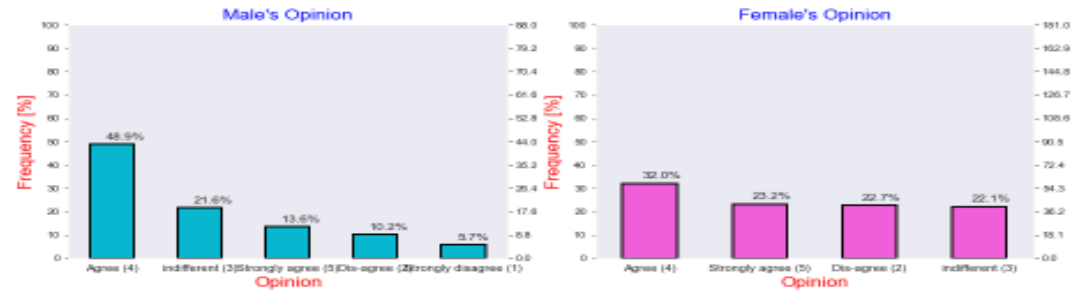
Shopping on your preferred e-tailer enhances your social status

Male's Opinion

Frequency [%]

36.4%
22.7% 19.3%
12.5% 9.1%

Indifferent (3) Agree (4) Strongly agree (5) Dis-agree (2) Strongly disagree (1)
Opinion

Female's Opinion

Frequency [%]

37.6%
21.5% 17.1%
13.8% 9.9%

Indifferent (3) Agree (4) Strongly agree (5) Strongly disagree (1) Dis-agree (2)
Opinion
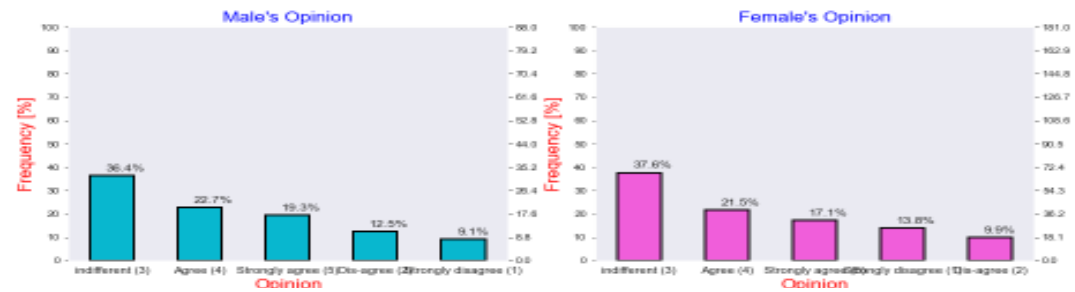
You feel gratification shopping on your favorite e-tailer

Male's Opinion

Frequency [%]

33.0%
25.0% 21.6%
12.5% 8.0%

Agree (4) Indifferent (3) Strongly agree (5) Disagree (2) Strongly disagree (1)
Opinion

Female's Opinion

Frequency [%]

43.6%
25.4%
18.8%
6.1% 6.1%

Indifferent (3) Strongly agree (5) Agree (4) Strongly disagree (1) Disagree (2)
Opinion
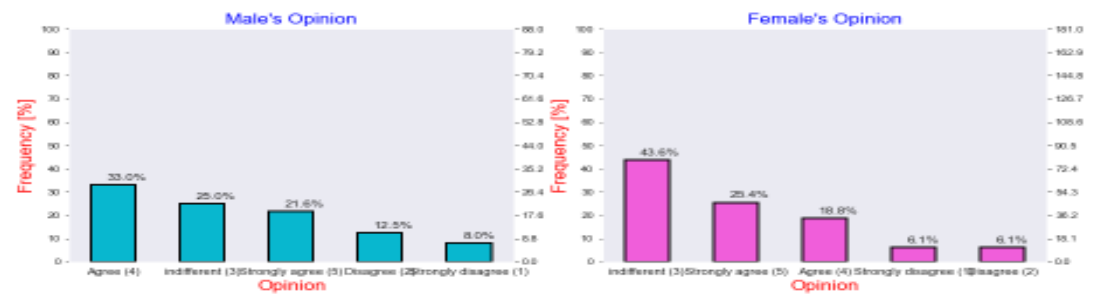
Shopping on the website helps you fulfill certain roles

Male's Opinion

Frequency [%]

43.2%
35.2%

11.4% 9.1%
1.1%

Agree (4) Indifferent (3) Strongly agree(5)Strongly disagree (1)Dis-agree (2)
Opinion

Female's Opinion

Frequency [%]

31.5% 27.6%
15.5% 13.8% 11.6%

Indifferent (3) Agree (4) Strongly agree(5)Strongly disagree (1)Dis-agree (2)
Opinion
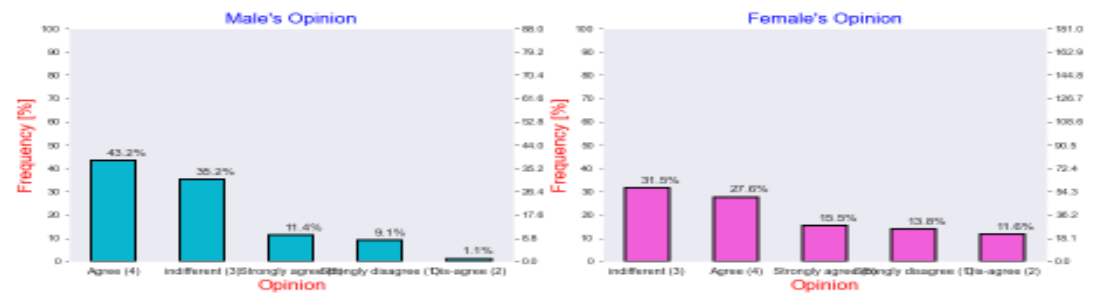
Getting value for money spent

Male's Opinion

Frequency [%]

53.4%

25.0% 21.6%

Agree (4) Indifferent (3) Strongly agree (5)
Opinion

Female's Opinion

Frequency [%]

56.4%

34.8%

8.8%

Agree (4) Strongly agree (5) Indifferent (3)
Opinion
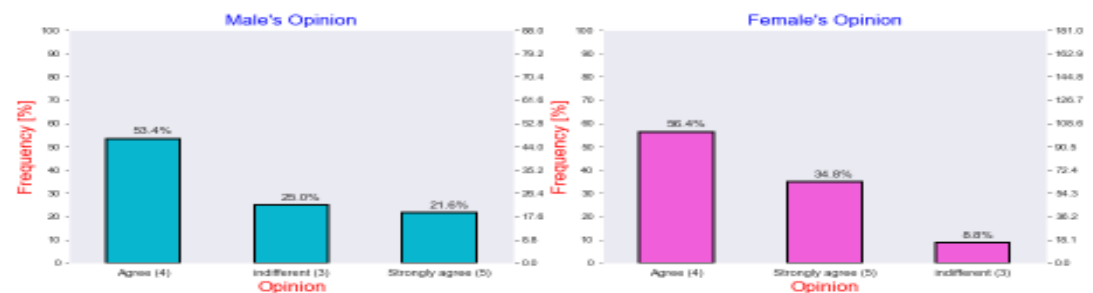
```
for i in df.columns[-24:]:
    Company=['Amazon.in', 'Flipkart.com', 'Paytm.com', 'Myntra.com', 'Snapdeal.com']
    Amazon=df[i].str.contains("Amazon.in|Amazon.com", na=False).sum()/len(df)*100
    Flipcart=df[i].str.contains("Flipkart.com", na=False).sum()/len(df)*100
    paytm=(df[i].str.contains("Paytm.com|Patym.com", na=False).sum()/len(df)*100)
    Myntra= df[i].str.contains("Myntra.com", na=False).sum()/len(df)*100
    Snapdeal=df[i].str.contains("Snapdeal.com|Snapdeal|snapdeal", na=False).sum()/len(df)*100
    df1=pd.DataFrame({"Company":Company,"Percentage %":[Amazon,Flipcart,paytm,Myntra,Snapdeal]})

    plt.figure(figsize=(8,4))
    plt.rcParams['axes.prop_cycle'] = plt.cycler(color=["#00008B","#FF6700","#E8ADAA","#4CC417","#800080","#966F33"
                                                        ,"#800000","#34282C"])
    sns.barplot(df1["Company"],df1["Percentage %"],linewidth=2,edgecolor='k')
    plt.title(f"Customer's Opinion for {i}",fontsize=17,color="b")
    plt.xlabel("Company",fontsize=17,color="r")
    plt.ylabel("Percentage",fontsize=17,color="r")
    plt.xticks(fontsize=13,rotation=0)
    plt.yticks(fontsize=13,rotation=0)
    plt.show()
```
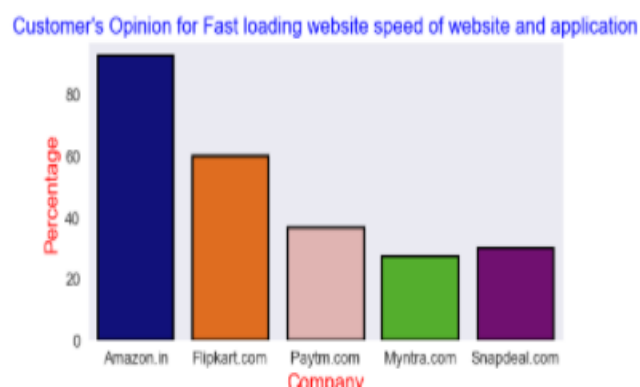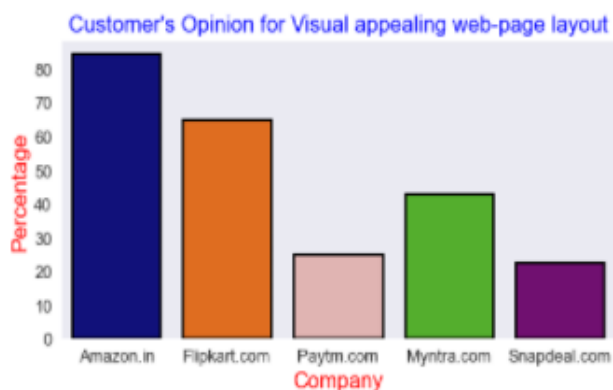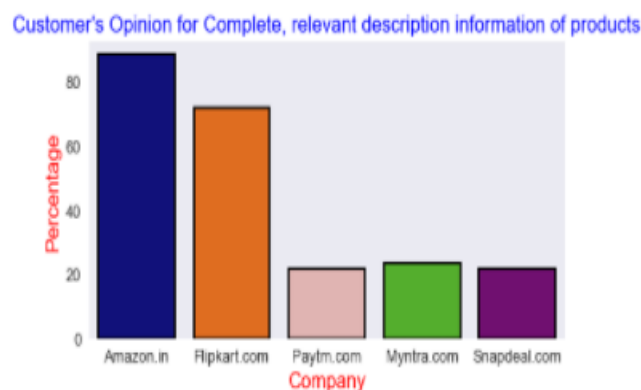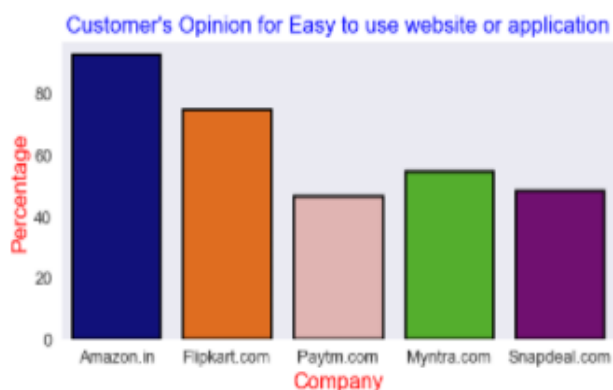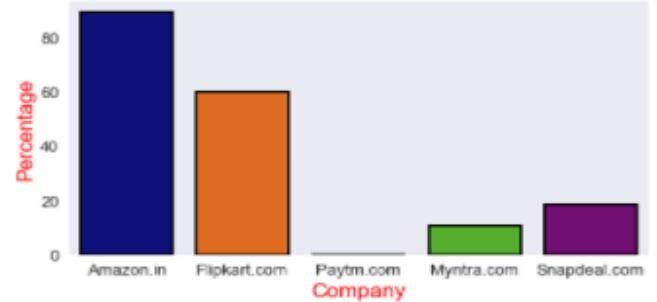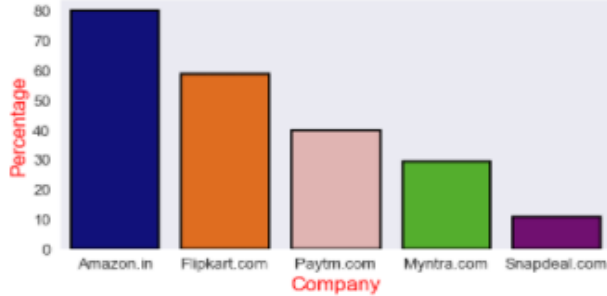
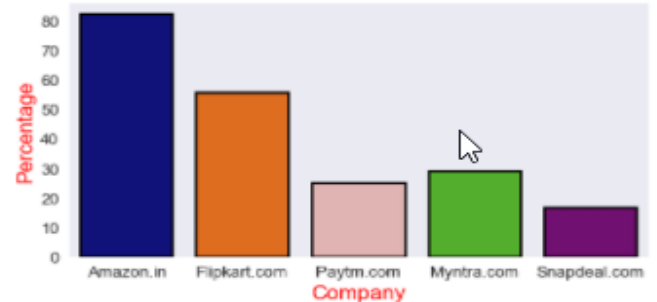**Customer's Opinion for Reliability of the website or application**
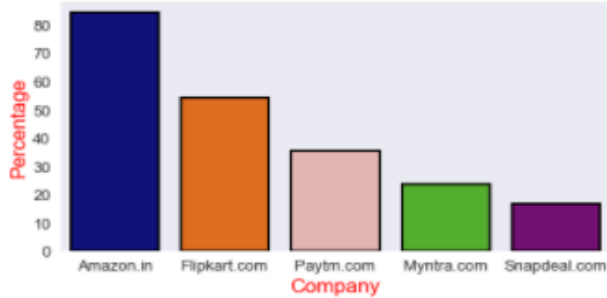
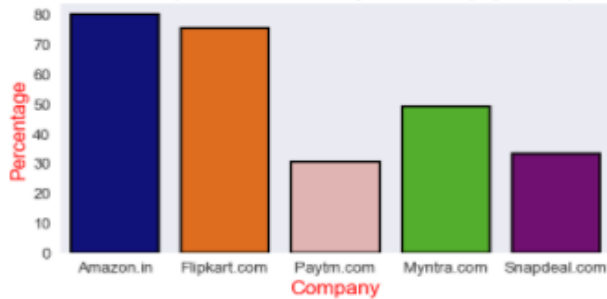**Customer's Opinion for Speedy order delivery**

Customer's Opinion for Quickness to complete purchase
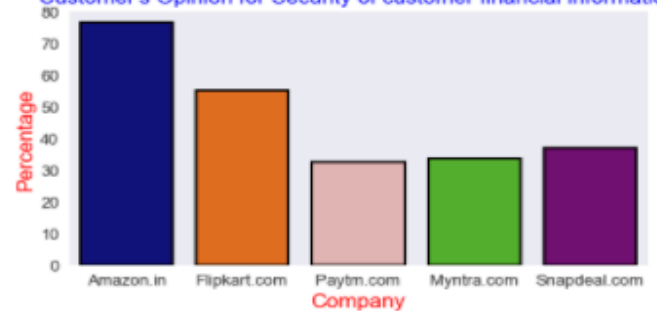
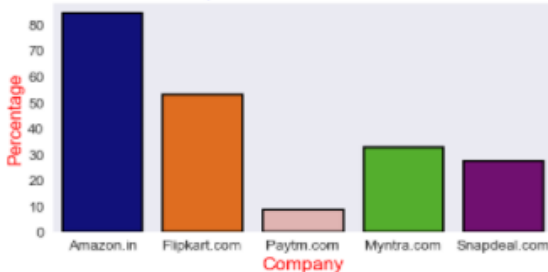**Customer's Opinion for Privacy of customers information**

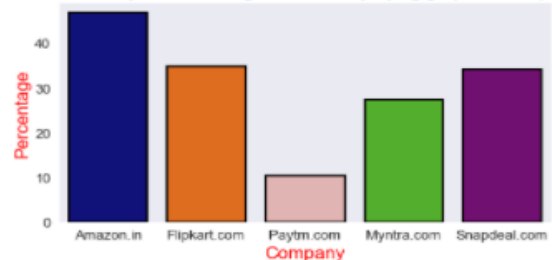**Customer's Opinion for Availability of several payment options**

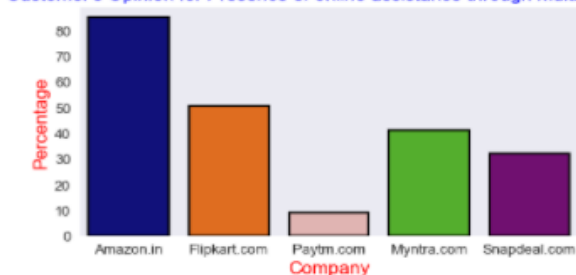**Customer's Opinion for Security of customer financial information**
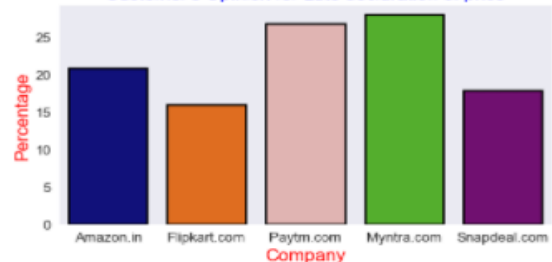
Customer's Opinion for Perceived Trustworthiness

Customer's Opinion for Longer time in displaying graphics and photos

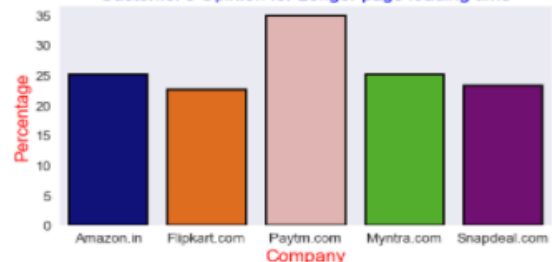**Customer's Opinion for Presence of online assistance through multi-channel**

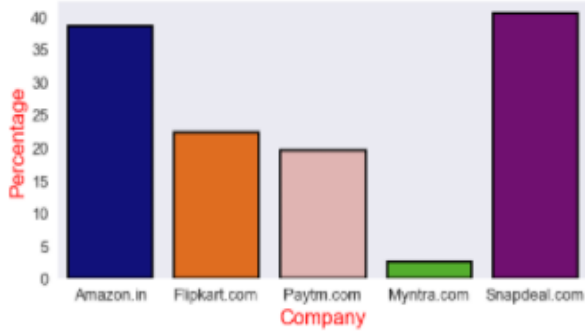**Customer's Opinion for Late declaration of price**

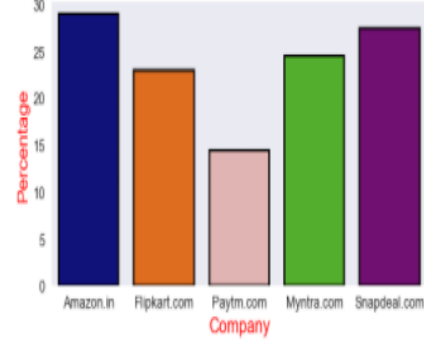**Customer's Opinion for Longer time to get logged in**

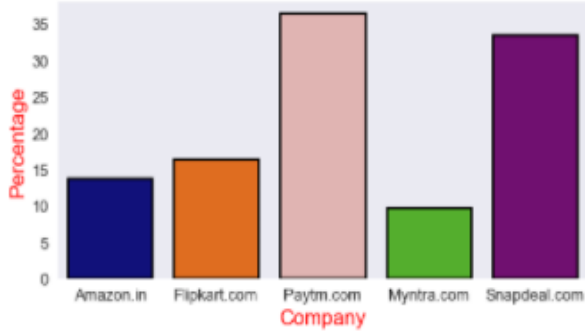**Customer's Opinion for Longer page loading time**

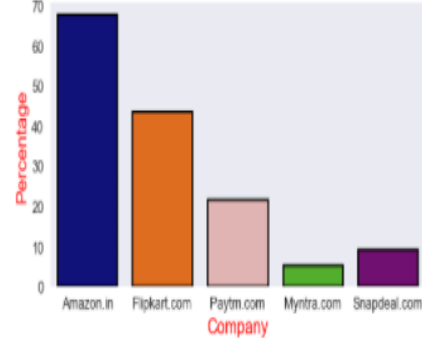Customer's Opinion for Limited mode of payment on most products

Customer's Opinion for Frequent disruption when moving from one page to another

Customer's Opinion for Longer delivery period

Customer's Opinion for Website is as efficient as before

Customer's Opinion for Change in website/Application design
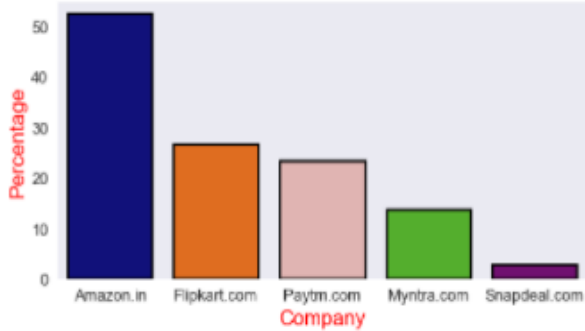
Customer's Opinion for Which of the Indian online retailer would you recommend to a friend
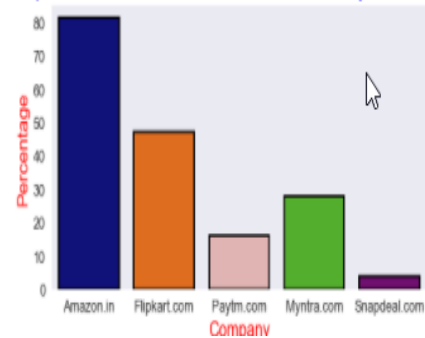
Observations:

- From gender I can say male are less and female are more means female use to do more shopping
- From age 21-30 and 31-40 years of people use to do more shopping and peoples who are 50 years old and above they do very less shopping
- From Since How Long You are Shopping Online I can say peoples at the age of 4 years start online shopping
- From How many times you have made an online purchase in the past 1 year I can say less than 10 times has high count and and 42 times and above have least count means mostly people buy less than 10 mines a year
- From how do you access the internet while shopping on-line we can see people used to buy using mobile internet more and very few use dialup

- From Which device do you use to access the online shopping I can say people use there smart phones more than laptops and very few uses tablet
- From what is the screen size of your mobile device I can say other have the highest count as 5.5 inch and least 5 inch size
- From what is the operating system (OS) of your device I can say mostly people use window phones then android and then less people use ios for inline shopping
- From What browser do you run on your device to access the website I can say mostly all people use google chrome and very less people use Firefox
- From Which channel did you follow to arrive at your favorite online store for the first time People mostly use search engine to buy something
- From After first visit, how do you reach the online retail store I can say people used search engine or app for this
- From How much time do you explore the e- retail store before making a purchase decision I can say mostly people use to take 15 min and very few people take 1 min only
- From What is your preferred payment Option I can say mostly people use credit/debit card then 2nd preference of people are cash on delivery then least they use E-wallet
- From How frequently do you abandon (selecting an items and leaving without making payment) your shopping cart I can say the highest count have sometimes and the least count have very frequently
- From reason to abandon purchase from shopping cart I can say better offer has the high count means people get some other best offer and it has least count of lack of trust and no preferred payment means people don't have trust and they don't find their best preffered method
- From The content on the website must be easy to read and understand people have voted more for strongly agree and agree they want while shopping they can easily read the content of site
- From Information on similar product to the one highlighted is important for product comparison I can say people have voted strongly agree and agree on this

- Above 41-50 years and less than 20 years, female and male respondents count difference is not much.
- From Bangalore and Greater Noida, many respondents are female.
- From Noida and Delhi, many respondents are male.
- Both men and women shopping from desktop count are almost same. However, more women shop from either smartphone or laptop.

- Most of the women come back to shopping website by using search engine.
- Many women prefer to use search engine or app, rather than direct URL. However, men prefer to use search engine and Url and app little less. So we can understand that women use app more than men.
- Women spend more time than men during online shopping and the time is mostly more than 15 mins, followed by 11-15 mins.
- Women too compare the products with other websites and is one of the reasons to leave the cart without shopping.
- Women prefer more loyal points than men.
- More women disagree that online shopping is a kind of adventure. So websites need to work towards giving real time experience as this can be a big marketing strategy.
- Women don't feel that online shopping fulfills certain roles.

- There are more women respondents than men. It could be that data collection is mainly focused on women.
- Amongst the respondents, the major class targeted is between 21-40 years, followed by 41-50 and less than 20 years. We can understand that the correspondents are mostly from working class.
- The respondents are majorly residing in cities like Delhi, Greater Noida, Noida and Bangalore.
- Majority are shopping online for more than 4 years. There are considerable people who are shopping online since less than one year and also it shows that many new customers are being added every year.
- We can observe that many have shopped less than 10 times in the past year.
- Many of them use mobile to shop online, followed by laptop, desktop and tablet.
- Windows constitute the major OS of the customer device, followed by Android and Mac.
- Google Chrome is majorly used to access the shopping website.
- People are becoming customers of their favorite stores by using the search engine. Content marketing or display advertisements are not that impactful when coming to online marketing. So companies should spend more on advertising on search engines.
- For repeated visits, people use search engine first, followed by app and direct URL. We can see that difference between app and search engine is small.
- Majority of the people spend more than 15 minutes before making a purchase, followed by 6-10 minutes.

- The major payment method used by all is credit/debit cards, followed by COD and e-wallets.
- People have mentioned that sometimes they would leave the cart without purchasing and the major reason they have mentioned is that they are finding some better alternative offer. It means that people are comparing from many online websites before making any purchase.
- Customers strongly agree that content of website must be easy to read and understandable.
- Majority of customers want information of similar products to make purchase.
- Majority of the customers want complete information on listed sellers and their products being offered.
- Customers want all relevant information on the listed products and very less customers disagree to that.
- The customers wanted the websites to be easily navigated.
- Majority of the customers wanted high loading and processing speed, user friendly interface of website, convenient payment method, high trust on website, empathy towards customers, guarantee privacy of customers, responsiveness-availability of several communication channels, etc.
- People feel that online shopping provides monitory benefits and discounts.
- Customers also feel that shopping online is convenient and flexible.
- Return policy is important for deciding the product purchase to many customers.
- Many customers find shopping through online helps them financially because of cost and discount factors.
- When it comes to certain factors like gratification, social status enhancement because of shopping, or whether shopping online gives a thrill or adventure, customers are more indifferent to these. So, there is an ample scope in giving more enhanced experienced to customers in this regard.

Shortcomings in the companies and the ways to improve those shortcomings

1.Amazon.com

Highlights of the company:

- Fast delivery of products.
- Availability of complete information of the products.
- Presence of online assistance through multi-channels.

- Reliable website or app, perceived trustworthiness.
- Best website in terms of visual layout.
- Website is as efficient as before

- Give more payment options to customers.
- Try to give price early during promotion.
- Need to decrease the page loading time.

2.Flipkart.com

The highlights of the company:

- Speedy order delivery
- Easy to use website.
- Availability of serval Payment options.
- Reliable website or app, perceived trustworthiness.
- Wild variety of products to offer.
- Convenient to use and also a good website for shopping.
- Fast delivery of products.
- Availability of complete information of the products.

Areas where company needs to improve:

- Need to increase the speed to product delivery
- Give more payment options to customers.
- Try to give the price early during promotion.
- Need to decrease the page loading time.

3.Patym.com

The highlights of the company:

- Easy to use website
- Quickness to complete purchase
- Availability of serval Payment options.

Areas where company needs to improve:

- Website takes longer time to display photos and graphics
- Reduce the delivery time of the products during promotions.
- Try to give the price early during promotion.

- During promotions, try to give a disturbance free shopping experience to customers.
- Late declaration of price and discounts.
- Frequent disturbance is occurring while moving from one page to another.

4.Myntra.com

The highlights of the company:
- Convenient to use and also a good website.
- Availability of several payment options.
- Faster products delivery.
- Complete information of products available.
- Reliable website or app, perceived trustworthiness.
- Wild variety of product to offer

 Areas where company needs to improve:

- Needs to increase the speed of delivery
- Need to increase the variety of product on offer.
- Need to add more payment options.
- During promotions, try to give a disturbance free shopping experience to customers.
- Try to give the price early during promotions.
- Reduce the delivery time of the products during promotions.

5.Snapdeal.com

The highlights of the company:

- Easy to use Website.
- Availability of several payment options.
- Insure security of customer's financial information.

Areas where company needs to improve:

- Reduce the delivery time of the products during promotions.
- Try to give the price early during promotion.
- During promotions, try to give a disturbance free shopping experience to customers.
- Late declaration of price and discounts.
- No one has expressed to recommend snapdeal to a contact as it has the most negative feedbacks among all other websites.

Conclusion:

Based on overall observations, the first 47 features provide insights into how e-tailer is helpful & growing based on customer inputs. The data explained how the online platform has been used more often in which CITY, PIN CODE, and AGE etc. It also showed that in some factors there is less importance given to contribute to the success of an e-commerce store, so based on that we could remove those factors & keep all the important factors, also we could improve on some factors that influence the online customers repeat purchase intention.

Apart from the first 47 features, the rest of the features showed which online platform has been used more based on the success factors. Based on the case study for customer activation & retention, Amazon is most reliable and has been fulfilled the customer requirements. After Amazon, data showed Flipkart has been used more for online shopping.

The case study from Indian e-commerce customers showed Amazon and Flipkart has been used mostly for Online Shopping and most recommended by Friends. So, based on the research factors, Amazon & Flipkart are the e-commerce platform, which are having the combination of both utilitarian and hedonistic values to keep the repeat purchase intention (loyalty) positively.