Customer Activation & Retention

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.

## Conceptual Background of the Domain Problem

The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.

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.

Motivation for the Problem Undertaken

Our main objective of doing this project is to analyse 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, etc.

Diagrammatic Representation of Customer Retention
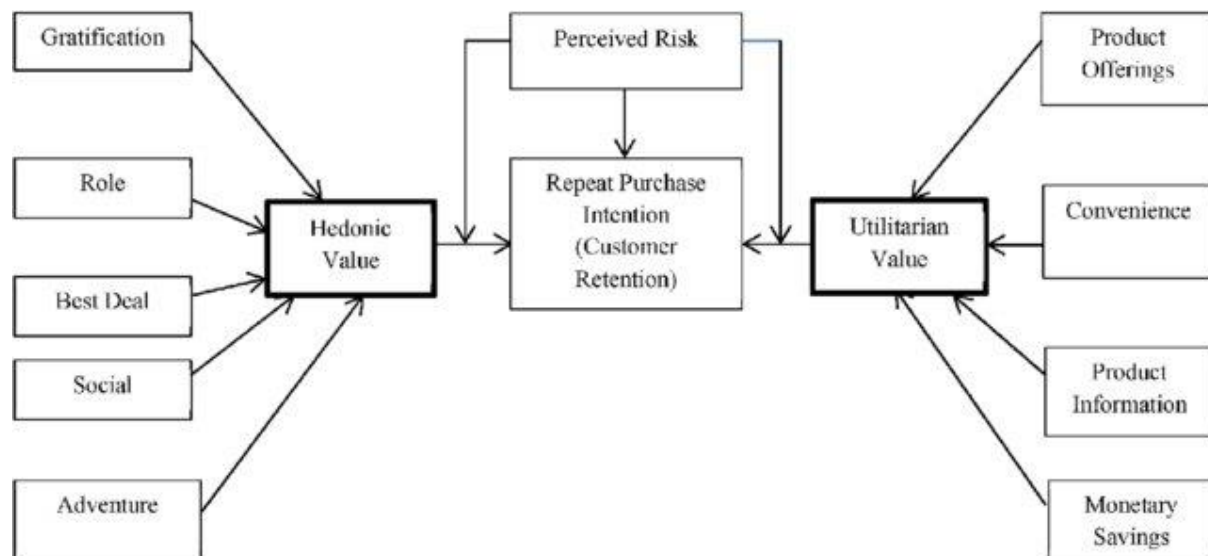
The Hedonic value consists of factors like Gratification, Role, Best Deal, Social and Adventure.
The Utilitarian value consists of factors like Product Offerings, Convenience, Product Information and Monetary Savings.
Customer Retention is based on 3 factors, according to the above diagram.
They are: Perceived Risk, Hedonic value and Utilitarian value

Data source

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.

Data Pre-processing & Cleaning

Shape of the given dataset

```
df.shape
```

```
(269, 71)
```

269 rows & 71 columns in dataset

Renaming the column names

```
columns=['gender','age','city','pinCode','shopping_since','shopping_frequency_1year','internet_type','device',
         'screen_size','OS', 'browser','1_channel','Access','time_spent','prefered_payment_mode',
         'cancel_shopping','cancel_reason','content_readability','similar_product',
         'seller_info','product_info_clarity','navigation_ease','web_speed','UI',
         'UI_payment_mode','trust_process','customer_support','privacy_garauntee',
         'Channel_Diversity','benefit','satisfaction','convenient','Return/Replacement','loyalty_program',
         'info_satisfaction','UI_Satisfaction','net_benefit','trust','product_category','relevant_info',
         'Savings','patronizing','experience','Status','gratification','role','Worthy','platform_Used',
         'convinient_accessibility','Appealing_UI','product_diversity','product_info','performance_platform','reliable_UI',
         'navigation','payment_mode_availability','speed_delivery','customer_privacy','financial_security','trust_worthiness',
     'multi_channel','slow_login_time','slow_display_time','late_price_announcement','slow_load_time','limited_payment_mode',
         'longer_delivery_period','frequent_UI_change','frequent_page_disruption','UI_efficiency','platform_recommend']
df.columns = columns
pd.set_option('max_columns', None)
df.head()
```

Info of the dataset

#	Column	Non-Null Count	Dtype		#	Column	Non-Null Count	Dtype
0	gender	269 non-null	object		31	info_satisfaction	269 non-null	object
1	age	269 non-null	object		32	UI_Satisfaction	269 non-null	object
2	city	269 non-null	object		33	net_benefit	269 non-null	object
3	shopping_since	269 non-null	object		34	trust	269 non-null	object
4	shopping_frequency_1year	269 non-null	object		35	product_category	269 non-null	object
5	internet_type	269 non-null	object		36	relevant_info	269 non-null	object
6	device	269 non-null	object		37	Savings	269 non-null	object
7	OS	269 non-null	object		38	patronizing	269 non-null	object
8	1_channel	269 non-null	object		39	experience	269 non-null	object
9	Access	269 non-null	object		40	Status	269 non-null	object
10	time_spent	269 non-null	object		41	gratification	269 non-null	object
11	prefered_payment_mode	269 non-null	object		42	role	269 non-null	object
12	cancel_shopping	269 non-null	object		43	Worthy	269 non-null	object
13	cancel_reason	269 non-null	object		44	platform_Used	269 non-null	object
14	content_readability	269 non-null	object		45	convinient_accessibility	269 non-null	object
15	similar_product	269 non-null	object		46	Appealing_UI	269 non-null	object
16	seller_info	269 non-null	object		47	product_diversity	269 non-null	object
17	product_info_clarity	269 non-null	object		48	product_info	269 non-null	object
18	navigation_ease	269 non-null	object		49	performance_platform	269 non-null	object
19	web_speed	269 non-null	object		50	reliable_UI	269 non-null	object
20	UI	269 non-null	object		51	navigation	269 non-null	object
21	UI_payment_mode	269 non-null	object		52	payment_mode_availability	269 non-null	object
22	trust_process	269 non-null	object		53	speed_delivery	269 non-null	object
23	customer_support	269 non-null	object		54	customer_privacy	269 non-null	object
24	privacy_garauntee	269 non-null	object		55	financial_security	269 non-null	object
25	Channel_Diversity	269 non-null	object		56	trust_worthiness	269 non-null	object
26	benefit	269 non-null	object		57	multi_channel	269 non-null	object
27	satisfaction	269 non-null	object		58	slow_login_time	269 non-null	object
28	convenient	269 non-null	object		59	slow_display_time	269 non-null	object
29	Return/Replacement	269 non-null	object		60	late_price_announcement	269 non-null	object
					61	slow_load_time	269 non-null	object
					62	limited_payment_mode	269 non-null	object

*D*rop columns which do not fit relevant to analyse retention or activation rate: screen size, browser

Drop column pin code as city name is already specified.

Checking the null values

gender	0
age	0
city	0
shopping_since	0
shopping_frequency_1year	0
internet_type	0
device	0
OS	0
1_channel	0
Access	0
time_spent	0
prefered_payment_mode	0
cancel_shopping	0
cancel_reason	0
content_readability	0
similar_product	0
seller_info	0
product_info_clarity	0
navigation_ease	0
web_speed	0
UI	0
UI_payment_mode	0
trust_process	0
customer_support	0
privacy_garauntee	0
Channel_Diversity	0
benefit	0
satisfaction	0
convenient	0
Return/Replacement	0
loyalty_program	0
info_satisfaction	0

relevant_info	0
Savings	0
patronizing	0
experience	0
Status	0
gratification	0
role	0
Worthy	0
platform_Used	0
convinient_accessibility	0
Appealing_UI	0
product_diversity	0
product_info	0
performance_platform	0
reliable_UI	0
navigation	0
payment_mode_availability	0
speed_delivery	0
customer_privacy	0
financial_security	0
trust_worthiness	0
multi_channel	0
slow_login_time	0
slow_display_time	0
late_price_announcement	0
slow_load_time	0
limited_payment_mode	0
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frequent_page_disruption	0
UI_efficiency	0
platform_recommend	0
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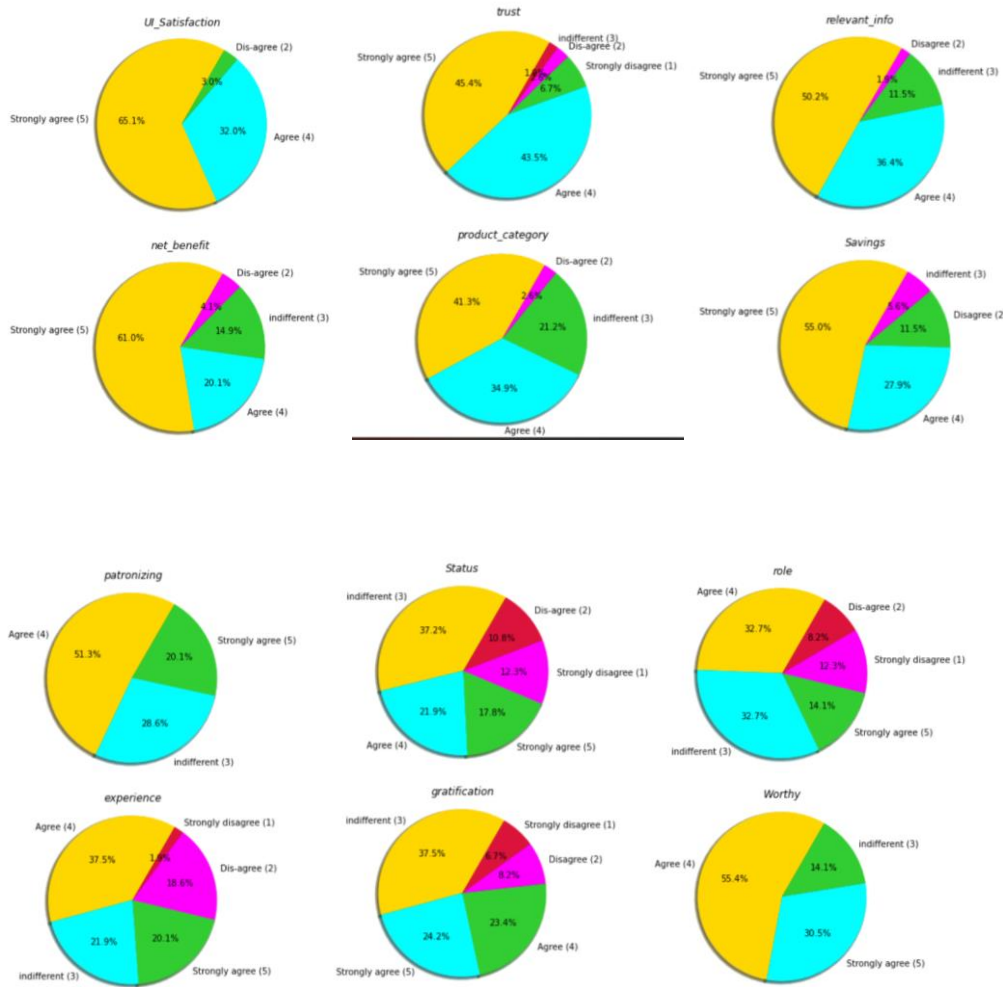# **Exploratory Data Analysis**

Count plots
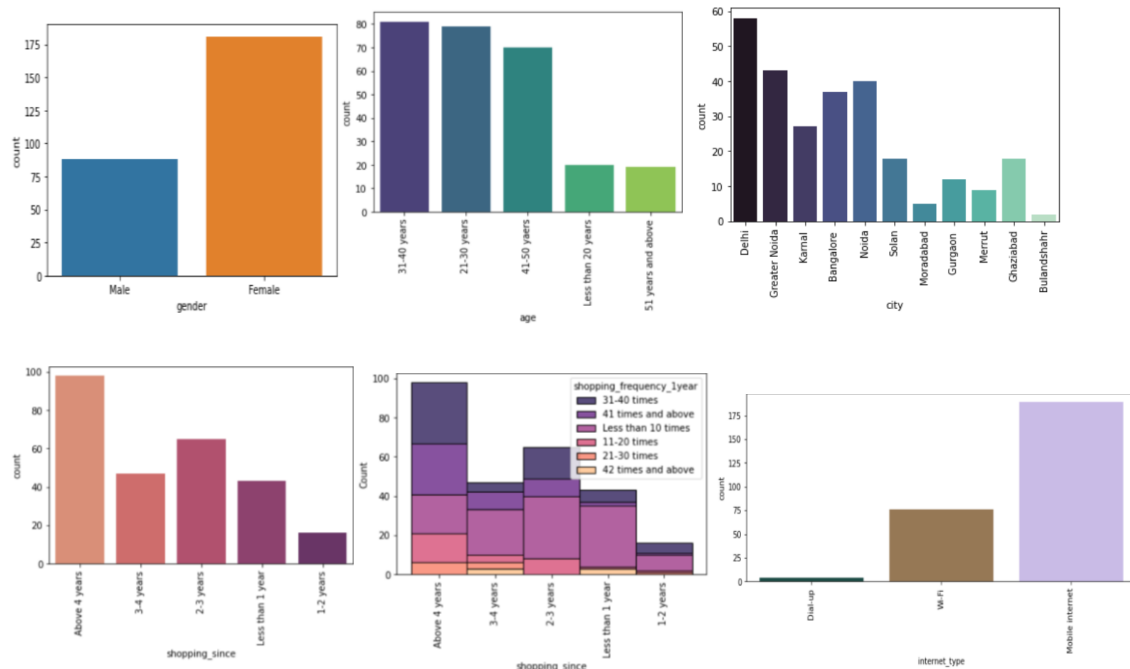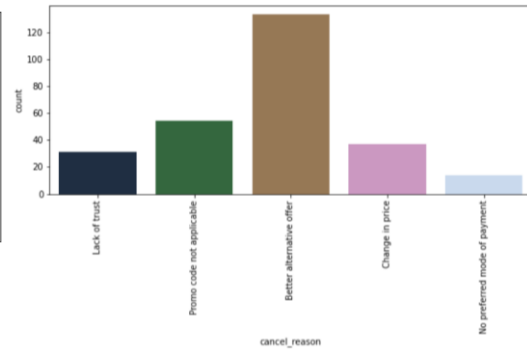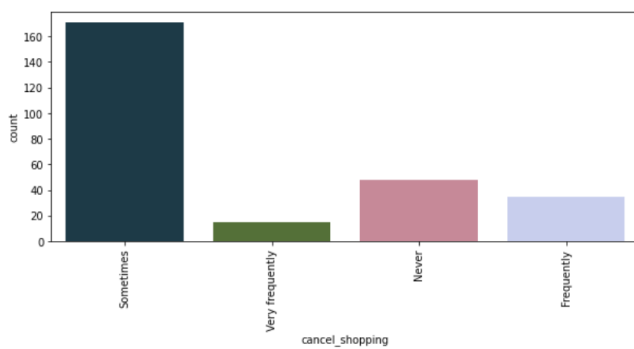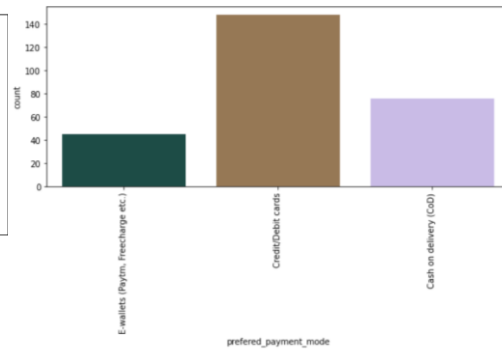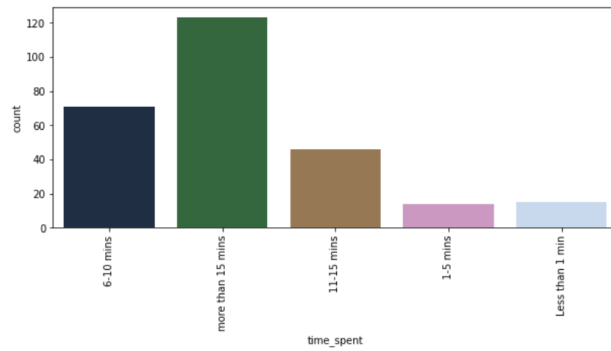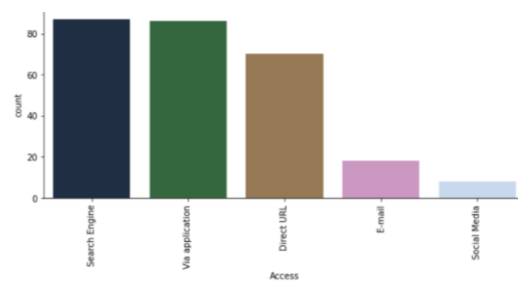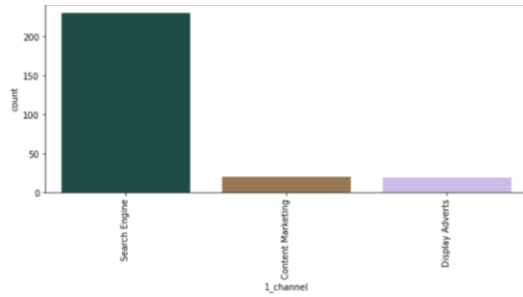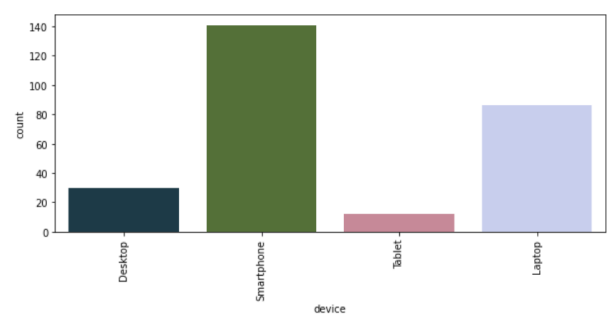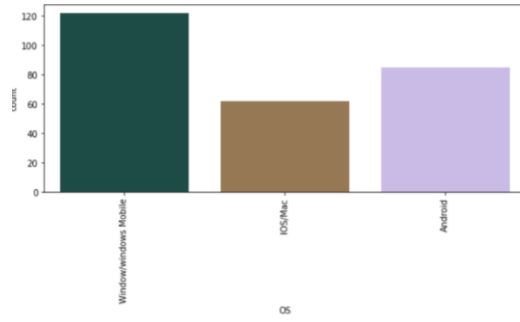
Observation from Above countplots:

- The number of female respondents is higher than male respondents so main goal for customer activation should be concentrated to male population.

- Most of the participants are of the age 21 to 50, where we received highest number of the customer activation from the people whose age is 31 to 40.

- Delhi has the highest number of customers who are involved in online shopping followed by Greater Noida, Bangalore, and Noida. Moradabad, Bulandshah have very few customers so try to enhance sales in those areas.

- Most of the regular customers have been shopping for more than 4 years (Customer Activation & Retention rate). Need to provide best services to customers who have recently been shopping for less than 1 year for better customer retention.

- The shopping frequency increases with increase in the length of shopping experience. If we check for the people who were shopping for 1-2 years there was lesser number of orders overall and most of them ordered less than 10 times which means we need better customer activation for this category.
- Based on the internet type - most of the customers are using "mobile internet" for online shopping. While "Dial-up" is the rarest option.
- Based on the device used - "Smartphone & Laptop" are mostly used for online shopping.
- Based on OS - Customers mostly use Windows/windows mobile, followed by Android and IOS/Mac.
- Channels used - "Search engine" helps the most for channelling the customers towards online store.
- Rather than E-mails (sent by store) or Social Media platform, customers are using again Search Engine, or they direct use the application or use URL to go to their preferred store.
- Exploration Time - Most of the customers are taking more than 15-minute time before making any purchase.
- Preferred Payment Option - More Customers are using Credit/Debit cards followed by Cod, E-Wallets.
- Decision of abandoning -There are some cases in which customers abandon the items because they are getting better alternative offers followed by change in price or promo code not applicable.

Pie Charts:

content_readability
- Indifferent (3)
- Strongly disagree (1)
- 2.4%
- 6.7%
- Strongly agree (5) — 61.0%
- 29.7% — Agree (4)

seller_info
- Agree (4) — 37.5%
- Strongly disagree (1)
- Dis-agree (2)
- 4.1%
- 6.7%
- Indifferent (3) — 19.3%
- 32.3% — Strongly agree (5)

navigation_ease
- Dis-agree (2)
- Strongly disagree (1)
- Strongly agree (5) — 52.4%
- 1.9%
- 6.7%
- 39.0% — Agree (4)

similar_product
- Strongly agree (5) — 43.1%
- Dis-agree (2)
- 4.7%
- Indifferent (3) — 16.0%
- 34.2% — Agree (4)

product_info_clarity
- Agree (4) — 49.1%
- Dis-agree (2)
- Strongly disagree (1)
- 4.6%
- 6.7%
- 39.8% — Strongly agree (5)

web_speed
- Strongly agree (5) — 42.8%
- Indifferent (3)
- Strongly disagree (1)
- Dis-agree (2)
- 4.5%
- 6.7%
- 41.6% — Agree (4)

UI
- Indifferent (3)
- Dis-agree (2)
- Strongly disagree (1)
- 1.9%
- 6.7%
- Strongly agree (5) — 70.3%
- 16.7% — Agree (4)

trust_process
- indifferent (3)
- Disagree (2)
- Strongly agree (5) — 52.4%
- 4.9%
- 11.2%
- 32.0% — Agree (4)

privacy_garauntee
- indifferent (3) — 9.7%
- Strongly agree (5) — 68.8%
- 21.6% — Agree (4)

UI_payment_mode
- Dis-agree (2) — 11.2%
- Strongly agree (5) — 59.1%
- 29.7% — Agree (4)

customer_support
- indifferent (3)
- Strongly disagree (1)
- 4.6%
- 6.7%
- Strongly agree (5) — 72.1%
- 15.6% — Agree (4)

Channel_Diversity
- Strongly disagree (1)
- indifferent (3)
- 4.1%
- 5.6%
- Strongly agree (5) — 55.4%
- 34.9% — Agree (4)

benefit
- Strongly agree (5) — 39.0%
- Dis-agree (2)
- Strongly disagree (1)
- 4.1%
- 6.7%
- indifferent (3) — 18.6%
- 31.6% — Agree (4)

convenient
- Dis-agree (2)
- Strongly agree (5) — 54.3%
- 4.5%
- indifferent (3) — 12.3%
- 29.0% — Agree (4)

loyalty_program
- Strongly agree (5) — 42.8%
- Strongly disagree (1)
- Dis-agree (2)
- 4.1%
- 5.6%
- indifferent (3) — 23.8%
- 23.8% — Agree (4)

satisfaction
- Strongly agree (5) — 32.0%
- Dis-agree (2)
- 7.1%
- Strongly disagree (1)
- 11.2%
- 21.9% — Agree (4)
- 27.9% — indifferent (3)

Return/Replacement
- Dis-agree (2) — 7.4%
- 19.0% — Agree (4)
- Strongly agree (5) — 73.6%

info_satisfaction
- Strongly agree (5) — 49.4%
- indifferent (3) — 20.8%
- 29.7% — Agree (4)

Conditions where customers are in favour of "Strongly Agreement or Agree" -

a) The content readablity of the website is extremely good.

b) Information on similar product is good for product comparision.

c) Information on listed seller is better for purchase decision.

d) All relevant information on listed products is stated clearly.

e) Ease of navigation in extermely good.

f) Loading and processing speed of website is best.

g) UI is very user friendly.

h) Payment methods are very convenient.

i) Trust that the online retail store will fulfill its part of the transaction at the stipulated time.

j). Customer Support on this websites are very good.

k). Privacy of the customer is strongly preserved.

l). Responsiveness, availability of several communication channels (email,online rep, twitter, phone etc).
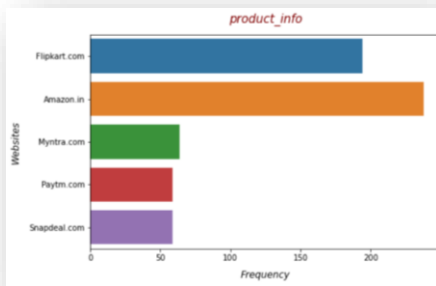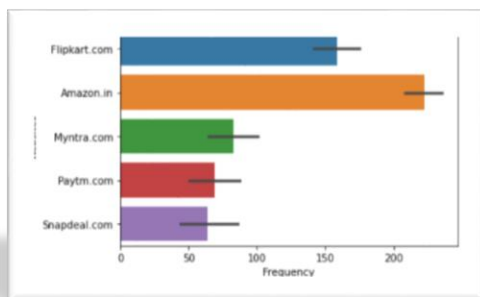
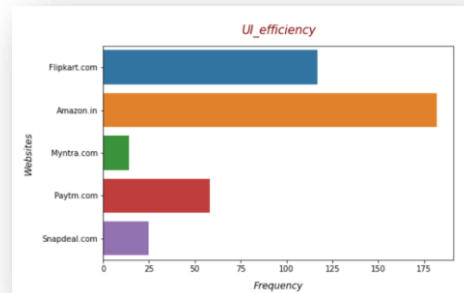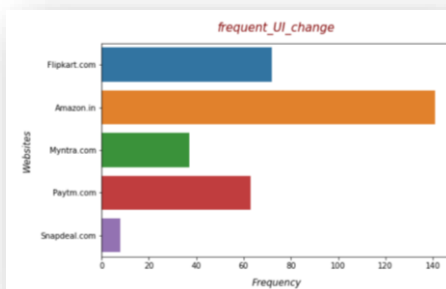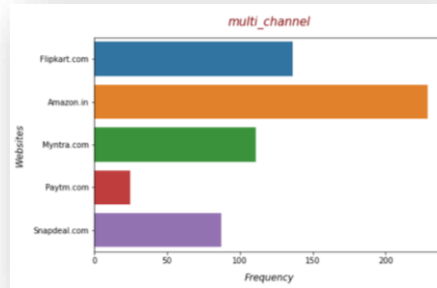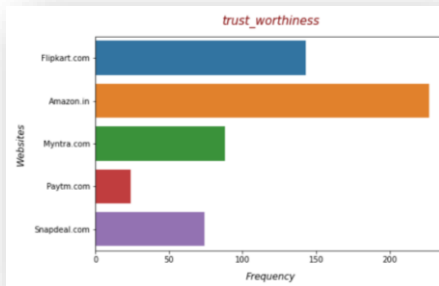m). Online shopping gives monetary benefits and discounts.

n). Satisfaction is derived from shopping online.

o). Shopping online is convenient and flexible.

Analysis of Positive Feedbacks of Websites

product_info

performance_platform

reliable_UI

navigation

payment_mode_availability

speed_delivery

customer_privacy

financial_security
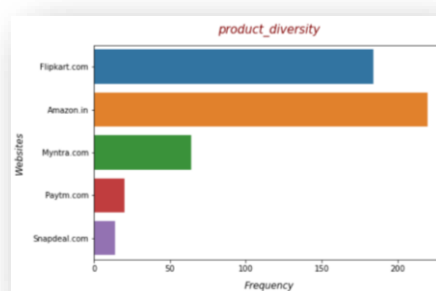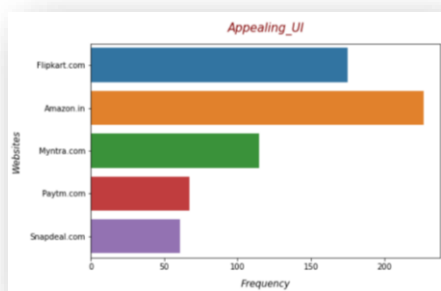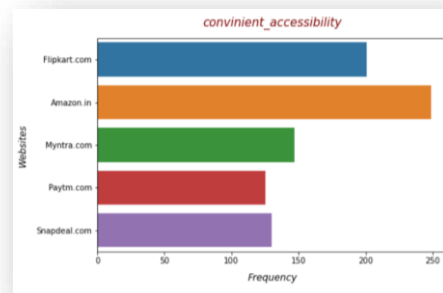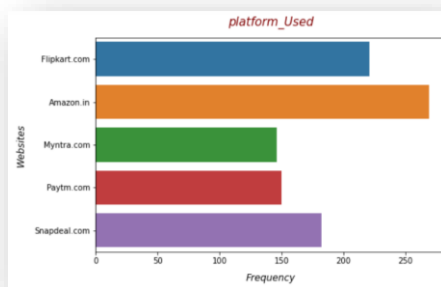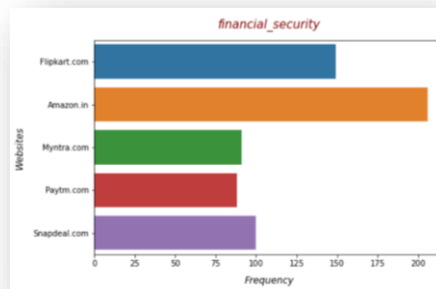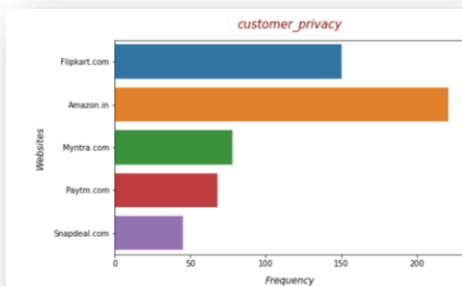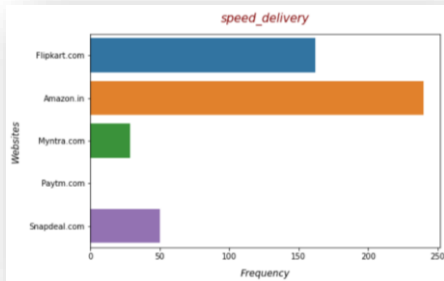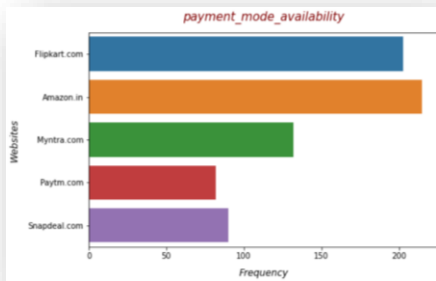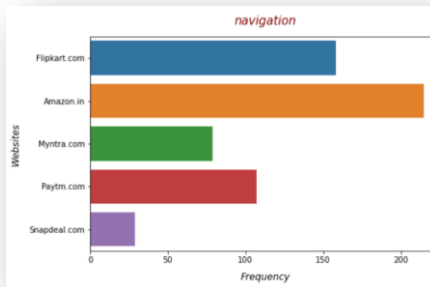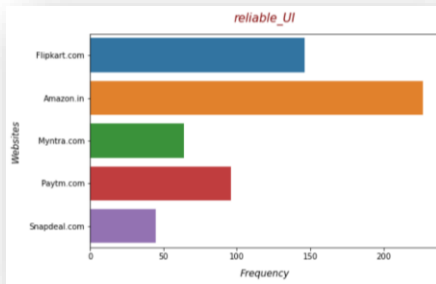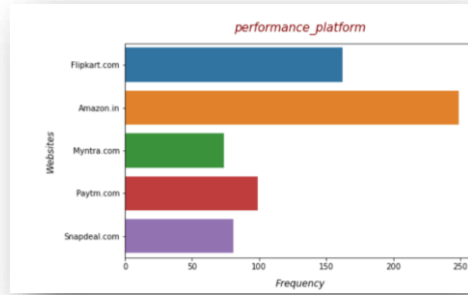
After the graphical analysis, we find that in the positive feedback provided by the online retailers, `" Amazon.com & Flipkart.com "` are the most preferred applications.

Feeds are: -

	Most Preferred	Least Preferred
1. Platform used	Amazon.in	Myntra.com
2. Convenient Accessibility	Amazon.in	Paytm.com
3. Appealing User Interface	Amazon.in	Snapdeal.com
4. Product Diversity	Amazon.in	Snapdeal.com
5. Product information	Amazon.in	Snapdeal.com

|		
6. Performance Platform	Amazon.in	Myntra.com
7. Reliable UI	Amazon.in	
Snapdeal.com		
8. Navigation	Amazon.in	
Snapdeal.com		
9. Payment mode availability	Amazon.in	Paytm.com
10. speedy delivery	Amazon.in	Paytm.com
11. Customer privacy	Amazon.in	
Snapdeal.com		
12. Financial security	Amazon.in	Paytm.com
13. Trustworthiness	Amazon.in	Paytm.com
14. Multi-channel	Amazon.in	Paytm.com
15. Frequent UI Change	Amazon.in	
Snapdeal.com		
16. UI efficiency	Amazon.in	Paytm.com

The most preferred application by online retailers is "Amazon.in", while the least preferred application is "Snapdeal.com"

Analysis of Negative Feedbacks of Websites
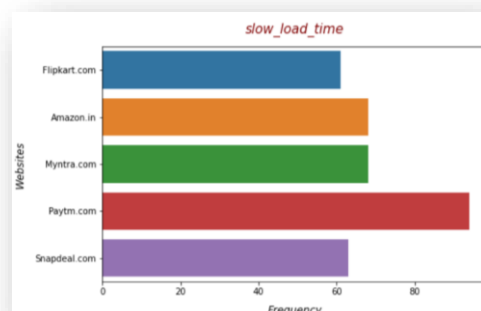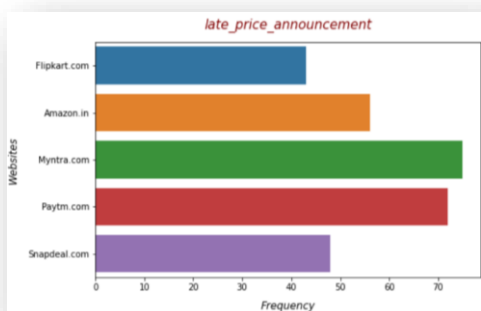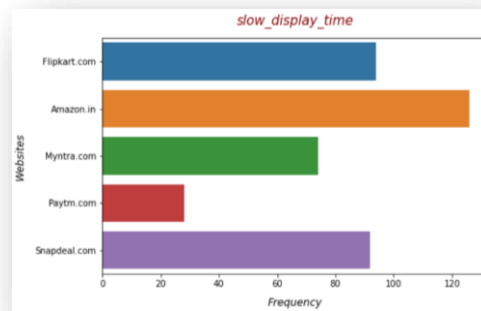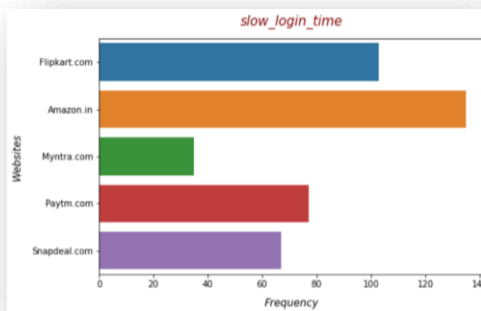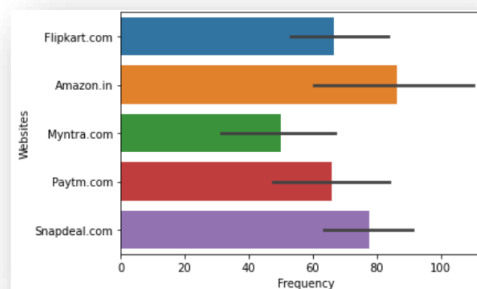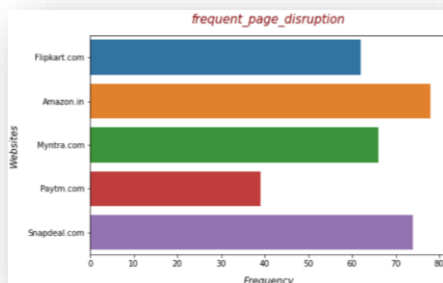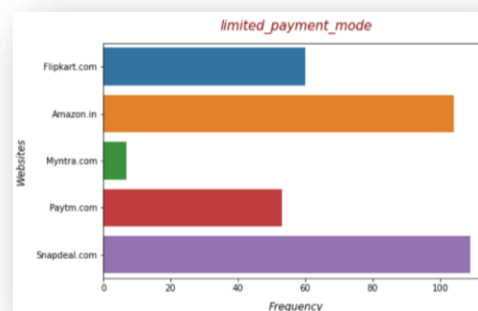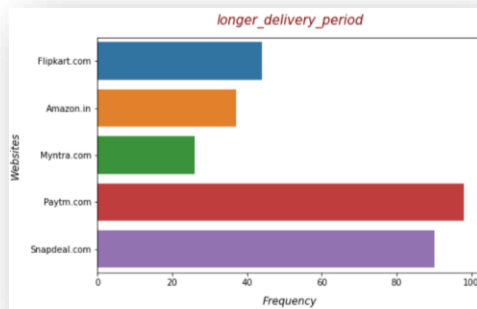
Analysis of overall negative feedback

Observations of negative feedback of websites :-

1. Slow Login time: Amazon.in(slowest), Myntra.com(fast)

2. Slow Display time:Amazon.in(slow), Patym.com(Fast)

3. Late price Announcement:Myntra.com(late),Flipkart(earliest)

4. Page Loading time: Paytm.com(slowest),Flipkart & Snapdeal (fast)

5. Longer delivery period: Paytm.com(slow),Myntra.com(fast)

6. Limited payment mode seen most in Snapdeal.com and least in Myntra.com

7. Frequent Page Disruption are in most in Amazon.in and least in Paytm.com

Amazon.in at the top in negative feedbacks and Myntra.com is with least negative feedbacks.

Analysis of all Feedbacks from Websites:

	Amazon	Flipkart	snapdeal	paytm	Myntra
Positive	3774.0	2700.00	1091.00	1175.00	1409.00
Negative	604.0	467.00	543.00	461.00	351.00
Total	4378.0	3167.00	1634.00	1636.00	1760.00
Positive % age	86.2	85.25	71.82	80.06	66.69
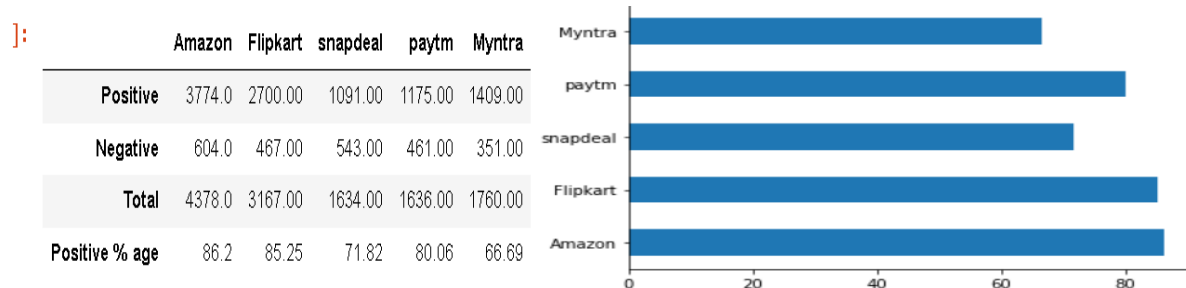
Here Amazon.in and Flipkart.com are among the most preferred websites for online retailers to shop.

While Myntra is least preferred as its negative feedbacks are high as compared to others.

CONCLUSION

In accordance to our goal to achieve customer activation & retention in E-retail, we give the individual feedback of the websites so as to achieve their target customers.

AMAZON. In

For improvement:

- During promotions, try to **provide customers with a hassle-free** shopping experience.
- **Offer** more payment options to customers.
- Try to give **the price in advance** during **the promotion.**
- Reduce **product** delivery times.

Summary of positive comments:

- Convenient to use and also a good website for shopping.
- Fast delivery of products.
- Availability of **comprehensive product** information.
- Presence of online assistance **via** multichannel.
- Reliable website or **application,** perceived **reliability.**

Flipkart.com

For improvement:

- During promotions, try to **provide customers with a hassle-free** shopping experience.
- **Offer** more payment options to customers.

- Try to give the price **in advance** during **the promotion.**
- Reduce **product** delivery times.
- Flipkart and Amazon **share almost** the same **reviews** with varying percentages **being** the only difference.

Summary of positive comments:

- Convenient to use and also a good website for shopping.
- Fast delivery of products.
- Availability of **comprehensive product** information.
- Presence of online assistance **via** multichannel.
- Reliable website or **application,** perceived **reliability.**
- **A wild** variety of products to offer.

Myntra.com

For improvement:

- During promotions, try to **provide customers with a hassle-free** shopping experience.
- Try to **pre-price** during promotions.
- Reduce **product** delivery times during promotions.

Summary of positive comments:

- Convenient to use and also a good website for shopping.
- Fast delivery of products.
- Availability of **various** payment options
- Reliable website or **application,** perceived **reliability.**
- **A wild** variety of products to offer.
- Complete information **on** available **products.**

Paytm.com

For improvement:

- During promotions, try to **provide customers with a hassle-free** shopping experience.
- Late declaration of **prices** and discounts.
- Try to give the price **in advance** during **the promotion.**
- Reduce **product** delivery times during the promotions.
- Frequent disturbances **when** moving from one page to another.

Summary of positive comments:

- Convenient to use and also a good website for shopping.
- **Speed in making a** purchase.
- About 64% of customers **think** the web or app is **trustworthy.**
- **About** 20% of customers **think** Paytm **offers** a wide **range of** products.

Sanpdeal.com

For improvement:

- During promotions, try to **provide customers with a hassle-free** shopping experience.
- Late declaration of **prices** and discounts
- Try to give the price **in advance** during **the promotion.**
- Reduce **product** delivery times during the promotion.

Summary of positive comments:

- Convenient to use and also a good website for shopping.
- 54% of **clients** are **satisfied with** the availability of financial information security.

General advice and recommendations to all e-commerce sites:

1) Improve the shopping experience for customers, because there is a lot of room to improve the shopping experience for customers using AI.

2) Continue to offer more financial benefits such as coupons, cash back, etc. because customers are very attracted to it.

3) Reliability and accessibility through various channels are always highly valued by customers.

4) Most of the clients are working class women and their age is between 2040.Always have a variety of products intended for them.

5) Offer a more customer-centric approach such as prompt delivery, resolution of complaints, etc.