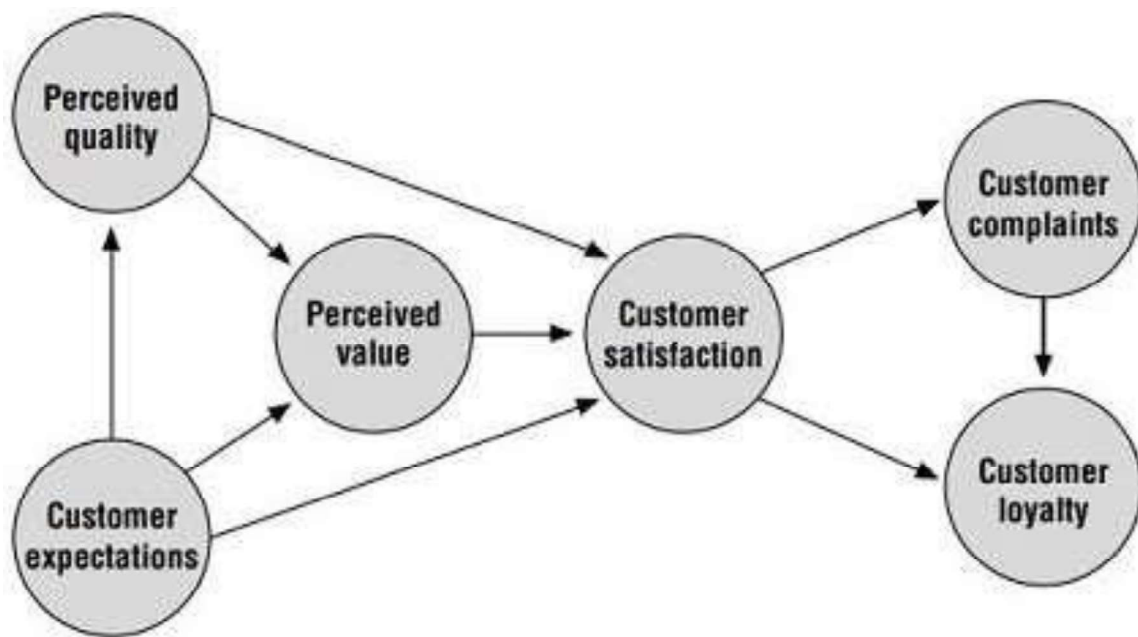


INTRODUCTION

With the rapid global growth in electronic commerce (e-commerce), businesses are attempting to gain a competitive advantage by using e-commerce to interact with. Nowadays, online shopping is a fast-growing phenomenon. Growing numbers of consumers shop online to purchase goods and services, gather product information or even browse for enjoyment. Online shopping environments are therefore playing an increasing role in the overall relationship between marketers and their consumers. That is, consumer-purchases are mainly based on the cyberspace appearance such as pictures, images, quality information, and video clips of the product, not on the actual experience. As the Internet has now become a truly global phenomenon, this growing and diverse Internet population means that people having diverse tastes and purposes are now going to the Web for information and to buy products and services. Thus, the impact of these online shopping environments on consumer response necessitates a critical understanding for marketing planning.

■ Customer Satisfaction

Customer satisfaction is defined as a measurement that determines how happy customers are with a company's products, services, and capabilities. Customer satisfaction information, including surveys and ratings, can help a company determine how to best improve or changes its products and services.



Model of Customer Satisfaction

■ Customer Retention

Customer retention refers to the activities and actions companies and organizations take to reduce the number of customer defections. The goal of customer retention programs is to help companies retain as many customers as possible, often through customer loyalty and brand loyalty initiatives. It is important to remember that customer retention begins with the first contact a customer has with a company and continues throughout the entire lifetime of the relationship.

While most companies traditionally spend more money on customer acquisition because they view it as a quick and effective way of increasing revenue, customer retention often is faster and, on average, costs up to seven times less than customer acquisition. Selling to customers with whom you already have a relationship is often a more effective way of growing revenue because companies don't need to attract, educate, and convert new ones.

■ Why does customer retention important in E-commerce?

Retaining customers is less expensive than attracting new customers, and to retain customers retailers must give them reasons to be loyal. A study from Harvard Business School showed that an increase in customer retention rates of 5% can increase profits by 25–95%

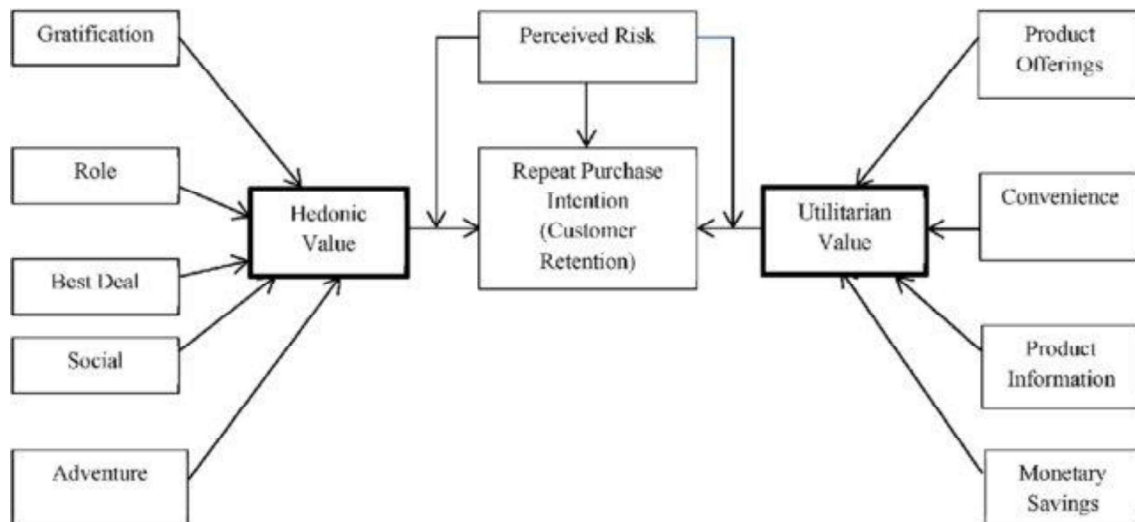
Fostering more repeat purchases from your customers should be the apex strategy for every digital retail brand. This strategy is based upon the following statistics.

- 91 Percent of the customers are likely to purchase from the brands that recognize them and send them personalized & contextual offers.
- On average, 65 percent of the e-commerce revenue comes from repeat customers.
- New customer acquisitions can cost five times more than that of retaining the existing customer base.
- 86 Percent of the customers prefers to purchase from a brand that offers a great customer experience.

The above stats clearly show the power of the win-win relationship between a customer and a brand – as they both derive significant value from each other as long as the association lasts.

■ Customer Satisfaction in E-Commerce case study

Customer satisfaction has emerged as one of the most important factors that guarantee the success of online store; it has been posited as a key stimulant of purchase, repurchase intentions and customer loyalty. A comprehensive review of the literature, theories and models have been carried out to propose the models for customer activation and customer retention. Five major factors that contributed to the success of an e-commerce store have been identified as: service quality, system quality, information quality, trust and net benefit. The research furthermore investigated the factors that influence the online customers repeat purchase intention. The combination of both utilitarian value and hedonistic values are needed to affect the repeat purchase intention (loyalty) positively. The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.



The dataset contains information about survey conducted on online retail customers, several questions were asked and data was collected for total 269 customers.

Detailed analysis was carried out on dataset containing information gathered from 269 customers in anaconda Jupiter notebook with Python, various libraries used for analysis are –

- Numpy
- Pandas
- Seaborn
- Matplotlib
- plotly.express

Dataset contains total 71 different columns as listed below –

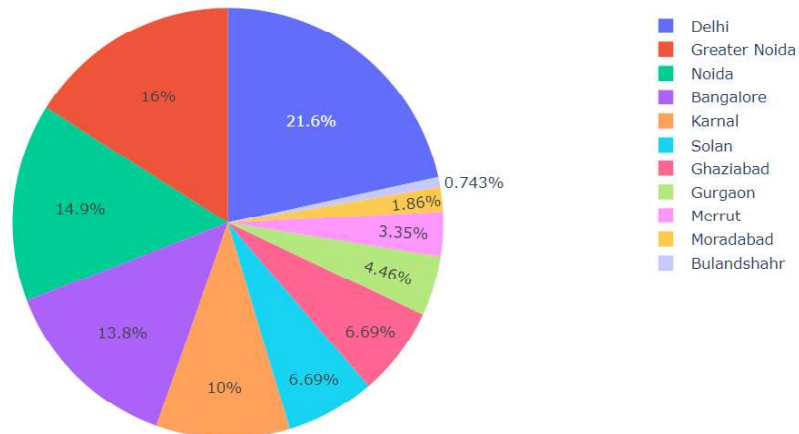
- 'Gender'
- 'Age'
- 'Shopping city',
- 'Pin code City',
- 'Shopping_Exp_Online',
- 'No_of_purchase_lastyear',
- 'Internet_Type',
- 'Device_shopping',
- 'Screensize_Mobile',
- 'Operating_system',
- 'Browser',
- 'Mode_of_conn_online_store ',
- 'Mode_of_conn_again',
- 'Time_duration_purchase',
- 'Payment_mode',
- 'Frequency_abandoning_items',
- 'Abandoned_bag_reasons',
- 'content_of_website_easy_toread_understand',
- 'similar_product_comparision_imp',
- 'Complete_info_listed_seller_product_imp_for_purchase_decision',
- 'All_relevant_information_on_listed_products_must_be_stated_clearly'
- 'Ease of navigation in website',
- 'loading_processing_speed',

- 'userfriendly_interface_website',
- 'Convenient_pay_methods',
- 'Trust_online_store_fulfill_itspart_oftransaction_intime',
- 'Readiness_to_help_customers',
- 'Guarantee_privacy_of_customers',
- 'Customer_support_availability_by_modes',
- 'Monetary_benefits_online_shopping_discounts',
- 'Enjoyment_from_online_shopping',
- 'Onlineshopping_convenient_flexible',
- 'Importance_return_policy_replacement_policy',
- 'Loyalty_program_benefit_shopping_online',
- 'Quality_info_website_improves_satisfaction',
- 'Satisfaction_shopping_goodquality_website',
- 'benefit_derived_from_shopping_online_lead_users_satisfaction',
- 'User_satisfaction_with_trust',
- 'Wide_variety_product_category',
- 'Complete_and_relevant_product_info',
- 'Monetary_savings',
- 'Convenience_of_patronizing_online_retailer',
- 'Sense_of_adventure',
- 'Social_status_enhancement_by_shopping_retailer',
- 'Gratification_feeling_favourite_retailer',
- 'Shopping_website_helps_you_fulfill_certainroles',
- 'Value_for_money',
- 'online_retailer_shopped_from',
- 'Easy_to_use_website_application',
- 'Visual_appealing_webpage',
- 'Wild_variety_product_offer',
- 'Complete_relevant_description_about_product',
- 'Fast_loading_website_application',
- 'Reliability_of_website_application',
- 'Quickness_shopping',
- 'Availability_of_payment_options',
- 'Speedy_order_delivery',
- 'Privacy_of_customers',
- 'Security_of_customer_fin_info',
- 'Perceived_trustworthiness',
- 'Presence_onlin_assist_multichannel',
- 'Longer_time_to_get_logged_in',
- 'Long_tim_displ_graphics_photos',
- 'Late_decl_of_price',
- 'Longer_pag_load_tim',
- 'Constraint_on_mostproducts_payment',
- 'Long_del_period',
- 'Website_&_application_change',
- 'Frequent_disruption_pageschanging',
- 'Efficient_website',
- 'Online_retailer_reccom'.

At first data cleaning was carried out on dataset, column names were having extra spaces and special characters those were removed using replace function. Dataset was having no null values hence no further pre-processing was needed. All data was having object datatype except for the pin code column.

- Data Analysis
- Analysis of city of customer

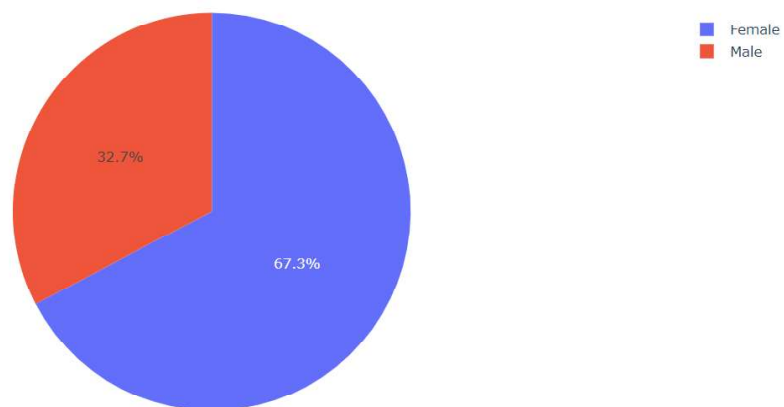
City of the customer



It can be Identified from above plot that larger city are having more online retail customers highest customers are from Delhi (22%) and followed by Greater Noida and Noida they are having 22% and 15% customers respectively. The least customers are from Bulandshahar and Moradabad being the smaller cities.

- Analysis of Customer Gender

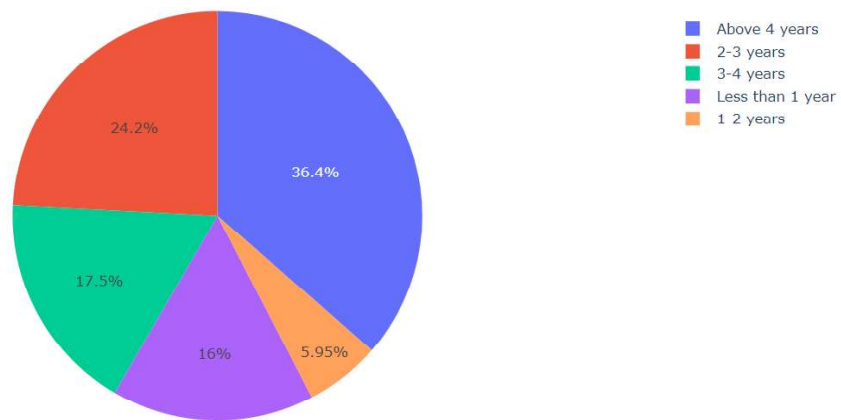
Gender



Above plot shows that females are more using online retail shopping than the males. Out of Total 68 % are the female users , whereas only 32 % are the males.

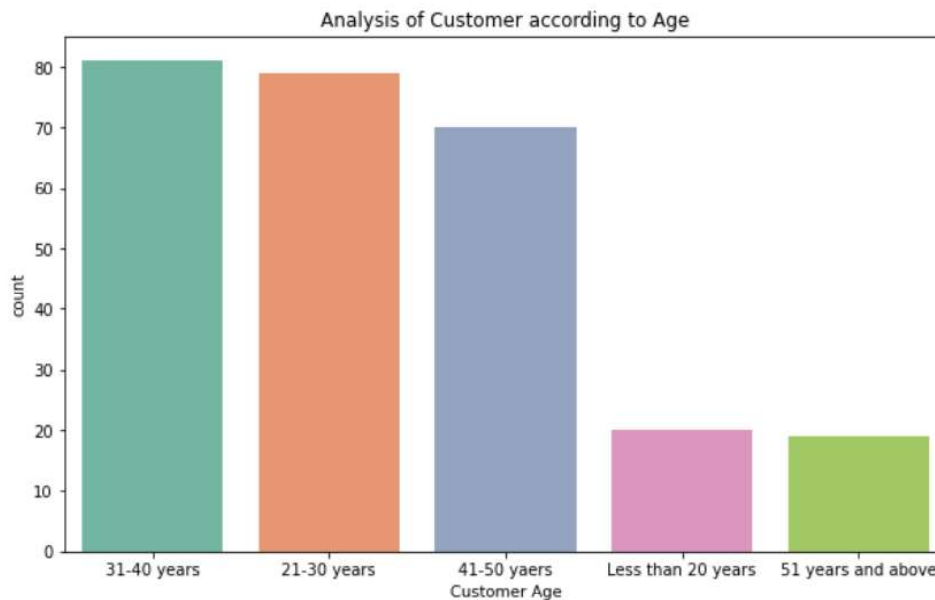
- Analysis according to Old/New customers –

Old/new customers



Above plot shows that 37 % of customers are using online shopping for more than 4 years whereas 25 % of customers says that they have been doing online shopping since 2 to 3 years and then the percentage keep on decreasing with years. This confirms our earlier fact that 95 % customers are likely to shop again after their first purchase.

- Analysis according to Age of customers



From the plots we can clearly see that most of the respondents fall into the following three categories: -

- 31-40 years
 - 21-30 years
 - 41-50 years
- Very few respondents fall into the categories: -

4. Less than 20 years
5. 51 years and above.

It is observed that there are less customers in age group less than 20 and more than 50.

■ Analysis according pin code ordered from -

3Whichcitydoyoushoponlinefrom?	4WhatisthePinCodeofwhereyoushoponlinefrom?	
Bangalore	530068	5
	560001	1
	560002	4
	560003	4
	560010	8
	560013	3
	560018	4
	560037	8
	203001	2
	110008	7
Bulandshahr Delhi	110009	4
	110011	7
	110014	6
	110018	6
	110030	4
	110039	4
	110042	4
	110044	16
	201001	4
	201005	4
Ghaziabad	201008	5
	201009	5
Greater Noida	201306	7
	201308	15
	201310	14
	201312	5
	203202	1
	203207	1
Gurgaon	122009	4
	122018	8
Karnal	132001	19
	132036	8
Merrut	250001	9
Moradabad	244001	5
Noida	201303	4
	201304	4
	201305	5
	201308	23
	201310	4
Solan	173212	9
	173229	9

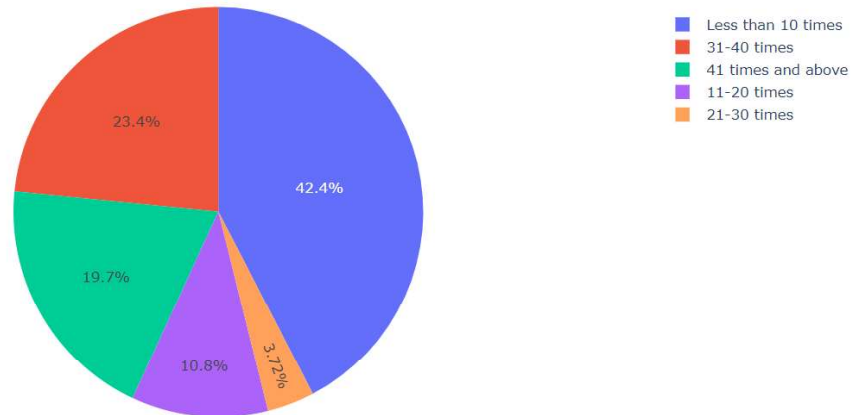
We can see in case of Bangalore has even orders from all pin codes except from two pin codes which are more used by the customers. In case of Delhi also 11044 is the highest used pin code by the customers in this case companies should try to focus deliveries in this area.

Greater Noida has two pin codes where we have greater density 201308 and 201310 both of them combined were used more than for 70% of deliveries.

Solan , Hurgaon and Bulandshar being the smaller cities has less number of pincodes

- Analysis according to Purchase Frequency-

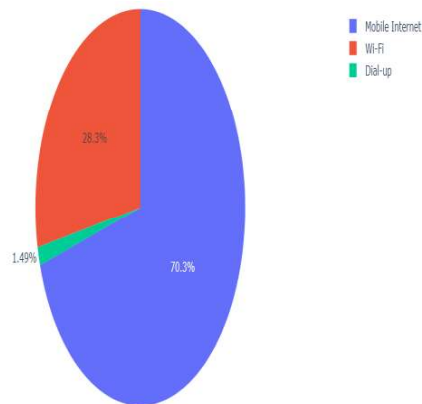
Purchase Frequency in past year



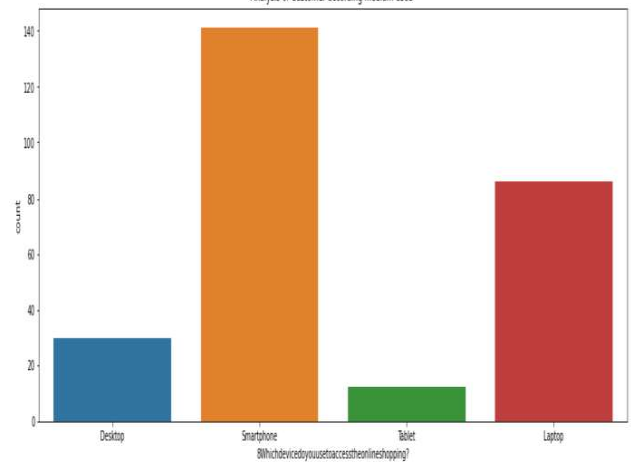
Most of the customers have bought any product less than 10 times in a year , this graph shows that there are two categories of customers one who bought product more often and one who uses the online shopping only few times in above case the percentage of peoples using online shopping foe few times is more (nearly 43 %).

- Analysis according to type of Internet and medium used -

Type of internet used for online shopping

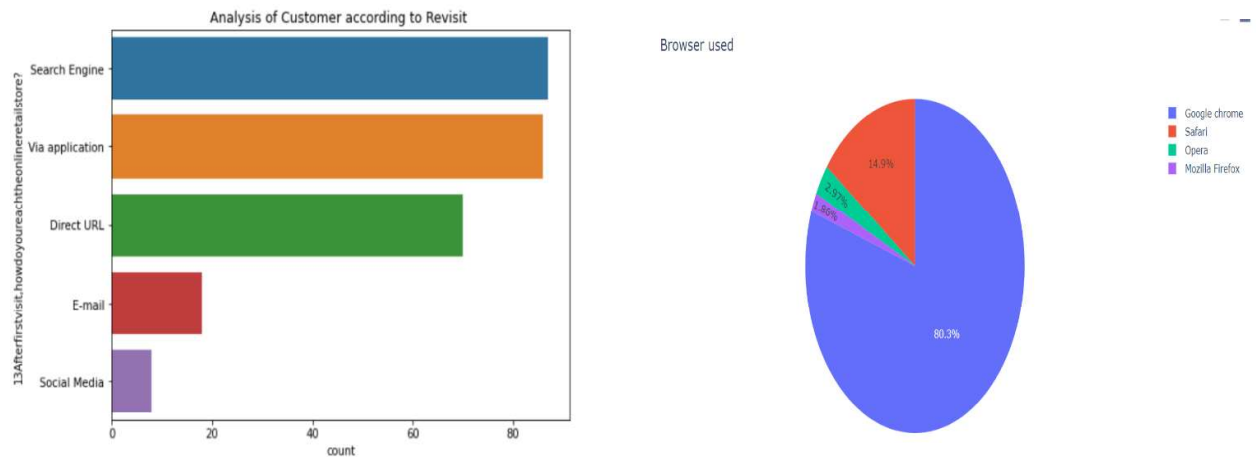


Analysis of Customer according medium used



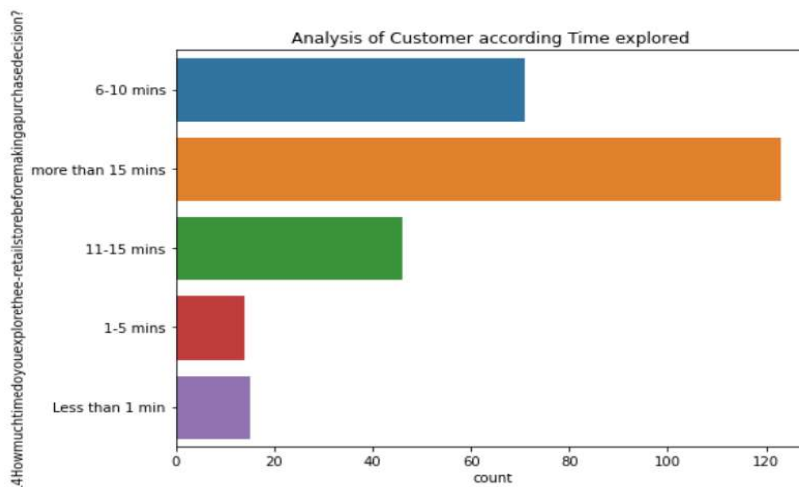
Above plot shows that more than 70 % of customers used mobile internet to reach out to their favourite online retail store and few of customers uses the WIFI to reach online store, it can be concluded that customers may shop from various locations such as office, home , hotels and being out with friends.

- Analysis according to medium used to reach -



We can see from the count plot that most of the times customers prefer search engine or a mobile application to reach out to their favourite retail stores. Very rarely a E-mail and social media links were used to visit online store. Also, Google Chrome is the most used browser of all times followed by Safari to reach the online retail store.

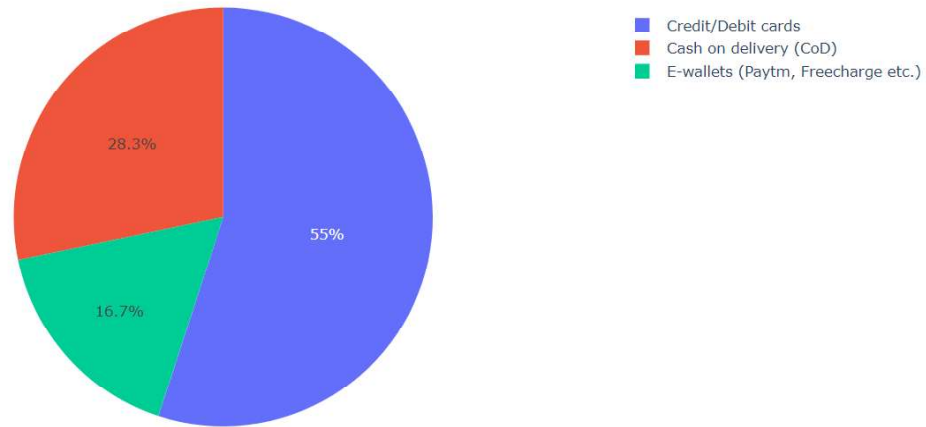
- Analysis according to Time spent at website/App -



Above plot shows that very few customers spend less than five min when the reach to a online retail store while most of the customers visit the website or app for more than 10 to 15 min.

- Analysis according to Payment mode used -

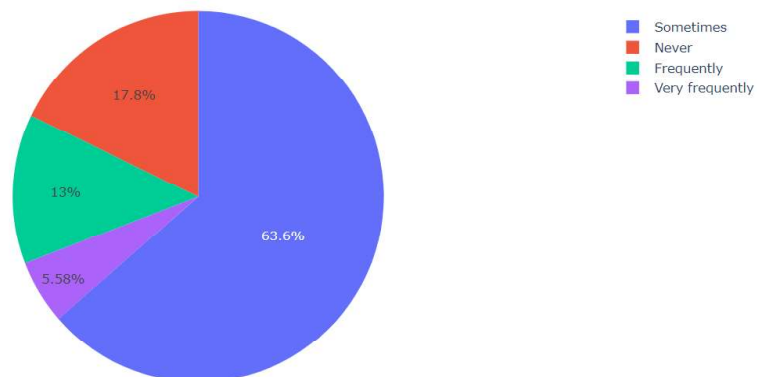
Payment mode used



Above plot shows that more than 72 % of times online payments were used by the customers. Also 28 % of the users use cash on delivery as their Payment option. While using online payment methods almost 55 % of users use credit or debit card as payment option and 17 % of users prefer E wallets such as hone pay, Paytm etc .

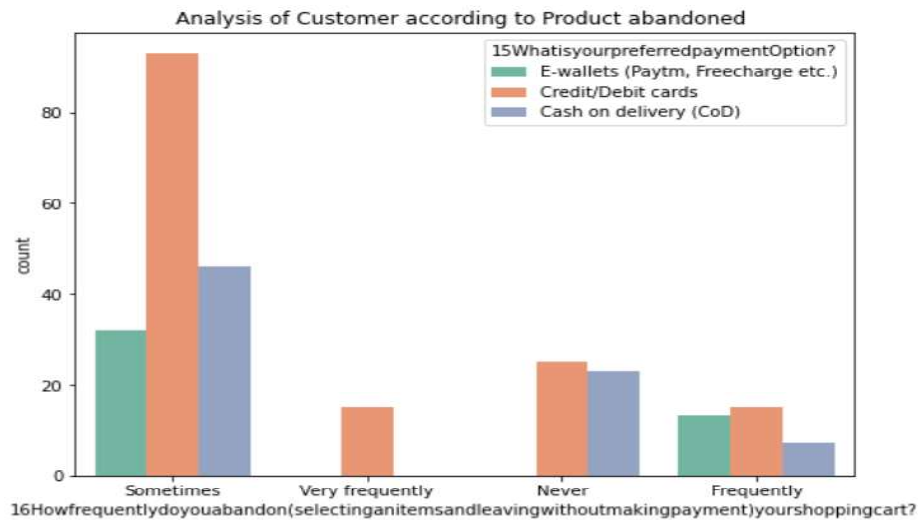
- Analysis according to Product Abandoned -

product Abandon



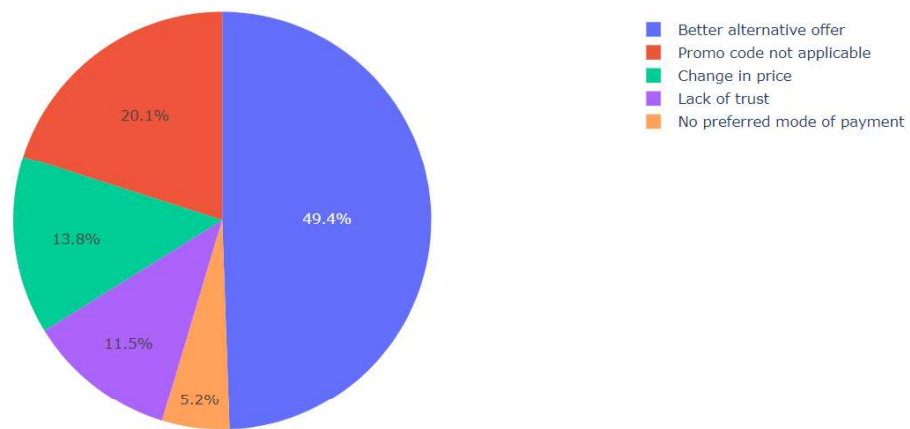
Above plot shows that 64 % of users tend to abandoned the product from the cart sometimes due to various reasons. Only 6 % of customers rarely abandon the product from the cart.

18 % of users says that they never Abandon the product from their cart.



Above plot shows that when people order with cash on delivery there is very less chance that user will abandon the product while users using online payment methods are more likely to abandon the product.

Reason for product Abandon



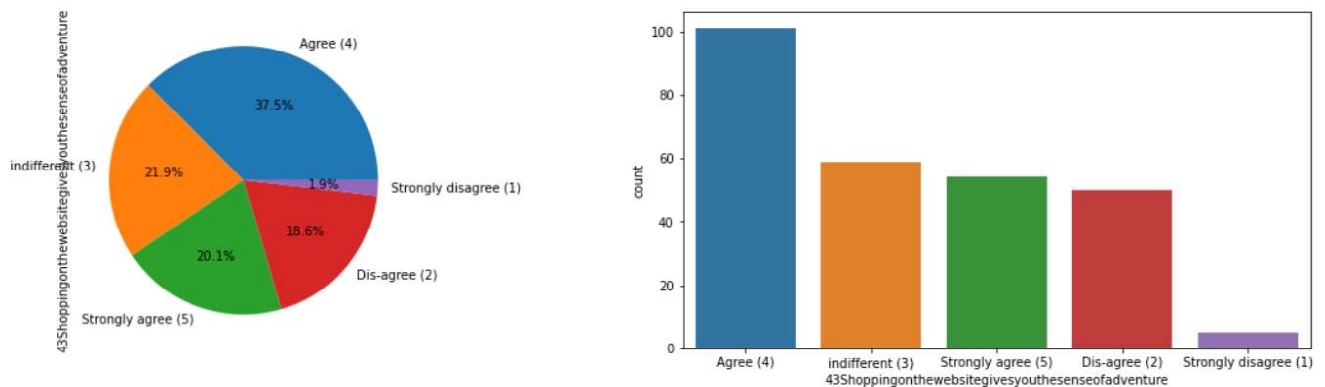
It was found that more than 50 % of users abandon the product because they get a better alternative offer on the other store or with the different seller. Also 21 % of users say that they don't find promo code applicable that is they didn't get offer of their choice for the selected product nearly 14 % of people say that price was changed when they revisit the seller's page only 11 % of users lack trust for ordering online. Nearly 6 % of people did not find their preferred payment option on the store website/app.

Hedonic/Utilitarian values for the Customer-

Customers prefer that information about similar products should be displayed for comparison on the website or the app. Also, users strongly agree with the fact that complete information displayed about the product helps to understand the product description and maximises the chances of buying the product.

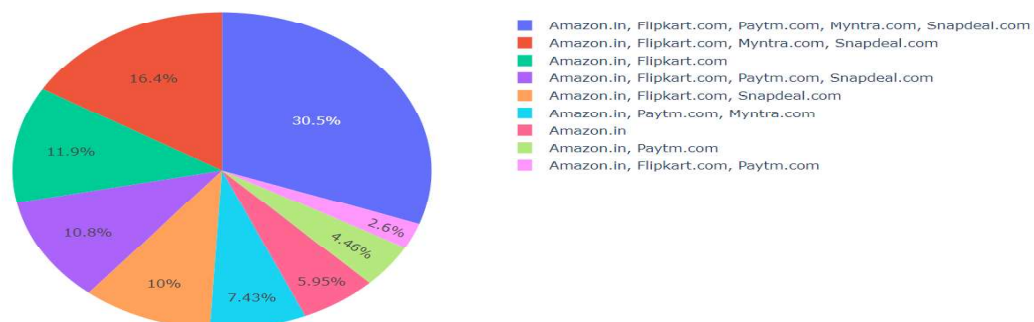
Almost 90% of users thinks that speed of loading the websites often affects the online shopping experience also customers prefer verity of payment options available on the app/Web.

Hedonic values are more concerned with feel for the customer than the functional requirements it was found that more than 60% of users found online shopping experience enjoyable, more ever 70 % of users thinks that shopping online increases their social status and finds adventure in it.



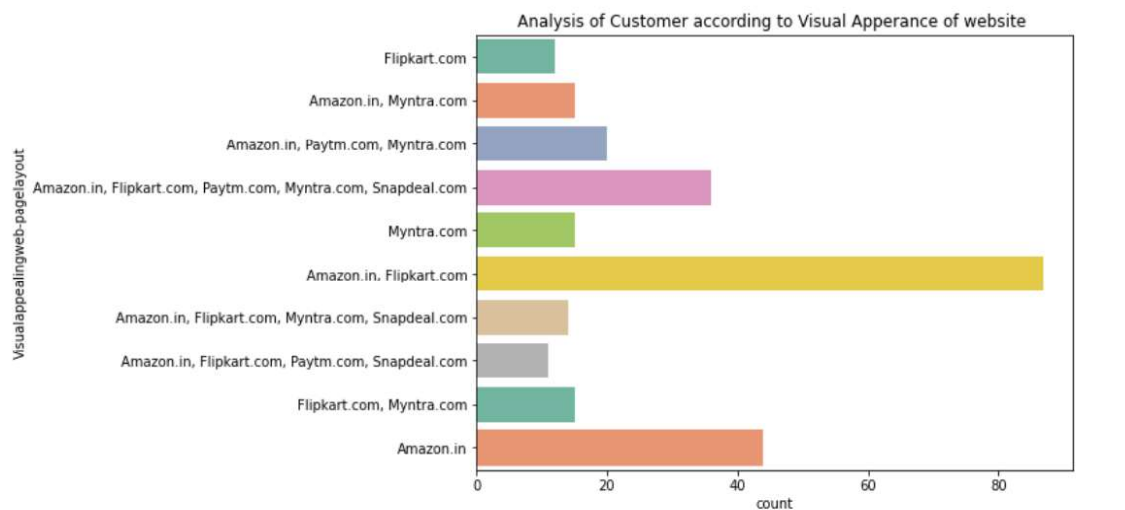
Hedonic/Utilitarian values for the Customer-

Retailers ticked



Most of the Customers have shopped from all ("Amazon","Flipkart","Paytm","Myntra","Snapdeal")

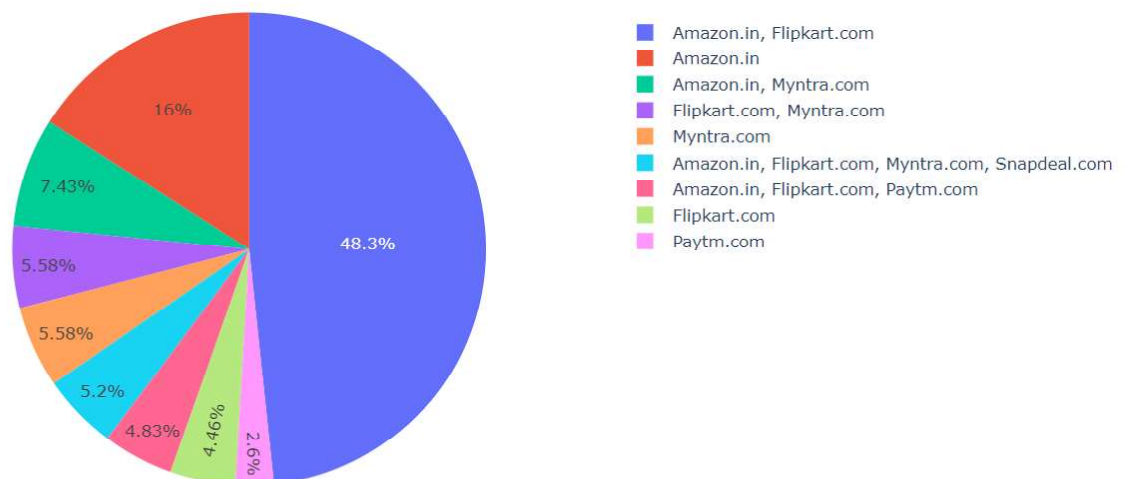
Analysis according to Visual Appearance of the Website-



Above plot shows that users like the design and visual appearance of the Amazon and Flip cart . Also Paytm is third rated brand for visual appearance of the website /app.

Analysis according to Verity of Products offered -

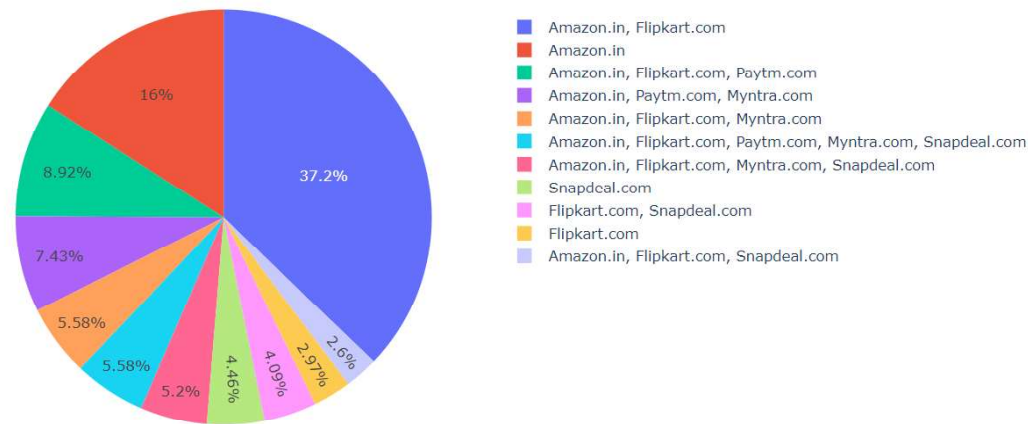
verity of product offered



It is found that 48 % of customers thinks that Amazon and Flip Cart offers a wide range of products. Also, Myntra is third rated in case of product verity and flowed by Paytm. Snapdeal has limited verity of products.

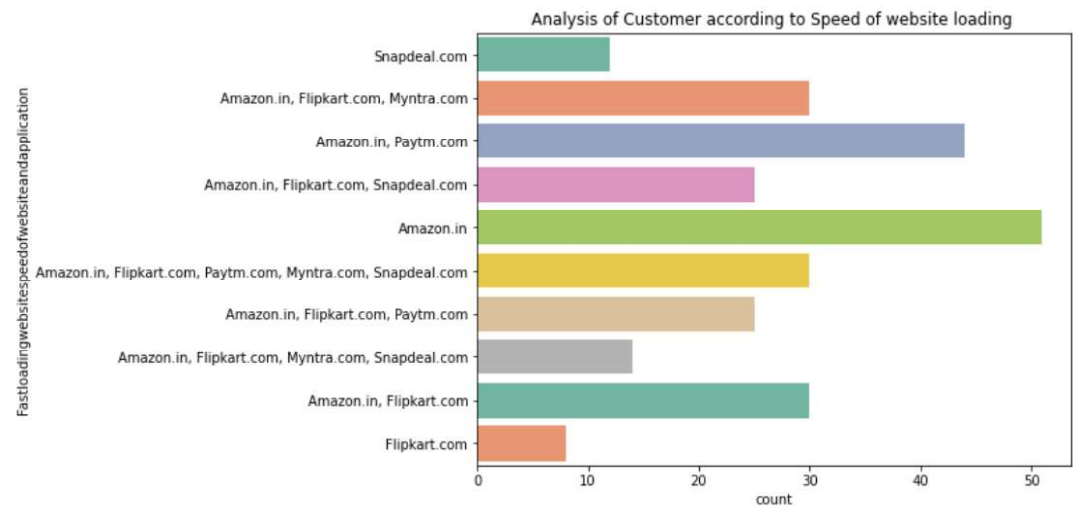
Analysis according to Verity of Products offered -

Relevant information displayed



Amazon and Flip Cart are most favourite in this case also because they always display all relevant information about the product their website/app. In this case Paytm is third rated for displaying product relevant information displayed on the product and then it is followed by Myntra . Snapdeal is least rated retailer in this case.

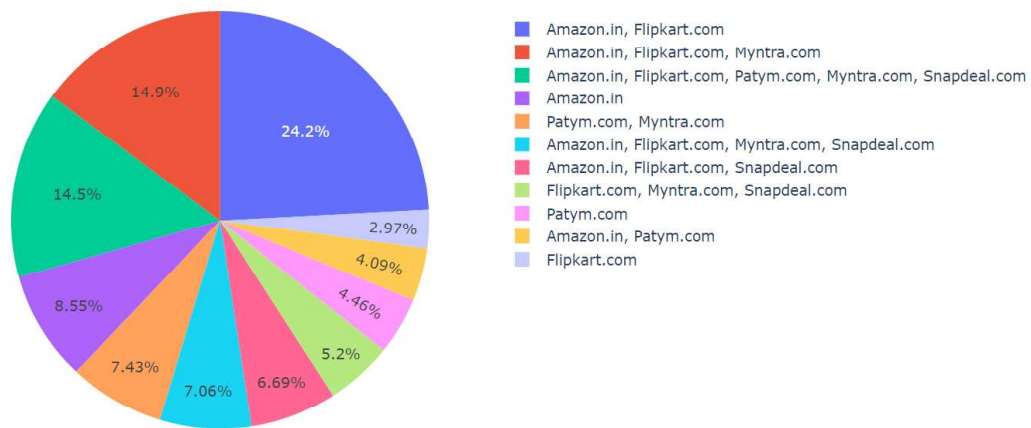
Analysis according to Loading Speed -



In this case Amazon is dominating all other websites as customers thinks that they have fastest loading websites. Here Amazon is followed by Paytm in case of speed of loading the website. Flip Cart is third rated website in case of speed of website loading and then followed by Myntra and Snapdeal.

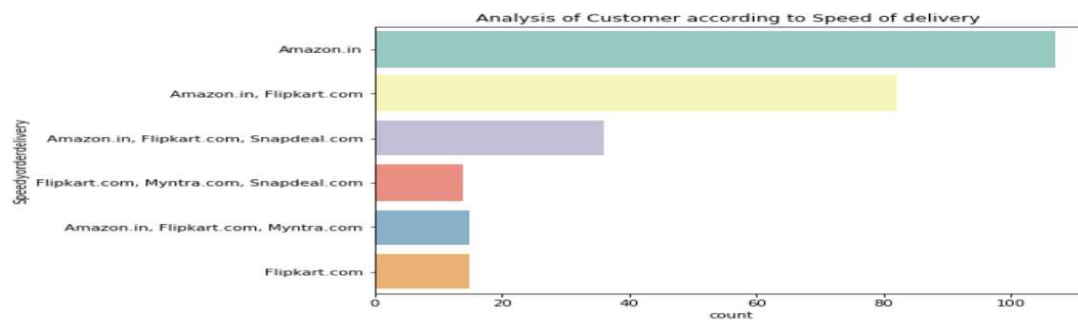
Analysis according to Available Payment options -

Payment options Available



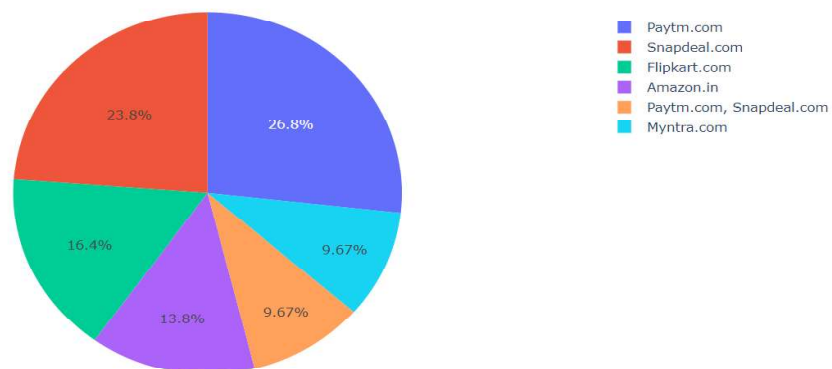
Above plot shows that Amazon ,Flip Cart and Myntra have multiple payment options available followed by Paytm and Snapdeal.

Analysis according to Delivery Speed -

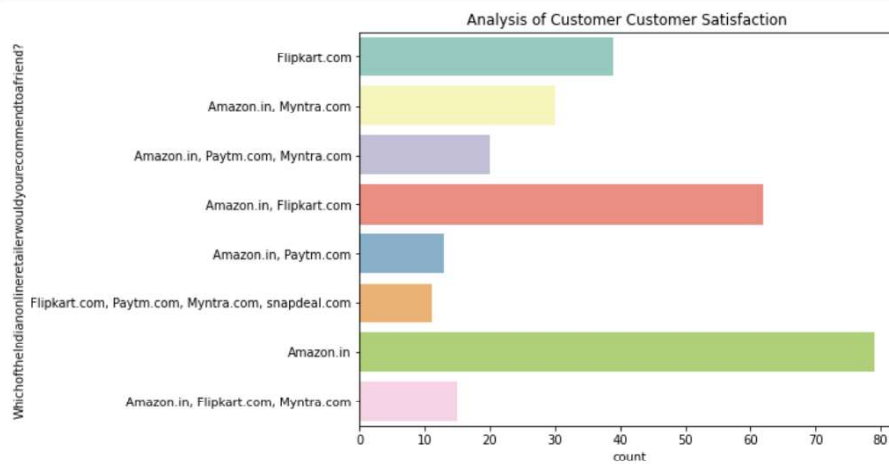


Above plot shows that Amazon is highest rated brand in case of fast delivery speed. FlipKart is second rated brand in case of fast delivery speed. Snapdeal is third rated brand considering the fastest delivery speed. Myntra and then least rated Paytm are the least rated brands for fastest delivery speed.

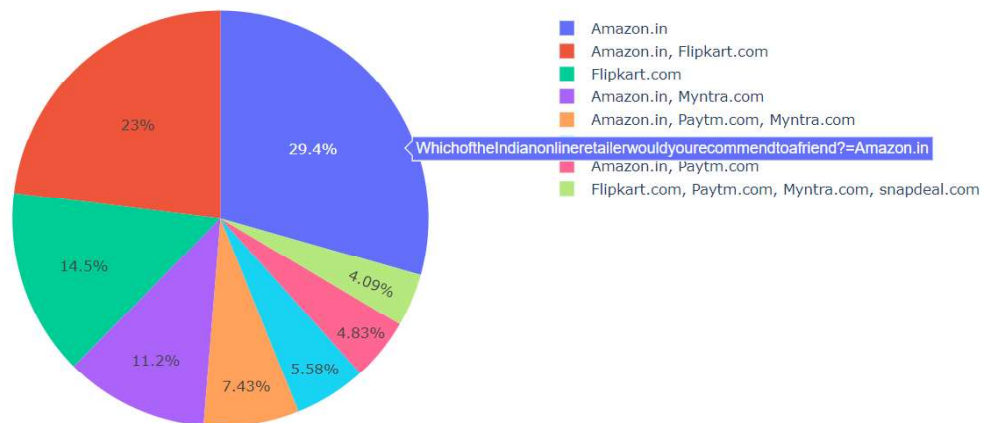
Delivery Period



Analysis according to Customer Satisfaction -



Which online retailer will you recommend to your friends



Above plots shows that Amzon is most feavourite brand for online reatil shopping amongs all other brands due to it outperforms all other brands in every aspect , that's why nealy 80 % of peoples recommend Amazon as best retail store brand. FlipKart is second in most recommended brand and it is then followed by Myntra. Paytm and Snapdeal are least recommended brands.

CONCLUSION

Detailed study of the dataset shows that online shopping is mostly used in big cities like Delhi and Noida, Bangalore more than the smaller cities. Also, there are certain pin codes from this metro cities which were more frequently used for order delivery than rest of the codes. Study also shows that females are more likely to shop online than the males. It was concluded that 95 % of shoppers are likely to purchase again when they first use the online shopping. Most of the customers falls in age group 20 to 40 years. There are less responders in age 51 to 60. Peoples generally use mobile or tabs to shop online while some of them also prefer laptop, usually reach to their favourite retail store by searching on a browser and Google Chrome is most used browser followed by Safari.

Study shows that most of the customers spends more than 10 Min when they visit the online retail store. Also, more than 75% of customer uses online payment methods and 25% of them still go with cash on delivery. 50% of customers abandon the products from their carts due to they get and better alternative offer on other retail store.

Customers prefer that information of similar products should be displayed for comparison as it helps them making a buy decision. Users are more likely to shop from a faster loading website.

It was found that online shopping is Hedonic for some customers 90% of customers says that shopping online gives them enjoyment, satisfaction and also increases their social status. Nearly 80% of customers believes that online shopping is adventures for them.

Study shows that Amazon is most popular brand among the customers due to following reasons –

- Faster loading speed of website
- Better design and visual appearance of the website
- Verity of product categories offered
- Relevant information about the product is displayed
- Faster checkouts / more payment options available
- Faster speed of delivery/less delivery period.
- Amazon maintains customer privacy

Also, we found that above qualities are more important for a customer in a online retail stores.

Flip Kart is second favourite brand after Amazon for the customers as it is being following Amazon in almost every above listed quality.

Myntra is third favourite brand for the customers as it is lagging behind in delivery speed, website loading speed and verity of products.

Paytm is has been being fourth preferred brand due to slower delivery speeds and least verity of product Paytm even outperforms Myntra in serval aspects like availability of several payment options but it has father scope to improve.

Snapdeal is lagging behind in almost all of the aspect among all other brands.