

Investigation of Several Aspects Influencing the Decision of Consumers in E-Commerce

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Abstract- Massive engagement on E-commerce websites is stimulating the platforms to increase their reachability. In order to increase traffic on portals it becomes very important to judge the behavior of consumers. This judgment may be built of shopping pattern, reaction with reviews, feedback, types of product bought, maximum cost paid for any product etc. China, US, UK and India are the richer markets of this decade and next decade too. Observable growth rate of number of customers on e-commerce sites has been perceived but still due to some downsides people avoid it. The aim of this study is to investigate the shopping pattern of people by a survey. The conclusion is beneficial for both types of business, Product as a service and Platform as a service too. The study is giving a direction to B2B and B2C both types of business for updating their business model.

Keyword- E-commerce, Shopping Pattern, B2B, B2C, Reviews

I. INTRODUCTION

Time is a subject of dynamism so is world. People can't expect that any other can recognize their choice without revealing but it has been possible to spot the choices of the people through e-commerce. Giant E-commerce companies are hitting the nail on the head by sensing the mind of the people and offering the merchandise and services exactly the same they want and by this tactic companies have several irons in the fire like earning a heavy profit, winning confidence of the people, increasing goodwill of the company etc. Spreading the web around the people and trapping the people in such a way that they are enchanted by the attractive features. None the less, Consumer considers many aspects in his mind while purchasing the product or availing the services by e-commerce.

The measurable growth in technology results vital transformations in our daily life. One of these transformations can be seen in shopping and selling pattern of contemporary generation. Improvement on education, Information and communication technology supported systems, Internet and market trends have given fourth dimension to the shopping especially electronic commerce. E-commerce (EC) is dependency of consumer on third parties while buying a product by online services. These third party can give any type of services as Product as a service, service as a service, platform as a services etc. Third party's type may vary as per nature of organization too which are customer, business and government. The brief structure of e-commerce pictorially represented in the figure 1. G, B and C imply Government, Business and Customer respectively. X2Y indicates service flow from X to Y. Where X=Y= {B,C,G}.

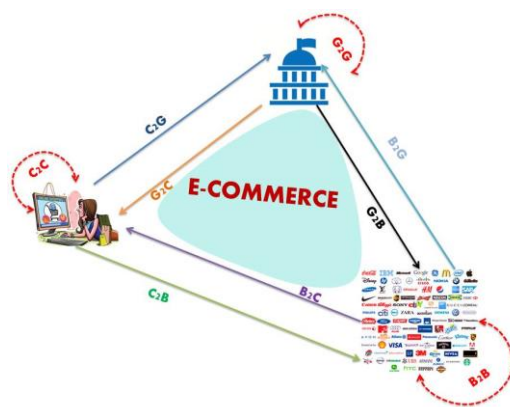


Figure 1. Active elements of E-Commerce

The dotted curves indicate the self-type organizations' service flow.

B2B: It is the transaction between two business entities (companies).

B2C: A type of transaction between companies and consumers. Here company sells products to consumers.

C2B: It is just vice versa of B2C, here companies capitalize the value and benefits from consumers.

B2G: This is the transaction type between companies and government bodies (administration). Here government takes services from business.

G2B and G2C: The administration is the beneficiary and they sell services to companies and people respectively. Here in both types it is not mandatory that government always have a profit.

G2G: Transaction between 2 government and service exchange is falls in this category.

C2C: The transaction between consumers falls in C2C category E-commerce.

C2G: These are the transaction between people and governments where government buy services and pay to the people.

It is estimated that India will achieve approximate 56 Billion USD market growth till 2023 [1]. In a report E-COMMERCE: EVOLUTION OR REVOLUTION Nelson has drawn the attention towards consumers' buying trends and shopping patterns [2]. Days have gone when consumer was ignorant, unaware, and accept the things which company was providing to him. Today's consumer is well aware with the product which has been launched in the market so far and they also know the merit and demerit of the product because integration of information on the web, he purchases the product only on the basis of utility.

Inclusion of internet and its application is now very prevalent in every business. The study is focusing the consumers' behavior of shopping and their mind set while following online shopping. Section II draws attention towards literature review. Section III discusses the methodology adopted for the study and to finding the results is discussed in section IV. Section V is the summary of findings i.e. conclusion.

II. LITERATURE REVIEW

Information technology revolutionized the world trade through e-commerce. Methodology of business transaction has been changed by the advancement of technology. E-commerce means trading in goods and services through the electronic medium. Growing use of the Internet and low cost of electronic medium are the cause of growing E-commerce. The key factors which are responsible for growth in E-commerce are the rise of internet usage (growing at 20%) & 3G penetration and increasing internet users in smartphones. The business community in India is much awarded with the emerging opportunity in e-commerce. E-commerce is enabling rural India to connect for business purpose and develop village economy. India has over 100 million internet users. The future of e-commerce looks very bright in India. India e-business penetration is low in comparison of UK and USA but growing at much faster rate with a large number of new entrants. The innovative technologies in electronic and IT applications are the backbone of Industrial development. It will take place only when Ecommerce supplement and compliment development of the Engineering Industry and large scale of quality manufacturing. It is the need to promote E-commerce

business to develop rural India through effective communication. Ecommerce has given tremendous support to the textile industry by providing online web portal but raising confidence of consumers by educational program in rural India. Challenges those are being faced by consumers relating to e-commerce are Ethical issues, Perceptions of risk in e-services encounters, challenges for e-business education and legal system. But now consumers in India are shifting gradually towards online space and believe in online shopping is safe [3].

Sonnet Debbarma and Gypsy Nandi (2014) identified those factors which affect the growth of e-commerce and reported the various issues faces in the e-commerce growth. Economic growth in domestic welfare gained due to increment in E-commerce and by this market scenario has been changed. Internet renders a new environment for extensive growth of e-commerce, providing exchange of goods and services and directing customer able to access his own online accounts. The trade negotiations occur mainly in telecommunication, financial services, distribution and delivery have significant importance in economic growth. Use of e-commerce of e-commerce technology and online shopping supplement domestic economics in India. Due to increase in population it has become simpler and easier deal with the competitive market for better deal of product. Apart from development and changes in e-commerce there is need to concern about security and privacy of the customers. Hence, researchers should think over security and critical issues related to e-commerce [4].

Internet affects all aspects of economic life; it gave birth to the new electronic economy with an extremely rapid growth, creating new Industrial and business opportunity and increase employment opportunities. Vigorous economic activity on internet or by using the capabilities of Internet led to the emergence of a new concept –electronic commerce. Authors discussed various model of e-commerce like 1) B2B (Business to Business), 2) B2C (Business to Consumer), 3) B2G (Business to Government), 4) B2A (Business to Administration), 5) C2C (Consumer to Consumer), 6) G2B (Government to Business) 7) A2B (Administration to Business). They talked about what the various stages of development of e-commerce market are. Author discussed various type payment systems such as Electronic Payment System (EPS), Off-line payment systems; online payment systems- payment is made through internet. Author discussed the evolution of e-commerce since 1960 till 2000. In the discussion author pointed out towards various advantages which include cost savings, increased efficiency, customization of products and services and global market places that enable the global use of products. Author concluded that E-commerce has contributed in the globalization of the industry and society as well [5].

E-commerce has become mainstream yet it has new challenges which require tomorrow's e-commerce system move beyond the basic functions like static website with electronic catalog, use of shopping cart towards an intelligent, dynamic and secure e-commerce system. This research paper is undertaken to explore the emerging technologies which are capable enough to solve the issues like integration and information sharing. Mainly the newly technology introduced include application services, web services, grid computing and their combinations. Author discussed what the potential factors are which influence businesses to adopt ecommerce. While making strategic business decision knowledge of these new technology trends will be helpful to increase their business sustainability and competitiveness. In this study authors discussed about ASP, Web Services, grid computing, OSA, and grid service. These are new technologies having the same vision managing complexity, enabling common business languages through open industry standards and improving the business through virtualization and automation of IT-based services. Many factors affect business to adopt or purchase a specific technology, some non-technical factors are: business leader support, budget, privacy and security. In e-commerce security is important to build trust and compliance with law. But the credit card companies are not agreeing unanimously on a standard approach of security [6].

Nowadays business models are highly depend upon internet based transactions and trading platforms, using web portals and mobile technologies without the use of internet and its applications business models has become almost impossible. Recently business data is related to E-commerce and becoming valuable day by day. Promotion of the product is taking place in social networking websites, sharing the product data and its review in blogs play significant role in promotion. Author suggested there is need to develop metrics to assess the strength of E-Commerce penetration in Business and also evaluate the various E Commerce platforms. What is the use of E-business tools for data analysis, prediction and decision are. The business trend is changing into E-business and it has drastic change on the organizations in handling business and day to day transactions. Author discussed different metrics of e-commerce such as e-commerce readiness, e-commerce intensity and e-commerce impact. He also evaluated the various e-commerce platforms, discussed e-commerce trend, and studied ecommerce in real-time, Changing Market Share of Major Software Applications and top ten E-Business trends for the 21st Century [7]. There are various models already proposed for commercializing academics and identifying users' engagement pattern [8].

This paper is attempted to access the changing trends of E-commerce and to explore the futuristic enabling information technologies and tools of E-commerce. The author has applied statistical analysis on the basis of secondary data and content analysis is also done here. During study author found information technology have changed the ways of doing business disrupted many business value chains through E-Commerce. Customer centric approaches (product pricing, designing), collaborative web content, globalization big data analytics are the considerable shift in E-commerce. Author also emphasizes online purchasing which cannot be ignored by B2B and B2C categories of business model. E-

Commerce emerging analytics are classified into data analytics, network analytics and mobile analytics. Author articulated that market is full with innovative products for managing, processing and analyzing big data. Big data help in identifying business events before they occur, successful adoption of advances in technology, improved authentication and efficient processing of payment systems. Author advise improvement that alternate use of big data analytics include tax invasion prevention, smart transportation, congesting pricing, smart cities, disaster warning systems, smart agro supply chains, e banking, e healthcare, energy conservation, etc. Author demonstrated generation of big data possibly grow in times and advancing technology may allow the global economy to store and process greater qualities of data but there may be limits of human ability – sensory and cognitive faculties to process this data. In near future there is huge shortage of human capital and training for handling big data related work [9].

This paper is attempted to review the consumer behavior and social network literature theory related to e-commerce and online shopping. The author described a sample of 942 articles from 1993 to 2012 and addressed consumer behavior or social network issues in the online or social media context. Authors find eight categories of online consumer behavior. From the largest to the smallest these categories are: cognitive issues, user-generated content, Internet demographics and segmentation online usage, cross cultural, strategic use and outcomes and consumer internet search. Scholars interested in exploring online consumer behavior and social network, authors sum up each category and offered research opportunities to them. Authors concluded five most needed areas on which Website design researcher should focus these are 1) Social media able to capture attention, motivating search, engaging consumers and enhancing customer by loyalty; 2) consumer behavior theory can provide a theoretical and empirical foundation for developing effective mobile marketing strategies and tactics; 3) the continued utilization of cognitive and attitudinal theory to understand the evolving nature of Internet usage related to emergent technologies and how Web site design impacts the decision-making process; 4) the integration of communication instigation and use across multiple media, channels and technologies; and 5) to leverage micro targeting and segment specific initiatives including geo-targeting customer life cycle stage, demo-psychological profiles and country of origin [10].

With continuous technological up gradations consumer behavior has been changing. E-Consumer came into existence with successful diffusion of online shopping in the past 3-4 years. 'Online Consumer behavior' enthralling topic for marketers and researchers. Various models and framework has been derived to understand online consumer behavior. Models composed different factors mostly are variable in nature. This paper examined the evolution of online consumer behavior models associated to change in variables. This research will helpful for future researcher to understand and select the most advanced models based on their relevance of variable factors affecting online consumers purchasing behavior. On the basis of different reviews author concluded that everyone wants to be the part of online world as well as online shopping. Companies mainly focusing on the building trust on online shopping websites. Trust leads to change in 'attitude which influence purchase intension online. Trust and attitude variables have changed from 2002 to 2015. Apparent factors of online consumer behavior are saving time and money. From the observations it has been clear strong need of a simple integrated model of online consumer behavior [11].

III. METHODOLOGY

The quantification of qualitative can be done as per association rules mining but some statistical method which guarantee the data in generic way [12]. The main effort was to collect the data and analyze it under certain statistical methods. The data collection was done with the Google form and survey planet survey. The language of survey was English and Hindi. In the form there were 18 questions including age and gender. The questions of the survey form are mentioned in the table below with respected answer choices.

Table 1. Questions asked in survey

Question	Possible answer choices
1. Do you check the price of the product in more than 2 websites before buying the product online?	
2. Do you avoid online shopping due to payment problems?	
3. Do you get the same product you order online?	
4. Have you ever got a different product in relation to color, size or other facilities, which you ordered online?	<ul style="list-style-type: none"> • Yes • No • Sometimes
5. Did you ever get product delivery before the estimated delivery date?	
6. Do you check the review before ordering online?	
7. Do you check the return policy of a product while ordering online?	

8. Do you shop online at some of the recommended websites? 9. Do you usually wait for sales on e-commerce websites? 10. Do you wait for the last day of the sale? 11. Do you give review of the product after receiving it?	
12. What is the maximum product cost so far purchased online?	<ul style="list-style-type: none"> • 1-1,000 • 1,001-5,000 • 5,001-10,000 • 10,001-20,000 • 20,001-50,000 • > 50,000
13. Which is your favorite online shopping e-commerce website?	<ul style="list-style-type: none"> • AMAZON • ALIBABA • E-BAY • FLIPKART • HOMESHOP18 • JBONG • MYNTRA • SHOPCLUES • SNAPDEAL • OTHER
14. What kind of products do you usually buy?	<ul style="list-style-type: none"> • Beauty Products • Clothes • Mobile Phone • Electronics • Grocery • Kids Products • Sports Products • Home, Kitchen based Products • Music, Cinema and Video Games • Car, Motorbike and Industrial Products

The reasons behind selection of Google form were as it is openly available to everyone and we need not to pay any cost for the data collection so was with survey planet too. On the basis of the data collected statistical methods has been applied and results are discussed in the result section. In the survey total 442 participants have submitted their responses. Among these 112 female and 330 male participants have filled the data from all category of age set Age= {16-20, 21-30, 31-35, 36-45, 46-50, 51-60}. In the figure 2 below we permitted only those age values who have at least 1% of participants.

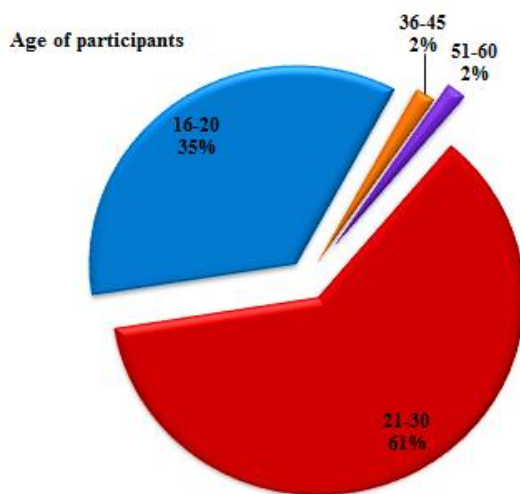


Figure 2. Age of participants in survey

From the figure 2, above it is clear that age range 21-30 has the highest number of participants then 16-20. It is clear that the joint extended age interval 16-30 shares 96% approximate of whole online shopping.

IV. RESULT AND DISCUSSION

The survey has been analyzed under some statistical schemes. The analysis incorporates some questions and their answers. Various aspects of analytics have been touched, those are discussed here. Figure 3 shows the ration of women and men involved in the survey and how many of them read the review.

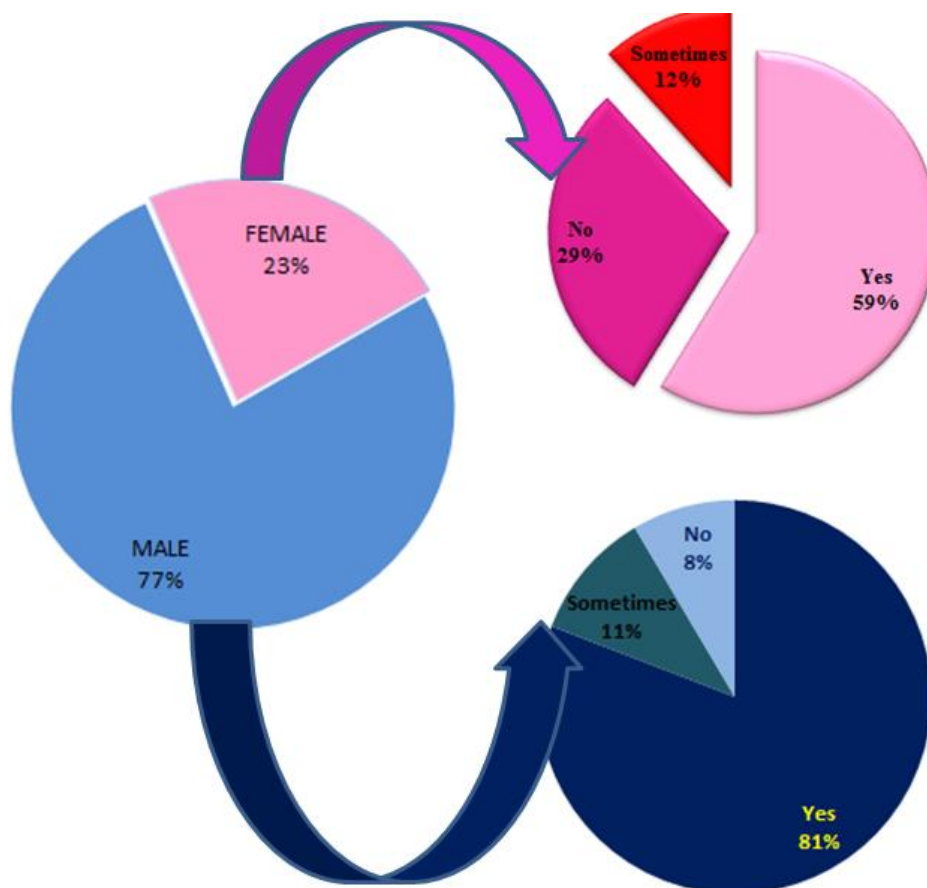


Figure 3. The ratio of men and women those who check the alternative options

Here in the figure 4 shows the ratio of people who avoid online shopping due to payment problem and other half of it representing the people who check product return policy.

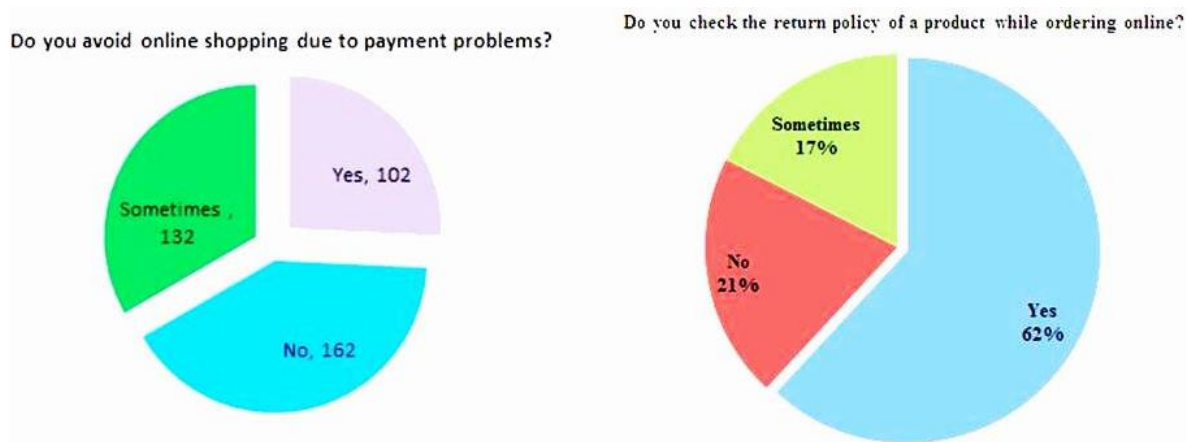


Figure 4. Ratio for the avoidance of online shopping and for return policy checking

Figure 5 is representing the portion of people those who get the same product they order online. Among those some of them have issue that they got totally different product and some say that they got the product which vary by color, shape, size etc.

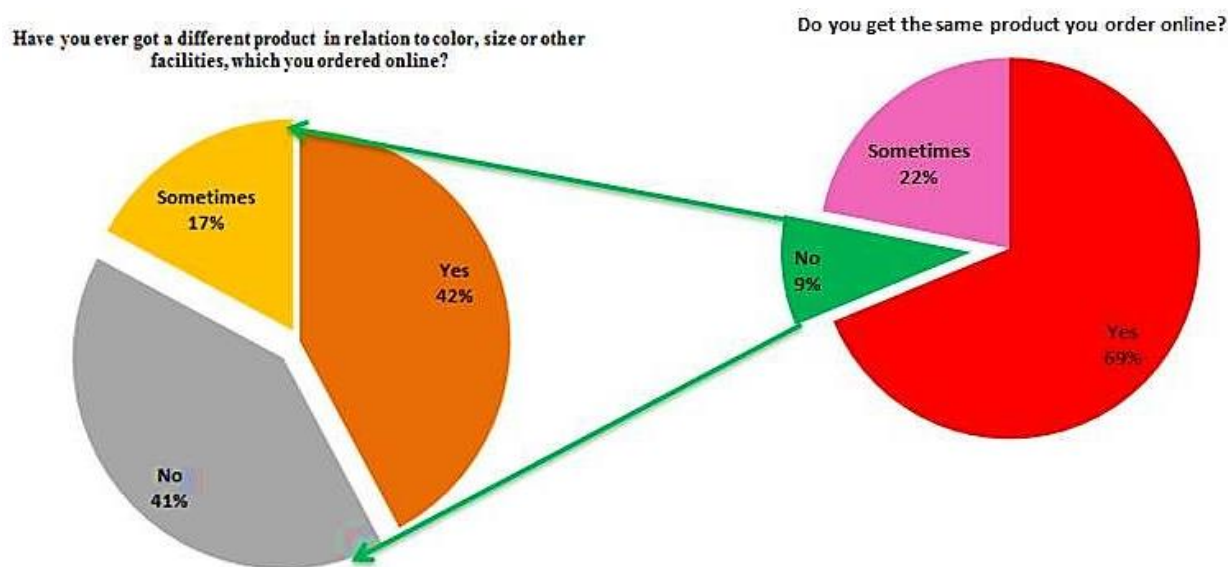


Figure 5. Different Product delivery chart

Review analysis and verification is an important aspect of modern web-based shopping. In the survey Question 11 was asking whether people share their review about the product after receiving it? Figure 6 tells only 27% percent people share review about the product.

Do you give review of the product after receiving it ?

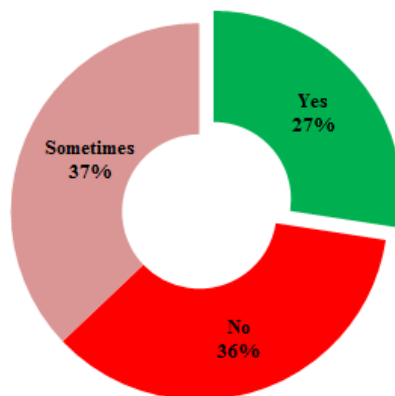


Figure 6. Chart representing portion of people who submits review after receiving product

Figure7 gives the idea for the number of people who wait for the sale and even those also who wait for the last day of the sale.

Do you usually wait for sales on e-commerce websites?

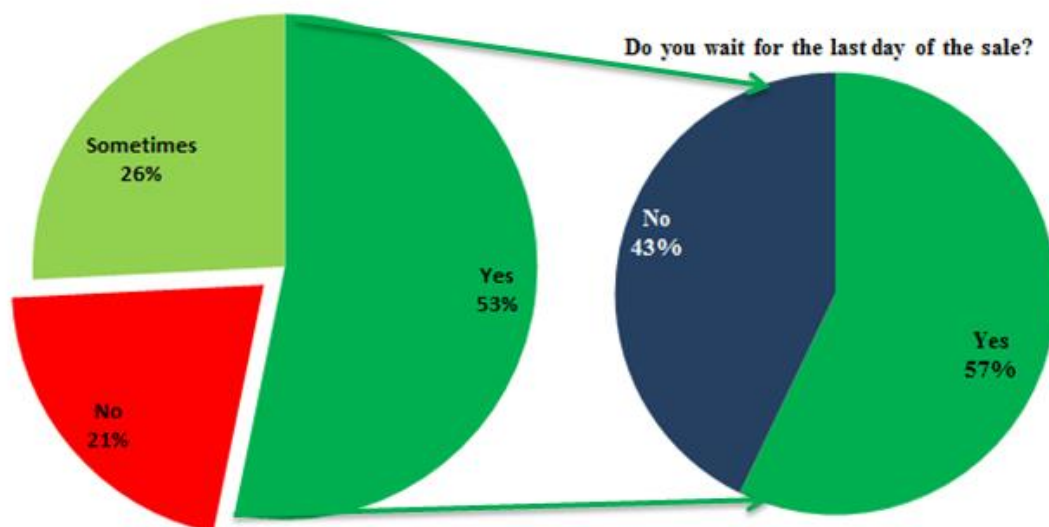


Figure 7. Percentage of people wait for the sale and last day of sale

We have collected the data for the favorite company of people and frequent buying products too. Figure 8 and Figure9 represent the pictorial summary of that.

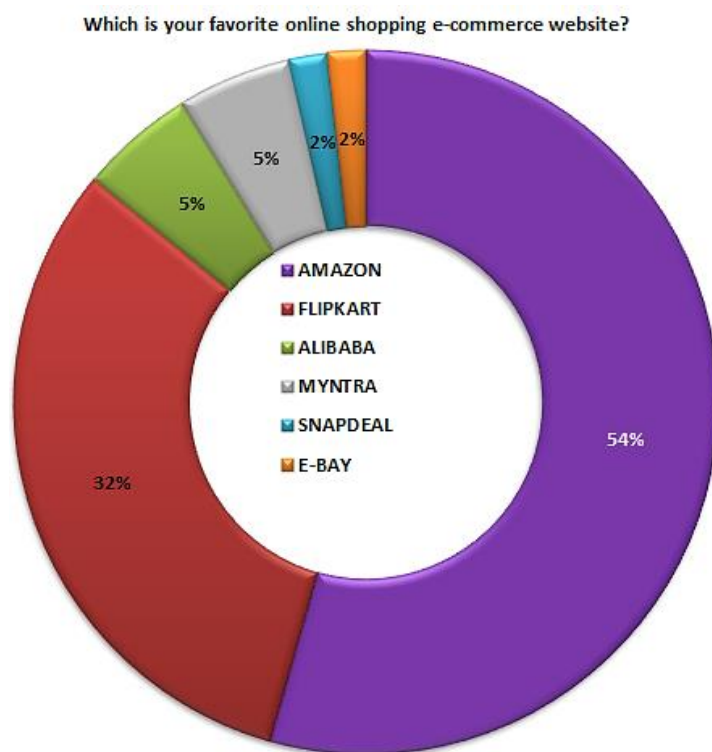


Figure 8. Chart representing favorite e-commerce company of consumers

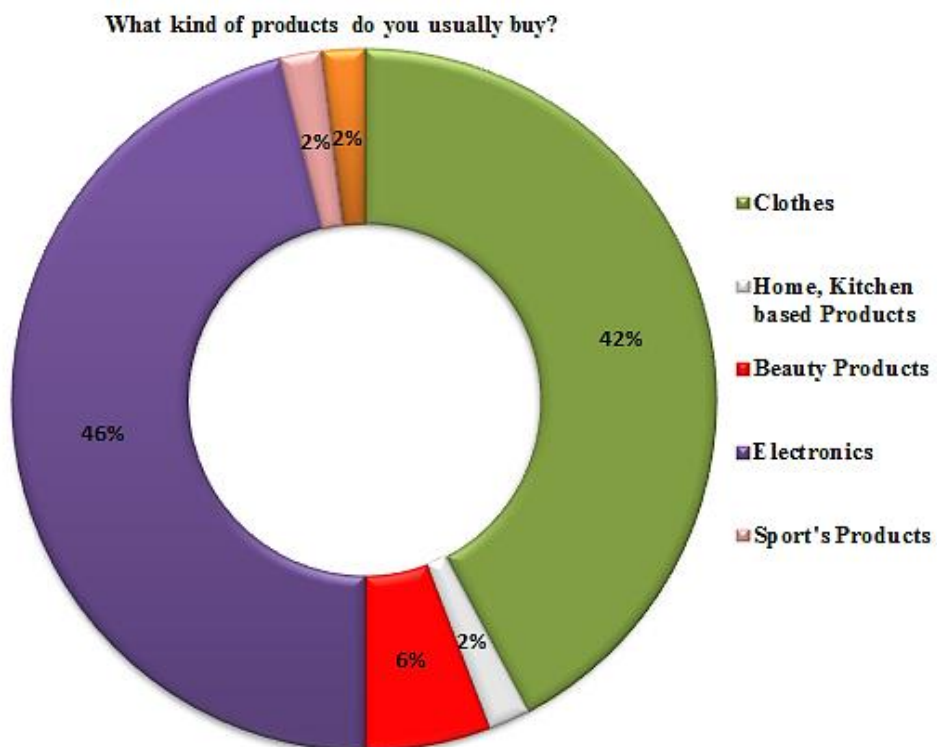


Figure 9. Chart representing frequently bought products

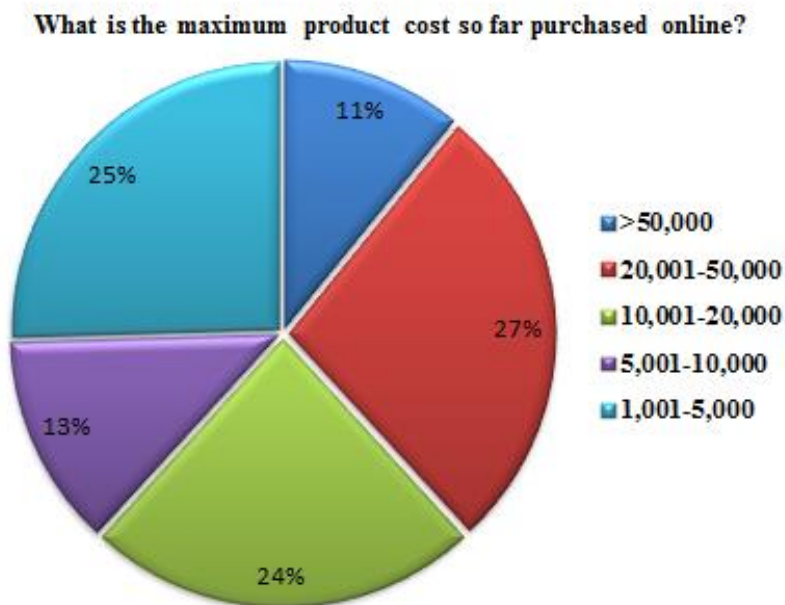


Figure 10. Chart representing maximum purchasing cost paid for a product

For the market analysis and behavioral analysis of consumer, e-commerce companies must have the knowledge of shopping pattern and spending pattern of consumers. Figure10 shows the average investment and spending pattern of people.

V. CONCLUSION

The study was aimed to facts finding on the basis of collected data. The facts based on consumers' shopping pattern especially in E-Commerce (online shopping). The facts may help the E-commerce companies, Government and other stakeholders to plan their business model or to update it. Some certain conclusions can be derived from the basis of results section:

1. Total 59% women and 81% men check the price of product in more than 2 alternate websites. Just 27% people upload their review after receiving the products.
2. 62% people check return policy in online shopping and 23% people avoid online shopping because of payment issues.
3. 9% consumers have received the different product than they ordered and on these 9% approximate 42% people got the products which vary by color, size and shape.
4. 53% people wait for the online sales and 57% of them even wait for the last day of the sale.
5. 46% people buy electronics products. That is the maximum among all the products. AMAZON is the favorite shopping platform of 54% people which is the highest for any company.
6. Study also concluded that products having their cost under the range of 20,000-50,000 INR which is the most frequent among all cost range.

The study is drawing the attention towards analysis of consumers' frame of mind while online shopping and giving a direction of more brain mining in order to improve the business model.

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