

## A STUDY ON ONLINE SHOPPING BEHAVIOR OF GENERATION -"Y" WITH REFERENCE TO AHMEDABAD CITY

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### Abstract

*The recent growth of e-commerce sector and the advent of modern technologies have led to a paradigm shift in the buying pattern of consumers from conventional shopping to online shopping. Internet accessibility has become much easier through modern equipments such as mobile phones, tablets, laptops, etc. The past decade has led to a drastic shift towards online shopping since it facilitates faster and convenient shopping processes with larger varieties of products and services at the doorstep of consumers. The purpose of this research is to study the purchase behavior of online shoppers of Generation – "Y" with specific reference to Ahmedabad City. Generation Y is more segmented as audience grouped between 20 - 35 years and are very well exposed to internet facilities. The millennial are more flexible and adaptive to the new technologies with varied lifestyles. A structured questionnaire is used to collect primary data from 200 respondents selected purposively from Ahmedabad City. This study focuses on analyzing the consumers' preferences towards online shopping and identifying the major factors affecting their preferences towards various product and service categories while shopping online. It also attempts to evaluate consumers' satisfaction towards online shopping and identifying the barriers creating hesitation towards online shopping, especially for Generation – Y.*

**Key Words:** Online Shopping, Generation – Y, Buying Behavior, Ahmedabad City.

### INTRODUCTION

Earlier the physiological needs of human beings were limited to food, clothing and shelter, but in modern times "INTERNET" has also been added to this list. India has 385 million active internet users who are 12 years & above (IAMAI, 2019)<sup>1</sup>. On account of easy accessibility to internet services there has been observed that people are likely to shop online. Online shopping refers to the activity of buying products or services over the internet or by using a digital platform. Online shopping is advantageous to both the consumers and retailers, such as shopping at round the clock facilities, saves transit costs, decreasing overhead expenses and offering wide range of products & services. The millennials aged between 20-35 years are often the children of baby boomers. The audience of generation – "Y" is referred to Information Age because they are well equipped with the knowledge of digital technologies and social media. They are less brand loyal and have little patience for inefficient or poor service. They prefer access over ownership which can be seen through their preference for on demand services. Thus, this research is undertaken to study the behavioral pattern of Generation – "Y" from the online shopping process.<sup>2</sup>

<sup>1</sup> Retrieved from IAMAI: <https://cms.iamai.in/Content/ResearchPapers/d3654bcc-002f-4fc7-ab39-e1fbeb00005d.pdf>

<sup>2</sup> Retrieved from Kasasa: <https://www.kasasa.com/articles/generations/gen-x-gen-y-gen-z>

## LITERATURE REVIEW

**P. P. Kothari, S.S. Maindargi, (2016)<sup>3</sup>** shows that there has been observed a shift in the buying pattern of consumers with the advent of internet services. Cognition, sensed usefulness, comfort of use, sensed enjoyment and security are the components which affect consumers' perception regarding online shopping of residents of Solapur City. It also concluded that success of online shopping depends on companies' popularity, brand image and unique promotional policies.

**D. Choudhury, A. Dey (2014)<sup>4</sup>** study finds out the attitude of youth towards online shopping. The study undertaken on students of Assam University highlights that there is a significant relationship of online shopping with gender, internet literacy and online product price whereas there is no significant relationship of online shopping with education and website usability.

**G. Sakthivel, M. S. Gomathi, (2017)<sup>5</sup>**, shows that how Information and Communication Technology (ICT) have brought changes in shopping pattern of Erode District. It has been observed that there is a change in the behavior of people towards online shopping. The study concluded that consumers' attitude and satisfaction plays an important role for online shopping.

**U. Kanchan, N. Kumar, A. Gupta, (2015)<sup>6</sup>**, stated that online shopping has gained popularity amongst younger generation. Higher income groups and educated people are purchasing more via e- retailing websites and at the same time they are hesitated to shop online because of security concerns. The study concluded that the customers who purchased more products via internet will continue to make online purchases in future too.

**G. Nagra, R. Gopal, (2013)<sup>7</sup>**, found that there is still great potential of online shopping in India. The study also revealed that online shopping is significantly affected by various Demographic factors such as age, gender, marital status, family size and income. Overall the results are positive regarding the perception of online shopping.

## RESEARCH METHODOLOGY

### ➤ Objective of study

1. To analyze the impact of demographic variables on preferences of consumers towards online shopping.
2. To identify the major factors motivating the consumers to shop online.
3. To identify the preferences for the major product categories while shopping online.
4. To identify the attributes taken care of by consumers while shopping online.
5. To evaluate the satisfaction level of consumers achieved from online shopping.
6. To examine the extent of awareness and choice of various online shopping websites.
7. To identify the barriers towards online shopping.

### ➤ Research Design

- This study is based mainly upon Descriptive and Causal Research Designs.

### ➤ Sampling Design

- This study is based on primary data collected from 200 respondents of Generation – “Y” (aged between 20 to 35 years) of Ahmedabad City.
- The selection of the respondents is based on Purposive Sampling, drawn from internet users of Generation “Y” residing in Ahmedabad City.
- The data is collected through structured Google form questionnaire.
- In order to measure the reliability of the questionnaire, Cronbach Alpha Test had been carried out on 25 respondents of Ahmedabad City. A construct or variable is reliable if the Cronbach Alpha is

<sup>3</sup> Kothari P. Pritam, M. S. (2016). A Study on Customers Attitude towards Online Shopping in India and its Impact: With Special Reference to Solapur City. International Journal of Advance research , Ideas and Innovations in Technology , 2 (6).

<sup>4</sup> Choudhury Deepjyoti, D. A. (2014). Online Shopping Attitude Among The Youth : A Study On University Students. International Journal of Entrepreneurship and Development Studies , 2 (1).

<sup>5</sup> Gomathi, D. G. (2017). A Study on Consumer Attitude and Satisfaction Towards Selected Online Shopping in Leading Companies. International Journal of Scientific Research and Modern Education , 2 (1), 5-10.

<sup>6</sup> Upasana Kanchan, N. K. (2015). A Study of Online Purchase Behaviour Of Customers In India. ICTACT JOURNAL ON MANAGEMENT STUDIES , 1 (3).

<sup>7</sup> Gopal, D. N. (2013). A Study Of Factors Affecting On Online Shopping Behavior Of Consumers. International Journal of Scientific and Research Publications , 3 (6).

more than 0.6 (Bryman and Bell 2007). The Cronbach's Alpha value is .8242 which is greater than 0.6, which indicates that the research instrument is reliable.

**Table 1**  
**Reliability Statistics**

Cronbach's Alpha	N of items
.8242	46

- The period undertaken to conduct this research was a month (Dec, 2019).

➤ **Tools and Techniques**

IBM Statistical Package for Social Science 20.0 (SPSS 20.0) has been used for comprehensive analysis of the data collected. The results are arrived at using statistical tools and techniques such as Descriptive Statistics, Chi Square Test, Factor Analysis and Discriminant Analysis.

**ANALYSIS**

➤ **Chi Square Test :-**

- Here, Chi Square test has been performed to test the independence of various demographic variables such as age, gender, education, profession and annual family income with the context of durability of products, frequency of purchase, monthly expenditure, internet usage and decision whether to shop online or not.
- A goodness of fit test is a statistical test that determines the validity of the observed data regarding the assumption about the distribution of a population.
- The calculation of the Chi-Square statistic is stated as below:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Where,  $f_o$  = the observed frequency (the observed counts in the cells) and

$f_e$  = the expected frequency if NO relationship existed between the variables

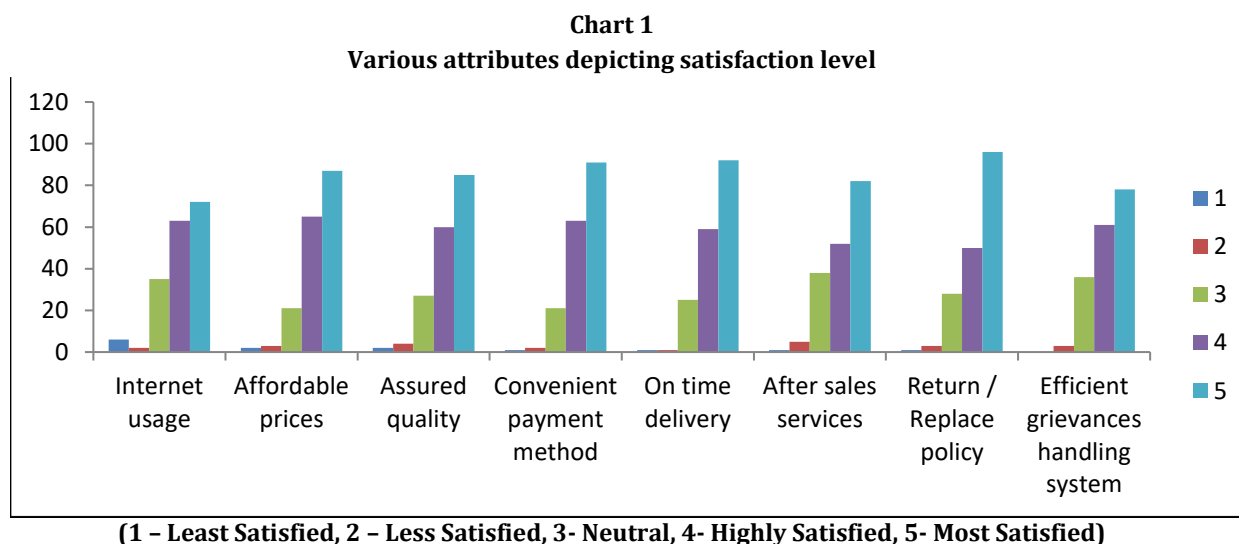
**Table 2**  
**Chi Square Test on Demographic Variables**

Statements	Chi Square Value	P – value	Decision for Null Hypothesis
<b>Demographic variable v/s Durability of products</b>			
<b>Age v/s Durability of products</b> H <sub>1</sub> : Age affects the choice of products.	4.934	0.294	<b>Accepted</b>
<b>Gender v/s Durability of products</b> H <sub>1</sub> : Gender affects the choice of products.	0.019	0.991	<b>Accepted</b>
<b>Education v/s Durability of products</b> H <sub>1</sub> : Education affects the choice of products.	1.000	0.910	<b>Accepted</b>
<b>Profession v/s Durability of products</b> H <sub>1</sub> : Profession affects the choice of products.	7.521	0.675	<b>Accepted</b>
<b>Demographic variables v/s Frequency of purchase</b>			
<b>Age v/s Frequency of purchase</b> H <sub>1</sub> : Age affects the frequency of purchase.	9.023	0.701	<b>Accepted</b>
<b>Gender v/s Frequency of purchase</b> H <sub>1</sub> : Gender affects the frequency of purchase.	3.361	0.499	<b>Accepted</b>
<b>Annual Family Income v/s Frequency of purchase</b> H <sub>1</sub> : Annual family income affects the frequency of purchase.	19.021	0.940	<b>Accepted</b>
<b>Demographic variables v/s Monthly Expenditure</b>			
<b>Age v/s Monthly Expenditure</b> H <sub>1</sub> : Age affects the monthly expenditure to shop online.	14.180	0.077	<b>Accepted</b>

<b>Annual Family Income v/s Monthly Expenditure</b> H <sub>1</sub> : Annual Family Income affects the monthly expenditure to shop online.	27.747	0.116	<b>Accepted</b>
<b>Demographic variables v/s Internet usage</b>			
<b>Age v/s Internet usage</b> H <sub>1</sub> : Age affects the internet usage	0.093	0.955	<b>Accepted</b>
<b>Gender v/s Internet usage</b> H <sub>1</sub> : Gender affects the internet usage	0.752	0.386	<b>Accepted</b>
<b>Education v/s Internet usage</b> H <sub>1</sub> : Education affects the internet usage	7.075	0.029	<b>Rejected</b>
<b>Profession v/s Internet usage</b> H <sub>1</sub> : Profession affects the internet usage	0.480	0.993	<b>Accepted</b>
<b>Demographic variables v/s Shopping Online</b>			
<b>Age v/s Shopping Online</b> H <sub>1</sub> : Age affects the decision to shop online	2.836	0.586	<b>Accepted</b>
<b>Gender v/s Shopping Online</b> H <sub>1</sub> : Gender affects the decision to shop online	1.817	0.403	<b>Accepted</b>
<b>Education v/s Shopping Online</b> H <sub>1</sub> : Education affects the decision to shop online	3.775	0.437	<b>Accepted</b>
<b>Profession v/s Shopping Online</b> H <sub>1</sub> : Profession affects the decision to shop online	8.234	0.606	<b>Accepted</b>
<b>Income v/s Shopping Online</b> H <sub>1</sub> : Income affects the decision to shop online	8.534	0.577	<b>Accepted</b>

The results of Chi Square Test shown in table 2 indicates that out of all demographic variables there is significant association between education and internet usage and the rest of them are found to be insignificant.

➤ **The satisfaction level achieved by the respondents according to various attributes of online shopping are represented below:**



The above chart 1 depicts that the respondents have assigned highest satisfaction to the return and replace policy and are least satisfied with no on time delivery.

➤ **Factor Analysis:**

- Here, factor analysis has been applied to identify the major factors motivating the consumers to shop online.
- It is a data reduction method, which is useful to reduce a large number of variables resulting in data complexity to a few manageable factors.

- Factor Analysis was conducted to group of 9 statements and the extraction of 2 major factors depicting the major factors motivating the consumers to shop online along with their extracted cumulative percentages variances. The 2 factors jointly explain 50.8% of the total variance showing the major factors motivating the consumers to shop online which is shown in the table below:

**Table 3**  
**Total Variance Explained:**

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.193	35.477	35.477	3.193	35.477	35.477
2	1.377	15.301	50.778	1.377	15.301	50.778
3	.892	9.913	60.691			
4	.754	8.374	69.065			
5	.739	8.213	77.278			
6	.589	6.543	83.821			
7	.575	6.392	90.213			
8	.501	5.569	95.781			
9	.380	4.219	100.000			

- The range of KMO is between 0 to 1 and the value greater than 0.5 suggests that the data is adequate for factor analysis. In this case the value was 0.799 which is greater than 0.5 and hence the data is fit for the factor analysis. Simultaneously, Bartlett's Test of sphericity indicates the Chi Square value of 339.402 with p value is 0.000 which is less than 0.05; this testified that the sample was appropriate for factor analysis.
- The two factors extracted are listed in table below:

**Table 3**  
**Rotated Component Matrix<sup>a</sup>**

Factors	Component	
	1	2
Secure	.741	
Shopping on internet saves time	.706	
Broad base of goods available on internet	.694	
Elaborative product description	.683	
Saves transit cost	.556	
Can shop at anytime of the day on internet		.792
Product available at the door step		.764
Availability of fair discounts and promotional schemes		.665
Option of Cash on Delivery as payment mode.		.661

- 1) **Convenience as a factor states that** online shopping is more secure compared to traditional shopping, it saves time, selection of goods is very broad, description of product is more elaborative and saves transit cost also.
- 2) **Services & Offers includes that** consumers can shop as and when fair discounts are available, can shop at anytime of the day, availability of Cash On Delivery (COD) as an option and consumers can get required product at their door step.

- The factor analysis has also been undertaken to identify the major factors affecting the satisfaction level of the consumers to shop online.
- Factor Analysis was conducted to group of 8 statements and the extraction of 2 major factors depicting the satisfaction level of consumers achieved from online shopping along with their extracted cumulative percentage variances. The 2 factors jointly explain 65.08% of the total variance showing the satisfaction level which is shown table below:

**Table 5**  
**Total Explained Variance**

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.201	52.507	52.507	4.201	52.507	52.507
2	1.006	12.574	65.080	1.006	12.574	65.080
3	.766	9.574	74.654			
4	.596	7.447	82.101			
5	.464	5.804	87.906			
6	.419	5.243	93.148			
7	.292	3.648	96.796			
8	.256	3.204	100.000			

- The range of KMO is between 0 to 1 and the value greater than 0.5 suggests that the data is adequate for factor analysis. In this case the value of KMO was 0.864 which is greater than 0.5 and hence the data is fit for the factor analysis. Simultaneously, Bartlett's Test of sphericity indicates the Chi Square value of 619.826 with the p value is 0.000 which is less than 0.05. This testified that the sample was appropriate for factor analysis.
- The two factors extracted are listed in table below:

**Table 6**  
**Rotated Component Matrix<sup>a</sup>**

Factors	Component	
	1	2
Return / Replace Policy	.839	
Assured Quality	.837	
After Sales Service	.776	
Grievances' Handling System	.727	
Affordable Prices	.717	
Convenient Payment Method	.683	
On Time Delivery	.566	
Internet Use		.941

- 1) **Policy issues** include Return/Replace policy, Assurance regarding the quality, After sales services, Efficient grievances handling system, Affordable prices, Convenient payment method and On time delivery.
- 2) **Internet usage is also one of the driving factor motivating to shop online.**

➤ **Discriminant Analysis :-**

- In order to classify respondents as per the categories of the overall satisfaction level they have achieved while shopping online.

- o Discriminant analysis is used to predict group membership. This technique is used to classify individuals/objects into one of the alternative groups on the basis of a set of predictor variables. The basic principle of discriminant function is that the variable between the groups relative to the variance within the group should be maximized. The mathematical form of the discriminant analysis model is:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_kX_k$$

Where,

Y = Dependent variable which is necessarily categorical variable

$b_s$  = Coefficients of independent variables

$X_s$  = Predictor or independent variables

Here, since the dependent variable has 3 categories of satisfaction level

(0 = Low Satisfaction, 1 = Moderate Satisfaction and 2 = High Satisfaction)

The output of discriminant analysis contains 2 discriminant functions as shown in table below:

**Table 7**  
**Canonical Discriminant Function Coefficients**

Variables	X	Function	
		1	2
Brand Name	$X_1$	.005	-.080
Common platform for various brands	$X_2$	.026	.475
Look / Appearance	$X_3$	.371	.162
Packaging	$X_4$	.434	-.126
Price	$X_5$	.509	-.006
Convenience	$X_6$	<b>-.902</b>	.587
Availability of Wide Variety	$X_7$	.016	-.800
Service Quality	$X_8$	-.227	-.256
After Sales Service	$X_9$	.420	-.113
Durability	$X_{10}$	-.742	<b>.953</b>
Authenticity	$X_{11}$	.641	-.262
Availability of Payment Modes	$X_{12}$	.229	.797
(Constant)		-3.163	-5.744

The above table 7 shows the estimated unstandardized discriminant functions. These discriminant functions can be written as:-

**Fuction 1 :**  $Y = -3.163 + .005X_1 + .026X_2 + .371X_3 + .434X_4 + .509X_5 - .902X_6 + .016X_7 - .227X_8 + .420X_9 - .742X_{10} + .641X_{11} + .229X_{12}$

**Fuction 2 :**  $Y = -5.744 - .080X_1 + .475X_2 + .162X_3 - .126X_4 - .006X_5 + .587X_6 - .800X_7 - .256X_8 - .113X_9 + .953X_{10} - .262X_{11} + .797X_{12}$

In case the Discriminant function is not significant, it should not be used for interpretation as the discriminant can only be attributed to a sampling error. There is a statistic called Wilks' Lambda which is computed by finding the ratio of within group sum of squares to total sum of squares. The value of Wilks' Lambda given by SPSS for function 1 is 0.749 and for function 2 is 0.903. The Wilks' Lambda takes the value between 0 to 1 and lower the value of Wilks' Lambda, the higher is the significance of the discriminant function. Therefore, a zero value would be the most preferred one. The statistical test of significance for Wilks' Lambda is carried out with the Chi-squared transformed statistic as shown in table below:

**Table 8**  
**Wilks' Lambda**

Test of Function(s)	Wilks' Lambda	Chi-square	Degrees of freedom (Df)	Sig.
1 through 2	.749	48.966	24	.002
2	.903	17.304	11	.099

In case of function 1 through 2, chi square is 48.966 with 24 degrees of freedom and p value of 0.002 and for function 2, chi squared transformed statistic is 17.304 with 11 degrees of freedom and p value of 0.099. Since for function 1 through 2 the p value is less than 0.05, the assumed level of significance, it is inferred that the Discriminant function 1 is significant and can be used for further interpretation of the results.

### Eigen Values

The ratio of between group variance to within group variance is given by eigen values. A higher eigen value is always desirable. The eigen value for the above estimated discriminant function 1 is 0.205 and for function 2 it is 0.107 as shown in the below table 1.8 with 65.6% and 34.4% variance explained in the two functions respectively.

**Table 9**  
**Eigen Values**

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	.205 <sup>a</sup>	65.6	65.6	.413
2	.107 <sup>a</sup>	34.4	100.0	.312

The last column of the above table indicates canonical correlation, which is the simple correlation coefficient between discriminant score and their corresponding group membership (0 = Low Satisfaction, 1= Moderate Satisfaction and 2 = High Satisfaction).

The classification matrix indicates the number and percentage of correctly and wrongly classified items for various categories of dependent variable by the estimated discriminate function. The below table 10 represents the classification matrix which helps in assessing the classification accuracy of discriminate model:-

**Table 10**  
**Classification Results<sup>a,c</sup>**

		Level of satisfaction	Predicted Group Membership			Total
			0.00	1.00	2.00	
<b>Original</b>	Count	0.00	<b>1.0</b>	1.0	1.0	3.0
		1.00	2.0	<b>31.0</b>	20.0	53.0
		2.00	5.0	34.0	<b>83.0</b>	122.0
	%	0.00	33.3	33.3	33.3	<b>100.0</b>
		1.00	3.8	58.5	37.7	100.0
		2.00	4.1	27.9	68.0	100.0
<b>Cross-validated<sup>b</sup></b>	Count	0.00	0.0	1.0	2.0	3.0
		1.00	2.0	29.0	22.0	53.0
		2.00	6.0	40.0	76.0	122.0
	%	0.00	0.0	33.3	66.7	100.0
		1.00	3.8	54.7	41.5	100.0
		2.00	4.9	32.8	62.3	100.0

(0.00 = Low Satisfaction, 1.00 = Moderate Satisfaction, 2.00= High Satisfaction)

- a. 64.6% of original grouped cases correctly classified.
  - b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
  - c. 59.0% of cross-validated grouped cases correctly classified.
- o Discriminate score for each respondent could be calculated with substituting, the values of  $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}$  in the discriminate function which gives the score and group membership for each respondent.
  - o The classification accuracy can be computed using Hit Ratio as under:

**Hit Ratio = No. of correct predictions / Total number of cases.**  

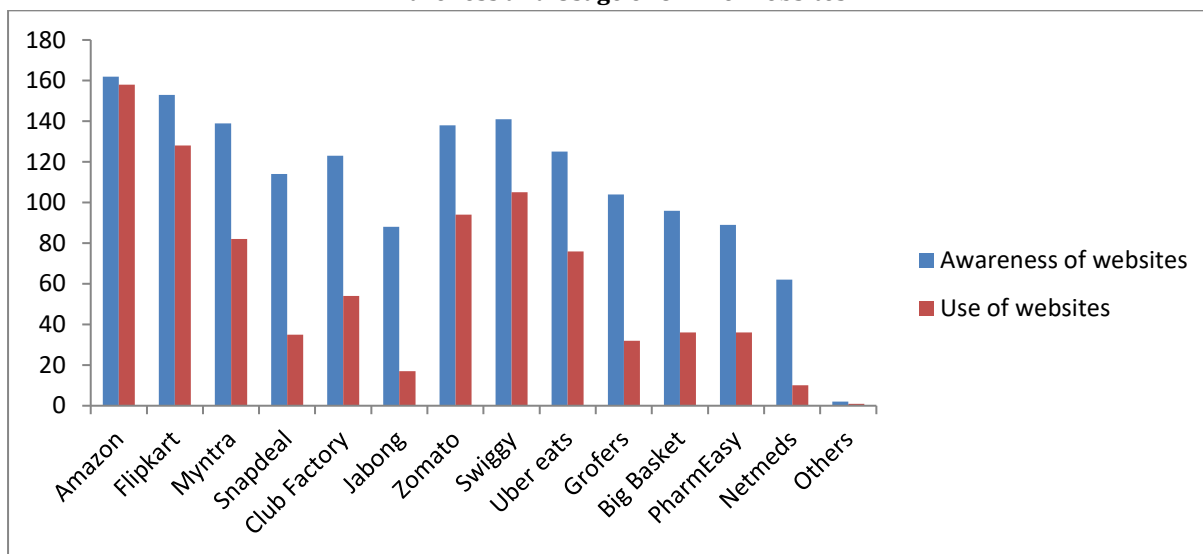
$$= \frac{1 + 31 + 83}{178}$$

$$= 64.60\% \text{ i.e. } 65\%$$



- In this case the discriminant score for each of the respondents was computed. If the discriminant score is greater than zero, the individual is correctly classified, otherwise not. In above table it can be observed that after cross validation there is a change from 64.6% to 59.0%.
- In order to examine the extent of awareness and usage of online websites the data was collected from the respondents by displaying the website logos.

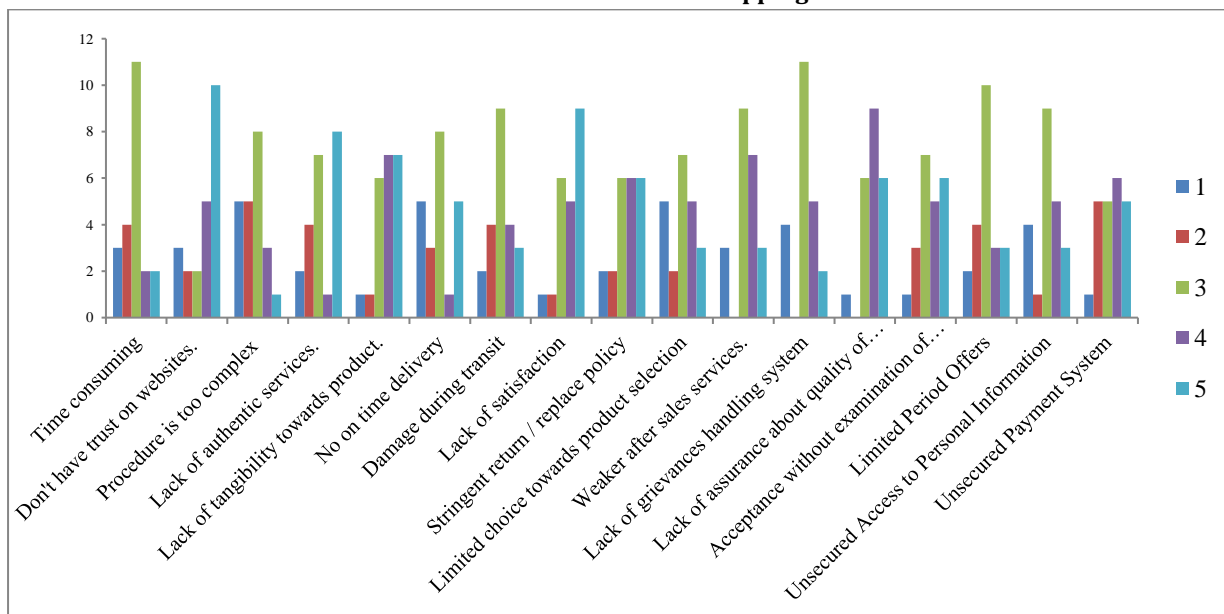
**Chart 2**  
**Awareness and Usage of Online Websites**



The results from the above chart 2 show that there is highest awareness and usage for Amazon as an online shopping website whereas the respondents are least aware of and use Netmeds as online shopping website.

- The reasons of respondents not to shop online are depicted chart below:

**Chart 3**  
**Barriers towards Online Shopping**



(1 - Least Important, 2 - Less Important, 3 - Neutral, 4 - More Important, 5 - Most Important)

<https://www.gapgyan.org/>

The above chart 3 depicts that most of the respondents have assigned highest importance to the variables that they don't have enough trust on the websites and are not satisfied with the products offered to them-depicting the reasons not to shop online.

## FINDINGS & CONCLUSION

**The above analysis implies the following outcomes regarding the consumers' behavior while shopping online:**

- Out of various demographic variables only education is found to have association with the internet usage of the respondents.
- Convenience & Services are the major motivating factors contributing to shop online which includes that online shopping is more secured compared to traditional shopping, it saves time, selection of goods is very broad, description of product is more elaborative, saves transit cost also and availability of fair discounts, 24/7 shopping at their door step, Cash On Delivery (COD) as an option respectively.
- Overall Electronics, Apparels / Clothing, Accessories & Grocery are the most preferred product categories chosen by respondents for online shopping.
- Convenience & Durability are the major attributes contributing to the discrimination of the respondents as per their satisfaction levels from online shopping process.
- Various policy issues such as return / replace policy, quality assurance, after sales service, grievances handling system, prices & discounts schemes, on time delivery & mode of payment are major factors contributing to satisfaction level of respondents from online shopping process.
- The respondents have the highest awareness and usage for Amazon as online shopping website.

It can be concluded from the study that to increase the online shoppers the education plays an important role as the internet usage is affected by the level of education the consumers possess. Various companies have gained trust of consumers by satisfying them with their policies, various services and promotional offers. The companies should strategize their promotional campaigns to product categories such as electronic items, apparels / clothing, accessories and grocery items. For the discrimination of the products the brand name and prices are not contributing to the satisfaction level of consumers from online shopping instead Convenience and Durability are the major attributes contributing to the discrimination of the respondents, hence they should attempt to make online shopping procedures as easy and convenient as possible. The respondents are mainly aware and have high usage of certain websites such as Amazon, Flipkart, Myntra, Swiggy, Zomato which means other companies such as Netmeds, Jabong and Snapdeal have high awareness but less usage and so they should to use their resources for the promotional campaigns to grab the potential customers. Apart from online shoppers, there is still a particular class of respondents who don't prefer shopping online as they don't have enough trust on the websites and they are not satisfied with the products and services offered to them.