

# Website Usability of E-commerce Companies and Its impact on customer attitude

Diksha Panwar, Meena Negi, Shivendra Chaudhary

**Abstract:** Website usability is an important aspect for a website of electronic commerce as main objective of it lies in presenting the information as vividly as possible without any scope for ambiguity. Moreover the items should be placed appropriately under various heads along with the versatility of being operated on various browsers and gadgets. Hence the final goal of a website operator is to provide an unmatched experience to the users. Apart from developing websites for various objectives, they also cater to various different functions like information, business, services etc. There has been an explosion of e-commerce websites over the past few years that have changed the way business houses and customers engage in commerce related activities. Electronic Commerce can simply be stated as a method of purchasing, exchanging and selling in commerce related activities via internet. The websites of electronic commerce are divided into B2B, B2C, C2C and C2B. The prime aim of paper here is analyzing impact of a website's usability on customer's attitude. So to meet the objectives and infer the results, exploratory and descriptive research designs were used. To capture the data from the respondents, a survey was done with the help of a well structured questionnaire. A total of 350 respondents were approached for data collection. The data was captured using convenience and judgment sampling techniques. SPSS software was used to interpret the result.

**Index Terms:** Website Usability, Customer Attitude, E-commerce, Interface development

## I. INTRODUCTION

Website usability is an important parameter for a website developer as the main aim is to present the information in the most precise form without any confusion placing the important parameters under appropriate links on a website. Also very important parameter here to note is that the website should be running on various browsers and gadgets. By keeping in mind the above factors, a website developer ensures that they provide unmatched experience to the customers.

The World Wide Web contains millions of pages which are deployed from different countries. The mission of each website is different whereas each is developed for a specific purpose. The company categorizes the website into different sub categories based on the functions provided by them. In spite of the Web Applications becoming more and more versatile, still there is vast scope for improvements. The main problem that haunts website development is the crunch of skilled engineers and the knowledge to create robust, versatile and competitive websites that are agile and can be quickly adapted to the changing needs of the users. Apart from that other problems faced are in downloading of the contents,

audio and video files, graphics etc. Other issues that are associated with the improper website development are reliability, security, availability, usability, time to market and maintainability. So if we talk about quality of website, it simply means two important parameters: First the way it is designed and secondly the satisfaction level it generates among the users. On the contrary, if the websites are not developed adequately, it may lead to loss of revenue and productivity on part of the organization. Number of websites across the world still frustrates many users and is failing to provide good experience to them.

In defining customer attitude we can say that when a customer feels either favorable or unfavorable when using a particular product or service is known as customer attitude. So from this definition we can infer that when a customer feels favorable he/she are more likely to purchase that product/service.

There has been an explosion of e-commerce websites over the past few years that have changed the way business houses and customers engage in commerce related activities. Electronic Commerce is simply stated as a method of purchasing, exchanging and selling in commerce related activities via internet. Electronic Commerce websites are divided into B2B: Here the exchange takes place between a buyer and a seller organization.

B2C: Here the exchange happens between a customer and an organization.

C2C: Here the e-commerce website provides a platform for customers to transact with each other.

C2B: Here the organizations customize the products as per the requirements of the customers.

In terms of website operations, usability is a very important factor and it signifies a measure of easy interface with the website of a user. It can be measured in myriad ways considering various factors like interactions with products, using a website, a software application, mobile etc.

## II. LITERATURE REVIEW

Thakur et al. (2017) the customer's collective satisfaction level can derived from all of his/her e-commerce experiences and that reviews help to chose the products to others. Harrati et al. (2016) conducted an study and highlights a strong positive relationship between experiences of a user and enhanced usability of websites. Providing quality of services translated to convenience in shopping was proved most rewarding and important for the companies. The user are satisfied with the latest features available in the website as it ease their work and help them in driving the clear information but on the flip side they were not at all satisfied with simplicity and other features available in their electronic websites (Panda et, al 2015).

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Diksha Panwar, Uttaranchal University, Dehradun,  
dikshapanwar9090@gmail.com

Meena Negi, Uttaranchal University, Dehradun

Shivendra Chaudhary, Uttaranchal University, Dehradun

## Website Usability of E-commerce Companies and Its impact on customer attitude

Haidurova (2013) through his work stated that the problem in the website usability is bad presentation of the searched output, deficient in lucidity and intricacy in filtering the product from the other product and mystifying exhibit of price. These problems of usability in website are faced in use of any travel websites. The rationale behind website usability is in order to gain profits (Rinder, 2012).

Most of the trading (e-Commerce) applications are now designed and developed on internet bases. People can easily approach to the online stores such as flipkart, amazon.in OLX etc. Doing business from one market to another markets has provided the better prospects for designers who are into interfacing. The designer has to be really talented in designing the interface which stands as the most challenging part of internet. Ill designed interface always triggers moving from one electronic website to the other and it would finally result in the loss of business. Bai, Law, & Wen,(2008)stated that the good quality website has an incredible effect on satisfying the customers and intending them to shop. Johnson (2008) identifies a relationship between society development and the use of a website. His study inferred that both use of a website and the societies development are well thought off strategies and are stable. The way websites were created was revolutionized through the launching of the first ever web browser Mosaic in 1993 which was user friendly and even people with absolutely no experience in designing and use of a website started developing myriad of websites. The reason for this observable fact is that if users are not happy while using an electronic website she/he will definitely try another electronic website (Kritzinger & Weideman 2008). In addition, many other authors have also inferred that tackling the proper use of an electronic commerce website will be really useful for a visitor to use it and this will motivate him/her to patronage the electronic commerce website time and again (Chaves & Lencastre (2008)). Therefore website usability refers to the feeling that an individual goes through after asseing the website (Nielsen & Loranger 2006).

### III. OBJECTIVE AND RESEARCH METHODOLOGY

Customer attitude is a learning process which is based on what the customer beliefs and feels or have experienced about the brand or the product. Attitude keeps on changing in the similar manner as they are formed i.e. through learning whereas the way a particular electronic commerce site is used shows the ease for a customer. The intention of the study is to analysis the impact on website usability on customer attitude. For this study, exploratory as well as descriptive research designs were considered that will justify the study in consideration. To begin with, a well structured questionnaire was developed comprising of the close ended questions. Online questionnaire using Google doc as well as personal survey was done to complete 350 responses from the respondents. The responses from the respondents were based upon convenience and judgment sampling techniques. Later the responses collected were analyzed using SPSS software. Mean and regression analysis was being carried out.

### IV. DATA ANALYSIS

**Table 1**

	Frequency	Percentage
Gender		
Male	172	49.1
Female	178	50.9
Age		
Upto 20 years	30	8.6
21 to 30 years	131	37.4
31 to 40 years	68	19.4
41 to 50 years	78	22.3
Above 51 Years	43	12.3
Education		
Under Graduate	22	6.3
Graduate	94	26.9
Post Graduation	132	37.7
Professional and other	102	29.1
Occupation		
Student	62	17.7
Business	73	20.9
Services	131	37.4
Professional	74	21.1
House wife	10	2.9
Income		
Upto 25000 PM	68	19.4
26000 to 35000 PM	153	43.7
Above 36000 PM	129	36.9

By using spss the demographic profile analysis is displayed in the table 1 it demonstrates the gender classification, study demonstrates around 49% male respondents and 50.9% female respondent in the sample size. In age examination of respondents which show that 8.6% is up to 20 years and 21 to 30-year respondents are 37.4% which contribute maximum to this study. In the next age group, 31 to 40 respondents are 19.4%, while in the age group 41 to 50 are 22.3%, and in the age group beyond 51 years there were 12.3% respondents. Regarding the education level, it demonstrates that there are very few respondents which are 6.3% undergraduate and respondents having graduation is 26.9% while the postgraduate respondents are the 37.7% and rest 29.1% respondents are professional education. As per the occupation classification, the students are 17.7% and the respondents having the business are 20.9%. While the respondents are in the services i.e. 37.4%, most of the people are professional i.e. 21.1% and 2.9% of the respondents are Housewife of total sample size. As per the income analysis up to 25000 pm very few respondents i.e. 19.4% and in the income group 26000 to 35000 pm i.e. 43.7% respondents are in the sample size. While in the income level Above 36000 pm there are 36.9% respondents.

Many Researchers have worked on website usability and these factors of the website usability were being identified through their research work.

Table.II

	Reference	Factors	Type (Reflective or Formative)	Statement
1	Barnard & Wesson (2003:pp 258–259), Nielsen and Tahir (2001: pp 10–13, 201), Eisenberg <i>et al.</i> (2008: pp 32, 192, 195, 196, 240), Nielsen (2005)	<b>Trust; credibility</b>	<b>Formative</b>	Attribute trust is the critical success factor for the companies. Simple navigation, authenticity of information online and safe & secure platform. All these factors pertains to the electronic commerce website use
2	Bevan (2005), Johnson (2007: pp 169), Nielsen and Loranger (2006: pp 30–35),	<b>Single page view, content and frames</b>	<b>Formative</b>	The collection, web pages collection, type and amount of words; the way words are assembled into sentences should be limited so as to improve the use of a website
3	Weideman (2009: pp 55), Nielsen and Loranger (2006: pp 166), Johnson (2007), (Zuze & Weideman 2010).	<b>Keywords</b>	<b>Formative</b>	<b>Keywords are important in website usability as it help in searching and providing the final result.</b>
4	Ngindana & Weideman	<b>Images</b>	<b>Formative</b>	Various types of pictures

(2004), George (2005: pp 171,178), Nielsen and Loranger (2006: pp 247), Eisenberg <i>et al.</i> (2008: pp 168–169),			used online considering the type of graphical attributes used for easy surfing online by users allow the user to surf online with ease
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These factors are being used and its impact of the consumer attitude is being studied as the ecommerce companies are using these website usability factors for increasing their productivity but too many features in a website can make the sites heavy and bulky which could create the problems for the customers.

Table. III

		Mean	Std. Deviation
<b>Trust; credibility</b>	I felt comfortable using this web site Strongly	4.3743	.60553
	Resultant output of the online search is perfect	4.1829	.66921
	Its user friendly and authentic to shift from one page to another	4.1886	.60455
	Frequently used services and pages are easily traceable	4.0943	.70180
		4.2100	.48713
<b>Single page view, content &amp; frames</b>	The technology and terminologies on the electronic website were vivid to understand	4.2314	.76502
	The graphical user interface online was pleasant/attractive	4.3829	.75454
	Organization of information online was logical	4.3457	.68794
	Table of contents helped tracing various information's	3.9286	.65387

## Website Usability of E-commerce Companies and Its impact on customer attitude

	Every page subjects are easy to understand	3.9600	.70496
	Website avoids cluttered displays	3.6543	.73232
		4.0838	.43427
<b>Keywords</b>	Appropriate Keywords were incorporated with proper size of the fonts	4.0571	.55849
	Tracking the information online is easier to locate pertaining to a task	4.3629	.69570
	The links through keywords were flawlessly located (e.g. hyperlinks with underlined words)	3.9600	.71304
		4.1267	.52582
<b>Images</b>	Pictures used basically highlighted the content online	3.7143	.69263
	Appropriate colors for images are used	3.9914	.59841
		3.8529	.52494

From the table 3 above we can see that all the factors (4 item on **Trust; credibility**, 8 items on **one Single page view, content & frames**, 3 items on popular words (Keywords) used on online and 2 items on image). The above table 3 represents the value obtained through spss and the maximum mean i.e. 4.5514 among all the variable is for its user friendly and authentic to shift from one page to another.

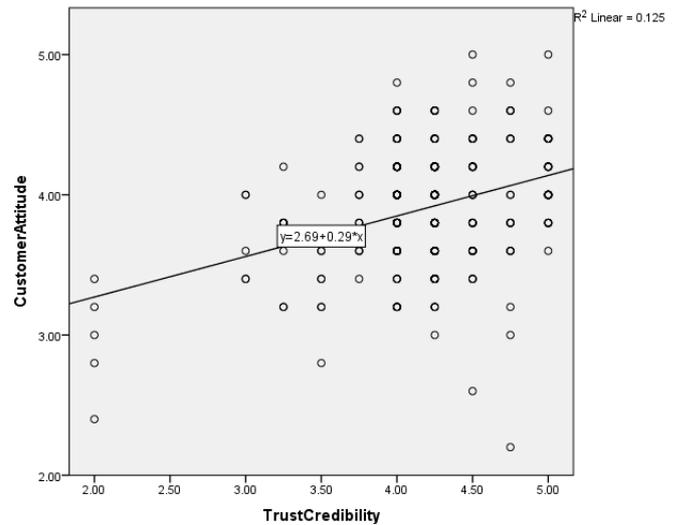
Another method i.e. regression analysis infers an association amongst two or more variables of the interest. The impact on dependent variable by one or more independent variables is inferred by regression analysis.

Hence with the use of spss, we see that regression analysis examines the degree to which independent variable (use of electronic website) are influencing the dependent variable (attitude of customers).

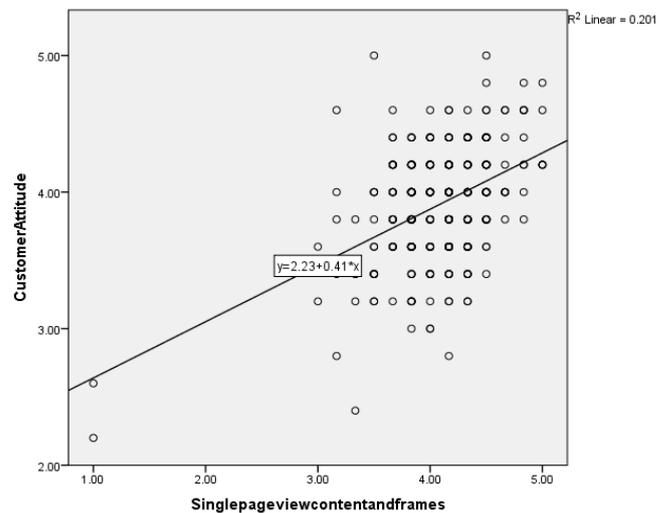
In order to run regression analysis we need to check several assumptions in order to have reliable and valid analysis.

In this case we have independent variables as trust credibility, single page view, content and frames, Keywords and images and dependent variable as customer attitude

**Fig.1**



**Fig. 2**



**Fig. 3**

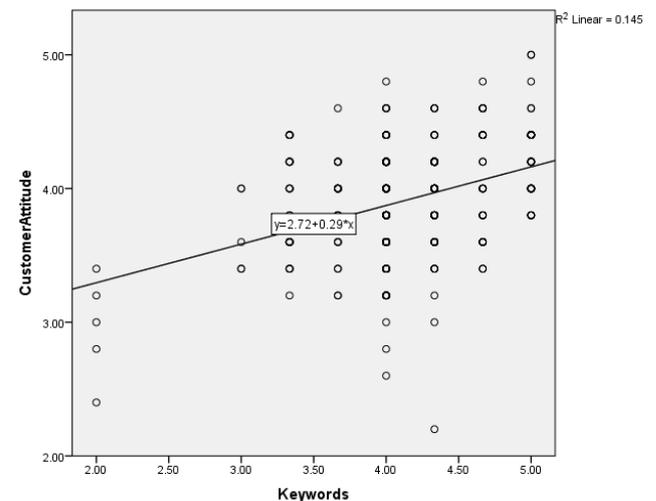
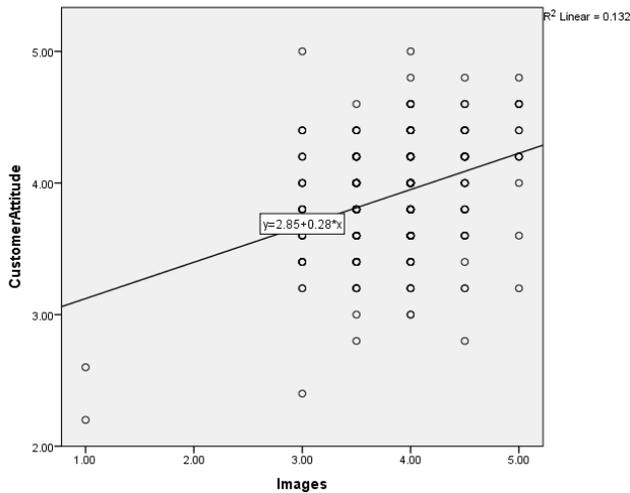


Fig. 4



If look at all the graphs above the scatter plot is produced by spss, we can say that the relationship between IV and DV is produced by the straight line suggesting that there is linear relationship them.

Multicollinearity in the data was tested. To check multicollinearity VIF and Tolerance statistics was checked, VIF score should be below 10 and Tolerance should be above 0.2. Since in table 6 we can see VIF is below 10 for all variables and tolerance is above 0.2 which mean there is no multicollinearity in the data.

Durbin -Watson value is taken into consideration to check if the residual are independent . This statistic can vary between 0-4. From the table we can see that the spss produced Durbin –Watson value is 1.817 which indicates that our residuals are independent or uncorrelated.

Table. IV. MODEL SUMMARY

R-Value	.619
R <sup>2</sup> Value	.383
Adjusted R <sup>2</sup> Value	.375
The Standard Error	.31507
Durbin-Watson	1.817

Predictors: (Constant), Images, Keywords, Trust Credibility, Single page view contestant frames

Table. V. ANOVA

	DF	F	Sig. Value
Regression	4	53.43	.000
Residual	34	9	
	5		

a. Dependent Variable: Customer Attitude

b. Predictors: (Constant), Images, Keywords, Trust Credibility, Single page view contestant frames

Table. VI. COEFFICIENT

	B	Beta	t-value	Sig.	Toler	VIF

					ance	
(Constant)	.646		2.851	.005		
Trust Credibility	.161	.197	2.971	.003	.408	2.452
Single page view content and frames	.341	.372	7.191	.000	.669	1.494
Keywords	.177	.234	3.539	.000	.409	2.444
Images	.119	.157	3.043	.003	.673	1.485

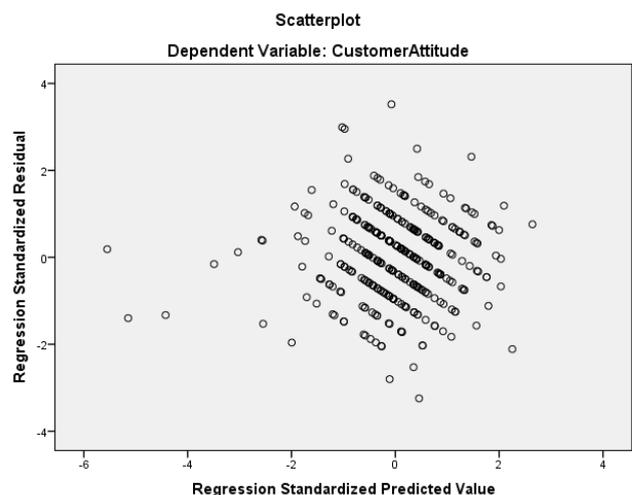
a. Dependent Variable: Customer Attitude

The information presented in the above table 4 show conclusion of the model & the overall congruence of the statistics. It can be seen from table 4 above that the Adjusted R Square in the model is .375 along with R<sup>2</sup>= .383 which infers that linear regression suggests a variance in data of 38.3%.

From the table 5 above f test statistics is regression sum of a square divisible by the mean square which is residual in nature. Liner regression F test suggests a null hypothesis with absolutely no straight relationship amongst the variables with F test 53.439 and 4 degrees of freedom the test is majorly significant. Therefore it is inferred that there is a straight relationship amongst the variable in current model. Further, the table 6 depicts a standardized coefficient beta indicating a relationship between as the website usability factors as independent variable and dependent variable with a value of .197, .372, .234, .157.

The significance of beta is tested using t-test and 2.971, 7.191, 3.539, 3.043 value found is which is significant indicating a healthy positive relationship between website usability of ecommerce companies and customer attitude.

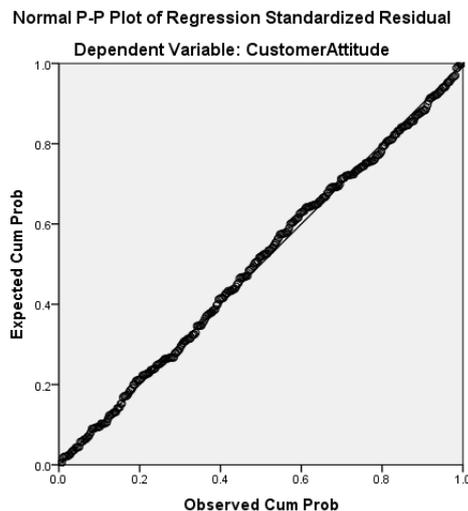
Fig. 5.



## Website Usability of E-commerce Companies and Its impact on customer attitude

The homoscedasticity was tested, the assumption between the residual is similar at each point. From the above graph plots we can see that on x axis we have the standardized predicted values, against the standardized residuals at y axis. As the predicted value increases the variation in residual would also increase and random scatter would be obtained as in the above graph. The above graph shows the homoscedasticity.

Fig. 6.



The values of residuals are normally distributed was tested through the graph above Normal P-P plot. The closer dots lie to the diagonal line the closer the residuals are normally distributed. In the above graph most of the dots lies in the line which indicates the assumption is met completely. Since all the assumptions are met the regression analysis helps to conclude that the customer attitude depends of the website usability factors of e-commerce companies.

### V. CONCLUSION

Hence we conclude that website usability has become a very important factor for website developers as websites are no longer used for only disseminating information rather used as a very important platform to launch various commerce related activities. Thus to ensure that the websites remain relevant and competitive, it should offer the best one stop solution for the customers in terms of information, product assortment, web pages, ease of use, security etc. From the previous studies factors of website usability were identified and those factors were studied across the customer attitude. From the study it is concluded that these factors had a positive impact on the customer's attitude.

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### AUTHOR PROFILE



Dr Diksha Panwar, Currently working as Assistant Professor in Uttaranchal Institute of Management, Uttaranchal University, Dehradun. Field of specialization- International Business and Marketing. Has attended Seminars and Conferences at various levels, many papers published in various national and international journals (including SCOPUS). Area of Research - International Business, Consumer Buying Behaviour, advertisement, social media marketing and branding.



Dr Meena Negi, Assistant Professor, Management Uttaranchal Institute of Management, She has total 5 year experience in teaching as Assistant Professor and 1.5 year experience in Research as project fellow in the field of Economics. Has attended Seminars and Conferences at various levels, many papers published in various national and international journals. Her teaching and research interest area are Managerial Economics, Micro Economics, Macro Economics, Development Economics and Entrepreneurship Development.



Shivendra Singh Chaudhary, Presently working with UIM, Uttarakhand University as Assistant Professor. Specializing in the area of marketing. In the field of academic have an experience of 6 years. Published few research papers in the journals of repute. Pursuing PhD. In business administration from Aligarh Muslim University. Also carries an enriching sales and marketing career in corporate of almost six years

before embarking onto academic career.