

Impact of Cloud Computing on Reliance & Privacy to Enhance Online Shopping in Pakistan

Miss Robina Kousar , Dr. Abdul Hye , Miss Khoula Saleem, Miss Noreen Rafi

ABSTRACT-- Cloud computing is what people dreamt about as services on internet for their business. This study focused on the buying online in Pakistan. Reliance, privacy and cloud computing are the factors that affect the online buying. For this perseverance, a survey was conducted using a questionnaire. SPSS 21 registered version was used and correlation and regression analyses were run. It was proved that there is a positive impact of independent variables on dependent variable. The scope of this study covered up that population of Pakistan which was using internet and cloud applications.

Keywords: Online shopping, online behaviour, reliance, privacy, cloud computing, Pakistan.

1 INTRODUCTION

Internet was introduced in 1960s by the U.S Department of Defence. With the passage of time, people discovered their potential and made access easier. Internet marketing boomed in few years, mostly in the industries and different sectors it was being used in the promotion, advertising and online shopping purposes. Internet marketing shared the direct and indirect marketing both (Kiang, Raghu et al. 2000).

Electronic commerce host electronic market place where customers buy and sell products on the internet. After E commerce, M. commerce and M-commerce provided platform to manage the complexity of today's commerce systems and business. With the fast tracks of the present world businesses were moving towards Cloud computing which was providing many opportunities, introduced a new scope for business towards trust, privacy, and availability scenario. (Khan and Malluhi 2010). The marketers moved towards this latest technology of cloud computing. They also used internet and latest software for promotion purposes. Later, retailers also focused to introduce their brands for the general public through IT technology and made public aware about the company and its product services therefore, increased the market demand and volume of sales (SojnaGrabner & Kraeuter,2002). Global enterprise structure had been changed due to the development of networking of technology in the form of cloud computing. Moreover, now a day IT services like cloud computing not only bridged the gap between networking but played a vital role for online consumers. (Ernst & Young, 1999). The main philosophy behind this study was that it was to investigate how cloud computing technology improved the performance of online shopping in Pakistan. The study focused the significance of reliance, privacy, availability and user friendly interface towards online shopping. This study is also beneficial for the business community in Pakistan so that people will take decisions to involve themselves in the most recent and advanced concept of cloud computing which will be ultimately providing the customers trust, privacy and enabled the buyers and sellers to enhance online businesses and motivate to shop online.

2 LITERATURE REVIEW

The progress of internet knowledge had led to noteworthy growth in the trend of purchases at homes (Lumpkin& Hawes, 1985). Online buyers always had serious concerns towards the security and reliance. Along with the reliability, privacy, availability and user friendly interface the issues for the customers to buy online (Anthony & Ana, 2001). Reliance means what you expected to deliver or behave as promised. If the system was providing us insufficient information then we would rely less on it. Only claims like "secure cloud" or "trust me" were not efficient for the customers to rely on you. You had to prove yourself through your services to boost up your level of reliability(Khan and Malluhi 2010). It means what you expected to deliver or behave as promised. The term Reliance is used as trust and belief. We can say that trust and belief always develops on the previous connections. Consumers trust will get increased if vendor behaves according to the customers' expectations (BomilSuh & Ingoo Han, 2003).

Cloud providers should offer better and transparent services and more consumers will be in control of data and processes in order to avoid security problems (Khan & Malluhi 2010).The ones who want to do business and trade, they are very much conscious about the security and privacy, in the e-commerce world privacy matters a lot (Ingoo Han ,BomilSuh & Ingoo, 2003). As far as Security is concerned it is distinct as degree by which customers deem that internet is one of the source of contract and it is highly secure to offer their susceptible financial information (Shim &Kim, 2002). The reason is that there is always risk while sharing financial information while shopping online (Trocchia ,Janda, &Twiner, 2002). According to Young and Ernst (1999) the customers are not at ease when they share their private information online because they can't scrutinize and see privacy of that given specific information on internet. According to Shim and Kim (2002)the consciousness of privacy has major contact on online shopping and attitudes of people. Financial hazards mean the vagueness of having financial problems when we operate internet (Biswas & Biswas, 2004).

Cloud computing is a huge important development in the sense that individuals and business sectors consume and operate computing and makes the Information systems more vibrant, faster and easily accessible (Kishore, Bhavani et al.). Cloud

computing is simply denoted as Internet Computing. So cloud computing word used as the use of the Internet to provide IT services. Cloud computing allows online resource consumers on the Internet to access, anywhere, at any time (Shaikh & Haider, 2011). Currently, there is a lot of work going on in the cloud technology itself, there is a need to comprehend the business related concerns which are surrounding by cloud computing (Marston, Li, Bandyopadhyay, Zhang, & Galsasi, 2011). Cloud Computing is a latest terminology for a long-held vision of computing as an efficacy, which has recently appear as a commercial actuality (Armbrust et al., 2009). Cloud computing provides common business applications which can be accessible online. Customers can have the access at any time at any place under that cloud environment (Rewatkar and Lanjewar 2010). Online Shopping, refers to the buying manners of consumers in a store or an online website for shopping (Monsuwe et al., 2004). Many researches proved that online trust has a positive contact with the buying behaviour of the customers (Kim & Shim, 2002). Customers buys a lot from such websites on which they do have trust (Koufaris & Hampton-Sosa, 2004).

3 RESEARCH METHODOLOGY

Populations and sample size was defined to collect data. Sample size of almost 300 has been selected and the expected response rate is 70%. A very well organized, well-structured and five likert scaled questionnaire is used to accumulate the information to investigate the performance. "SPSS 21" registered version was used for data analysis. In this study descriptive statistics, correlation analysis and regression analysis applied on data. It was kept in mind that a suitable language, good behaviour and values were practiced during the study.

4 DATA ANALYSIS & RESEARCH

In data analysis, statistical software tool "SPSS 21" registered version was employed. Self-administered method was used to get responses from the people who uses internet. The clarity was made to the people so, they respond well and avoid the biased information.

4.1 Data Screening

TABLE 4.1
CASE PROCESSING SUMMARY

	Respondent Gender	Respondent Marital Status	Respondent age	Respondent Monthly Income	Respondent Occupation	Internet user
Valid	233	233	233	233	233	233
Missing	0	0	0	0	0	0
Mean	1.36	1.33	1.97	1.94	3.78	1.03
Std. Deviation	.480	.471	.622	.884	1.686	.182

Above table 4.1 shows processing summary and valid values. No missing values are seen. To check and measure the reliability of the scale Cronbach's alpha test was used.

4.2 Reliability Analysis

TABLE 4.2
RELIABILITY STATISTIC

Variable(s)	Cronbach's Alpha	N of Items
Reliance	0.705	8
Privacy	0.534	4
Cloud computing	0.691	6
Online Shopping	0.853	21
Over all reliability of scale	0.920	45

The Cronbach's alpha coefficient values always lie between 0 and 1. If reliabilities is between 0.6 to 0.8 then it is considered outstanding and result shows that it is 0.920 that is considered brilliant.

4.3 Demographics of Respondent data

4.3.1 Occupation

TABLE 4.3
RESPONDENTS OCCUPATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Financial or banking sector	30	12.9	12.9	12.9
	Public officer	48	20.6	20.6	33.5
	House wife	13	5.6	5.6	39.1
	Service sector	18	7.7	7.7	46.8
	Student	100	42.9	42.9	89.7
	Others	24	10.3	10.3	100.0
	Total	233	100.0	100.0	

The table 4.3 exemplifies that financial or banking sector have 12.9 % (30) respondents, Public office lies in 20.6 % (48) respondent, house wife percentage was 5.6 % total (13) respondents, service sector related are 7.7 % (18) respondents student 42.9 % which was (100) respondents and other categories include 10.3 % (24) respondent.

4.3.2 Internet user

Table 4.4
 Respondents internet user.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	225	96.6	96.6	96.6
	No	8	3.4	3.4	100.0
	Total	233	100.0	100.0	

Above table 4.4 mentions the percentage of internet user are 96.6 % (225) respondents and 3.4 % are non internet users

4.3.3 Age.

TABLE 4.5
 RESPONDENT AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 20	49	21.0	21.0	21.0
	20 to 30	143	61.4	61.4	82.4
	30 & above	41	17.6	17.6	100.0
	Total	233	100.0	100.0	

The table 4.5 reveals the response rate of age group less than 20 years, is 21.0 % (49) , age group between 20-30 is 61.4 % (143) and 17.6 % (41) is response of 30 & above 30

4.3.4 Monthly Income

TABLE 4.6
 RESPONDENT MONTHLY INCOME.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 15000	98	42.1	42.1	42.1
	16000 to 30000	51	21.9	21.9	63.9
	31000 and above	84	36.1	36.1	100.0
	Total	233	100.0	100.0	

The table 4.6 reveals the response of participants who has monthly income less than 15000 is 42.1% of (98) , 16000 to 30,000 are 21.0 % of (51) and income level 31,000 and above are 36.1 % of (84)

4.3.5 Marital status

TABLE 4.7
 RESPONDENT MARITAL STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	156	67.0	67.0	67.0
	Married	77	33.0	33.0	100.0
	Total	233	100.0	100.0	

Table 4.7 exhibits the total of (233) responds, equal to 67.0 % (156) from singles and from married is 33.0 % which is (77).

4.3.6 Gender

TABLE 4.8
 RESPONDENT GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	150	64.4	64.4	64.4
	Female	83	35.6	35.6	100.0
	Total	233	100.0	100.0	

The table4.8 indicates that out of the total (233) respondents, the response of male is 64.4 % (150) response of female is 35.6 % (83).

4.4 Correlation Analysis.

In correlation analysis researcher find out the relationship between independent, dependent variable and related variables. When we realistically apply the correlation we initiate the strength and nature of relationship among variables. The range of correlation in between -1 to +1, value 1 shows the positive correlation, -1 shows negative correlation and 0 shows no correlation.

4.4.1 Correlation between reliance and online shopping

Table 4.9
 Descriptive Statistics.

	Mean	Std. Deviation	N
RELIANCE	2.2291	.61361	233
ONLINE_SHOPPING	2.2710	.57689	233

The table 4.9 shows the values of mean (2.2291) which shows that internet user depends on reliance factor (reliability of products, on time delivery and secure delivery) and value of standard deviation is (.61361). We can also say that reliance has higher standard deviation as compared to online shopping.

TABLE 4.10
 CORRELATIONS OF RELIANCE WITH ONLINE SHOPPING

		RELIANCE	ONLINE SHOPPING
RELIANCE	Pearson Correlation	1	.683**
	Sig.(2-tailed)		.000
	N	2	233
ONLINE_SHOPPING	Pearson Correlation	.683**	1
	Sig.(2-tailed)	.000	
	N	233	233

** Correlation is significant at the 0.01 level (2-tailed).

In table 4.10, the Pearson correlation of reliance and online shopping is 1. The correlation of Reliance with online shopping is .683, which is close to +1 which shows positive correlation, if the reliance for shopping increases, the online shopping would eventually increase. The change in independent variable brings a change in the value of dependent variable. Significant value $p = 0.000$ these shows that relationship is significant and positive.

4.4.2 Correlation between Privacy with online shopping

Table 4.11
 Correlations of privacy with online shopping

	Mean	Std. Deviation	N
PRIVACY	2.3122	.71347	233
ONLINE_SHOPPING	2.2710	.57689	233

The table 4.11 shows the values of mean (2.3122) this shows that internet users depend on privacy factor (privacy of information, mode of payment and secrecy of personal information) and value of standard deviation is (.71347) and the number of respondents for each variable. It is seen that privacy has relatively higher standard deviation as compared to online shopping.

Table 4.12
 Correlation statistic

		PRIVACY	ONLINE SHOPPING
PRIVACY	Pearson Correlation	1	.607**
	Sig.(2-tailed)		.000
	N	233	233
ONLINE_SHOPPING	Pearson Correlation	.607**	1
	Sig.(2-tailed)	.000	
	N	233	233

** Correlation is significant at the 0.01 level (2-tailed).

In table 4.12, the Pearson correlation of privacy and online shopping is 1. The correlation coefficient is .607; it is close to +1, shows that there is a positive correlation, if there is change in independent variable it will ultimately change in the value of dependent variable. Significant value of $p = 0.000$ shows the relationship is significant and positive.

4.4.3 Correlation between performances of cloud computing with online shopping

TABLE 4.12

	Mean	Std. Deviation	N
CLOUD_COMPUTING	2.0987	.72799	233
ONLINE_SHOPPING	2.2710	.57689	233

The table 4.13 shows the values of mean (2.0987) this shows that most internet users depend on cloud computing factor and value of standard deviation is (.72799). It also shows the number of respondents for each variable. It is seen that cloud computing has relatively higher standard deviation as compared to online shopping.

TABLE 4.14
 CORRELATION

		CLOUD_COMPUTING	ONLINE SHOPPING
CLOUD_COMPUTING	Pearson Correlation	1	.564**
	Sig.(2-tailed)		.000
	N	233	233
ONLINE_SHOPPING	Pearson Correlation	.564**	1
	Sig.(2-tailed)	.000	
	N	233	233

In table 4.14, the Pearson correlation of cloud computing and online shopping is 1. The correlation of cloud computing with online shopping is .564, that shows, these variable possess positive correlation, that is, if the value of 1 variable increases, ultimately the value of other will be increased. As here, if the uses of cloud computing increases, the online shopping will increase definitely. The correlation coefficient .564 shows that there is a positive correlation, but as the value is so close to +1, the relation is very strong. It means that change in independent variable ultimately brings a change in the value of dependent variable. Significant value is $p = 0.000$ that shows the relationship is significant and positive.

4.5 Regression Analysis

Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the researcher seeks to ascertain the causal effect of one variable upon another. In regression analysis we conclude three aspects of data results which can appraise, first of all the variance enlightened by independent variable R square. Secondly, overall fitness model that is shown on ANOVA table, and thirdly, a unique effect of size β for each variable is shown that shows the significant relationship between dependent and independent variables.

4.5.1. Test of assumption & normality

When statistically analysed the data and applied test, researcher found the normality of data according to result. For test of normality histogram were used to check the status of normality and Durbin Watson test is used to test the normality in the data. The value of Durbin Watson lies between 1.5 to 2. The following results of Durbin Watson value show data is normal.

TABLE 4.15
 DURBIN WATSON TEST

Value of Durbin Watson	Range (1.5 - 2)
Reliance	1.544
Privacy	1.564
Cloud computing	1.546

4.5.2 Regression analysis of reliance and online shopping

TABLE 4.16
 VARIABLES ENTERED/REMOVED

Model	Variable Entered	Variable Removed	Method Entered
1	RELIANCEb		

a. Dependent Variable: ONLINE_SHOPPING

b. All requested variables entered.

TABLE 4.17
 MODEL SUMMARY^B

Model	R	R.Square	Adjusted R. Square	Std. Error of the estimate	Change Statistics				
					R. Square Change	F Change	df1	df2	sig F Change
1	.683	.466	.464	.42237	.466	201.794	1	231	.000

a. Predictors: (Constant), RELIANCE

b. Dependent Variable: ONLINE_SHOPPING

In model summary, it is depicted that $R = 0.683$, which is merely the absolute value of correlation between independent and dependent variable. It shows that the correlation is very strong and reliance would bring a change in online shopping, but not as extreme as if the correlation coefficient was higher. Then comes the value of R square. R squared values infers how well the value of dependent variable can be calculated by the value of independent variable. Here, it is depicted by R squared, that the value of independent variable explains the dependent variable to the extent of .466 percent. It is not a high percentage, so it can be inferred, that there are many other variables too that affect the online shopping of customer. This is the gap for the future researches to find the other variables that might affect online shopping attitude and add them into the model.

TABLE 4.18
 ANOVA^A

Model	Sum of Squares	Df	Mean Square	F	Sig	
1	Regression	36.000	1	36.000	201.794	.000b
	Residual	41.210	231	.178		
	Total	77.210	232			

Dependent Variable: ONLINE_SHOPPING

b. Predictors: (Constant), RELIANCE

In this table 4.18, Significant value or P-value is 0.0000 which is significant than 0.05. It shows that the model is statistically significant and the predictor variable can be used to estimate the value of dependent variable i.e. online shopping.

TABLE 4.19
 COEFFICIENTS^A

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	
1					
(constant)	.840	.104		8.041	.000
RELIANCE	.642	.045	.683	14.205	.000

Dependent Variable: ONLINE_SHOPPING

The table of coefficients gives the values of coefficients. As the regression equation is $y = a + bx$, where y is dependent variable, while x is the independent variable. 2 is the intercept and b is the slope of the regression line. The table of coefficients depicts the values of an intercept and slope. These coefficients are found under the un-standardized coefficients, here $a = 0.840$ and $b = 0.642$, the positive sign of slope shows the direction of the relation. It shows that independent and dependent variable has a positive relation with each other i.e. their values move in same direction with respect to each other. Here the positive slope of the regression line for reliance and online shopping shows that if the reliance increases, the online shopping would increase, and if the reliance decreases, the online shopping would increase.

Online shopping = $0.840 \pm 0.642(\text{Reliance})$

Research explored if the reliance factor is zero, the online shopping is 0.840 on measured. But as the reliance factor increases, it also increases the value of the online shopping. With the increase of one unit in reliance, the increase in online shopping would be 1.480. This change is not considered a big but regression lines indicates that increase in reliance brings up the level of online shopping as plotted in graph.

Figure 4.1 Test of assumption- normality (Histogram of residuals)

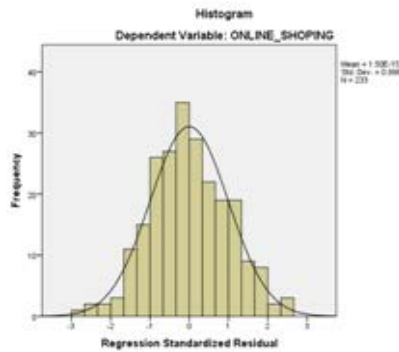
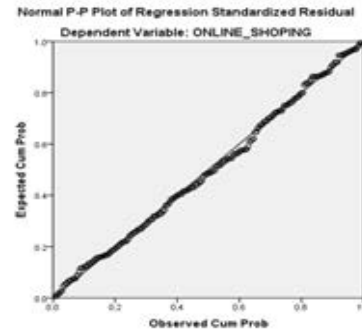


Figure 4.2 Test of assumption- normality (Normal P-P plot of regression standardized residual)



Data is on the line as seen in p-p plot. So that data is normal. Statistical results indicate the normal results. It also proved our hypothesis, so that there is a positive impact of reliance on online shopping.

The value of $R = .683a$ and $R \text{ square} = .0466$ / $B = .840$ $P = 0.0000$ $P < 0.0$; $R \text{ square value } .683 \times 100$ is 68.3 %, which shows that 68.3 % of the variance in online shopping is due to the predictor variable of Reliance. According to the Coefficient Table, result shows the significant level of online shopping. The value of F test is 201.794 significant at $\alpha 0.000$, which is significant, and the effect beta $P = .840$. The t value is 8.041 which is $> +2$ making it a useful predictor. If $p\text{-value} >$ than 0.05 then alternative hypothesis accepted so, H_1 is accepted ($F=201.794$, $B=0.840$, $p= 0.000$ and $t = 8.041$). The above statistics shows that there is a positive and significant impact of reliance on online shopping.

4.5.3 Regression analysis of privacy and online shopping

**TABLE 4.20
VARIABLES ENTERED/REMOVED^A**

Model	Variables Entered	Variables Removed	Method Entered
	PRIVACY ^b	.	

a. Dependent Variable: ONLINE_SHOPPING

b. All requested variables entered

**TABLE 4.21
MODEL SUMMARY^B**

Model	R	R.Square	Adjusted R. Square	Std.Error of the Estimate	Change Statistics				
					R. Square Change	F Change	df1	df2	sig F Change
1	.607a	.369	.366	.45933	.369	134.948	1	231	.000

a. Predictors: (Constant), PRIVACY

b. Dependent Variable: ONLINE_SHOPPING

In model summary, it is depicted that $R = 0.607$, which is merely the absolute value of correlation between the independent and dependent variable. It shows that the correlation is very strong. It means that the change privacy would bring a change in online shopping, but not as drastic as if the correlation coefficient was higher. $R \text{ squared}$ values interprets how well the value of dependent variable can be predicted by the value of independent variable. Here it is depicted by $R \text{ squared}$, that the value of independent variable explains the dependent variable to the extent of 36.9 percent. It is not a high percentage, so it can be inferred, that there are many other variables too that affect the online shopping of customer. This is the gap for the future researches to find the other variables that might affect online shopping attitude and add them into the model.

**TABLE 4.22
ANOVA^A**

Model		Sum of Squares	Df	Mean Square	F	Sig
1	Regression	28.472	1	28.472	134.948	.000b
	Residual	48.738	231	.211		
	Total	77.210	232			

a. Dependent Variable: ONLINE_SHOPPING b. Predictors: (Constant), PRIVACY

In this table 4.22, the significance value, sig, that is also called $p\text{-value}$, is shown to be 0.0000, which is significant than 0.05. It shows that the model is statistically significant and the predictor variable can be used to estimate the value of dependent variable i.e. online shopping.

**TABLE 4.23
COEFFICIENTS^A**

Model	Unstandardized Coefficients	Standardized Coefficients			
1	B	Std.Error	Beta	T	Sig.

(constant)	1.136	.102		11.106	.000
PRIVACY	.491	.042	.607	11.617	.000

Dependent Variable: ONLINE_SHOPPING

The table 2.23 of coefficients gives the values of coefficients. As the regression equation is $y=a+bx$, where y is dependent variable, while x is the independent variable. As a is the intercept and b is the slope of the regression line. The table of coefficients depicts the values of a intercept and slope. These coefficients are found under the un-standardized coefficients, here $a=1.136$ and $b= 0.491$, the positive sign of slope shows the direction of the relation. It shows that independent and dependent variable has a positive relation with each other i.e. their values move in same direction with respect to each other. Here the positive slope of the regression line for privacy and online shopping shows that if the privacy increases, the online shopping would increase, and if the privacy decreases, the online shopping would increase.

Online shopping = $1.136 \pm 0.491(\text{Privacy})$

It shows that if the privacy factor is zero, the online shopping is 1.136 if measured. But as the privacy factor increases, it also increases the value of the online shopping. With the increase of one unit in privacy, the increase in online shopping would be 1.627. It is a very big increase, but still, the regression line shows that increase in privacy brings up the online shopping level gradual as it keep increasing. Data result of regression is under the normal curve and shows that result is normal.

Figure 4.3 Test of assumption- normality (Histogram of residuals)

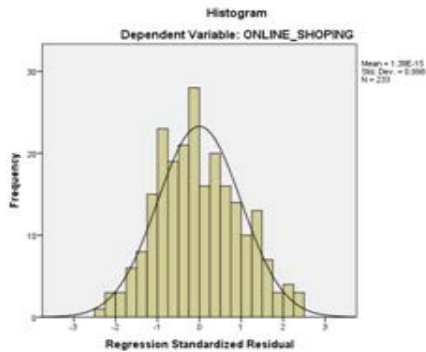
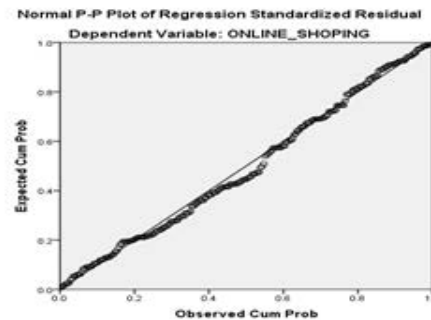


Figure 4.4 Test of assumption- normality (Normal P-P plot of regression standardized residual)



Data is on the line as seen in p-p plot. So that data is normal. The results shown normality based on statistic results. It also proved our hypothesis, so that there is a positive impact of reliance on online shopping.

The value of $R=.607$ and $R\text{ square}= .0.369$ $B= 1.136$ $P = 0.0000$ $P < 0.0$ $f=134.948$ $t=11.106$

$R\text{ square value } .607*100$ is 60.7 %, which shows that 60.7 % of the variance in online shopping is due to the predictor variable of Privacy. According to the Coefficient Table, result shows the significant level of online shopping. The value of F test is 134.948 significant at $\alpha 0.000$, which is significant, and the effect beta $P = 1.136$ the t value is 11.106 which is $> +2$ making it a useful predictor. If p-value $>$ than 0.05 then alternative hypothesis accepted so, H_1 is accepted ($F =134.948$, $B=1.136$, $p = 0.000$ and $t = 11.106$). The above statistics shows that there is a positive and significant impact of privacy on online shopping.

4.6.4 Regression analysis of performance of cloud computing and online shopping

TABLE 4.24
VARIABLES ENTERED/REMOVED^A

Model	Variables Entered	Variables Removed	Method Entered
1	CLOUD_COMPUTING ^b	.	

a. Dependent Variable: ONLINE_SHOPPING

b. All requested variables entered.

TABLE 4.25
MODEL SUMMARY^B

Model	R	R.Square	Adjusted R. Square	Std. Error of the Estimate	Change Statistics				
					R. Square Change	F Change	df1	df2	sig F Change
1	.564 ^a	.318	.315	.47742	.318	107.743	1	231	.000

a. Predictors: (Constant), CLOUD_COMPUTING

b. Dependent Variable: ONLINE_SHOPPING

In model summary, it is depicted that $R= .564$, which is merely the absolute value of correlation between the independent and dependent variable. It shows that the correlation is very strong. It means that the change in performance of cloud computing would bring a change in online shopping, as if the correlation coefficient was higher. $R\text{ squared values}$ interprets that how well the value of dependent variable can be predicted by the value of independent variable. Here it is depicted by $R\text{ squared}$, that the value of independent variable explains the dependent variable to the extent of 56.4%. It is a high percentage, so it can be inferred, that there are many other variables too that affect the online shopping of customer. This is the gap for the future researches to find the other variables that might affect online shopping approach and add them into the model.

TABLE 4.26
ANOVA^A

Model		Sum of Squares	Df	Mean Square	F	Sig
1	Regression	24.558	1	24.558	107.743	.000 ^b
	Residual	52.652	231	.228		
	Total	77.210	232			

a. Dependent Variable: ONLINE_SHOPPING

b. Predictors: (Constant), CLOUD_COMPUTING

In this table, the significance value, sig, that is also called p-value, is shown to be 0.0000, which is significant than 0.05. It shows that the model is statistically significant and the predictor variable can be used to estimate the value of dependent variable i.e. online shopping.

TABLE 4.27
 COEFFICIENTS^A

Model 1	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(constant)	1.333	.096		13.941	.000
CLOUD_COMPUTING	.447	.043	.564	10.380	.000

a. Dependent Variable: ONLINE_SHOPPING

The table 4.27 of coefficients gives the values of coefficients. As the regression equation is $y=a+bx$, where y is dependent variable, while x is the independent variable. a is the intercept and b is the slope of the regression line. The table of coefficients depicts the values of a intercept and slope. These coefficients are found under the unstandardized coefficients, here $a=1.333$ and $b=0.447$, the positive sign of slope shows the direction of the relation. It shows that independent and dependent variable has a positive relation with each other i.e. their values move in same direction with respect to each other. Here the positive slope of the regression line for performance of cloud computing and online shopping shows that if the performance of cloud computing increases, the online shopping would increase, and if the performance of cloud computing decreases, the online shopping would decrease.

Online shopping = 1.333 ± 0.447 (performance of cloud computing)

It shows, that if the performance of cloud computing is zero; the online shopping is 1.333 if measured. But as the performance of cloud computing increases, it also increases the value of the online shopping. With the increase of one unit in performance of cloud computing, the increase in online shopping would be 1.81. It is a very big increase, but still, the regression line shows that increase in performance of cloud computing brings up the online shopping level gradual as it keeps increasing.

Data result of regression is under the normal curve and shows that result is normal.

Figure 4.5 Test of assumption- normality
 (Histogram of residuals)

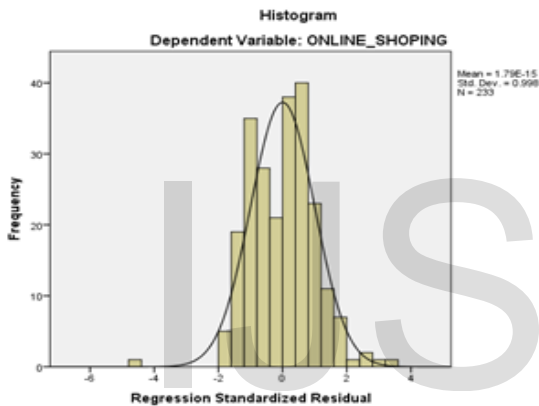
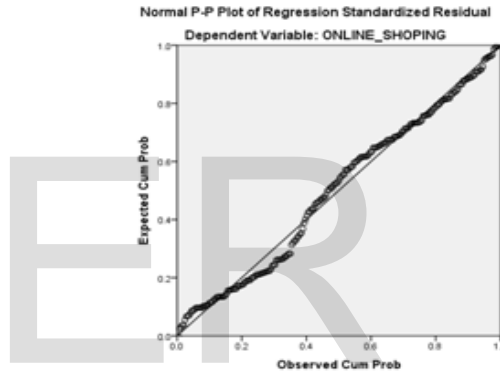


Figure 4.6 Test of assumption- normality
 (Normal P-P plot of regression standardized residual)



Data is on the line as seen in p-p plot. So that data is normal. The results shown normality based on statistical results. It also proved our hypothesis, so that there is a positive impact of reliance on online shopping.

The value of $R=.564$ and $R\text{ square}=.318$ / $f= 107.743$ $P = 0.0000$ $P < 0.0$ $b= .564/1.333$

R square value $.564 \times 100$ is 56.4%, which shows that 56.4% of the variance in online shopping is due to the predictor variable of performance of online shopping. According to the Coefficient Table, result shows the significant level of online shopping. The value of F test is 107.743 significant at $\alpha 0.000$, which is significant, and the effect beta $P = 0.0000$, the t value is 13.941 which is $> +2$ making it a useful predictor. If p-value $>$ than 0.05 then alternative hypothesis accepted so, H_1 is accepted ($F = 107.743$, $B = 0.564$, $p = 0.000$ and $t = 13.941$). Results proved that the availability of internet service and cloud applications plays a vital role in the online shopping. The above statistics shows that there is a positive and significant impact of performance of cloud computing on online shopping.

Regression equations

- Online shopping = $0.840 + 0.642(\text{Reliance})$
- Online shopping = $0.840 - 0.642(\text{Reliance})$
- Online shopping = $1.136 + 0.491(\text{Privacy})$
- Online shopping = $1.136 - 0.491(\text{Privacy})$
- Online shopping = $1.333 + 0.447(\text{performance of cloud computing})$
- Online shopping = $1.333 - 0.447(\text{performance of cloud computing})$

Final statistical equation

Online shopping = $3.309 + 0.642(\text{Reliance}) + 0.491(\text{Privacy}) + 0.447(\text{performance of cloud computing})$

4.6 DISCUSSION

The most significant intent of this study is to find out the impact of reliance, privacy and cloud computing on online shopping. In this study three independent variables (reliance, privacy and cloud computing) were taken and one dependent variable (online shopping) was catered. Structured questionnaire was used as a tool to collect data. Hypotheses were framed and through structured questionnaire they were proved. The questionnaire was given to 300 respondents of the study; the responses which were received back were 233, were valid responses. So, the response rate was 77.7%. The data was analysed by using SPSS 21. The reliability of the instrument was verified and attested with Cronbach's Alpha. The correlation and regression analysis were run to check the relationship of the variables. The results show that there is a significant influence of three independent variables on one dependent variable distinctly. Hence, it is proved that the hypotheses are accepted. For test

of normality histogram were used to check the status of normality. Online vendors, Privacy and cloud computing have significant impact on online shopping of people in Pakistan. Still online market is not grown up in Pakistan. There is lot of need to educate and facilitate the people towards the online shopping.

5 CONCLUSION, RECOMMENDATION & FUTURE AREA

This study reveals that to make online shopping possible you have to improve your services to boost up level of reliability, quality, on time delivery, internet security about their financial information and should offer payment on delivery. A flexible refund and on time product deliveries must be guaranteed. The results of this study will help the business community to bring improvement and change in volumes of online business. This research study has been restricted in few cities of Pakistan as internet market place is not still in a boom. Future research should cater an enormous geographical area and possibly should cover almost all the country in order to get the more generalized results.

6 REFERENCES

- Anthony D. Miyazaki, & Ana Fernandez (2000). Internet Privacy and Security: An Examination of Online Retailer Disclosures, *Journal of Public Policy & Marketing*, (19), page 54-55.
- Armbrust, M., Fox, A., Griffith, R., Joseph, A. D., Katz, R. H., Konwinski, A., . . . Zaharia, M. (2009). Above the clouds. A Berkeley View of Cloud Computing.
- Biswas, D. & A. Biswas, (2004). The Diagnostic Role of Signals in the Context of Perceived Risks in Online Shopping, Do Signals Matter More on the Web, *Journal of Interactive Marketing*, (18), 30-45.
- Bomil Suh & Ingo Han. (2003). The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce, *International Journal of Electronic Commerce*, (7), 135-138.
- Ernst & Young (1999). Second Annual Internet Shopping Survey, Retrieved march 12, 2013
- Janda, S., Trocchia, P.J. & Gwinner, K.P. (2002). Consumer perceptions of internet retail service quality, *International Journal of Service Industry Management*, 13(5), 412-431.
- Kishore, V., et al. (2013) "Simplifying Complex Tasks: Cloud Computing."
- Koufaris, M. & Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers, *Information & Management*, 41(3), 377-397.
- Kim, Y.M. & Shim, K.Y. (2002). The influence of internet shopping mall characteristics and user traits on purchase intent, *Irish Marketing Review*, 15(2), 25-34.
- Khaled M. Khan, Qutaibah Malluhi, "Establishing Trust in Cloud Computing", *IT Professional*, vol.12, no. 5, pp. 20-27, September/October 2010
- Kiang, M. Y., et al. (2000). "Marketing on the Internet— who can benefit from an online marketing approach?" *Decision Support Systems* 27(4): 383-393.
- Lumpkin, J. R., & Hawes, J. M. (1985). Retailing without stores: An examination of catalogue shoppers, *Journal of Business Research*, 13(2), 139-151.
- Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J., & Ghalsasi, A. (2011). Cloud computing— The business perspective. *Decision Support Systems*, 51(1), 176-189.
- Monsuwe, T.P.Y., Dellaert, B.G.C. and Ruyter, K.D (2004) "What derives consumers to shop online? A literature review", *International journal of Service Industry Management*, Vol. 15, No.1, pp. 102-21.
- Rewatkar, L. R. and U. A. Lanjewar (2010). "Implementation of Cloud Computing on Web Application." *International Journal of Computer Applications* 2(8)
- Shaikh, F. B., & Haider, S. (2011). Security threats in cloud computing. Paper presented at the Internet technology and secured transactions (ICITST), 2011 international conference for.
- Sonja Grabner-Kraeuter, (2002). The Role of Consumers' Trust in Online-Shopping, *Journal of Business Ethics*, (39), 43-44.

Writers's detail:

Miss Robina Kousar (rg_robina@yahoo.com)

Dr. Abdul Hye (abdulhyee77@gmail.com)

Miss Khoula Saleem (khoulasaleem@hotmail.com)

Miss Noreen Rafi (noreenrafi2@gmail.com)