Determinants of E- Commerce Customer Satisfaction, Trust and Loyalty in Select Districts of Andhra Pradesh

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Abstract

 For the long-term growth of many e - commerce businesses satisfy their customers and win loyalty and trust of customers. The past researches had shown that e-retailers experience not sufficient to maintain customer loyalty notwithstanding the current rapid growth in Business to Customer. Many studies have empirically studied e – commerce customer satisfaction, loyalty and trust in different countries. However, empirical research on these key constructs of e-commerce in developing area of Andhra Pradesh. The main objective of this paper is to identify the factors that influence trust, loyalty and satisfied with B2C e – commerce. A survey was conducted among B2C e-commerce customers in the selected districts of Andhra Pradesh. The findings of this study B2C e-commerce customer loyalty strongly influenced by customer satisfaction in selected districts of Andhra Pradesh whereas weakly influenced by customer trust.

Keywords: B2C e-commerce, e-retailer, customer trust, customer satisfaction, customer loyalty.

Introduction

Due to the globalization, liberalization and privatization, the internet and web development have been the most exciting developments in the field of information and communications technology in recent years. With increasing internet access, the use of e-commerce services, mostly e-payments and e-filings, by the population is booming globally and locally in India.

E-commerce in India is still in nascent stage, but even the most-pessimistic projections indicate a future boom. It is believed that low cost of personal computers, a growing installed base for Internet use, and an increasingly competitive Internet Service Provider (ISP) market will help fuel e-commerce growth in World's second most populous nation.

Indian middle class segment is nearly bigger than the entire U.S. consumer base. This makes India a real attractive market for e-commerce particularly e-payments and e-filings. To make a successful e-commerce transaction both the payment and delivery services must be made

efficient. There has been a rise in the number of companies' taking up e-commerce in the recent past.

Major Indian portal sites have also shifted towards e-commerce instead of depending on advertising revenue. Many sites are now selling a diverse range of products and services from flowers, greeting cards, and movie tickets to groceries, electronic gadgets, and computers. With stock exchanges coming online the time for true e-commerce in India has finally arrived. On the negative side there are many challenges faced by e-commerce sites in India. The relatively small credit card population and lack of uniform credit agencies create a variety of payment challenges unknown in India.

Delivery of goods to consumer by couriers and postal services is not very reliable in smaller cities, towns and rural areas. However, many Indian Banks have put the Internet banking facilities. The speed post and courier system has also improved tremendously in recent years. Modern computer technology like secured socket layer (SSL) helps to protect against payment fraud, and to share information with suppliers and business partners. With further improvement in payment and delivery system it is expected that India will soon become a major player in the e-commerce market.

The Government of India has defined its Electronic Governance Strategic Plan, which provides the roadmap of Electronic Governance implementation during 2003-2007. The plan seeks to create the right governance and institutional mechanisms, to set up the core infrastructure and policies, and to implement a number of Mission Mode Projects (MMPs) with the goal of creating a citizen- and business-centric environment for governance (Government of India, National E-Governance Plan,).

Literature Review

This section examines existing literature on the relevant theories which provide the grounding for the proposed research model and also provides a detailed discussion about hypothesized relationships between e-commerce customer satisfaction, trust, and loyalty and their antecedents to build a conceptual framework.

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) explains the relationship between attitudes, intentions and behaviors. The TRA (Theory of Reasoned Action) model posits that human beings make rational decisions based on the information available to them, and the best immediate determinant of a person's behavior is intent which is the cognitive representation of readiness to perform a given behavior (Ajzen & Fishbein, 1980). Accordingly, information quality provided by the B2C e-commerce website contents can greatly affect the intention to purchase. Also, if the information provided by the website is reliable and accurate, then this will increase online customer satisfaction and trust which will lead the customer to make the initial purchase. Thus customer satisfaction and trust in e-commerce websites can affect consumer retention or customer loyalty positively.

According to the TRA model, an individual's belief towards a behavior is an immediate determinant of his or her intention to perform a behavior (Fishbein & Ajzen, 1975). Mayer, Davis, and Schoorman [1995] further extended the TRA theory to support the modeling of customer trust. In addition, based on the Technology Acceptance Model (TAM) [Davis 1989] and TRA theory, McKnight, Choudhury and Kacmar [2002] proposed a model of e-commerce customer trust. According to TAM, the intention to accept or use a new technology is determined by its perceived usefulness and perceived ease of use. In their model, McKnight et al. posits that trusting beliefs (perceptions of specific vendor website attributes) leads to trusting intentions, which in turn influences trust-related behaviors.

Expectation-Confirmation Theory (ECT) was proposed by Oliver [1980] to study consumer satisfaction and repurchase behavior. The ECT theory states that consumers firstly form an initial expectation prior to purchase, and then build perceptions about the performance of the consumed product/service after a period of initial consumption. Next, consumers will decide on their level of satisfaction based on the extent to which their expectation is confirmed through comparing the actual performance of the product/service against their initial expectation of the performance. Consequently, satisfied consumers will form repurchasing intentions. Similarly, when customers have confirmed their expectation that an e-commerce website is trustworthy, they will be more motivated to repurchase from the same e-commerce website.

Research Methodology

This section discusses the conceptual research framework and related hypotheses based on the research questions and literature review. The research model hypotheses are listed below:

Various research models have been used by previous researchers (Davis, 1989; McKnight, Choudhury, & Kacmar, 2002; Fishbein & Ajzen, 1975; Oliver & Richard, 1980; Mustafa I Eid, 2011) applied to embed the modeling of the relationship among e-customer satisfaction, e-customer trust and e-customer loyalty. On the basis of their results we formulated the following hypotheses.

H₁: An increase in perceived user interface quality (UIQ) will have a direct positive effect on customer satisfaction (ECS).

H₂: An increase in perceived user interface quality (UIQ) will have a direct positive effect on customer trust (ECT).

H₃: An increase in perceived product/service information quality (IQ) will have a direct positive effect on customer satisfaction (ECS) behavior.

H₄: An increase in perceived product/service information quality (IQ) will have a direct positive effect on customer trust (ECT) behavior.

H5: As the perception of security risk (PSR) decreases, customer satisfaction (ECS) is expected to increase.

H6: As the perception of security risk (PSR) decreases, customer trust (ECT) is expected to increase.

H7: As the perception of privacy risk (PPR) decreases, customer satisfaction (ECS) is expected to increase.

H8: As the perception of privacy risk (PPR) decreases, customer trust (ECT) is expected to increase.

H9: An increase in customer satisfaction (ECS) will have a direct positive effect on customer loyalty (ECL).

H10: An increase in customer trust (ECT) will have a direct positive effect on customer loyalty (ECL).

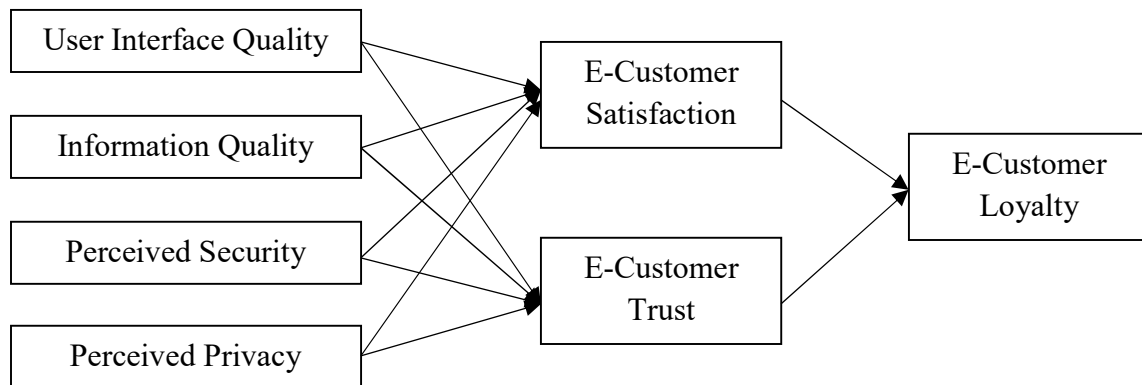The following research model was adopted from Mustafa I Eid (2011).

Figure 1: Research Model proposed by Mustafa I Eid (2011)

Data Sources

Both primary data and secondary data were tapped to gather, understand and analyze the e-customer satisfaction, e-customer trust and e-customer loyalty in selected districts of Andhra Pradesh. A structured questionnaire adapted and taken into account which was proposed by Mustafa I Eid (2011) to collect primary data from the respondents. The secondary data has been gathered from various journals, business magazines and various websites pertaining to previous research studies and empirical investigations.

Sample Design

The convenience sampling method is used as a research technique, it helps to obtain right information from respondent. The research instrument is attached in Annexure I for itemized statements and scales. Andhra Pradesh e-consumer experiences with B2C e-commerce services were measured using a set of thirty one proposed scale items of Mustafa I Eid (2011)with slight modifications. All of the scale items were measured using a five-point Likert-type category-scaling format (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree) to measure five constructs; UIQ, IQ, ECS, ECT, and ECL. Whereas another five-point Likert-type scale (1 = Not Important at all, 2 = Not very important, 3 = Quite Important, 4 = Very Important, and 5 = Essential) was used to measure the PSR and PP constructs.

Universe and Geographical Area

To analyze the e-customer satisfaction, e-customer trust and e-customer loyalty, we selected Vijayawada, Vizag, Kadapa, Chittoor, SPS Nellore and Prakasam districts of Andhra Pradesh and these seven selected districts formed the universe and geographical area of the study respectively.

Sample Size

The sample size of this research study was 240 (forty respondents from each selected district).

Tools of Analysis

The major tools used for the analysis of the data were Simple Percentages, Ordinary Least Squares Regression Analysis and Regression Analysis.

Reliability Analysis

Cronbach's α (alpha) is a statistic. It is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. It was first named as alpha by Lee Cronbach in 1951, as he had intended to continue with further coefficients. The measure can be viewed as an extension of the Kuder-Richardson Formula 20 (KR-20), which is the measure's equivalent for dichotomous items. Before assessing the service quality it was necessary to establish the reliability of the instrument for data collection. Concerning the reliability of the instrument for the internal service quality scores, the Cronbach's alpha resulted in the values indicated in Table 1. These results are similar as those found in the literature, e.g. 0.920 by Parasuraman et al. (1988) and 0.900 by Croning and Taylor (1992). Therefore, the results of total scale for the developed instrument could be considered reliable. In this study all the dimensions reflected acceptable reliability: the alpha values of all the measure were greater than 0.7, the cut-off recommended by Nunnally (1978) for the basic research.

S. No.	Service Quality Dimension	Cronbach's α	Number of Items
1	E-commerce User Interface Quality	0.940	4
2	E-commerce Information Quality	0.957	5
3	Perceived Security Risk	0.949	4
4	Perceived Privacy	0.971	5
5	E-commerce Customer Trust	0.955	4
6	E-commerce Customer Satisfaction	0.964	5
7	E-commerce Customer Loyalty	0.941	4
Overall		**0.993**	**31**

Demographics		Frequency	Percentage
Gender	Male	147	61.3
	Female	93	38.8
Age Group	Below 20 years	70	29.2
	20-30 years	92	38.3
	30-40 years	64	26.7
	Above 40 years	14	5.8
Education	School Education	86	35.8
	College Education and above	154	64.2
Occupation	Employee	89	37.1
	Business	75	31.3
	Student	58	24.2
	Housewife	11	4.6
	Others	7	2.9
Monthly Income (in Rs.)	Below 10000	10	4.2
	10000 – 15000	39	16.3
	15000 – 20000	53	22.1
	20000 – 25000	74	30.8
	Above 25000	64	26.7

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	298.054	1	298.054	1479.656	.000[a]
	Residual	47.941	238	.201		
	Total	345.996	239			
a. Predictors: (Constant), UIQ						
b. Dependent Variable: ECS						

An increased in perceived user interface quality (UIQ) will be direct positive effect on customer satisfaction (ECS) due to significance is less than 0.05 percent level. So, the hypothesis is accepted.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.080	.099		.814	.416
UIQ	.970	.025	.928	38.466	.000

a. Dependent Variable: ECS

ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	310.385	1	310.385	2074.433	.000[a]
Residual	35.611	238	.150		
Total	345.996	239			

a. Predictors: (Constant), IQ
b. Dependent Variable: ECS

Calculated "F" value is more than table value at 5 percent level of significance, hence hypothesis is accepted i.e., An increase in perceived product/service information quality (IQ) will have a direct positive effect on customer satisfaction (ECS) behavior.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.054	.084		.643	.521
IQ	.975	.021	.947	45.546	.000

a. Dependent Variable: ECS

ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	322.205	1	322.205	3223.339	.000[a]
Residual	23.791	238	.100		
Total	345.996	239			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.054	.084		.643	.521
	IQ	.975	.021	.947	45.546	.000

a. Predictors: (Constant), PSR
b. Dependent Variable: ECS

Calculated "F" value is more than table value at 5 percent level of significance. So, the perception of security risk (PSR) decreases due to customer satisfaction (ECS) is expected to increase.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.080	.067		1.199	.232
	PSR	.976	.017	.965	56.774	.000

a. Dependent Variable: ECS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	325.990	1	325.990	3878.226	.000[a]
	Residual	20.005	238	.084		
	Total	345.996	239			

a. Predictors: (Constant), PPR
b. Dependent Variable: ECS

The perception of privacy risk (PPR) decreases because of customer satisfaction (ECS) is expected to increase. It is accepted, as significance level is less than 0.05 percent.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.136	.060		2.264	.024
	PP	.960	.015	.971	62.275	.000

a. Dependent Variable: ECS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	304.365	1	304.365	1777.412	.000[a]
	Residual	40.755	238	.171		
	Total	345.120	239			

a. Predictors: (Constant), UIQ
b. Dependent Variable: ECT

Calculated "F" value is more than table value at 5 percent level of significance. Therefore, increase in perceived user interface quality (UIQ) will have a direct positive effect on customer trust (ECT).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.038	.091		.417	.677
	UIQ	.981	.023	.939	42.159	.000

a. Dependent Variable: ET

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	314.051	1	314.051	2405.758	.000[a]
	Residual	31.069	238	.131		
	Total	345.120	239			

a. Predictors: (Constant), IQ
b. Dependent Variable: ECT

An increase in perceived product/service information quality (IQ) will have a direct positive effect on customer trust (ECT) behavior. This hypothesis is accepted since significance level at 5 percent level.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.028	.078		.361	.719
	IQ	.980	.020	.954	49.049	.000

a. Dependent Variable: ECT

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	313.504	1	313.504	2360.022	.000[a]
	Residual	31.616	238	.133		
	Total	345.120	239			

a. Predictors: (Constant), PSR
b. Dependent Variable: ECT

As the perception of security risk (PSR) decreases, customer trust (ECT) is expected to increase. It is accepted because calculated "F" value is more than the table value at 5 percent level of significance.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.125	.077		1.623	.106
	PSR	.963	.020	.953	48.580	.000

a. Dependent Variable: ECT

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	316.187	1	316.187	2600.920	.000[a]
	Residual	28.933	238	.122		
	Total	345.120	239			

a. Predictors: (Constant), PPR
b. Dependent Variable: ECT

 As the perception of privacy risk (PPR) decreases due to customer trust (ECT) is expected to increase. It is accepted since significant level is 0 at 5 percent level.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.186	.072		2.571	.011
	PP	.946	.019	.957	50.999	.000

a. Dependent Variable: ECT

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	281.158	1	281.158	1457.408	.000[a]
	Residual	45.914	238	.193		
	Total	327.073	239			

a. Predictors: (Constant), ECS
b. Dependent Variable: ECL

"F" value is more than the table value at 5 percent level of significance. Hence, the hypothesis is accepted i.e., an increase in customer satisfaction (ECS) will have a direct positive effect on customer loyalty (ECL).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.339	.092		3.687	.000
	ECS	.901	.024	.927	38.176	.000

a. Dependent Variable: ECL

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	292.965	1	292.965	2044.286	.000[a]
	Residual	34.108	238	.143		
	Total	327.073	239			

a. Predictors: (Constant), ECT
b. Dependent Variable: ECL

An increase in customer trust (ECT) will have a direct positive effect on customer loyalty (ECL). It is agreed due to significance level is 0 at 5 percent level.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.269	.079		3.396	.001
	ET	.921	.020	.946	45.214	.000

a. Dependent Variable: ECL

Results of the ANOVA

Hypotheses	Independent variable	Dependent variable	F value	Hypotheses test result
H1	UIQ	ECS	1479.656	Significant
H2	IQ	ECS	2074.433	Significant
H3	PSR	ECS	3223.339	Significant
H4	PPR	ECS	3878.226	Significant
H5	UIQ	ECT	1777.412	Significant
H6	IQ	ECT	2405.758	Significant
H7	PSR	ECT	2360.022	Significant
H8	PPR	ECT	2600.920	Significant
H9	ECS	ECL	1457.408	Significant
H10	ECT	ECL	2044.286	Significant

Correlations		UIQ	IQ	PSR	PPR	ECS	ECT	ECL
UIQ	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	240						
IQ	Pearson Correlation	.939**	1					
	Sig. (2-tailed)	.000						
	N	240	240					
PSR	Pearson Correlation	.934**	.958**	1				
	Sig. (2-tailed)	.000	.000					
	N	240	240	240				
PPR	Pearson Correlation	.938**	.951**	.963**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	240	240	240	240			
ECS	Pearson Correlation	.928**	.947**	.965**	.971**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			

	N	240	240	240	240	240		
ECT	Pearson Correlation	.939**	.954**	.953**	.957**	.949**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	240	240	240	240	240	240	
ECL	Pearson Correlation	.908**	.940**	.931**	.929**	.927**	.946**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	240	240	240	240	240	240	240
**. Correlation is significant at the 0.01 level (2-tailed).								

The above table refers that correlation among customer satisfaction, customer loyalty and customer trust. Customer satisfaction, loyalty and trust strongly correlated with user interface quality, information quality, perception security risk and perception privacy risk is significant at the 0.01.

Conclusion

This paper attempted to examine the determinants of E- Commerce customers Determinants of E-Customer Satisfaction, Trust, and Loyalty in Select Districts of Andhra Pradesh. The recognized important factors are: interface quality, service information quality, security risk perception and privacy perception. Interface quality and service information quality of E- Customers websites were found to have a significant positive impact on customer satisfaction. Interface quality, service information quality, risk and privacy perception are strongly related to customer trust, loyalty and satisfaction of e commerce customers. The study investigated customer satisfaction and trust play a important role on consumer loyalty in B2C e-commerce services. E-commerce customer satisfaction was found to significantly influence customer loyalty and to play the role of a partial mediator between each of the user interface quality and information quality constructs and customer loyalty.

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