



Research Article

MEASURING CUSTOMER PERCEIVED SERVICE QUALITY IN ONLINE SHOPPING: AN EMPRICAL STUDY

Sivaji S¹ and Krishnamoorthy V²

¹Department of Management Studies, Kongu Engineering College, Erode, Perundurai, Tamilnadu-638060

²Department of Management Studies, Kongu Engineering College, Erode, Perundurai, Tamilnadu-638060

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ABSTRACT

The purpose of this study is to examine the online shopping service quality and its impact on repurchase intention. The study was conducted based on primary data using a self-administrated questionnaire. The total of 110 samples was collected using convenience sampling technique. To measure customer online shopping service quality, nine factors were identified using factor analysis. These are Ease of access, Information, Convenience, Communication, Website content, Visual appeal, Caring, Flexibility and Responsiveness. Out of the identified dimensions, this study found that there is a significant influence on information and convenience on customer satisfaction. The study also proved that convenience has significant impact on intention to repurchase. The study findings would help the policy makers to formulate appropriate policy towards online shopping service quality.

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INTRODUCTION

Companies use forceful marketing strategies to draw new customers and increase market share at the cost of their competitor to protect products and markets from the competition by maximising customer retention (Fornell, 1992; Ennew and Binks, 1996; Roberts, 2005). Numerous Studies establish that small increases in customer retention rate can cause significant improvement in profitability through reduced cost of attracting new customers. (Lenskold, 2003; Lombardi, 2005). Furthermore Service quality, customer value and satisfaction are some of the most important factors of business competition, for manufacturer and service providers. (Zeithaml *et al.*, 1996; Parasuraman *et al.*, 1988). Service quality is important because it strengthen customer loyalty (Boyer and Hult, 2005), a important requisite for the success of e services (Reichheld and Schefter, 2000). The quality of an e services is mainly determined by the quality of the associated websites (Sousa and Voss, 2006). Moreover services is mainly determined by the quality of the associated websites (Sousa and Voss, 2006).Furthermore, Internet can be used to facilitate purchase transactions among all kinds of customers (Grunert and Ramus, 2005). The internet take way the communication barriers created by geography, time zone and location, enabling a “Frictionless” business environment (Yu, J. 2006).

*Corresponding author: **Sivaji S**

Department of Management Studies, Kongu Engineering College, Erode, Perundurai, Tamilnadu-638060

REVIEW OF LITERATURE

A study conducted by Jayawardhena and Foley (2000) found that speed, website content and design, navigation interactivity and security impact user’s satisfaction. Yang and Fang (2004) identified that ease of use and usefulness are important factor in evaluating online service quality. Doll and Tokzadeh (1988) identified content, accuracy, format, ease of use, timeliness have influence on end user satisfaction in the context of online environment. Furthermore Shamdasani *et al.*, (2008) found that perceived control has strongest impact on service quality evaluations and perceived speed of delivery, reliability and enjoyment also have a significant impact on service quality perception. Cox and Dale (2001) have identified four quality factors of website. These are Ease of use, Customer confidence, Online resources and Relationship services. E shopping quality refers to customer perceptions of an e-store’s performance and effectiveness in terms of its products or services offerings. (Sejin Ha and Leslie stoel, 2012). Several studies have been conducted with regard to e-shopping quality (Collier and Bienstock, 2006; Cristobal *et al.*, 2007: Francis, 2009; heinonen and strandvik, 2009, La and Kandampully 2002, parasuraman *et al.*, 2005; Wolfinbarger and Gilly, 2003; Yoo and Donthu, 2001; Site Qual, Yoo and Donthu, 2001), e-SERVQUAL (Zeithaml *et al.*, 2000), Web Qual (Loiacono *et al.*, 2007), Internet retail service quality (Janda *et al.*, 2002), eTailq (Wolfinbarger and Gilly, 2003). Quality of electronic service (Fassnacht and Koege, 2006) Even though several studies have been conducted with regard to online service

Quality all over the world, most of the studies has been conducted in western perspective. Only limited studies had conducted in South Indian perspective. Therefore the researchers intended to study the influence of online service quality dimensions on customer satisfaction and intention to repurchase.

Proposed Research Model

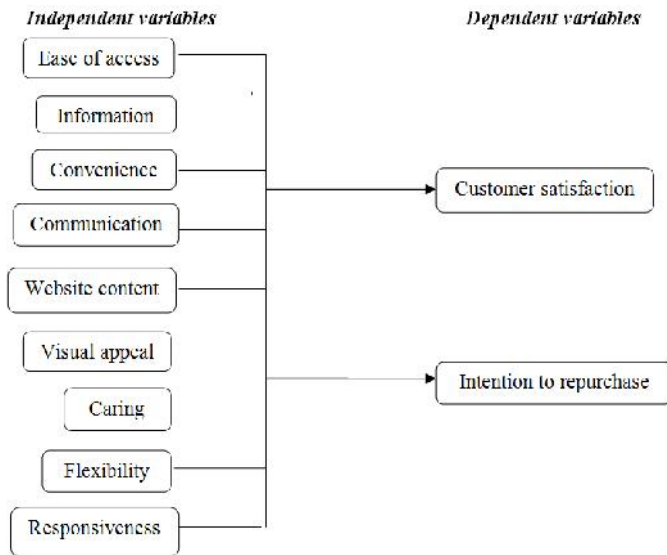


Figure 1

Objectives of the Study

Based on the proposed model, the objectives of the study is confined only

- To identify the online service quality dimensions
- To examine the relative influences of each identified online service quality dimensions in producing customer satisfaction and repurchase intention towards online shopping.
- To study the relationship between online service quality dimensions on customer satisfaction and repurchase intention towards online shopping.

RESEARCH METHODOLOGY

The scope of the study is confined only to the customers who have availed online services frequently. This study was conducted for the period of January 2018 to February 2018. The sample size of the study is 110 respondents. The researchers adopted convenience sampling method for collecting data from the respondents. The researchers adopted questionnaire method for collecting the data from the online shopping customers. The questionnaire consists of three main components. The first part of questionnaire deals with demographic profile of respondents, the second part of questionnaire consists variables relating to customer satisfaction and third part of the questionnaire deals with the variables relating to repurchase intention towards online shopping. The customers have been asked to express their opinion about E-Shopping service quality at five point scale. The variable relating to the present study is drawn from the previous works of Noel Y.M. siu and Jeff Tak-Hing Cheung (2001), Arun Thamizhvannan and M.J. Xavier (2013), Markus Blut, *et al.*,(2015). Suitable modification has been made in existing questionnaire to suit the requirement of present study. Before administrating the questionnaire to the respondents, the

researchers verified the content validity of the questionnaire. After formulating the questionnaire, the researcher conducted the pilot study. The researcher distributed fifteen questionnaires to the customers who had purchased the products from online. Based on their feedback some items in the questionnaire have been modified.

Proposed Hypothesis

This study is approached with the following proposed hypothesis.

- H_{01} : There is no significant impact of ease of access on customer satisfaction
- H_{02} : There is no significant impact of information on customer satisfaction
- H_{03} : There is no significant impact of convenience on customer satisfaction
- H_{04} : There is no significant impact of communication on customer satisfaction
- H_{05} : There is no significant impact of website content on customer satisfaction
- H_{06} : There is no significant impact of visual appeal on customer satisfaction
- H_{07} : There is no significant impact of caring on customer satisfaction
- H_{08} : There is no significant impact of flexibility on customer satisfaction
- H_{09} : There is no significant impact of responsiveness on customer satisfaction
- H_{10} : There is no significant impact of ease of access on intention to repurchase
- H_{11} : There is no significant impact of information on intention to repurchase
- H_{12} : There is no significant impact of convenience on intention to repurchase
- H_{13} : There is no significant impact of communication on intention to repurchase
- H_{14} : There is no significant impact of website content on intention to repurchase
- H_{15} : There is no significant impact of visual appeal on intention to repurchase
- H_{16} : There is no significant impact of caring on intention to repurchase
- H_{17} : There is no significant impact of flexibility on intention to repurchase
- H_{18} : There is no significant impact of responsiveness on intention to repurchase

Data Analysis

From table 1, among the 110 respondents 58 percent were females. In relation to age 36.4 percent of respondents were in the 19 to 38 age group, 26.4 percent in the 29 to 38 age group, 20.9 percent in the 39 to 48 age group, 13.7 percent in the 49 to 58 age group, 2.7 percent were above 59 years. In terms of monthly income of the respondents, 26.4 percent of the respondent had a monthly income of less than Rs.20,000. In terms of work experience, 44.6 percent of respondent has less than one year. In terms of usage period, 32.7 percent of the respondents used online shopping since 3 to 5 years. In terms of time spend on online portal, 30.9 percent of respondents had spend 30 minutes to one hour per day.

Table 1 Demographic profile of the respondents

Table 4 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.631	24.617	24.617	7.631	24.617	24.617	2.907	9.379	9.379
2	2.065	6.663	31.279	2.065	6.663	31.279	2.676	8.632	18.011
3	1.979	6.384	37.664	1.979	6.384	37.664	2.306	7.437	25.448
4	1.604	5.173	42.837	1.604	5.173	42.837	2.297	7.408	32.856
5	1.483	4.784	47.620	1.483	4.784	47.620	2.144	6.918	39.774
6	1.392	4.490	52.110	1.392	4.490	52.110	1.987	6.408	46.182
7	1.303	4.205	56.314	1.303	4.205	56.314	1.937	6.247	52.430
8	1.194	3.852	60.167	1.194	3.852	60.167	1.731	5.585	58.014
9	1.006	3.244	63.411	1.006	3.244	63.411	1.673	5.397	63.411
10	.940	3.033	66.444						
11	.874	2.819	69.263						
12	.843	2.719	71.982						
13	.785	2.531	74.513						
14	.756	2.438	76.952						
15	.708	2.283	79.234						
16	.686	2.213	81.448						
17	.622	2.005	83.453						
18	.566	1.825	85.277						
19	.538	1.735	87.013						
20	.516	1.665	88.678						
21	.462	1.490	90.168						
22	.441	1.422	91.589						
23	.401	1.293	92.883						
24	.393	1.268	94.151						
25	.351	1.133	95.284						
26	.312	1.008	96.291						
27	.276	.892	97.183						
28	.254	.821	98.004						
29	.251	.810	98.813						
30	.195	.630	99.444						
31	.172	.556	100.000						

Extraction Method: Principal Component Analysis.

Table 2 Reliability analysis

Reliability Statistics	
Cronbach's Alpha	N of Items
.901	33

Before analysing data the researchers have administered reliability analysis. The main purpose of reliability analysis is to check the internal consistency of data. The reliability statistics for both dependent and independent variable are 0.901, above the threshold limit.

Online Service Quality Dimensions

Table 3 KMO and Bartlett's test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.788
Approx. Chi-Square	1143.319
Bartlett's Test of Sphericity	Df 465
Sig.	.000

Table 3 exhibits the KMO measure of sampling adequacy ranges very high of 0.788 and it is above the generally acceptable level of 0.060. This shows that there is the strong correlation between one variable and the other. Hence, it is laid a positive measure to perform the factor analysis.

Table 4 exhibits the customer perceived service quality variables and it is factored into 9 variables explaining 63.411 of the total variance explained.

A principal components factor analysis with varimax rotation was performed on the 31 items that assessed the perceived service quality of the online shopping. The statistical test result (KMO = 0.788, Bartlett Test of sphericity = 1143.319, Significance = 0.000) indicated that the factor analysis method was appropriate.

Factor I, which as labelled as Ease of access, and it is composed of five items. Factor II, comprised of five items that related to the information. Factor III, consist of four items related to convenience. Factor IV, consist of three items relating to website content .Factor VI, consist of three items related to Visual appeal .Factor VII, it consist of three items related to caring. Factor VIII, consists of three items related to flexibility. Factor IX, comprise of two items related to responsiveness.

The **table 6** reports the results of multiple regression model with the customer satisfaction as dependent variable and nine dimensions as the independent variables. the results shows that all nine dimensions contributing significantly (F=7.870, p=0.000) predict 36.2 percent of the variation in customer satisfaction. Out of the identified dimensions, the study found that Information has significant influence on customer satisfaction. (=0.269, t=2.619,p 0.05) followed by Visual appeal (=0.223, t=2.374,p 0.05)

Table 4 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.631	24.617	24.617	7.631	24.617	24.617	2.907	9.379	9.379
2	2.065	6.663	31.279	2.065	6.663	31.279	2.676	8.632	18.011
3	1.979	6.384	37.664	1.979	6.384	37.664	2.306	7.437	25.448
4	1.604	5.173	42.837	1.604	5.173	42.837	2.297	7.408	32.856
5	1.483	4.784	47.620	1.483	4.784	47.620	2.144	6.918	39.774
6	1.392	4.490	52.110	1.392	4.490	52.110	1.987	6.408	46.182
7	1.303	4.205	56.314	1.303	4.205	56.314	1.937	6.247	52.430
8	1.194	3.852	60.167	1.194	3.852	60.167	1.731	5.585	58.014
9	1.006	3.244	63.411	1.006	3.244	63.411	1.673	5.397	63.411
10	.940	3.033	66.444						
11	.874	2.819	69.263						
12	.843	2.719	71.982						
13	.785	2.531	74.513						
14	.756	2.438	76.952						
15	.708	2.283	79.234						
16	.686	2.213	81.448						
17	.622	2.005	83.453						
18	.566	1.825	85.277						
19	.538	1.735	87.013						
20	.516	1.665	88.678						
21	.462	1.490	90.168						
22	.441	1.422	91.589						
23	.401	1.293	92.883						
24	.393	1.268	94.151						
25	.351	1.133	95.284						
26	.312	1.008	96.291						
27	.276	.892	97.183						
28	.254	.821	98.004						
29	.251	.810	98.813						
30	.195	.630	99.444						
31	.172	.556	100.000						

Extraction Method: Principal Component Analysis.

Table 5 Factor analysis

	Rotated Component Matrix ^a								
	Component								
	1	2	3	4	5	6	7	8	9
Q27	.731								
Q18	.617								
Q21	.542								
Q29	.494								
Q28	.433								
Q12		.780							
Q4		.724							
Q6		.561							
Q8		.468							
Q2		.422							
Q17			.764						
Q30			.680						
Q5			.492						
Q22			.448						
Q25				.829					
Q9				.650					
Q3				.379					
Q16					.792				
Q19					.677				
Q24					.438				
Q14						.812			
Q15						.448			
Q11						.444			
Q31							.647		
Q26							.617		
Q1							.590		
Q23								.730	
Q13								.640	
Q20								.431	
Q10									.697
Q7									.687

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 17 iterations.

Table 6 Impact of the dimensions of online service quality on customer satisfaction

Dimensions	t	Beta	Significance
<i>Relationship among nine service quality dimensions, customer satisfaction</i>			
Constant	.001		.999
Ease of access	1.547	.163	.125
Information	2.619	.269	.010
Convenience	-.339	-.031	.735
Communication	2.231	.216	.028
Website content	-.130	-.012	.897
Visual appeal	2.374	.223	.020
Caring	.578	.056	.564
Flexibility	-.335	-.031	.738
Responsiveness	-.378	-.034	.707
R			0.644 ^a
R square			0.415
Adjusted R ²			0.362
F Statistics			7.870
Significance			0.000

Impact of online service quality dimensions on intention to repurchase online

The *table 7* shows that the impact of online service quality dimensions on repurchase intention. The adjusted R²= 0.300 was statistically significant. The results shows that all the nine dimensions of online service quality predict 30 percent of variation in intention to repurchase. Out of the identified dimensions, the study found that Convenience has significant impact on repurchase intention. (=0.375, t=3.896, p 0.05). All other online service quality dimensions does not have any significant influence on repurchase intention.

Table 7 Impact of the dimensions of online service quality on intention to repurchase

Dimensions	t	Beta	Significance
<i>Relationship among nine service quality dimensions on intension to repurchase online</i>			
Constant	-1.085		.281
Ease of access	-1.997	-.220	.048
Information	.914	.098	.363
Convenience	3.896	.375	.000
Communication	1.689	.171	.094
Website content	-.323	-.032	.747
Visual appeal	.687	.067	.493
Caring	1.908	.193	.059
Flexibility	.689	.067	.493
Responsiveness	.656	.061	.514
R			0.598 ^a
R square			0.358
Adjusted R ²			0.300
F Statistics			6.201
Significance			0.000

Relationship of Online Service Quality Dimensions

Table 8

<i>Relationship between online shopping service quality on customer satisfaction</i>											
S.No.	EAS	INF	CNV	COM	WEC	VIA	CAR	FLX	RSP	CS	
1.	EAS	1	.461**	.433**	.428**	.407**	.498**	.474**	.458**	.239*	
2.	INF		1	.362**	.496**	.488**	.362**	.491**	.400**	.282**	
3.	CNV			1	.384**	.326**	.247**	.320**	.344**	.379**	
4.	COM				1	.342**	.309**	.315**	.374**	.403**	
5.	WEC					1	.400**	.434**	.288**	.150	
6.	VIA						1	.426**	.229*	.219*	
7.	CAR							1	.348**	.223*	
8.	FLX								1	.362**	
9.	RSP									1	
	CS										1

From the *Table 8*, it is observed that all the online service quality dimensions are positive relationships with the customer satisfaction.

Table 9

<i>Relationship between online shopping service quality on intention to repurchase</i>										
S.No.	EAS	INF	CNV	COM	WEC	VIA	CAR	FLX	RSP	IR
EAS	1	.461**	.433**	.428**	.407**	.498**	.474**	.458**	.239*	.218*
INF		1	.362**	.496**	.488**	.362**	.491**	.400**	.282**	.365**
CNV			1	.384**	.326**	.247**	.320**	.344**	.379**	.495**
COM				1	.342**	.309**	.315**	.374**	.403**	.390**
WEC					1	.400**	.434**	.288**	.150	.246**
VIA						1	.426**	.229*	.219*	.237*
CAR							1	.348**	.223*	.363**
FLX								1	.362**	.294**
RSP									1	.325**
IR										1

Note: EAS: Ease of access, INF: Information, CNV: Convenience, COM: Communication, WEC: Website content, VIA: Visual appeal, CAR: Caring, FLX: Flexibility, RSP: Responsiveness, CS: Customer Satisfaction.

From the *Table 9*, it is observed that all the online service quality dimensions are positive relationships with the customer satisfaction.

Testing of Hypothesis

The study is approached with the following proposed hypothesis

S.No	Hypothesis	Beta	Results
H ₀₁	There is no significant impact of ease of access on customer satisfaction	.163	Accepted
H ₀₂	There is no significant impact of information on customer satisfaction	.269	Rejected
H ₀₃	There is no significant impact of convenience on customer satisfaction	-.031	Accepted
H ₀₄	There is no significant impact of communication on customer satisfaction	.216	Accepted
H ₀₅	There is no significant impact of website content on customer satisfaction	-.012	Accepted
H ₀₆	There is no significant impact of visual appeal on customer satisfaction	.223	Rejected
H ₀₇	There is no significant impact of caring on customer satisfaction	.056	Accepted
H ₀₈	There is no significant impact of flexibility on customer satisfaction	-.031	Accepted
H ₀₉	There is no significant impact of responsiveness on customer satisfaction	-.034	Accepted

S.No	Hypothesis	Beta	Results
H ₁₀	There is no significant impact of ease of access on intention to repurchase	-.220	Accepted
H ₁₁	There is no significant impact of information on intention to repurchase	.098	Accepted
H ₁₂	There is no significant impact of convenience on intention to repurchase	.375	Rejected
H ₁₃	There is no significant impact of communication on intention to repurchase	.171	Accepted
H ₁₄	There is no significant impact of website content on intention to repurchase	-.032	Accepted
H ₁₅	There is no significant impact of visual appeal on intention to repurchase	.067	Accepted
H ₁₆	There is no significant impact of caring on intention to repurchase	.193	Accepted
H ₁₇	There is no significant impact of flexibility on intention to repurchase	.067	Accepted
H ₁₈	There is no significant impact of responsiveness on intention to repurchase	.061	Accepted

CONCLUSION

This study identified the nine dimensions of online shopping service quality. These are Ease of access, Information, Convenience, Communication, Website content, Visual appeal, Caring, Flexibility and Responsiveness. Out of the identified dimensions, this study found that there is a significance influence on information and visual appeal on customer satisfaction. The study also proved that there is a significant impact on convenience on repurchase intention. This study also found that there is a significant correlation exists among online service quality dimensions on customer satisfaction and intention to repurchase.

LIMITATIONS & SCOPE FOR FUTURE RESEARCH

The study considers only limited number of variables of online service quality. Further studies could incorporate additional antecedents of online shopping service quality. This study has been confined only to limited number of sample respondents. In future, more number of sample respondents may be considered. This study considers both male and female customers opinion on measuring overall service quality. In future, separate study may be conducted for male customer perception on online shopping service quality and female customer perception on online shopping service quality.

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