



A Study on the Impact of E-service Quality on Customer Trust in an E-commerce Environment

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Abstract. Using e-commerce platforms as a case study, this paper explores how e-commerce service quality on e-commerce platforms affects consumer trust from both theoretical and empirical perspectives. Based on this, a set of theoretical analysis models with customers as the independent variable of online service quality and customers' trust in customers are developed for this study. A suitable maturity scale was selected and designed, distributed to users of the e-commerce platform and recycled, and a combination of questionnaires and empirical research was used to test the consumer trust model. The empirical analysis found that four aspects of e-service quality - privacy and security, responsiveness, information accuracy and service remediation - can have different positive effects on consumer trust in the context of e-commerce.

Keywords: e-commerce environment · e-service quality · customer trust

1 Introduction

After entering the 21st century, the number of people using the Internet in China has skyrocketed, of which only one in forty choose to shop online. According to the Big Data survey the main reason for this is the Internet users' distrust and dissatisfied attitude towards the quality of electronic services provided by the Internet. [1] This phenomenon affects the use of the Internet and the involvement of non-Internet users in the Internet, and seriously reduces the penetration rate of the Internet. It is therefore urgent and necessary to study the impact of the quality of e-services on consumer trust. If e-commerce platform companies can take the lead in seizing the opportunity to make changes to the quality of e-services and in this regard improve consumer trust in e-commerce platforms [2].

Through this research, we find the link and correlation between e-service quality factors and consumer trust, and give scientific and convincing suggestions on how e-businesses can improve the quality of their e-services and hence consumer trust when they expand.

Table 1. Summary of research hypotheses

Research hypothesis	Hypothetical content
H1	Privacy and security of e-commerce platforms have a positive impact on consumer trust
H2	Responsiveness of e-commerce platforms has a positive impact on consumer trust
H3	The accuracy of information on e-commerce platforms has a positive impact on consumer trust
H4	Service remediation on e-commerce platforms has a positive impact on consumer trust

2 Research Hypothesis Research Hypothesis

E-service quality is the degree to which a website is effective and convenient for consumers in selecting and purchasing products and services. This paper draws on a combination of Bo Zhou's theoretical research model, Malhotra's proposed theoretical research model, and Collier's theoretical research model in constructing the model [3].

Based on the analysis of the theoretical studies of relevant scholars, it is assumed that e-service quality has the following impact on consumer trust. As shown in Table 1.

In this paper, based on the reference of scholars' consumer trust studies and combining the factors of e-service quality, privacy and security, responsiveness, information accuracy and service remediation are taken as the independent variables and consumer trust as the dependent variable. Correlations are established between the independent and dependent variables, and hypotheses H1, H2, H3 and H4 are set up to construct a research model on the impact of e-service quality on consumer trust.

3 Empirical Analysis of the Impact of e-service Quality on Consumer Trust

3.1 Subjects of the Survey

The survey respondents are consumers who have used e-commerce platforms, have the habit of shopping online, are more familiar with e-commerce platforms and can clearly give an objective assessment of the quality of e-services [4]. The resulting data results have a higher degree of veracity and can better describe the correlation between the quality of e-services and consumer trust.

3.2 Content of the Survey

The first part of the questionnaire is a description of the respondents' basic information, which includes five aspects: gender, age, education, occupation and income to collect basic information [5]. The second part is an objective satisfaction survey on the respondents' perception of the quality of e-services. The aim is to find out what consumers

think of the e-commerce platform based on the quality of the e-services they use when shopping there, and to help the e-commerce platform improve the quality of its e-services so that it can better enhance consumers' trust in the e-commerce platform.

3.3 Related Analysis

As shown in Table 2 above, the correlation coefficient between privacy security and consumer trust was 0.603, the correlation coefficient between responsiveness and consumer trust satisfaction was 0.583; the correlation coefficient between information accuracy and consumer trust was 0.533, and the correlation coefficient between service remediation and consumer trust was 0.703. All these values indicate that each dimension has

Table 2. Relevance test for e-service quality dimensions

Relevance		Privacy and security	Responsiveness	Accurate information	Service Remediation	Consumer trust
	Pearson correlation	1	0.633**	0.583**	0.633**	0.603**
Privacy and security	Significance (bilateral)		0.000	0.000	0.000	0.000
	N	130	130	130	130	130
	Pearson correlation	0.633**	1	0.674**	0.687**	0.538**
Responsiveness	Significance (bilateral)	0.000		0.000	0.000	0.000
	N	130	130	130	130	130
	Pearson correlation	0.583**	0.674**	1	0.734**	0.533**
Accurate information	Significance (bilateral)	0.000	0.000		0.000	0.000
	N	130	130	130	130	130
	Pearson correlation	0.633**	0.687**	0.734**	1	0.703**
Service Remediation	Significance (bilateral)	0.000	0.000	0.000		0.000
	N	130	130	130	130	130
	Pearson correlation	0.603**	0.538**	0.533**	0.703**	1
Consumer trust	Significance (bilateral)	0.000	0.000	0.000	0.000	
	N	130	130	130	130	130

a positive correlation with the dependent variable consumer trust at the 0.05 confidence level.

1) Regression Analysis.

In the above, it can be seen that the correlation coefficients between the variables are strongly correlated, but it is not yet possible to argue the hypothesis as a result, and further regression analysis is needed to test it [6]. In this paper, privacy and security, responsiveness, information accuracy and service remediation of e-service quality are used as indicators to describe the independent variables and consumer trust is used as the dependent variable for regression analysis.

An R value of 0.930 can be seen in Table 3 Model Summary b, indicating a strong correlation between the variables, and an R-squared of 0.865, which is greater than 0.75 indicating a good model fit and a high degree of explanation [7].

The coefficients in Table 4 a show that the probability of significance for privacy and security, responsiveness, information accuracy and service remediation are all less than 0.05, indicating that the four dimensions are significantly different [8]. That is, it can be

Table 3. Regression model testing of e-service quality on consumer trust

Model summary b					
Models	R	R Square	Adjustment of R-squared	Error in standard estimates	Durbin-Watson
1	0.930a	0.865	0.861	0.24038	2.012

a. Predictor variables: (constant), service remediation, responsiveness, privacy and security, information accuracy. b. Dependent variables: consumer trust

Table 4. Table of regression coefficients of e-service quality on consumer trust

Coefficient a							
	Non-standardised coefficients		Standard factor			Covariance statistics	
	B	Standard error	Trial Version	tolerance		VIF	
(Constant)	0.473	0.140		3.374	0.001		
Privacy and security	0.126	0.037	0.154	3.386	0.001	0.525	1.905
1 Responsiveness	0.082	0.038	0.086	2.152	0.033	0.678	1.475
Accurate information	0.713	0.048	0.752	14.716	0.000	0.413	2.420
Service Remediation	0.142	0.051	0.148	2.803	0.006	0.385	2.598

a. Dependent variable: consumer trust

Table 5. Statistical table of hypothesis test findings

Research Hypothesis	Hypothetical content	Conclusion
H1	Privacy and security of e-commerce platforms have a positive impact on consumer trust	Established
H2	Responsiveness of e-commerce platforms has a positive impact on consumer trust	Established
H3	The accuracy of information on e-commerce platforms has a positive impact on consumer trust	Established
H4	Service remediation on e-commerce platforms has a positive impact on consumer trust	Established

demonstrated that the four dimensions of e-service quality positively affect consumer trust and hypotheses H1, H2, H3 and H4 hold.

The resulting regression equation: Consumer trust = 0.126*privacy and security + 0.82*responsiveness + 0.713*information accuracy + 0.142*service remediation.

4 Conclusion

The above analysis leads to the conclusion that privacy and security, responsiveness, information accuracy and service remediation of e-service quality have a significant positive impact on consumer trust on customer satisfaction, therefore hypotheses H1, H2, H3 and H4 are valid. This is shown in Table 5.

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