

# How B2C Service Quality Influences Website Continuance

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## Abstract

*Although no longer believed to be the revolution previously conceived, the Internet remains a critical channel for selling most goods and services, and drives the development of B2C business model. With the help of Internet as human-computer interaction, B2C model has created sustainable value for both buyers and vendors online, which could be measured by customer satisfaction and continuous usage intention. Service quality delivery through Website has gradually become one of the most significant aspects influencing B2C success. In this paper, we first summarize current theoretical models and scales of electronic service quality (e-SQ), and then introduce technology continuous adoption models into B2C context. After that, we contribute to theory by proposing a two-stage integrated framework that establishes the relationship between e-SQ and customers' B2C Website service usage behavior. Finally, we explain data collection method and analysis methodology. This framework extends our understanding of the complex reasoning between service quality and continuance adoption through Internet.*

**Keywords:** SERVQUAL, Service Quality, technology continuous adoption, EC, B2C

## 1. Introduction

GartnerG2 (2001) forecasted that Business-to-Consumer (B2C) will reach 227 billion in 2005. Among those who are competing for a bigger piece of the B2C e-commerce pie, who will be the winners? Evidently B2C Website that makes customers reluctant to visit again will lose the competition. Even though low price and Web presence were initially thought to be the drivers of B2C e-commerce success, service quality has soon become pivotal, sometimes regarded as the key driver of B2C success (Parasuraman et al. 2005).

There were some studies focusing on retaining customers on Website, but few of them started from issues of service quality. Furthermore, we concern more about Internet transaction as technology than prior studies as we integrate technology continuous adoption in this area.

The objective of this paper is to find what factors of service quality determine a customer's continuous use of the service provided by a B2C Website. We first summarize current theoretical models and scales of electronic service quality, and then introduce technology adoption and continuous adoption models into B2C context. After that, we propose a two-stage integrated framework that establishes the relationship between e-SQ and customers' B2C Website service usage behavior. Finally, we provide directions for further research in this area. The implications are noteworthy for both researchers and practitioners.

## 2. Electronic Service Quality

By "traditional Service Quality" we are referring to the quality of all non-Internet-based customer experiences with companies. The measurement of the gap between expected and

perceived service has been first operationalized with 10 dimensions: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, and tangibles (Parasuraman et al. 1985). In some empirical studies, Parasuraman, Zeithaml, and Berry (1988,1991) developed and refined SERVQUAL, a multiple-item instrument to quantify customers' assessment of a company's SQ. This scale contains five dimensions: reliability, responsiveness, assurance, empathy, and tangibles.

**TABLE 1: Summary of Dimensions in Different Scales to Measure E-SQ**

	Dimensions	Information Availability & content	Efficiency	Fulfillment	System Availability	Privacy	Graphic Style	Recovery Service	Others
Liu and Arnett (2000)	5	<ul style="list-style-type: none"> <li>Quality of information</li> </ul>	<ul style="list-style-type: none"> <li>Design of Web site</li> </ul>	System use*		<ul style="list-style-type: none"> <li>System</li> </ul>		<ul style="list-style-type: none"> <li>Service</li> </ul>	<ul style="list-style-type: none"> <li>Playful-ness</li> </ul>
Yang et al. (2001)	6	<ul style="list-style-type: none"> <li>Content</li> <li>Accurate of content</li> </ul>	<ul style="list-style-type: none"> <li>Ease of use</li> </ul>			<ul style="list-style-type: none"> <li>Privacy</li> </ul>	<ul style="list-style-type: none"> <li>Aesthetics</li> </ul>	<ul style="list-style-type: none"> <li>Responsiveness</li> </ul>	
BizRate (from bizrate.com)	10	<ul style="list-style-type: none"> <li>Product information</li> <li>Product representation</li> </ul>	<ul style="list-style-type: none"> <li>Ease of ordering</li> <li>Product selection</li> </ul>	<ul style="list-style-type: none"> <li>On-time delivery</li> <li>Shipping</li> </ul>	<ul style="list-style-type: none"> <li>Website performance</li> </ul>	<ul style="list-style-type: none"> <li>Privacy policy</li> </ul>		<ul style="list-style-type: none"> <li>Customer Support</li> </ul>	<ul style="list-style-type: none"> <li>Price</li> </ul>
WEBQUAL (Lociacono et al. 2000)	12	<ul style="list-style-type: none"> <li>Informational fit to task</li> </ul>	<ul style="list-style-type: none"> <li>Interaction*</li> <li>Intuitiveness</li> </ul>	<ul style="list-style-type: none"> <li>Substitutability</li> </ul>	<ul style="list-style-type: none"> <li>Design</li> </ul>	<ul style="list-style-type: none"> <li>Trust</li> </ul>	<ul style="list-style-type: none"> <li>Visual appeal</li> </ul>	<ul style="list-style-type: none"> <li>Interact*</li> <li>Response time</li> <li>Integrated communication</li> </ul>	<ul style="list-style-type: none"> <li>Innovativeness</li> <li>Flow</li> <li>Business process</li> </ul>
SITEQUAL (Yoo et al. 2001)	4		<ul style="list-style-type: none"> <li>Ease of use</li> </ul>	<ul style="list-style-type: none"> <li>Processing speed</li> </ul>		<ul style="list-style-type: none"> <li>Security</li> </ul>	<ul style="list-style-type: none"> <li>Aesthetic design</li> </ul>		
ETailQ (Wolfenbarger et al. 2003)	4		<ul style="list-style-type: none"> <li>Design*</li> </ul>	<ul style="list-style-type: none"> <li>Reliability/fulfillment</li> </ul>	<ul style="list-style-type: none"> <li>Design*</li> </ul>	<ul style="list-style-type: none"> <li>Privacy</li> </ul>		<ul style="list-style-type: none"> <li>Customer service</li> </ul>	
Zeithaml et al.(2002)	5	<ul style="list-style-type: none"> <li>Information availability &amp; content</li> </ul>	<ul style="list-style-type: none"> <li>Ease of use</li> </ul>	<ul style="list-style-type: none"> <li>Fulfillment/reliability</li> </ul>		<ul style="list-style-type: none"> <li>Privacy/Security</li> </ul>	<ul style="list-style-type: none"> <li>Graphic style</li> </ul>		
e-SQ (Zeithaml et al. 2000)	11		<ul style="list-style-type: none"> <li>Flexibility</li> <li>Navigation</li> <li>Efficiency</li> <li>Personalization</li> </ul>	<ul style="list-style-type: none"> <li>Reliability*</li> </ul>	<ul style="list-style-type: none"> <li>Reliability*</li> <li>Access</li> </ul>	<ul style="list-style-type: none"> <li>Trust</li> <li>Privacy</li> </ul>	<ul style="list-style-type: none"> <li>Site aesthetics</li> </ul>	<ul style="list-style-type: none"> <li>Responsiveness</li> </ul>	<ul style="list-style-type: none"> <li>Price knowledge</li> </ul>
E-S-QUAL	7		<ul style="list-style-type: none"> <li>Efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Fulfillment</li> </ul>	<ul style="list-style-type: none"> <li>System Availability</li> </ul>	<ul style="list-style-type: none"> <li>Privacy</li> </ul>		<ul style="list-style-type: none"> <li>Responsiveness</li> <li>Compensation</li> <li>Contact</li> </ul>	

NOTE: \* The meaning of these dimensions refer to more than 1 captioned dimensions.

The SERVQUAL instrument, first developed in marketing literature, has been widely used in IS research areas recently. There are two major streams researching service quality in IS context. One stream focuses on measuring IS service quality from IS users' perspective, particularly using gap approach and five dimensions of assessing SQ borrowed from SERVQUAL (Parasuraman et al. 1985; Dyke et al. 1997; Pitt et al. 1997; Watson et al. 1998). The other stream focuses on measuring electronic-SQ (e-SQ), particularly in B2C context. The goal in this paper is to understand the influence of e-SQ dimensions on online-store users' continuous usage in B2C context. Researchers found some difference between traditional SQ and e-SQ (Zeithaml et al. 2002). Compared to customers in traditional transaction channels, customers of online stores are more difficult to articulate their e-SQ expectation, more goal-directed, and less emotional in e-SQ assessment.

Table 1 provides a brief overview of scales to measure e-SQ. These different scales contain 4 to 12 dimensions, in which six dimensions are most often referred to: *Information availability & content*, *Efficiency*, *Fulfillment*, *System availability*, *Privacy*, *Graphic style*, and *Recovery service*. In table 1, when a dimension is referred to in a scale, we mark in the corresponding unit, and write down the accurate “name” for the dimension in that scale.

In the recent empirical studies (Parasuraman et al. 2005), graphic style has been proven unimportant for customers of online stores to assess e-SQ. The influence of information availability and content accuracy could be captured in fulfillment dimension, and information search engine, which is another important issue for information availability could be included in efficiency dimension. However, the influence of recovery service has drawn more attention with respect to customers’ continuous usage (Parasuraman et al. 2000).

Parasuraman et al. (2005) defined e-SQ and developed an instrument to measure it (the last scale in Table 1). They found that two different scales were necessary for capturing electronic service quality. They are E-ServQUAL: efficiency, fulfillment, system availability, and privacy; and E-RecS-QUAL salient only to customers who had nonroutine encounters with the sites, with three dimensions: responsiveness, compensation, and contact.

### **3. Website Acceptance**

Given that Internet-based transactions might seem complex and intimidating to many customers, it is reasonable to regard that the extent to which customers master Internet-based transaction skills will distinctly influence their continuous acceptance of online shopping service. Customers’ usage of B2C service can be divided into two stages: initial adoption and continuance, which is consistent with previous studies on IS usage (Limayem et al. 2003).

Technology may trigger users’ positive and negative feelings simultaneously according to many empirical findings (Davis et al. 1989; Venkatesh et al. 2003). Technology Acceptance Model (TAM) is most widely referenced for predicting intention to accept technology by individuals. TAM treats the two belief variables, perceived ease of use and perceived usefulness, as the most salient in determining individual acceptance intention and behavior (Davis et al. 1989). However, just few of the aforementioned studies deals directly with perceived e-SQ in the acceptance model, except for Ma and Liu (2005).

Research on new technology usage in the last decade focused primarily on initial adoption of the new technology. However, as initial technology adoption is just the first step toward overall technology success, researchers have emphasized the importance of studying technology continuance because long-term viability and its eventual success depend on its continued use rather than first-time use (Limayem et al. 2003).

Some B2C service providers may attract customers to their Website, but cannot retain these customers, which will lead to serious consequences. Research shows that of every 100 dissatisfied customers, on average 25 will simply defect straightaway, 20 of them never to return, ten more lost customers tell up to 20 other people of their dissatisfaction (ecustomerserviceworld.com). It is interesting to study why customers of B2C Website are attracted to the Website at first and why some customers are dissatisfied and never return.

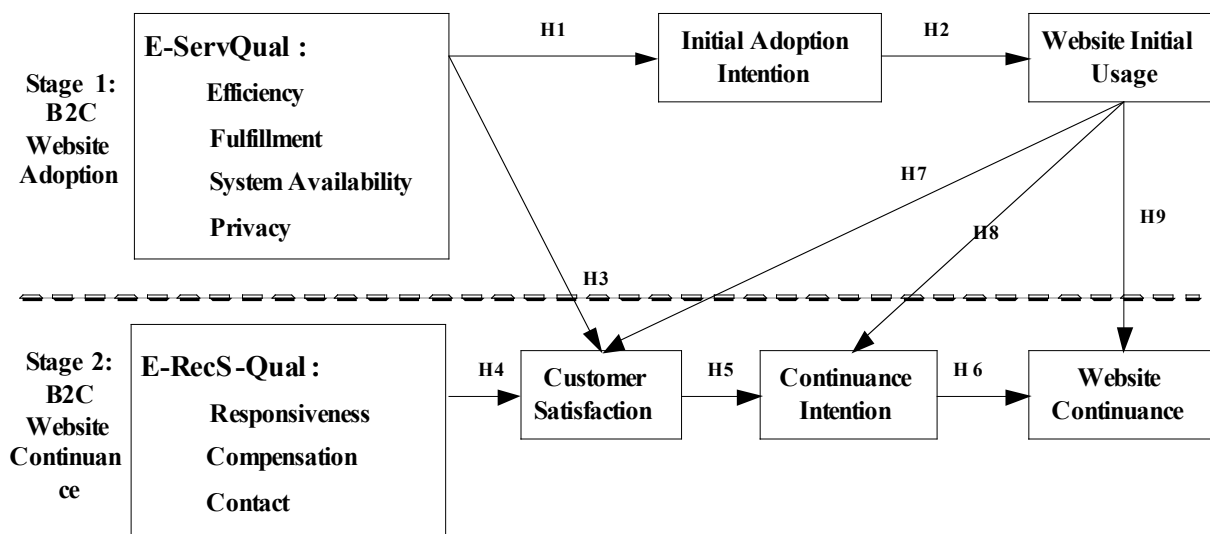
Just like continuous purchase in traditional ways, E-shopping Continuous adoption follows an initial purchase decision, influenced by the initial use experience, and can potentially lead to

ex post reversal of the initial decision (Bhattacharjee 2001). Roger (1995) explained innovation diffusion theory with five-stage adoption decision process, consisting of knowledge, persuasion, decision, implementation, and confirmation phases. This theory suggests that adopters reevaluate their earlier acceptance decision during a final “confirmation” stage and decide whether to continue using an innovation. However, continuous adoption is not simply an extension of adoption behavior. After customers have the experience of online shopping, the determinants of continuous adoption will change. Some work has begun to distinguish between initial adoption and continuous use decisions and to identify different determinants of acceptance in these two situations. Bhattacharjee (2001) used expectation-confirmation theory to study the process of IS continuance, finding that users’ continuance intention was positively determined by satisfaction with IS use and perceived usefulness of continued use. Users formed expectations about the online service, and their experience of the service performance determined their confirmation level, which in turn influenced perceived usefulness and satisfaction with IS use.

#### 4. Research Framework

We have already shown that there are different determinates of initial adoption and continuous usage of B2C Website service. Integrating the theory of e-SQ with technology adoption and continuance model, we propose a research model that attempts to explain customers’ B2C Website acceptance behaviors (See figure 1). Below we define each of these constructs and develop the theoretical rationale for the causal relationships of the model.

**Figure 1: Model of the Effects of E-SQ on B2C Service Continuous Adoption**



##### 4.1 Stage 1: B2C Website Adoption

Stage 1 of the model involves the formation of the customers’ initial adoption behavior about B2C service in respect of the effects of e-SQ. When customers are new to a B2C Website, electronic service quality is a significant determinant of behavior intention, which is a measure of the extent to which customers intend to accept the B2C service. Website performance, promise about fulfillment/privacy and other facets of e-SQ jointly determine customers’ intention of online purchase. The relationship between E-ServQual and behavior intention has been tested in prior researches. For example, Zeithaml(2000) discussed that perceived e-SQ by customers is the most important determinant for perceived value, and directly affect purchase intention. Parasuraman (2005) has proven that a basic containing four dimensions mostly determine e-SQ level when customers first use the B2C Website: they are

(1) efficiency, the ease and speed of accessing and using the site; (2) fulfillment, the extent to which the site's promises about order delivery and item availability are fulfilled; (3) system availability, the correct technical functioning of the site; (4) and privacy, the degree to which the site is safe and protects customer information. And according to well-proven adoption models like TRA and TAM, people act in accordance with their intention. The behavior intention will ultimately influence the customers' initial usage of the B2C Website if there is no other distinct interrupt (Davis et al. 1989).

In stage 1, the reasoning for B2C Website initial adoption is consistent with theories developed in the area of IT adoption. For example, Davis (Davis 1989) argues that a person's intention to adopt a new technology is fundamentally determined by two factors, perceived ease of use (PEOU) and perceived usefulness (PU). The concept of PEOU is captured by the efficiency dimension of E-ServQual. Efficiency measures whether the B2C site is simple to use, structured properly, and requires a minimum of information to be input by the customer. And the concept of PU is overlapped with the other three dimensions of E-ServQual. The Website providing B2C service will be perceived useful for customers if it could promise to fulfill the bills fast, ensure the privacy when transacting, and keep the Website available all the time. We proposed that:

*H1: Perceived E-ServQual has a positive effect on initial adoption intention.*

*H2: Initial Adoption intention has a positive effect on Website initial intention.*

#### **4.2 Stage 2: B2C Service Continuance**

Stage 2 of the model shows the formation of customers' continuous usage of B2C service in respect of the effects of e-SQ. In terms of service continuous adoption, Parasuraman (2005) defined seven dimensions of e-SQ which is divided into two multiple-item scales. The basic E-ServQual scale is the same as what's for first adoption, containing efficiency, fulfillment, system availability and privacy. The second scale, E-RecS-Qual, only affects customers who have repeated experience about online purchase, or have nonroutine encounters with the sites, containing three dimensions: (1) responsiveness, effective handling of problems and returns through the site; (2) compensation, the degree to which the site compensates customers for problems; (3) contact, the availability of assistance through telephone or online representatives. The two scales with seven dimensions jointly determine electronic service quality level, and affect customers' B2C service continuous usage.

In prior researches on customer behavior, satisfaction is jointly determined by expectation and actual perception, and ultimately influences the customers' repurchase intention. For example, in Expectation-Confirmation Theory (ECT), which is widely used in the consumer behavior literature to study post-purchase behavior and was further refined in IS context, consumer satisfaction is determined by expectation and the gap between expectation and actual performance. On the other hand, service quality was traditionally considered aligned with the gap between service expectations and perceptions (Parasuraman et al. 1985). When customers have some experience in online shopping, the influence of expectation on repurchase decision becomes weakened. In terms of B2C service continuous usage, the perceived e-SQ, which is captured by E-ServQual and E-Recs-Qual scales, jointly determines customer satisfaction, and ultimately influence continuance intention. We proposed that:

*H3: Perceived E-ServQual has a positive effect on customer satisfaction.*

*H4: Perceived E-RecS-Qual has a positive effect on customer satisfaction.*

*H5: Customer satisfaction has a positive effect on continuance intention.*

As discussed in stage 1, continuance intention is one of the most important factors influencing actual continuance of service. According to D&M model, it proposes that usage has a positive effect on user satisfaction, so we suggest that initial usage will influence customers' satisfaction (Delane and Mclean 2003). Customers' experience of initial usage will also affect service continuance decision (Limayem et al. 2003). On the other hand, after initial usage, users will not want to discontinue their usage just because of behavior inertia, and they are used to this purchase ways. So we propose that:

*H6: Continuance intention has a positive effect on website continuance.*

*H7: Website initial usage has a positive effect on customer satisfaction.*

*H8: Website initial usage has a positive effect on continuance intention.*

*H9: Website initial usage has a positive effect on website continuance.*

## **5. Research Methodology and Data Analysis**

Empirical data for this study will be collected via a cross-sectional field survey of B2C website users. Thus, the first step for us is to identify one appropriate B2C online service provider. The choice of a single data collection site would control for the potential effects of macro-level firm variables such as customer interface, thereby increasing the likelihood of detecting the desired micro-level individual effects.

Hopefully, the B2C online service provider would allows us to randomly select around 1000 current customers from its customer base. We would then send an email to each selected customer to solicit his or her participation in our survey. The email messages will outline the purpose of the study and provide a hyperlink to our online survey form.

Following the two-step analytical procedures, we will first examine the measurement model, and then the structural model. CFA and SEM will be used to evaluate hypothesized relationships. The data will be analyzed using PLS Graph to test the research model. The PLS procedure has gained interest and use among researchers in recent years largely because it is able to model constructs under conditions of non-normality and small to medium sample size (Chin 1998). We will present the results at the conference.

## **6. Contribution**

B2C participators find that winning a customer is comparatively easy while retaining a customer is much more complex but more valuable. The goal of the exploratory research reported in this paper is to highlight the importance of retaining B2C Website customers from the aspects of service quality. The study contributes to theory and practice in the following ways. First, the research is among the first studies to incorporate e-service quality into IS continuance model. Previous studies on B2C website usually treated a B2C website as an IT artifact. However, this study furthers the theory in another way. It views B2C websites also as carriers of electronic service. From this perspective, we discuss how the quality of the electronic service influences customers' continuous usage of the website. Second, this study clarifies how high service quality delivered by a B2C website can help retain its customers. As competitors are just a click away in an online context, to retain customers is critical for e-service providers. This study will help managers identify the weakness of the online service offered by their companies and then take action to improve it before customers switch to competitors.

In the time of this writing, the research is still in progress. The framework in this paper serves as a ground on which further empirical research can be conducted.

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