

Measuring Service Quality in E-Retailing

Joel E. Collier

University of Memphis

Carol C. Bienstock

Radford University

To managers of companies with a Web presence, an awareness of how customers perceive service quality is essential to understanding what customers value in an online service transaction. Previous research in e-service quality has primarily focused on the interaction of the consumer and the Web site while missing the big picture that e-service quality is composed of more than Web site interactivity. The goal of this article is to extend the work on e-service quality to encompass not only Web site interactivity or process quality but also outcome quality and recovery quality. A conceptual framework of e-service quality is proposed and empirically tested that combines process, outcome, and recovery dimensions. Contrary to previous service quality studies, formative instead of reflective indicators are used to conceptualize e-service quality. This study found empirical support for the use of formative indicators and the three-dimensional approach to conceptualizing e-service quality.

Keywords: *service quality; Internet; e-commerce; recovery*

Delivering quality in services has been shown to be an important strategy for marketers who are trying to differentiate their service offerings by establishing customer value and satisfying customer needs (Ozment and Morash 1994). The issue of service quality is being recognized as strategically important with managers of companies with a Web presence, as more and more customers are taking the plunge and engaging with companies over the Internet

(Slywotzky and Morrison 2001). As Internet retailers gain more experience, they realize that customers are concerned with the process of how the service is delivered, along with the outcome of the service (Katz 2001). In addition, if problems arise, a company must be aware of the importance of service recovery in the resolution of these problems (Holloway and Beatty 2003).

Service quality has been shown to promote customer loyalty and retention (Imrie, Durden, and Cadogan 2000), which is important to any retailer, including online retailers. Previous research on service quality in regards to the Internet has primarily focused on the interaction of the consumer and the Web site (Lociacono, Watson, and Goodhue 2000; Yang, Peterson, and Huang 2001; Yoo and Donthu 2001). These Internet service quality or e-service quality studies provide an adequate framework for measuring Web site interactivity but have failed to look at the broader picture that e-service quality is more than just how a consumer interacts with a Web site. E-service quality relates to customers' perceptions of the outcome of the service along with recovery perceptions if a problem should occur. A recent study of online failures stated that consumers noted delivery problems as the most frequently stated problem (Holloway and Beatty 2003). Although consumers are concerned about Web site interactivity, the main concern for consumers is the delivery of the desired product or service. Consumers place an important emphasis on the outcome of the service, and if an e-retailer fails to deliver the product or service in the manner desired, then previous evaluations of Web site interactivity will mean very little in the evaluation of e-service quality. In addition, how

a service provider responds to a failure is extremely important when a buyer and seller are physically separated. Holloway and Beatty's (2003) online failure study showed that the majority of consumers surveyed were dissatisfied with recovery attempts, and this dissatisfaction affected intentions to repatronize a company's Web site. Recovery measures are extremely important with online service quality because consumers are just one click away from switching to another e-retailer. Previous research on e-service quality have focused on Web site interactive quality while ignoring other aspects such as outcome quality and recovery that could have just as much impact on quality perceptions of an online experience.

The goal of this article is to conceptualize a framework for how customers judge e-service quality by looking at quality evaluations in the process, outcome, and recovery of a service experience. In conceptualizing this framework for e-service quality, we have taken up Smith's (2003) call to arms in breaking new ground and resisting the temptation to follow well-worn paths in the pursuit of interesting ideas. Our conceptualization of e-service quality challenges many of the existing e-service quality models to provide fresh insight and demonstrate empirical support for the dimensions of online service quality. Our model proposes the use of formative indicators to explain e-service quality and explains why service quality should be considered a formative judgment rather than a reflective attitude. We will start by discussing past literature about service quality and how it relates to the conceptualization and measurement of e-service quality.

SERVICE QUALITY

The conceptualization of service quality has its roots in expectancy disconfirmation theory. Many early marketing researchers adopted this theory as the foundation for measuring service quality (Gronroos 1982, 1984; Parasuraman, Zeithaml, and Berry 1985, 1988). One of the first service quality models, called SERVQUAL by Parasuraman, Zeithaml, and Berry (1985, 1988), measured service quality using the expectancy disconfirmation framework on the five dimensions of tangibles, responsiveness, reliability, assurance, and empathy.

The SERVQUAL model has come under extensive criticism by marketing researchers because of the difficulty in replicating its dimensions (Babakus and Boller 1992; Carman 1990; Cronin and Taylor 1992). In addition, Cronin and Taylor (1992) maintained that expectations were not necessary in the measurement of service quality, thus conceptualizing their own model, called SERVPERF. Current research has started to show more and more support for the exclusion of expectations in measuring service

quality (Brady and Cronin 2001; Dabholkar, Shepherd, and Thorpe 2000; Mentzer, Flint, and Hult 2001). With this movement away from using expectations, the theoretical background of service quality is moving from expectancy disconfirmation to the theory of reasoned action. The theory of reasoned action states that individuals' behavior can be predicted from their intentions, which can be predicted from their attitudes about the behavior and subjective norms (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975). Recent research by Zeithaml, Parasuraman, and Malhotra (2002) states that expectations are not well formed in e-service quality. This adds further support that perceptions and reasoned action should be the basis for measuring e-service quality.

Recently, marketing researchers have begun to conceptualize service quality on process dimensions and outcome dimensions. Mentzer, Flint, and Hult's (2001) research in logistics service quality states that service quality perceptions are based on the dimensions of order placement (process) and order receipt (outcome). The order placement (process) dimensions included personal contact, order release, ordering procedures, and information quality. The order receipt dimensions included order accuracy, order condition, and order quality. The Mentzer, Flint, and Hult (2001) model for logistics service quality is a good reference for conceptualizing a model for e-service quality because, similar to logistics customers, online customers require information quality and ease of order during the process, along with order condition and accuracy in the outcome of online transactions. As well, online transactions and logistics service transactions both share the characteristics of the customer and service provider being separated during the transaction. Research by Lovelock (1983) and Bienstock, Mentzer, and Bird (1997) have shown that when a service provider and service customer are physically separated, it has a significant impact on the criteria used to evaluate service quality.

This separation of customer and retailer during an online transaction also highlights the importance of considering the issue of service recovery in e-service quality. The ability to handle questions, concerns, and frustrations from the customer is essential to the customer's perception of e-service quality. Recent research has demonstrated that service recovery has a direct relationship with factors such as trust, repurchase intention, commitment, and word of mouth, which all play a crucial role in success for e-retailers (Blodgett, Hill, and Tax 1997; Goodwin and Ross 1992; Mohr and Bitner 1995). A company must be able to deal with these problems when they occur because the resolution of these problems ultimately has an effect on repeat patronage and customer loyalty (Bitner, Brown, and Meuter 2000; Holloway and Beatty 2003). Additional research has shown that the responsibility for a service fail-

ure and the likelihood that another failure will occur affect both customer satisfaction and quality perceptions (Curren and Folkes 1987; Folkes 1984; Gooding and Kinicki 1995). Therefore, service recovery should play an important role in the formation of overall e-service quality perception in the mind of the customer.

CONCEPTUALIZING E-SERVICE QUALITY

The SERVQUAL/SERVPERF models measured service quality on the five dimensions of tangibles, responsiveness, reliability, assurance, and empathy. These dimensions are well suited in measuring service quality in offline services. However, online services have unique characteristics that offline services do not possess, which can affect the perception of service quality. These characteristics could include, for example, server problems, outages for backing up information, and connectivity issues.

There is a wealth of interesting information about e-service quality outside the academic world. *Consumer Reports*, a magazine known for rating the quality of products and services, has a ratings section called E-Ratings. E-Ratings takes an extensive look into the quality of service provided on a Web site. There are three main criteria that E-Ratings use in evaluating a Web site: credibility, usability, and content. See Table 1 to see what aspects of quality are encompassed in E-Ratings's three criteria. Organizations such as BizRate.com have also created their own e-service quality measurements. BizRate.com asks customers to evaluate Web sites in numerous areas to measure its perception of e-service quality. BizRate.com uses a scale that is based on 10 service quality dimensions (see Table 1). Other efforts in measuring e-service quality have come from the International Academy of Digital Arts and Science, with its "Webby Awards." The Webby Award is judged by members of the International Academy of Digital Arts and Science and given to recipients once a year. The awards are based on six criteria in evaluating the quality of a Web site. Last, another award for Web site quality is given by Worldbestwebsites.com. Web sites are evaluated by Web site professionals who are recruited by Creative Management Consultants (CMC) and base their evaluations on five main criteria (see Table 1). Although the previous discussion deals primarily with the interactive quality of a Web site, it does have merit in our discussion of e-service quality because these Web site factors have an impact on the overall e-service quality that is delivered by an online retailer.

Some academic research has been done in the area of e-service quality. One of the first definitions of e-service quality was offered by Zeithaml, Parasuraman, and Malhotra (2000). Their definition states that service qual-

ity on the Internet is the extent to which a Web site facilitates efficient and effective shopping, purchasing, and delivery of products and services. As stated earlier, previous research in conceptualizing e-service quality has focused on the interaction between the customer and the Web site. Lociacano, Watson, and Goodhue (2000) developed an e-service quality scale called WEBQUAL. This scale focuses on 12 dimensions that can improve the interaction between a customer and a company's Web site. For a complete list of dimensions, see Table 1. Yoo and Donthu (2001) developed a scale called SITEQUAL to measure online service quality, which had the four dimensions: ease of use, aesthetic design, processing speed, and interactive responsiveness. Li, Tan, and Xie (2002) applied the traditional SERVQUAL dimensions to an online context along with adding additional dimensions (see Table 1) and achieved mixed results.

Recently, there has been some research on e-service quality that has broadened its scope past Web site interactivity. Wolfinbarger and Gilly (2002) developed an e-service quality scale initially titled .comQ, which later progressed to eTailQ (Wolfinbarger and Gilly 2003). This global scale of e-service quality has four dimensions: Web site design, reliability/fulfillment, privacy/security, and customer service. The authors performed an extensive multigroup study in the scale development process, but recent criticism has started to question the dimensionality of the scale (Parasuraman, Zeithaml, and Malhotra 2005). An additional study that looked at e-service quality from a broader perspective was by Zeithaml, Parasuraman, and Malhotra (2000, 2002), who developed the e-SERVQUAL model for measuring e-service quality. Their research produced seven dimensions for evaluating e-service quality: efficiency, reliability, fulfillment, privacy, responsiveness, compensation, and contact. The authors have recently split the seven dimensions into two separate scales (Parasuraman, Zeithaml, and Malhotra 2005, hereafter referred to as PZM). E-S-QUAL is the name of the scale for what the authors call the core dimensions: efficiency, system availability, fulfillment, and privacy. Note that the authors changed one of the dimensions slightly from reliability to system availability. The second scale, titled E-RecS-QUAL, responsiveness, compensation, and contact, encompasses the recovery part of the authors' conceptualization of e-service quality.

We applaud the E-S-QUAL and the E-RecS-QUAL models as important steps in conceptualizing e-service quality, although we believe the conceptualization of e-service quality could benefit from further development. Based on the unique characteristics of service quality perceptions in online settings, we propose that it is worthwhile to consider and test additional criteria, within the framework of process, outcome, and recovery dimen-

TABLE 1
Academic and Practitioner Dimensions of E-Service Quality

<i>Web Site and Studies</i>	<i>Dimensions of E-Service Quality</i>	
E-Ratings (www.consumerreports.org)	Credibility—privacy, security, customer service, and disclosure Usability—design and navigation in the Web site Content—accurate product information, personalization, and depth of categories	
Bizrate.com (www.bizrate.com)	Ease of ordering Product selection Price Web site performance Product representation	Privacy policies Customer support Shipping and handling Production information On-time delivery
Webby Awards (www.webbyawards.com)	Content Structure and navigation Visual design	Functionality Interactivity Overall experience
World's Best Websites (www.worldbestwebsites.com)	Functionality—accessibility, speed and bandwidth sensitivity, HTML quality, navigation and links, and legality Design—graphic design, user friendliness, aesthetics, alignment, layout, and integration Content—purpose, human interactivity, information process, verbal expression, and attention to detail Originality—creativity, distinctiveness, and vision Professionalism—customer service, values, and focus of message	
WebQUAL (Lociacono, Watson, and Goodhue 2000)	Information fit to task Trust Design Visual appeal Flow Business process	Interaction Response time Intuitiveness Innovativeness Integrated communication Substitutability
SITEQUAL (Yoo and Donthu 2001)	Ease of use Processing speed	Aesthetic design Interactive responsiveness
.comQ/eTailQ (Wolfenbarger and Gilly 2002, 2003)	Web site design Customer service	Reliability Privacy
Li, Tan, and Xie (2002)	Tangibles Reliability Responsiveness Integration of communication	Assurance Quality of information Empathy
e-SERVQUAL (Zeithaml, Parasuraman, and Malhotra 2000, 2002); E-S-QUAL and E-RecS-QUAL (Parasuraman, Zeithaml, and Malhotra 2005)	Core Efficiency System availability Fulfillment Privacy	Recovery Compensation Contact

sions, to increase our understanding of how customers judge e-service quality. This framework consists of three second-order dimensions of process quality, outcome quality, and recovery. These dimensions were established from the analysis of both academic and practitioner literature. Our conceptualization proposes that consumers form quality evaluations based on the interactive process that takes place online (process), the outcome of how the product or service is delivered (outcome), and the manner in which service failures (if they occur) are handled (recovery).

Contrary to past conceptualizations of service quality (Lociacono, Watson, and Goodhue 2000; Parasuraman,

Zeithaml, and Malhotra 2005; Wolfenbarger and Gilly 2003; Zeithaml, Parasuraman, and Malhotra 2000, 2002), we believe that e-service quality is made up of formative rather than reflective indicators. As noted by Rossiter (2002), "SERVICE QUALITY is the sum total of a number of specific activities that make up the overall performance of a particular industry's service. . . . if raters are likely to make this summative type of judgment, then SERVICE QUALITY is a formed attribute" (p. 314). Note that the construct of e-service quality does not cause ease of use or information accuracy. It is just the opposite; the dimensions of design, ease of use, and functionality form the overall evaluation of how the customer judges quality. It is

the belief of the authors that denoting e-service quality with reflective indicators would lead to model misspecification and ultimately lead to biased results. Parasuraman, Zeithaml, and Malhotra (2005) have even questioned their own study's use of reflective indicators by stating that "based on the model specification criteria discussed by Jarvis, MacKenzie, and Podsakoff (2003), it might be more appropriate to treat the first-order dimensions as formative indicators of the second-order latent construct" (p. 220). Due to measurement constraints, the authors noted that they were unable to use formative indicators with the E-S-QUAL or E-RecS-QUAL scales. This leads one to question the results of their study and further emphasizes the need to explore e-service quality as a formative rather than a reflective judgment. Using a formative indicator conceptualization based on practitioner and academic literature, we propose 11 first-order dimensions for measuring e-service quality: privacy, design, information accuracy, ease of use, functionality, order timeliness, order accuracy, order condition, interactive fairness, procedural fairness, and outcome fairness (see Figure 1).

The process dimension or the interactive quality that takes place between the consumer and the Web site is represented by five of the aforementioned first-order dimensions: privacy, design, information accuracy, ease of use, and functionality. Previous research (Hoffman, Novak, and Peralta 1999; Wolfenbarger and Gilly 2002) has shown that privacy plays a crucial part in the evaluation of an online service. The construct of *privacy* refers to companies not sharing information with third parties unless the customer gives permission. It also includes the security of sensitive information between the customer and the company. In addition, this includes providing visual symbols so customers know a secure connection is being achieved. The next dimension reflected in the process quality dimension is design. *Design* is the visual appearance and audible applications of a site. This includes factors such as uses of color, animation, pictures, text, format, and sound. Based on previous studies, Web site design has played a significant role in how customers judge Web site quality (Lociaco, Watson, and Goodhue 2000; Wolfenbarger and Gilly 2002). Recently, Rosen and Purinton (2004) demonstrated how Web site design affected not only online consumers' impression of the Web site but also intentions for revisit. The third dimension of *information accuracy* presents information about a product or service in a clear and concise manner. Information accuracy also includes the currency of information presented on a Web site, as well as full disclosure of policies, procedures, and any charges that may occur during the ordering process. Shchiglik and Barnes (2004) showed how information accuracy played a crucial part in the evaluation of airline Web site quality. In addition, information accuracy has

been shown to affect the perceived quality of financial, retail, and sporting Web sites (Brown 2003; Kim and Lim 2001; Waite and Harrison 2002). As well, Lynch and Ariely (2000) detailed how information on a Web site can affect customer satisfaction along with intentions to revisit and repurchase. *Ease of use* is considered one of the most important factors to customers on the Internet (Eighmey and McCord 1998; Fram and Grady 1995). Ease of use is the ability of a customer to find information or enact a transaction with the least amount of effort. This concept has been characterized as the customer's ability to use as few "clicks" as possible. Ease of use also includes the issue of navigation. Navigation is having consistent menus that lead to key pages on a site. A clear navigation aid allows visitors to know where they are on a site and provides the ability to find their way back to a previous menu screen. Ease of use also includes effective search engines, the ability to easily change or cancel an order, and the ability to inform customers of missing information. This construct is very similar to PZM's construct of efficiency. The authors define efficiency as "the ability of the customer to get to the website, find their desired product and information associated with it, and check out with minimal effort" (Zeithaml, Parasuraman, and Malhotra 2002, p. 366). In our conceptualization, the focus is not on efficiency but the customer's ease in interacting with the Web site. Frequently, consumers are simply looking for information or desire consumer interaction through online forums, message boards, and Web chats. The ease-of-use construct encompasses efficiency without solely focusing on executing a purchase. The last process first-order dimension of *functionality* means that a Web site operates or executes the commands of the customer. Functionality includes quick page loads, links that do not dead end, and payment options. Functionality also refers to the ability to appeal to a universal audience by multilingual translations and disability access and services. We propose that all of these five first-order dimensions play an active role in the customer's evaluation of an e-retailer's process quality.

In PZM's E-S-QUAL model, the construct of fulfillment appears to serve the purpose of capturing the outcome of the service experience. We do not believe that one construct can adequately capture all of the unique dynamics that take place at the outcome of a service when the buyer and seller are separate. This is consistent with previous studies in logistics service quality that require numerous dimensions to capture a consumer's attitude at the end of a service (Bienstock, Mentzer, and Bird 1997; Mentzer, Flint, and Hult 2001). Based on the previous research of logistics service quality, we propose that the second-order dimension of e-service *outcome* quality is made up of three first-order dimensions: order timeliness, order accuracy, and order condition. *Order timeliness* refers to re-

ceiving the service within an expected amount of time. *Order accuracy* is processing the online order to the exact specification of the customer, which includes place of receipt, quantity, and agreed price of the service. *Order condition* refers to the product being free from damage and decay. Order condition also refers to how well the product specifications conform to the customers' needs. The outcome dimensions are what the customer is left with at the end of the transaction and play an incredibly influential role in the evaluation of overall service quality. The outcome of a service is the ultimate reason a customer goes to a Web site. We propose that the outcome of a service experience can be captured by order timeliness, order accuracy, and order condition.

Previous research in online service failures has noted that a majority of customers feel injustice following a firm's recovery efforts (Holloway and Beatty 2003). Specifically, Holloway and Beatty's (2003) study mentions that online customers cited interactive, distributive, and procedural dimensions of justice in service failures. Based on the justice research by Tax, Brown, and Chandrashekar (1998), we believe that the service recovery framework proposed by these authors will apply not only in an offline but also in an online context. Like Barwise, Elberse, and Hammond (2002), we do not believe that the Internet changes the fundamentals of marketing. Existing literature in offline service recovery is still highly relevant to online services, and we see no need to discard validated and empirically supported research. Using Tax, Brown, and Chandrashekar's framework, we propose that the second-order dimension of e-service recovery is composed of three first-order dimensions: interactive fairness, procedural fairness, and outcome fairness. *Interactive fairness* in an online context refers to the customer's ability to locate and interact with technology support on a Web site and how a company's employees treat the customer. Interactive fairness from a technology support standpoint includes online tutorials, frequently asked questions, and an e-mail address where customers can voice a problem or a concern. Interactive fairness also includes easy access to telephone numbers of operators at the company that can assist the customer. In addition, interactive fairness consists of how the company interacts with the customer over the phone or through e-mail. Are e-mail replies written in a condescending tone or with a sense of empathy that the problem occurred? What is the tone of telephone conversations between employees and customers who call to resolve a problem? The interactive fairness in service recovery is one of the most high-profile areas that can make a customer satisfied or dissatisfied during the transaction process.

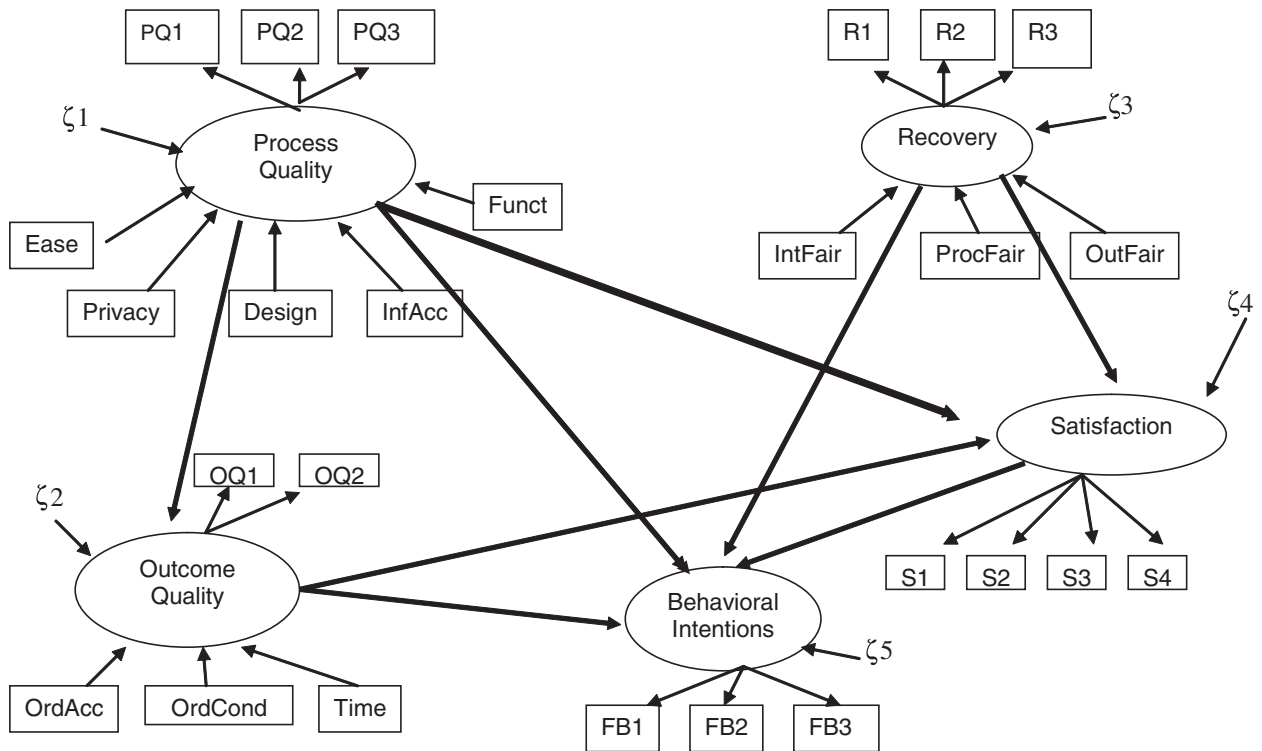
The second first-order dimension that makes up the e-service recovery construct is *procedural fairness*. Procedural fairness refers to the policies, procedures, and responsiveness in the complaint process. Procedural fairness online refers to a company's return policy, the buyer's rights in the case of fraudulent charges, and how quick a problem can be resolved. This area has a high impact in the evaluation of service quality because "justice delayed is justice denied" in the mind of the customer (Tax, Brown, and Chandrashekar 1998, p. 73).

The last first-order dimension of service recovery is *outcome fairness*. Outcome fairness includes such issues as monetary compensation, future free services, or an apology. Outcome fairness in an online context could be resending a product that failed to reach the customer. In service recovery, the customer wants to be compensated equitably for any inconvenience (Goodwin and Ross 1992). Outcome fairness in service recovery should meet the customer's expectations of compensation. Service recovery plays an active role in customer satisfaction, customer loyalty, profitability, and revenue of a company (Tax and Brown 1998). In the event that a company does have a service failure, it must be prepared to address the problem to the satisfaction of the customer. The separation of the customer and buyer during an online transaction intensifies the need for service recovery. An online company's service recovery efforts have a direct impact in creating a customer "terrorist" (i.e., a former customer who actively pursues a policy of disseminating negative information about an online retailer) or a customer "apostle," a customer who actively encourages others to use the online retailer (Tax and Brown 1998).

RELATIONSHIP OF THE THREE CONSTRUCTS IN E-SERVICE QUALITY

Figure 1 details our conceptualization of e-service quality and the relationships among the second-order dimensions of process, outcome, and recovery. An online service encounter starts with a customer making a behavior choice to go to a particular Web site. The customer evaluates his or her experiences initially based on the e-service process dimensions. These dimensions contribute to a customer's overall evaluation of process quality and ultimately have an impact on the satisfaction of the customer's experience. If a customer finds a Web site to be difficult to use and is littered with inefficiencies, then the dissatisfaction of the experience will affect future behavior to repatronize the Web site. We propose that the evaluation of the e-service process will have a significantly

FIGURE 1
Conceptual Framework for Measuring E-Service Quality



positive effect on a customer's level of satisfaction and future behavioral intentions.

Hypothesis 1: There is a significant positive relationship between e-service process quality and satisfaction with an e-retailer.

Hypothesis 2: There is a significant positive relationship between e-service process quality and behavioral intentions with an e-retailer.

Once the process evaluation has been made, we propose that this will have an impact on the evaluation of the outcome of the service. A good outcome experience will be biased by a positive process evaluation just as a bad outcome evaluation will be biased by a poor evaluation in the process dimension. A consumer's first evaluation of quality (process) will have an impact on future evaluations of service quality (outcome). Based on this assertion, we believe that consumers' evaluations of process quality will have a significant impact on how consumers judge outcome quality.

Hypothesis 3: There is a significant positive relationship between e-service process quality and the e-service outcome quality.

Much like the evaluation that takes place with process quality, outcome quality evaluations will have an impact on satisfaction and future behavioral intentions. At this point, a consumer is going to determine how satisfied he or she was with not only the process but also how the service was delivered in the outcome. Dissatisfaction with the outcome could lead to customer switching and defection. If a consumer has a positive experience, then he or she is more likely to repatronize the Web site. The outcome quality of a service is primarily why a transaction was enacted, and this quality evaluation will not only affect feelings of satisfaction but also future behavioral intentions.

Hypothesis 4: There is a significant positive relationship between e-service outcome quality and a customer's level of satisfaction with an e-retailer.

Hypothesis 5: There is a significant positive relationship between e-service outcome quality and a customer's behavioral intentions toward an e-retailer.

In the event that a problem does occur, how the company responds to the failure will have a tremendous impact on customer satisfaction and behavioral intentions. E-retailers must consider how and when to respond to customer complaints along with determining some form of compensation for the failure of the service. With the buyer and seller being separated during the transaction, recovery measures take on an added emphasis in regards to customer satisfaction. If an e-service quality problem goes unaddressed, then the retailer has lost the ability to satisfy the customer, which could lead to customer defection and negative word of mouth. The customer's overall satisfaction or dissatisfaction with an e-retailer can affect the customer's decision regarding whether to return to the e-retailer or choose another e-retailer for his or her next on-line transaction.

Hypothesis 6: There is a significant positive relationship between e-service recovery and a customer's level of satisfaction with an e-retailer.

Hypothesis 7: There is a significant positive relationship between e-service recovery and a customer's future behavioral intentions toward an e-retailer.

Hypothesis 8: There is a significant positive relationship between a customer's level of satisfaction with an e-retailer and future behavioral intentions of a customer toward that e-retailer.

METHOD

To test our conceptual framework, a pencil-and-paper questionnaire was developed by reviewing prior research from service quality, logistics, and service recovery literature to measure customers' perceptions of each first-order dimension. *Reflective* indicators were initially generated for each first-order dimension to create a summated score that would be used as a formative indicator to the second-order quality evaluation. The scales for measuring the process quality dimensions were developed using the recent literature of Zeithaml, Parasuraman, and Malhotra (2000) and Lociacono, Watson, and Goodhue (2000). The outcome quality scales for order accuracy, order condition, and order timeliness were adapted from Bienstock, Mentzer, and Bird (1997), Mentzer, Flint, and Hult (2001), and Zeithaml, Parasuraman, and Malhotra (2000). The recovery dimension of the survey was incorporated from the seminal recovery study of Tax, Brown, and Chandrashekar (1998). The recovery dimension scales were slightly changed to apply to an online setting. Last, the satisfaction and behavioral intention scales were adapted

from the Tax, Brown, and Chandrashekar (1998) and Mathwick (2002) research studies. Following Hinkin's (1995) outline for item generation, we included numerous measures in the initial survey to allow for deletion of items after factor and reliability analysis. Because of the use of formative indicators, an ample amount of items were generated for each dimension to ensure the content validity of the survey.

Pretest and Refined Survey Instrument

A pretest survey of 99 questions was administered to obtain customers' perceptions of the noted first-order dimensions. Of the 99 questions in the pretest instrument, 28 dealt with process quality, 9 with outcome quality, 51 with recovery, 7 with satisfaction and behavioral intentions, and 4 demographic questions (age, sex, major, and academic status). Responses to all items except the demographic questions were on a 5-point Likert-type scale, anchored by 1 = *totally agree* and 5 = *totally disagree*. *Neither agree nor disagree* at the scale midpoint was rated a 3. A 5-point Likert-type scale was used to increase response rate and response quality along with reducing respondents' "frustration level" (Babakus and Mangold 1992).

The pretest survey was administered to 274 students at a southeastern university. The average age of the respondents was 24, and 50% of the respondents were female. College students were chosen because a recent Jupiter Research (2004) report stated that the young adult population was the most active Web users. The report noted that the young adult population accounted for more activity, consumed more entertainment and media, and conducted more personal business online than the overall Web audience. We believe that sampling college students will allow us the best chance to represent the characteristics of online consumers.

Eight surveys were initially disqualified due to incomplete information, which resulted in 266 usable surveys. To qualify for the survey, all respondents must have completed an online transaction with an e-retailer prior to taking the survey. Online auction sites such as eBay did not qualify as an online e-retailer for this study. The e-service quality survey was set up with three sections. In Section 1, all respondents were asked to recall the last e-retailer with which they enacted a transaction and answer the following questions that addressed the process and outcome quality of their online transaction. Respondents were asked to recall their last e-retailer transaction to avoid vague responses and lapses in memory. Section 2 asked the respondents to respond to service recovery questions if they had experienced a problem with their transaction. If the respondent did not have a service failure in the online transaction, then he or she was directed to skip Section 2

TABLE 2
Reliabilities for E-Service Quality Dimensions

	<i>Coefficient Alpha</i>
Process dimension	
Functionality	.757
Information accuracy	.720
Design	.711
Privacy	.839
Ease of use	.761
Outcome dimension	
Order accuracy	.778
Order condition	.840
Timeliness	.780
Recovery dimension	
Interactive fairness	.929
Procedural fairness	.928
Outcome fairness	.885

and proceed to Section 3, which asked satisfaction, behavioral intention, and demographic questions. Of the 266 usable surveys, 147 respondents noted a problem with their last online transaction. Just over one half of the population sampled noted a problem with their last online transaction, which reinforces the need to understand why so many consumers are unhappy with the quality of their online experience.

Using Gerbing and Anderson's (1988) paradigm for scale development, an initial analysis of the pretest data was done to assess internal consistency and unidimensionality. An exploratory factor analysis using maximum likelihood extraction with varimax rotation was performed, and reliability coefficients (coefficient alpha) for each dimension were calculated. From the pretest analysis, it was determined that three items from the process quality construct would need to be dropped because of low reliability coefficients. Therefore, one item from each of the first-order dimensions of ease of use, design, and privacy was deleted.

All of Tax, Brown, and Chandrashekar's (1998) recovery scales were initially included in the pretest survey, but after analysis of the pretest data, it was determined that some items did not seem appropriate in an online context. Thirty-one first-order items from the recovery construct were dropped because these items were loading on more than one factor or had low reliability coefficients (less than .70; Nunnally 1978). In the first-order dimensions, 11 interactive fairness items, 4 outcome fairness items, and 16 procedural fairness items were dropped. The refined survey instrument consisted of 65 items: 25 process quality items, 9 outcome quality items, 19 recovery items, 7 satisfaction and behavioral intentions items, and 4 demographic items. For a full list of the scales used in the refined e-service quality survey, see the appendix.

Consistent with Anderson and Gerbing's (1991) recommendation for construct validity when items are deleted from a measure, a new sample of 338 college students at a southeastern university were administered the refined survey. Again, we felt that sampling college students gave us the best opportunity to understand the young adult population, who appears to be the heaviest users of online retailing. The final survey had the same qualifications for respondents that applied to the pretest survey. Four surveys were initially discarded from the sample due to incomplete information, leaving a total sample of 334. The average age of the respondents was 25, and 52% were female. More than 75% of the population sampled had an academic status of "senior" or "graduate student." Like the initial pretest survey, the final survey was set up in three sections for respondents to answer process, outcome, and (if applicable) recovery dimension questions. In the final survey, 189 of the 334 respondents denoted a problem with their last online transaction. Thus, the analysis of the recovery portion of the conceptual model was performed with the data from these respondents.

RESULTS

The reliability of the refined survey instrument was tested by computing coefficient alpha for all process, outcome, and recovery items. For a complete list of reliability coefficients, see Table 2. All of the e-service quality dimensions exhibited an acceptable level of reliability ($\alpha \geq .70$; Nunnally 1978). A confirmatory factor analysis using AMOS 4 was performed to assess unidimensionality of each item to its first-order dimension. The results of the confirmatory factor analysis indicate that each item loaded significantly on its respective underlying concept, and all loadings were significant with t values greater than 2 (t values ranged from 4.9 to 13.3). These items were then summated to form the first-order formative indicators of the process, outcome, and recovery quality constructs. Construct validity of the formative indicators was not tested because traditional methods of assessing construct validity are not appropriate for composite variables with formative indicators. Bagozzi (1994) notes that "reliability in the internal consistency sense and construct validity in terms of convergent and discriminant validity are not meaningful when indexes are formed as a linear sum of measurements" (p. 333). Although no construct validity was assessed for the formative indicators, we did calculate reliabilities and performed a confirmatory factor analysis for the reflective constructs of satisfaction and behavioral intentions. Both constructs exhibited an acceptable level of reliability ($\alpha \geq .70$; Nunnally 1978), and each item

TABLE 3
Confirmatory Factor Analysis for Satisfaction and Behavioral Intentions

<i>E-Service Quality Item</i>	<i>Standardized Factor Loading</i>	<i>t Value</i>
Satisfaction ($\alpha = .905$)		
S1	.910	13.52
S2	.947	13.88
S3	.956	13.96
S4	.631	— ^a
Behavioral intentions ($\alpha = .931$)		
Fb1	.841	22.57
Fb2	.959	29.50
Fb3	.921	— ^a

a. The *t* values for these items are not available because they were fixed for scaling purposes.

loaded significantly on its respective construct (see Table 3 for details).

There are three issues that do need to be addressed to construct a model with formative indicators: content validity, identification, and indicator collinearity. Content validity is essential with formative indicators because the scope of the latent construct is being formed by the indicators. As discussed earlier, we have included numerous items for each formative indicator to ensure that content validity was being achieved. As well, we believe that the scope of process, outcome, and recovery quality is being captured by the denoted first-order dimensions.

In regards to achieving identification with formative indicator models, Jarvis, MacKenzie, and Podsakoff (2003) noted that two conditions are necessary to prevent underidentification when formative indicators are present. The first condition is that the scale measurement of the latent constructs must be established by constraining the path of one of the indicators to one. The second condition necessary for identification is that at least two reflective indicators must have paths from the formative construct. To achieve identification, we constrained a path in each formative construct to one and included three reflective indicators for process quality (PQ1, PQ2, and PQ3), two reflective indicators for outcome quality (OQ1, OQ2), and three reflective indicators for recovery quality (R1, R2, and R3; see Figure 1). Based on Jarvis, MacKenzie, and Podsakoff's (2003) recommendation for choosing reflective indicators for identification, items were chosen that captured the consumers' overall evaluation of the formative construct and are reflective in nature. Reflective indicators used to achieve identification are listed in Table 5.

Last, multicollinearity is an issue that can be relevant with formative indicators. Intercorrelations of formative indicators may have a direct effect on the stability of the in-

TABLE 4
Correlations of Formative Indicators

	<i>Process Quality</i>				
	<i>Functionality</i>	<i>Information Accuracy</i>	<i>Design</i>	<i>Privacy</i>	<i>Ease of Use</i>
Functionality	—				
Information accuracy	0.59	—			
Design	0.56	0.58	—		
Privacy	0.36	0.48	0.39	—	
Ease of use	0.50	0.56	0.59	0.39	—

	<i>Outcome Quality</i>		
	<i>Order Accuracy</i>	<i>Order Condition</i>	<i>Time</i>
Order accuracy	—		
Order condition	0.51	—	
Time	0.44	0.50	—

	<i>Recovery</i>		
	<i>Interactive Fairness</i>	<i>Procedural Fairness</i>	<i>Outcome Fairness</i>
Interactive fairness	—		
Procedural fairness	0.79	—	
Outcome fairness	0.68	0.78	—

dicator coefficients. As well, high multicollinearity among formative indicators could make it difficult to determine the impact of each indicator on the latent construct. For a list of correlations among model indicators, see Table 4.

Once satisfying the requirements for the use of formative indicators, the sample covariance matrix was then used as input in AMOS 4 to test the structural model denoted by Figure 1. Using McQuitty's (2004) criteria for calculating statistical power with structural equation modeling, the power for our model was found to be $> .90$, providing more than adequate support for our results. One note should be made that we did allow each second-order construct's formative indicators to be correlated with each other. The results from this analysis indicate that the proposed model fits the data quite well ($\chi^2 = 919.45$, $df = 272$, normed fit index [NFI] = .95, incremental fit index [IFI] = .96, comparative fit index [CFI] = .96; root mean square error of approximation [RMSEA] = .08). The chi-square test was significant, but due to the large sample size, it is highly unlikely to obtain a nonsignificant test statistic (Kelloway 1998). The squared multiple correlations for the observed variables listed in Table 6 demonstrate the proportion of the variance explained in the model. The model explains 86.2% of the variance for the second-order dimension of process quality, 91.4% of the variance for outcome quality, 98.4% of the variance for recovery qual-

TABLE 5
Model Test Results

Model Parameter	t Value	Standardized
		Estimate
Formative indicators of process quality		
Functionality → process quality	2.31	.142
Information accuracy → process quality	2.56	.174
Design → process quality	— ^a	.262
Privacy → process quality	3.31	.198
Ease of use → process quality	3.89	.410
Reflective indicators of process quality for identification		
Process quality → PQ1 ^b	4.95	.656
Process quality → PQ2 ^c	4.94	.637
Process quality → PQ3 ^d	4.90	.617
Formative indicators of outcome quality		
Order condition → outcome quality	2.69	.186
Order accuracy → outcome quality	— ^a	.450
Order timeliness → outcome quality	5.45	.493
Reflective indicators of outcome quality for identification		
Outcome quality → OQ1 ^e	7.59	.660
Outcome quality → OQ2 ^f	7.55	.652
Formative indicators of recovery quality		
Interactive fairness → recovery quality	— ^a	.216
Procedural fairness → recovery quality	2.90	.443
Distributive fairness → recovery quality	3.38	.419
Reflective indicators of recovery quality for identification		
Recovery quality → R1 ^g	3.98	.792
Recovery quality → R2 ^h	3.98	.794
Recovery quality → R3 ⁱ	4.01	.843

- a. Denotes a constrained relationship to one in order for identification.
 b. PQ1—I feel safe in my transaction with the e-retailer's Web site.
 c. PQ2—This e-retailer's Web site has good user interface.
 d. PQ3—This e-retailer's Web site has an accurate description of the products.
 e. OQ1—This e-retailer delivers my order on time.
 f. OQ2—I received the item ordered from this e-retailer.
 g. R1—The e-retailer tried hard to resolve the problem.
 h. R2—I was pleased with the length of time it took for them to resolve my complaint.
 i. R3—The result I received from my complaint was fair.

ity, 40.7% of the variance for satisfaction, and 70.7% of the variance for behavioral intentions. All path estimates for the first-order formative indicators for each construct were significant along with all the path estimates to the reflective indicators for identification. For a list of *t* values and standardized estimates, see Table 5.

Using AMOS 4, we tested the proposed hypotheses by analyzing the relationships between the latent constructs denoted in the model. An examination of the estimated model parameters in Table 6 shows the standardized path estimate and *t* values for each of the hypothesized relationships. Hypotheses 1 and 2, which purport that process quality has a relationship with satisfaction and behavioral intentions, were found to be significant. This emphasizes

TABLE 6
Model Parameters, Fit Statistics,
and Squared Multiple Correlations

Hypothesized Relationships in the Model	t Value	Standardized
		Estimate
Process quality → satisfaction	3.46	.262
Process quality → behavioral intentions	3.59	.197
Process quality → outcome quality	3.10	.220
Outcome quality → satisfaction	5.33	.393
Outcome quality → behavioral intentions	-1.07	-.004
Recovery → satisfaction	3.33	.370
Recovery → behavioral intentions	0.047	.002
Satisfaction → behavioral intentions	9.63	.779
<i>Square Multiple Correlations for E-Service Quality Dimensions (R²)</i>		
Process quality	.862	
Outcome quality	.914	
Recovery quality	.984	
Satisfaction	.407	
Behavioral intentions	.707	
<i>Model Fit Statistics</i>		
$\chi^2 = 919.45, df = 272$		
Normed fit index (NFI) = .955		
Incremental fit index (IFI) = .968		
Comparative fit index (CFI) = .968		
Root mean square error of approximation (RMSEA) = .085		

the point that the first evaluation of quality (process) is extremely important in determining a customer's satisfaction and behavioral intentions. As well, Hypothesis 3, which states that a consumer's process quality evaluation will affect the outcome evaluation of an online service experience, was found to be significant. Outcome quality evaluations were found to have a significant relationship with satisfaction, but surprisingly, no relationship was found directly from outcome quality to behavioral intentions, thus supporting Hypothesis 4 and rejecting Hypothesis 5. Similarly, recovery quality had a significant relationship with satisfaction, supporting Hypothesis 6, but failed to have a direct relationship with behavioral intentions, rejecting Hypothesis 7. Last, satisfaction was shown to have a significant relationship with a customer's future behavioral intentions, supporting Hypothesis 8, which is consistent with previous research. Based on the analysis of the data, it appears that satisfaction plays a mediator role between outcome quality and behavioral intentions along with the relationship of recovery to behavioral intentions. This highlights the point that satisfaction is extremely important in determining if a customer remains loyal to an e-retailer or decides to defect to another e-retailer.

DISCUSSION

The goal of this article was to develop and empirically test a conceptual framework for how customers judge e-service quality. In developing this framework, our intention was to provide fresh insight into customers' dimensions of e-service quality. From the results of the current study, it seems apparent that e-service quality is more than just the interaction of the customer with the Web site. The proposed framework in this article presents a reliable and valid conceptualization of service quality in the context of online retailers, consisting of three second-order dimensions of e-service quality: process quality, outcome quality, and recovery. Our findings suggest that customers evaluate the process of placing an order by evaluating the design, information accuracy, privacy, functionality, and ease of use of a Web site. This process quality, in turn, positively affects their perceptions of the outcome quality of the transaction. The quality of the transaction's outcome subsequently affects satisfaction evaluations. In the event of a problem, how the e-retailer handled the service recovery had a positive impact on satisfaction, and satisfaction mediated the relationship from recovery and outcome quality to behavioral intentions.

The results of this study have implications for managers of online retailing operations. First, this study shows how the process quality of an e-service experience plays a crucial role in the overall evaluation of e-service quality. Based on the analysis of this study, we can conclude that customers' evaluation of process quality can bias future evaluations of outcome service quality. Managers of e-retailers need to be aware that a bad experience in the e-service process can have a ripple effect with subsequent evaluations of the service experience. In addition, e-retailers must be aware of how process quality affects satisfaction and behavioral intentions. If a customer has a bad experience in regards to the interactivity or functionality of the Web site, then a customer might make an overall e-service quality judgment even before a transaction took place. E-retailers must understand that the company's Web site is like the layout and dynamics of a brick and mortar store. If a customer goes to a store and discovers that merchandise is hard to find, products have the wrong price, and annoying music is playing in the background, then customers are going to leave the store dissatisfied and will likely not return to the store. The same principle applies to process quality evaluations with online service experiences. If customers believe that a company's Web site is hard to use, is poorly designed, and posts inaccurate information, then customers are likely to defect to other e-retailers. Evaluations of process quality provide the customer with an initial expectation of an e-retailer's competency with the online experience.

Contrary to other models, this e-service quality model showed that the outcome quality of a service is more than just the fulfillment of the order. Customers are concerned with the order's accuracy, condition, and timeliness in the outcome evaluation. Managers need to be aware that simply fulfilling an order is not enough; they need to be concerned with all the details of how an order is received by the customer. This means paying close attention to how, when, and where a package is delivered to a customer. When a customer enacts a transaction with an e-retailer, a psychological contract is being made with the consumer that the service is going to be delivered to the specifications denoted by the customer. If this psychological contract is broken, then not only will quality evaluations be affected but also satisfaction judgments and ultimately future behavioral intentions. The outcome of the service has a significant impact on how consumers judge the quality of an e-retailer.

Last, managers need to place an emphasis on service recovery efforts with online transactions in the event that a service failure occurs. In the sampled respondents of the study, more than half stated that a problem occurred or they were not satisfied with some aspect of their service experience. It is clear that when a customer experiences a failure, the recovery measures used by the company will affect feelings of satisfaction. Online retailers must be prepared to handle the interactive, procedural, and distributive nature of service problems to maintain a high-quality perception with customers. The recovery measures in an online experience are oftentimes the last actions taken by an e-retailer to satisfy the customer. If an e-retailer fails to satisfy the consumer when a failure occurs, then the consumer ultimately leaves the online service experience dissatisfied, which will affect not only quality evaluations but also future behavioral intentions.

This framework for measuring e-service quality also allows managers a way to assess the quality of the online service experience. Not only can it evaluate the overall service quality experience, but it can also evaluate the quality evaluations that take place in the process, outcome, and recovery dimensions. The ability to dissect the quality experience will allow managers more control and faster response to areas that are weakening the service experience. As well, the three dimensions of process quality, outcome quality, and recovery can help managers not only in the evaluation of service quality but also in the design of e-service experiences that are tailored to the customers' wants and needs.

Numerous studies have conceptualized service quality as an attitude that is based on a reflective judgment. Conversely, we believe that service quality in an online setting is a summative judgment that takes place from evaluating numerous dimensions. This formative judgment dictates

that indicators of e-service quality should not be reflective but formative. One has to question if previous results of service quality using reflective indicators have led to biased results that do not accurately explain and describe service quality. This article is taking the first step for others to further examine e-service quality with the use of formative indicators. Only with further testing will we truly understand the ramifications of misspecification of service quality using reflective indicators.

LIMITATIONS AND FUTURE RESEARCH

There are some important limitations associated with this study. We recognize that the nature of the survey provided some constraints. Respondents were presented with a forced-choice format, which has been noted to cause methodological concerns when preference uncertainty is present. Dhar and Simonson (2003) stated that under preference uncertainty, respondents often chose options that are "safer" and would likely not choose these options if a no-choice alternative was available. In addition, using a 5-point Likert-type scale with a neutral or fence-sitting position option can distort preferences when ambivalent feelings exist about the question or item. Last, we did not control for the different types of e-services or the frequency of interaction with the e-retailer. Knowledge of these two aspects, in retrospect, would have allowed us to further explain the variance between e-retailers and respondents.

Although this study expands our knowledge on how to conceptualize and measure service quality with e-retailers, additional research needs to be performed in the e-service quality field. Just because formative indicators were used in the present study does not in any way reduce the need to replicate the results using different samples and contexts. This conceptual framework needs to be replicated outside of the United States to determine if the same dimensions apply internationally as well as domestically. This study could also be applied to an industrial context to determine if a greater emphasis is placed on a particular dimension in an industrial context compared to a consumer context.

Future research is also needed to understand the role that satisfaction plays in the future behavioral intentions of a customer. The results of our study showed that satisfaction plays a key mediator role from not only outcome quality but also recovery quality to future behavioral intentions. An additional area of inquiry that needs to be further researched is how satisfaction in a cumulative and episodic manner affects a consumer's overall satisfaction and evaluation of e-service quality. This is especially important when discussing satisfaction or dissatisfaction that

is achieved with the recovery efforts of an e-retailer because failures are likely to happen on an infrequent basis. In addition, the dimensions conceptualized in this study were derived from a practitioner and academic review of literature. Future qualitative research might need to be undertaken to further refine these dimensions. The e-service quality area is in an early stage of research, and numerous possibilities still exist for exploring and expanding the knowledge in this area. It is our hope that this study furthers interest in this area to fully understand how consumers judge online service quality.

APPENDIX

E-Service Quality Questionnaire

The following statements ask your thoughts about the service provided to you by Internet retailers, also known as e-retailers. Please think about the last e-retailer that you purchased from. Please circle the number that best matches how much you agree or disagree with each statement. There are no right or wrong answers. (Values range from 1, *totally agree*, to 5, *totally disagree*.)

Ease of Use

1. It is easy to get anywhere on this e-retailer's Web site.
2. I don't get lost on this e-retailer's Web site.
3. This e-retailer contains a site map with links to everything on the site.
4. This e-retailer's Web site allows you to find a page previously viewed.
5. This e-retailer's Web site allows you to go back when you make a mistake.

Privacy

6. I trust the Web site administrators will not misuse my personal information.
7. Symbols and messages that signal the site is secure are present on this e-retailer's Web site.
8. This e-retailer doesn't give other sites or companies access to my information.
9. This e-retailer doesn't give my information away to other companies.

Design

10. This e-retailer's Web site is visually pleasing.
11. This e-retailer's Web site design is innovative.
12. I am able to see the graphics clearly on this e-retailer's Web site.
13. This e-retailer's Web site does not have fine print that is difficult to read.
14. I don't have to scroll from side to side to adequately see this e-retailer's Web page.

Information Accuracy

15. This e-retailer's advertised items are available in inventory.
16. This e-retailer provides information on how much an item costs with shipping costs included.
17. This e-retailer provides accurate information about when orders will be received.

18. This e-retailer's Web site has a running total of purchases as the order progresses.
19. Prices are shown with the items on the screen.
20. This e-retailer's Web site has information that is objective (i.e., product reviews are free from bias).

Functionality

21. When I use this e-retailer's Web site there is very little waiting time between my actions and the Web site's response.
22. This e-retailer's Web site does not crash.
23. This e-retailer gives the customer numerous payment options.
24. This e-retailer's Web site loads quickly.
25. The e-retailer provides a confirmation of items ordered.

Order Condition

26. This e-retailer's orders are protectively packaged when shipped.
27. All orders by this e-retailer are delivered undamaged.
28. Damage rarely occurs during transportation of my order from this e-retailer.

Timeliness

29. This e-retailer gives the customer multiple delivery time options (e.g., next day, 3- to 5-day delivery, or 5- to 7-day delivery).
30. The time between placing and receiving an order is short.
31. This e-retailer is able to respond to a rush order.

Order Accuracy

32. My orders from this e-retailer rarely contain the wrong items.
33. My orders from this e-retailer rarely contain incorrect quantities.
34. This e-retailer's billing is accurate.

Interactive Fairness

35. This e-retailer communicated honestly with me about my problem.
36. The e-retailer seemed very concerned about my problem.
37. I was given a reasonable explanation as to why the original problem occurred.
38. The e-retailer was courteous to me when trying to resolve my problem.
39. I believed what the e-retailer told me about how my problem occurred.
40. This e-retailer gives the customer the ability to talk to a "live" person using a telephone number.
41. The e-retailer was sympathetic and caring.
42. The e-retailer put a lot of positive energy into handling my problem.
43. The e-retailer told me why the service had failed in the first place.
44. The e-retailer was quite pleasant to deal with.

Outcome Fairness

45. Compensation was offered for problems the e-retailer created.
46. The outcome I received was fair.

47. In resolving my complaint the e-retailer gave me what I needed.
48. I got what I deserved.

Procedural Fairness

49. The e-retailer responded quickly to my complaint.
50. The e-retailer adapted their complaint handling procedures to satisfy my needs.
51. I got a chance to tell the e-retailer the details of my problem.
52. The e-retailer showed flexibility in responding to my complaint.
53. The e-retailer made it easy for me to voice my complaint.
54. Overall, the e-retailer had a good procedure for dealing with complaints.

Satisfaction and Behavioral Intentions

55. In general I (am/was) happy with the service experience.
56. In general, I was pleased with the quality of the service this e-retailer provided.
57. I was satisfied with the service this e-retailer provided.
58. I felt pretty negative about this e-retailer.
59. I will recommend this e-retailer to my friends.
60. I intend to continue to visit this e-retailer's site in the future.
61. I intend to purchase from this e-retailer in the future.

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Joel E. Collier is a doctoral candidate in the Department of Marketing and Supply Chain Management at the University of Memphis. His research has been published in numerous conference

proceedings, including *Academy of Marketing Science* and *Society for Marketing Advances*.

Carol C. Bienstock (Ph.D., Virginia Tech, 1994) is on the faculty of the College of Business & Economics in the Department of Management & Marketing at Radford University. Her research has been published in the *International Journal of Research in Marketing*, *Journal of Business Logistics*, *Supply Chain Management Review*, *International Journal of Physical Distribution and Logistics Management*, *Journal of Services Marketing*, *Journal of the Academy of Marketing Science*, *Transportation Journal*, *Quarterly Journal of Electronic Commerce*, and *Business Horizons*.