



Customer intention to return online: price perception, attribute-level performance, and satisfaction unfolding over time

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Abstract

Purpose – Compared with the emphasis that service quality research has received in online marketing, much less work has been done on the role of price perception, service attribute-level performance and satisfaction that unfolds over time, and their effects on customer retention. This paper seeks to fill this gap in the literature.

Design/methodology/approach – This paper builds propositions about the role of price and customer satisfaction at different stages on customers' intention to return. Research hypotheses are developed based on theory from the combined literatures of services, product pricing, and behavioral decision theory. Data from the e-retailing industry related to two specific periods of shopping experience (at checkout and after delivery) are used in the empirical tests. Structural equation modeling is employed to test the hypothesized relationships.

Findings – The findings of this study indicate that after-delivery satisfaction has a much stronger influence on both overall customer satisfaction and intention to return than at-checkout satisfaction, and that price perception, when measured on a comparative basis, has a direct and positive effect on customer overall satisfaction and intention to return.

Research limitations/implications – The data are only available from surveying customers who have made purchases. Future study can investigate how satisfaction with shopping convenience has impacted customer acquisition. Measures of actual return behavior, as opposed to behavioral intentions, will also enhance the validity of the study.

Practical implications – This paper concludes that excellence pre-sales service is not necessarily an advantage that allows e-tailers to develop customer retention. In fact, e-tailers might command higher customer retention through providing good performance in after-delivery service and continuously generating favorable price perceptions among customers because both have a strong and positive influence on return intention.

Originality/value – This research conceptualizes and explores different aspects of satisfaction that unfold over time, regarding customers' whole shopping experience with a particular e-retailer. It is a pioneer work that empirically investigates the relative contribution of at-checkout and after-delivery satisfaction in generating intention to return to an e-tailer.

Keywords Consumer behaviour, Internet, Customer retention, Prices, Perception, Customer satisfaction

Paper type Research paper

Introduction

Both academics and practitioners recognize the importance of loyal customers, because such customers usually spend more, buy more frequently, have more



motivation to search for information, are more resistant to competitors' promotions, and are more likely to spread positive word-of-mouth (Dick and Basu, 1994; Bolton, 1998; Rust *et al.*, 1995). Research has shown that increases in customer retention result in increased profitability for firms that compete in mature and highly competitive markets, especially service industries such as banking, telecommunications, hotels and airlines (e.g. Fornell and Wernerfelt, 1987; Reichheld and Sasser, 1990). Reichheld and Schefter (2000) found, for example, that increasing customer retention rates by 5 percent increased profits by 25-95 percent. Customer loyalty is even more important in online channels, because acquiring customers on the internet can be very expensive. For example, Boston Consulting Group estimates it costs internet-only retailers \$82 to acquire a new customer, compared with \$38 for store-based retailers and \$11 for catalog-based retailers (see www.retailers.com/retailers/00jun/mr0600ecommerce.html).

Recently, both academics (e.g. Slater, 1997; Woodruff, 1997) and consultants (Gale, 1994, 1997; Laitamaki and Kordupleski, 1997) have recommended that firms orient their strategies for customer retention toward superior customer value delivery, because customer value is a key antecedent of customer retention. Customer value is usually operationalized as a trade-off between quality (benefit) and cost (price) (Bolton and Drew, 1991). As Monroe (1990) notes, value is "the trade-off between the quality or benefits [consumers] perceive in a product relative to the sacrifice they perceive by paying the price" (p. 46). Considering that price and quality are two component drivers of value perceptions, the quality of service performance is a key marketing component that helps create customer satisfaction, and has been recognized as such for some time (Perrault and Frederick, 1974). Instant price comparisons on the web, made possible by powerful search engines, make non-price competitive advantages, such as service quality, ever more critical in retaining and attracting customers (Jarvenpaa and Todd, 1997; Liu and Arnett, 2000). What brings online customers back, primarily, is a sense of loyalty that comes from an internet company offering better service than the competition (Hoff *et al.*, 1998).

Probably the two most important long-term trends in the business world are the shifting of the economy from goods to services and the rapid expansion of the information economy and electronic networks. These two trends converge in the concept of e-service, which is the provision of service over electronic networks, such as the internet (Rust, 2001). Consequently, e-service excellence has become a powerful source of competitive differentiation. Dell Computer Corporation is perhaps the most often cited example of how important e-service excellence has become in building market share online.

Despite the phenomenal growth in online retailing, little research has been done on the role of service management in this context. But fortunately, and contrary to earlier hype, it is now generally agreed that the internet has not changed the fundamental principles of marketing management (Barwise *et al.*, 2002). Consequently, much of the knowledge gained from offline retailing service research is still highly relevant in the online context. However, some service management issues may be unique to the internet environment. For instance, issues such as on-time delivery and ease of navigation have surfaced as critical elements of e-service quality, and the online environment lacks most of the interactional human elements so vital to the traditional retailing service experience (Yang and Jun, 2002). Further, research has hardly begun

to examine how consumer behavior online differs from consumer behavior offline (notable exceptions include Alba *et al.*, 1997; Burke *et al.*, 1992; Degeratu *et al.*, 2001) (e.g. Chang, 2000; Rust and Kannan, 2002; Rust and Lemon, 2001). Important questions, both empirical and theoretical, about the role of price perception, service attribute-performance and satisfaction unfolding over time and their effects on overall customer satisfaction and loyalty in an e-retailing environment have just begun to be addressed. It is increasingly evident that online service quality involves issues that are unique to the internet environment. Therefore, the main objectives of this research are to address how these managerial actionable factors impact customer retention, and to investigate the nature of their impact in the context of online retailing.

Conceptualization of subsystem satisfaction in online shopping

In-process satisfaction

Several conceptualizations of customer satisfaction have evolved over the past decade (Johnson, 2001). Transaction-specific satisfaction is conceptualized as a customer's evaluation of his or her experience with, and reactions to, a particular product transaction episode or service encounter. This approach dominated the marketing and consumer behavior literature through the early 1990s (Oliver, 1997; Yi, 1991). Cumulative satisfaction is defined as a customer's overall evaluation of a product or service provider to date (Johnson *et al.*, 1995; Johnson and Fornell, 1991). Bitner and Hubbert (1994) reveal that consumers view these two conceptualizations of satisfaction differently. According to them, when asked about transaction-specific satisfaction, consumers are likely to comment on particular events of a service transaction (e.g. specific employee actions). Conversely, consumers are likely to comment on global impressions and general experiences with the firm (e.g. honesty of the firm) when asked about overall satisfaction. Transaction satisfaction captures the complex psychological reactions that customers have to a product's or service provider's performance for a given time period (Oliver, 1997).

According to the prevailing paradigm in the satisfaction literature (Mano and Oliver, 1993; Oliver, 1993; Richins, 1997), consumption emotions are the affective responses to one's perception of the series of attributes that comprise a product or service performance. The consumer satisfaction literature assumes implicitly that people can remember the numerous and varied experiences encountered through the entire duration of a product or service consumption and somehow combine these to form retrospective reports of the emotions (Oliver, 1993). Judgments of overall hedonic value of extended experiences are strongly influenced by peak and final moments of that episode (Fredrickson and Kahneman, 1993; Varey and Kahneman, 1992).

Drawing on a multi-component perspective of emotions, this research conceptualizes how customers' in-process satisfaction (i.e. their satisfaction during the sequence of episodes composing the transaction) determines overall satisfaction and behavioral intention. At the in-process level, the experience of distinct emotions at a certain stage of the service may influence the consumer's overall perceptions of the provider's performance, and/or the subsequent behavior of the consumer. In-process satisfaction is the intensity of various emotions tied to specific episodes that unfold along the service process. Adapting from Oliver (1997), this study conceptualizes in-process satisfaction with a sub-system as the cumulative effect of a set of discrete service encounters during the transaction process with the e-retailing service provider

over a period of time. Overall satisfaction is the general attitude toward the e-retailing service provider after the transaction is complete. Although these two types of satisfaction are related, it is important to recognize them as distinct constructs because some of the factors influencing them may be different. For example, satisfaction with the sub-system is more likely to depend upon performance on specific attributes of the service encounter (e.g. ease of use, product information, etc.).

Online shopping process: a perspective of the consumption system

There is reason to believe that the summation of all the service encounters during the transaction is evaluated by the customer. Marketers, however, have tended not to conceptualize satisfaction as a cognitively based evaluation of attributes found in other literatures (e.g. Parasuraman *et al.*, 1985, 1988) but as an emotional response to product or service use (Oliver, 1981). Competition today essentially takes place at the product-augmentation level. Product augmentation leads the marketer to look at the user's total consumption system: the way the user performs the tasks of getting and using products and related services (Boyd and Levy, 1963; Blois, 1991). Thus, new competition is not between what companies produce in their factories, but between what they add to their factory output in the form of packaging, services, advertising, customer advice, financing, delivery arrangements, warehousing, and other things that people value (Levitt, 1969; Band, 1986).

It has been suggested that there may be distinct "objects" in the service system that may be evaluated along unique attribute dimensions (Singh, 1992). However, studies of the service delivery process in the whole transaction itself have been lacking. The critical issue of how satisfaction judgments evolve during the process has also received very little attention (Mattsson, 1994). Armstrong (1992) modeled the delivery process as a system and analyzed underlying service quality perceptions but used aggregate case data in retrospect. Boulding *et al.* (1993) studied customers' overall satisfaction. Their findings show that overall satisfaction is an aggregation of all previous transaction-specific evaluations and is updated after each specific transaction, much like expectations of overall service quality are updated after each transaction. Investigating the service process in a laboratory experiment, they did not, however, obtain objective measures of the actual dimensions of the service encounter for each individual. Furthermore, measures were collected only at one point in time.

This study attempts to fill this apparent hole in the e-retailing service literature by modeling an actual online purchase process in two sub-systems: shopping convenience subsystem and fulfillment subsystem. The focus is on how underlying quality factors are related to different sub-systems and how the satisfaction level with each sub-system impacts on one another, on overall satisfaction, and especially on customer retention. Profitability and long-term success in e-retailing depend on customers' perceptions of the shopping experience and the e-tailer follow-up actions. Because of the spatial and temporal separation between buyers and sellers in online markets, exchanges between money and goods are not simultaneous and customers may not fully trust e-tailers' online offerings and related purchasing process. For instance, the delivery risk is of particular concern to consumers (Smith *et al.*, 2000).

It is evident that an e-tailer's service delivery process can be broken down into distinct episodes that comprise the main parts of the entire transaction process. Some of these may be an interaction with the provider through customer interface (such as

ease of navigation, product representation), while others may not (such as the delivery). The notion of the process and its outcome actually refers to sub-processes and their satisfaction outcomes. So process-specific attributes should be the focus of quality improvement work in e-retailing.

An e-tailer's e-commerce sales process generally comprises pre-sales service (mode of information, product development and offer comparison), transactions (commerce and financial), physical order fulfillment, and after-sales service (Pan *et al.*, 2001). The sales process focuses on physical and virtual activities and the challenges to fulfill customer expectations at each stage of shopping process.

A consumption system of online shopping consists of a bundle of information, services, and goods that are consumed over time in multiple episodes. Conceptually, there are three elements in such a consumption system:

- (1) attribute-level evaluations;
- (2) in-process satisfaction; and
- (3) behavioral intentions (Reidenbach and Oliva, 1981).

This consumption system can be examined to gain a structural view of consumer shopping experiences with an e-tailer. Thus, this study examines attribute weights, compares the pre-sales, transaction, and after-sale service subsystems, and shows how these elements are linked together to affect the whole online shopping consumption experience and behavioral intentions. Specifically, this research investigates online shopping as a consumption system to gain a process view of such a system. For example, examining how customer satisfaction of shopping convenience (pre-sales service and transaction) measured at checkout and satisfaction of fulfillment reliability (order fulfillment and after-sales service) measured after delivery can translate into intention to return. Each type of examination affords a different perspective on a consumer's online shopping experience

A subsystem level analysis is consistent with consumers' representations of consumption experiences in memory (Mittal *et al.*, 1999). Therefore it provides higher specificity and diagnostic usefulness in terms of asking specific questions about online shopping convenience and fulfillment reliability that are particular to an online context. For example, is overall satisfaction more sensitive to disconfirmation on certain attributes than to other attributes? Thus, this research extends previous models of customer satisfaction to the subsystem level to increase specificity and actionability.

Research questions

Acknowledging that online shopping occurs as two sets of separate encounters between shopping/placing an order through the shopping convenience encounter and obtaining the purchased product, the e-retailing industry is dependent upon customers' satisfaction at checkout and satisfaction after delivery (Srinivasan *et al.*, 2002). Researchers (e.g. Pan *et al.*, 2002) distinguish between these two and their effects on the overall shopping experience. However, most research has examined the satisfaction-intention link on a cumulative basis (Anderson and Sullivan, 1993). Cumulative satisfaction recognizes that customers rely on their entire experience when forming intentions and making repurchase decisions. Research relating encounter-specific satisfaction to behavioral intentions over time is sparse. The

relative contribution of at-checkout and after-delivery satisfaction in reciprocally generating intention to return to the e-tailer is not known.

Furthermore, few studies have simultaneously investigated multiple direct links between service quality, price perceptions, in-process satisfaction, and behavioral intentions (Ostrom and Iacobucci, 1995). Yet, if research in this area is to find application in the e-retailing industry, such a blending is necessary, because firms want to manage the demand generation (through pre-sales service and transaction) and demand fulfillment (through order fulfillment and after-sales service) product and service aspects of their offerings simultaneously.

This paper address the following research questions:

- (1) How are in-process satisfaction (at-checkout and after-delivery), price perceptions, and overall satisfaction interrelated, and how do any or all of these variables directly influence customer intention to return when the effects of all four are simultaneously considered?
- (2) Are the relationships between at-checkout satisfaction and the two marketing outcomes (overall satisfaction and intention to return) stronger or weaker compared to the relationships between after-delivery satisfaction and the two outcomes?
- (3) Are the relationships between at-checkout satisfaction and the two marketing outcomes stronger or weaker compared to the relationships between price perceptions and the two outcomes?

In subsequent sections, research hypotheses are developed based on theory from the combined literatures of services, product pricing, and behavioral decision theory. The methods used in addressing these research questions, data analyses and findings, along with managerial implications and areas for future research, are also presented.

Proposed model and research hypotheses

The model shown in Figure 1 is proposed to test empirically the key conceptual ideas embedded in the consumption system perspective. Major interest is in understanding the key linkages between customer price perceptions, customer satisfaction of the two sub-systems and marketing outcomes. Data from the e-retailing industry related to two specific periods of shopping experience (at-checkout and after-delivery) were used in the empirical tests.

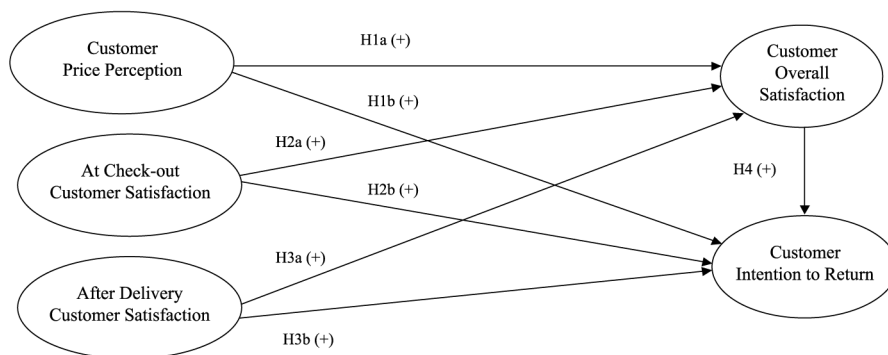


Figure 1. Proposed model explaining customer intention to repurchase over the internet

Price perceptions

Several satisfaction studies have examined the role of price as an attribute of performance. Voss *et al.* (1998) found that price perceptions do affect satisfaction in an experimental setting involving a hotel check-in scenario. Fornell *et al.* (1996) also found that price perceptions affect customer satisfaction in a macroeconomic study involving seven industry sectors. When shopping on the internet, consumers cannot actually see or handle the product: they are unsure that what is represented on the web is consistent with what is actually received. In conditions characterized by such performance uncertainty, price perceptions likely play an increased role in determining both post-purchase satisfaction and intention to return (Jarvenpaa and Todd, 1997; Liu and Arnett, 2000). This is especially true for e-retailing because the product is not available for examination by the customer before purchase. So, consumers are forced to depend on price cues. In such cases, the fairness of the price might be the dominant determinant of satisfaction and subsequent intention to return.

The effect of price perceptions on customer satisfaction is tested using a comparative measure of price perceptions vis-à-vis competition. Such a measure of comparative price perceptions is a special case of Bolton and Lemon's (1999) measure of price disconfirmation (deviation from normative payment standards) in that the normative standard is established by prices charged by the competition. Given the importance of customer price perception as a driver of overall customer satisfaction, the following relationship is proposed:

H1a. Favorable price perceptions have a positive effect on overall customer satisfaction.

Keaveney (1995) reported finding that more than half the customers she surveyed had switched among services because of poor price perceptions. Her qualitative study suggests that unfavorable price perceptions may have a direct effect on customer intention to switch. Mittal *et al.* (1998) provide the theoretical basis for this argument in concluding that "negatively valenced information is more perceptually salient than positively valenced information, is given more weight than positive information, and elicits a stronger psychological response than positive information" (p. 35). According to them, switching could be posited to be an immediate psychological response to negatively valenced information such as high price.

Bolton and Lemon (1999) examine the impact of price perceptions on depth of usage of cellular phone and entertainment services. Surprisingly, except for their study, no other empirical studies are known that investigate the impact of price perceptions on traditional behavioral-intention measures such as customer intention to switch, likelihood to recommend, and likelihood of doing more business with the firm (Zeithaml *et al.*, 1996). Accordingly:

H1b. Favorable price perceptions have a direct and positive effect on customer intention to return.

At-checkout satisfaction

Pan *et al.* (2002) specified reliability in fulfillment, shopping convenience, and pricing policy as the factors reflecting an e-tailers' characteristics. "At-checkout satisfaction" is

conceptualized as customer ratings on the sub-system of e-retailing services on the shopping convenience dimension.

The type of shopping convenience and experience are likely to have an impact in online markets (Novak *et al.*, 2000). According to Smith *et al.* (2000), among the e-tailer characteristics, web site performance, product information, product selection, ease of ordering, and shipping/handling have a positive influence on customer perceptions of shopping convenience at the e-tailer. For instance, product selection provision, as an aspect of shopping experience, is significantly related to pre-sales satisfaction. These effects are generally positive. One possible reason is economies of scope. E-tailers with economies of scope tend to be the ones investing in wide product selection on the web, and they are also able to generate demand (Smith *et al.*, 2000).

Rating variation in product information is expected to be part of at-checkout satisfaction. Depth of product information on a web site was found to influence customers' perception of shopping convenience (Shankar *et al.*, 2001). E-tailers with deep product information may enjoy more positive response to shopping convenience, and such an effect is higher than those with shallow product information.

The options and charges for shipping and handling can be another tool used by e-tailers to attract patronage by matching consumers' delivery needs. Specifying shipping and handling as a factor reflecting on the shopping convenience dimension is consistent with the two-factor (convenience and reliability) solution of e-tailer characteristics by Pan *et al.* (2002). For example, some consumers may seek quick delivery of products, whereas others may prefer to wait if they can pay lower shipping and handling charges. It is worth mentioning that it may also help to build retail store image. For example, Outpost.com offers free overnight delivery for any purchase. Such economy and flexibility of shipping and handling can have a significant and positive effect on customer response.

Brynjolfsson and Smith (2000) found some of the e-tailers' superior services to be negatively correlated with price. For example, some e-tailers with better return policies have lower prices. Nonetheless, variation in shipping and handling may be an important driver of price perception. Whether consumers are willing to return based on superior shipping services, however, is an empirical question that is unclear. Therefore, the relationship between an e-tailer's pre-sales and transaction services and customers' intentions to return needs a more detailed investigation.

Overall, variation in satisfaction of shopping convenience influences customers' perceptions on the whole shopping experience with the store. Ease of finding and evaluating products through better search tools, navigation and faster checkout could reduce consumer search and switching costs. Therefore, e-tailers who offer a high level of convenience may be able to produce higher overall customer satisfaction and intentions to return. Consequently:

H2a. Customers' overall satisfaction with e-tailers is positively related to their "at-checkout satisfaction" with shopping convenience.

H2b. Customers' intention to return to the e-tailer is positively related to their "at-checkout satisfaction" with shopping convenience.

Anderson and Sullivan (1993) use prospect theory to explain why negative disconfirmation (loss) has a stronger influence on customer satisfaction than positive disconfirmation (gain). According to prospect theory, "losses loom larger than

gains” for consumers (Einhorn and Hogarth, 1981; Kahneman and Tversky, 1979). That is, consumers exhibit loss aversion. So if considering that price is a monetary sacrifice (or loss) incurred for service, the tenets of prospect theory would indicate that the price paid would be salient in consumers’ evaluation of services (Bolton and Lemon, 1999).

Furthermore, price and perceived quality are thought of as cues for inferring value (e.g. Parasuraman *et al.*, 1988). According to them, in comparison with quality, an intrinsic cue that the service literature has shown to be multidimensional and correspondingly more difficult to evaluate, price would be considered an extrinsic cue that is readily observable and comparable. In addition, research has shown that negatively valenced information is more readily accessible from memory than positively valenced information, and elicits a stronger consumer response (Taylor, 1982; Mittal *et al.*, 1998). Customers on average state that and behave as if price is the most important factor in drawing them to and retaining them at a site. While shopping convenience factors such as ease of ordering, web site performance, and product information are easy to search and perhaps dampen the potential impact of price, customers do tend to use price as their primary factor in their search engines, and follow that up by buying on price (Shankar *et al.*, 2001). This would indicate that price cues are more readily accessible from memory, and more strongly related to overall customer satisfaction and behavioral intention. Accordingly, based on the salience and accessibility of price information, the following is proposed:

H2c. Price perceptions will have a stronger influence on overall customer satisfaction than “at-checkout satisfaction”.

H2d. Price perceptions will have a stronger influence on customer intention to return than “at-checkout satisfaction”.

After-delivery satisfaction

“After-delivery satisfaction” is conceptualized as customer ratings on the sub-system of e-retailing services on the fulfillment reliability dimension.

The reliability of e-tailers in fulfilling transactions and delivering products is an important factor that consumers consider when shopping online (Smith *et al.*, 2000). Because of the spatial and temporal separation between buyers and sellers in online markets, exchanges between money and goods are not simultaneous, so the delivery risk is of particular concern to consumers (Smith *et al.*, 2000). Reliability is associated with aspects such as delivery time, whether the product was delivered as promised, and the consistency of customer service (order tracking, on-time delivery, customer support and product met expectation). Differences in perceived reliability among e-tailers may influence customers’ perception of their overall shopping experience with an e-store. A more reliable e-tailer may command more positive customer responses than a less reliable retailer. Thus, more reliable e-tailers should have the power to generate higher overall customer satisfaction and their intentions to return to the store. Thus:

H3a. Customers’ overall satisfaction with the e-tailer is positively related to their “after-delivery satisfaction” with the store’s fulfillment reliability.

H3b. Customers' intention to return to the e-tailer is positively related to their "after-delivery satisfaction" with the store's fulfillment reliability.

An attribute's contribution to the overall evaluation may depend not only on its salience, but also on its temporal distance from the final overall evaluation (Mittal *et al.*, 1999). Thus, attributes that are experienced closer to the final evaluation may contribute more than those with a larger temporal distance. Conversely, attributes that are experienced early in a consumption experience may act as key reference points against which subsequent performances are judged. These ideas can be explored systematically to better understand why retrospective evaluations of consumption experiences do not always correspond with "in process" evaluations. Ariely and Carmon (2000) contend that a crucial part of the purchasing experience occurs at the end of the purchase process, when critical factors influence one's likelihood of returning to the same site. This argument contends that the fulfillment aspects of the purchase process might play a greater role than the level of shopping convenience that is available to the consumer. Accordingly:

H3c. "After-delivery satisfaction" will have a stronger influence on overall customer satisfaction than "at-checkout satisfaction".

H3d. "After-delivery satisfaction" will have a stronger influence on customer intention to return than "at-checkout satisfaction."

Overall satisfaction

According to Jones and Sasser (1995), a high level of satisfaction will lead to high customer loyalty. However, they also pointed out that merely satisfying customers who are free to make choices can not guarantee their loyalty. In fact, the only truly loyal customers are totally satisfied customers. As Jones and Sasser note, "customer-satisfaction information can be a critical barometer of how well a company is serving its customer. This information also can show a company what it needs to do to increase its customers' satisfaction level by level until the majority of its customers are totally satisfied" (p. 95).

Moreover, overall satisfaction should explain some variation in intention to return (Johnson *et al.*, 1995). Customers' overall satisfaction is an indication of how well customers like their experience at the site, and it is probably the best indication of their willingness to return to the site again if they are to make another purchase in the category. It is easy to imagine that if customers are very dissatisfied with their experiences, they are highly unlikely to return to the site for future purchases. So:

H4. Customers' intention to return to the e-tailer is positively related to their overall satisfaction with the whole transaction process.

Methodology

A piecemeal approach to testing can result in incorrect conclusions because of the misspecification that results when variables that affect a dependent variable (besides

the variable of interest) are excluded (Farris *et al.*, 1992; Rust and Donthu, 1995). Hence, structural equation modeling is employed to test hypothesis about “at-checkout satisfaction”, price perceptions, and “after-delivery satisfaction” within an integrated model of the overall customer satisfaction and behavioral intentions so that the effects hypothesized in *H1*, *H2*, *H3*, and *H4* are tested simultaneously (see Figure 1).

Data and measurement

With regard to how e-tailers can quantify the service value they create for customers during an online purchase, the process developed at BizRate.com to measure customers' perceptions of the value created for them by e-retailing services provides a useful paradigm. The BizRate.com data comes from survey respondents who have purchased from an online retail site and, upon purchase, received a banner ad requesting them to complete a survey of the site prepared by BizRate.com. Respondents are asked to rate the performance of the site on a set of attributes, answer a series of questions about their likelihood of returning to the same site for their next purchase, and answer a number of demographic and other questions. The set of attributes used for the store ratings was selected from a series of tests aimed at finding the most important/descriptive attributes with regard to repurchase intent. The testing was done using online buyers through focus groups, panel surveys, and point of sale and fulfillment surveys. According to Bizrate.com, each test used a significantly relevant sample size and there were many of them. Bizrate.com is constantly monitoring data collected to make sure the attributes do not become outdated. The process is conducted totally on a self-selection basis. All purchasers are invited to participate. However, only a relatively small percentage (8.4 percent) actually completes the survey.

The survey results are published on BizRate's web site and are available to the public. Aspects of e-tailers' services are evaluated using a ten-point scale and an overall measure of satisfaction was asked for at the conclusion of the survey. The Bizrate.com ratings of e-tailers are widely used in online markets. For example, shopper.com, shopping.com, and price.com, all cite BizRate.com's ratings. In addition, many e-tailers who are BizRate.com's certified sellers also indicate this on their own web sites (e.g. CircuitCity.com, Mercata.com, Motorola, CD Universe, Euclid Computers), which reflects the acceptance of BizRate.com's model. Product, price and deal information for a larger number of e-tailers are also searched and updated daily by BizRate.com. Reibstein (1999) conducted comparisons of Bizrate.com with other third-party data sources of the e-commerce customer on demographics. The median age of Bizrate.com survey respondents is 35-49, and their median income is \$60,000-74,000. Among all the respondents, 63 percent are reported as male, 63 percent are married, and 57 percent have a college degree. According to Reibstein, the Bizrate.com database appeared to be in the same general vicinity of customer demographics as that of other databases (E-STATS and E&Y). Thus, data from BizRate.com has high external validity.

This study uses the data made available from BizRate.com in June 2002 to examine the hypotheses. The study includes 416 e-tailers with over a quarter of a million individual consumer respondents. The number of respondents differs for each e-tailer. Ratings on each measure are aggregated across individual respondents to get the average score on that measure for each of the 416 rated e-tailers. These aggregated ratings are used to test the proposed model. Thus, the sample size for the model

estimation is 416. The major categories represented in this study are: apparel, computer goods, entertainment, food and wine, gifts, and home and gardening. Bizrate.com only uses data from the latest 90 days when performing the calculations to arrive at a rating. So, the information on BizRate is never more than three months old.

The measures used to operationalize the constructs are shown in Table I. A look at Table I reveals that in the Bizrate.com data set, price perception, overall customer satisfaction, and intention to return are measured by single questions, and the “at-checkout satisfaction” and “after-delivery satisfaction” constructs are measured by the use of multiple items. The price perceptions at BizRate.com were measured relative to other competing online retailers. Given work in the pricing literature on how price perceptions are formed, the results in the BizRate.com data are favored, as the pricing literature suggests that price perceptions are formed in relation to internal reference prices, the theoretical justification for which can be found in prospect theory (Kahneman and Tversky, 1979).

Six pre-ordering attributes are collected at the point-of-sale or “checkout” on the receipt page of every merchant transaction. Post-fulfillment (after-delivery) satisfaction is collected via a follow-up survey that is e-mailed to those completing the “checkout” survey. The timing of the follow-up survey is triggered by a question on the “checkout” survey asking when each customer expects his/her product to be delivered. This “after-delivery” follow up survey asks a series of “fulfillment” questions and reactions to the product, include two attributes (“order tracking” and “on-time delivery”) that take place before or at the point of delivery. “Would shop here again” is a key indicator determining the likelihood of a customer returning to the merchant after his/her purchase experience. This item is measured on a ten-point scale and collected at “after-delivery” follow-up survey. Explanations of each of the measurement items are found in Table I.

Analysis and results

Delineating the patterns of relationships among constructs (as seen in Figure 1) was the primary focus of the empirical testing. Structural equation modeling was employed to test the hypothesized relationships. First the measurement model was developed, consisting of three exogenous and two endogenous constructs, by conducting confirmatory factor analysis on multi-item scales (i.e. “at-checkout satisfaction” and “after-delivery satisfaction”). Following recommendations by Jöreskog and Sörbom (1993), conservative error variances were established for the three single-item scales (i.e. price perception, overall customer satisfaction, and intention to return).

Measurement model results

Table II presents the results of the measurement model, including the standardized factor loadings, standard errors, construct reliabilities, and proportions of variance extracted for each construct. Factor loadings of the indicators for each construct were statistically significant and sufficiently high to demonstrate that the indicators and their underlying constructs were acceptable. The reliabilities and variance extracted for each latent variable revealed that the measurement model was reliable and valid. Computed using indicators standardized factor loadings and measurement errors (Hair *et al.*, 1995), the construct reliability for “at-checkout satisfaction” is 0.783, and the

Table I.
Explanation of measures
of e-tailers' features by
BizRate.com

Source	Rating	Explanation	Construct in Figure 1
At checkout	Price	Prices relative to similar stores	Price perception
At checkout	Ease of ordering	Convenience and speed of ordering	At-checkout satisfaction (e-tailer's sub-system implementing shopping convenience)
At checkout	Product information	Information quantity, quality and relevance	
At checkout	Web site performance	Layout, links, pictures, images and speed	After-delivery satisfaction (e-tailer's sub-system providing fulfillment reliability)
At checkout	Product selection	Breadth/depth of products offered	
At checkout	Shipping and handling	Charges and options	Overall customer satisfaction Intention to return
After delivery	Customer support	Status updates and complaint/question handling	
After delivery	Order tracking	Ability to effectively track orders	Intention to return
After delivery	Product met expectations	Product description/depiction versus what you received	
After delivery	On-time delivery	Expected versus actual delivery date	Overall customer satisfaction Intention to return
After delivery	Overall rating	Overall experience with store	
After delivery	Would shop here again	Likelihood to return to this store	

Construct/indicator	Standardized factor loading	SE	T	Construct reliability	Proportion of extracted variance (percent)
ξ_1 (“at-checkout satisfaction”)				0.783	43.89
X_1 (ease of ordering)	0.892 ^a	–	–		
X_2 (product information)	0.559	0.068	12.486		
X_3 (web site performance)	0.946	0.042	27.487		
X_4 (product selection)	0.624	0.059	14.456		
X_5 (shipping and handling)	0.427	0.131	9.023		
ξ_2 (“after-delivery satisfaction”)				0.833	55.61
X_6 (product met expectations)	0.801 ^a	–	–		
X_7 (on-time delivery)	0.858	0.068	20.932		
X_8 (customer support)	0.885	0.082	21.904		
X_9 (order tracking)	0.777	0.075	18.199		

Note: ^aFirst λ path was set to 1; therefore, no SEs or t values are given

Table II.
Measurement model results for constructs measured by multiple items

extracted variance is 43.89 percent. The construct reliability for “after-delivery satisfaction” is 0.833, and the extracted variance for this construct is 55.61 percent.

Causal equation model results

The hypothesized relationships were tested using maximum likelihood simultaneous estimation procedures (EQS, Bentler, 1992). Results of structural equation modeling obtained for the proposed model revealed a chi square of 382.608 ($df = 48, p \leq 0.001$), NFI of 0.91, NNFI of 0.90, CFI of 0.92, RMSEA of 0.05, and chi square/df of 7.97. The ratio (chi square/df) of 7.97 indicated good model fit. All relationships proposed by the model were significant except for the paths ($p \geq 0.05$) from “at-checkout satisfaction” to customer overall satisfaction and from overall satisfaction to customer intention to return. Figure 2 presents the model and structural path coefficients for each relationship. These results indicate support for all proposed hypotheses but three.

H1a, predicting a positive relationship between customer price perception and overall customer satisfaction, was supported. Results revealed that the path between these two constructs was indeed positive (standardized regression coefficient = 0.089) and significant ($t = 4.200$). The proposed positive relationship between price perception and intention to return (*H1b*) was also supported (standardized regression coefficient = 0.193; $t = 6.223$).

The two hypotheses predicting a positive relationship between “at-checkout satisfaction” and customer overall satisfaction (*H2a*) and between “at-checkout satisfaction” and intention to return (*H2b*) were not supported. Because the path between “at-checkout satisfaction” and customer overall satisfaction was not significant, it was removed from the final structural model. The relationship between “at-checkout satisfaction” and intention to return is marginally significant (standardized regression coefficient = -0.081 ; $t = -2.202$) but with a negative sign, which is contrary to the hypothesis. Obviously, the relationship between overall customer satisfaction and price perception is stronger than with “at checkout satisfaction”, therefore supporting *H2c*. The relationship between intention to return

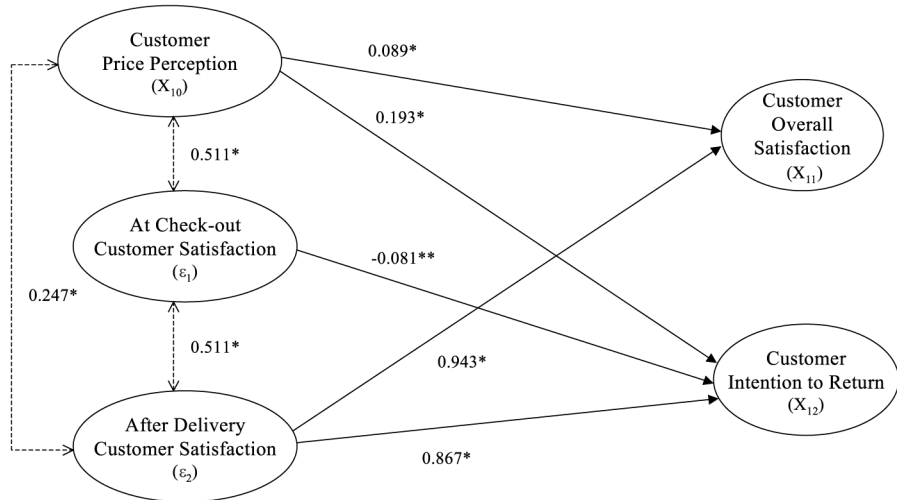


Figure 2. Final model explaining customer intention to repurchase over the internet

Note: The dotted line is from the post-hoc test, the numbers reported are standardized correlation coefficients. The numbers reported on the solid lines are standardized regression coefficients. *: the path is significant at 0.05. **: the path is significant at 0.10

and price perception is positive and stronger than with “at-checkout satisfaction”, therefore supporting *H2d*.

Significant path coefficients were observed between “after-delivery satisfaction” and customer overall satisfaction (standardized regression coefficient = 0.943; $t = 24.107$), between “after delivery satisfaction” and intention to return (standardized regression coefficient = 0.867; $t = 20.064$). Therefore, *H3a* and *H3b* are strongly supported. On the other hand, the relationship between “after-delivery satisfaction” and overall satisfaction is much stronger than “at-checkout satisfaction” with overall satisfaction, therefore supporting *H3c*. Furthermore, the relationship between “after-delivery satisfaction” and intention to return is positive and also much stronger than “at-checkout satisfaction” with intention to return, therefore supporting *H3d*. Considering the total effects of all constructs, “after-delivery satisfaction” exhibited the strongest direct and positive impact on both customer overall satisfaction and intention to return. However, the results did not lend support to the role of “at-checkout satisfaction”. No significant direct relationships were found between overall satisfaction and intention to return, and therefore *H4* was not supported.

As shown by the dotted lines of Figure 2, the data also indicate a significant and positive relationship between customer price perception and “at-checkout satisfaction” (standardized correlation coefficient = 0.511), between price perception and “after-delivery satisfaction” (standardized correlation coefficient = 0.247), and between “at-checkout satisfaction” and “after-delivery satisfaction” (standardized correlation coefficient = 0.511). (Note: the dotted lines in the Figure 2 represent new paths that were not anticipated earlier and are therefore *post hoc*.) New positive relationships emerged between the two in-process satisfaction constructs that were not

previously discussed, which indicates an assimilation effect (Oliver, 1997). This means that if actual performance on the shopping convenience sub-system is close to expectations, assimilation will occur and subsequent judgments (i.e. satisfaction with fulfillment) will be influenced positively by those expectations. Put differently, exceptionally good services at the shopping convenience sub-system level may cause a customer to have a positive view of fulfillment.

Discussion

Conclusions

This study of different aspects of satisfaction that unfold over time, regarding customers' whole shopping experience with a particular e-retailer, showed that satisfaction with fulfillment reliability appears to have a much larger effect on customer retention than "at-checkout satisfaction". Collectively, these results indicate that, in the e-retailing industry, the effect of satisfaction at different shopping stages on return intentions toward the e-store is asymmetric. That is, during the initial shopping stage, satisfaction with shopping convenience has a large positive correlation with price perception. Using this result as a basis, this study concludes that the satisfaction-intention link decays rapidly. This finding is consistent with the results of Mittal *et al.* (1999). But, how satisfaction with shopping convenience impacts customer acquisition could not be investigated here, because data was only available from surveying customers who had made purchases. No comparisons were made between purely web surfers (non-purchasers) and purchasers in examining their "at-checkout satisfaction" levels. But, theoretically, such satisfaction should be the most critical factor influencing customers' decisions on placing their orders, i.e. only satisfied customers (with shopping convenience dimension) are motivated to make a purchase.

In a surprisingly short time, a substantial literature has emerged on consumer decision-making in the digital environment. Dholakia and Bagozzi (2001) did an excellent job of summarizing much of what has been written about how consumers make their purchasing decisions in the new digital environment. Similarly, Haubl and Trifts (2000) discussed consumer decision-making and the impact of decision aids in the process. One perspective is that the internet will allow customers to become more efficient in their buying process (Bakos, 1997). With shopping being exceedingly convenient, the resulting outcome will be that consumers opt to purchase at the e-store. Thus, they will be able to make better decisions with less required effort.

If price perception and "after-delivery satisfaction" are equal, consumers with high "at-checkout satisfaction" are found less likely to return than those with low satisfaction with shopping convenience. Such a counter-intuitive finding may result from consumers having elevated their expectations of the e-store too much at the first stage of shopping.

Customers have more positive price perceptions about e-tailers who are more reliable in fulfillment. Therefore, with regard to reliability, e-tailers may need to price their product categories differently. Although further research on this issue is needed, e-tailers with superior reliability of service may actually charge either higher or lower prices. While consumers may be willing to pay more for greater reliability, it is also possible that e-tailers offering superior reliability are more efficient and have lower costs, leading them to price lower than less reliable competitors in anticipation of high volume. Shopping convenience was found to have significant and strong correlation

with price perception and the correlation between the two is positive. This correlation is stronger than the one between price perception and customers' satisfaction with fulfillment. In general, customers have more positive price perceptions about e-tailers who provide greater shopping convenience. This finding suggests that consumers are more willing to pay for convenience for buying at these e-stores. The unique role of price perception may be an important new avenue for study suggested by this finding. Given the predicted growth in e-retailing, strategies helping to generate positive price perception are important for stimulating specialized e-retailing services.

One reason for the relationship between overall satisfaction and intention to return could be that satisfaction and return intentions are qualitatively different constructs (Ostrom and Iacobucci, 1995). Whereas return intentions have a behavioral component, satisfaction may be merely a judgment with cognitive and affective dimensions. Based on the consumer's goals (e.g. Mittal *et al.*, 1993), performance on a certain attribute instead of satisfaction may become crucial for repurchase intentions. For example, consider the case of a customer who is satisfied with all aspects of the service provided by Amazon.com, except that the customer has now relocated to Washington State from New York. When it comes time to buy books and choose an e-tailer, the customer might indicate high overall satisfaction with Amazon but still might choose another e-tailer, because s/he doesn't want to pay online tax (performance on a critical attribute, i.e. tax, has changed for this customer at Amazon.com).

Collectively, these results indicate that consumer experiences should be examined as a system involving a shopping process and fulfillment subsystem. Both notions have implications for academic research and marketing practice. This result is consistent with the observation by Ariely and Carmon (2000), who noted that the part of the shopping experience the customer faces at the end of the purchase process has the greatest influence on the likelihood to repeat purchase. More generally, research should determine factors that explain the shifting importance of each subsystem.

Managerial implications

Because customers have more choices today and the targeted customers are most valuable to the company, customer service must receive a high priority within the e-retailing company. In a general sense, any contact or "touch points" that a customer has with an e-tailer is a customer service encounter has the potential to gain repeat business and help customer relationship management or have the opposite effect. Programs designed to enhance customer service can be of three types.

Services to provide shopping convenience. E-tailers, during the pre-sale phase, in addition to offering online customers information on the service offerings, can also provide customers with the opportunity to design or customize their products. Since the web site functions as an information system, customers have high expectations for rich and credible content. Valuable online information and interactive communication are important for encouraging online consumers to revisit the web site. E-tailers can meet high customer expectations by offering continuously updated information on the company, its products/services, answers to frequently asked questions (FAQs), special offers, etc. Furthermore, the e-tailer may inform its online customers about inventory status, delivery options, timeframe, and payment conditions. Since accessing help from other consumers is very important in the sense that consumers tend to acquire knowledge from each other, e-tailers should use multiple information sources to

increase their credibility. Providing both traditional and online communication channels is a necessity. For instance, e-tailers can post customer testimonials online, establish virtual online communities, or use testimonials of independent third-parties officials like “Bizrate.com certified online merchants”. E-tailers can share customer information and cross-sell products through affiliating with other vendors.

Besides offering the above information, e-tailers can also leverage the internet to design proactively an offer based on customers’ preferences and buying patterns. By doing so, e-tailers can segment the market and establish a one-to-one relationship with customers, reduce customers’ web site navigation time to search for appealing offers, and decrease the risk of losing online customers. According to Rice (1997), for internet-based shopping to achieve mass-market penetration, it must be made substantially easier for consumers to navigate and locate information or content. The organization and structure of the web site should be easy to follow and navigate, since the shopper’s primary motivation to purchase online is convenience (98 percent) and time saving (84 percent) (Tracy, 1998). An online product catalogue or search engine can facilitate the customer’s search of product information. Also, 73 percent of an e-tailer’s online customers state that they leave an internet homepage if it takes more than two or three clicks. Most importantly, the contents of the web site should be concise and easy to understand. All terms and conditions concerned with products and services should be easy to read and comprehend.

Services to improve fulfillment reliability. To impress customers with physical order fulfillment requires e-tailers to offer online a simple and risk-free transaction and fulfill it quickly, reliably and rewardingly.

Customers expect to be billed and charged correctly, E-tailers can use multiple transaction mechanisms to meet this expectation. As some customers may need help during the sales process, e-tailers should provide hotlines and online help services. After receiving the order, they need to confirm it (e.g. through e-mail) and inform the customer of the shipment time. The order should be processed in real time and tracked without human intervention.

On-time delivery is of equal importance and constitutes a competitive priority in e-commerce. Companies need to perform the promised services accurately and in a timely manner. The quality of delivery should include promptness and ensure that both correct and intact products and services are delivered in ordered quantities, at times convenient to customers. Fulfilling the digital promise often demonstrates that the firm possesses basic integrity and credibility in relation to its customers.

Accurate, available data, forecasting, supply-chain speed and inventory planning are the foundations needed to successfully fulfill orders. E-tailers need to manage a wide variety of package shapes and sizes instead of shipping uniform pallets of goods. Because most companies lack strong internal and external collaboration, 70 percent of retailers lose valuable time since they are not technologically advanced enough to automatically integrate internet purchases with their fulfillment and distribution system (Spiegel, 2000). E-tailers need to integrate the logistics process (the back-end) with the online ordering system (the front-end) to provide uniform and seamless service. Depending on their e-commerce strategy, e-tailers can avoid shipping products to single customers. For example, if an e-tailer has an offline presence at a particular area, it can obtain real-time inventory data, check availability of the ordered good at

the closest outlet to the customer's address, and instead of shipping the good to the customer, notify him/her to pick up the product from the retailer's offline location.

E-tailers can build competitive advantages through a tight integration of the web site with customer service operations and communications among different functional departments. In the future, e-tailers need to manage integrated value networks in which they include their customers, suppliers and order fulfillment partners. One obvious way to do so is through establishing strategic alliances, as well as outsourcing fulfillment implementation system to intermediaries with fulfillment experts (e.g. Wal-Mart employs Fingerhut for its online store delivery service). In addition, E-tailers need to manage reverse logistics replicating efficiently the sales process in reverse order with the speed, accuracy and convenience that customers expect, since easy return constitutes an important factor for customers' online purchasing decision (see http://opsandfulfillment.com/ar/fulfillment_unhappy_returns).

Many e-retailing experts (e.g. Jeff Bezos, founder of Amazon.com) say that a company's money would be better spent on improving delivery performance than on advertising. They argue that superior service performance is a more effective differentiator than image expenditures. Furthermore, it is harder for a competitor to duplicate a superior distribution system than to copy a competitor's advertising campaign. An e-tailer can differentiate itself by designing a better and faster delivery system. There are three levels of differentiation. The first is reliability: some e-tailers are more reliable in their on-time delivery, order completeness, and order-cycle time. The second is resilience: some e-tailers are better at handling emergencies, product recalls, and answering inquiries. The third is innovativeness: some e-tailers create better information systems, introduce bar coding and mixed pallets, and in other ways help the customer.

Services to strengthen customer support. Providing online and offline after-sales service constitutes a new activity in the e-tailer's value chain to gain customer loyalty. Unlike manufacturers who might enjoy strong know-how of their products, e-tailers have much more knowledge of customers. Hence, e-tailers are well positioned to sell a combination of products and services that minimize the customer's overall costs associated with owning and using the product while maximizing its utility. E-tailers need to employ and train customer service staff to carry out many downstream activities, such as offering financing and maintenance on- and offline. A message area in which consumers may ask questions and post comments is also a necessity. By managing all forms of interaction, such as bulletin boards, user groups and virtual communities in a single framework, e-tailers can also help customers to solve customer problems online, reducing the e-tailer's time and effort while strengthening the e-tailer's virtual community.

The information generated by members of an e-tailer's virtual community provides valuable feedback on the quality of existing fulfillment and after-sales services. E-tailers can react to their consumer's opinion and enrich their offer by developing services or forging partnerships. Hence, virtual communities form a live test-field where e-tailers can get in touch with their customers, continue to satisfy them, and encourage them to stay with the e-tailer in the future. Certain techniques such as a "rules engine" that can drive personalization based on information from the database are critical to satisfy individual customers. Additional retention strategy includes the possibility of carrying out online and

offline product simulation and testing, the availability of after-sales service and advice, the handling of returned goods as well as possible financing schemes. By doing so, customer relationships, as well as the e-tailer image, can be strengthened and revenues increased.

Another managerial implication of this study is that managers desirous of managing the price perceptions of their customers can do so by actively making quality improvements. By managing the comparative price perceptions of their customers, managers could simultaneously influence overall customer satisfaction because of comparative price perception's direct and positive effect on overall satisfaction. For instance, marketing managers, in coordination with their firms' e-marketers, can focus on developing services that improve efficiency of these two e-retailing service dimensions: service reliability and shopping convenience. This kind of thinking enables e-tailer services to be seen as a differential competitive weapon that not only can improve efficiencies by reducing costs but can also improve marketing effectiveness by fostering to obtain positive price perception that generates greater revenue for supplier firms.

Limitations

As is the case with any research, the study presented here has some limitations. First, the research model is not designed to include all possible influences on consumer decision-making in online purchases. The scope is limited to the identified variables simply because the focus of the investigation is on the composite set of links between consumers' in-process satisfaction, price perceptions, and intention to return.

Several concerns should be raised about the secondary data used. The Bizrate survey is not administered at all sites on the web, only those that cooperate with BizRate.com. The respondents are those who have elected to go to a site and buy from it. Those who did not choose to go to a particular site or who went to the site and then left for whatever reason are not part of the sample. Hence, the sample consists of buyers, not surfers, browsers, or information seekers. As a result, the ratings of the particular stores tend to be on the positive side. If the consumers were not very content with the site, they most likely would have left without completing a purchase. While the number of responses has been very impressive, there has been an even larger number of non-respondents. The overall response rate has hovered around 8.4 percent for quite some time. Of course, one should always be concerned with any potential non-response bias. The fact that not everyone has answered the survey is normal. For a non-response bias to be present, the respondents would have to answer the questions differently from those who did not bother to respond. BizRate.com has on numerous occasions conducted validity checks on its non-respondents. This has entailed e-mail follow-up to non-respondents to see whether the answers by the non-respondents were any different from those who had responded earlier. BizRate.com has reported no noted non-response bias.

Finally, measures of actual return behavior, as opposed to behavioral intentions, could also enhance the validity of the study. Unfortunately, such data are often difficult and costly to gather.

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