Product Returns on the Internet: A Case of Mixed Signals?

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Abstract

In two studies, we investigate the interrelationship between return policy leniency and retailer quality. In the first study, we content analyze the return policies of e-tailers randomly selected from those listed at two services that rate the quality of Web sites (Gomez.com and BizRate.com). Then we relate the return policy characteristics to these quality ratings. Consistent with signaling theory, we find that as the ratings of e-tailer quality increase, return policy leniency increases in non-consumable product categories. However, the positive quality/return policy leniency relationship does not hold in consumable product categories. In a follow-up experiment, we investigate how consumers interpret the return policy signal.   Specifically, we find that consumers' ability to control their shopping experience and their general trust of e-tailers moderate their reactions to return policies that differ in leniency. Finally, we discuss the theoretical and managerial implications of this research.

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A recently released government survey indicates that Americans are increasingly using the Internet for email, information search and purchases (US Department of Commerce 2002). In the 2001 survey, about 143 million people, or 54% of the US population, reported using the Internet. Of the online consumers, most use it for email (45.2%), but fully 21% of all Internet users use the technology to make purchases. As electronic commerce has grown, academic researchers have expanded their attention from traditional brick-and-mortar purchases to the growing numbers of online consumers.

With the growth in e-commerce comes not only the potential for an overall increase in the number of product returns, but also the likelihood of increasingly complicated product returns. While traditional brick-and-mortar retailers are accustomed to product returns and have long had the procedures in place to handle them, many e-commerce retailers are unprepared to deal with product returns because they are unfamiliar with the total buying experience. Additionally, a number of e-commerce merchants have primarily invested in front-end operations in their rush to establish an Internet presence and gain sales, while paying comparatively little attention to service and back-end operations (Grant 1999). As a result, it is not surprising that analysts say that e-commerce sites have not done enough to give customers the same confidence in their return policies as traditional merchants do and have been slow to put in place effective systems for refunds and exchanges (Davis 2001; Unsigned 1999).

Our research, which is summarized in Figure 1, focuses on return policies, which can act as an important prepurchase signal to consumers. In our first study, we investigate whether variability in retailer quality underlies variability in return policy

leniency. Specifically, we relate the content of over 300 randomly selected e-tailer return policies to e-tailer quality. If e-tailers are using return policies to signal quality, then quality ratings should correlate positively with return policy leniency. However, we expect product category characteristics to moderate this relationship. In our second study, we investigate whether consumers, prior to making purchases, use return policy characteristics to infer e-tailer quality and whether consumers' reactions to the shopping experience and their trust of the agent sending the signal moderate the return policy/quality inference. If consumers are using return policies to infer quality, then they should assign higher quality ratings to Web sites that offer lenient return policies. As a result, Figure 1 features a two-headed arrow extending between retailer quality and return policy characteristics.

Insert Figure 1 Here

Our research makes several contributions to theory and practice. The first study fills a gap in theory development and testing by investigating how characteristics—as opposed to the mere presence—of signals relate to quality. Because we study the conditions that limit e-tailers' use of return policies, we broaden prior research on what are known as default contingent-cost risking signals[1], which has tended to emphasize warranties (Kelley 1988; Wiener 1985; Kirmani and Rao 2000). (See Wood 2001 for a notable exception). In the second study, by studying how two important moderator variables influence the quality inferences consumers make from return policy characteristics, we build on prior consumer research (Boulding and Kirmani 1993; Wood

2001). The moderators, perceived trustworthiness of the agent sending the signal and perceived control over the shopping experience, repeatedly enter into discussions about why online behavior is different than offline behavior (Childers, Carr, Peck and Carson 20001; Shim, Eastlick, Lotz and Warrington 2001; Szymanski and Hise 2000; Vinton 2001). From a managerial perspective, e-tailers face considerable uncertainty about how to set return policies. On the one hand, e-tailers may understand that lenient return policies signal that the firm stands behind the quality and delivery of their products; on the other hand, they are likely to realize that lenient return policies are expensive and difficult to manage. Our research may help e-tailers sort out the advantages and disadvantages of different return policies.

We proceed in the following fashion. In the first section, we develop the hypothesis that guides the first study, and then we present the methodology and results. In the second section, we develop the hypotheses that guide the experiment, present the methodology and discuss the results. Finally, in the third section, we discuss implications of both studies for theory and practice.

The E-tailers' Perspective: The Relationship between Return Policies and Quality

Internet retailers realize that buyers will be uncertain about many aspects of the Internet shopping experience. Not only are buyers unable to inspect the goods prior to purchase, but they also worry about the security of the transaction and the timeliness of the delivery. In contrast, sellers have information about these aspects of their business. Thus, buyers and sellers possess asymmetric information when facing a market transaction. In order to alert buyers to their competitive advantage, high-quality e-tailers may resort to signals to separate themselves from low-quality e-tailers (Kirmani and Rao

2000). According to Porter (1980), a signal is an action by a firm that conveys information about its abilities. A return policy, like a product warranty, is a special type of signal (default contingent-cost risking): the e-tailer only incurs the cost of the signal if the consumer returns the ordered goods.

Consistent with signaling theory, we predict that in order to attract consumers and to reveal the quality of their Web site, high quality e-tailers will set lenient return policies. By lenient return policies, we mean return policies that facilitate returns by not only allowing refunds, exchanges and merchandise credits, but also by imposing minimal restrictions on consumers making returns. These high-quality firms can offset the increased costs of honoring lenient return policies with increased revenues from consumers. Low-quality firms, though, will not use lenient return policies because they know that their low quality means that many orders will be returned and the costs of returned merchandise will be higher than any increased revenues from consumers attracted by lenient policies. These actions create what economists label a separating equilibrium.

However, characteristics of the product category may moderate this relationship. Lenient return policies may attract consumers who try to take advantage of the return policy. For example, dishonest consumers could order, copy and try to return for credit software, compact discs or videos. They could also order and quickly consume the benefits of products such as flowers or food products, but then try to get cash back by claiming that the purchased items were unsatisfactory. Even for high-quality e-tailers, consumer cheating could raise the cost of honoring lenient return policies to an uneconomic level. This could lead to a situation known as a pooling equilibrium, where

the signal no longer separates high- and low-quality firms. As a result, we predict that e-tailers, which primarily sell products with benefits that can be quickly consumed or copied (hereafter referred to as consumable), will set restrictive return policies regardless of their quality.   We therefore hypothesize that whether the product category is easily consumed moderates the e-tailer quality/return policy leniency relationship.

> H1: There will be an interaction between type of product and e-tailer quality such that the positive relationship between e-tailers' quality and return policy leniency will be stronger in non-consumable than consumable product categories.

Content Analysis Overview

Through a series of pretests, we revised a previously developed instrument to code the leniency of return policies (Bonifield, Cole and Schultz 2001). In the final instrument, two coders judged multiple return policy characteristics including the availability of refunds, exchanges, merchandise credit, pre-printed return labels, credit for original shipping and handling fees, payment for return shipping, as well as whether restocking fees were charged, time limits imposed, preauthorization required and contact information was easy to find.

Our initial research uncovered two Web sites, Gomez.com[2] (Gomez.com 2001) and BizRate.com (BizRate.com 2001), which offer publicly available quantitative ratings of e-tailer quality in a variety of product categories (Paul 2001). One coder randomly selected 157 (about 10%) of the e-tailers listed on BizRate.com and then coded the return policies, while the other coder randomly selected and coded the return policies of 184 (about 10%) of the e-tailers listed at the Gomez.com Web site. (We excluded listings in the travel category because the return policies for airline tickets are set by the airline, not

the Web travel agent.). Because Web sites are listed under product categories (e.g.

apparel), but the listed Web sites frequently handle multiple product categories, we

instructed the coders to code the return policies for the product categories where the Web

sites were listed. For example, Amazon.com was randomly selected from the Books and

Magazines category. The coder ignored the return policy for non-book items (e.g., CD's)

and only coded the return policy for books. Each coder also coded 40 sites done by the

other coder so that we could calculate interrater agreement.

Predictor, Dependent and Moderator Variables

E-tailer quality. As predictor variables in our analyses, we used quality ratings

from two sites listed in a recent review of six comparison-shopping sites (Paul 2001).

These sites, Gomez.com and BizRate.com, offer publicly available quantitative ratings of

Web sites in a variety of categories. For BizRate.com, customers supply e-tailer quality

ratings, which are updated weekly and reported by BizRate as a weighted average of

scores on 10 attributes, including: ease of ordering, product selection, product

information, price, Web site performance, on-time delivery, product consistency with

expectations, customer support, order tracking, shipping and handling. For the Gomez

quality rating, experts assign up to three stars to merchants based on their performance on

a variety of certification criteria, including access to customer support through

phone/email, use of shopping cart technology, site failure rate, use of secure server

transaction, acceptance of multiple credit cards, published return policy, speed of

response to emails and availability of gift certificates. We used these measures of quality

because they were based on different opinions (consumers and experts), they give

minimal attention to the characteristics of the return policy (Gomez considers whether the

return policy is published) and one (Gomez) does not earn revenues from their listing service.

Lenience of E-tailer Return Policy. Based on the characteristics of each e-tailer's return policy, we created two measures of return policy leniency. One index (called REM for availability of refunds, exchanges and merchandise credits) is based on the coder's judgments about whether the e-tailer issues refunds, makes exchanges or gives merchandise credits for returned items (see Table 1). The index ranged from 9 (the merchant issues refunds, exchanges *and* merchandise credits on all merchandise) to 3 (the merchant issues no refunds, no exchanges and no merchandise credits). The two judges agreed on the REM ratings of 95% of their commonly coded Web sites.

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Insert Table 1

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Additionally, return policies can differ in terms of the number of restrictions they impose upon consumers. To determine a score on the Restrictions index, we counted the number of restrictions that the merchant imposed on consumers. These restrictions related to how the following items were handled: the return label, time limits, return shipping, restocking fees, original shipping and handling, pre-authorization and customer contact information. In this case, the Restrictions index varied from 0 (no restrictions) to 7 (restrictions), so that a higher number indicates more restrictions in the return policy (see Table 1). The two judges agreed on 89% of the restriction ratings for the Web sites they both coded.

Category Consumability. Two coders classified each category listed at Gomez.com and BizRate.com as consumable or non-consumable. They agreed on 97% of the classifications; the one area of disagreement was resolved through discussion. For the BizRate.com ratings, we consider the following categories consumable: Computer Software, DVDs and Videos, Gifts, Flowers and Food, Music and Video Games. For the Gomez.com ratings, we consider the following sites as consumable: Flowers, Food and Beverages, Gifts, Music, Software and Videos.

Results

Descriptive Statistics. Using the BizRate.com site, we randomly selected 157 sites. In each category, we used a random starting point and then selected every 10th e-tailer. The BizRate ratings varied from 7.2 to 9.3 with a mean of 8.5. Of these, 26.75% fell into a consumable category. At the Gomez Web site, we used the same random selection method to select 184 sites. Of these sites, 33% received one star, 35% received two stars, and 32% received three stars. Of these sites, 27.2% fell into the consumable category.

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Insert Table 2 and Figures 2 and 3 Here

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Hypothesis Testing. Because the two sets of quality ratings are based on different coders (consumers and professionals) and because the type of data each rating service generates is different (categorical and continuous), we test the hypothesis on the sites with the BizRate ratings using regression and test the same hypothesis on the sites with the Gomez ratings using ANOVA.

Using BizRate.com ratings, we conducted a regression on the REM index with BizRate.com ratings, consumability and their interaction as independent variables (see Table 2). The significant interaction between the BizRate.com ratings and consumability indicates that, consistent with H1, the slopes of the lines relating Web site quality to e-tailer willingness to issue refunds, make exchanges and to issue merchandise credit (REM) are different depending on whether the product category is consumable or not (Baron and Kenny 1986; Cohen and Cohen 1983). When the product categories are not consumable (consumability=1), then a positive parameter estimate (.44) indicates that, as stated in H1, as the quality ratings increase, the REM index increases. In contrast, when the product categories are consumable (consumability=0), there is a negative relationship between the BizRate ratings and REM (-1.52). Using the Gomez ratings as an independent variable and the REM index as a dependent variable, we test the same hypothesis using Analysis of Variance because our independent variable has only three levels. Consistent with the BizRate analysis, there is a significant interaction between consumability and the Gomez quality rating ($F_{(2,183)}=5.29$, $p<.01$). (See Figure 2). For products that are not consumable, Web return policies become more lenient as the Gomez quality rating increases from one star to three stars (4.82 vs. 6.72). Follow up t-tests indicated that the difference between one and two stars was significant (4.82 vs. 5.68, t=2.36, p< .03), as was the difference between two and three stars (5.68 vs. 6.72, t=2.58, p< .02). For the consumable product category, there were no significant differences in the means between sites with different star ratings (6.18 vs. 6.62 vs. 5.80). These cross-over interactions also indicate that when quality is high, consumable product categories have

more restrictive return policies than non-consumable product categories, but when quality is low the reverse is true.

Regarding the Restrictions index, the same overall pattern holds. The significant interaction between the BizRate quality ratings and the consumability of the product category (Parameter est=-1.32, t=-1.99, p<.05) can be interpreted as follows: when products are not consumable, there is a negative relationship between the BizRate ratings and the number of restrictions imposed (-.62) so that, consistent with H1, as the BizRate quality rating increases, the number of restrictions decreases. When products are consumable, there is a positive relationship between quality and the number of restrictions (.70). (See Figure 3). Using the Gomez ratings, we find a significant interaction between the quality of the Web site and the consumability of the product category (F(2,183)=3.55, p<.04) on the restrictions imposed by the return policy. In the non-consumable product categories, the three star sites (5.47) have a significantly lower restriction rating than two star sites (6.02) (t=2.49, p<.05), but the number of restrictions does not increase further for the one star sites, but instead declines significantly to (5.51) (t=2.5, p<.05). In the consumable product categories, the number of restrictions in the return policy did not vary significantly by the number of stars (5.09 vs. 4.56 vs. 4.5).

Discussion

Using two different sets of quality ratings, two different measures of return policy leniency and data from vendors in multiple product categories, we find that for non-consumable product categories, consistent with H1 and signaling theory, higher-quality Web sites are more likely to issue refunds, permit exchanges, give merchandise credits and impose fewer restrictions on returns than lower-quality Web sites. However, the

significant interactions between our measures of quality and the consumability of the product category indicate that this pattern does not generalize to consumable product categories. Consistent with our earlier reasoning about the possibility that consumer cheating could be higher in consumable product categories, we find that high quality firms in consumable product categories make product returns more difficult than the high quality firms in non-consumable product categories. Future research might look more closely at the performance and objectives of the low quality consumable goods firms, which unexpectedly set relatively lenient return policies. These firms may be emphasizing customer acquisition rather than customer retention (e.g. Yang 2002).

An interesting theoretical question emerges: If Web retailers in non-consumable product categories are using return policies as a signal of e-tailer quality, are consumers interpreting the signal as the sender intends? (See also Prabhu and Stewart 2001, who studied a similar question in a different context.)

The Consumers' Perspective: The Inference Process

Consumers can interpret marketing signals such as warranties and brand alliances in a manner consistent with signaling theory, even though the underlying logic is fairly subtle (Moorthy and Srinivasan 1995; Rao, Qu and Ruekert 1999; Wernerfelt 1994; Wood 2001). Wood (2001), for example, shows that consumers who view catalogs that allow returns for sale items are more likely to judge a product as high quality than consumers who view catalogs that do not permit returns for sale items.

We extend this literature by proposing that the shopping environment affects how consumers interpret signals. In the Internet environment, how much control consumers experience at a Web site arises from Web users' perceptions about their ability to

navigate through a Web site as well as from their perceptions about the responsiveness of the Web site to their action (Novak, Hoffman and Yung 2000). Perceived control affects a multitude of outcome variables including time spent searching at a site (Hoffman and Novak 1996), shopping enjoyment (Childers, Carr, Peck and Carson 2001), intentions to use the Internet for information search (Shim, Eastlick, Lotz and Warrington 2001), satisfaction (Szymanski and Hise 2000) and affect (hypothesized but not tested by Novak, Hoffman and Yung 2000).

According to this literature, when consumers perceive that control is low, they will experience negative affect, low levels of satisfaction, limit their time at the Web site and negatively rate the e-tailer's quality. Given these reactions, we would not expect consumers to closely attend to the details of the return policy so that even a lenient return policy will not improve consumers' evaluations. In contrast, when the consumers perceive higher levels of control, they will experience more positive affect, higher satisfaction and more positively rate e-tailer quality. But they may also experience considerable uncertainty about e-tailer quality because they are using a medium that precludes inspection prior to purchase. In this frame of mind, they will be receptive to signal information such as the return policy (Padmanabhan and Rao 1993). Thus, we predict that consumers who visit Web sites that give them feelings of high amounts of control will be more sensitive to the return policy signal than consumers who visit Web sites that give them feelings of low control. Because quality perceptions will spill over to purchase intentions, we hypothesize the following:

H2: There will be an interaction between perceived control and the characteristics of the return policy such that when perceived control is high, consumers will rate

e-tailers with lenient return policies as higher quality than consumers who rate e-tailers with restrictive return policies, but when perceived control is low, consumers will rate e-tailers equally poorly on quality regardless of the return policy.

H3: There will be an interaction between perceived control of the Web site and the characteristics of the return policy such that when perceived control is high, consumers will express higher purchase intentions for e-tailers with lenient return policies than consumers who rate e-tailers with restrictive return policies, but when perceived control is low, consumers will be equally unlikely to purchase at the e-tailers regardless of their return policy.

One persistent problem e-tailers face is gaining consumer trust, where trust can be viewed as consumers' faith that a merchant is honest (i.e., stands by his or her word, fulfills promised role obligations and is benevolent) (Anthes 2002; US Department of Commerce 2002; Weber 2001). For example, Anthes (2002) reports that only 29% of surveyed Internet users said that they trusted Web merchants, a number much lower than that for offline retailers. This poses a problem for e-tailers because the academic literature indicates that in an exchange, if one party doesn't trust the other party, the transaction is much less likely to occur (e.g., Atuahene-Gima and Li 2002; Doney and Cannon 1997).

We expect that return policy signals will operate weakly when trust is low because low-trust consumers may not believe that e-tailers will honor their return policies. In other words, these consumers may believe that the e-tailers can cheat so that the bonding component of the signal may not be credible (Boulding and Kirmani 1993).

Also, because these consumers may limit their experiences with e-tailers, they may simply not know whether a Web site return policy is lenient or restrictive. Thus, from a knowledge perspective, they may run into problems interpreting the signal.

In contrast, return policy signals should operate well when consumers trust e-tailers. The knowledge explanation suggests that consumers who trust Web sites are likely to have shopped at multiple Web sites and will know whether a Web site return policy is lenient or restrictive. As a result, they have the cognitive framework to interpret the signal. Furthermore, they are likely to believe that the return policy is credible as a diagnostic cue about e-tailer quality. For these consumers, a restrictive return policy may not only signal a poor quality e-tailer, but may dampen purchase intentions. Thus we predict that trust will qualify H2 and H3 so that the effects of return policy leniency on quality and purchase intentions are muted when trust is low and amplified when trust is high.

> H4: There will be an interaction between trust, perceived control and return policy leniency on perceptions about e-tailer quality such that the effects of the return policy signal will be stronger on high-trust than low-trust consumers such that:
>
> a) consumers with high trust of Web sites will be more likely to assign high quality ratings to Web sites with lenient return policies than to Web sites with restrictive return policies when control is high rather than low.
>
> b) consumers with low trust of Web sites will ignore the return policy signal regardless of control and regardless of return policy leniency.

H5: There will be an interaction between trust, perceived control and return policy leniency on purchase intentions such that the effects of the return policy signal will be stronger on high trust than low trust consumers such that:

a) consumers with high trust of Web sites will be more likely to intend to purchase at Web sites with lenient return policies than Web sites with restrictive return policies when control is high rather than low.

b) consumers with low trust of Web sites will ignore the return policy signal regardless of control and regardless of return policy leniency.

Overview

 In this 2 (control) x 2 (return policy) x 2 (trust) between subjects design, we randomly assigned 290 consumers to shop at an e-tail site that has either high or low levels of control and to evaluate a Web return policy that is either lenient or restrictive. The last factor, trust, is a measured variable and subjects were divided into two groups (median split) depending on their score on the trust scale. We studied consumers' reactions to the different Web sites and the different return policies by asking consumers to complete a questionnaire at an online survey site.

Method

We recruited participants from a subject pool at a major midwestern university. When the participants came into the computer laboratory, where we conducted the research, they sat at computers separated by privacy dividers. They learned that the study concerned Internet shopping. The technology for conducting experiments on actual Web sites is explained in Appendix A. Before they learned which e-tailer site they would visit, they began the online questionnaires, which included questions about their trust for

e-tailers in general and for the specific e-tailers in the study. Then each participant was randomly assigned to shop at one of four preselected e-tailers. Participants learned that they should shop at their Web site for items totaling $125. However, once they selected the items, they were instructed to return to the questionnaire without actually purchasing the items. Participants learned that four consumers in the study would actually receive the items selected, although in the final analysis they were sent checks for $125. After shopping on their assigned Web sites, participants completed the online questionnaires.

Independent Variables

Perceived Control. Approximately half of the participants were randomly assigned to Web sites which gave the participants a feeling of high control over the transaction, while the other half were assigned to Web sites intended to give the participants a feeling of low control over the transaction. The high control and low control Web sites, which were selected on the basis of pretest data, included those from the footwear and drug store product categories[3]. For the footwear category, the "high control" Web site was Nordstrom's shoe site (http://www.nordstromshoes.com), and the "low control" Web site was Rockport (http://www.rockport.com). For the drugstore product category, the "high control" Web site was Walgreen's (http://www.walgreens.com), and the "low control" Web site was CVS Pharmacy (http://www.cvs.com).

Return Policy. Once the respondents selected their item(s), they began completing the questionnaires, which displayed either lenient or restrictive return policies. Because we told respondents that the policies that they saw were new ones scheduled to go into effect next month, in the debriefing we revealed that the return policy was fictional.

According to the lenient return policy, the e-tailer provides a return label, pays for return postage, does not charge a restocking fee, and issues refunds, exchanges and merchandise credits. According to the restrictive return policy, the customer has to obtain a refund authorization number, write this number on the outside of the package, address the package, pay for return postage, and pay a 15% restocking fee. The e-tailer only issued a merchandise credit.

Trust. Trust was measured on a five item semantic differential scale (adapted from Shamdasani, Stanaland and Tan 2001). It was measured after the respondents learned what the study was about, but before they learned which Web site they would visit. This timing assured that the experience at a particular Web site did not affect the measure of trust. Respondents were split at the median score on the trust scale.

Dependent Variables

Table 1 lists the wording of the scales that we used. All scales items had 5 response categories. As manipulation checks, we used a five item scale to measure perceived control (adapted from Bateson and Hui 1992), a two item scale to measure perceived return policy leniency, and a five item scale to measure trust of specific Web sites. As dependent variables, we measured perceived quality with seven items (from Szymanski and Hise 2000; Lohse and Rosen 2001) and purchase intentions with five items (from Chaudhuri and Holbrook 2001). We also collected process measures on a five item affect scale (from Chaudhuri and Holbrook 2001), a three item multiple choice test to measure attention to the Web site return policy, and a two item scale measuring the perceived likelihood that the return policy would be honored.

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Insert Table 3 and Figure 4 Here

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Results

Manipulation Checks.   To test whether the sites consumers shopped at affected their perceptions of the control they had over their shopping experience, we compared shoppers at the high and low control Web sites[4] on the perceived control and positive affect scales and found that, consistent with our prediction, consumers shopping at the high control Web sites had significantly higher feelings of control and experienced significantly more positive affect than consumers shopping at the low control Web sites (Perceived Control: 17.9 vs. 20.19, $F(1,201)=24.63$, $p<.01$, Affect: 17.4 vs. 18.9, $F(1,286)=8.75$, $p<.01$ Coefficient alpha: Perceived Control, .80; Affect, .92).

Regarding trust, we split consumers at the median on the five-item Web site trust measure (Coefficient alpha: .77). Using a one way ANOVA with trust (High vs. Low) as a between subjects variable and total trust of the four different Web sites as a dependent variable, we obtained a significant main effect for trust indicating that the two groups differed significantly on the reported trust they felt in the four e-tailers used in the study, based on impressions prior to shopping at any specific e-tailer. (66.66 vs. 77.85 $F(1,249)=64.42$, $p<.01$).

To determine whether the return policy affected perceptions of leniency, we compared mean responses from shoppers who read the restrictive return policy with shoppers who read the lenient return policy and found significant differences in the predicted directions on our two item leniency scale (7.5 vs. 5.5, $F(1,277)=98.8$, $p<.01$).

Hypotheses Testing. To test our hypotheses, we conducted a four way MANOVA with three between subjects factors (trust, control and return policy leniency) and one within subjects factor (the perceived quality and the purchase intentions dependent variables) (Coefficient alpha: Quality .84; Purchase Intentions .94). We used MANOVA because the two dependent variables correlated significantly (r=.65, p<.01). In the analysis, no effects involving both independent and dependent variables were significant, indicating that the effects of the independent variables on the dependent variables are statistically the same whether we are discussing perceived quality or purchase intentions. (See Table 3 for means and standard deviations.) The control (F(1,258)=12.97, p<.01) and the return policy (F(1,258)=19.98, p<.01) main effects were significant, but were qualified by a significant two way interaction between perceived control and the return policy (F(1,258)=4.34, p<.04) and by a significant three way interaction between control, trust and the return policy (F(1,258)=4.23, p<.04). No other effects were significant at the p<.10 level.

As noted above, consistent with Hypotheses H2 and H3, we found the predicted interaction between the effects of control and return policy leniency on perceived quality and purchase intentions (see Figure 4). Consistent with these hypotheses, follow up t-tests indicated that when consumers visit e-tail sites where control is low, the perceived leniency of the return policy does not have a significant effect on perceived e-tailer quality (25.82 vs. 24.52, t=1.5, p<.13) or on purchase intentions (14.76 vs. 13.35, t=1.52, p<.13). When consumers visit e-tail sites where control is high, consumers give e-tailers with lenient return policies better quality ratings and express higher purchase intentions

than consumers visiting e-tailers with restrictive return policies (Quality: 29.05 vs. 25.65, t=4.10, p<.01; Purchase Intentions: 17.91 vs. 13.96, t=4.55, p<.01).

We next discuss the significant three-way interaction between control, return policy leniency and trust which indicates that trust moderates the control-return policy interaction as predicted in H4 and H5. Looking first at the high trust consumers, we observe a pattern of means consistent with the predicted control/return policy interactions in H4(a) and H5(a): high trust consumers who visit high control Web sites are quite sensitive to the return policy signal, but high trust consumers who visit low control Web sites ignore the signal. Statistically, high trust consumers who visit high control Web sites assign higher quality ratings and express higher purchase intentions when they visit Web sites with lenient rather than restrictive return policies (Quality: Lenient vs. Restrictive Return Policy, 30.16 vs. 25.21, t=4.48, p<.01; Purchase Intentions: Lenient vs. Restrictive Return Policy, 18.24 vs. 13.95, t=3.73, p<.01). But, at low control Web sites, quality and purchase intentions ratings are the same regardless of the leniency of the return policy (Quality: 25.97 vs. 25.77, t=.17, p<.86; Purchase Intentions: 14.30 vs. 14.42,t=.10, p<.92).

An interesting question arises: Why do high trust consumers visiting Web sites with different levels of control evaluate the same lenient return policy signal differently? To answer this question, we investigate whether affect mediates the perceived control effect in the lenient return policy condition only (where there was an effect to be mediated) (Baron and Kenny 1986). Specifically: (1) In the ANOVA with one between subjects factors (control) and one within subjects factor (the perceived quality and the purchase intentions dependent variables), we find a significant main effect of control

(F(1,78)=18.82, p<.01). (2) In the ANOVA with affect as the dependent variable, we find a significant main effect of perceived control (F(1,85)=9.41, p<.01). (3) When affect is added as an independent variable to the first ANOVA, the main effect of affect is significant (F(1,77)=74.85, p<.01) and the main effect of control is reduced, but still statistically significant (F(1,77)=5.54, p<.03). Thus, we have evidence that affect is mediating the effects of perceived control when high trust consumers view lenient return policies, but as Baron and Kenny (1986) note, the mediation is not perfect—that is affect accounts for some, but not all, of the effects of control on quality evaluations and purchase intentions.

In contrast, perceived control at a Web site has relatively little influence on how low trust consumers interpret the return policy signal. Unlike the high trust consumers, return policy leniency does not influence how they rate Web site quality at either high or low control Web sites (High Control: 27.9 vs. 26.07, t=1.5 p<.13; Low control: 25.68 vs. 23.26, t=1.83, p<.07). Interestingly, return policy leniency influences purchase intentions at both high and low control Web sites. (Low Control: 15.24 vs. 12.30, t=2.09, p<.05; High Control 17.57 vs. 13.69, t=2.77, p<.05).

To better understand why the signal effect on quality perceptions is weaker for low trust than high trust consumers, we look at supplemental information about the low trust consumers. We can rule out differences in attention to the details of the return policy as an explanation because low trust consumers did not differ significantly from high trust consumers on their scores on a three item multiple choice test designed to assess the accuracy with which they recalled the time limits, return postage rules and restocking fees of the return policy (2.3 vs. 2.4, t=1.26, p<.28). Also, differences in perceptions do

not explain the results because the two groups of consumers did not differ from each other in their ratings of the leniency of either the lenient return policies (7.3 vs. 7.7, t= 1.4, p<.14) or the restrictive policies (5.7 vs. 5.3, t=1.3, p<.20). However, when compared to high trust consumers, low trust consumers are less likely to believe that e-tailer return policies will be honored (6.82 vs. 7.25, t=2.09, p<.04, two items correlated .40). This suggests that for low trust consumers, the credibility of the bonding component of return policies is weaker than for high trust consumers.

GENERAL DISCUSSION

At the outset, we indicated that our goal was to better understand variables that moderate the relationship between e-tailer quality and return policy leniency as well as those that moderate the relationship between return policy leniency and consumer perceptions (See Figure 1). By showing that e-tailers in consumable and non-consumable product categories deploy the return policy signal in different ways, we extend previous signaling literature. By showing that a consumer characteristic (trust) and a Web site characteristic (perceived control) affect how consumers interpret the return policy signal, we also extend prior consumer-side research on signaling. In this section, we integrate the two studies and discuss both managerial implications and directions for future research.

Because in the first study we find that high and low quality e-tailers use return policies in different ways, we develop separate managerial implications for the two groups. High quality non-consumable product e-tailers could reallocate resources to increase the clarity of their lenient return policy signals. For example, by designing Web sites that give customers maximum control, they can enhance the likelihood that consumers will interpret the signal as intended. In our experiment, we found that

perceived control especially affects how high trust consumers interpret the return policy signal. The high trust consumer has great value because they have spent more and purchased more often on the Internet than the low trust consumer. For these sophisticated consumers, lenient return policies cannot compensate for poor Web site design. Additionally, these high quality e-tailers might explore new ways to communicate characteristics of their return policies to the target market. For example, they could post their return policies in pop-up windows or on direct links to their return policies from their home pages. Currently, consumers visiting the e-tailers in our first study would have to click on between one and five links (average two) to find the return policy on the Web site. In addition, these e-tailers might incorporate their return policy information into shopping agents' listings such as MySimon.com and Active Buyers' Guide (http://www.activebuyersguide.com/).

High quality e-tailers selling consumable products—such as food, flowers, and software—are not using lenient return policies. As a result, they may be missing out on sales opportunities. Of course, the major barrier for vendors considering lenient return policies is the cost of honoring such policies. These e-tailers might find that by encouraging customers who are returning merchandise to purchase different more profitable products (upselling or cross-selling), they can more than offset the costs of honoring lenient return policies. Additionally, our experiment indicates that these e-tailers could obtain the benefits of a lenient return policy by lifting some, but not all, restrictions (e.g., not charge a restocking fee, but set a relatively short time period for all returns). To discourage consumers from cheating, e-tailers might employ strategies such as offering lenient return policies to certain classes of consumers, (e.g., subscription

buyers instead of single transaction buyers). In other words, by focusing on the lifetime value of customers instead of the profitability of a single transaction, the firm may increase long-term profitability.

Low quality e-tailers face a different set of challenges. On the one hand, they must determine whether or not they want to maintain a low quality position. The quality ratings of both BizRate and Gomez are based on multiple attributes and close inspection of the scores on each attribute could yield insights about specific ways to improve the quality position. On the other hand, some low quality e-tailers may position themselves as a value provider and not want to change their quality. In the non-consumable goods area, these e-tailers may continue to maintain a restrictive return policy, but work to improve the clarity of the signal. In the consumable goods area, low quality e-tailers may be setting too lenient return policies. From the experimental data, we know that high trust consumers who see a lenient return policy expect relatively high quality. Thus, by using the wrong signal, the low quality e-tailers may create unrealistic expectations.

From a theoretical perspective, not only do we contribute to the growing, but still small marketing literature on return policies as signals of quality (Davis, Hagerty and Gerstner 1998; Kirmani and Rao 2000; Wood 2001), but also we add to the literature on atmospheric effects (Turley and Milliman 2000). Our experimental and mediation analyses show that perceived control both directly and indirectly through affect influences how consumers interpret a signal. Because perceived control concerns may also emerge in the brick-and-mortar retail environment, these results may generalize beyond the e-tail environment. For example, store layout, ease of movement through the store and other flow type variables may affect perceived control in retail stores. It is

possible that atmospheric effects may also work through affect to influence in-store behavior.

Our limitations also suggest directions for future research. In the experiment, we used consumers (college students) as subjects. Given our interest, college students were an appropriate sample because they were likely to have had experience with the Internet and also likely to vary widely in their trust of e-tail sites. Future researchers may want to continue investigating return policy signals in other contexts (e.g., between manufacturers and retailers) and with other consumers. An advantage of our experiment is that we had consumers actually shop at different Web sites, so that we didn't have to verbally present information about control over the shopping experience. However, we forced exposure to the return policy. If consumers do not routinely check return policies prior to purchase, then there may be additional interference between the signal and the consumer.

To conclude, e-tailers who use return policies as signals of quality would like to send unambiguous signals to their target markets. Our results indicate that the return policy is a mixed signal, with some e-tailers using it to communicate quality and some consumers interpreting it as such a signal. However, it is clear that product category, perceived control over navigation at a Web site and consumer trust of e-tailers all affect the fidelity of the signal.

Footnotes

[1] Default contingent signals are signals in which senders will suffer losses only if they

default on their promises. Cost risking signals are signals where the potential losses

facing defaulting firms involve actual costs to the firm. So with a return policy, the firms

only incur return costs if consumers return items because they feel that the purchase items

are not consistent with what was promised. In this case, the costs could include things

such as the costs of processing returned items.

[2] The Gómez Merchant Certification program ceased operations as of March 31, 2002.

[3] The pretest data indicate that consumers in our subject pool view the quality of shoes

purchased at Nordstrom and Rockport as equivalent (Nordstrom: 5.5, Rockport 5.2,

t=.74, p<.5) and the quality of items purchased from CVS and Walgreen's as equivalent

(CVS: 4.3, Walgreen's 4.8, t=.98, p<.34).

[4] Prior to pooling the two high-control and the two low-control Web sites, we tested for

homogeneity of variances across the groups for the manipulation checks, process

measures and dependent variables using F-max tests (Winer 1971). None of these

statistics were significant at the .05 levels indicating that the variances were

homogeneous across groups. Additionally, there were no differences between the four

Web sites in terms of how frequently consumers had shopped at the Web site, nor on how

much they had spent at the Web site. As a result, we pooled the data from the Web sites,

as planned.

Table 1

Measures for Content Analysis and Experiment

Scale Name	Items
Refunds, Exchanges and Merchandise Credits (REM)	Does the return policy state that the merchant will issue a refund (credit card or cash) for: 1. no merchandise 2. some or most, but not all merchandise 3. all merchandise If the return policy makes a statement about merchandise credits, does the return policy state that the merchant will issue merchandise credit for: (Response alternatives the same as above) If the return policy makes a statement about exchanges, does the return policy state that the merchant will make exchanges for: (Response alternatives the same as above)
Restrictions Imposed by Return Policy	Does the merchant: include a pre-printed shipping label? 0-Yes, 1-No impose a time limit on returns? 0-No, 1-Yes pay for all return shipping costs? 0-Yes, 1-No charge restocking fees? 0-No, 1-Yes refund original shipping and handling fees? 0-Yes, 1-No provide the customer service contact information 0-Yes, 1-No require pre-authorization 0-No, 1-Yes
Perceived Control	The Web site that I just shopped on is: Difficult to navigate/Easy to navigate Hard to control/Easy to control Unrestrictive/Restrictive While shopping on the Web site, I found it: Difficult to get my own way/Easy to get my own way While shopping on the Web site I found that I was: Unable to influence my shopping experience/ Able to influence my shopping experience

Affect	While shopping on the Web site, I felt:
	negative/positive
	cheerful/gloomy
	happy/unhappy
	displeased/pleased
	bad/good
Web site Trust	Retail Web sites are (offer):
	undependable/dependable
	dishonest/honest
	unreliable/reliable
	financially secure transactions/financially insecure transactions
	trustworthy/untrustworthy
Leniency of Return Policy	When compared to the typical return policy for most Internet businesses, this new return policy is (has):
	very lenient/not at all lenient
	many restrictions/few restrictions
Perceived Quality	Please rate the following aspects of the Web site that you shopped on:
	low overall quality /high overall quality
	low quality customer service/high quality customer service
	low quality shipping and delivery/high quality shipping and delivery
	difficult to make purchase/easy to make purchase
	small number of offerings/large number of offerings
	small variety of offerings/large variety of offerings
	low quality offerings/high quality offerings
Purchase Intentions	Please indicate the extent to which you agree/disagree with the following statements:
	I would shop on this Web site again.
	I intend to keep purchasing products sold at this Web site.
	I would be happy to choose from the same set of products from this Web site again
	I would recommend this Web site to a friend.
	It is likely that I will at some point in the future shop at this Web site again.

Return Policy Likelihood of being honored	Please rate the return policy on the following dimensions:
	Likely to be honored/Unlikely to be honored
	Believable/Unbelievable

Table 2

Regression and ANOVA results relating Quality to Return Policy Leniency

	Regression Results						ANOVA Results			
	Dependent Variables						Dependent Variables			
	REM			Restrictions			REM		Restrictions	
	Parameter Estimate	t	p<	Parameter Estimate.	t	p<	F	p <	F	p <
Intercept	18.71	4.09	.01	-.74	-.15	.88				
Quality Ratings[a]	-1.52	-2.82	.02	.70	1.18	.23	2.12	.12	1.59	.21
Consumability[b]	-16.68	-3.11	.01	11.28	2.0	.05	2.20	.139	30.56	.01
Interaction	1.96	3.10	.01	-1.32	-1.99	.05	5.29	.01	2.81	.06

[a]In the regression the quality ratings are BizRate Ratings; in the ANOVA the quality ratings are Gomez ratings. [b] E-tailers primarily selling consumable

goods are coded as 0; retailers primarily selling non-consumable goods are coded as 1.

Table 3

Means and Standard Deviations for Experiment

Conditions			Dependent Variable	
Perceived Control over Shopping Experience	Level of Trust	Return Policy	Perceived Quality	Purchase Intentions
Low	Low	Lenient	25.68 (4.069)	15.24 (5.16)
		Restrict.	23.27 (4.68)	13.35 (5.62)
	High	Lenient	25.98 (5.11)	14.30 (5.27)
		Restrict	25.77 (5.25)	14.42 (5.51)
High	Low	Lenient	27.94 (4.24)	17.57 (3.99)
		Restrict	26.07 (4.76)	13.97 (5.67)
	High	Lenient	30.16 (4.08)	18.24 (4.29)
		Restrict	25.22 (5.90)	13.95 (6.26)

FIGURE 1

Moderators of The Relationship Between Web Site Return Policy And

E-tailer Quality

Product Category Characteristics:
✓ Consumable vs. Non-consumable

E-tailer Quality ⟷ Return Policy Leniency

Consumer Characteristics:
✓ Perceived Control over Shopping Experience
✓ Trust in Web sites
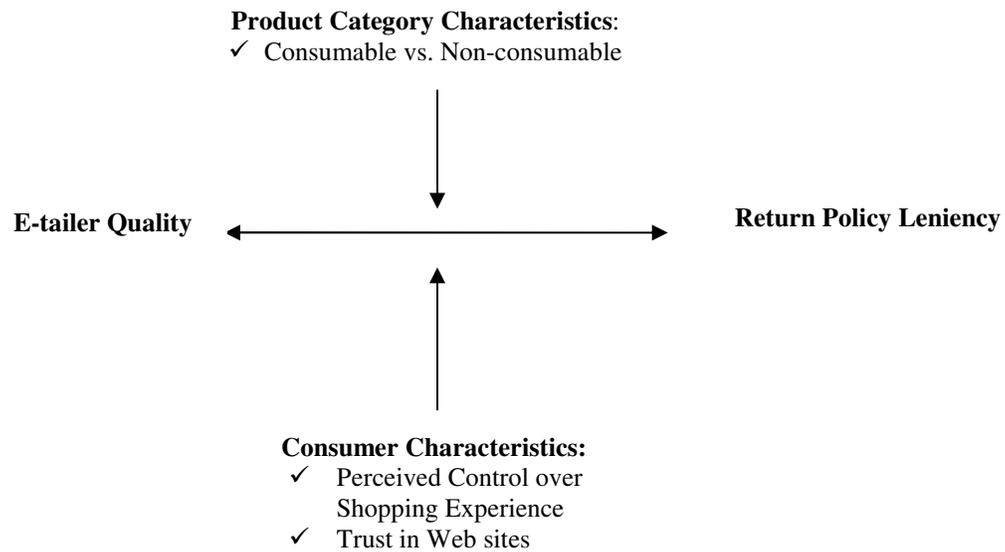
Figure 2
Relationship Between REM and Gomez Rating by Type of Product
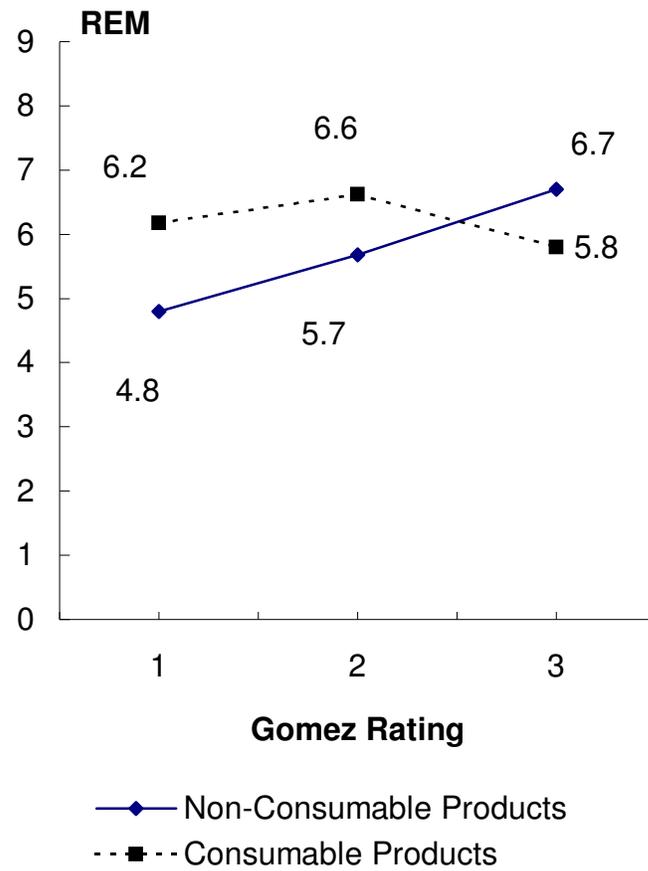
Figure 3
Relationship Between Return Policy Restrictions and BizRate Quality Ratings
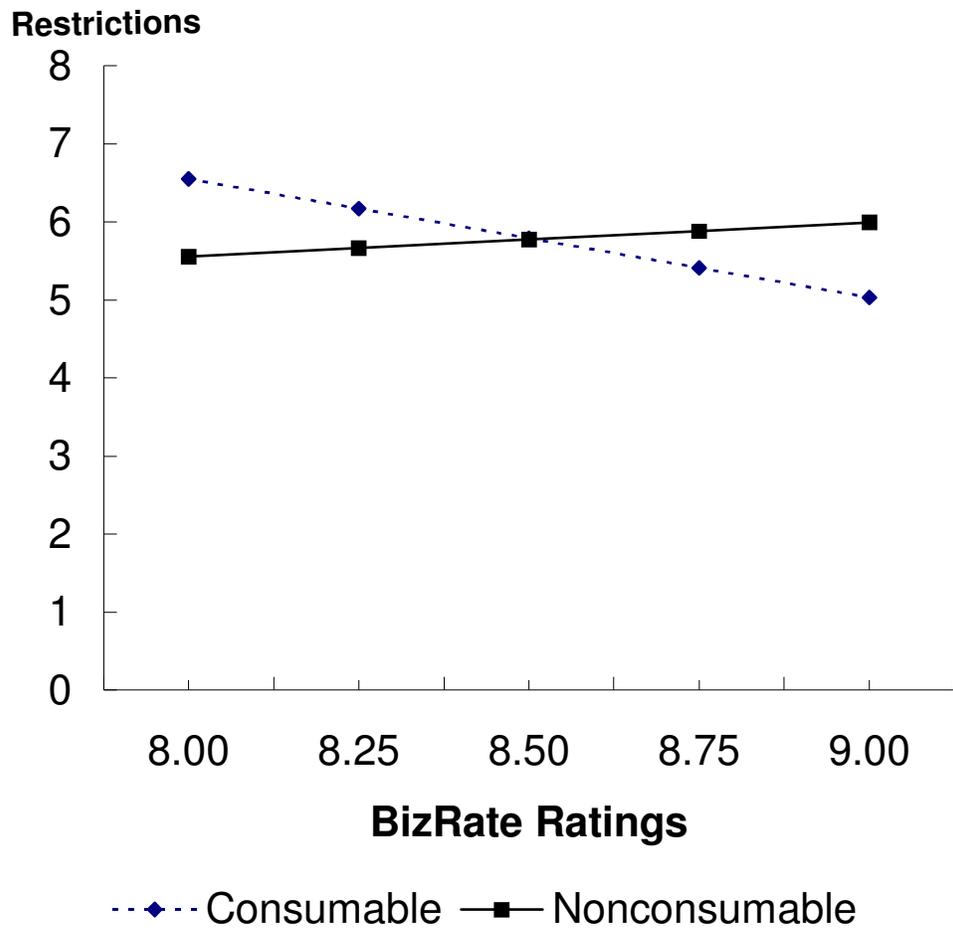
Figure 4

Effect of Return Policy Leniency and Control on E-tailer Quality

E-tailer Quality

High Control — Low Control
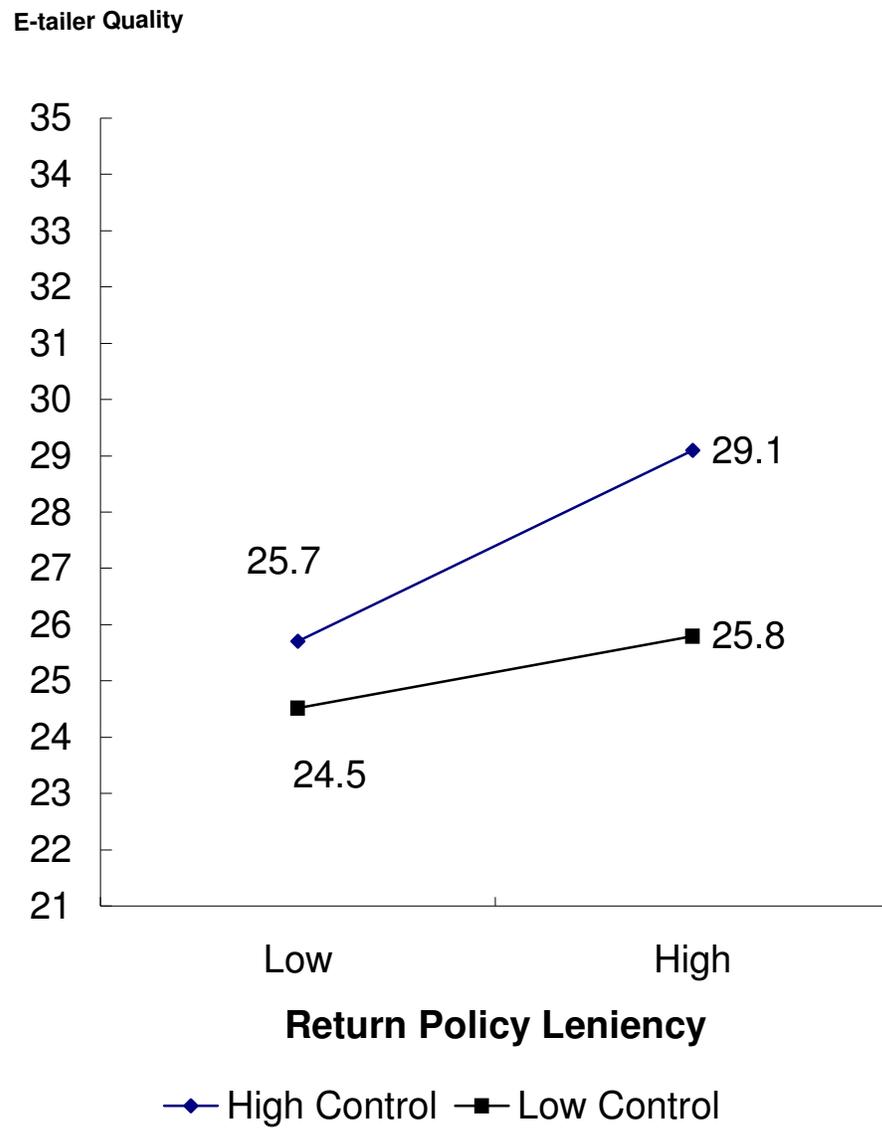
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APPENDIX A

This study was conducted using actual Web sites of e-tailers. In addition, the study itself was based on a Web site created specifically for the research. This design allowed subjects to both complete the study and shop as seamlessly as possible.

Students first went to the study's URL, a subdirectory of a site owned by one of the authors. This professional-looking page welcomed subjects and covered "What You Do," "What You Get" and "Your Privacy." The latter section included discussion of the anonymous nature of responses and the use of cookies by the actual Web sites. Subjects then clicked on "Begin Study" and went to the second page.

This second page was the Informed Consent document for the university of the authors. Subjects then clicked on "Continue" to agree with the terms of the study.

The third page was the "Initial Questionnaire." This separate page was necessary to explain that "Before beginning your shopping study, we would like you to complete an initial questionnaire about shopping sites in general." These instructions could not have been easily included on the initial survey page since that page was designed with a frame at the top of the page with the "Internet Shopping Study" logo and a link to return to the study. The frame at the bottom of the page (in actuality, most of the page) was the Zoomerang (http://www.zoomerang.com) questionnaire titled "Web Site Experience Survey." (Zoomerang offers the ability to create real-time Internet surveys that can be administered to any set of subjects.) By designing the initial (and subsequent) survey in Web page frames, we were able to control the presentation of the survey and keep the study navigation bar visible to subjects while they completed the survey. Since all

subjects completed the same initial survey, there was no randomization step. Using the

Zoomerang system, data are automatically returned to a database for subsequent analysis.

After finishing the initial survey, subjects were directed to an exit page that served

as a transition to the actual sites for shopping. This had to be a separate page to include

the instructions "Now you are ready to learn about shopping at an actual store." (Again,

separate pages are required to preserve the simplicity of the framed navigation bar. The

smoothness of the clickstream was the primary determinant of the Web site design, not

the number of clicks.)

The next page said only "Continue" and was necessary to provide code for

randomization of subjects to one of four groups (stores). This code included a JavaScript

random link generator. Subjects then saw their store instructions page. We reproduce that

page below to illustrate how the study steps were simplified and then carried forward on

the actual shopping page.

We would like you to shop at **Nordstromshoes.com** for shoes you would consider buying totaling up to $125.00. When you have selected these shoes (Don't buy them! You may win them!), you can complete the questionnaire. You might want to make a note about the shoes you select, because the questionnaire asks about them.

So there are just 3 easy steps:

1 First you will visit a shopping site.

2 Then you will fill out a questionnaire.

3 Third you will let us know that you are done with the study.

You will have a navigation bar on the top of your screen that guides you through the study's three steps. If you can't see the bar, please finish "shopping" and then just hit your browser's "back" button until you return to a screen that has the bar.

Go to my shopping site.

After clicking "Go to my shopping site," subjects saw their site in the bottom frame and the study steps and navigation in the top frame. This design made it easy for subjects to shop on a real site and made intervention by a research assistant unnecessary. If the site were not designed with frames, subjects could get "lost" and perhaps not find their way back to the second questionnaire or the drawing registration page without assistance. In our experience with the study and its pretests, no subjects were unable to navigate the study pages and all subjects were able to complete the study as designed. The actual shopping page for Nordstrom's is reproduced below.

After shopping, subjects clicked on "2" and were directed to a page that had the top navigation frame, but only the word "Continue" in the bottom frame. This design was necessary to implement the second randomization, whereby half of the subjects had

questionnaires with lenient and half with restricted return policies. As with the initial

questionnaire, the main questionnaire was hosted on the Zoomerang Web site. Similarly,

subjects saw the questionnaire in the bottom frame and the study navigation in the top

frame.

After completing the second questionnaire, subjects clicked on "3" to finish the

study. This led to a "thank you" page. Registration for the drawing was handled

separately although there is no reason why it could not be implemented via a form in step

3.

In summary, by designing the study Web site with frames that themselves were

kept focused on either simple instructions-navigation (top) or questionnaire/actual

shopping site (bottom), the "Internet experience" of the subjects was made as seamless as

possible. This design allows subjects to "shop" without interventions by research

assistants. Of course, it also allows subjects to visit and interact with actual Web sites.

Finally, the design facilitates the use of third-party data collection sites. The research

Web site can be viewed by contacting the authors.