Internet retail customer loyalty: the mediating role of relational benefits

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Keywords Customer retention, Customer loyalty, Customer relations, Self-service, Social benefits, Internet

Abstract The application of technology-based self-service in service delivery has grown rapidly in recent years, but our current understanding of customer retention and satisfaction in such contexts remains limited. This paper proposes a conceptual framework that utilizes the construct of relational benefits to explain the link between Internet-based self-service technology attributes and customer loyalty and satisfaction. The framework posits that confidence and special treatment benefits mediate the impact of Internet self-service technology attributes on customer loyalty and satisfaction. The results of an empirical study using two contexts finds support for a fully mediated model. That is, confidence benefits mediate the impact of perceived control and performance on customer loyalty and satisfaction, while special treatment benefits mediate the relationship of efficiency and convenience with customer loyalty and satisfaction. The findings afford not only practical implications for marketers but also directions for future research on customer relational benefits and Internet-based self-service.

Introduction
A customer’s decision for entering into and maintaining a long-term relationship with a company is largely driven by their assessment of the core product/service and the relational aspects of the exchange. In explicitly separating these two aspects, one is able to begin thinking about the value that the interpersonal interaction between customers and providers has versus the value of the core product. These benefits that are interpersonal in nature have been termed “relational benefits” in the literature, and accrue to those customers who are engaged in continuing relationships with the service provider and its personnel. Over the past few years the relationship marketing literature has begun to explore the question of what kinds of relational benefits customers derive from staying in long-term relationships with companies (e.g. Barnes, 1994; Gwinner et al., 1998; Reynolds and Beatty, 1999). This represents a shift in the literature from focusing on the benefits of long-term relationships for companies to the benefits accruing to customers. Hennig-Thurau et al. (2002) conceptualized relational benefits as antecedents of relationship quality.
They showed that social and confidence relational benefits could significantly impact key outcomes of relationship marketing such as customer loyalty and positive word-of-mouth in face-to-face service encounters. That is, the receipt of relational benefits by consumers could result in favorable outcomes for service providers.

However, as more and more transactions are being conducted in the absence of employee contact (e.g. through the use of Internet self-service technology), an important consideration is whether relational benefits remain relevant in an online context. That is, in the absence of direct human contact, relational aspects of the exchange over the Internet may or may not continue to drive important outcomes such as customer loyalty and satisfaction.

Despite the advantages brought about by Internet-based self-service, there are potential downsides to replacing personal contact with technology-based interaction. One concern is that the absence of human touch in technology-based self-service may not allow employees and consumers to develop rapport and may erode the emotional attachment consumers may develop toward service providers through continuing interactions with the contact employees (Barnes et al., 2000; Gremler and Gwinner, 2000). A recent study found that customers who maintained a service relationship with a specific service employee, compared with customers holding a relationship with the firm, were more loyal and more willing to refer the firm to others (Gutek et al., 2000). Indeed, the interpersonal aspects of a relationship are at times found to be more important to consumers than occasional price breaks or special services (Gwinner et al., 1998).

If it is not relational aspects then perhaps other factors are at play in developing loyalty for users of Internet self-service technology. Some researchers have suggested that factors such as: the performance of the technology; the convenience received from the technology; the perception of being in control of the outcome from using the technology; and the added efficiency from using the technology, all would positively influence the adoption and continuous use of self-service technologies (Dabholkar, 1996; Meuter et al., 2000). In this manuscript, we argue that relational benefits play a mediating role in the relationships of these four factors with customer loyalty and satisfaction.

The rest of the paper is organized as follows. In the next section, we review literature on customer relational benefits and self-service technology. We also propose hypotheses regarding the mediating role relational benefits play between attributes of Internet self-service technology and customer loyalty and satisfaction. Based on the literature review and hypotheses, we present a theoretical model of causality. We then empirically test the hypotheses with survey data collected from users of Internet bookstores and Internet travel agencies. The findings are then presented, followed by a discussion of research findings, managerial implications, and future research directions.
Literature review and research hypotheses

Relational benefits

Positive outcomes resulting from strong customer relationships have been well documented in the literature (e.g. Aaker, 1992; Clark and Payne, 1994; McKenna, 1991; Reichheld, 1993, 1996), but studies regarding the benefits of being in long-term relationships have been primarily approached from the perspective of the firm. Grounded on previous work on benefits that accrue to consumers in long-term relationships with companies (Barnes, 1994; Bendapaudi and Berry, 1997; Berry, 1995), Gwinner et al. (1998) developed and empirically examined a typology of relational benefits. They suggest that customers in long-term relationships experience three primary types of benefits beyond the core service:

1. confidence benefits;
2. social benefits; and
3. special treatment benefits.

Confidence benefits describe the reduction of uncertainty in transactions and the increase in realistic expectations for the service encounter. Social benefits describe the emotional aspects of relationships and focus on personal recognition of customers by employees and the development of friendships between customers and employees. The third type of benefit, special treatment benefits, includes both economic and customization advantages for the consumer. This benefit gets at the notion that relational partners get special deals and treatment that is unavailable to non-relational customers. As the development of relational benefits has taken place within the context of customers having relationships with employees in face-to-face encounters, whether customers perceive relational benefits to exist in their interactions with technology-based service providers remains unknown.

Positive relationships between the three types of relational benefits and customer loyalty have been reported in previous studies (Gwinner et al., 1998; Hennig-Thurau et al., 2002). Regardless of the service type, confidence benefits have been found to be the most important type of benefits in face-to-face encounters (Gwinner et al., 1998), and its effect on loyalty primarily occurs through satisfaction (Hennig-Thurau et al., 2002). Given that security and privacy issues in online transaction are a primary concern for consumers (Zeithaml et al., 2000), the perception of confidence benefits in online transactions is predicted to have a positive effect on one's intent to stay in the relationship.

The practice of data warehousing and data mining to record and analyze consumers’ shopping behaviors allows Web-based service providers the opportunity to provide customized service offerings to their customers. The information can also be utilized by Web-based service providers to make recommendations that fit particularly well with customers’ interests, during the interactions. These are all special treatment benefits that customers could
experience with a Web-based service provider, and are predicted to have a positive effect on one’s intent to stay in the relationship (i.e. their loyalty to the service provider). Because Internet-based self-service technology by definition excludes interactions with others, there is no opportunity to develop social relational benefits of the form described in prior studies. For this reason, this study limits its examination to confidence and special treatment benefits. The following hypotheses are proposed:

\[ H1. \] Confidence benefits will have a positive impact on customer loyalty and satisfaction.

\[ H2. \] Special treatment benefits will have a positive impact on customer loyalty and satisfaction.

Consistent with past research, we also anticipate that satisfaction will positively influence loyalty perception (Anderson and Fornell, 1994; Rust and Zahorik, 1993).

\[ H3. \] Satisfaction will have a positive impact on customer loyalty.

Internet-based self-service attributes

Internet-based interactions resulting in the delivery of services, products and information continues to grow in popularity as access to the Internet increases and e-commerce applications multiply. Online retailers of consumer goods and services are at the forefront of developing applications that aid customers in efficiently browsing through product/service options, procuring product information, making purchases, and tracking orders. Exemplars include Dell.com in computer retailing, Amazon.com in book retailing, Landsend.com in clothing retailing, and Travelocity.com in travel services. In a marketspace where “products and services exist as digital information and can be delivered through information-based channels” (Rayport and Sviokla, 1995, p. 14), customers have the ability to serve themselves without the need for extensive interpersonal contact with a firm’s employees. Customer evaluations of attributes associated with Internet self-service technology are thought to be crucial in determining consumers’ continued usage. In this section we review four of these attributes that have been discussed in prior literature.

Much of the emerging self-service technology literature has focused on consumers’ intentions to adopt or continue using technology-based options (Davis, 1986; Davis et al., 1989, 1992). A direct relationship between self-service technology attributes and adoption as well as loyalty to the technology is implied in other research. We further argue that relational benefits mediate this relationship. Below, we review four attributes discussed in prior literature as being important in the adoption and continued use of Internet-based self-service applications and examine how they may influence confidence and special treatment benefits.
Perceived control. Prior studies have discussed the importance of perceived control as an important determinant leading consumer’s to adopt self-service forms of product and service delivery (Langeard et al., 1981). The perceived control construct is based on one’s judgment of their own ability to “determine/design the service for themselves rather than uniformly take what is offered” (Lee and Allaway, 2002). This factor encourages Internet usage and loyalty by allowing the consumer to customize the service offering to meet their specific needs. We argue that the influence of perceived control on the pro-firm outcomes of loyalty and satisfaction operates through the mediating variable of confidence benefits. Confidence benefits are largely predicated on the perception that uncertainty in the relationship will be reduced. A consumer’s perception of control over the exchange should lead to increased confidence benefits because the controllability leads them to have greater predictability over the likely outcome of the exchange.

H4. Perceived control derived from Internet self-service technology will have a positive effect of confidence benefits.

Performance. Consistent with Dabholkar (1994), we conceptualize the performance attribute of Internet-based self-service technology as the extent to which the technology operates accurately and dependably. A similar dimension, “did its job”, reflecting the idea of the technology performing in the manner it is supposed to perform, was found in another study that reported it as a factor relevant to consumer satisfaction with self-service technology (SST) (Meuter et al., 2000). But how does performance impact satisfaction? We argue that repeated exposure to reliable and accurate performance of Internet self-service technology could build feelings of confidence that future interactions will result in superior performance. As such, high performance of Internet self-service technology will increase confidence benefit perceptions, which in turn impact loyalty and satisfaction.

H5. Performance of Internet self-service technology will have a positive effect on confidence benefits.

Convenience. Convenience refers to the ability to use self-service technology to make the procurement and delivery of goods and services that fit the consumer’s needs in terms of timing and location. This construct is similar to the “when I want” and “where I want” sub-dimensions being linked to satisfying SST exchanges that emerged in the critical incident study by Meuter et al. (2000) and the “convenience” factor of Szymanski and Hise (2000). Again, the question of how this attribute impacts satisfaction and loyalty arises. We propose that increased convenience in the form of providing access to services at any time and in many places should have a positive influence on perceptions of special treatment benefits, as the ability to dictate time and place
convenience is only available to those using the technology. Special treatment benefits will then impact loyalty and satisfaction, thus mediating the relationship between those outcomes and convenience.

**H6.** Internet self-service technology convenience will have a positive effect on special treatment benefits.

**Efficiency.** The efficiency attribute is based on the notion that transaction times can be reduced over traditional person-to-person exchanges when utilizing Internet self-service technologies (ISST). Electronic kiosks being utilized to speed up transactions in airline ticketing, automobile rentals, and hotel check-in are prime examples of this attribute at work. For travelers meeting certain conditions (e.g., club memberships, simple transactions, etc.), wait times and even the transaction itself can be tremendously reduced through this technology. Users of these technologies are likely to have elevated perceptions of special treatment benefits, as the increased efficiency is only available to those using this technology.

**H7.** Internet self-service technology efficiency will have a positive effect on special treatment benefits.

**Research model**

Based on the literature reviewed in the last section, we present a research model for this study positing relational benefits as the mediator of the relationship between the ISST attributes and the two outcome variables of customer satisfaction and loyalty. Figure 1 exhibits a theoretical model that links Internet self-service technology to relational benefits, and in turn to customer satisfaction and loyalty. Every linkage in this model corresponds to one of the seven hypotheses postulated above. The tests of these hypotheses follow.

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**Figure 1.**

A theoretical model linking relational benefits, Internet self-service technology, customer satisfaction and loyalty
Method

Sample data
A total of 459 subjects participated in this study. A self-administered survey was distributed by MBA students of a university located in northern Taiwan either through e-mail or in person to their friends or colleagues who have previous experiences with purchases from Internet bookstores or travel agencies. Participants were asked to respond to the questions based on their previous purchasing experiences with one specific Internet retailer (either bookstore or travel agency). Before they filled out the questionnaire, it was carefully verified that each participant had previously purchased travel services, airline tickets, books or music products on an Internet bookstore or Internet travel Web site. The survey contained measures of the four Internet self-service technology attributes, two relational benefits, satisfaction with the service, and customer loyalty. All responses were assessed on seven-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree).

While all participants had made purchases from Internet bookstore or travel Web sites, approximately 46 percent of the participants had done so within the past three months. Furthermore, roughly 60 percent of the subjects indicated that they had been using the same Internet bookstore or travel agency for more than a year. Women represented 53.8 percent of the sample.

Measures

Internet self-service technology (ISST) attributes. Three out of the four ISST attributes, namely perceived control, performance, and efficiency were modified from the measures used by Dabholkar (1994, 1996) to depict the nature of ISST. Each attribute was measured with two items. The items for the perceived control construct were revised to capture participants’ subjective evaluations of the control they had in using ISST to navigate and to order goods and services. Performance was assessed with items tapping the accuracy and reliability of ISST option. The items assessing efficiency were modified to capture the nature of ISST as a timesaving option for ordering services or goods. Convenience, the fourth attribute, was assessed with two items tapping the perceived capability of the ISST to fit the users’ needs in terms of timing and location of the purchase (see Appendix).

We conducted confirmatory factor analysis using AMOS 4.0 (Arbuckle and Wothke, 1999) to examine the ISST attributes, and the results suggest that the four-factor conceptualization fits the data appropriately ($\chi^2 = 46.91, df = 14, p < 0.0001; \text{GFI} = 0.98; \text{CFI} = 0.98, \text{TLI} = 0.95, \text{RMR} = 0.03$). The correlation coefficients between the two items of each scale ranged from 0.76 to 0.77.

Customer relational benefits. The scale developed by Gwinner et al. (1998) to assess the three relational benefits was modified for the current study to capture the interaction between a customer and a Web-based interface. Confidence and special treatment benefits were each measured with three
One item assessing special treatment was dropped due to its poor loading on the hypothesized factor. Analysis reveals an acceptable internal consistency for the two benefit dimensions (confidence benefits: alpha = 0.77; special treatment benefits: item correlation = 0.71). As mentioned earlier, social benefits are not being considered in this study due to their lack of direct correspondence in an online environment.

**Satisfaction and customer loyalty.** Global evaluation of customer satisfaction and loyalty to the relationship were each measured using two items. Specifically, the items were designed to capture participants’ overall satisfaction with the technology and consumer’s willingness to continue purchasing from the service provider. Correlation coefficients for the two items in each scale were 0.78 and 0.85 respectively, and indicate an appropriate internal consistency.

### Analyses and results

Table I reports means, standard deviations, and bivariate correlations for the constructs included in the theoretical model. As shown in Table I, the relationships between ISST attributes, relational benefits, satisfaction with service quality, and customer loyalty were all positive and the coefficients were significant at the $p < 0.001$ level. The correlations reveal a pattern consistent with the relationships proposed in the theoretical model.

Our position in developing the hypotheses has been that the relational-benefit constructs will fully mediate the relationship between the SST attributes and the two outcomes of satisfaction and loyalty. In order to test for mediation, we compared two structural equation models using Amos 4.0. The first model is our theoretical model that posits relational benefits as fully mediating the relationship between the ISST attributes and the two outcome variables of satisfaction and customer loyalty (see Figure 1). The second model depicts a situation where relational benefits only partially mediate the relationships between the ISST attributes and the two outcome variables (see Figure 2). As such, both direct and indirect effects (mediated through the

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tbody>
<tr>
<td>Perceived control</td>
<td>4.41</td>
<td>0.96</td>
<td>0.77</td>
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<td></td>
<td></td>
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<tr>
<td>Performance</td>
<td>4.47</td>
<td>0.87</td>
<td>0.23</td>
<td>0.76</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>4.67</td>
<td>0.91</td>
<td>0.38</td>
<td>0.48</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience</td>
<td>4.96</td>
<td>0.80</td>
<td>0.41</td>
<td>0.39</td>
<td>0.51</td>
<td>0.77</td>
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<tr>
<td>Confidence benefits</td>
<td>4.43</td>
<td>0.80</td>
<td>0.30</td>
<td>0.63</td>
<td>0.43</td>
<td>0.48</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special treatment benefits</td>
<td>4.24</td>
<td>0.83</td>
<td>0.30</td>
<td>0.31</td>
<td>0.38</td>
<td>0.40</td>
<td>0.34</td>
<td>0.34</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>4.53</td>
<td>0.84</td>
<td>0.37</td>
<td>0.55</td>
<td>0.47</td>
<td>0.43</td>
<td>0.56</td>
<td>0.56</td>
<td>0.41</td>
<td>0.78</td>
</tr>
<tr>
<td>Loyal</td>
<td>4.33</td>
<td>0.83</td>
<td>0.25</td>
<td>0.58</td>
<td>0.43</td>
<td>0.47</td>
<td>0.56</td>
<td>0.56</td>
<td>0.47</td>
<td>0.85</td>
</tr>
</tbody>
</table>

**Notes:**
- Values along the diagonal are correlational or Cronbach alpha coefficients; 
- All correlations are significant at the 0.001 level (two-tailed)
relational benefit constructs) of the ISST attributes on satisfaction and loyalty are modeled. This approach to mediation testing is consistent with other studies examining mediation hypotheses (e.g. Brown et al., 2002).

As reported in Table II, both models fit the data appropriately. A $\chi^2$ difference test indicates no significant difference between the fully-mediated model and the partially mediated model ($\chi^2$ difference $= 12.83$, df $= 8$, $p > 0.05$). Given the lack of a chi-square difference between the two models, we turned to other criteria to compare the two models. Morgan and Hunt (1994) examined four different criteria in an SEM model comparison:

1. overall model fit as measured by CFI;
2. percentage of hypothesized significant paths;
3. amount of variance explained as measured by squared multiple correlations; and
4. parsimony assessed by the parsimonious normed fit index (PNFI).

In examining our fully and partially mediated models on these four criteria, we find the fully mediated model to be a better representation of the data. Specifically, while both models are equivalent on the overall fit statistics (CFI $= 0.97$ and GFI $= 0.95$ for both models), only eight of 17 (47 percent) of the partially mediated model’s paths are supported at the $p < 0.05$ level or better. In contrast, eight of nine (89 percent) of the fully mediated model’s paths are supported at the $p < 0.01$ level. Further, the ability of the models to explain variance in the outcomes, as measured by squared multiple correlations (SMC), favors the fully mediated model in three out of four instances (only the SMC for satisfaction slightly favors the partially mediated model 0.65 to 0.64). As
illustrated in Table II, there is a large parsimony difference between the full and partial mediation models. The increased parsimony (i.e. parsimony-adjusted NFI and parsimony-adjusted CFI) of the theoretical model suggests that the fully mediated model provides a better fit for the data. Based on these four criteria, we assert that the fully mediated model is a more accurate and useful depiction of the relationships among these constructs. Based on this conclusion, we proceed to examine the support for the hypothesized relationships using the fully mediated model results as shown in Table II.

<table>
<thead>
<tr>
<th>Dependent variable: CB</th>
<th>Fully mediated model</th>
<th>Partially mediated model</th>
<th>Direct-effect-only model</th>
</tr>
</thead>
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<tr>
<td>Performance → CB</td>
<td>0.836***</td>
<td>0.822***</td>
<td></td>
</tr>
<tr>
<td>Control → CB</td>
<td>0.156***</td>
<td>0.134**</td>
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<table>
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<tr>
<th>Dependent variable: STB</th>
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<tbody>
<tr>
<td>Efficiency → STB</td>
<td>0.384***</td>
<td>0.353***</td>
<td></td>
</tr>
<tr>
<td>Convenience → STB</td>
<td>0.433***</td>
<td>0.429***</td>
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</table>

<table>
<thead>
<tr>
<th>Dependency variable: satisfaction</th>
<th></th>
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</thead>
<tbody>
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<td>CB → Satisfaction</td>
<td>0.557***</td>
<td>0.212</td>
<td>0.317***</td>
</tr>
<tr>
<td>STB → Satisfaction</td>
<td>0.322***</td>
<td>0.259*</td>
<td>0.194*</td>
</tr>
<tr>
<td>Performance → Satisfaction</td>
<td>0.398**</td>
<td>0.395***</td>
<td></td>
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<tr>
<td>Control → Satisfaction</td>
<td>0.234***</td>
<td>0.251***</td>
<td></td>
</tr>
<tr>
<td>Convenience → Satisfaction</td>
<td>–0.105</td>
<td>–0.035</td>
<td></td>
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<tr>
<td>Efficiency → Satisfaction</td>
<td>0.031</td>
<td>0.101</td>
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</table>

<table>
<thead>
<tr>
<th>Dependent variable: loyalty</th>
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</thead>
<tbody>
<tr>
<td>CB → Loyalty</td>
<td>0.526***</td>
<td>0.433**</td>
<td>0.335***</td>
</tr>
<tr>
<td>STB → Loyalty</td>
<td>0.456***</td>
<td>0.371**</td>
<td>0.264**</td>
</tr>
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<td>Performance → Loyalty</td>
<td>0.028</td>
<td>0.162</td>
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<tr>
<td>Control → Loyalty</td>
<td>–0.079</td>
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<tr>
<td>Convenience → Loyalty</td>
<td>0.149</td>
<td>0.256**</td>
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<tr>
<td>Efficiency → Loyalty</td>
<td>–0.029</td>
<td>0.040</td>
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<tr>
<td>Satisfaction → Loyalty</td>
<td>–0.115</td>
<td>0.010</td>
<td>0.026</td>
</tr>
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\[ \chi^2 = 219.429 \quad \text{df} = 103 \quad 206.597 \quad 578.465 \]

Table II. Results of structural equation analyses for three competing models

Notes: \* \( p < 0.05 \); \** \( p < 0.01 \); \*** \( p < 0.001 \)
Hypothesis testing

The first two hypotheses propose that confidence and special treatment benefits will have a positive impact on customer loyalty and satisfaction. As shown in Table II, the paths from the two relational benefits to customer loyalty and satisfaction are significant ($p < 0.001$) and, therefore, support is found for $H1$ and $H2$. The path from satisfaction to loyalty is not significant ($H3$). $H4$ and $H5$ predicted a positive impact on confidence benefits from perceived control and technology performance, respectively. As indicated in Table II, the significant path estimates support this prediction. The two paths together explained approximately 80 percent of the variance in the confidence-benefit construct (as measured by squared multiple correlations). With respect to $H6$ and $H7$, we predicted that perceived efficiency and convenience would exert a positive influence on special treatment benefits. Both parameter estimates are significant at the 0.001 level, and provide support for $H6$ and $H7$. The two paths explained over half of the variance (squared multiple correlations = 0.56) in the special treatment benefit construct.

An alternative model

Previous studies have investigated the impact of SST attributes on customer satisfaction and intention to use (e.g. Dabholkar, 1996; Dabholkar and Bagozzi, 2002) and the relationships of relational benefits to customer satisfaction and loyalty (e.g. Gwinner et al., 1998; Hennig-Thurau et al., 2002). It is plausible to posit that all the antecedent variables in the current studies affect customer satisfaction and loyalty directly (see Figure 3). Therefore, another competing model for our proposed framework would be a model that includes only directs effects of the ISST attributes and the relational benefits on customer satisfaction and loyalty.

The direct-effect-only model was estimated using Amos 4.0 and the results are also reported in Table II. The change in chi-square between the fully mediated model and the direct-effect-only model was 359.04 for 4 degrees of freedom, and this change is significant ($p < 0.001$). The fit indexes also suggest that the theoretical model provides a better fit to the data than does the direct-effect-only model (GFI = 0.95 versus GFI = 0.90; CFI = 0.97 versus CFI = 0.86). In addition, adding more paths does not improve the explanatory power of the direct-effect-only model, and variances explained in satisfaction and loyalty are relatively lower (SMC_{satisfaction} = 0.57; SMC_{loyalty} = 0.47) in the direct-effect-only model. Finally, both parsimony indexes of the fully mediated model (PNFI = 0.71; PCFI = 0.73) exceed those of the direct-effect-only model (PNFI = 0.61; PCFI = 0.63). Therefore, the fully mediated model appears to be a better representation of the data from both explanatory and parsimony standpoints than either the partially mediated or direct-effect-only models.
Conclusions and recommendations

Research findings

Several recent studies in the services industry have found support for the important role that relational benefits play in influencing consumers’ loyalty intentions, word-of-mouth behavior, commitment to the organization, and satisfaction with the service provider (Gwinner et al., 1998; Hennig-Thurau et al., 2002). The results of this study provide additional evidence as to the central role relational-benefit constructs play in understanding these important outcomes. The findings reported here suggest that relational benefits are the mediating mechanism, through which selected technology attribute variables operate with respect to their impact on customer loyalty and satisfaction. As such, this study adds to the accumulating evidence, finding that the relational aspects of exchanges have an important part in our understanding of customer loyalty and satisfaction.

Further, this study extends prior research that has been conducted in more traditional face-to-face contexts. The findings suggest that relational-benefit constructs remain relevant in an online environment. This supports the robustness of the relational-benefit notion toward Internet-based transactions where arguably there is a weaker relationship with the service provider. That is, relationships with a computer interface are notably different from relationships with people. However, despite those differences, our findings provide evidence that relational benefits still play an important role.
One interesting finding in our study is the lack of a significant path from satisfaction to loyalty in our model. It is interesting to consider possible explanations for this counterintuitive result. One possible explanation has to do with the online context of the study. That is, while it is commonly accepted that satisfaction with a service or product will lead to repeat purchases, perhaps the unique characteristics of an online shopping environment weaken this relationship. For example, the ease by which product performance and price comparisons can be conducted through the Internet may elevate the importance of those two elements in a buyer’s decision criteria for online purchases. This is in contrast to traditional retail stores where a larger effort (e.g. traveling to different stores, interacting with employees) is required to compare product and service offerings among competitors. The greater effort associated with performance and price comparisons in traditional brick-and-mortar stores may lead consumers to rely on past satisfaction heuristics to guide their repurchase decisions. Whereas this would not be the case in an online environment where other comparison data can be more readily obtained. Alternatively, given the strong correlation found between satisfaction and loyalty, it may be that the strong impact of the two relational-benefit constructs on loyalty leaves no variance to be explained by the satisfaction measure. Indeed, satisfaction does have a significant and positive impact on loyalty in a model where the direct effects of relational benefits on loyalty are restricted.

In summary, we have found support for a model where relational benefits play a key mediating role in the relationship between SST attributes and the outcomes of customer satisfaction and loyalty. These results add to the growing evidence of the power of relational-benefit constructs in understanding customer behaviors. This is particularly significant in the context of the current study, where traditional human relationships do not exist.

**Managerial implications**

Given the mediational role of the confidence and special treatment relational benefit constructs, firm’s engaging in e-commerce might consider emphasizing these relational benefits in positioning the service to consumers. That is, rather than (or perhaps in addition to) emphasizing aspects of performance, control, efficiency, and convenience, a firm could stress the receipt of the two relational benefits. In practice, this would entail that promotional communications directed toward current and potential customers emphasize the added confidence and special treatment benefits received by those utilizing the technology for the service delivery. These same aspects could be used in comparisons to competitors, in that a firm’s services could be positioned at creating greater confidence in the service or delivering greater levels of special treatment benefits than can be provided by competing offers.

Further, with the understanding that confidence and special treatment benefits play a strong mediational role leading to loyalty and customer
satisfaction, firms can consider other factors of either the technological aspects of their delivery system or the specific services offered that might also instill greater confidence or add to the receipt of special treatment benefits, thereby increasing loyalty and satisfaction. For example, money back guarantees and up-to-date security features on a Web site may serve to increase confidence benefits. Moreover, since these relational benefits are based on the notion that they occur when consumers have a relationship with the firm, organizations might seek to build stronger ties with their customer base. The database capabilities of Internet commerce represents a potentially powerful way of enhancing the relationships between companies and customers. Databases can be developed to remember customer preferences, make suggestions based on those preferences, and keep track of information accessed or products purchased in prior visits. These capabilities can be used to enhance the “virtual” relationship customers have with the Internet retailer, which may enhance perceptions of the receipt of relational benefits.

Another managerial implication that can be taken from our data is related to market segmentation. It is very likely that a company’s customer base has segments where one of the relational benefits is more important than the other. Understanding what consumer differences exist with respect to the importance of the two types of relational benefits will allow a firm to better know where to allocate their resources for enhancing their technology and in communicating benefits to customers. An interesting area for future research would be to develop a typology that can be used to predict how these preferences may differ. Specifically, organizational, environmental, and service-specific factors could be categorized with the goal of predicting which factors will lead to preferences for confidence benefits or special treatment benefits.

**Future research**

In our study, we explicitly ignored the role of social benefits due to their seemingly irrelevant role in Internet-based transactions where the purchaser is not interacting with a human seller. However, given the importance of social benefits reported in face-to-face encounters, it may be instructional to consider how social benefits can be included in online contexts. The original scale used by Gwinner *et al.* (1998) taps the social benefit construct using scale items that assess personal recognition, familiarity, and friendship. In terms of creating these elements in an online environment, the database capabilities of Internet retailing discussed above would easily allow for elements of personal recognition to occur. Indeed, there are many Web sites that utilize “cookie” technology to personally recognize users and greet them by a previously supplied name. Familiarity is also an element that can be facilitated in online retail environments. Familiarity can be achieved by having a consistent visual presence and navigational framework for the consumer over successive visits.
to the Web site. Additionally, allowing the consumer to customize the user interface to best meet their shopping and information needs may enhance familiarity. Perceptions of friendship are probably the most difficult element of social benefits to re-create in an online context. However, if we broaden the concept to include not just a friendship between employees and customers, but also friendships between customers, then several options may exist for Internet retailers. Examples include customer chat rooms and e-mail discussion boards, where customers can interact to discuss product-related issues that are of importance to them and relevant to the firm (e.g. product uses, problem resolution, complimentary products, etc.). As such, we suggest that a modified social benefit construct could be conceptualized to better understand this relational aspect in online encounters.

Another potentially fruitful area for future research is examining how specific Web site design elements (e.g. colors, font types, pull-down windows, frames, navigation tools, graphics, etc.) may lead to increased perceptions of confidence and special treatment benefits. The impact of specific design elements is an area that has received relatively little attention with regard to its impact on consumer perceptions. It has been reported that the colors used on a Web site can convey certain meanings to the viewer (Muller, 2002) and other Web atmospherics have been theorized to impact consumer online behavior (Dailey and Heath, 2000). Consequently, an interesting question to consider is whether some of these design elements may positively impact consumer’s relational-benefit perceptions.

Finally, common to many other survey studies, the results of this study only reflect the perceptions of the Internet customers in one country, i.e. Taiwan. A similar study on the Internet customers in another country may shed the light on the differences in the dynamics of customer loyalty under different cultures.

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**Appendix. Scale items (Internet travel agency items shown)**

**Internet self-service technology attributes**

1. **Performance**:
   - Using the Web option to order airline ticket or travel services, I will get just what I ordered.
   - The Web-based self-service is an ordering option that will not result in errors.

2. **Perceived control**:
   - I feel more in control using the Web-based self-service option to search and order travel services.
   - Web-based self-service gives me more control over the process of purchasing travel services.

3. **Convenience**:
   - I am able to purchase airline tickets at a convenient location when I order through the Net.
   - Internet travel agency services offer the benefit of ordering travel services at a convenient time.

4. **Efficiency**:
   - Using the Web, I am able to complete the purchase of airline tickets or other travel services efficiently.
   - Without spending too much time, I am able to purchase airline tickets or other travel services through the Internet.
Customer relational benefits

(1) Confidence benefits:
- I can trust this Web-based travel agency.
- This Web-based travel agency can free me from anxiety concerning the security of online transactions.
- I know what to expect when I get on to the Web site of this travel agency.

(2) Special treatment benefits:
- I am able to save a lot of time on information searching when I browse and order through this travel agency.
- I got extra services (e.g. member-only chat room, special offer and frequent user program) from using this Internet travel agency.

Outcome variables

(1) Satisfaction with service quality:
- In general, I am satisfied with the service quality offered by this Internet travel agency.
- I feel satisfied with the self-service interface of this Internet travel agency.

(2) Loyalty:
- This Internet travel agency is my first choice for my next purchase of travel services.
- I will continue to purchase from this Internet travel agency.
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