

AN EXPLORATORY INVESTIGATION INTO THE ANTECEDENTS OF SATISFACTION, BRAND ATTITUDE, AND LOYALTY WITHIN THE (B2B) ECRM INDUSTRY

Steven A. Taylor, Ph.D., Illinois State University
Gary Hunter, Ph.D., Illinois State University

ABSTRACT

The following exploratory study considers a model explaining brand loyalty relative to the electronic Customer Relationship Management (hereafter referred to as eCRM) industry. The model focuses specifically on B2B relationships, and includes customer satisfaction, attitude, brand trust, affect, value, and resistance to change as model constructs. This model, exploratory in nature, begins to help sift out the relative direct and indirect influences of an increasingly complex number of known antecedents to customer loyalty. Particularly noteworthy is our failure to find a direct relationship between e-satisfaction and loyalty. Rather, we find that the e-satisfaction loyalty relationship appears mediated by brand attitudes in this study. We also report evidence that post-consumption affect appears more closely related to brand attitude than e-satisfaction. Service provider trust also emerges as an important antecedent to brand attitude and satisfaction in this exploratory study. Managerial and research implications of the tentative results reported herein are presented and discussed.

INTRODUCTION

Technology and the Internet are having a profound effect on marketing (Bitner, Brown, and Mueter 2000). One area particularly affected has been the automation of customer service, or eService. eService continues to grow as a major marketing emphasis, and has been defined by De Ruyter, Wetzels, and Kleijnen (2001, p. 186) as "...an interactive, content-centered and Internet-based customer service, driven by the customer and integrated with related organizational customer support processes and technologies with the goal of strengthening the customer-

service provider relationship." Rust and Kannan (2002) suggest that eService can best be considered as an overarching customer-centric concept that encompasses all members of marketing channels. Rust and Kannan (2002) further suggest that eService subsumes concepts such as customer/citizen relationship management (CRM), one-to-one marketing, and customer care, among others.

The setting for the current research involves the eCRM software applications/service industry. eCRM can be defined as ... "A Web-centric approach to synchronizing customer relationships across communication channels, business functions, and audiences" (Forrester Research 2001). The eCRM industry involves software and service providers who assist marketers in managing their customer relationships via technology (see www.crmguru or www.ecrmguide.com/ for online introductions to this industry). eCRM software includes software related to e-mail management, knowledge base development, database management, and online IP chat capabilities (among others). Companies today are increasingly providing customer service with the help of eCRM technology, or eService (Bames, Dunne, and Glynn 2000; Mueter, Ostrom, Roundtree, and Bitner 2000), reflecting the increasing emphasis on post-purchase (i.e., Relationship Marketing) considerations by service marketing firms across industries today.

However, moving to technology-mediated service provision via eCRM is not without problems for many marketers. Specifically, the emerging evidence suggests that online marketers are often receiving poor marks in terms of customer satisfaction. For example, the level of customer satisfaction online is generally lower in B2B than it is in B2C (Accenture 2001). Therefore, it is not surprising that in the US, online retailers lost

approximately \$21 billion in 2001 due to poor online customer service (Datamonitor 2001). In addition, consumer complaints about online retailers in the US more than doubled in 2000 (NACAA 2001). These patterns within the US eCRM industry appear consistent with European marketing experiences (Aberdeen 2001).

In fact, eCRM software/service providers themselves are not immune to this phenomenon. A recent vendor satisfaction study found (1) generally low customer satisfaction ratings across CRM vendors, and (2) no single organization has established themselves as a market leader in terms of relationship marketing practices (CRMGuru.com 2002). Taylor and Hunter (2002) report similar results in an academic study. Consequently, there are clear gaps in marketers' understanding of how best to use eCRM software/service in support of eService strategies. This suggests that the eCRM industry itself appears similarly victimized in its own customer relationships.

Therefore, it appears clear that marketing research designed to better understand how relationship marketing and eService theory and practice can best support eCRM implementation is both timely and useful. In fact, Bobbitt and Dabholkar (2001) have specifically called for greater academic research into the theoretical underpinnings of technology-based self service (also see Dabholkar 2000). We would also suggest that such considerations should also be sensitive to brand attitudes. A study by Accenture (2001) finds that a reputable brand is the single most important buyer preference by a wide margin followed by service, price and variety. Moreover, for 80 percent of the buyers in B2B, even price is less important in online buying decisions. The purpose of this study is therefore to report an exploratory attempt to develop and empirically validate a basic model specific to eCRM product and service settings that includes measures of customer satisfaction, affect, resistance to change, trust, and brand attitudes in the formation of ultimate brand loyalty. The underlying objective in this exploratory study is the consideration of more complex models of customer loyalty based on the emerging literature.

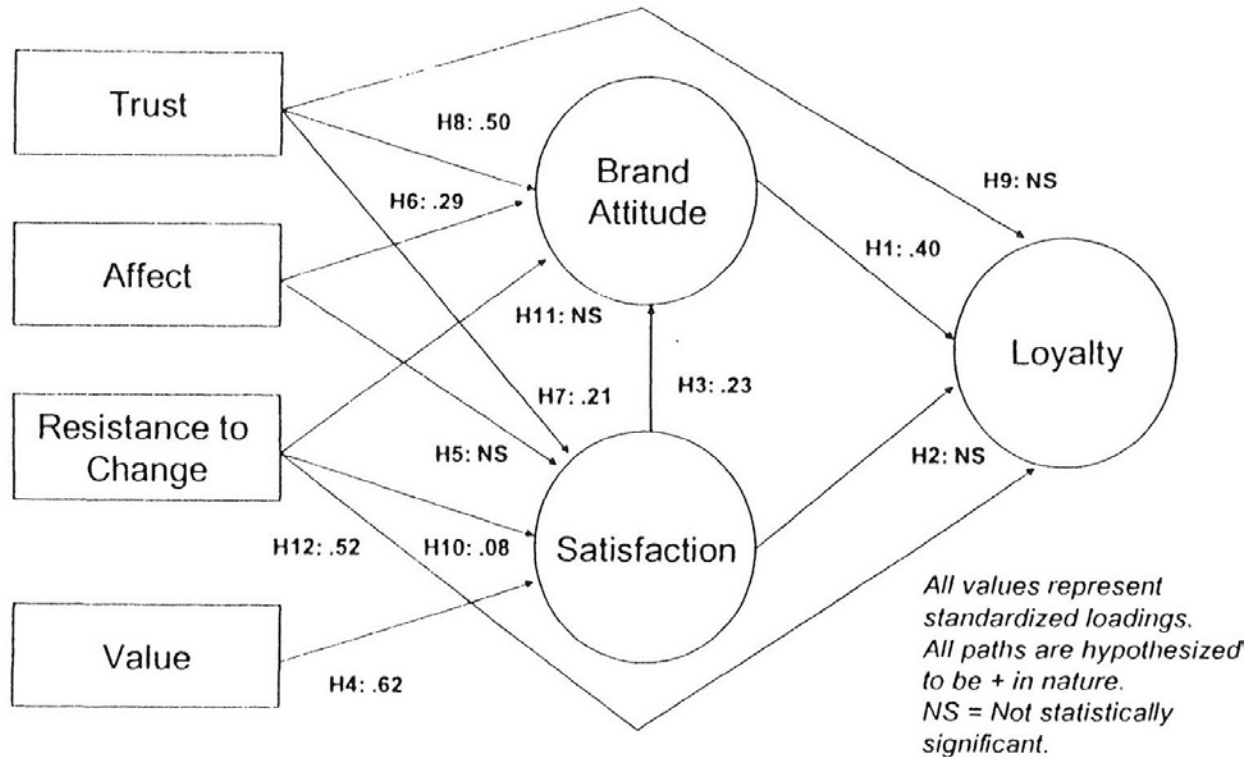
The remainder of the study is divided into four sections. First, the research model underlying the study is presented, and incorporates emerging knowledge from the CRM, services, and relationship marketing literatures. The proposed model seeks to account for many of the constructs and their interrelationships known to operate in the formation of brand loyalty in service settings. Second, the methods used to empirically test the proposed research model are presented and discussed. Third, the results of statistical analyses are articulated. Finally, conclusions and recommendations are offered for consideration by service marketers.

A MODEL FOR LOYALTY TO eCRM PRODUCTS AND SERVICES

The ultimate purpose of eCRM products and services is to help firms build better customer relationships and maximize a customer's lifetime value. Critical to this purpose is the effective implementation of e-service strategies. In fact, Kalakota and Robinson (2001, p. 171) state that within the context of eCRM ... "The timely delivery of excellent service is customer relationship management." So, what are the constructs and relationships that would be important in the development of an initial customer-centric, relationship-based model that reconciles relationship marketing and eService practices with eCRM products and services? Figure 1 presents the research model that underlies this exploratory research inquiry.

The research model builds upon existing knowledge by identifying four exogenous variables (trust, affect, resistance to change, and value) and three endogenous variables (loyalty, brand attitude, and satisfaction) to capture hypothesized direct and indirect influences in the formation of brand loyalty specific to the eCRM industry. One of the contributions of the current research is to simultaneously test these influences in a more comprehensive model using structural equation analysis. Many constructs could be considered as candidates for inclusion in this study. The constructs included in Figure 1 are not envisioned to represent all relative influences in the formation of customer loyalty

Figure 1
The Research Model



in this setting. Rather, this model represents a useful starting point for considerations in the rapidly emerging eCRM industry. Hence, we view this study as exploratory in nature.

Brand Loyalty

In this study we focus on loyalty as the ultimate endogenous construct for model prediction. The emerging evidence suggests that brand loyalty is generally considered desirable from a strategic marketing perspective (Bennett and Rundle-Teiele 2002; Chaudhuri 1999; Gwinner, Gremler, and Bitner 1998; Kumar 1999; Mittal and Lassar 1998; Reichfeld and Schefter 2000; Strauss and Friege 1999). This assertion is largely based on growing influence of the relationship marketing orientation on marketing theory and practice (Sheth and Parvitiyar 2000). Evidence is emerging that this orientation may prove particularly important with today's technology-mediated environment (Griffin 1996; Reichheld and Schefter 2000). It is therefore not surprising that the importance of brands, and their ability to capture longer-term consumer judgments, is also growing in importance in service marketing environments (Berry 2000), and in online setting specifically (Davis, Buchanan-Oliver, and Brodie 2000). Consequently, we focus herein on loyalty and brand-related measures of the relevant constructs in our research model.

Oliver (1999b, p. 34) defines loyalty as "...a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same-brand set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviors." Oliver suggests that ultimate customer loyalty is a function of perceived product superiority, personal fortitude, social bonding, and their synergistic effects. Thus, Oliver considers both behavioral loyalty (i.e., purchase) and attitudinal loyalty (i.e., fortitude) components in his conceptualization of the loyalty construct. The movement from purchase loyalty (e.g., repurchase intentions) toward more holistic conceptualizations of the

loyalty construct is supported in the emerging literature (Baldinger and Rubinson 1996; Chaudhuri and Holbrook 2001; Morgan 2000). Narayandas (1998) and White and Schneider (2000) propose laddering models that also appear consistent with this emerging orientation. Consequently, we treat customer loyalty in the current research as both behavioral and attitudinal in nature.

Brand Attitudes

Maio and Olson (2000) provide a concise history of the development of attitude theory in the social sciences, suggesting that the seminal theories of the attitude function share the following tenets: (1) the basic function of attitudes is to simplify knowledge about objects in the environment, and (2) attitudes can subsume a motivation to defend the self against internal conflict. Fazio (2000) suggests that the essence of attitudes involves summary evaluations of objects, i.e., individuals categorize objects along an evaluative dimension. Thus, by imposing an attitudinal evaluative structure on their social world, individuals can more easily cope with the demands of the social environment.

However, an unresolved issue is how brand attitudes specifically relate to customer loyalty or otherwise fit into marketing models of consumption as discussed herein. Baldinger and Rubinson (1996) argue for considering brand loyalty as the link between brand attitude and behavior. Chaudhuri (1999) presents evidence that customer loyalty mediates the brand attitudes _ market share relationship. Dabholkar and Bagozzi (2002) suggest that attitude may play a unique and fundamental role in the formation of behavioral intentions related to technology. In these conceptualizations, brand loyalty is modeled as superordinate to brand attitude. Thus, based on this evidence, we present our first research hypothesis:

H1: *Customer Loyalty is positively related to Brand Attitude.*

Customer e-Satisfaction

Satisfaction is generally defined as pleasurable fulfillment (Oliver 1997, 1999b). e-Satisfaction, defined herein as satisfaction based on technology-mediated marketing relationships, has not surprisingly become an area of growing interest in the marketing literature (Palvia and Palvia 1999; Schellhase, Hardock, and Ohlewein 2000; Szymanski and Hise 2000). (e)Satisfaction is unique from other closely related concepts such as quality, loyalty, and attitude (Oliver 1997). Satisfaction has been hypothesized in the literature to have a direct influence on customer loyalty (Mittal and Lassar 1998; Oliver 1997) and repurchase intentions/behaviors (Kumar 2002; Mittal and Kamakura 2001).

However, a recent practitioner study by Miller-Williams (2002) suggests that the relationship between satisfaction and loyalty in technology-mediated environments may not be so straightforward. In fact, these authors report a strong negative relationship between satisfaction and loyalty in their study. They suggest that the basis for these findings relates to the role of "value" in the formation of customer evaluations. We test the linkage between value, e-satisfaction, attitude, and loyalty in our research to better understand these relationships. This leads to our next two hypotheses:

H2: *Customer Loyalty is positively related to e-Satisfaction.*

H3: *Brand Attitude is positively related to e-Satisfaction.*

Value

As noted above, the value construct is also known to play an important role in models such as discussed herein. In spite of the attention devoted to this concept, the term "value" has proven to be a difficult concept to define for service marketers (Oliver 1999a). Cronin et al (1997) state that there is little disagreement on the conceptualization of value in the marketing literature as $\text{Value} = f(\text{Service Quality}/\text{Sacrifice})$. Such conceptualizations tend to focus on what is relatively perceived as "received"

versus "given up" in a marketing exchange (see the following studies for examples supporting this conceptualization, including examples specific to IT settings: Albrecht 1995; band 1991; Blackwell et al 1999; Brady and Cronin 2001; Carmon and Ariely 2000; Cronin, Brady, and Huit 2000; Gale 1994; Kumar 2002; Sawhney and Parikh 2001; Sharma, Krishnan, and Grewal 2001; Sweeney and Soutar 2001; Ulaga and Chacour 2001; Woodruff 1997; Woodruff and Gardial 1996; Ziethaml 1988).

However, such conceptualizations of "value" appear incomplete given Holbrook's (1999) more holistic conceptualization/typology of the construct. Oliver (1999a) recently addresses this issue by suggesting that the traditional conceptualization of value referenced above has been largely constrained to the self-oriented, reactive, and extrinsic cell in Holbrook's typology. Oliver (1999a) asserts that "value" is indeed a unique construct from satisfaction and quality and envisions these constructs as coexisting and influencing one another, as well as outcome variables such as loyalty, as consumers make consumption judgments across time. He suggests that such a conceptualization is not inconsistent with the traditional conceptualization of value above. Value is traditionally modeled as subordinate to the formation of satisfaction judgments. Recognizing the limits in traditional direct predictors of value, and consistent with the dominant conceptualization of the construct, we restrict our exploratory investigation in the current study to cost-based value. However, we discuss in our implications the need to better incorporate Holbrook's typology into service eConsumption models. This leads to our next research hypothesis:

H4: *e-Satisfaction is positively related to Value judgments.*

Affect

Affect represents a construct that is known to relate to both satisfaction and brand attitudes (Kim, Lim, and Bhargava 1998; Machleit and Mantel 2001; Oliver 1997) as well as service encounter/recovery evaluations (Mattila and Enz 2002; Smith and Bolton 2002). Bagozzi,

Gopinath, and Nyer (1999) provide a discussion of the role of affect versus emotions in marketing that helps frame the incorporation of affect into the current research. They define the term affect as an "...umbrella for a set of more specific mental processes, including emotions, moods, and possibly attitudes. In other words, affect can be considered a general category for mental feeling processes, rather than a particular psychological process per se." They further distinguish emotions as "a mental state of readiness that arises from cognitive appraisals of events or thoughts, ..." (page 184). These authors assert that emotions are ubiquitous throughout marketing. They are known to influence information processing, mediate responses to persuasive appeals, measure the effects of marketing stimuli, enact goal-directing behaviors, and serve as ends and measures of consumer welfare. However, these authors further assert that an area neglected by marketers is the role of emotions in marketing exchanges and relationships. The current research attempts to fill this void by modeling affect as part of our research model. Ruth, Brunei, and Otnes (2002) call for the measurement of five basic emotions in studies such as the current research (i.e., happiness, love, fear, anger, and sadness) as well as the subordinate emotions of pride, gratitude, guilt, uneasiness, and embarrassment. The current research employs their recommended scale for affect. This leads to our next two hypotheses:

H5: *e-Satisfaction is positively related to Affect.*

H6: *Brand Attitude is positively related Affect. Trust*

Trust also appears to be an important antecedent to loyalty. Fukuyama (1995, p. 26) defines trust as "...the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of members of that community." Fukuyama argues that the technological revolution will make trust ever more important in understanding business behaviors (like marketing). Marketers have been interested in trust for some time, however, based on a more focused definition: "Trust is defined as a

willingness to rely on an exchange partner in whom one has confidence" (Moorman, Zaltman, and Deshpande 1992, p. 315). These authors hypothesize that trust is an antecedent to commitment (also see Morgan and Hunt 1994).

However, specifically where trust might fit in models of loyalty remains unresolved. Hart and Johnson (1999) in fact argue for seeking "total trust" in a manner similar to TQM initiatives. As such, they see trust as mediating the satisfaction _ loyalty relationship. Singh and Sirdeshmukh (2000) present a model suggesting that trust is an antecedent to satisfaction (which in turn is subordinate to loyalty). This model of trust as an antecedent to loyalty is supported by the work of Chaudhuri and Holbrook (2001) in their model explaining brand loyalty (also see de Ruyter, Moorman, and Lemmink 2001). Sirdeshmukh, Singh, and Sabol (2002) most recently present evidence that value mediates the trust _ loyalty relationship. Investigations of how trust operates in technology-mediated environments have also recently emerged (Ceaparu et al 2002; De Ruyter, Wetzels, and Kleijnen 2001; Reichheld and Scheffer 2000; Urban, Sultan, and Quails 2000). In the current research, we operationalize trust as confidence in the viability of the service provider based on the fact that a typical CRM implementation can cost upwards of \$ 100 million and take up to three years (Ebner et al 2002). The risks and costs are very high for organizations as CRM is often viewed as a mission critical strategic initiative. CRM service providers therefore must work closely over the long term with the IT staffs of organizational clients to ensure product viability. This emerging evidence forms the basis for the following research hypotheses:

H7: *e-Satisfaction is positively related to Trust.*

H8: *Brand Attitude is positively related to Trust.*

H9: *Customer Loyalty is positively related to Trust.*

Resistance to Change

The final variable in our research model involves resistance to change. The extant literature generally accepts that commitment is

central to relationship marketing (Morgan and Hunt 1994). Gilliland and Bello (2002) propose a model that attempts to link commitment to trust and loyalty by envisioning trust as an antecedent to calculative commitment and loyalty commitment. Pritchard, Havits, and Howard (1999, p. 334) define commitment as ". . .the emotional or psychological attachment to a brand." These authors extend considerations of commitment by arguing that resistance to change is the root tendency of commitment as well as the primary evidence of commitment, and that resistance to change is a key antecedent to loyalty. We therefore include resistance to change in our model via the following hypotheses:

H10: *e-Satisfaction is positively related to resistance to change.*

H11: *Brand Attitude is positively related to resistance to change.*

H12: *Customer Loyalty is positively related to resistance to change.*

METHODS

In this section we discuss the methods employed in the current research. We will discuss the specifics of data collection, including a description of our population of interest, sampling frame, data collection strategy, the measures used to operationalize the constructs in our research model, and the methods employed to empirically assess the proposed research model and hypotheses presented in Figure 1.

Data Collection

The population of interest for this study involved organizations that currently use eCRM software. We were provided an e-mail list of approximately 8000 international senior IT managers from organizations with a history of purchasing eCRM software in the past from the company sponsoring the industry study. This list was purported to be current and was based on industrial equipment purchases within the last calendar year. The list involved work e-mail

addresses. The list was sorted to identify and delete any duplicate names and e-mail addresses. The data set was collected by an independent professional third party using CRM software. Potential respondents were sent an unsolicited e-mail identifying the nature of the study and affording them an opportunity to opt out of the online survey. Those who did not opt out were then automatically sent a follow-up e-mail in five business days that directed them to a web page with a link to the online web form. Respondents were queried on an introductory web page to ensure that they were familiar with their existing eCRM provider. Consequently, only those individuals familiar with their existing eCRM provider were instructed to complete the online survey instrument. The only appeal to complete the survey was an argument related to assisting college students in the pursuit of their studies in an undergraduate marketing research class.

Measures Used in the Study

The measures used in the current research can be found in Appendix A. These measures are based on the literature, and discussions with the relevant managers within the participating eCRM organization. All of the constructs were measured at the global level of analysis. Readers should also be aware that we used a limited number of measures for each construct based on concerns by the sponsoring organization's managers related to response rates.

Loehlin (1998) notes that many social science models, such as the one presented herein, are models dealing with manifest variables (i.e., linear composites of observed variables) as opposed to latent variables. Path and structural equation models come in both forms and the current research is best characterized as involving manifest variables. He states that in applied situations, such as characterized by the current research, manifest variable methods retain much of their preeminence.

Statistical Methods to be Employed in the Study

A number of statistical techniques were employed in the study, most of which are available through the SPSS statistical software package. For example, descriptive measures and frequency analyses were conducted to determine distributional properties of the scales used in the study. The research hypotheses were then tested using structural equation analyses via LISREL 8.53. The next section presents the study results.

RESULTS

The following section is divided into several discussions. First, we describe our obtained sample to ensure adequate representativeness of the population of interest. Second, we report mean scores and standard errors for our model constructs. Third, we report reliability and validity scores for our obtained measures. We also address the issue of power to minimize concerns for the presence of Type I or Type II errors associated with our results. Finally, we report the results of our hypotheses tests based on structural equation analysis.

Obtained Sample

We received back 244 usable surveys, which is not entirely unexpected given Sheenan's (2001) study suggesting that response rates to e-mail inquiries in general are dropping drastically. In addition, recent postings on the Marketing Research Roundtable listserv (www.marketresearchinfo.com) identify researchers reporting response rates as low as 1%-2%. We also received 185 auto replies from our initial wave of e-mails alone. In addition, the principal researcher was notified by 88 people that they did not consider themselves appropriate members of the population of interest. It therefore remains unknown how many target audience members were appropriately contacted. Consequently, we were unable to calculate a valid response rate.

That said, we did receive back 244 valid responses from members of the population of interest. We argue that the absence of a known

response rate does not alleviate the contribution of our obtained results when interpreted in the light of exploratory insights. We recognize that nonresponse errors are important and can render meaningless confidence intervals computed by usual statistical formulas (Churchill and Iacobucci 2002). However, we suggest that a careful review of the obtained results in this case can help minimize these concerns, which are largely related to sample representativeness. Specifically, we first compared our obtained sample to the demographics of the known population of interest (an issue of representativeness). Second, we investigated whether the entire range of possible responses to the survey items are captured in our sample (an issue of variability). Third, we computed the standard errors for the means scores for our measures to see if they are inflated. Fourth, we assessed the reliability and validity of our measures for purposes of use in structural equation analysis. Finally, we considered whether or not we have sufficient sample size to ensure the necessary statistical power to minimize concerns of Type I and Type II errors associated with our results. We ultimately argue that replication is the ultimate test of the efficacy of reported exploratory results that possess sufficient statistical power and an unknown amount of nonresponse error.

An analysis of individual and organizational characteristics of the study respondents demonstrates that the obtained sample captures a wide cross-section of our desired population. Most respondents were male, college-educated, and saw themselves as consistent with our description of the target audience. In addition, we received back responses from decision makers from all major organizational types and groups. We discussed the obtained sample at length with experienced decision makers from two companies in the eCRM space and they concluded that the obtained sample appears representative of the population of interest.

Mean Scores, Correlations, and Standard Errors

Table 1 presents the results of our frequency analyses of our measured constructs assuming a representative sample. The results suggest (1) that the mean scores are consistent with those generally reported in this industry (CRM Guru 2002), (2) the standard error scores are within acceptable ranges, and (3) the 95% confidence intervals are relatively narrow. In addition, there is some measure of nonnormality in the data, which is not unexpected in satisfaction-related research streams (Peterson and Wilson 1992). We subsequently normalized the data for hypothesis testing using PRELIS.

Table 2 presents a correlation of the averaged measures for our constructs. Readers will note that some intercorrelation is apparent between these closely related variables, however, such intercorrelations are commonly encountered in service research related to the involved constructs. Regression diagnostics suggested that multicollinearity is not at issue given these intercorrelations. We next moved to a consideration of the reliability and validity of our measures, as well as discussion of whether sufficient power is apparent in our study to minimize concerns of Type I and Type II errors.

Reliability, Validity, and Power

Hair et al. (1998) suggest two steps for assessing reliability with measures used in structural equation analyses. First, we investigated whether all variables used for analyses were significantly related to their specified constructs, which we found to be true. Second, these authors assert that reliability estimates and variance extracted measures should be calculated for each construct in Figure 1. Table 3 presents these results and demonstrates that in all cases our construct measures exceeded a reliability standard of $>.7$. Thus, we are confident in the reliability of our measures.

We next assessed the validity of our measures. Given that the measures derived from previous studies, there appears to be a measure

of face and content validity. Raines-Eudy (2000) states that the calculated shared variance scores in Table 3 are sufficient evidence for construct validity (i.e., the calculated variance-extracted scores exceeded the 50% recommended criteria for all model endogenous constructs). Thus, we are confident in the validity of our dependent measures as well. Readers will note that we did not calculate variance extracted scores for the model's exogenous variables. This is because we used a data parceling methodology in analysis that is addressed in the presentation of the SEM results in the next section.

The final issue before turning to the results of our analysis using SEM involves the issue of power. Power has at its core the minimization of errors in statistical inference (Murphy and Myors 1998). Hu and Bentler (1999) address the issue of power when using structural equation analysis and conclude that using a combination of fit indices can serve to control for the occurrence of Type I and Type II errors in hypothesis testing. Our sample size is consistent with their recommendations, we therefore use Hu and Bentler's recommended fit indices in interpreting our analyses (RMSEA of close to .06; CFI close to .95; and a value close to .08 for SRMR). The next section presents the results of our hypothesis tests.

Results of Hypothesis Tests

It is apparent from the preceding literature review that the constructs investigated in this study are highly interrelated. We therefore chose a strategy of parceling our exogenous variables for subsequent analysis using SEM. Bandalos and Finney (2001) note that the use of item parcels has become a common practice in structural equation modeling in recent years. These authors suggest that reasons for using item parcels include (1) parsimony, (2) increased reliability of the measures, (3) more continuous and normally distributed item distributions, (4) that it benefits factor analysis with small samples, (5) is less idiosyncratic indicator variance, and (6) parceled solutions typically result in better model fit than solutions at the

Table 1
Frequency Statistics
N= 244

<i>Variable</i>	<i>Mean</i>	<i>Std Error of Mean</i>	<i>Std Dev</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>Lower Bound of 95% Confidence Interval</i>	<i>Upper Bound of 95% Confidence Interval</i>
<i>Sat1</i>	4.45	0.13	2.08	0.006	-0.7	4.1952	4.7048
<i>Sat2</i>	5.44	0.14	2.23	-0.44	-0.6	5.1656	5.7144
<i>Sat3</i>	5	0.14	2.22	-0.15	-0.8	4.7256	5.2744
<i>Sat4</i>	5.72	0.14	2.24	-0.61	-0.5	5.4456	5.9944
<i>Sat5</i>	5.66	0.14	2.19	-0.48	-0.52	5.3856	5.9344
<i>Value1</i>	5.51	0.12	1.91	-0.17	-0.4	5.2748	5.7452
<i>Value2</i>	5.71	0.11	1.78	-0.52	0.21	5.4944	5.9256
<i>Value3</i>	5.86	0.12	1.89	-0.53	-0.27	5.6248	6.0952
<i>Value4</i>	5.69	0.13	2	-0.55	-0.31	5.4352	5.9448
<i>Brand_affect1</i>	5.44	0.13	1.87	-0.36	-0.32	5.1852	5.6948
<i>Brand_affect2</i>	5.12	0.13	1.82	-0.28	-0.18	4.8652	5.3748
<i>Brand_affect3</i>	4.73	0.13	1.85	-0.18	-0.28	4.4752	4.9848
<i>Brand_att1</i>	5.61	0.14	2.01	-0.48	-0.56	5.3356	5.8844
<i>Brand_att2</i>	5.64	0.14	1.94	-0.46	-0.36	5.3656	5.9144
<i>Brand_att3</i>	5.6	0.14	1.9	-0.47	-0.55	5.3256	5.8744
<i>Brand_att4</i>	5.9	0.12	1.65	-0.64	0.648	5.6648	6.1352
<i>Sp_trust1</i>	6.1	0.14	1.9	-0.63	-0.05	5.8256	6.3744
<i>Sp_trust2</i>	6.15	0.14	1.92	-0.82	0.234	5.8756	6.4244
<i>Sp_trust3</i>	6.26	0.13	1.85	-0.81	0.463	6.0052	6.5148
<i>Sp_trust4</i>	5.99	0.13	1.85	-0.61	0.132	5.7352	6.2448
<i>O_loyal1</i>	5.44	0.12	1.87	-0.45	.245	5.2058	5.6742
<i>O_loyal2</i>	5.08	0.11	1.76	-0.31	.116	4.8615	5.3025
<i>O_loyal3</i>	5.23	0.13	1.97	-0.29	.126	4.9878	5.4802
<i>O_loyal4</i>	5.40	0.12	1.90	-0.38	.307	5.1641	5.6399
<i>Rtc1</i>	5.08	0.16	2.21	-0.08	-0.91	4.7664	5.3936
<i>Rtc2</i>	5.85	0.14	1.96	-0.37	-0.56	5.5756	6.1244
<i>Rtc3</i>	4.82	0.17	2.29	-0	-1	4.4868	5.1532
<i>Rtc4</i>	5.83	0.18	2.39	-0.47	-0.9	5.4772	6.1828

Table 2
Correlation Matrix

	<i>Loyalty</i>	<i>Trust</i>	<i>Attitude</i>	<i>Affect</i>	<i>Value</i>	<i>Satisfaction</i>
<i>Loyalty</i>	1					
<i>Trust</i>	.718	1				
<i>Attitude</i>	.754	.901	1			
<i>Affect</i>	.671	.759	.835	1		
<i>Value</i>	.602	.676	.747	.660	1	
<i>Satisfaction</i>	.651	.740	.795	.708	.890	1

Table 3
Reliability and Validity

<i>Construct</i>	<i>Reliability</i>	<i>Validity/Variance Extracted</i>
<i>Loyalty</i>	.834	.560
<i>Trust</i>	.927	
<i>Attitude</i>	.953	.944
<i>Affect</i>	.948	
<i>Value</i>	.937	
<i>Satisfaction</i>	.935	.915
<i>Resistance to Change</i>	.822	

item level of analysis. They identify the limitations of item parceling as well, including (1) information about individual items is lost, (2) items being parceled must be reasonably unidimensional, (3) parameter estimates and factor scores derived from parceled analyses will be dependent on the particular items being parceled together, and (4) the possibility of obscuring the true factor structure of the items and obtaining biased estimates of other model parameters.

These authors argue that item parcels are widely and uncritically used in social science research. They conclude by recommending that researchers use item parceling under the following conditions: (1) the unidimensionality of the potential item parcels has been established in previous research, (2) parcels should be formed within each unidimensional factor, (3) being reasonably sure that any secondary factors may not influence other model constructs, and (4) reporting detailed explanations of how and why parceling is being conducted as part of the statistical analyses. Recognizing their cautions, we implemented their reporting recommendations. We parceled the exogenous items in our model based on the argument that the respective global indicators represent a unidimensional index based on the domain sampling theory. We confirmed each construct's unidimensionality using SEM. We then assessed their contribution to our multi-item endogenous variable to test our hypotheses.

Analysis of our research model yielded the following indices: $R^2=182.83$, $df=105$, $RMSEA=0.055$, $CFI=.99$, $NFI = 0.99$, $IFI = 0.99$, $GFI = 0.92$, and $SRMR =0.025$. Hu and Bentler (1999) argue that these results support the argument that the model fits the data statistically. Thus, we conclude that the research model presented in Figure 1 appears supported by the sample obtained in this study. Readers will note that we have included both the structural and reduced-form R^2 's in our results. The reason we have done so is based on Joreskog's (1999) argument that traditional R^2 values may not be appropriate when using SEM analyses. Rather, the reduced form R^2 can be interpreted as the relative variance of a dependent variable explained or accounted for by all explanatory variables jointly.

The results suggest that overall loyalty in this sample is a function of brand attitude and resistance to change. Customer satisfaction is influenced by value judgments and service provider trust. Brand attitude is a function of satisfaction, affect, and trust. Thus, customer satisfaction is found in this study to have an indirect affect on loyalty, through brand attitude. Again, we encourage readers to consider these results tentative pending replication across alternative research settings. The next section discusses the research and managerial implications of the reported results.

Table 4
Results from Hypothesis Testing

<i>Endogenous Variable</i>	<i>Equation¹</i>	<i>R²</i>	<i>Reduced R²</i>
<i>Loyalty</i>	NS*Satisfaction + .40*Attitude + NS*Trust + .52*RTC	.80	.78
<i>Satisfaction</i>	.62*Value + NS* Affect + .21*Trust + .042*RTC	.79	.79
<i>Attitude</i>	.23*Satisfaction + .29*Affect + .50*Trust + NS*RTC	.92	.91

1 = All reported values represent standardized weights

NS = Not statistically significant a p = .05

RTC = Resistance to Change

Table 5
Results of Hypothesis Testing

<i>Hypothesized Relationship</i>	<i>Confirmed in Our Study?</i>	<i>t-Value</i>	<i>Standard Error</i>
H1: Attitude → Loyalty	Yes	2.86	0.14
H2: Satisfaction → Loyalty	No	0.58	0.079
H3: Satisfaction → Attitude	Yes	5.84	0.039
H4: Value → Satisfaction	Yes	11.10	0.056
H5: Affect → Satisfaction	No	1.67	0.053
H6: Affect → Attitude	Yes	7.94	0.037
H7: Trust → Satisfaction	Yes	3.78	0.056
H8: Trust → Attitude	Yes	12.54	0.040
H9: Trust → Loyalty	No	0.27	0.11
H10: Resistance to Change → Satisfaction	No	1.96	0.042
H11: Resistance to Change → Attitude	No	1.32	0.029
H12: Resistance to Change → Loyalty	Yes	9.11	0.057

RESEARCH AND MANAGERIAL IMPLICATIONS

Table 5 summarizes the results of our hypothesis tests, as well the t-values and standard errors associated with each tested path. The purpose of this study was to develop and test a complex customer loyalty model for the eCRM eService industry. Consistent with much of the literature above, our results first suggest that all of the identified constructs help explain brand loyalty, although some of these influences appear indirect. For example, we find that brand attitude and resistance to change directly influence brand loyalty. However, unlike the Miller-Williams (2002) study, we find a nonsignificant relationship between e-satisfaction and loyalty, not a negative relationship as they found in their study. E-satisfaction appears to operate through

the mediating influence of brand attitude in our sample and research setting. Chaudhuri and Holbrook (2001) present a model of loyalty that suggests that purchase and attitudinal loyalty are both functions of brand affect and brand trust. We find evidence of these relationships can be indirect as well and mediated through e-satisfaction and brand attitude.

There are a number of issues that derive from this study that will interest marketing academicians and practitioners alike. We begin by considering future research implications. Much work remains to be done in developing a better understanding of the relative domains and interrelationships between loyalty, attitude, and e-satisfaction, all of which likely operate at

multiple levels of analysis. The role of affect in such models also appears worthy of further investigation. We find that affect appears to relate more to brand attitude than e-satisfaction in our study. Rather, e-satisfaction appears driven by perceived value, trust, and resistance to change to a lesser degree in our study. This finding could reflect our global measures, and future research using more comprehensive measures of affect versus emotion will contribute to our understanding. Trust appears to influence both e-satisfaction and brand attitude. We do not find a direct relationship between trust and loyalty in our study. One potential explanation is that we focused in the current research on service provider trust. Future research should consider more comprehensive measures of trust, as well as consider differentiating brand trust from service provider trust.

One particularly intriguing avenue of future research that will contribute to a better understanding of the relative domains and of constructs such as loyalty, e-satisfaction, attitude and affect involves emerging attitude research. Perugini and Bagozzi (2001) present an attitude model based on consumption goals that could form the foundation for a better understanding of these constructs. Their theory suggests that goal related behavioral intentions are formed based on desires as a mediator of traditional antecedents to intention formation (e.g., affect, Attitude^{Act}, self efficacy, and perceived control). We believe that a study that simultaneously considers the relative influences of the disconfirmation model and Perugini and Bagozzi (2001)'s attitude based model on the formation of customer loyalty would be particularly illuminating and may help us to further understand the direct and indirect influences considered herein.

We have asserted throughout this manuscript the exploratory nature of our research. Future research might further investigate whether the relationships identified in the current study generalize to other technology-mediated settings (i.e., whether or not the observed relationships are (1) replicable, and (2) vary across research settings such as different industries, demographic groups, and competitive settings).

Another question that emerges from this study concerns the relative complexity of satisfaction-based service models. This study reports results explaining the vast majority of explained variance in customer loyalty. Assuming that these results bear scrutiny; will the addition or more constructs add useful information, particularly for service marketing practitioners? Where do all of the interesting and important constructs apparent in service marketing research fit into models such as discussed in this study (e.g., perceived risk, brand equity, justice, quality, and involvement just to name a few)? Will it become increasingly harder to develop models that include all relevant constructs given our existing measurement limitations and respondents' ability to differentiate ever more subtle distinctions between marketing-related constructs, as well as their willingness to provide data?

Is customer loyalty the strategic end-all for explanatory models explaining marketing relationships with service organizations? In other words, is loyalty the appropriate ultimate expression of service marketing relationships? Our suspicion is that in the end, efforts to explain "value" along the global lines envisioned by Holbrook (1999) or Sheth (Sheth and Newman 1991; Sheth, Newman, and Gross 1991) may prove most efficacious, particularly if we consider moving beyond a sole focus on economic considerations and short-term profit orientations.

Managerially, the tentative results reported herein suggest that a singular focus on greater e-satisfaction scores from eCRM customers may provide an incomplete strategy in support of competitive differentiation. Our results suggest that positive brand attitudes and minimizing resistance to change may be better mechanisms for influencing long-term relationship marketing outcomes in this particular industry. We encourage replication of this work in future considerations of customer loyalty in eCRM settings.

LIMITATIONS OF THE CURRENT RESEARCH

We are increasingly alarmed by the threat of nonresponse to marketing research invitations, particularly in a technology-mediated world. We have candidly shared our experience in the hope that attention can be drawn to this issue. Every indication is that people are becoming less enthusiastic with participating in survey-based marketing research studies. We call upon appropriate marketing organizations (e.g., AMA, JAMS, etc.) to work together to develop a discipline-wide integrated marketing strategy to educate people as to the importance of marketing research to the general well being of our world. We believe that failure to do so will likely lead to dire consequences in the near future.

Finally, the use of structural equation modeling (SEM) itself is not without criticism. McDonald and Ho (2002) present a discussion of the principles and practices currently used in reporting results of SEM. These authors identify a number of issues that complicate the interpretation of reported SEM results. For example, they suggest that, "... the possibility of unspecified omitted common causes is the Achilles heel of SEM" (p. 67). They discuss the problems associated with confidently asserting model identifiability. They bemoan the problems associated with the requirement in SEM for multivariate normality and missing data. They provide an enlightening discussion with the problems associated with interpreting goodness-of-fit indices. They ultimately suggest the reporting of correlation matrices and standard errors underlying SEM results (among other considerations when possible). We have endeavored to be sensitive to these arguments by reporting both our correlation matrix, standard errors associated with each hypothesized relationship, and numerous SEM fit indices beyond those suggested by Hu and Bentler (1999). We look forward to marketers and other social scientists grappling with these important and complex issues in future studies.

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Appendix A The Measures Used in the Research

<i>The Construct/Source for Measures</i>	<i>The Measures (9 point Likert-Type Scales Unless Otherwise Noted) Variable Name in Parentheses</i>
Value (Sirdeshmukh, Singh, and Sabol 2002)	(Value 1) For the prices you pay for using your current CRM systems integrator, would you say using your current CRM service provider is a ... (Very Poor Deal → Very Good Deal) (Value 2) For the time you have spent using your current CRM systems integrator, would you say that using your current CRM service provider is ... (Highly Unreasonable → Highly Reasonable) (Value 3) For the effort involved with using your current CRM systems integrator, would you say that using them is ... (Not at All Worthwhile → Very Worthwhile) (Value 4) How would you rate your overall experience with your current CRM systems integrator ... (Extremely Poor Value → Very Good Value)
Brand Affect (Chaudhuri and Holbrook 2001)	(Brand_affect1) I feel good when I use my current CRM systems integrator. (Brand_affect2) My current CRM systems integrator brand makes me happy. (Brand_affect3) My current CRM systems integrator gives me pleasure.
Service Provider Trust (Sirdeshmukh, Singh, and Sabol 2002)	I Feel that my current CRM systems integrator is: (Sp_trust1) Very Undependable → Very Dependable (Sp_trust2) Very Incompetent → Very Competent (Sp_trust3) Of Very Low Integrity → Of Very High Integrity (Sp_trust4) Very Unresponsive to Customers → Very Responsive to Customers
Resistance to Change (Pritchard, Havitz, and Howard 2001)	(Rtc1) My preference to use my current CRM systems integrator would not willingly change. (Rtc2) It would be difficult to change my beliefs about my CRM systems integrator. (Rtc3) Even if others recommended another CRM systems integrator, I would not change my preference for my current CRM service provider. (Rtc4) To change my preference from my current CRM systems integrator would require major rethinking.
Overall Brand Attitude (Keller 1998)	(Brand_att1) My attitude toward my current CRM systems integrator is best characterized as: (Very Unfavorable → Very Favorable) (Brand_att2) I like my current CRM systems integrator: (Not At All → A Great Deal) (Brand_att3) My current CRM systems integrator satisfies your needs: (Not At All → Totally) (Brand_att4) My current CRM systems integrator is: (The Worst Brand for Me → The Very Best Brand for Me)
Satisfaction (Oliver 1997)	(Sat1) My current CRM system integrator exceeds my highest expectations. (Sat2) My current CRM system integrator is among the best I could have bought. (Sat3) My current CRM system integrator is exactly what I need. (Sat4) I am satisfied with my decision to use my current CRM system integrator. (Sat5) I am sure that it is the right thing to do to use my current CRM system integrator.
Loyalty (Pritchard, Havitz, and Howard 1999; Oliver 1997)	(Attitudinal_loyalty1) I am committed to buying my current provider of CRM integration. (Attitudinal_loyalty2) I am generally willing to wait for new CRM services from my current CRM systems integrator. (Behavioral_loyalty1) I will buy from my current CRM systems integrator the next time I buy CRM integration services. (Behavioral_loyalty2) I plan to do more business with our current CRM systems integrator in the foreseeable future.