Satisfaction Strength and Customer Loyalty

Murali Chandrashekaran

Kristin Rotte

Stephen S. Tax

Rajdeep Grewal

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Murali Chandrashekaran is Professor of Marketing and Head of the Marketing Cluster and
Kristin Rotte is Assistant Professor at Australian Graduate School of Management, University of
New South Wales, Stephen S. Tax is Associate Professor of Service Management at University
of Victoria, Rajdeep Grewal is Dean's Faculty Fellow and Associate Professor of Marketing at
the Smeal College of Business Administration, the Pennsylvania State University; and. The
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Grant program at the Australian Graduate School of Management and University of New South
Wales. Please address correspondence to Kristin Rotte, kristinr@agsm.edu.au, phone: 61-2-9931
9283.

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ABSTRACT

Although empirical research indicates that satisfaction is intimately linked to loyalty, anecdotal evidence reveals that many customers who state that they are very satisfied with a service provider nevertheless subsequently defect. In this paper, the authors focus on identifying which customers are vulnerable to defection despite stating high levels of satisfaction. Drawing on the emerging perspective to modeling individual judgments that recognizes that individuals differ in the strength (i.e., conviction, certainty) with which judgments are professed, the authors first decompose a customer's stated satisfaction into two related but independent facets – satisfaction level and satisfaction strength. The authors then examine the role of satisfaction strength in the translation of satisfaction to loyalty. Results from two studies are reported. In the first study, set in a B2B service context, the authors analyze data obtained from an ongoing customer satisfaction tracking study being conducted by a large service organization in the US. Data from over 25,000 customers are used to calibrate the satisfaction model and examine the effect of satisfaction strength on the translation of satisfaction to loyalty. In the second study, a conceptual replication set in a B2C context, the authors examine decision-making following a failed service encounter and a recovery attempt by the service provider. The authors study the impact of perceptions of service recovery on the level and strength of the stated satisfaction with the service recovery, and then focus on the effect of satisfaction strength in the translation of stated satisfaction to loyalty. The two studies strongly demonstrate that the covert satisfaction strength plays a central role in the translation of satisfaction to loyalty. A key finding that is uncovered, and replicated, in this research is that while satisfaction does indeed translate to loyalty when the satisfaction judgment is strongly-held (i.e., with low uncertainty), the translation is significantly lowered, on average, by almost 60%, when the same stated satisfaction is more weakly-held (i.e., fraught with uncertainty). The studies also indicate that aspects of prior relational experience (length of relationship, volume of business, and favorability of prior experiences) serve to isolate, rather than insulate, a firm's customers, resulting in even greater vulnerability. Overall, the findings contribute to a better understanding of the process by which satisfaction leads to customer loyalty.

Even as the literature on customer satisfaction burgeons and practitioners make great strides in dissecting databases to know which customers are less or more profitable, anticipation of defection remains an elusive goal. The starkness of this reality is underscored by anecdotal and empirical evidence that suggests that many customers who state that they are satisfied with a service provider subsequently switch to a competitor. For instance, a study for the U.S. Office of Consumer Affairs (TARP 1986) found that in households with service problems, only 54% would maintain brand loyalty if their problems were satisfactorily resolved. Similarly, Reichheld (1996) notes that 65%-85% of customers who defect report, prior to defection, that they were satisfied or very satisfied. In turn, a recent meta-analysis of customer satisfaction research finds that satisfaction explains less than 25% of the variance in repeat purchase (Szymanski and Henard 2001; see also Rust et al 1999).

In this paper, we focus on understanding which customers are vulnerable to defection despite stating high levels of satisfaction. We are motivated by research that contends that the translation of satisfaction to loyalty depends on other variables. For instance, Lemon, White and Winer (2002) and Rust, Lemon and Zeithaml (2004) maintain that many non-satisfaction elements drive loyalty, and illustrate that relational elements that increase switching costs are a very important factor in whether or not satisfaction has a strong relationship with loyalty. We center on an aspect of the satisfaction judgment itself that has received little attention in the literature – the strength with which the satisfaction judgment is held.

Our central thesis is that satisfaction strength is a vital determinant of customer vulnerability because it plays a crucial role in the translation of stated satisfaction into customer loyalty. Examining the strength with which customer sentiments are held is important in the context of on-going customer relationships as well as following critical events that may serve to destabilize customer relationships (e.g., service failures). Because service variability and service failures can sensitize customers to the potential downside of dealing with a service provider, they increase

uncertainties and fears that can threaten the relationship and result in customers becoming vulnerable to defection. In turn, customer behavior hinges on successful resolution of these uncertainties. However, extant satisfaction research focuses almost entirely on the magnitude of judgments (e.g., the *level* of customer satisfaction) and ignores the contemporaneous conviction (i.e., the *strength*) with which customer judgments are held. As a result, researchers have not secured insights into how on-going service delivery and service recovery actions crystallize into strongly-held customer sentiments (producing 'secure' and loyal customers) or precipitate sentiments that are largely fragile (producing vulnerable customers who might profess favorable sentiments, that may in fact be impotent and laden with uncertainty). It would also be useful to understand whether or not various aspects of prior relational experience (e.g., length of relationship with the supplier, volume of business, and favorability of prior experience) insulate customers from this vulnerability.

In the next section, we propose a two-dimensional view of satisfaction that centers simultaneously on the satisfaction level and strength. We then assess our theorizing in the context of two studies. Table 1 presents an overview of the two studies. The two studies, covering different business contexts, different operationalizations of loyalty, and different aspects of prior relational experience, strongly converge to support the theorizing and illuminate the role of satisfaction strength and prior relational experience in the translation of satisfaction to loyalty.

RESEARCH FRAMEWORK

We build on the extant satisfaction and judgment formation literatures to recognize that a customer's overtly stated satisfaction is comprised of two related but distinct dimensions – the level of satisfaction and the covert strength with which that satisfaction judgment is held. Several lines of thought support this two-dimensional conceptualization of revealed satisfaction. For instance, scholars in the area of services marketing note that customer expectations are often fuzzy (e.g., Rust et al 1999), and it is often difficult for customers to precisely estimate the level of received service

(Parasuraman, Zeithaml and Berry 1985). Thus, it is likely that the resulting satisfaction judgments themselves are laden with uncertainty. Consequently, customers are likely to differ in the strength with which they hold their satisfaction. This is also consistent with the psychological view of human judgments succinctly expressed by Koehler (1994, p. 461): "Although we believe a great many things, we hold some of our beliefs with greater conviction than others."

The characterization of satisfaction as a multifaceted 'statistical' construct stridently resonates as well with the literature on modeling individual judgments. For instance, Chandrashekaran et al (2000; see also Chandrashekaran, Rotte and Grewal 2005) propose the Judgment Uncertainty and Magnitude Parameters (JUMP) model to focus on the simultaneous manifestation of uncertainty in the variation surrounding the central tendency of stated judgments. Grounded in the notions of Brunswikian uncertainty that deals with human judgments in a social context (see Juslin and Olsson 1997), the JUMP model takes an overtly stated measure and estimates the impact of independent variables on the magnitude and uncertainty inherent in the overt judgment. Likewise, noting that the uncertainty in customer expectation judgments is reflected in the variance surrounding simple point expectations, Rust et al (1999) caution researchers that it may be insufficient to measure only the point expectation, as has always been standard practice; instead, we should also measure the uncertainty with respect to the level of service that will be received.

In summary, therefore, we advance the view that a constructive way to think about satisfaction is that it is based on fuzzy expectations and a fuzzy assessment of experience, which is in turn based on an understanding of the distributions of actions (and outcomes) of others. Similar to Rust et al (1999), we suggest that by viewing satisfaction as a simple point-assessment, extant research has immediately assumed that all that is important is the mean of these distributions. In turn, consistent with the JUMP model (Chandrashekaran et al 2000; Chandrashekaran, Rotte and Grewal 2005), we suggest that while the mean of this distribution is an index of the level of satisfaction, the variance of

the distribution will be related to the strength (that is, conviction or certainty) with which this satisfaction is professed.

Satisfaction model

Letting SAT_i denote the stated satisfaction of the ith customer, we recognize that SAT_i is a realization from a distribution of possible judgments, such that SL_i, the satisfaction level, reflects the mean, and SU_i, the satisfaction uncertainty, manifests itself in the variance of that distribution:

(1) $\quad SAT_i = \beta_0 + SL_i + \varepsilon_i; \quad var(\varepsilon_i) = \sigma^2 + SU_i$

(2) $\quad SL_i = \mathbf{X_i\beta}; \quad SU_i = \mathbf{Z_i\gamma}$

where σ^2 denotes the measurement- and model-error variance; $\mathbf{X_i} = [x_{1i},..., x_{pi}]$ and $\mathbf{Z_i} = [z_{1i},..., z_{ki}]$ denote row-vectors of variables hypothesized to impact satisfaction level and uncertainty, respectively, and $\mathbf{\beta} = [\beta_1, \beta_2, ..., \beta_p]$ and $\mathbf{\gamma} = [\gamma_1, \gamma_2, ..., \gamma_k]$ denote column-vectors of the impacts of $\mathbf{X_i}$ and $\mathbf{Z_i}$, respectively. The specific elements of $\mathbf{X_i}$ and $\mathbf{Z_i}$ will come from theory and the specific substantive setting of the particular research study. Consistent with the JUMP model procedure (Chandrashekaran, Rotte and Grewal 2005), the parameters of interest can be estimated in a straightforward manner using feasible generalized least squares in which (a) SAT is regressed, via an OLS, on $\mathbf{X}$ to obtain estimates for β_0 and $\mathbf{\beta}$, (b) the squared residual, i.e., $e^2 = (SAT - \hat{\beta}_0 - \mathbf{X}\hat{\beta})^2$, which is an estimate of the individual-level variance with the same asymptotic properties as ε_i^2, is regressed on $\mathbf{Z}$, to obtain estimates $\hat{\sigma}^2$ and $\hat{\gamma}$, (c) e^2 is regressed, via a WLS, on $\mathbf{Z}$ with $2(\hat{\sigma}^2 + \mathbf{Z_i}\hat{\gamma})^2$ as the weight, and with the constraint that $\hat{\hat{\sigma}}^2 + \mathbf{Z_i}\hat{\hat{\gamma}} > 0$, where $\hat{\hat{\sigma}}^2$ and $\hat{\hat{\gamma}}$ are the WLS estimates of σ^2 and γ, and (d) SAT is regressed on $\mathbf{X}$, via a WLS model with $\hat{\hat{\sigma}}^2 + \mathbf{Z_i}\hat{\hat{\gamma}}$ as the weight, to obtain unbiased and efficient estimates for β_0 and $\mathbf{\beta}$ (see Amemiya 1985, Greene 1997 for statistical proofs). $\mathbf{Z_i}\hat{\hat{\gamma}}$ then gives us an estimate of individual satisfaction uncertainty.

Loyalty Model

Research indicates that although satisfaction is linked to some aspects of loyalty (e.g., Anderson and Sullivan 1993; Mittal and Kamakura 2001; Oliver 1997), its impact may depend on facets of the prior relational experience (e.g., Rust, Lemon and Zeithaml 2004). In addition, we anticipate that both loyalty and the translation of satisfaction to loyalty will be influenced by satisfaction strength.

Role of satisfaction strength. We first anticipate that uncertainty in customer evaluations will hinder continued patronage (Kardes 1994). Next, drawing from research in psychology and marketing, we advance the notion that satisfaction strength will play an important role in the translation of stated satisfaction to loyalty. The specific conjecture that is widely believed in the psychology literature is that strongly-held judgments (i.e., those with little uncertainty) are more likely to translate into subsequent behavior (Gross, Miller and Holtz 1995; Kardes 1994). In a similar vein, Chandrashekaran et al (2000) found that intention uncertainty significantly lowered the translation of intention judgments to actual behavior. We therefore expect that the translation of stated satisfaction to loyalty will increase (decrease) as the satisfaction strength increases (decreases).

Role of prior relational experiences – insulation or isolation? It is generally believed that long-standing and happy customers are more loyal (e.g., more likely to provide recommendations and positive word-of-mouth; Zeithaml, Berry and Parasuraman 1996). We also expect prior relational experiences (duration, valence and business volume) to impact the translation of satisfaction to loyalty.

In one perspective, governed by an ***insulation*** process, more prior relational experience will facilitate the transfer of satisfaction to loyalty and help overcome the deleterious impact of weakly-held satisfaction judgments (e.g., Anderson and Sullivan 1993). In addition, Tax, Brown and Chandrashekaran (1998) suggest that prior positive experiences will mitigate the harmful effects of dissatisfaction. Finally, volume of business may be directly related to switching-costs, especially if

up-front investment is proportional to the volume of business. We may therefore see more forgiving behavior among larger accounts that prevails over the negative effect of dissatisfaction and weakly-held satisfaction.

In contrast, in an **isolation** process, prior relational experience may exacerbate the impact of dissatisfaction as well as the damaging impact of weakly-held satisfaction judgments. For instance, it is possible that long-standing customers and those with previously favorable experiences have higher expectations, are more sensitive to defects that promote uncertainty, and less forgiving than new customers. Supporting this thinking, research in organizational psychology (e.g., Brockner, Tyler and Cooper-Schneider 1992) has found that negative deviations from expectations have the greatest negative influence on the most loyal individuals. In a similar vein, larger accounts are typically those with greater buyer power (see Rangan, Moriarty and Swartz 1992) – more demanding in their service requests yet unwilling to pay for enhanced service, and more sensitive to deviations from already high expectations. In this outlook, we may find that satisfaction translates to a smaller extent for larger accounts and for long-standing customers, and the negative impact of weakly-held satisfaction will be exacerbated.

In sum, letting $\widetilde{P}_{REL}$ denote the vector of prior relational experience variables, we express the customer loyalty model as follows (note that $\widetilde{\tau}_3, \widetilde{\tau}_P$ and $\widetilde{\tau}_{PU}$ are vectors):

(3a) $\text{LOYALTY} = \tau_0 + \tau_{SAT}\text{SAT} + \tau_2\text{SU} + \widetilde{\tau}_3\widetilde{P}_{REL}$

(3b) $\tau_{SAT} = \tau_S + \tau_U\text{SU} + \widetilde{\tau}_P\widetilde{P}_{REL} + \widetilde{\tau}_{PU}\widetilde{P}_{REL}*\text{SU}$

Of central interest is the interplay of satisfaction strength and prior relational experiences in shaping the translation of satisfaction to loyalty, that is, on τ_{SAT}. Substantively, therefore, the key parameters of interest are those involving the translation of satisfaction (i.e., $\tau_S, \tau_U, \widetilde{\tau}_P$, and $\widetilde{\tau}_{PU}$). We expect that

(a) $\tau_S > 0$ – satisfaction will translate to loyalty, (b) $\tau_U < 0$ – satisfaction uncertainty will impair the

translation of stated satisfaction to loyalty, and (c) if $\tau_P > 0$ and $\tau_{PU} > 0$, an insulation hypothesis is in evidence, and if τ_P and τ_{PU} are negative, the evidence will implicate an isolation process.

STUDY 1 – SATISFACTION AND LOYALTY IN ON-GOING B2B SERVICE RELATIONSHIPS

Setting and Data

ABC is a large service organization (2004 sales were greater than $2billion) operating in the B2B services market in the US and Canada, serving a wide variety of businesses. ABC has several hundred territory offices, each of which is responsible for hundreds of business customers. A Territory Manager, who reports to one of several Regional Managers, manages the operations of that territory including the support for several dozen service sales reps (REPs). Each REP, who typically interacts with one contact person in the customer firm, services several customers on a weekly basis. Owing to the frequency of the interaction, it is not uncommon for the contact in the customer firm and the REP to develop close bonds that in many instances involve a social component as well.[1]

Every month, ABC conducts, with the aid of a structured survey, telephone interviews with approximately 4,000 customers as part of an on-going customer satisfaction tracking initiative. A quota sample method is employed to sample customers from a range of territories, while ensuring that within each territory, customers were randomly selected. Once a customer is sampled and surveyed, that customer is taken out of the sampling frame for an 18-month time frame. In each case, the interview is conducted with the key contact person at the customer firm (or a person who is intimately involved with the service). The questions in the survey are aimed at measuring customer perceptions regarding the service delivery, the responsiveness of the territory office of ABC to customer requests and complaints, satisfaction with the REP, as well as overall satisfaction

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1. This was indicated to us by the management of the firm, as well as by informal interviews with the REPs and customers during the course of numerous field visits in connection with this research project. Furthermore, we are unable to specify the company or the core product or the precise service attributes due to confidentiality reasons.

with ABC, and whether the customer would recommend ABC to other customers. The data from

the survey were combined with relationship duration and sales data obtained from company records.

Attribute quality perceptions (ATTQ) were measured using 5-point Likert scales anchored at

'strongly agree' and 'strongly disagree' for each of seven service attributes (ATTQ = $\sum_{j=1}^{7} \text{ATT}_j$).

Through their research process and in conjunction with a large market research house, ABC has

determined that seven attributes, that comprehensively cover all aspects of the service delivery, are

important to customers in evaluating service delivery. The attributes in this context are comparable

to attributes such as 'food was warm,' 'service was timely,' and 'restaurant was clean' if the study

were being conducted in the restaurant industry. In turn, territory office responsiveness (RESPON)

was measured using a 5-point scale anchored at strongly agree and strongly disagree. Next,

satisfaction with the REP (SATREP) was measured by asking the customer to report on a 4-point

Likert scale anchored at 4=highly satisfied, 3=satisfied, 2=somewhat satisfied and 1=dissatisfied.

Overall satisfaction (SAT) was measured with a 4-point scale anchored similar to the SATREP scale,

and LOYALTY was measured by asking customers whether or not they would recommend ABC to

other customers. As indicated in Table 1, two aspects of prior relational experience are explored in

the analysis: (a) prior experience in terms of relationship duration (RDUR) – data were provided to

us on a 4-point ordinal scale, and (b) sales volume (SALES) – ABC provided us data on the average

weekly sales volume for the period of the fiscal year up until the satisfaction measurement.

Models and Expectations

Satisfaction. We explore the impact of three variables – attribute quality perceptions (ATTQ),

responsiveness of the territory office to customer requests and complaints (RESPON), and

satisfaction with the service rep (SATREP). First, building on the view that satisfaction is driven by

attribute quality perceptions (e.g., Kordupleski, Rust and Zahorik 1993; Mittal, Ross and Baldasare

1998), we expect that favorable service attribute quality will enhance satisfaction level and

satisfaction strength. These expectations are consistent with research centering on the role of information on customer attitudes – favorable information increases attitudinal favorability and strength, while unfavorable information decreases attitudinal favorability and increases customer uncertainty (Kardes 1994). In a similar vein, we expect RESPON to increase the level and strength of satisfaction. The expectations for RESPON are also justified by the notion of customer orientation – when a customer perceives that a supplier is more responsive to their requests and complaints, the customer has a more favorable view of the supplier, which is likely to be strongly-held as well.

Turning to the impact of SATREP on satisfaction level and strength, we expect a positive relationship between SATREP and satisfaction with the firm. However, as customers become increasingly satisfied with the individual key contact and the relationship becomes stronger, it opens up the potential for anxieties in the minds of the customer. To a large extent, these anxieties stem from the possibility of losing the rep due to a promotion, internal transfer or the rep quitting the service provider firm. In turn, as Bendapudi and Leone (2002, p. 86) report, customers often entertain concerns about the time it may take "to bring the replacement employee up to speed." In fact, during the course of our field visits, several customers who articulated that they 'simply loved' their rep hastened to voice their concern that they 'just would not want to lose him.' Indeed, it was as if the satisfaction and anxiety were coexisting sentiments in the minds of the customer – an admission of high satisfaction with the rep instantly set off the anxiety as well. Such trepidations increase customer uncertainty and make the relationship between the customer and the *service provider firm* more vulnerable. We thus expect that although SATREP may increase the level of satisfaction with the firm, it will simultaneously decrease the strength of that satisfaction.

Incorporating these variables into the model specification in equations 1-2, we derive, for this study, the following expressions for satisfaction level and satisfaction strength, the two latent dimensions of SAT for customer i from territory office k:

(4) $SL_{ik} = \beta_{terr,k} + \beta_1 ATTQ_{ik} + \beta_2 SATREP_{ik} + \beta_3 RESPON_{ik}$

(5) $SU_{ik} = \gamma_{terr,k} + \gamma_1 ATTQ_{ik} + \gamma_2 SATREP_{ik} + \gamma_3 RESPON_{ik}$

where $ATTQ = \sum_{j=1}^{7} (ATTj)_{ik}$, and $\beta_{terr,k}$ and $\gamma_{terr,k}$ capture unobserved heterogeneity due to territory.

We expect that (a) $\beta_1 > 0, \gamma_1 < 0$, (b) $\beta_2 > 0, \gamma_2 > 0$, and (c) $\beta_3 > 0, \gamma_3 < 0$.

Loyalty. In this stage, we included a set of terms for each aspect of prior relational experience (RDUR and SALES) to derive the following loyalty model from equations (3a) and (3b):

(6a) $LOYALTY = \tau_0 + \tau_{SAT} SAT + \tau_2 SU + \tau_{3a} RDUR + \tau_{3b} SALES$

(6b) $\tau_{SAT} = \tau_S + \tau_U SU + \tau_{Pa} RDUR + \tau_{Pb} SALES + \tau_{PUa} RDUR*SU + \tau_{PUb} SALES*SU$

Because the dependent variable was dichotomous (yes/no to the recommendation question), we used the probit model framework that also controlled for unobserved heterogeneity due to territory.

Results

Satisfaction. The overall 2-dimensional model of satisfaction that sought to examine the drivers of satisfaction level and strength was significant ($\chi^2_6 = 18,005.95, p < .0001$). The hypothesized antecedents of satisfaction level account for 53.4% of the variation in the central tendency of the stated satisfaction, and those of satisfaction strength account for 17.3% of the variance of the distribution of stated satisfaction. The following estimates obtained:

- $\hat{\beta}_1 = .3 \, (p < .0001)$ and $\hat{\gamma}_1 = -.099 \, (p < .0001) \Rightarrow$ attribute quality perceptions increase the level of satisfaction and decrease the uncertainty (i.e., increase the strength of satisfaction).

- $\hat{\beta}_2 = .386 \, (p < .0001)$ and $\hat{\gamma}_2 = .046 \, (p < .0001) \Rightarrow$ satisfaction with the REP increases SL *and* SU (i.e., *reduces* the strength with which satisfaction is held). This supports our conjecture that closer relationships between the customer and the individual REP may actually undermine (that is, make more vulnerable) the relationship between the customer and the firm.

- $\hat{\beta}_3 = .085$ ($p < .0001$) and $\hat{\gamma}_3 = -.054$ ($p < .0001$) $\Rightarrow$ responsiveness of the territory office enhances satisfaction level and reduces satisfaction uncertainty (increases satisfaction strength).

Loyalty. The overall probit model for loyalty was significant ($\chi^2_9 = 11,328.04$, $p < .0001$). We also examined the model performance against a restricted model that did not incorporate satisfaction strength. Thus, within equations 6a and 6b, we tested, via a likelihood-ratio test, H_0: $\tau_2 = \tau_U = \tau_{PUa} = \tau_{PUb} = 0$. Results indicated that the null hypothesis was rejected ($\chi^2_4 = 1462.88$, $p < .0001$) – including satisfaction strength into the analysis brings significant explanatory power.

The estimation results, presented in Table 2, support our theory that satisfaction strength and prior relational experience will influence the translation of revealed satisfaction to loyalty. In addition to a positive impact of SAT ($\hat{\tau}_S = 1.684$, $p < .0001$), the estimation uncovered:

- a significant and positive estimate for τ_{3a} ($\hat{\tau}_{3a} = .113$, $p < .10$), but a non-significant estimate for τ_{Pa} $\Rightarrow$ customers with longer relationships are more likely to be loyal, but the stated satisfaction of these customers does not translate to loyalty any more than that for others

- a significant and negative estimate for the interaction between SAT and SU ($\hat{\tau}_U = -.417$, $p < .0001$) $\Rightarrow$ stated satisfaction translates to loyalty to the greatest extent when the satisfaction uncertainty is lowest, i.e., when satisfaction is most strongly held

- a negative three-way interaction between SAT, SU and RDUR ($\hat{\tau}_{PUa} = -.040$, $p < .01$) $\Rightarrow$ the harmful impact of SU becomes worse as RDUR increases

- a negative three-way interaction between SAT, SU and SALES ($\hat{\tau}_{PUb} = -.033$, $p < .05$) $\Rightarrow$ the harmful impact of SU becomes worse as SALES increases.

The negative values of $\hat{\tau}_{PUa}$ and $\hat{\tau}_{PUb}$ indicate the presence of an *isolation* process – the deleterious impact of satisfaction uncertainty is most pronounced for long-standing customers and those with greater volume of business. To examine these interactions in more detail, we computed and tested the net translation of satisfaction to loyalty (τ_{SAT}; see equation 6b) at various levels of satisfaction uncertainty and RDUR and SALES. Table 3 presents the results of testing τ_{SAT} at the mean level of RDUR and SALES. Observe that as the satisfaction judgment becomes more weakly-

held (moving left to right in the table), τ_{SAT} steadily decreases. And at the most weakly-held

satisfaction, τ_{SAT} evidences a 60% reduction from when satisfaction is most strongly held.

Importantly, even when the satisfaction judgment is weakly-held, it translates to loyalty; however,

the translation is much smaller compared to when the same level of satisfaction is more strongly-

held. These findings illustrate the important role of satisfaction strength in the satisfaction-loyalty

link – customers with weakly-held satisfaction are at a higher risk of defection relative to customers

whose satisfaction scores are more strongly-held. We also examined the reduction in τ_{SAT} for

different levels of RDUR and SALES. The greatest reduction was 78% (1.59 to .35) for the longest-

standing customers with the greatest amount of sales volume.

STUDY 2 – SATISFACTION AND LOYALTY FOLLOWING SERVICE FAILURES IN B2C

RELATIONSHIPS

Setting and Data

　　We employed data from Tax, Brown and Chandrashekaran (1998) to validate our theorizing.

The present study differs from the Tax, Brown and Chandrashekaran (1998) study in two significant

ways. First, Tax, Brown and Chandrashekaran (1998) were mainly focused on the role of justice

perceptions (interactional, procedural, and distributive) in shaping the level of satisfaction. We are

interested in the simultaneous impact of these antecedents on the level *and* strength of satisfaction.

Second, these authors did not center on the impact of satisfaction strength on the translation of

satisfaction to loyalty. This, however, is our central focus.

　　A cross-sectional survey design was used to assess respondents' evaluations of their most

recent service related complaint (see Tax, Brown and Chandrashekaran 1998 for details of the study,

measures, and measure validation). Most complaints were lodged in reference to problems judged

to be important to the complainants – the mean response to the question, "How important to you

was the problem which led to your complaint?" was 6.43 on a seven-point scale (7 = Very

Important). The relevant data for the present investigation, from a sample of 221 customers, included perceptions of interactional justice (IJ), procedural justice (PJ) and distributive justice (DJ), judgments of satisfaction with the service recovery (SAT), favorability of prior experience (FPEX), and loyalty, measured in terms of commitment to the service provider (4 items) and propensity to give word-of-mouth (4 items). The scores on the commitment and word-of-mouth scales were averaged to yield the loyalty measure.

Models and Expectations

   Satisfaction. Here we explore the impact of the three justice components on satisfaction level and strength. Prior research (Smith, Bolton and Wagner 1999; Tax, Brown and Chandrashekaran 1998) has offered conjectures for how the three justice components may shape the level of satisfaction, so we shall not repeat those here. Based on that theorizing we specify the level of satisfaction as follows:

(7) $SL_i = \beta_1 IJ_i + \beta_2 PJ_i + \beta_3 DJ_i + \beta_4 IJ_i{*}PJ_i + \beta_5 IJ_i{*}DJ_i + \beta_6 PJ_i{*}DJ_i.$

   Turning to satisfaction strength, at a fundamental level, a service failure introduces uncertainty into the minds of consumers. And the manner in which the complaint is handled bears the potential to mitigate or exacerbate this uncertainty. Therefore, we conjecture that the interplay of the same three justice elements will shape satisfaction strength in this setting. For instance, greater interactional justice may produce a perception that the people involved in handling complaints are working to correct a problem. The elements of procedural justice are similarly diagnostic of the service provider's operations and commitment to customer service. Thus, a service recovery which is perceived to be interactionally and procedurally fair may engender attributions of reliability – this, in turn, will reduce satisfaction uncertainty (i.e., increase satisfaction strength).

   In contrast, distributive justice (DJ) pertains to resource allocation and the perceived outcome of exchange (Deutsch 1985). *On its own*, it provides little information to the consumer whether the

problem that happened in the first place (i.e., the service failure) is a rare event. Thus, although an organization's actions may be consistent with equity principles, thereby evoking perceptions of distributive justice, it may not serve to increase perceptions of reliability. Rather, we expect that in situations especially characterized by low levels of interactional and procedural justice, distributive justice will <u>increase</u> satisfaction uncertainty (i.e., <u>decrease</u> satisfaction strength) – the consumer has little information to assess the service provider's operations and commitment to service-driven satisfaction, and the likelihood of recurrence of the problem. This effect, however, is likely to be mitigated by increases in procedural and interactional justice. Specifically, from an information theoretic perspective, we expect the damaging effect of distributional justice on satisfaction strength to decrease as interactional and procedural justice increase. We thus express satisfaction strength as:

(8) $\quad SU_i = \gamma_1 IJ_i + \gamma_2 PJ_i + \gamma_3 DJ_i + \gamma_4 IJ_i * DJ_i + \gamma_5 PJ_i * DJ_i$

Loyalty. In this study, we center on loyalty in terms of commitment and propensity to give word-of-mouth (Zeithaml, Berry and Parasuraman 1996). In turn, the aspect of prior relational experience investigated was the favorability of prior experience (FPEX). We then estimated the corresponding equations (3a) and (3b) to test the theorizing.

Results

Satisfaction. The overall 2-dimensional model of satisfaction that sought to examine the drivers of satisfaction level and strength was significant ($\chi^2_{11} = 625.96, p < .0001$). The hypothesized antecedents of satisfaction level account for 90.1% of the variation in the central tendency of the stated satisfaction, and the hypothesized antecedents of satisfaction strength account for 16% of the variance of the distribution of stated satisfaction.

As in Tax, Brown and Chandrashekaran (1998), examination of the drivers of <u>satisfaction level</u> revealed interactions between DJ and IJ, and between DJ and PJ ($p < .05$ in both cases). Owing to the interactions, we computed the net effect of each justice dimension at the mean value of the

other dimensions. These were .42 ($p < .05$), .35 ($p < .0001$) and .41 ($p < .0001$) for IJ, PJ and DJ, respectively – each dimension of justice increases the level of satisfaction.

Turning to <u>satisfaction strength</u>, we uncovered a significant interaction between IJ and DJ as well as a main effect of DJ (the interaction between PJ and DJ was statistically non-significant). Owing to the interaction, we once again computed the net effect of each justice dimension at the mean value of the other dimensions. These were -.067 ($p < .05$), -.034 (*ns*) and .094 ($p < .0001$) for IJ, PJ and DJ, respectively. These results indicate that while IJ increases satisfaction strength (i.e., reduces satisfaction uncertainty), PJ has no impact on satisfaction strength, and, as conjectured, DJ *increases* satisfaction uncertainty and produces more weakly-held satisfaction judgments.

We further examined our conjecture that increases in IJ would mitigate the deleterious effect of DJ. Results indicate that the impact of DJ is at its highest when IJ is at its lowest (when IJ = 1, net impact of DJ is .612, $p < .0001$). In turn, when IJ is at its highest level (=5), the effect of DJ rendered non-significant (net impact of DJ is .005, *ns*). This finding supports our theory that DJ has the most harmful impact on satisfaction strength when interactional justice is perceived to be poor – "throwing money at the problem" without paying attention to other aspects of service recovery induces customer uncertainty and this manifests itself in weakly-held satisfaction judgments.

Loyalty. A key focus here was to replicate the overall pattern of findings from study 1 that weakly-held satisfaction inhibited the translation of satisfaction to loyalty (negative estimate of τ_U) and more so for customers with prior positive experiences (negative estimate of τ_{PU}). The overall model was significant ($R^2 = .71$, $\chi^2_5 = 266.48$, $p < .0001$). We once again tested this model against a model that constrained the impact of satisfaction strength to zero (i.e., tested H_0: $\tau_2 = \tau_U = \tau_{PU} = 0$; see equations 3a and 3b). Results indicated that this null hypothesis is rejected ($\chi^2_3 = 16.66$, $p < .01$) – incorporating satisfaction strength enhances the loyalty model performance.

Turning to the specific effects, in addition to significant positive main effect of SAT ($\hat{\tau}_S = .77$, $p < .0001$), we found, consistent with the findings from study 1, the following:

- a main effect of FPEX on loyalty ($\hat{\tau}_3 = .08$, $p < .05$), but no evidence of a significant interaction between FPEX and SAT $\Rightarrow$ customers with positive prior experience are more likely to be loyal, but the stated satisfaction of these customers does not translate to loyalty any more than that for other customers

- a negative, two-way interaction between SAT and SU ($\hat{\tau}_U = -.24$, $p < .05$) $\Rightarrow$ stated satisfaction translates to loyalty to the greatest extent when the satisfaction is most strongly held (i.e., lowest uncertainty)

- a negative three-way interaction between SAT, SU and FPEX ($\hat{\tau}_{PU} = -.04$, $p < .05$) $\Rightarrow$ the negative impact of SU on the translation of SAT is enhanced (made more negative) as the favorability of prior experience increases (i.e., as prior experience becomes more positive).

Once again, the negative value of $\hat{\tau}_{PU}$ implicates an isolation process – the harmful effect of satisfaction uncertainty is greatest for customers with prior favorable experience. To examine the impact of satisfaction uncertainty, we computed and tested the net translation of satisfaction to loyalty (τ_{SAT}) at various levels of satisfaction strength and FPEX. Table 3 (study 2) displays the τ_{SAT} analysis at the mean level of FPEX. Observe again that as the satisfaction judgment becomes more weakly-held (moving left to right in the table), the translation of stated satisfaction to loyalty quickly decreases, and at the most weakly-held satisfaction, τ_{SAT} evidences a 57% reduction from when satisfaction is most strongly held (recall that the corresponding value in study 1 was 60%). Here as well, even when the satisfaction judgment is weakly-held, it translates to loyalty; however, the translation is much smaller compared to when the same satisfaction judgment is more strongly-held. We also examined the reduction in τ_{SAT} for different levels of FPEX. The greatest reduction in translation of revealed satisfaction was for those customers with the most favorable prior relational experience – the reduction in τ_{SAT} was 77% (from .76 to .17).

Overall, the findings from study 2 converge with those from study 1 to illustrate the important role of satisfaction strength in the satisfaction-loyalty link. They indicate that customers whose satisfaction scores are weakly-held are at a higher risk of defection relative to customers whose satisfaction scores are more strongly-held. A consistent picture also emerged regarding the role of prior relational experiences. In this study favorable prior relational experiences further increase this vulnerability (in study 1 other aspects of prior relationship also increased customer vulnerability).

DISCUSSION AND CONCLUSION

The key objectives of this paper were to examine if there is something in the measure of satisfaction itself that helps better illuminate the satisfaction-loyalty link. We advanced the view that customer satisfaction can be constructively viewed as a two-dimensional statistical construct that embodies both level and strength. In contrast to extant research that has largely focused on the level of satisfaction, we articulated a model of satisfaction that simultaneously assessed the impact of independent variables on both the level of satisfaction and the strength of satisfaction. We then theorized that weakly-held satisfaction would not translate to loyalty, and that only strongly-held satisfaction would be potent and translate to loyalty. We also examined how different aspects of prior relational experience (length of relationship, volume of business, and favorability of prior experience) influenced this translation process.

We assessed our theorizing in the context of two studies, covering a range of market situations. In study 1, we centered on one B2B service provider whose customers came from a wide range of industries. In study 2, we focused on individual customer experiences with service providers from a variety of industries. In both studies, the results strongly demonstrate that the covert satisfaction strength assumes a central role in the translation of satisfaction to loyalty. A key finding that is uncovered, and replicated in this paper, is that while satisfaction does indeed translate to loyalty when the satisfaction judgment is strongly-held, the translation is significantly lowered, on

average, by almost 60%, when the same satisfaction is more weakly-held. As a result, when confronted with two customers with identical revealed satisfaction, we are now better able to differentiate between the one who is more likely to be secure and loyal and the one who is more likely to be vulnerable to defection (i.e., bearing a greater potential to switch service providers if the opportunity presented itself, despite having professed the highest levels of satisfaction). We also found that prior relational experience does not mitigate the effect of weakly-held satisfaction; rather, the most vulnerable customers are those who evidence weakly-held satisfaction judgments, are long-standing, are responsible for large volume of business and who have had prior positive experiences. Overall, the findings illuminate mechanisms that may govern the translation of satisfaction to loyalty and contribute to a better understanding of the satisfaction-loyalty conundrum. The results also indicate that (a) there is a lot more information in what we are measuring, and (b) decomposing satisfaction scores into a level and strength serves to increase the validity of satisfaction scores.

Limitations of the research need to be borne in mind. In study 1, we relied on secondary data; there is therefore a loss of control over the data collection as well as the scales used to measure the various constructs (see Wittink and Bayer 1994 for a discussion of measurement issues in the context of corporate customer satisfaction measurement programs). There are variables not included in the study that could be beneficial in securing a better understanding of the antecedents of satisfaction. For instance, it is likely that territory managers differ in their ability to motivate and support REPs, which may translate into customer satisfaction. Although we did control for territory effects in the estimation, incorporating these sorts of differences may have improved our understanding of satisfaction level and strength even more. In study 2, we used data from a cross-sectional design based on retrospective reports of service complaints. While this has been the norm for consumer postpurchase studies, problems of recall bias could have influenced the results.

Across both studies, although our results illuminate the satisfaction-loyalty link in terms of psychological loyalty, we have not focused on behavioral loyalty. It is important, however, to recognize that focusing on only behavioral loyalty can also be problematic, as behavioral loyalty without psychological loyalty may also be fragile. This issue is not a trivial one, especially in the case of contractual buyer-seller relationships. Supplier firms interested in anticipating contract renewal must center on the distinction between 'truly loyal' customers who 'will continue to use and want to use' a service provider, and 'trapped' customers who may 'continue to use but don't want to use' a service provider (see Jones and Sasser 1995). The results presented in this paper indicate that focusing on psychological loyalty will enable researchers to develop early warning systems that may better inform the issue of customer defection.

Our analysis highlights the problems associated with focusing on the central tendency and ignoring the inherent variability in responses. A practitioner focusing on the average satisfaction is likely to be 'blind-sided' by the fact that those customers who had prior positive experiences and professed high levels of satisfaction, were the ones who switched when an opportunity arose. This is the essence of customer vulnerability and it illuminates the satisfaction-loyalty conundrum. The satisfaction uncertainty that we have unveiled is akin to uncovering termites that flourish within the walls of a house that otherwise looks solid, but is really quite vulnerable. And when push comes to shove, the seemingly solid house comes tumbling down. Uncertainty and weakly-held judgments promotes vulnerability, and practitioners will be wise to simultaneously assess the level *and* strength in stated customer judgments. It may be premature therefore to abandon satisfaction programs as advocated by Reichheld (2003) simply because satisfaction does not always have a strong main effect on loyalty – the answer lies in more comprehensive analysis of satisfaction scores.

In this research we advanced, and supported, the notion that customer vulnerability emerges from covert uncertainty surrounding stated satisfaction. Customers may profess that they are

satisfied with a service provider, but they differ in the covert strength with which these satisfaction judgments are held. We are certainly not the first to suggest that service providers need to be cognizant of the strength associated with customer judgments. For instance, Rust et al (1999) do an excellent job of illustrating the value of centering on customer uncertainty in a services context. They, however, maintain that due to questionnaire length constraints, it may not be practical for managers to include uncertainty questions on satisfaction surveys. Instead, Rust et al (1999) suggest that it may be possible to use proxy measures (e.g., extent of prior experience) to control for uncertainty effects. Our research responds to and extends this view by employing an easy-to-use framework to identify and estimate the uncertainty inherent in a stated customer sentiment. We uncovered that covert satisfaction strength is shaped by service attribute quality and the various actions that constitute on-going relationships with suppliers. Thus, service providers need to recognize that extent of prior experience captures only a small part of the uncertainty story – evolving perceptions of ongoing service interactions and service recovery actions inexorably shape customer uncertainty.

In this study, we unveiled the value of centering on the strength with which stated satisfaction judgments are held. We believe that there is great value in monitoring, over time, the strength with which customers hold other judgments of relationship quality (e.g., trust) because of the profound impact of judgment strength on customer behavior. Customer uncertainty, which can be gleaned through appropriately decoding stated customer judgments, serves to destabilize relationships. Such information may be very useful in developing strategies to target vulnerable customers with a view to stem or even reverse the seemingly inexorable customer defection process.

More insights into consumer behavior can be secured, of course, by focusing on the strength with which other customer sentiments are held. For instance, based on the findings in this research, we might conjecture that the purchase intention-behavior link will be weaker when the uncertainty

inherent in a purchase intention judgment is high. Explicitly incorporating intention uncertainty may therefore enable researchers obtain better forecasts of actual purchase behavior from purchase intention data, and shed more light into the intention-behavior link.

As with most consumer phenomena, vulnerability is likely to evolve over time. The resulting dynamics from the service provider's point of view is one that can be best characterized as customer *attrition* – the slow destruction of the relationship. Financial institutions are well aware of this phenomenon. For example, Royal Bank of Canada recognizes that customers close their accounts over time, but finds it difficult to "identify the early warning signals when a customer relationship is just starting to deteriorate" (Khirallah 2001). Simultaneously investigating the level and strength of stated customer judgments is likely to shed more light on the drivers of customer vulnerability and the *why* of customer behavior. Future research may want to also investigate the strength of key customer judgments as multiple failures occur and service providers attempt to recover from these failures. For instance, how long does the uncertainty in satisfaction last and what causes it to dissipate or aggravate over time? In the present research, we found that even after one service failure, significant uncertainty was detected. Longitudinal research will only add to a better understanding of the dynamics we have identified. We look forward to this development in our literature and practice.

Table 1. Overview of Empirical Studies

Study	Setting	Data source	Key satisfaction antecedent variables	Theoretical perspective for satisfaction	Aspect of loyalty	Aspect of prior relational experience investigated	Key issues examined
1	On-going B2B service relationships – customers of one service provider firm (ABC); customers belong to a wide range of industries	On-going national customer satisfaction tracking study in ABC; $n = 25489$	Service attribute quality perceptions (measured by 7 service attributes), satisfaction with service rep, responsiveness of territory office	Satisfaction level and strength are driven by: • service quality • relationship with key contact in supplier firm • customer orientation of ABC	Recommend service provider to other customers	• Length of relationship • Volume of business	• Does satisfaction translate to loyalty? • Does weakly-held satisfaction translate to a lesser degree? • Does prior relational experience influence the translation of satisfaction? • Do aspects of prior relational experience mitigate the effects of weakly-held satisfaction?
2	Consumer decision making following service failures in B2C relationships; each customer reports on experiences with service providers who belong to a wide range of industries	Tax et al (1998); $n = 221$	Perceptions of justice – interactional, procedural and distributive justice	Social justice elements as antecedents of satisfaction level and strength	• Commitment • Propensity to provide word-of-mouth	Favorability of prior experience	Focus is on conceptual replication of study 1: • satisfaction level *and* strength are shaped by customer perceptions of on-going service actions • satisfaction strength impacts the translation of stated satisfaction to loyalty • prior relational experience influences the impact of satisfaction strength on the satisfaction-loyalty link.

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Table 2. Estimation Results for Loyalty in Study 1

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Independent variables	Parameter	Estimate[a]	Standard error
SAT	τ_S	1.684***	.092
SU	τ_2	.075	.362
RDUR	τ_{3a}	.113*	.070
SALES	τ_{3b}	.038	.068
SAT*SU	τ_U	-.417***	.128
SAT*RDUR	τ_{Pa}	.013	.019
SAT*SALES	τ_{Pb}	-.005	.018
SAT*SU*RDUR	τ_{PUa}	-.040***	.016
SAT*SU*SALES	τ_{Pub}	-.033**	.016
Log-likelihood		-11747.82	
Log-likelihood of null model		-17411.84	

***: $p < .01$;   **: $p < .05$;   *: $p < .10$

a: A positive (negative) coefficient indicates that the corresponding variable results in an increase (decrease) in the likelihood of recommending ABC to other customers.

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Table 3. Net-translation (τ_{SAT}) of SAT to loyalty as a function of satisfaction strength[a]

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	Strongly-held satisfaction ◄————————► *Weakly-held satisfaction*				
Level of SU	**Minimum**	**1st quartile**	**Mid-point**	**3rd quartile**	**Maximum**
Study 1	1.63** (.03)	1.38** (.02)	1.14** (.05)	.89** (.09)	.65** (.12)
Study 2	.77** (.04)	.66** (.04)	.55** (.06)	.44** (.10)	.33* (.12)

**: $p < .0001$;   *: $p < .01$

a: Note from equations 6a and 6b, that τ_{SAT}, in study 1 is given by $\tau_{SAT} = \tau_S + \tau_U SU + \tau_{Pa} RDUR + \tau_{Pb} SALES + \tau_{PUa} SU*RDUR + \tau_{PUb} SU*SALES$. Likewise, in study 2, substituting FPEX = P_{REL}, the net translation of satisfaction is given by $\tau_{SAT} = \tau_S + \tau_U SU + \tau_p FPEX + \tau_{pU} SU*FPEX$. Table entries are estimates of τ_{SAT} at the mean level of RDUR and SALES in study 1, and at the mean level of FPEX in study 2. Testing was performed via Wald tests (standard errors are in parentheses).

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