

Modeling Roles of Service Recovery Strategy: A Relationship-Focused View

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Abstract

This study proposed and tested a theoretical model consisting of antecedents and consequences of recovery satisfaction using scenario experimentation with three dimensions of justice manipulated at two levels each (2x2x2 factorial design). Each participant was provided the same service failure (overcooked steak) scenario and one of the eight recovery scenarios (a combination of dimensions of justice). Structural equation modeling was used to test the hypotheses based on 286 cases. All three dimensions of justice had positive effects on recovery satisfaction. Recovery satisfaction had positive effects on trust and overall satisfaction. Trust had positive effects on commitment and overall satisfaction. Commitment had positive effects on overall satisfaction and behavioral intentions. Although a service failure might negatively affect customers' relationship with the service provider, effective recovery can reinforce attitudinal and behavioral outcomes. The study findings emphasized that recovery efforts should be viewed not only as a strategy to recover immediate satisfaction but also as a relationship tool to build long-term relationships with customers.

KEYWORDS: service recovery, justice theory, recovery satisfaction, trust and commitment, overall satisfaction, behavioral intentions.

INTRODUCTION

The importance of developing a mutually beneficial ongoing buyer-seller relationship has been emphasized in marketing literature (Crosby, Evans, & Cowles, 1990; Dwyer, Schurr, & Oh, 1987; Gwinner, Gremler, & Bitner, 1998; Gundlach, Achrol, & Mentzer, 1995). Satisfying customers in exchange relationships is the ultimate goal of all businesses that wish to build repeat business. Nevertheless, service failure is inevitable. When service is not delivered as expected, customers' negative disconfirmation prompt dissatisfied customers to exhibit multiple options, namely exit, voice, and loyalty (Hirschman, 1970). Among them, complaints offer service providers chances to rectify the problems and positively influence subsequent consumer behavior (Colgate & Norris, 2001; Blodgett, Hill, & Tax, 1997).

The importance of handling service failures effectively has been demonstrated in many studies. Gilly (1987) observed that if customers are satisfied with the handling of their complaints, dissatisfaction can be reduced and the probability of repurchase can be increased. Furthermore, effective complaint handling can have a dramatic impact on customer retention rate, deflect the spread of negative word-of-mouth, and improve profitability (Tax, Brown, & Chandrashekar, 1998). Service entities could increase their profits up to 85% by reducing the customer defection rate by 5% (Reichheld & Sasser, 1990).

What makes customers dissatisfied is not a service failure alone but the manner in which employees respond to complaint(s) about service failure (Bitner, Boom, & Tetreault, 1990; Spreng, Harrell, & Mackoy, 1995). Bitner et al. (1990) reported that 42.9% of unsatisfactory encounters stemmed from employees' inability or unwillingness to respond to service failure. Understanding the impact of each dimension of justice on post-complaint

evaluations should allow management to develop more effective and cost-efficient methods of resolving conflicts and, in turn, achieve higher levels of customer retention as well as higher profits (Blodgett et al., 1997). In addition, service recovery not only rectifies service failure but also develops long-term relationships with customers. Understanding the role of service recovery efforts in developing relationship quality will strengthen recognition of the need for consistent efforts to provide customer satisfaction.

Purpose

Most customer dissatisfaction and complaint research has focused on why, to whom, and how consumers respond to dissatisfaction (Andreassen, 2000). Less attention has been directed to corporate responses to customers' voiced complaints and customers' subsequent attitudinal and behavioral changes (Conlon & Murray, 1996; Goodwin & Ross, 1992). Further, most of the existing service recovery studies focus on the short-term impact of recovery efforts and of various situational factors. Very little research has examined the relationship between service recovery and relationship quality variables (Brown, Cowles, & Tuten, 1996; Ruyter & Wetzels, 2000). Consequently, very little is known about the roles of relationship quality between recovery satisfaction and attitudinal and behavioral outcomes (Brown et al., 1996; Ruyter & Wetzels, 2000).

The purpose of this study was to propose and test a theoretical model consisting of antecedents and consequences of recovery satisfaction. The specific objectives of this study were to assess the effectiveness of the dimensions of justice on recovery satisfaction, to test the updating role of service recovery on overall satisfaction and behavioral intentions, and to test the mediating roles of trust and commitment in the relationship among recovery satisfaction, overall satisfaction, and behavioral intentions.

THEORETICAL FOUNDATION AND HYPOTHESES

Definition of Service Recovery

Dissatisfied customers expect that service failures will be recovered when they complain (Sundaram, Jurovski, & Webster, 1997). In response to customers' complaints about service failures, service providers take action to return "aggrieved customers" to a state of satisfaction (Grönroos, 1988; Zemke & Bell, 1990). Complaint management and service recovery have been considered as retention strategies (Halstead, Morash, & Ozment, 1996). Service recovery, however, is different from complaint management in that service recovery strategies embrace proactive, often immediate, efforts to reduce negative effects on service evaluation (Michel, 2001).

Theoretical Foundation of Service Recovery

The social exchange theory and the equity theory provided the theoretical framework for studies exploring customer's evaluation of service recovery efforts. The two theories assert that the exchange relationship should be balanced (Adams, 1963, 1965). The social exchange perspective is based on the view of equal partners (e.g., spouses, coworkers) in an exchange (Oliver, 1997). The equity theory has been proliferated in organizational domains (e.g., pay raise, conflict resolution, etc.). The theory focused on the relationship between the inputs and outcomes (Greenberg, 1990). A distinction between distributive justice (DJ) and procedural justice (PJ) were made, emphasizing differential effects of procedural elements on outcomes (Greenberg, 1986, 1987). Bies and Moag (1986) termed interpersonal aspects of procedural justice as interactional justice (IJ).

Service failures can be viewed as customers' economic and/or social loss in exchanges (Smith, Bolton, & Wagner, 1999). Consequently, customers consider the failure

situation as a negative inequity and attempt to balance equity with post-purchase behavior (Lapidus & Pinkerton, 1995). The concept of justice provides a theoretical framework for the evaluation of service recovery efforts (Blodgett, Granbois, & Walters, 1993; Blodgett et al., 1997; Kelley & Davis, 1994). Service providers endeavor to recover the balance by offering customers economic value in the form of compensation (e.g., a discount) or social resources (e.g., an apology) (Smith et al., 1999). A three-dimensional view of the justice concept has been considered in service recovery evaluation. That is, consumers are concerned not only with the perceived fairness of the outcome but also with the perceived fairness of the manner in which the complaint is handled (Blodgett et al., 1993) and the process by which resources or rewards are allocated (Conlon & Murray, 1996). The additional two forms of justice (PJ and IJ) explain more of the variance in satisfaction (Oliver, 1997). Smith et al. (1999) reported that the three dimensions of justice accounted for more than 60% of the explained variation in service encounter satisfaction in both restaurant and hotel settings (Smith et al., 1999).

A consumer's sense of injustice generally results from perceived unfairness compared with one's expectations or other comparison standards (Oliver, 1997). The focus of justice approaches has been how people respond to unfairness, whereas the focal point of the fairness theory is implications of accountability for fairness judgment (Folger & Cropanzano, 1998, 2001). It is rarely possible to compare one's outcome directly with other customers' outcomes. People incorporate their thoughts, interpretations, perceptions, and idea that act as a frame of reference in interpreting the occurrence (Folger & Cropanzano, 2001). Therefore, accountability (who to blame) and counterfactual thinking (what could and should have

occurred and how it would have felt) play a central role in assessing perception of fairness in service failure and recovery situation (McColl-Kennedy & Sparks, 2003).

The Effect of Recovery Efforts on Recovery Satisfaction

DJ refers to the perceived fairness of actual, tangible outcomes compared to inputs (Blodgett et al., 1997; Palmer, Beggs, & Keown-McMullan, 2000). In service recovery, DJ focuses on the specific outcome of the firm's recovery effort, such as discounts, coupons, free meals, replacement/reperform, etc. (Blodgett et al., 1997; Hoffman & Kelley, 2000). A positive relationship between dollar amount and customer satisfaction with service recovery efforts was confirmed in many studies (Boshoff, 1997; Goodwin & Ross, 1992; Hoffman, Kelley, & Rotalsky, 1995; Megehee, 1994; Tax et al., 1998).

PJ often refers to the perceived fairness of the policies and procedures used to arrive at an outcome (Blodgett et al., 1997). Tax et al. (1998) proposed that even though a customer may be satisfied with the type of service recovery strategies offered, the recovery evaluation might be poor due to the process endured to obtain the recovery outcome. Speed in handling problems and complaints was identified as an important dimension of PJ (Blodgett et al., 1997; Palmer et al., 2000; Tax et al., 1998). On the other hand, Mattila (2001) found that PJ, measured as time taken to solve a problem and the flexibility used to deal with the problem, was not a significant predictor in a restaurant setting.

IJ focuses on the manner in which the complaint was treated (Blodgett et al., 1993; McColl-Kennedy & Sparks, 2003). Tax et al. (1998) defined IJ as "dealing with interpersonal behavior in the enactment of procedures and the delivery of outcomes" (p.62). IJ is often operationalized as a sincere apology versus rude behavior (Blodgett et al, 1997; Goodwin & Ross, 1992). An apology from the service provider delivers politeness, concern,

dignity, and empathy to customers who experience service failure and can enhance customers' perception of fairness of the service encounter (Goodwin & Ross, 1992; Kelley, Hoffman, & Davis, 1993; Tax et al., 1998). Research findings have consistently demonstrated the importance of interpersonal treatment.

To test the effects of DJ, PJ, and IJ on recovery satisfaction, this study proposed the following hypotheses:

H1: Distributive justice has a positive effect on recovery satisfaction.

H2: Procedural justice has a positive effect on recovery satisfaction.

H3: Interactional justice has a positive effect on recovery satisfaction.

The Role of Recovery Satisfaction and Relationship Quality on Overall Satisfaction and Behavioral Intentions

Customers revise and update their satisfaction and behavioral intentions based on prior assessment and new information (Smith & Bolton, 1998; 2002). Once a dissatisfied customer seeks remedy, effective service recovery efforts may greatly affect recovery satisfaction (Bitner et al., 1990). Similarly, effective service recovery efforts can turn an unfavorable service experience into a favorable one, thus enhancing repurchase and positive word-of-mouth intention (Blodgett et al., 1997; Spreng et al., 1995). Customers who experienced favorable service recovery demonstrated a strong propensity to share positive information about their experience (Blodgett et al., 1993; Mangold, Miller, & Brockway, 1999; Swanson & Kelly, 2001).

Researchers have focused on two determinant variables, trust and commitment, in the development of long-term relationships (Dwyer et al., 1987; Morgan & Hunt, 1994; Tax et

al., 1998). Morgan and Hunt (1994) theorized that successful relationship marketing requires trust and commitment. Trust has frequently been studied as an antecedent of the process of relationship development (Bejou & Palmer, 1998; Crosby et al., 1990; Dwyer et al., 1987; Morgan & Hunt, 1994). Moorman, Deshpande, and Zaltman (1993) defined trust as the “willingness to rely on an exchange partner in whom one has confidence.” Similarly, Morgan and Hunt (1994) conceptualized trust as “confidence in an exchange partner’s reliability and integrity.” The definitions emphasize the importance of confidence in exchange partners. Commitment is also a vital component for building a long-term relationship (Gundlach et al., 1995; Morgan & Hunt, 1994). Moorman, Zaltman, and Deshpande (1992) defined commitment as “an enduring desire to maintain a valued relationship.” Similarly, Morgan and Hunt (1994) defined commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it.”

To develop an exchange partner’s trust in a business relationship, a service provider must consistently meet the expectations of competent performance (Sirdeshmukh, Sigh, & Sabol, 2002). Service failure arises when service delivery performance does not meet a customer’s expectations (Kelley & Davis, 1994; Kelley et al, 1993). A service failure may result in a breakdown in reliability (Berry & Parasuraman, 1991). Gwinner et al. (1998) indicated that, among the three relational benefits, confidence benefits are the most important from a customer’s perspective. Therefore, it is important to see how effective recovery efforts influence a customer’s perception of the trustworthiness, reliability, and integrity of the company. Ruyter and Wetzels (2000) argue that the feeling of inequity following a

service failure could be eased in successful recovery and renew customer confidence in the service provider.

Reliability and integrity in exchange relationships are important enough to warrant maximum efforts at maintaining them (Morgan & Hunt, 1994). Although a service delivery may initially fail to meet a customer's expectation, a positive service recovery that successfully meets the customer's service recovery expectation may improve the customer's commitment. Kelley and Davis (1994) suggested that a customer's perceived service recovery might function as a channel for updating the customer's organizational commitment. Tax et al. (1998) confirmed that satisfaction with complaint handling is positively related to customer commitment.

Though the definitions of behavioral intentions seem to vary depending upon research context, researchers view behavioral intentions as a customer's willingness to provide positive or negative word of mouth and his/her intention to repurchase (Oliver, 1997; Spreng et al., 1995; Yi, 1990). Word-of-mouth behavior has been identified as an important post-purchase behavior. Mangold et al. (1999) emphasized that interpersonal communication has a significant impact on consumer purchasing behavior. Because potential customers perceive word-of-mouth communication as credible, it might have a substantial impact (Yi, 1990). Furthermore, its importance as a source of information is significant in service consumption because of the intangible nature of service. Continued purchasing by current customers is an important concern because the cost of obtaining a new customer usually greatly exceeds the cost of retaining a customer (Spreng et al., 1995). Researchers have found that customer satisfaction/dissatisfaction is a critical factor affecting repurchase intention (Oliver, 1981; Anderson & Sullivan, 1993).

Morgan and Hunt (1994) argued, “Genuine confidence that a partner can rely on another indeed will imply the behavioral intention to rely.” They contended that trust is a function of one’s behavioral intention. Bowen and Shoemaker (1998) stated that commitment to a relationship leads to higher levels of overall satisfaction and behavioral intentions. Hennig-Thurau, Gwinner, and Gremler (2002) found a significant direct relationship between commitment and word-of-mouth. In the context of service failure and recovery, a demonstration of reliability and trustworthiness through responsible service recovery efforts will increase a favorable evaluation of a service provider. Researchers suggest that a customer’s trust and/or commitment mediates between service recovery and overall satisfaction and behavioral intentions.

To test the effect of service recovery satisfaction on trust, commitment, overall satisfaction and behavioral intentions, this research proposed the following hypotheses:

H4. Recovery satisfaction has a positive effect on overall satisfaction.

H5. Recovery satisfaction has a positive effect on trust.

H6. Recovery satisfaction has a positive effect on commitment.

H7. Trust has a positive effect on commitment.

H8. Trust has a positive effect on overall satisfaction.

H9. Commitment has a positive effect on overall satisfaction.

H10. Trust has a positive effect on behavioral intentions.

H11. Commitment has a positive effect on behavioral intentions.

H12. Overall satisfaction has a positive effect on behavioral intentions.

H13. Recovery satisfaction has a positive effect on behavioral intentions.

METHODOLOGY

Research Design

Experimental scenarios have been extensively used in service recovery studies (Blodgett et al., 1997; Mattila, 1999; Sundaram et al., 1997). The compelling advantage of using experimental scenarios is that the nature of service, the extent of the problem, and situational factors can be easily manipulated by providing different levels of the stimuli (Bitner, 1990; Singh & Widing, 1991). Furthermore, this method prevents undesirable response bias due to memory lapses (Smith & Bolton, 1998; Smith et al., 1999).

The use of written scenarios, however, may limit the researcher's ability to capture the emotional involvement of respondents (Hess, Ganesan, & Klein, 2003; Mattila, 1999; Smith & Bolton, 2002; Sundaram et al., 1997) and the attitude of service providers (Sundaram et al., 1997). Most importantly, the method has been challenged for maintaining external validity at the cost of internal validity (Bitner, 1990; Brown et al., 1996; Michel, 2001; Ruyter & Wetzels, 2000).

This study used scenario experimentation in favor of having better control over exogenous variables and excluding extraneous variables (Bitner et al., 1990; Blodgett et al., 1997; Cook & Campbell, 1979; Smith & Bolton, 2002). A 2x2x2 between-groups factorial design was used in the study. Each participant was provided the same failure scenario and a recovery scenario (see Appendix A), and then they were asked to evaluate the service encounters.

Instrument Development

Typology of service failures (e.g., Kelley et al., 1993; Hoffman et al., 1995) and recovery efforts in restaurant settings were reviewed from previous studies. The typical

service recovery activities used by the restaurant service providers generally include one or a combination of the following activities: an apology, a discount, free food, or an offer to reperform the service immediately (Sundaram et al., 1997). To develop more realistic scenarios, 43 undergraduate students were asked to report service failures and recovery efforts that they experienced during their dining experiences. As in Bitner et al. (1990), product defect (undercooked and overcooked food item) was the most frequently reported. Table 1 illustrates the experimental manipulation of exogenous variables for the study.

Insert Table 1

Multi-item scales that were validated in previous studies were identified and modified to fit the study setting. All exogenous and endogenous variables were measured on 7-point Likert scale anchoring from 1) strongly disagree to 7) strongly agree. Distributive justice (DJ) was evaluated as the perceived outcome (compensation) fairness. Procedural justice (PJ) was measured as the perceived fairness of procedures and timely responsiveness. Interactional justice (IJ) was appraised as apology, explanation, and concern toward customers. Recovery satisfaction was measured after a service failure scenario and a service recovery scenario were presented. Trust was appraised as confidence in the reliability and the integrity of the service provider. Commitment was evaluated as the willingness to maintain the relationship. Behavioral intentions were measured by assessing the respondents' willingness to revisit and to recommend the restaurants to others. Appendix B lists the descriptions of measurement of constructs for the study.

Pre - and Pilot Test

Modifications were made based on feedback from a pre-test. The survey was administered to a convenience sample of 96 undergraduate students in a hospitality class. Reliabilities of measurements were well above the suggested cut off .70 indicating internal consistency (Nunnally, 1978). Participants perceived that the scenarios were realistic ($M = 5.87$, $SD = 1.13$ for the failure scenario, and $M = 5.40$, $SD = 1.40$ for recovery scenarios). Manipulation of low DJ was found to be higher than other low justice dimensions in the pilot study. The authors decided not to lower the level because serving another steak for the overcooked steak should be the minimum for recovery efforts.

Sample and Data Collection

Members of community service and religious groups in a city with a population of 45,000 and a faculty and staff group at a Midwestern university were the sampling frames for the study. Data were collected during fund raising events, educational programs, or monthly meetings. The groups ranged from 10 to 60 members. The researchers first contacted leaders of various groups and asked them to consider participating in the study. Upon receiving approval, the researchers either attended a scheduled meeting of the group and administered the survey, or the researchers briefly explained the research protocol to the leaders of the groups who administered the survey. Participants were asked to name a casual restaurant that they had visited recently to have more various initial attitudes toward restaurants (Smith & Bolton, 1998). Each participant was provided with a failure and a recovery scenario, and then he/she was asked to evaluate the service encounter. As a small reward for participating in the study, respondents were informed that the researcher would donate one dollar to a charitable organization of their choice for their returned questionnaires.

Postage paid, self-addressed envelopes and questionnaires (600 copies) were distributed to the members at the end of the meetings. A total of 308 completed questionnaires were returned from 15 different groups. Most (about 87%) of the questionnaires were returned by mail. Responses that contained missing values (mean was replaced for a missing value only in multi scales), named quick service restaurants, or responded at the same level of agreement systematically were excluded from data analysis. After eliminating unusable responses, 286 responses were coded for data analysis, resulting in a usable response rate of 48%.

DATA ANALYSIS AND RESULTS

Sample Characteristics

Of the 286 respondents, most were female (60.5%, $n = 173$) and Caucasian/white (84.3%, $n = 241$). The respondents in the age category of 45 to 54 (22.7%) and ≥ 65 (9.4%) accounted for the highest and the lowest number of responses, respectively.

Manipulation Checks

Manipulation checks were performed to make sure that research participants perceived the scenarios realistically (realism of scenario), to ensure that respondents perceived the levels of stimuli differently within experimental treatments (convergent validity), and to check that the manipulation of a factor did not affect other variables than those intended for alteration (discriminant validity) (Blodgett et al., 1997; Cook & Campbell, 1979; Perdue & Summers, 1986). To evaluate the perceived realism of scenarios, participants were asked to respond to two items: “I think that a similar problem would occur to someone in real life (1-very unlikely to 7-very likely)” and “I think the situations given in

the scenario are: (1-very unrealistic to 7-very realistic).” Respondents perceived the scenarios as highly realistic with mean scores of 5.87 ($SD = 1.15$) for failure scenario and 5.42 ($SD = 1.38$) for recovery scenarios.

Respondents perceived high conditions more favorably and low conditions less favorably as intended in each dimension of justice (see Table 2). To ensure that the manipulation of a justice dimension did not change in measures of related but different justice dimensions constructs, ω^2 was calculated (Perdue & Summers, 1986). A sufficiently large ω^2 associated with the main effect of a manipulated variable for any given measure being analyzed is desirable; however, a near-zero ω^2 is desirable for other main and interaction effects (Perdue & Summers, 1986). Interaction effects had no confounding effects on other independent variables; however, main effects had minimal to moderate compounding effects on other independent variables (see Table 2). The calculated ω^2 for other variables were much smaller than the ω^2 of the variable that was intended to be manipulated, indicating that manipulation was tolerable (Perdue & Summers, 1986).

Insert Table 2

Measurement Model

The proposed model was analyzed following the two-step approach. The measurement model was examined first, followed by the structural equations model (Anderson & Gerbing, 1988; Fornell & Larcker, 1981). Confirmatory factor analysis using

LISREL 8.54 evaluated the measurement model to refine the manifest variables, measuring the eight latent variables.

Factor loadings of the observed variables for each latent variable were significant at .05, confirming convergent validity (Anderson & Gerbing, 1988). Composite reliabilities of constructs exceeded the cut off value of .70 (Hair, Anderson, Tatham, & Black, 1995; Nunnally, 1978). Table 3 presents standardized loadings and composite reliability. The extracted variance of constructs were over the suggested value of .50, indicating a large portion of variances is explained by constructs (Fornell & Larcker, 1988; Hair et al., 1998).

Insert Table 3

Discriminant validity was assessed by comparing the average variance extracted (AVE) with the squared correlation between constructs (Fornell & Larcker, 1981). The squared correlations between pairs of constructs (see Table 4) were less than the AVE, suggesting discriminant validity. No changes were made, and the final measurement model included 32 measurement items for 8 constructs.

The measurement model was estimated from covariance matrix and modified based on suggested modification indices. Goodness of fit of the measurement model was evaluated using indices produced by LISREL output. Chi-square fit of the measurement model was significant ($\chi^2 = 1511.42$, $df = 430$, $p < .001$). However, it is often reported that χ^2 is sensitive to sample size (Bagozzi & Yi, 1988). Other practical fit indices demonstrated that

the measurement model fits the data reasonably well [The root mean squared error of approximation (RMSEA) = .08; the non-normed fit index (NNFI) = .98; the comparative fit index (CFI) = .98; the standardized root mean square residual (SRMR) = .04].

Insert Table 4

Structural Model and Hypotheses Testing

The hypothesized relationship translated into five structural equations (see Table 5). The initial model had significant χ^2 statistic ($\chi^2 = 2428.20$, $df = 448$, $p < .001$). Modifications were made based on suggested modification indices. Measurement items were allowed to covary within constructs in sequence. The χ^2 statistic of the structural model was improved, but was still significant ($\chi^2 = 1,307.44$, $df = 441$, $p < .001$). RMSEA decreased significantly from .12 to .08. Other goodness-of-fit statistics were slightly improved as well. The final goodness-of-fit statistics of the structural model (see Table 5) demonstrated that the model fits the data reasonably and no further modifications were made to improve the fit of the models.

Insert Table 5

The parameter estimates were assessed by the maximum likelihood estimation. The t -values, indicating that parameter estimates are statistically significant (Fornell & Larcker, 1981), were used for hypothesis tests. Figure 1 represents path coefficients and t -values for the service recovery model.

Insert Figure 1

The t -values between each dimension of justice and recovery satisfaction were all significant, demonstrating strong positive relationships ($\gamma_{11} = .26, t = 4.67$ for DJ; $\gamma_{12} = .53, t = 6.37$ for PJ; $\gamma_{13} = .26, t = 2.94$ for IJ). Thus, hypotheses 1 through 3 were supported. The three dimensions of justice accounted for 89% of variance in service recovery satisfaction. PJ was the most significant predictor of recovery satisfaction, followed by DJ.

Recovery satisfaction had significant positive effect on trust ($\beta_{21} = .78, t = 18.26$) and overall satisfaction ($\beta_{41} = .12, t = 2.11$). Hypotheses 4 and 5 were supported. Recovery satisfaction had no positive significant direct effects on commitment ($\beta_{31} = -.10, t = -2.17$) and behavioral intentions ($\beta_{51} = -.07, t = -1.68$). Hypotheses 6 and 13 were not supported. Trust had positive effect on commitment ($\beta_{32} = .99, t = 19.96$) and overall satisfaction ($\beta_{42} = .34, t = 3.09$), but not on behavioral intentions ($\beta_{52} = -.12, t = -1.45$). Hypotheses 7 and 8 were supported. Significant t -values showed that commitment had positive effect on overall satisfaction ($\beta_{43} = .44, t = 4.71$) and behavioral intentions ($\beta_{53} = .46, t = 6.00$). Results

supported hypotheses 9 and 11. Overall satisfaction had a positive effect on behavioral intention ($\beta_{54} = .69, t = 13.78$); thus, hypothesis 12 was supported.

Mediating Effects of Trust and Commitment

Further analyses were conducted to investigate the mediating effects of trust and commitment. To test the mediating effect of trust between recovery satisfaction and overall satisfaction, the structural equation was re-estimated by constraining the direct effect of trust so that it did not affect overall satisfaction (set to zero). The first three conditions suggested by Baron and Kenny (1986) were met in the original structural model (β_{21} , β_{41} , and β_{42} were significant). The fourth condition is satisfied if the parameter estimate between recovery satisfaction and overall satisfaction (β_{41}) in the mediating model become insignificant (full mediation) or less significant (partial mediation) than the parameter estimate ($\beta'_{rs\ to\ os}$) in the constrained model. A partial mediating role of trust on overall satisfaction was observed ($\beta_{41} = .12, t = 2.11$ and $\beta'_{rs\ to\ os} = .31, t = 4.65$). In addition, the χ^2 in the non-mediating model ($\chi^2 = 1,316.73, df = 442, p < .001$) was higher than in the full mediating model.

In the same way (β_{32} , β_{42} , and β_{43} were significant, and the path from commitment to overall satisfaction was set to 0), a partial mediating role of commitment between trust and overall satisfaction was observed ($\beta_{42} = .34, t = 3.09$, and $\beta'_{tr\ to\ os} = .79, t = 13.78$). In addition, the χ^2 of the constrained model ($\chi^2 = 1,325.86, df = 442, p < .001$) was higher than that of the mediating model.

Indirect and Total Effects

Indirect and total effects were examined for a clear interpretation of the updating role of service recovery. All indirect and total effects were significant at .01. Although direct positive effects were not observed in some of the hypothesized relationships, the significant

indirect effects emphasized the role of recovery efforts in relationship building and consequent overall satisfaction and behavioral intentions.

Insert Table 6

DISCUSSIONS AND IMPLICATIONS

This study shows that the three dimensions of justice had positive effects on recovery satisfaction. This finding indicates that although customers experienced service failure during the dining experience, proper handling of the particular problem led to customer satisfaction. Significant main effects of DJ and IJ were observed in previous studies (e.g., Goodwin & Ross, 1992; Hoffman et al., 1995; Tax et al., 1998). However, PJ, measured as timeliness, often was least significant or did not have a significant main effect on recovery evaluation in many studies (e.g., Blodgett et al., 1997; Mattila, 2001). This study manipulated PJ in terms of not only timeliness but also flexibility in the recovery process. PJ had a significant main effect on recovery satisfaction. The results indicate that empowering frontline employees to recover service failures conveys responsiveness and fair policy as well as practice in handling service problems. Management should give frontline employees authority to recover service failures. Frontline employees are the ones who may know what the problem was initially, can respond instantly, and can recover the failure most effectively.

Although PJ had the most significant effect on recovery satisfaction, followed by DJ, one dimension of justice should not be emphasized at the expense of the other dimensions.

Rather, all three dimensions of justice should be taken into consideration because it is the combination of the dimensions of justice that determine overall perceived justice and subsequent behavior (Blodgett et al., 1997). These interaction effects between justice dimensions have been reported in previous studies (Blodgett et al., 1997; Goodwin & Ross, 1992; McCollough, Berry, & Yadav, 2000; Tax et al., 1998). Blodgett et al. (1997) emphasized that a certain level of IJ should be presented for DJ to be meaningful. In other words, wherein a low level of IJ was provided, the amount of atonement was not significant. Recovery evaluation is a “two-stage process,” that is, IJ should be adequately offered first and the secondary criteria will be taken into consideration (Blodgett et al., 1997).

Researchers argue that recovery satisfaction is an encounter evaluation of a transaction (Brown et al., 1996; Oliver, 1997). Customers’ attitudinal and behavioral evaluations are additive (Brown et al., 1996; Maxham & Netemeyer, 2002a&b; Oliver, 1997). Consequently, customers’ initial (pre-failure) overall satisfaction and behavioral intentions, along with recovery satisfaction, may play a key role in determining their post-recovery overall satisfaction and behavioral intentions. Therefore, recovery satisfaction should not be the sole direct predictor of post-recovery overall attitudinal and behavioral outcomes. This argument is not to discourage recovery effort. Rather, it is to emphasize the mediating role of service recovery through relationship quality. This study confirmed that successful service recovery reinforces customers’ trust. Further, the recovered customers’ confidence in the dependability and reliability of service providers had a positive effect on their intention to maintain relationships. These results support findings from previous studies (Sirdeshmukh et al., 2002; Tax et al., 1998). In turn, customers’ commitment will provide a strong basis of overall satisfaction and will result in increased produce/service use and

enhanced willingness to spread positive word of mouth (Kelly & Davis, 1994; Bowen & Shoemaker, 1998).

The three dimensions of justice also had significant indirect effects on trust, commitment, overall satisfaction, and behavioral intentions. The study findings emphasize that service recovery efforts should be viewed not only as a strategy to recover customers' immediate satisfaction but also as a relationship tool to give customers the confidence that an ongoing relationship is beneficial to them. To build a long-term relationship with customers, service providers should do their best to deliver the service as expected. Nevertheless, no service is perfect, so service providers must strive to recover service failure to reinforce customers' confidence in the reliability of service providers. Although a service failure may result in harm on customer satisfaction initially, effective complaint handling through service recovery may reinforce the reliability perception and relationship continuity. The findings of this study contribute to the further understanding of the role of service recovery in relationship building with customers by extending consequences of service recovery satisfaction.

Though service recovery includes a proactive approach to service failures, it may not be able to identify all the service failures since customers' expectation on service delivery vary. Consequently, it is important that service providers encourage customers to seek redress when they are dissatisfied with an experience, thus giving service providers a chance to remedy the negative attitude of dissatisfied customers (Blodgett, Wakefield, & Barnes, 1995). It is important for service providers to make sure that customers believe that the service provider is willing to remedy the problem.

LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDY

Characteristics of respondents, methodological limitations, and the nature of service limited the depth of study in other important considerations. The study suggests the following for future study:

First, although the appropriateness of using experimental scenarios is justified in theoretical tests, the generalizability of the study findings can be challenged. The use of written scenarios in the study might limit the emotional involvement of research participants (Hess et al., 2003; Mattila, 1999; Smith & Bolton, 2002; Sundaram et al., 1997) and the attitude of service providers (Sundaram et al., 1997).

Second, in this study, customers were given an outcome failure (overcooked steak) rather than a process failure. Customers' perceptions of effectiveness of recovery may depend on the type of service failure. Smith et al. (1999) found that compensation and quick action improved customers' evaluation of perceived fairness when they experienced an outcome failure. On the other hand, customers perceived that an apology or a proactive response was more effective when a process failure occurred. The findings are meaningful to the hospitality industry because failures in a symbolic exchange are as critical as or more critical than in a utilitarian exchange (Smith et al., 1999). Future study may include a process failure to see how customers evaluate recovery effort and which dimensions of justice are more effective in recovery efforts.

Third, this study considered the antecedents and consequences of service recovery in a restaurant setting. Research has found that service recovery evaluation is context specific (Hoffman & Kelley, 2000; Mattila, 2001). Replication of studies in other service industries

is necessary to understand the effect of service recovery on service quality dimensions in different types of services.

Greenberg (1993) introduced a fourth element of justice in organizational justice. He suggested that IJ be assessed into interpersonal justice (the validity of the information provided) and informational justice (the interpersonal sensitivity shown). Colquitt (2001) confirmed four-factor structure (by separating IJ into interpersonal and informational elements) of justice best conceptualize organizational justice. The finding may indicate that interpersonal and informational justice have differential effects on justice in consumer settings. However, no study has assessed a four-dimensional view of justice in a consumer behavior context. Therefore, exploratory research to better understand justice perception of customers should be conducted.

Appendix A:

Service Failure Scenario and an Example of Recovery Scenarios

Service Failure Scenario

On Friday evening, you and your family went out for dinner at *the restaurant you named* to celebrate one of your family member's graduation from high school or college. After waiting about 15 minutes, a hostess seated your group. Shortly after, a waiter took your order. You ordered a steak and requested it to be cooked "medium." When your meal was served, you noticed that your steak was "overcooked." You stopped eating and informed your server that your steak was overcooked.

Example of Recovery Scenarios

After you explained the problem to the server, he sincerely apologized for the problem. He said that he could not do anything about the problem and would get a manager to resolve it. After 10 minutes, the manager approached you and apologized for the problem. The manager asked you what the problem was and you had to re-explain the problem. She explained why the problem happened. She informed you that another steak would be served and you would not be charged for it. She also asked if there was anything else that she could do to serve you better.

(High IJ – Low PJ – High DJ)

**Appendix B:
Measurement Items for Constructs**

Construct and Measurement Items	Source
<p>Interactional Justice</p> <ul style="list-style-type: none"> • In dealing with the problem, the restaurant personnel treated me in a courteous manner. • During effort to resolve the problem, the restaurant employee(s) seemed to care about the customers. • The restaurant employee(s) were appropriately concerned about my problem. • While attempting to solve the problem, the restaurant personnel considered my views. 	<p>Maxham & Netemeyer (2002a) & Blodgett et al. (1997)</p>
<p>Procedural Justice</p> <ul style="list-style-type: none"> • Despite the hassle caused by the problem, the restaurant responded quickly. • I feel the restaurant responded in a timely fashion to the problem. • I believe the restaurant has fair policies and practices to handle problems. • With respect to its policies and procedures, the employee(s) handled the problem in a fair manner. 	<p>Maxham & Netemeyer (2002a)</p>
<p>Distributive Justice</p> <ul style="list-style-type: none"> • Although this event caused me problems, the restaurant's efforts to resolve it resulted in a very positive outcome of me. • Given the inconvenience caused by the problem, the outcome I received from the restaurant was fair. • The service recovery outcome that I received in response to the problem was more than fair. • Given the circumstances, I feel that the restaurant offered adequate compensation. 	<p>Maxham & Netemeyer (2002a) & Blodgett et al. (1997)</p>
<p>Recovery Satisfaction</p> <ul style="list-style-type: none"> • In my opinion, the restaurant provided a satisfactory resolution to the problem on this particular occasion. • I am satisfied with the restaurant's handling of this particular problem. • I am satisfied with this particular dining experience. 	<p>Maxham & Netemeyer (2002a) & Brown et al. (1996)</p>
<p>Trust</p> <p>Experiencing this situation in this restaurant,</p> <ul style="list-style-type: none"> • I think the restaurant can be trusted. • I have confidence in the restaurant. • I think the restaurant has high integrity. • I think the restaurant is reliable. 	<p>Morgan & Hunt (1994)</p>

**Appendix B:
Measurement Items for Constructs**

Table continued...

Construct and Measurement Items	Source
<p>Commitment Experiencing this situation in this restaurant, • I am very committed to the restaurant. • I intend to maintain relationship definitely. • I think the restaurant deserves my effort to maintain relationship. • I can develop warm feeling toward the restaurant.</p>	<p>Morgan & Hunt (1994)</p>
<p>Overall Satisfaction • I am satisfied with my overall experience with the restaurant. • As a whole, I am happy with the restaurant. • Overall, I am pleased with the service experiences with this restaurant.</p>	<p>Oliver & Swan (1989)</p>
<p>Behavioral Intentions</p> <p>Revisit Intention • I would dine out at this restaurant in the future. • There is likelihood that I would eat at this restaurant in the future. • I <i>will not</i> eat at this restaurant in the near future.</p>	<p>Maxham & Netemeyer (2002a) & Blodgett et al. (1997)</p>
<p>W-O-M Intention • I will spread positive word-of-mouth about this restaurant. • I will recommend this restaurant to my friends. • If my friends or relatives were looking for a restaurant, I would tell them to try at this restaurant.</p>	<p>Maxham & Netemeyer (2002a)</p>

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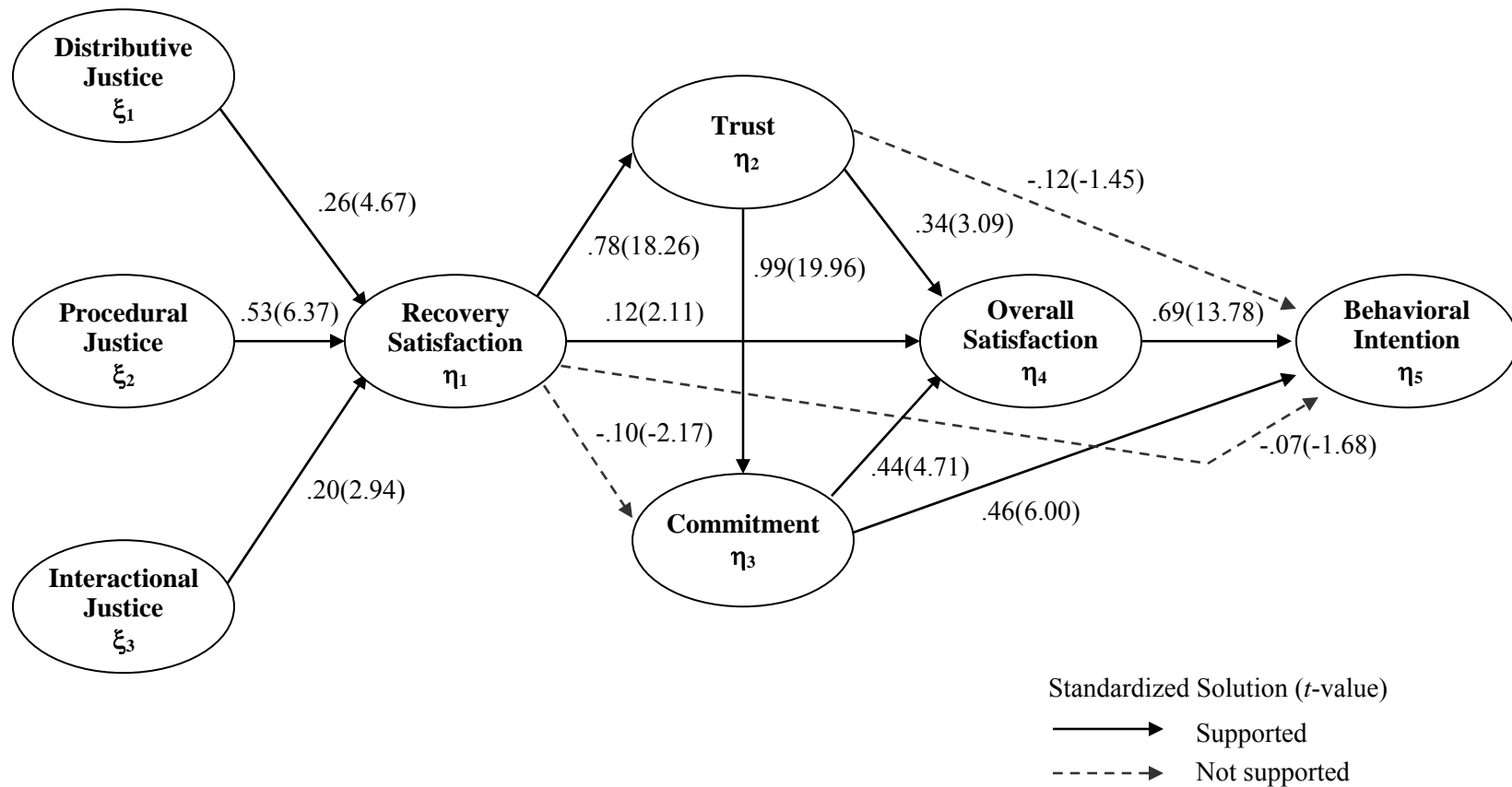


Figure 1. Service Recovery Model with Parameter Estimates

Table 1
Description of Experimental Manipulation

Interactional Justice	
Low	<p>The server simply apologized. The manager did not apologize for the problem. The manager did not provide an explanation for the problem. The manager did not ask if there was anything else that she could do to serve you better.</p>
High	<p>The server sincerely apologized. The manager apologized for the problem. The manager provided an explanation for the problem. The manager asked if there was anything else that she could do to serve you better.</p>
Procedural Justice	
Low	<p>The server said that he could not do anything about the problem and would get a manager to resolve it. After 10 minutes, the manager approached you. The manager asked you what the problem was, and you had to explain again what the problem was.</p>
High	<p>The server said that he could take care of the problem and took the dish back. After 2-3 minutes, the manager approached you. The manager knew the problem, and you didn't have to re-explain the problem.</p>
Distributional Justice	
Low	<p>Another steak was served. No compensation was offered.</p>
High	<p>Another steak was served. 100% discount on the item was offered.</p>

Table 2
Convergent and Discriminant Validity of Manipulation

Manipulation	Convergent Validity				Discriminant Validity		
	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	ω^2	ω^2	ω^2
Interactional Justice (IJ)	Perceived IJ				P_IJ	P_PJ	P_DJ
High/Low	5.68/4.24	1.09/1.55	104.50	.000	.230	.087	.050
Procedural Justice (PJ)	Perceived PJ				P_IJ	P_PJ	P_DJ
High/Low	5.74/3.94	1.05/1.55	159.91	.000	.058	.321	.053
Distributive Justice (DJ)	Perceived DJ				P_IJ	P_PJ	P_DJ
High/Low	5.62/4.22	1.07/1.49	100.41	.000	.082	.055	.221

Note. The mean differences are significant in all perceived justice at the .05 level.

Table 3
Reliabilities and Variance Extracted

Construct	Standardized Loadings	Composite Reliability	AVE
Interactional Justice (IJ) INT1/INT2/INT3/INT4	.93/.96/.97/.91	.97	.89
Procedural Justice (PJ) PRO1/PRO2/PRO3/PRO4	.99/.98/.83/.77	.93	.77
Distributive Justice (DJ) DIS1/DIS2/DIS3/DIS4	.91/.95/.88/.88	.95	.82
Recovery Satisfaction (RS) RS1/RS2/RS3	.97/.99/.87	.95	.87
Trust (TR) TRS1/TRS2/TRS3/TRS4	.95/.98/.96/.97	.98	.93
Commitment (CO) COM1/COM2/COM3/COM4	.92/.95/.95/.93	.96	.87
Overall Satisfaction (OS) OS1/OS2/OS3	.98/.99/.96	.98	.95
Behavioral Intention (BI) OB_R1/OB_R2/OB_R3/ OB_W1/OB_W2/OB_W3	.98/.98/.87/ .88/.90/.90	.97	.84

Note: Composite reliability and variance extracted for constructs were computed based on the following formulas (Fornell & Larcker, 1981; Hair et al., 1998).

$$\text{Composit Reliability} = \frac{(\sum \text{standardized loadings})^2}{(\sum \text{standardized loadings})^2 + (\sum \text{indicator measurement error})}$$

$$\text{Variance Extracted} = \frac{(\sum \text{squared standardized loadings})}{(\sum \text{squared standardized loadings}) + (\sum \text{indicator measurement error})}$$

Table 4
Correlation Matrix, Means and Standard Deviation of Measurement Model

	IJ	PJ	DJ	RS	TR	CO	OS	BI	<i>M</i>	<i>SD</i>
IJ	1.00								4.98	1.52
PJ	.78	1.00							4.84	1.60
DJ	.79	.70	1.00						4.93	1.47
RS	.84	.77	.84	1.00					4.91	1.57
TR	.61	.56	.62	.73	1.00				5.34	1.28
CO	.53	.49	.53	.63	.91	1.00			4.86	1.43
OS	.54	.49	.54	.64	.83	.83	1.00		5.37	1.35
BI	.48	.44	.49	.58	.80	.85	.90	1.00	5.36	1.37

Table 5
Parameter Estimates and Fit Indices

Hypothesized Path	Standardized Solution	t-value
H1: Distributive Justice → Recovery Satisfaction (γ_{11})	.26	4.67**
H2: Procedural Justice → Recovery Satisfaction (γ_{12})	.53	6.37**
H3: Interactional Justice → Recovery Satisfaction (γ_{13})	.20	2.94**
H4: Recovery Satisfaction → Overall satisfaction (β_{41})	.12	2.11*
H5: Recovery Satisfaction → Trust (β_{21})	.78	18.26**
H6: Recovery Satisfaction → Commitment (β_{31})	-.10 ^b	-2.17**
H7: Trust → Commitment (β_{32})	.99	19.96**
H8: Trust → Overall satisfaction (β_{42})	.34	3.09**
H9: Commitment → Overall satisfaction (β_{43})	.44	4.71**
H10: Trust → Behavioral Intention (β_{52})	-.12 ^b	-1.45 ^{ns}
H11: Commitment → Behavioral Intention (β_{53})	.46	6.00**
H12: Overall Satisfaction → Behavioral Intention (β_{54})	.69	13.78**
H13: Recovery Satisfaction → Behavioral Intention (β_{51})	-.07 ^b	-1.68 ^{ns}
		R^2
Goodness-of-fit statistics	$\eta_1 = \gamma_{11}\xi_1 + \gamma_{12}\xi_2 + \gamma_{13}\xi_3 + \zeta_1$.89
$\chi^2 = 1,307, df = 441 (p < .001)$	$\eta_2 = \beta_{21}\eta_1 + \zeta_2$.61
RMSEA = .08	$\eta_3 = \beta_{31}\eta_1 + \beta_{32}\eta_2 + \zeta_3$.83
NNFI = .98	$\eta_4 = \beta_{41}\eta_1 + \beta_{42}\eta_2 + \beta_{43}\eta_3 + \zeta_4$.72
CFI = .98	$\eta_5 = \beta_{51}\eta_1 + \beta_{52}\eta_2 + \beta_{53}\eta_3 + \beta_{54}\eta_4 + \zeta_5$.88
SRMR = .04	Where: ξ_1 : DJ, ξ_2 : PJ, ξ_3 : IJ	
	η_1 : RS, η_2 : TR, η_3 : CO, η_4 : OS, η_5 : BI	

Note: ^{ns} not significant, * significant at .05, ** significant at .01.

^a β_{31} were significant at $p = .05$, but the direction of the relationship was hypothesized as being positive.

^b The negative coefficients associated commitment and behavioral intentions may be attributed to suppressor effects (Bollen, 1989). These misleading coefficients can also be artifacts of multicollinearity – redundancy in estimation (Cohen & Cohen, 1975). Three simple regression models were run without other predictor variables to estimate effects. In each regression, regression coefficient was significant at $p = .01$.

Table 6
Standardized Indirect and Total Effects

	Recovery Satisfaction		Trust		Commitment		Overall Satisfaction		Behavioral Intention	
	Indirect	Total	Indirect	Total	Indirect	Total	Indirect	Total	Indirect	Total
DJ	-	.26	.20	.20	.17	.17	.17	.17	.15	.15
PJ	-	.53	.42	.42	.36	.36	.36	.36	.32	.32
IJ	-	.20	.16	.16	.14	.14	.14	.14	.12	.12
RS	-	-	-	.78	.77	.67	.56	.68	.67	.60
TR	-	-	-	-	-	.99	.43	.77	.98	.86
CO	-	-	-	-	-	-	-	.44	.30	.76
OS	-	-	-	-	-	-	-	-	-	.69

Note: All indirect and total effects were significant at .01.