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Re-examining the effect of service recovery: the moderating role of brand equity

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Abstract

Purpose – The purpose of this study is to investigate the role of brand equity in handling service failure and examine the effects of brand equity on service recovery.

Design/methodology/approach – A conceptual framework is proposed which includes that satisfaction, as a mediator, accounts for the relationship between service recovery attributes (distributive, procedural, and interactional justice) and post-recovery behavior (repatronage intentions and word-of-mouth behavior). More importantly, brand equity is used to serve as the moderator in the hypothesized research model. Structural equation modeling techniques are applied to data collected from a field study in Taiwan to test the framework.

Findings – Results from the current field study found that strong brand equity provides an overall advantage over weak brands in increasing service recovery satisfaction and behavior intentions (repatronage intentions and word-of-mouth behavior).

Research limitations/implications – The data used in this study were collected in a single metropolitan area in Taiwan. Future research might be conducted in a variety of countries.

Practical implications – Service recovery strategies in responding to service failures are part of the critical task for service managers. This paper suggests that building brand equity is a means by which post-failure satisfaction and behavioral intentions may be enhanced.

Originality/value – This is the first study to completely compare the high brand equity with low brand equity in the effect of service recovery.

Keywords Brand equity; Service recovery, Customer satisfaction, Brands, Service failures, Taiwan

Paper type Research paper

Introduction

Service recovery is a critical part of service management. Offset of service failures has been identified as one of the key strategies for retaining customers and achieving customer loyalty (Johnson *et al.*, 2001). Consequently, the strategic implications associated with service recovery policies have become a critical issue for service firms (Stauss and Kriege, 1999). Service recovery strategies in responding to service failures have been discussed in literature. For example, Grönroos (2000) and Johnston and Mehra (2002) examined service recovery policies that involved actions taken by service providers in recovery service failures. Wirtz and Mattila (2004) indicate that recovery outcomes (e.g. compensation), procedures (e.g. speed of recovery) and interactional treatments (e.g. apology) have a joint effect on post-recovery satisfaction. Andreassen (2000) and Levesque and McDougall (2000) conclude that, both, what is done (e.g. restitution and compensation) and how it is done (i.e. employee interaction with the customer) influence customer perceptions of service recovery.

It is not confirmed that brand equity has an advantageous or disadvantageous effect on customer reactions to service failures and recovery efforts. On one hand, related theories on the disconfirmation of expectation (e.g., Oliver, 1997; Niedrich *et al.*, 2005) indicate that service firms with high brand equity might be expected to hamper service recovery efforts after a service failure episode because customers may come to expect more from a firm with high brand equity, and therefore be particularly disappointed when a service failure occurs. On the other hand, extant research on branding theory show that positive association derived from high equity brand may offset the negative impacts of service failure and enhance the effects of service recovery. For example, Keh and Lee (2006) and Keller (1998) indicate that successful brand-building strategies can lead to greater customer loyalty because of the accompanying array of positive associations that consumers attribute to strong brands. Research further indicates that the strong brand equity encourages greater customer loyalty and increases consumers' brand switching costs (e.g., Mcwilliams and Gerstner, 2006). In the context of service setting, previous literature has shown that excellent reputations provide service firms with a "buffering effect", insulating them from some of the negative consequence of failures (Hess, 2008). More importantly, branding theory suggests that the cache of positive association enjoyed by a high equity brand predisposes favorable responses to it (Keller, 1998).

The purpose of this study is to examine how brand equity moderates the relationship between the three justice dimensions and post-recovery satisfaction and behavioral intentions. The current study hypothesizes that positive associations derived from the brand's equity may offset some of the negative effects of service failure and enhance the efforts of service recovery. A conceptual framework (see Figure 1) is proposed which includes that satisfaction, as a mediator, accounts for the relationship between service recovery attributes (distributive, procedural, and interactional justice) and post-recovery behavior (repatronage intentions and word-of-mouth behavior). More

Figure 1 Research framework: the role of brand-equity in managing service recovery
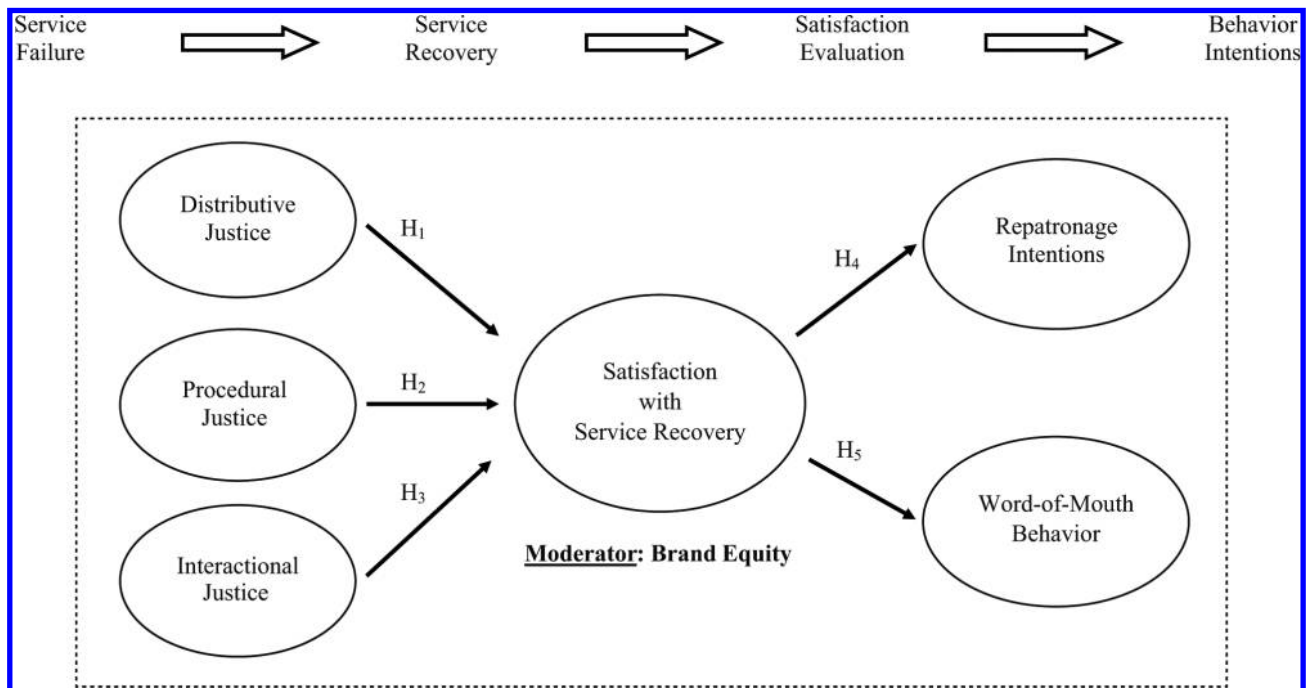
importantly, brand equity is used to serve as the moderator in the hypothesized research model. The remainder of this paper is organized as follows: first, a review of the available literature on brand equity and service recovery is utilized to develop research hypotheses. Second, the hypotheses are tested against a field study in Taiwan by utilizing the nested structural equation modeling technique. The paper concludes with a discussion of the findings and their implications for service researchers and practices.

Conceptual background and hypotheses

The conceptual model for this study is presented in Figure 1. Consistent with previous work in services marketing (e.g., Maxham and Netemeyer, 2002; Wirtz and Mattila, 2004), three dimensions of perceived justice (i.e., distributive, procedural, and interactional justice) influence consumers' post-recovery satisfaction and behavioral intentions (repatronage intentions and word-of mouth behavior). As noted in Figure 1, (customer based) brand equity of a service firm is expected to moderate path relationship in the conceptual model. We begin by defining several concepts that are fundamental to this conceptual model.

Service recovery and perceived justice

A service recovery is defined as the process by which a firm attempts to rectify a service delivery failure (Kelley and Mark, 1994). Service recovery includes the activities and responses that the service providers perform to rectify, amend, and restore the loss experienced by customers from failures in service performance (Grönroos, 1988). Based on the theory in social and organizational psychology (Greenberg, 1996; Bies and Shapiro, 1987), service research has taken the justice theory as the dominant theoretical framework to service recovery (Tax and Brown, 2000; Wirtz and Mattila, 2004). More specifically, customers evaluate the fairness of service

recovery involving a three-dimensional approach to perceived justice, i.e., distributive, procedural, and interactional justice (e.g. De Ruyter and Wetzel, 2000; Smith *et al.*, 1999).

Adams (1963) indicated that distributive justice which is based in social exchange theory, focuses on the role of "equity," where individuals assess the fairness of an exchange by comparing their inputs to outcomes to form an equity score. In the process of service delivery, the distributive process is judged as fair when this equity score is proportional to the scores of other customers (Greenberg, 1996). Maxham and Netemeyer (2002) defined distributive justice as the extent to which customers feel they have been treated fairly with respect to the final recovery outcome. These distributive justice outcomes may represent discounts and refunds offered to customers after a service failure (Tax *et al.*, 1998). Previous research has verified that distributive justice is a predictor of satisfaction with service recovery. For example, Goodwin and Ross (1992) and Tax *et al.* (1998) have shown that distributive justice affects satisfaction with complaint handling. Blodgett *et al.* (1997) and Tax *et al.* (1998) found that compensation is effective in restoring customers' perceptions of distributive justice and affects customers' satisfaction with service recovery. Smith *et al.* (1999) indicated that distributive justice affects satisfaction with service recovery for both hotel and restaurant customers.

Procedural justice means the perceived fairness of recovery policies and procedures involving the recovery effort, and there is evidence suggesting that procedural justice affects service recovery outcomes (Maxham and Netemeyer, 2002). Blodgett *et al.* (1997) and Tax *et al.* (1998) found that the speed by which service failures are corrected or complaints are handled is one of the major determinants of customers' perceptions of procedural justice. Maxham and Netemeyer (2002) further indicated that the procedural justice can affect

customers' satisfaction with a service failure and recovery context.

Interactional justice has been defined as the extent to which customers feel they have been treated fairly regarding their personal interaction with service providers throughout the whole process of recovery (Maxham and Netemeyer, 2002). Previous research has shown that evaluations of service recovery are influenced by the interaction between customers and service providers. For example, Tax *et al.* (1998) found effects of interactional justice on satisfaction with complaint handling while Smith *et al.* (1999) examined a strong effect of interactional justice on satisfaction with the service recovery experience.

Satisfaction with service recovery

Previous service recovery research has examined satisfaction with a particular complaint handling experience and adopted the view of satisfaction as a judgment of service recovery (Anderson and Fornell, 1994). Consumer satisfaction with service recovery refers to a consumer's subjectively derived favorable evaluation of any result and/or experience associated with a service recovery. As a result, consumer satisfaction is an outcome, whereby consumers compare benefits and sacrifice with experiencing service failure and recovery consequences.

Based on the equity theory, consumers generally perceive some degree of inequity in response to a service failure. Consistent with the equity theory viewpoint, literature has shown a positive relationship between justices and satisfaction. That is, consumers' satisfaction with service will increase as service providers recover from their failure in a justice manner. As a result, consumers' satisfaction with service following a service failure may be shaped by their perceptions of justice during the recovery process. The linkage between service recovery and satisfaction has also empirically examined by the previous literature (e.g., Tax *et al.*, 1998). Thus, customer satisfaction with service recovery is included in the present study to examine its relationship with service failure and recovery. The hypothesized framework of this research will be empirically tested by treating that satisfaction, as a mediator, accounts for the relationship between service recovery attributes (distributive, procedural, and interactional justice) and post-recovery behavior (repatronage intentions and word-of-mouth behavior).

The role of brand equity

Aaker (1995) defined brand equity as a set of five categories (brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary assets) of brand assets and liabilities linked to a brand, its name, and symbol that add to or subtract from the value provided by a product or service to a firm. From a customer viewpoint, Keller (2003) defined brand equity as the differential effect that customer knowledge (e.g., experiences, perceptions, images, thoughts, feelings) about a brand has on their response to marketing stimulus for that brand. The customer-based view of brand equity is adopted in the current study. More importantly, brand equity of a service firm encompasses brand awareness and brand image (e.g., perception of service quality) and is viewed as a differential response to a brand due to stored knowledge (Keller, 1993).

The impact of brand equity on customer reactions to service failure and recovery is not confirmed. Two alternative perspectives offer the rationale for why brand equity may or may not help to offset the service failures and enhance the effects of service recovery.

Perspective 1: the disconfirmation of expectation paradigm
Expectancy-disconfirmation and other related theories predict that consumers would be disappointed with service failures from high equity brands (Niedrich *et al.*, 2005). When there is high brand equity, consumers by definition have high expectations of how the brand and the service firm will perform because the positive beliefs, attitudes, and perceptions associated with the equity create heightened expectations for the brand or service firm. When these high expectations are not matched by high service performance that derived from a failure episode, consumer reactions to high equity brands should be more negative than low equity brands (Oliver, 1997). That is, in conditions of high brand equity, consumer will have high expectations which will lower the strength of the relationship between distributive justice and satisfaction and dampen the service recovery efforts.

Perspective 2: the categorization and judgment assimilation research
The categorization research states that people often conserve cognitive energy by reapplying summary judgments that are already stored in memory as associations (Fiske and Pavelchak, 1986; Cohen and Kunal, 1987). Based on categorization research, the current study argues that any previously-generated positive judgments of service brand performance can simply be mapped onto new performance evaluations. In addition, the judgment assimilation research indicates that the positive associations can provide a favorable benchmark toward which newly-formed judgments of performance are drawn (Martin *et al.*, 1990; Meyers-Levy and Alice, 1997). Accordingly, this study suggests that brand equity of a service firm may offset the negative impact of service failures by pulling three-dimensional justice evaluations toward the more positive value-added attributes anchored in the service brand equity.

Perspective 2 is adopted in the current study because, rather than a laboratory investigation, a field study with critical incident technique (CIT) is used (Gremler, 2004). As predicated in the disconfirmation of expectation paradigm, consumers would be disappointed with service failures from high equity brands at the moment of failure. High equity brands generate a sharper immediate drop in satisfaction than low equity brands in response to the service failure episode. However, a field study with CIT asks respondents to reflect on the service performance evaluations in their memories. This study argues that high equity brands have certain quality associations in memory and the context of a service failure episode is classified as temporary. Attribution theory states that if a problem's cause seems unstable, consumers' purchase intentions are unharmed because the service failure is considered unlikely to persist (e.g., Folkes, 1984). More importantly, branding theory suggests that the cache of positive associations enjoyed by a high equity brand predisposes favorable responses to it (Keller, 1998). The positive association of brand equity can provide a favorable judgment of service recovery efforts. A brand (service firm) may enhance the effect of service recovery by pulling three-dimensional justice to the more positive value-added features associated with the strong brand equity. Thus:

H1. The positive relationship between distributive justice and satisfaction with service recovery is stronger among high equity brands than low equity brands.

H2. The positive relationship between procedural justice and satisfaction with service recovery is stronger among high equity brands than low equity brands.

H3. The positive relationship between interactional justice and satisfaction with service recovery is stronger among high equity brands than low equity brands.

Repatronage intentions and word-of-mouth behavior

To maintain customers' repatronage intention is extremely important for marketing practice because the cost of retaining an existing customer is less expensive than prospecting for a new customer. Based in the theory of equity, service providers can renovate low patronage intention following a service failure by successfully offsetting a consumer-perceived inequity. Previous literature has shown that a service firm can maintain customer patronage intentions by responding to service failures in a justice way. Some empirical studies have also verified that service firms can recover from almost any service failure and preserve a customer's intent to repatronage from the service firm (e.g., Goodwin and Ross, 1992). To conclude, these previous findings indicate that repatronage intentions will remain stable, and possibly increase, when service recovery is effectively performed after service failure. Thus, repatronage intention is included as a dependent construct in the current study.

Because of the intangible nature of service, the importance of word-of-mouth communications in the service industry has been widely examined. Word-of-mouth may establish beneficial in provoking a brand switch and help a service firm in gaining new customers. Based in the theory of equity, service providers can encourage consumer to spread positive recommendations by responding fairly to an inequitable service failure (Goodwin and Ross, 1992). Furthermore, literature suggests that a relationship exists between effectively service recovery and positive word-of-mouth behavior (e.g., Blodgett *et al.*, 1997).

As previously discussed, there are two perspectives (Perspective 1 and Perspective 2) that offer two alternative rationales for how brand equity moderates the relationship between post-recovery satisfaction and behavioral intentions. Consistent with previous arguments, this study adopts existing branding theory which indicates that brand association can provide a heavy influence of entirely prefabricated judgment for repurchase (categorization) and forms a favorable target for a new response (judgment assimilation). Another way to strengthen our argument is the information processing literature which states that people give prior preference to data that are consistent with existing associations (e.g., Hoch and Ha, 1986; Hogarth and Einhorn, 1992). Thus, a service firm with high brand equity may let consumers give preference to prior positive brand information and enhance the service recovery efforts.

In addition, branding theory suggests that the cache of positive association enjoyed by a high equity brand predisposes favorable responses to it (Keller, 1998). Previous service research on satisfaction has shown that customers' past experience with a firm (brand) can influence their affective and behavioral responses to the current encounter (Oliver, 1980). A brand (service firm) may

enhance the service recovery efforts by pulling customers' post-recovery satisfaction to the more positive behavioral responses. Thus:

H4. The positive relationship between satisfaction with service recovery and repatronage intentions is stronger among high equity brands than low equity brands.

H5. The positive relationship between satisfaction with service recovery and word-of-mouth behavior is stronger among high equity brands than low equity brands.

Method

Sample

Whereas most service recovery studies were laboratory investigations, the current study is a field study. Respondents were recruited in a single metropolitan area in Taiwan by trained interviewers. The general demographic composition of the sample (see Table I) adequately mirrored that of the regional population. Respondents were asked to reflect on a recent (within the past six months) service failure and recovery experience that served as the basis for completion of the survey. To enhance memory of the incident, respondents were asked to answer some specific information about the failure, for example, where the incident was occurred and how it was resolved. Interviewers then assist respondents to complete questionnaires that assessed perceptions of any recovery effort. In total, 220 respondents provided data suitable for analysis in this study. As shown in Table I, service failure and recovery was most frequently occurred in the service sector of restaurants. Two groups are further identified by brand equity according to the sample median on asking respondents to rate on 1-7 bipolar scales of Rust *et al.* (2000). The characteristics of the two groups are listed in Table I.

Measures

The study measures all constructs through multi-item scales adapted from the literature. Distributive justice, procedural justice, and interactional justice were measured with scales adopted from Smith *et al.* (1999). Satisfaction with recovery, repatronage intentions, and word-of mouth behavior were measured by using scales from Maxham and Netemeyer (2002). The moderating variable, brand equity, was assessed with scales of Yoo *et al.* (2000). The constructs employ seven-point, Likert-type scales, with anchors ranging from strongly disagree (1) to strongly agree (7). The complete wording of each scale item and their measurement properties are shown in Table II.

Analytical results

Measurement model

This study first assess the measurement model, then test the hypotheses according to the guidelines suggested by Anderson and Gerbing (1988). A comprehensive measurement model was estimated that included each observed indicator, where all observed variables were forced to load on their respective latent variables. For scale purification, indicators with low factor loadings (< 0.50) were deleted from the initial confirmatory factor analysis (CFA). As a result, the original scale of procedural justice, interactional justice, and word-of

Table I Characteristics of the sample

Characteristic	High brand equity ($n_1 = 109$)		Low brand equity ($n_2 = 111$)		Total ($n = 220$)	
	n	%	n	%	n	%
Service sector						
Restaurants	59	54.1	66	59.5	125	56.8
Hotels	29	26.6	23	20.7	52	23.6
Department stores	17	15.6	21	18.9	38	17.3
Others	4	3.7	1	0.9	5	2.3
Gender						
Male	53	48.6	43	38.7	96	43.7
Female	56	51.4	68	61.3	124	56.4
Age						
19 or less	6	5.5	8	7.2	14	6.4
20-29	45	41.3	54	48.6	99	45.0
30-39	49	45.0	39	35.1	88	40.0
40 or above	9	8.2	10	9.0	19	8.6
Education						
Middle school	3	2.7	5	4.5	8	3.6
Junior college	10	9.2	7	6.3	17	7.7
College	73	67.0	66	59.5	139	63.2
Graduate school	23	21.1	33	29.7	56	25.5
Marry						
Single	68	62.4	77	69.4	145	65.9
Married	41	37.6	34	30.6	75	34.1
Occupation						
Public servant	11	10.1	10	9.0	21	9.5
Manufacturing industry	39	35.8	29	26.1	68	30.9
Service industry	22	20.2	15	13.5	37	16.8
Student	15	13.8	24	21.6	39	17.7
Housewife	4	3.7	8	7.2	12	5.5
Others	18	16.4	25	22.6	43	19.6
Income (NT$)						
10,000 or less	14	12.8	22	19.8	36	16.4
10,001 to 30,000	33	30.3	32	28.8	65	29.5
30,001 to 50,000	46	42.2	43	38.7	89	40.5
50,001 to 75,000	8	7.3	11	9.9	19	8.6
75,001 or above	8	7.4	3	2.7	11	5.0

mouth behavior has deleted one item, respectively. The final set of items for each construct used in the current study was illustrated in Table II.

The fit indices suggested that the model fits the data well ($\chi^2_{(104)} = 409.29$, $p < .001$; comparative fit index (CFI) = 0.97; nonnormed fit index (NNFI) = 0.97; and root mean square error of approximation (RMSEA) = 0.12) (Hu and Bentler, 1995). As shown in Table II, all coefficient alpha and composite reliability estimates exceed 0.7. Reliability for measurement model is supported (Nunnally, 1978). The convergent validity of the scales is supported because the estimated coefficients of the indicators are all significant and all estimates for the average variance extracted (AVE) are equal to or greater than 0.50. This study further finds support for discriminant validity by observing that the squared correlation between any pair of constructs is less than

the respective AVE of each construct in the pair (Fornell and Larcker, 1981). Considering the reliability, convergent, and discriminant validity tests collectively, this study concludes that the measurement model satisfies all the psychometric property requirements. The means, standard deviations, and intercorrelations for the constructs operationalized in the current study are also shown in Table III.

Hypothesis testing

This paper used SEM (Lisrel, maximum likelihood procedure) to estimate the structural model. The sample is divided by the brand equity into two different subgroups (high brand equity versus low brand equity) according to the sample median. The chi-square difference test is used to test for the moderating effects of individual paths. The chi-square statistics for the unconstrained and the partially constrained models are compared. The results to examine the moderating effects of brand equity with path coefficients are listed in Table IV.

As shown in Table IV, the influence of distributive justice on satisfaction with service recovery is stronger for respondents with high brand equity than for those with low brand equity (*H1* is supported). The influence of procedural justice and interactional justice on satisfaction with service recovery is not similar across brand equity (*H2* and *H3* are not supported). Furthermore, the influence of satisfaction with service recovery on repatronage intentions and word-of-mouth behavior are stronger for respondents with high brand equity than for those with low brand equity (*H4* and *H5* are supported).

Conclusions and implications

Service recovery is an important component of service management. It is widely recognized that effective service recovery strategies are essential to retain customer satisfaction and achieve customer loyalty. The goal of this study is to examine how brand equity moderates the relationship between the three justice dimensions and post-recovery satisfaction and behavioral intentions. Of the five hypotheses this study examined, three received support from a field study in Taiwan.

Results of the current study show that brand equity moderates the relationship between distributive justice and post-recovery satisfaction. The moderating impacts of brand equity on the relationship between the two justice dimensions (procedural and interactional justice) and post-recovery satisfaction are not supported. Stated differently, this study suggests the important role played by brand equity on the relationship between distributive justice and post-recovery satisfaction; i.e., respondents with high brand equity are more satisfied with distributive justice than for those with low brand equity. But the effects of procedural and interactional justice on post-recovery satisfaction do not differ significantly across brand equity. One possible explanation for this unexpected finding may be that customers have easier access to information on outcomes (distributive justice) than procedural interactions (procedural and interactional justice) (Leventhal, 1980). As previously argued in the categorization and judgment assimilation research, customers often conserve cognitive energy by reapplying summary judgments (i.e., distributive justice) that are already stored in memory as associations, and the positive associations can provide a

Table II Confirmatory factor analysis, reliability, and validity

Construct	Loadings	*t*-values	α	CR	AVE
Distributive justice			0.85	0.85	0.58
The outcome I received was fair	0.80	14.13			
I did not get what I deserved	0.69	11.43			
In resolving the problem, XYZ gave me what I needed	0.81	14.27			
The outcome I received was not right	0.75	12.89			
Procedure justice			0.73	0.74	0.59
The employees dealt with my problem quickly	0.67	10.85			
XYZ showed adequate flexibility in dealing with my problem	0.86	14.92			
Interactional justice			0.85	0.85	0.65
The employees were appropriately concerned about my problem	0.73	12.19			
The employees' communications with me were appropriate	0.85	15.22			
The employees did not give me the courtesy I was due	0.84	14.91			
Satisfaction with service recovery			0.83	0.84	0.63
XYZ provided a satisfactory resolution to my problem	0.78	13.61			
I am not satisfied with XYZ handling of this problem	0.75	12.98			
Regarding this event, I am satisfied with XYZ	0.85	15.36			
Repatronage intentions			0.82	0.85	0.66
In the future, I intend to use services from XYZ	0.92	17.70			
If you were in the market for this service, how likely would you be to use those services from XYZ	0.90	17.08			
In the near future, I will not use XYZ as my provider	0.56	8.73			
Word-of-mouth behavior			0.89	0.89	0.80
I would not spread positive word-of-mouth about XYZ	0.89	16.75			
I would recommend XYZ to my friends	0.89	16.77			
Brand equity			0.91	0.91	0.71
It makes sense to buy XYZ instead of any other brand, even if they are the same	0.84	15.06			
Even if another brand has same features as XYZ, I would prefer to buy XYZ	0.90	16.85			
If there is another brand as good as XYZ, I prefer to buy XYZ	0.83	14.64			
If another brand is not different from XYZ in any way, it seems smarter to purchase XYZ	0.80	13.82			

Notes: α: Cronbach's alpha, CR: composite reliability, and AVE: average variance extracted

Table III Descriptive statistics and intercorrelations

Construct	1	2	3	4	5	6
1. Distributive justice	1.00					
2. Procedure justice	0.70	1.00				
3. Interactional justice	0.73	0.75	1.00			
4. Satisfaction with service recovery	0.89	0.71	0.75	1.00		
5. Repatronage Intentions	0.69	0.68	0.66	0.71	1.00	
6. Word-of-mouth behavior	0.73	0.73	0.74	0.79	0.84	1.00
Mean	3.97	3.95	4.07	3.85	3.60	3.39
Standard deviation	1.43	1.47	1.41	1.49	1.57	1.68

Note: All correlations are significant at the 0.01 level or better

favorable benchmark toward which newly-formed judgments of performance are drawn. Consequently, higher levels of service brand equity may enhance post-recovery satisfaction by customers' interpretations of information on outcomes (distributive justice) and previously-generated positive judgments of high equity brand's performance. In addition, Patterson *et al.* (2006) have shown that customer evaluations of service recovery efforts are influenced by consumers' cultural value orientation. Since the data were received from a field study in Taiwan, this study is partly consistent with the findings of Patterson *et al.* (2006), who also found that

distributive justice accounts for large impact in perceptions of post-recovery satisfaction in an Asian culture. As for the consequence of satisfaction with service recovery, results of this study further reveal that the impact of post-recovery satisfaction on repatronage intentions and word-of-mouth behavior is stronger for respondents with high brand equity than for those with low brand equity. The findings suggest that building brand equity is a means by which post-failure satisfaction and behavioral intentions may be enhanced.

Service recovery strategies in responding to service failures are part of the critical tasks for service managers. Our findings offer new insight into service managers by suggesting that service firms can enhance the service recovery effects with brand-building strategies. Results from the field study found that strong brand equity provides an overall advantage over weak brands in increasing service recovery satisfaction and behavior intentions (repatronage intentions and word-of-mouth behavior). Furthermore, this study suggests that, among three dimensions of justices, distributive justice has the largest influence on customers' post-recovery satisfaction, particularly for the service organizations with high equity brand. Employee training programs should focus on the importance of the distributive dimension of fairness on customer satisfaction. In other words, frontline service providers need to be trained to handle customers' complaints and dissatisfaction immediately by providing

Table IV Path coefficients and *t*-value across brand equity

Hypothesis	Standardized coefficient High brand equity	Standardized coefficient Low brand equity	Subgroup comparison (unconstrained χ^2 (222) = 671.92) Constrained χ^2 (223)	χ^2 difference	Hypothesis supported
H1(Distributive justice → satisfaction with service recovery)	0.78*	0.51*	691.27	19.35*	Yes
H2(Procedural justice → satisfaction with service recovery)	0.15	0.26	673.07	1.15	No
H3(Interactional justice → satisfaction with service recovery)	0.12	0.11	671.95	0.03	No
H4(Satisfaction with service recovery → repatronage intentions)	0.89*	0.85*	697.84	25.92*	Yes
H5(Satisfaction with service recovery → word-of-mouth behavior)	0.99*	0.88*	695.86	23.94*	Yes

Notes: In the constrained models. The target path coefficients are set to be equal for cross-group datasets; *$p < 0.01$

distributive justice, such as offering discounts, refunds and compensations.

This research contributes to the service marketing literature in at least two ways. First, our findings provide insight into the science of marketing by shedding light onto the role of brand equity in the effect of service recovery. The current study addresses a notable conclusion of the important role played by brand equity on handling service failure and enhancing post-failure satisfaction and behavioral intentions. This is the first study to completely compare the high brand equity with low brand equity in the relationship between the three justice dimensions and post-recovery satisfaction and behavioral intentions. Second, our study extends understanding of the service recovery effect among three dimensions of justices. Current views on the overall satisfaction with recovery efforts suggest distributive justice to be far and away the strongest predicator (e.g., Smith *et al.*, 1999). Our investigation accounts for customers in Taiwan toward extending understanding of the recovery efforts among three dimensions of justices, and suggests that distributive justice has the largest influence on customers' post-recovery satisfaction, especially for the high equity brands.

Similar to any empirical research, this study had some limitations. The research limitations were based on the nature of the data and sample characteristics. The data used in this study were collected in a single metropolitan area in Taiwan, and future research might be conducted in a variety of countries. Furthermore, some unsupported hypotheses (e.g., the effects of procedural justice and interactional justice on satisfaction with service recovery across brand equity) in this study highlight the need for qualitative studies to gain richer insights into how service firms deal with customers with high brand equity versus low brand equity.

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