An Empirical Study on the Customer Responses to Service Recovery in the Context of Service Failure

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Abstract

This article examines how customers respond to various service recoveries by investigating the moderating role of service failure severity. Using a scenario-based experiment, the proposed model was tested in a mobile phone service industry. The results show that under the core service failure, high recoveries are more effective than low recoveries, whereas low recoveries are as effective as high recoveries under the peripheral service failure. The effects were assessed in terms of customers' intentions such as repurchase intention and word-of-mouth communication.

Keywords: service recoveries, service failure severity, core service failure; peripheral service failure

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INTRODUCTION

Services are characterized by intangibility, inseparability, heterogeneity, and perishability(Yi 2004). Unlike manufacturers, many service providers place much emphasis on the management of service processes since the complete standardization of interactions between service providers and customers is difficult. Because of these characteristics of service industry, the uncontrollable service failures can occur to every customer. When such things happen, service providers may take actions to correct failures.

Previous studies on service recovery lead us to believe that service recovery is the most important factor in driving customers to exit or stay after a service failure. Yet there have been relatively few empirical studies on service recovery to date (Smith and Bolton 1998; Smith, Bolton, and Wagner 1998; Swanson and Kelly 2001; Tax, Brown, and Chandrashekaran 1998), and previous research has generally kept the severity of service failure constant although service failures can range from very minute to severe cases in reality(Berry and Parasuraman 1991; Gilly and Gelb 1982; Goodwin and Ross 1992).

A recent research(Weun, Beatty, and Jones 2004) found that the severity of the service failure has a significant main effect on customer's satisfaction with the service recovery in the context of the theoretical framework such as interactional justice and distributive justice, and indicated that there is a negative consequence from more severe service failures, regardless of the successfulness of the service recovery.

The objective of this study is thus to extend former research on service recovery in that the relative effects on customers' perceptions of service recoveries are examined by investigating service failure severity. It will provide useful insights into customer responses to service recovery efforts across various levels of service failure severity.

THEORETICAL BACKGROUND

Social Exchange Theory

Service failure and recovery encounters can be considered mixed exchanges with both utilitarian and symbolic dimensions. Utilitarian exchange involves economic resources such as money, goods, or time, whereas symbolic exchange involves psychological or social resources such as status, esteem, or empathy(Bagozzi 1975). Service failures can result in the loss of economic or social resources for customers. Service providers may attempt to recover by offering customers economic resources in the form of compensation(e.g., discount) or social resources(e.g., apology).

Walster and Berscheid(1973) have shown that compensation is a strategy for restoring equity to an exchange relationship when one party has been harmed by the other. And, in social exchange theories, an apology is viewed as a valuable reward that redistributes esteem(a social resource) in an exchange relationship(Walster, Berscheid, and Walster 1973). An apology from the service provider communicates politeness, courtesy, concern, effort, and empathy to customers who have experienced a service failure, and it may enhance their evaluations of the encounter(Hart, Heskett, and Sasser 1990; Kelley, Hoffman, and Davis 1993).

Equity Theory

Equity theory suggests that parties involved in an exchange feel equitably treated and thus satisfied if their amount of input to the exchange is somewhat in balance with their output of the exchange. Especially, equity theory provides a plausible theoretical explanation for the moderating effect of failure severity on the effectiveness of service recovery. According to equity theory, as the size of the loss gets larger, the customer is likely to be less satisfied with the service recovery(Levesque and McDougall 2000). This is similar to Zemke and Schaaf's notion of annoyance and victimization. Annoyance refers to a minor feeling

of irritation after service failure while victimization reflects a major feeling of frustration from the customer's perspective. According to Zemke and Schaaf(1989), more extensive service recovery efforts are needed to correct victimization than annoyance.

Prospect Theory and Mental Accounting Theory

Prospect theory asserts that people are more attuned to differences(relative to a reference point) than absolute amounts and that they are more sensitive to losses than gains(Kahneman and Tversky 1979; Tversky and Kahneman 1992). Similarly, asymmetric disconfirmation proposes that negative performances have greater influence on satisfaction and purchase intentions than positive performances do(Mittal, Ross, and Baldasare 1998; Yi and La 2003).

Mental accounting theory suggests that service failure and recovery encounters represent mixed losses(a larger loss with a smaller gain). The loss from a failure is likely to be perceived as greater than the gain from a recovery. Mixed losses are segregated, in that losses and gains are valued separately(Thaler 1985).

Mental accounting theory and prospect theory imply that service recovery will be more effective when the severity of the failure is low than when it is high. When a high severity of failure occurs, the customer experiences a big loss. In attempting to recover, the service provider offers the customer a gain. As the severity of failure increases, the absolute value of the discrepancy between the perceived loss caused by the failure and the perceived gain created by the recovery effort also increases. However, as customers use a nonlinear value function to evaluate outcomes, the perceived discrepancy increases at a decreasing rate(Smith, Bolton, and Wagner 1999). Therefore, as the severity of the failure increases, the added value of the recovery effort is smaller and the effect on customers' perceptions of the recovery effort is smaller. Conversely, as the severity of the failure decreases, the effect of a recovery effort on customers' evaluations is greater.

HYPOTHESES

Conceptual Model

Previous research on service recovery has focused on developing classification schemes(Bitner, Booms, and Tetreault 1990; Hoffman, Kelley, and Rotalsky 1995; Kelley, Hoffman, and Davis 1993) and providing anecdotal support for the effect of service recovery(Kelley and Davis 1994; Spreng, Harrell, and Mackoy 1995). Therefore, previous research has mainly shown how various recovery efforts influence the customer evaluation without considering the failure situation.

The primary focus of this research is on what kinds of levels of recoveries should be done in the context of service failure severity to maximize the effectiveness of recovery efforts in terms of service providers. The conceptual model and hypotheses are to pursue these inquiries with empirical evidence. Figure 1 shows a conceptual model of this study.

The research design of this study is a 2(levels of recovery effort) by 2(levels of failure severity) matrix. As future intentions, word-of-mouth communication and repeat purchase intention are examined as customer responses to recovery efforts.

The model is drawn from the perspectives of service provider and failure situation. The dotted line implies the extension of the previous model by adding a moderator.
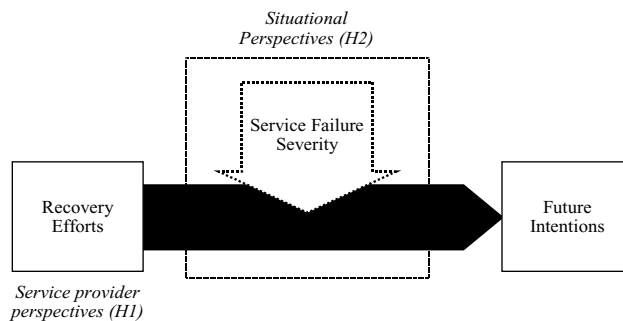

Figure 1. Conceptual Model

Recovery Efforts

Previous research has shown that it is possible to recover from failure and thus to regain customer confidence(Kelley et al. 1993), and indicates that an apology is better than no apology. Typically, customers expect to be compensated for the inconvenience caused by the service failure(Smith et al. 1999). As a result, many service providers offer various combinations of refunds, credit, discounts and apology to make peace with unsatisfied customers.

One would expect that low recovery effort is less effective than high recovery effort for a given failure. Comparing two levels of recovery(high and low) reveals that the high level is more effective than the low level. Increasing the level of recovery tends to result in high post-recovery satisfaction(Boshoff 1997; Hoffman et al. 1995). Based on these facts, the following hypothesis is proposed.

> H1: High recovery effort will be more effective than low recovery effort in terms of customers' future intentions.

Moderating Role of Failure Severity

Social exchange and equity theories show that exchange relationships should be balanced; that is, resources should be exchanged in equivalent amounts. The amount of the customer's perceived loss depends on the severity of the failure. To restore balance, the service provider must offer the customer a gain of an amount sufficient to cover the loss. Therefore, customers will prefer to receive resources in amounts commensurate with the severity of the loss(service failure) they experienced. Previous research indicates that it might be hard for service providers to execute an effective recovery when the failure is perceived as serious(Darida et al. 1996; Levesque and McDougall 2000; Smith and Bolton 1998; Smith et al. 1999).

Mental accounting principles and prospect theory imply that service recovery will be effective when the severity of the failure is low. In terms of gain and loss, as the severity of the failure becomes low, the absolute value of the discrepancy between the

perceived loss caused by the failure and the perceived gain created by the recovery effort also decreases, in that customers perceive the loss smaller and the gain bigger. Therefore, low recovery effort offers little gain but may be as effective as high recovery effort when peripheral service failure is encountered. Based on theses facts, the followings are hypothesized.

> H2a: When core service failure occurs, high recovery effort will be more effective than low recovery effort in terms of customer's future intentions.
> H2b: When peripheral service failure occurs, low recovery effort will be as effective as high recovery effort in terms of customer's future intentions.

METHOD

Procedures

By using a survey method in which customers evaluate failure and recovery scenarios and complete a questionnaire, a scenario-based experiment was conducted. This method minimizes a memory bias that is common in self-reports of service failures (Smith et al. 1999). Nevertheless, the key drawbacks of a scenario-based experiment are a greater likelihood of demand effects and the possible inability of participants to project their behavior and to respond as they actually would in a real situation(McCollough, Berry, and Yadav 2000). To minimize these problems, a mobile phone service industry was selected as the research setting where most participants are familiar with service offerings and some sorts of service failures. This scenario-based experiment would reduce concerns that participants in a laboratory setting might respond differently from those actually involved in the service setting.

In addition, before making scenarios, interviews were conducted with a service manager in a mobile phone service industry to identify realistic service failures and service recovery efforts that had been used as responses to service failures. This step was taken to increase the external validity of the scenario-based experiment.

Experimental Manipulation

Service Recovery Efforts. Two types of recovery efforts are chosen in this study: monetary compensation with apology and only apology without any compensation, which represent high and low recovery effort, respectively. This manipulation is based on a review of the recovery research and feedback from customers and managers in the mobile phone service.

Viewing apology as compensation is consistent with the concept of restoring 'psychological equity'(Berscheid and Walster 1973) to people who have been treated poorly. Apologies can be perceived as outcomes that can be delivered in a fair or unfair manner(Tax, Brown, and Chandrashekaran 1998). As such, many respondents in the pre-test have stated that they regard an apology as compensation for service failures.

High recovery effort was operationalized as a monetary compensation that would match the typical mobile phone service provider's response to the phone service disconnection. For this study, customers were given no charge of the basic rate with apology on the corresponding month under the high recovery scenario.

On the other hand, in the low recovery scenario, customers were offered an apology only, which is the least recovery effort in the mobile phone service industry when the caller identification service is not available. In addition, a no-recovery scenario was added as a control group to examine the effectiveness of service recovery.

Service Failure Severity. According to services marketing literature(Yi 2004), a service contains two attributes: core service and peripheral service. Therefore, it is expected that the severity of service failure would be related with the attribute of service because customers will evaluate the severity of failure differently based on whether a failure has occurred in the core service or in the peripheral service.

In a mobile phone service, the fundamental telephoning service is a core service, whereas caller identification service is a peripheral service. When core service failures occur(e.g., mobile phoning service disconnected), customers tend to consider them

more serious problems than peripheral service failures(e.g., caller identification service not available). Core and peripheral service failure situations were manipulated respectively as follows: "Due to the mobile phone service provider's system errors in a certain area, your mobile phone service(a core service) has been disconnected for 24 hours"; and "Due to the mobile phone service employee's mistake, your mobile phone caller identification service(a peripheral service) has not been working for 24 hours".

Measures

The scales employed in this study are 7 point Likert-type anchored as not at all/ extremely likely. Because the research setting is unique(mobile phone service failure and recovery), many measures are original to this research.

Measurement instruments consist of three constructs such as service failure, service recovery and customer's future intentions. Service failure and recovery were measured as follows: a severity of service failure as "For a given problem situation, this service failure is serious"; a level of perceived loss as "For a given problem situation, this service failure gives me (a) _____ loss either monetarily or psychologically(1=no/ 7=very big)"; a recovery effort as "For a given problem situation, recovery performance is _____ than I expected(1=much worse/ 7=much better)"; and a level of perceived gain as "For a given service problem, this recovery effort gives me (a) _____ gain either monetarily or psychologically(1=no/ 7=very big)". The measures of customer's future intentions were "I will recommend this service to others"; and "I will subscribe the same mobile service next time".

ANALYSES AND RESULTS

Sample Characteristics, Validity and Reliability

The demographic characteristics of the sample were the following: the gender split was 55.2% male vs. 44.8% female; 89.6% of respondents were in twenties; the majority of

respondents(84%) were university students. Regarding the experience of service failure and recovery, 59.2% of the respondents had experienced some sorts of mobile phone service failures more than once. The majority of respondents(80.8%) were offered no recovery efforts, 13.6% apology, and 0.8% monetary compensation. Respondents were also asked how long a period they had been using the current mobile phone service. Responses were classified into: less than one year(9.6%); 1~2 years(20%); 2~3 years(21.6%); and three or more years(48.8%).

To increase the external validity of the experiment, interviews were conducted with a service manager in the mobile phone service industry to identify realistic service failures and service recovery efforts. As a result, most respondents regarded a manipulated core service failure as serious and a manipulated peripheral service failure as minor(M=5.73 vs. 3.23, p<.01).

The reliability of measures was assessed by Cronbach's alpha. All the measures showed a satisfactory level of reliability. The lowest Cronbach's alpha was 0.80, indicating that the internal consistency among items is very high.

Test on Effect of Recovery Effort (Hypothesis 1)

Hypothesis 1 implies that monetary compensation with apology (high recovery) will yield higher intentions than only apology(low recovery), which will in turn yield higher intentions than no recovery. To begin with, an analysis of variance was undertaken to test for differences of the three levels of recovery efforts(No-recovery, only apology, and monetary compensation with

Table 1. Effect of Between-Recovery Efforts

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	424.737	2	212.369	108.322	.000
Intercept	5104.193	1	5104.193	2603.466	.000
Recovery Efforts	424.737	2	212.369	108.322	.000
Error	729.320	372	1.961		
Total	6258.250	375			
Corrected Total	1154.057	374			

Dependent Variable: Future Intentions

apology). The levels of recovery efforts had significant effects on future intentions(F=108.322, p<.01).

Then, mean differences were tested by the contrast of the levels of recovery efforts. When low recovery was compared with no recovery, low recovery effort was more effective than no-recovery effort(M=3.55 vs. 2.46, p<.01) on future intentions. In addition, respondents showed higher future intentions under high recovery than low recovery(M=5.05 vs. 3.55, p<.01). Thus, hypothesis 1 was supported.

Test on the Moderating Role of Service Failure Severity(Hypothesis 2a, Hypothesis 2b)

Hypothesis 2a postulates that monetary compensation with apology is more effective than only apology for a core service failure situation. The result shows that in a core service failure situation, the customers' perceived gain on high recovery effort was higher than their perceived loss on failure(M=5.69 vs. 4.60, p<.01), which means that the high recovery effort situation was sufficient to cover the loss. This led to the result that high service recovery was more effective than low recovery effort on customers' future intentions(M=2.68 vs. 4.37, p<.01), which was consistent with hypothesis 2a.

In addition, table 2 shows a significant correlation between the

Table 2. Correlation between Perceived Loss and Failure Severity

		Failure Severity	Perceived Loss
Core Service Failure	Failure Severity Pearson Correlation/Sig.(2 tailed)	1	.74**
	Perceived Loss Pearson Correlation/Sig.(2 tailed)	.74**	1
		Failure Severity	Perceived Loss
Peripheral Service Failure	Failure Severity Pearson Correlation/Sig.(2 tailed)	1	.88**
	Perceived Loss Pearson Correlation/Sig.(2 tailed)	.88**	1

**The correlation is significant at the .01 level.

perceived loss and the failure severity. This result was exactly consistent with social exchange theory and equity theory, implying that the amount of the customer's perceived loss depends on the severity of the failure.

Hypothesis 2b implies that the effect of low recovery is the same as that of high recovery effort in a peripheral service failure situation. The result shows that there was no difference between customer's perceived loss and perceived gain in a peripheral service failure, which means that only an apology was appropriate to cover the service failure in terms of customers' perception.

It is shown that the effect of low recovery was not significantly different from that of high recovery under the peripheral service failure(M=3.79 vs. 4.00, p>.01), which supported hypothesis 2b.

DISCUSSION

The purpose of this study is to explore how the severity of service failure influences customer's response to the service provider's various recovery efforts. The results show that a customer's responses to service recovery efforts depend on the amount of resources lost and gained during the exchange.

The effect of recovery was found to be significant. For any given service failure, offering the customers more recovery increased their positive future intentions. Low recovery(e.g., an apology only) was more effective than no recovery, which confirmed the previous study that an apology is better than no apology. Furthermore, monetary compensation with apology had a more effect than did an apology only. These results indicate that high recovery is more effective than low recovery.

A high loss situation(e.g., core service failure) required very high recovery whereas low recovery was as effective as high recovery in a low loss situation(e.g., peripheral service failure). These results illustrate that situational factors influenced the relative effectiveness of the recovery efforts. As with social exchange theories, the amount of the customer's perceived loss depended on the severity of the service failure. Then the perceived loss had a direct impact on the customer's word-of-mouth communication intentions and repeat purchase

intentions. The results point to the importance of identifying the customer's perceived loss in the context of a service failure.

Theoretical Implications

This study extends the previous study by providing a theoretical framework that helps to explain the relative effectiveness of service recovery efforts. Specifically, the effects of service recovery efforts vary with the level of service failure.

Basically, the results of this study are congruent with the social exchange theory. Smith et al.(1999) views the service failure and recovery as an exchange, in which the customer experiences a loss due to the service failure, and the service provider attempts to provide a gain, in the form of a service recovery, to make up for the loss. Zemke and Schaaf suggest that 'annoyed' customers will be recovered by the provision of an apology and 'victimized' customers will require more extensive service recovery efforts such as monetary compensation. Therefore, this study provides empirical evidence on the social exchange theory and the notions of annoyance and victimization.

In a core service failure situation, respondents perceive low recovery(e.g., an apology) as a poor service recovery. Poor service recoveries have been shown to exacerbate already low customer evaluation following a failure, producing a double deviation effect (Bitner, Booms, and Tetreault 1990; Hart, Heskett, and Sasser 1990). Employing a qualitative critical incident technique, Bitner, Booms, and Tetreault(1990) asked respondents to recall a dissatisfactory service experience and then explain what made them feel dissatisfied. The results indicate that poor recovery efforts intensify customer dissatisfaction.

Managerial Implications

Considerable evidence to date suggests that it is possible for service providers to recover from service failures with various recovery strategies. What is important is how such recovery strategies are developed because the effectiveness of service recovery tends to be situation-specific. The importance of a high recovery effort cannot be overstated, as demonstrated by this study that about 70% of the respondents given high recovery

said they would have a repurchase intention or positive word of mouth communication toward the service provider, compared with only 31% of the respondents given a low recovery effort saying they would.

Although an apology as low recovery means that a service provider just admits that a mistake was made, the significant difference exists when compared with no recovery. Moreover, monetary compensation such as discount or no charge is likely to be the most effective means to return the customers to the service provider under the core service failure situation.

Another finding of this study indicates that a core service failure tends to require monetary compensation that is sufficient enough to cover the loss because customers perceive a core service failure as a high loss. In contrast, an apology is as effective as monetary compensation in a peripheral service failure because a peripheral service failure is perceived as a relatively low loss. These results seem to imply that spending on recovery efforts does not necessarily increase the likelihood to repeated purchase especially when the service failure is peripheral. One has to examine the nature of service failure to determine the appropriate level of service recovery efforts.

Limitations and Directions for Future Research

One limitation of the present study is that it was carried out in one industry(mobile phone service industry). Researchers in different industries such as airlines(Halstead et al. 1996), restaurants(Hoffman et al. 1995), retailing(Kelley et al. 1993), banking(Lewis and Spyrakopoulos 1997), house removal(Mackoy et al. 1995) or across industries(Johnston 1995) reported different kinds of service failures. Therefore, the study needs to be replicated in other industry settings before conclusions are generalized.

Another limitation is that this study employed an experiment with artificial scenarios, rather than real failure situations. Because respondents were not actually in the service setting, they might not have worried about mobile service disconnections, unavailability, financial loss, and so on as in the real world.

Next, the mobile phone service industry is characterized by high switching costs among customers. As a result, it is relatively

difficult for customers to switch from one service provider to another. The dependent measures were largely future intentions rather than actual purchases.

Considering these limitations of this research, future research can be done in several directions. Regarding service failure, this study mainly deals with the severity of failure, but service failure can vary in frequency as well. Because many service relationships are ongoing, customers are likely to experience multiple failures during the course of relationships. It would be interesting to examine how customers respond to multiple failures and recovery efforts.

Another factor that might be considered is the importance of the purchase situation: how important the purchase is to the customer. The importance of purchase may influence customers' future intentions. Customers are highly likely to perceive a service failure as a big loss in high-importance situations. As such, even if customers experience the same service failure, their perceptions of service failure and their responses to service recovery will vary, depending on a purchase situation.

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