

The Effect of Service Recovery Strategies on Attitude Towards Recovery and Intention to Reuse; Mass Service vs. Service Shop

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Abstract

This paper conducted a study based on circumstances where service providers respond to customers after a service failure. The study adopted 4 different recovery strategies: apology, compensation, listening, and response speed as responsive. It determines the impact of each recovery strategy type on the customer's attitude and reuse intentions for recovery. Here, the fabricated scenarios of service types, mass service (restaurant), and service shop (hospital) were used to verify moderating effects. In total, 300 copies were distributed for the survey. 278 copies, excluding 22 copies with missing answers and non-responses were included for the study.

The analysis results are as follows. First, all 4 service recovery strategies have positively influenced attitudes toward recovery. Second, it was found that service recovery strategies can moderate the effect on attitude towards recovery depending on the service type. Third, it was confirmed that the recovery attitude mediates between the service recovery strategy and the reuse intention. Finally, attitude towards recovery had a positive effect on the intention of reusing.

Recovery strategies are crucial for customer complaints and suggest that they are practical in encouraging positive word-of-mouth communications and intention to reuse.

Key word: Service Recovery Strategies, Service type, Attitude Towards Recovery, Intention to Reuse

Introduction

A service may fail at any time owing to its nature, no matter the quality of services that service providers offer. When customers receive a service that they have not expected, they may regard it as a failure. Inseparability is one of the terms used to define service because both production and consumption occur at the same time. Service quality may vary by customer, which is called heterogeneity. This is one of the reasons why failure is unavoidable in the service provision process. Hence, a service failure may occur at any time. However, proper Service Recovery Strategies adopted in a timely manner will further improve customer satisfaction. This can be explained by Service Recovery Paradox: SRP. Effective service recovery strategies are significant considerations for customer retention.

Although not all service types will be applied with the same recovery strategies, there are still not enough studies on this matter. Therefore, the study was carried out to examine the effect of each service recovery strategy type on customer attitude and intention to reuse depending on the service type.

The study focused on which recovery strategy type is appropriate for a given service type when a service failure occurs and customer attitude towards different recovery strategies. In other words, the study identified how service recovery strategies influence customer attitude and intention to reuse.

The purpose of the study is as follows. 1) Service recovery type will affect recovery attitude. 2) The effect of the service recovery type on the recovery attitude will be moderated by the service type. 3) The effect of service recovery type on reuse intention will be mediated by recovery attitude. 4) The recovery attitude affects the intention to reuse.

2. Theoretical Background & Hypothesis

2.1 Theoretical Background

2.1.1. Service Characteristics

2.1.1.1. Intangibility: Products are tangible, and services are intangible. Intangibility is one of the representative terms used to define service characteristics. Service intangibility does not offer easy solutions that facilitate product display and exchange. Since customers cannot receive service samples, it is impossible for them to predict services with their senses of taste, perception, sight, hearing, and smell prior to service purchase.

2.1.1.2. Perishability: Just like products, services cannot be preserved for years and will eventually expire. Products have a limited lifespan because of their decomposition and obsolescence properties. Thus, perishability is a common characteristic of products and services. The only difference is the degree of perishability.

2.1.1.3. Inseparability: Service is characterized by inseparability because it is produced and consumed simultaneously. First, sales are completed, and then production and consumption occur at the same time. In this sense, customers should cooperate with service providers while they are directly involved in service production. An atmosphere created as customers participate in service production is one of the service content components. Let us say that a patient is visiting the hospital. The patient must help the doctor obtain an accurate diagnosis and prescription. However, the patient is not entirely involved in the production process, so it is difficult to see the whole process. This can be solved when service providers build a thorough, scientific system. Customer relationship management is also important. To offer a range of services, it is crucial to have service equipment and diverse infrastructural facilities. Along with these, qualitative aspects including service quality, service provider capabilities and service provider-customer interaction should be taken into consideration.

2.1.1.4. Heterogeneity: Whenever a service is offered, service quality may be heterogeneous. That is, service quality may vary according to service providers and customers. Even when the same service provider is involved, services may vary according to the time they are offered. It

is not easy to standardize and moderate services, like products. Despite the standardization issue, service heterogeneity offers opportunities for customers to experience various services. In the end, standardization is necessary for a successful service, and a mechanism that allows service providers to quickly respond to customers with proper services is important [1].

Among the four characteristics of a service, especially, due to the indivisibility and heterogeneity of the service, no matter how high a level of service is provided, a service failure is inevitable. If a service failure occurs, a business's response can either strengthen loyalty or worsen the situation by driving the consumer to a competitor [2] [3][4]. Thus, service failures and ineffective recovery steps are influential in provoking consumers' switching behavior [5]. As a result, the service industry must effectively address service recovery situations to continue positive relationships with consumers [6]. Thus, we need service recovery strategies to tackle the problem.

2.1.2. Service Failure & Recovery Strategy

2.1.2.1. Service Failure

Service failure is defined as a service-related mistake, an actual or perceived issue that may occur when customers experience services that companies offer [7], or any problems that customers confront during or after services [8].

2.1.2.2. Recovery Strategy

Service recovery is used to rectify or recover from a service failure, and it is a series of processes to restore customer loyalty. It is also an important tool to win a competitive advantage with customer loyalty and active word-of-mouth effects [9]. Johnston and Hewa (1997) [10] stated that service recovery is any action that a service provider takes to compensate for mitigating damages to customers resulting from the unfulfillment of services promised to customers. Grönroos (1988) [11] and Kelley & Davis (1994) [12] defined service recovery as 'the actions taken by a service provider to address a customer complaint regarding a perceived service failure'. Sasser (1990) [13] defined it as 'a technique to identify and manage problems when there is a service failure.' Bell and Zemke (1987) [14] proposed 5 recovery strategies: apology, response speed, resonance, compensation, and follow-up. Kelley, Hoffman, and Davis (1993) [15] applied a CIT-critical incident technique to conduct a study with 661 retailers and suggested 12 recovery types: apology, bonus, compensation, intervention, correction, replacement, refund, customer's request for correction, store credit, unsatisfactory correction, failure escalation, and nothing. Hoffman, Kelley, and Rotalsky (1995) [16] also reported in the CIT-based study that there are 8 service recovery types for restaurants: free food, discount, coupon, intervention, replacement, correction, apology, and nothing.

When a proper recovery strategy is adopted for a service failure, it may shift the customer's negative attitude toward a positive one. When firms are reasonable in dealing with a service failure, it will lead to strengthening ties with customers. If not, it may cause firms to lose customers. Service providers may have not perceived a service failure to that extent, and they may not acknowledge such a failure. They may even make no effort to recover from failure. Eventually, it may lead to negative word-of-mouth communications and customer churn (Tax,

Brown & Chandrashekarran, 1998[17]; Hoffman et al., 1995) [16]. Service recovery efforts are always effective in building relations with customers. Yet, most customers perceive them positively when recovery efforts to correct a service failure have been fair. This is because of the perceived quality and sentiment from the value perspective. Thus, when service providers fail to quickly admit a service failure and do not offer positive compensation, it is likely that they will face worsening profitability (Keaveney, 1995) [18].

Customer dissatisfaction does not come from a service failure itself, but from a service provider's response (Berry and Parasurman, 1991) [19]. In general, the approach to customer satisfaction can be explained from the perspective of the expectation-performance disparity paradigm, which assumes that it is derived from the perception of disparity between expectations of the consumer on product performance and real performance after the customer procures it. (Baek and Kim, 2018) [20]. The American Marketing Association (AMA) explains that customer Satisfaction is generated when the product fulfills or exceeds the expectations generated from the needs and demands of customers, and customer dissatisfaction occurs when it fails to fulfill the Expectation [20]. Based on the above discussion, we can define customer satisfaction as the customer evaluation derived from the difference between previous expectations of a product or service and the performance of it one perceives while using it [20].

Accordingly, enterprises offering products and services for customers are doing their utmost to minimize customer churn and secure customer loyalty [20]. A higher level of loyalty may contribute to increasing profit, boosting corporate morale, and improving productivity [20].

The study focused on customer attitude towards recovery after a service failure, based on previous studies. In other words, the study verifies the effect of service recovery strategies on customer attitude and intention to reuse.

2.2. Hypothesis

2.2.1. Customer Attitude on Recovery depending on Service Recovery Strategies

Service recovery strategies are a series of actions that a firm may take and they, in general, include an apology, compensation, listening, or response speed (Grönroos, 2000[21]; Johnston and Mehra, 2002) [22]. If no immediate recovery strategy is present, customer dissatisfaction will remain (Bunker and Ball, 2008) [23]. The needs-based model of Reconciliation explains a conflict between the service provider and customer with a different psychological state (Barlow and Møller, 1996) [24]. When customer dissatisfaction or complaint occurs because of a service failure, a sense of discontent or negative behavior is triggered (Shnabele and Nadler, 2008) [25]. Customers want their empowerment back and service providers to be responsible for the failure. The conflict may be resolved when the customer is satisfied with the service provider's responsible actions, which will encourage reconciliation. A study that had investigated 700 cases proposed 4 types of strategies to recover successfully from a service failure – explanation, acknowledgment, compensation, and apology (Bitner, Booms, & Tetreault. 1990).[26]

In particular, it stressed the importance of an apology. A sincere apology from a service provider implies that the provider is interested in the problem that a customer perceives. It is a useful tool for expressing understanding of and empathy towards customer complaints. An apology is

one of the major means applied in service recovery. A sincere apology after service failure is more important than compensation. Service providers should admit their service failures and convey a word of apology. Intangible recovery, such as an additional explanation of the failure, will increase the level of perceived recovery. In the end, a service provider's apology will improve the customer's evaluation of service failure [24]. The following hypotheses were set as we now know that an apology from service providers may recover a service failure and satisfy customers, based on previous studies.

Hypothesis 1. An apology will have a positive (+) effect on attitude towards recovery.

For effective management of a service failure, it is important to accurately acknowledge the problem and make tangible compensation. Compensation for damages that a firm offers to customers will shift customer dissatisfaction to satisfaction (Bitner, 1990) [27]. Compensation refers to financial settlement for customer complaints about services. Thus, customers may ask for compensation when a service failure cannot be corrected. Compensation is not mandatory for effective service recovery. However, if damage to customers is severe because of a service failure, compensation is a must (Bell and Ridge, 1992) [28]. Accordingly, the following hypothesis is set based on previous studies.

Hypothesis 2. Compensation will have a positive (+) effect on attitude towards recovery.

Listening is our basic instinct. In addition, it is a core capability in interpersonal relations. Corporate managers and operators allocate about 80% of their daily lives to communication. 60% of the communication is listening (Steil, Barker, & Watson, 1983) [29]. Listening includes one's attitude to understanding and interpreting others' words. For listening, you should be willing to listen to the words. Voice of Customer (VOC) offers an opportunity for customers to express their feelings about a service failure that they experienced (Hui & Au, 2001) [30]. It is one of the most common ways for customers to directly deliver their complaints (Singh, 1989) [31]. Thus, we need a complaint management mechanism that allows us to actively listen to customer complaints and respond properly (Richins, 1983) [32]. This may alleviate the stress that customers may feel after a service failure. Thus, listening will eventually improve the level of customer satisfaction. Accordingly, the following hypothesis is set based on previous studies.

Hypothesis 3. Listening will have a positive (+) effect on attitude towards recovery.

How fast a firm can recover from a service failure or handle customer complaints is a key to determining customer perception (Blodgett, Hill & Tax 1997) [33]. A quick response speed is crucial for service recovery prior to the customer's request (Smith, Bolton & Wagner, 1999) [2]. The speed of service recovery may have an influence on customers' propensity. Customers may regard recovery speed as a signal for efficiency, making them feel stable (Clemmer and Schneider, 1996[34]; Goodwin and Ross, 1992[35]; Smith, Bolton & Wagner, 1999[2]). According to a study in Korea, a pharmaceutical company introduced a logistics system that allows it to quickly respond to customer feedback, which ultimately satisfies customers as well as leads to efficient management. Meanwhile, service delays have a negative effect on the service quality that customers perceive. This is because service recovery effort is a critical factor in settling complaints. The faster a company handles customer complaints about a service

failure, the higher the level of customer satisfaction. And it will result in positive word-of-mouth communications and repurchase behaviors (Karatepe, 2006) [36]. Accordingly, the following hypothesis is set based on previous studies.

Hypothesis 4. Response speed will have a positive (+) effect on attitude towards recovery.

2.2.2. Moderating Effect of Service Type

[Figure 1]: Schmenner's Service Process Matrix

		Degree of interaction and customization	
		low	high
Low degree of Labour intencity		Service factory *Freight service *hotels, inns and motels *airline services *amusement parks *trucking *resort and recreation	Service shop *hospital and nursing homes *auto/electronic service centers *other repair services
High degree of Labour intencity		Mass service *Schools and colleges *wholesalers and distributors *selling of insurance policies *retailing *restaurants	Professional service *specialist doctors *lawyers and tax consultants *Engineers and architects *physicians *architects

The service process matrix considers the level of customer interaction and customization, and the level of labor intensity when offering services to customers. Based on the matrix, the service type can be classified into a service factory, mass service, service shop, professional service. Interactions are communication between humans and other humans. (Lombard, 2001 [37]). The study chose mass service (restaurant) and service shop (hospital), the contrasting service types, as moderating variables for comparison.

First, it is a mass service (restaurant) case. Mass services have a low degree of interaction and customer customization, but a high degree of labor intensity. A study classified service failures and recovery types that may occur in restaurants and identified recovery types that shift customer dissatisfaction to satisfaction (Hoffman et al., 1995) [16]. When a customer experiences a service failure, a service provider will apologize or compensate for damages, which will satisfy the customer. The customer may be dissatisfied, mainly because the service provider does not give clear feedback and respond properly. Or the customer may feel dissatisfied because of an impolite employee (Bitner, 1990) [27]. An employee who fails to satisfy the customer may be replaced with another one. In such a case, a proper apology and compensation may be more reasonable than listening [27]. A service provider should be informed with details that may settle customer complaints and provide accurate information on customer needs. With proper compensation that meets the customer's needs and expectations, service providers can prevent customer churn and negative word-of-mouth communication. The study also considered it a positive factor that satisfies customers who experience service

failure at a restaurant. Thus, listening may not have an effect, but an apology, compensation, and response speed may have a positive effect on attitude towards recovery.

Second, it is a service shop (hospital) case. The service shop (hospital) has a high level of customer interaction and customization, but a low level of labor intensity. The case includes all human and institutional actions to treat and prevent patients' diseases and injuries. Owing to the intangible aspects, an interactive perspective is important for the service quality of hospitals. Both production and consumption occur at the same time, and doctors and patients are involved in the process. A service stresses the functional aspect, so it perishes after purchase. Therefore, it is important for a service provider to manage and regulate supply-demand, and it is essential for the provider to identify the attitudes and preferences of customers. Hospital services may vary according to the level of the beneficiary's perception. Since it is a response to the service provider's capability, and emotional factor is a critical factor to consider (Donabedian, 1988)[38]. Hence, when customers are satisfied with the hospital service, they may repurchase the service and become loyal. Medical services are more customer-oriented, so listening and quick responses are more effective. This is because it is not easy for patients to conveniently change their service providers. Thus, an apology and compensation may have no effect, but listening and response speed may have a positive effect on attitude towards recovery. Accordingly, the following hypotheses are set based on previous studies.

Hypothesis 5. The effect of service recovery strategies on attitude towards recovery will be moderated by the service type.

Hypothesis 5-1. For the mass service (restaurant) type, listening may not have an effect, but an apology, compensation, and response speed may have a positive (+) effect on attitude towards recovery.

Hypothesis 5-2. For the service shop (hospital) type, an apology and compensation may not have an effect, but listening and response speed may have a positive (+) effect on attitude towards recovery.

2.2.3. Attitude towards Recovery and Intention to Reuse

In general, attitude is formed based on the knowledge you have of the characteristics of the target and creates an intention to act (Yoon, J. Y., Kwon, Y. C., & Kim, G. G. (2019) [39] (Lavidge, R.J. & Steiner, G.A. 1961) [40]. In other words, attitude is built in the process of recognition-behavior-emotion [39] (Krugman, H. E.,1965) [41]. Attitude towards recovery is related to intention, emotion, and recognition. A positive attitude towards recovery will increase the level of intention to reuse. Intention to reuse is a person's willingness to reuse a certain product or service (Wu, 2006) [42], which is like a repurchase intention. In fiercely competitive market conditions, it is crucial for companies to create new customers and retain customers who have continuously built relations with the company. Intention to reuse is an action that customers plan or expect to do in the future, and it is a personal intention to do or not to do an action[42]. It can also be described as a personal conviction and will to build an attitude towards a target and express it into an action based on customer evaluation on products or services, or cognitive-affective responses relevant to consuming behavior. Intention to reuse

is from the customer's perspective, whereas customer retention is from the corporate perspective. Intention to reuse received attention from marketing because retaining customers is more effective than attracting new customers when it comes to maximizing profit through cost reduction and sales increases. It is more effective in increasing sales because the unit cost of existing customers is higher than that of new customers (Zeithamlet, Berry, Parasuraman,1996) [43]. The cost of retaining customers is only 1/5 of the cost of attracting new customers (Reichheld and Sasser,1990[44]; Rosenberg and Czepiel, 1984[45]; Zeithaml et al.,1996) [43].

It is highly likely that a positive attitude will lead to a positive intention to reuse. It has been stated and proven in a range of studies with various groups that there is a high correlation between consumer attitude and intention to use. The positive attitude towards recovery will increase the level of intention to reuse. Accordingly, the following hypothesis was set.

Hypothesis 6. Attitude towards recovery will have a positive (+) effect on the intention to reuse.

2.2.4. Mediating Effect of Attitude towards Recovery

Attitude is a relation between a target in one's memory and the evaluation of the target. When a given attitude is activated, the attitude is used as a filter perceived by the target at that time. As a result, immediate perception of the target will combine with attitude. It means that when a person has a favorable attitude towards a given target and such attitude has been shown, the person is likely to bring a favorable result to the target.

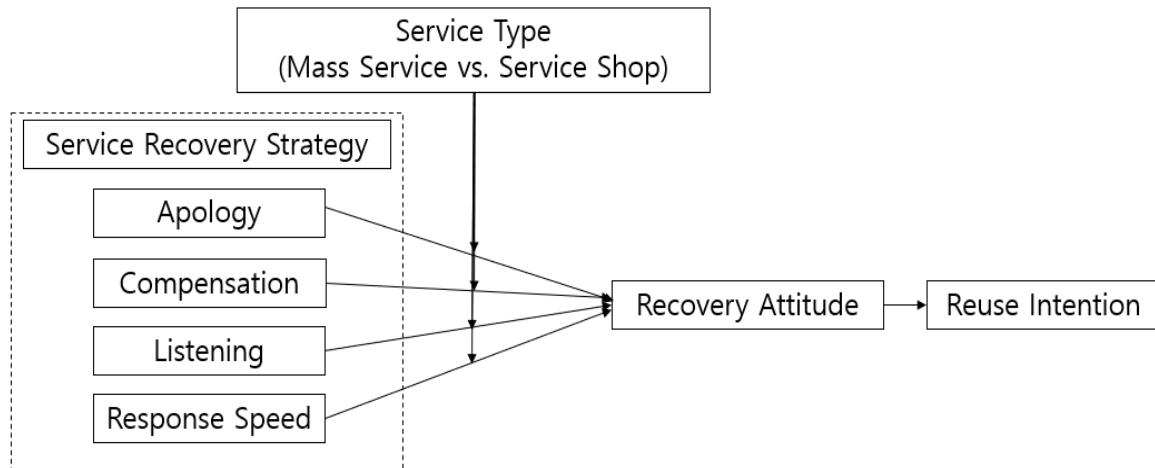
According to Fishbein and Ajzen customers perform an overall internal evaluation of a specific target and reflect the perceived preference. It leads to customer attitudes that they may feel favorable or unfavorable towards a certain target. Mackenzie, Lutz & Belch conducted a study on the mediating effect of advertising and consumer attitude towards ads and proposed a double mediating effect in which the attitude towards advertising influences attitude towards brand and brand awareness.

When service recovery strategies have a positive effect on attitude and lead to a positive attitude towards recovery, the level of intention to reuse will increase. In other words, the attitude toward recovery will have a mediating effect on strategies and intentions to reuse. Accordingly, the following hypothesis was set based on the effect of the Service Recovery Strategies type on attitude towards recovery and the effect of attitude towards recovery on intention to reuse.

Hypothesis 7. Attitude towards recovery will mediate the effect of service recovery strategies on the intention of reuse.

2.2.5. Research model

Based on the theoretical and previous works, We show the research model, as shown in [Figure 2].



[Figure 2]: Research Model

3. Experimental Design & Analysis

3.1. Study Method

3.1.1. Data Collection and Sample Design

To achieve the study purpose, the study conducted a questionnaire survey distributed offline to the public residing in Daegu and Gyeongsangbuk-do and undergraduate and graduate students of Kumho National Institute of Technology. In total, 300 copies were distributed. Excluding 22 copies with insincere or no responses and missing answers, 278 copies were included for the final analysis. Those in their 20s accounted for the largest portion of the survey participants, mostly students and company employees. The distribution of education was mainly composed of college graduates. There was only 1 type of questionnaire, and the copies were classified by numbers a researcher had marked. Questionnaire forms were distributed randomly, and respondents had to reply to all questions. Latent variables relevant to major effects were first measured to minimize the effect of personal preference and tendency. Above all, respondents had to recall a service failure that they had experienced in the past and provide answers to service recovery that a service provider had offered. Then, their attitude toward service recovery was measured. Service types were moderated variables. A question on intention to reuse was also listed in the questionnaire. Demographic questions were placed in the last part of the questionnaire form. We gave a return gift (a set of toothpaste and toothbrushes) to all respondents to increase the level of loyalty in the questionnaire survey.

3.1.2. Stimuli Development and Manipulation Check

The study aimed to verify whether service recovery strategies (apology, compensation, listening, and response speed) have a significant effect on attitude towards recovery and intention to reuse with experiments. Additionally, each service type was verified to identify whether different service types moderated the relationship between service recovery strategies and attitude towards recovery. Experimental stimuli started with respondents recalling a service that they had experienced. No manipulation check was necessary because respondents had to

give answers regarding the service type, complaints, expectations, and feelings or thoughts on recovery. First, they chose the service type and replied to questions regarding 4 different service recovery strategies. Then, they were given questions on attitude towards a service provider's recovery strategies. Finally, a question on intention to reuse was given. There was only 1 type of questionnaire form.

3.1.3. Measurements of Variables

Service recovery is a series of actions that a service provider takes after a service failure. Four strategies were applied as independent variables: apology, compensation, listening, and response speed. The apology translated five items using the Liao, Bradley & Sparks scales. And it was used on the Likert 7-point scale (1=not at all, 7=very much so). The compensation was translated using the Varela-Neira, Vázquez-Casielles and V. Iglesias, Liao and Bradley and Sparks scales. And it was used on the Likert 7-point scale (1= not at all, 7= very much so). The listening was used on the scales of Homburg, Furst & Koschat, Smith and Karwan, Robertson and Shaw. And it was used on the Likert 7-point scale (1=not at all, 7=very much so). Finally, the response speed was used as a Likert 7-point scale (1= not at all, 7= very much so) by referring to the study of Ahasan Harun and Gayle Prybutok.

There are only a few preceding studies on the effect of service recovery strategies on customer attitude towards recovery. The study explained the attitude based on the concept described in the study conducted by Fishbein & Ajzen. Fishbein & Ajzen defined attitude as customer tendency that may be favorable or unfavorable towards a specific object. Based on the definition, the study investigated whether customers had been satisfied or dissatisfied with the service recovery that a service provider offered after a service failure. To this end, Bhattacharjee ; Six scales of Brock, Evanschitzky, and Kenning, were used, and a Likert seven-point scale (1 = not at all, 7 = very much so) was used. Intention to reuse is customers' intention to purchase products or send beliefs which are a person's subjective state. To measure this, 4 items were translated using the Park Jong-won, Yoon Seong-jun & Choi Dong-chun and Koh Jae-gon scales, and a Likert 7-point scale (1 = not at all, 7 = very much) was used.

3.2. Validity & Reliability of Measurement Tools.

The SPSS 22 statistical package comprised of exploratory factor analysis, KMO (Kaiser-Meyer-Olkin) and Bartlett tests were used to validate the scale. First, for factor analysis, a principal component analysis (PCA) was applied to reduce factors, and VARIMAX, an effective analysis tool, was adopted to simplify and clarify the factor structure. Factor loading was 0.698 or above, which indicates that the factors were all key variables. Second, the KMO test indicates how well the correlation between variables is explained with other variables. According to the test, the variables achieved 0.7 or above, indicating reasonable goodness of fit. Finally, the Bartlett test demonstrates whether a factor analysis model is appropriate. The null hypothesis is rejected at $p < 0.05$. The significance probability of all variables applied in the study was $p < 0.05$, which means that the factor analysis is appropriate with a common factor. A reliability test is used to determine whether the same value is measured when the measurement is repeated with the same concept. This shows the measurement tools' precision or accuracy. Cronbach-alpha was 0.77 or above, which ensures internal consistency.

3.3. Confirmatory Factor Analysis & Discriminant Validity

3 methods, such as “ λ -value”, “AVE (average variance extracted)” and “C.R. (construct reliability)” is used to confirm convergent validity. The λ -value is desirable when the standardized estimates are 0.7 or above and appropriate when they are 0.5 or above. Thus, the measured “ λ -value” in the study makes it valid. AVE should have an explanatory power of 50% or more, that is $AVE > 0.5$. Therefore, convergent validity was confirmed with the valid standardized estimates.

There were 2 ways to determine discriminant validity. With the first method, the estimated AVE was used to compare the squares of correlation coefficients. It was confirmed appropriately with valid estimates. With the second method, it was found that all items between $(\lambda - 2) * SE$ and $(\lambda + 2) * SE$ values do not include 1. Therefore, discriminant validity was confirmed.

variables	1	2	3	4	5	AVE
apology	1					.768
compensation	.491	1				.628
listening	.383	.314	1			.387
response speed	.555	.472	.537	1		.734
attitude towards service recovery	.598	.536	.534	.752	1	.791
reuse intention	.452	.444	.397	.610	.745	.855

[Table3.3.] Discriminant validity -I.

path		Estimates	S.E.	$(\lambda - 2) * SE$	$(\lambda + 2) * SE$	
apology	↔	compensation	.701	.191	-.248	.516
apology	↔	listening	.619	.142	-.196	.372
apology	↔	RS	.745	.190	-.238	.522
apology	↔	ATSR	.773	.192	-.236	.532
RI	↔	apology	.672	.199	-.264	.532
compensation	↔	listening	.560	.135	-.194	.346
compensation	↔	RS	.687	.183	-.240	.492
compensation	↔	ATSR	.732	.186	-.236	.508
RI	↔	compensation	.666	.197	-.263	.525
listening	↔	RS	.733	.148	-.186	.404

listening	↔	ATSR	.731	.148	-.188	.404
RI	↔	listening	.630	.150	-.206	.395
RI	↔	ATSR	.867	.196	-.222	.562
RI	↔	RS	.781	.203	-.247	.565
RI	↔	ATSR	.863	.211	-.240	.604

[Table3.3.] Discriminant validity -II.

3.4. Goodness of Fit Test for Analysis Model

According to the goodness of fit test for the analysis model, the absolute fit index was .912, GFI was .981 and RMSEA was .031, indicating the best fit. The NNFI from the comparative fit index was .986, indicating the best fit. The CFI result was 1, showing a very good fit. The RFI (relative fit index) result was .954, showing a good fit. As a result of estimates from the goodness of the fit test, it can be said that the analysis model is overall fit.

division	index name	reference	measured value	results
Absolute fit index	GFI	>.900	.981	good
	AGFI	>.850	.912	good
	RMSEA	<.060	.005	good
	S-RMR	<.080	.031	good
relative fit index or incremental fit index	NNFI(TLI)	>.950	1.00	good
	NFI	>.900	.986	good
	CFI	>.950	1.00	good
	RFI	0~1	.954	good

[Table3.4.] Study model fit

3.5. Hypothesis testing and path model analysis

3.5.1. Path Model Analysis

The study used 4 different service recovery strategies (apology, compensation, listening, and response speed) as independent variables, attitude towards recovery as mediating variables, and intention to reuse as dependent variables. 2 service types (Mass service vs. Service shop) were used as moderating variables. The statistical hypothesis of the testing results is described below.

path	standardized estimates	unstandardized estimates		
		S.E.	C.R.	P
ATSR ← apology	.158	.059	2.614	***
ATSR ← compensation	.143	.059	2.658	***
ATSR ← listening	.171	.071	3.077	***
ATSR ← response speed	.532	.062	7.612	***
RI ← apology	-.039	.065	-.676	.499
RI ← compensation	.147	.066	2.847	***
RI ← listening	-.039	.082	-.716	.474
RI ← response speed	.149	.081	1.919	*
RI ← ATSR	.628	.089	8.242	***

p=.000(***), p<.01(**), p<.05(*)

[Table3.5.1.] Path model analysis

Among service recovery types, apology has a positive (+) effect on recovery attitude (standardization coefficient = .158, $p < .05$). Compensation has a positive (+) effect on recovery attitude (standardization coefficient = .143, $p < .05$). Listening has a positive (+) effect on recovery attitude (standardization coefficient = .171, $p < .05$). The response speed has a positive (+) effect on the recovery attitude (standardization coefficient = .158, $p < .05$). Therefore, Hypothesis 1, Hypothesis 2, Hypothesis 3, and Hypothesis 4 were all accepted. The recovery attitude has a positive (+) effect on the intention to reuse (standardization coefficient = .628, $p < .05$). Therefore, hypothesis 7 was accepted.

3.5.2. Analysis of Total Effect, Direct Effect, and Indirect Effect

The study examined the mediating effect of variables included in each route of the entire study model.

The standardized coefficient measured for an apology, one of the service recovery strategies, in relation to the intention to reuse was -.039, $p > .05$, showing no direct effect. Analyzing the indirect effect, the standardized coefficient was .099, $p < .05$, indicating that an apology acts as full mediation between attitude towards recovery and intention to reuse. Listening also acted as full mediation. However, compensation and response speed acted as partial mediation because their direct or indirect effect was significant. Therefore, Hypothesis 6 was adopted.

path	matrices effect		
	total	direct	indirect
ATSR ← apology	.158(***)	.158(***)	-
ATSR ← compensation	.143(***)	.143(***)	-
ATSR ← listening	.171(***)	.171(***)	-
ATSR ← response speed	.532(***)	.532(***)	-
RI ← apology	.060	-.039(.499)	.099(*)
RI ← compensation	.237	.147(***)	.090(*)
RI ← listening	.068	-.039(.474)	.107(**)
RI ← response speed	.484	.149(*)	.334(***)
RI ← ATSR	.628(***)	.628(***)	-

p=.000(***), p<.01(**), p<.05(*)

[Table3.5.2.] Total effect, direct effect, indirect effect

3.5.3. Analysis of Moderating Effect

3.5.3.1. Moderating effect of mass service (restaurant)

Apology (standardized coefficient = .152, p<.05) and compensation (standardized coefficient = .208, p<.05) had a positive (+) effect on attitude towards recovery and they were of significance. However, listening (standardization coefficient = .129, p>.05) had a positive (+) effect on attitude towards recovery, but it was not of significance. In both Hospital and Restaurant cases, the response speed (standardization coefficient = .485, p<.05) still had a positive (+) effect on attitude towards recovery and it was of significance. Therefore, Hypothesis 5-1 was adopted.

path	standardized estimates	unstandardized estimates		
		S.E.	C.R.	P
ATSR <--- apology	.152	.065	2.158	*
ATSR <--- compensation	.208	.068	2.968	***
ATSR <--- listening	.129	.090	1.736	.082
ATSR<---response speed	.485	.076	5.950	***
RI <--- apology	-.073	.070	-1.062	.288

RI <--- compensation	.176	.074	2.551	**
RI <--- listening	.022	.096	.303	.762
RI <--- response speed	.100	.092	1.126	.260
RI<--- ATSR	.682	.101	7.543	***

p=.000(***), p<.01(**), p<.05(*)

[Table3.5.3.1.] Moderating effect of mass service (restaurant)

3.5.3.2. Moderating effect of service shop (hospital)

Apology (standardized coefficient = .216, p>.05) and compensation (standardized coefficient = .069, p>.05) had a positive (+) effect on attitude towards recovery, but they were not of significance. On the other hand, listening (standardized coefficient = .266, p<.05) and response speed (standardized coefficient = .508, p<.05) had a positive (+) effect on attitude towards recovery and they were of significance. Therefore, Hypothesis 5 and Hypothesis 5-2 were adopted.

path	standardized estimates	unstandardized estimates		
		S.E.	C.R.	P
ATSR <--- apology	.216	.136	1.674	.094
ATSR <--- compensation	.069	.123	.668	.504
ATSR <--- listening	.266	.119	3.101	***
ATSR<---response speed	.508	.109	4.479	***
RI <--- apology	.079	.177	.515	.606
RI <--- compensation	.053	.156	.436	.663
RI <--- listening	-.196	.167	-1.789	.074
RI <--- response speed	.209	.168	1.316	.188
RI<--- ATSR	.637	.192	3.624	***

p=.000(***), p<.01(**), p<.05(*)

[Table3.5.3.2.] Moderating effect of service shop (hospital)

4. Conclusion

4.1. Summary

The study was conducted to investigate customer attitude towards recovery when a service provider applied effective service recovery strategies after a service failure. Additionally, the

study examined what changes were made to customer attitude to recovery after a service provider performed recovery for each service type. Then, it was found that customer behavior can be predicted according to service recovery efforts. Yet, when a service provider fails to quickly admit a service failure and does not engage in recovery activities, it may lead to customer complaints and damage to brand images, which may ultimately result in a decline in corporate profitability. Hence, we now know that service recovery is crucial to recovering from a service failure. Based on this, the study investigated the effect of service recovery strategies (apology, compensation, listening, and response speed) on attitude towards recovery and intention to reuse.

Properly implemented service recovery strategies will improve customers' perception of attitude towards recovery. It is crucial to effectively apply them because they will improve customer satisfaction, build favorable relations with customers, and prevent the loss of customers. As you know that failed service recovery strategies can be more negative than the initial service failure, it is important for a service provider to settle customer complaints quickly and effectively with recovery strategies. This will prevent customers from building negative brand images and telling bad stories to potential customers. Through this study, it was possible to reconfirm the research results that the service recovery strategy not only means responding to a service failure but rather brings a synergistic effect on the company's image and strengthens customer loyalty to the company.

4.2. Implication

In this study, the effect of service recovery strategy on recovery attitude differed according to service type. That is, in the case of mass service (restaurant) type, listening had no effect, but apology, compensation, and response speed had a positive (+) effect on recovery attitude. However, in the case of service shop (hospital) type, apology and compensation had no effect, but listening and response speed had a positive (+) effect on recovery attitude. Therefore, it is necessary to perform an appropriate recovery strategy according to the service type. In other words, it implies that offering suitable service recovery to customers for service failures has a positive effect on the intention to reuse.

4.3. Limitation & Improvement

The study was conducted with a questionnaire survey in random sampling focused on people residing in Daegu and Gyeongsangbuk-do. Thus, it cannot be generalized owing to the biased areas. It is necessary to conduct further studies with an expanded study scope targeting various areas and countries. Additionally, the study was limited to restaurants and hospitals. They may not reflect all customer complaints or discomfort in general circumstances. Therefore, a broader study with a range of service types needs to be carried out.

It would be meaningful to conduct studies based on the characteristics of and preceding studies on procedural justice, distributive justice, and interactional justice with the justice theory on service recovery strategies. It would be more useful in establishing effective service recovery strategies when there is preceding research on justice theory and service recovery efforts. Additionally, 3 types in the justice theory, procedural justice, distributive justice, and

interactional justice, can be set as antecedent variables to conduct studies on how they influence customer attitude towards recovery. New study results are expected from those studies.

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