

Satisfaction and post-purchase intentions with service recovery of online shopping websites: Perspectives on perceived justice and emotions

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ABSTRACT

This study explores post-recovery satisfaction and post-purchase intentions with service recovery of online shopping customers from the perspectives on perceived justice and emotions based on twenty scenarios that combine five service failures and four recoveries. Analytical results indicating that in addition to enhancing post-purchase intentions and post-recovery satisfaction among customers, distributive justice increases positive emotions and decreases negative ones. Additionally, procedural justice enhances post-recovery satisfaction as well as increases positive emotions and decreases negative ones, while interactional justice only increases post-recovery satisfaction of customers. Moreover, while positive emotions increase post-recovery satisfaction, and vice versa. Post-recovery satisfaction positively affects post-purchase intentions. Results of this study provide a valuable reference for operators and managers of online shopping websites.

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1. Introduction

The inseparable and intangible nature of services makes it difficult for service providers to avoid service failures during service delivery. Customers experiencing a service failure may convey their dissatisfaction to others through negative word-of-mouth and a negative sentiment towards the offending service provider, adversely impacting customers, profits, and even company reputation (Bitner, Brown, & Meuter, 2000). Most customers whom encounter a service failure anticipate service recovery (Blodgett, Hill, & Tax, 1997; Goodwin & Ross, 1992; Holloway & Beatty, 2003). Via effective recovery strategies, service providers can still appease unsatisfied customers, increase the customer retention rate (McCullough, Berry, & Yadav, 2000) and even foster a long lasting relation with dissatisfied customers (Kelley, Hoffman, & Davis, 1993), ultimately making them loyal ones (Boshoff, 1997).

Despite the numerous studies on service failure and service recovery, most focus on physical providers of services. Rapid advances of e-commerce in recent years have increased the prevalence of online shopping as a vital business model. Even so, online shopping failure is still inevitable. When service failure occurs, service providers must take appropriate recoveries to return dissatisfied customers to a state of satisfaction, enhance customer retention rate and even help build long-term relationships that

make customers loyal. Therefore, online shopping service failure and recovery strategies have become important issues for academics and practitioners (Holloway & Beatty, 2003). While many researchers (e.g., Collier & Bienstock, 2006; Forbes, Kelley, & Hoffman, 2005; Holloway & Beatty, 2003, 2008; Kuo, Yen, & Chen, 2011; Wang, Wu, Lin, & Wang, 2010) have extended service failure and service recovery research in cyberspace, most have focus on the typology of online retailing service failures and recoveries as well as seldom explore the relationships between customer post-recovery satisfaction and post-purchase intentions with service recoveries in the context of online retailing.

Justice theory has received many attentions as a theoretical framework for service recovery studies (Ha & Jang, 2009; Hoffman & Kelley, 2000; Maxham III, 2001; Schoefer, 2008; Smith, Bolton, & Wagner, 1999; Sparks & McColl-Kennedy, 2001; Tax, Brown, & Chandrashekar, 1998; Wirtz & Mattila, 2004). Prior studies have pointed out that perceived justice is identified as a key cognitive influence in the formation of subsequent customer satisfaction and post-purchase intentions in service recovery situations (del Río-Lanza, Vázquez-Casielles, & Díaz-Martín, 2009; Ha & Jang, 2009; McColl-Kennedy & Sparks, 2003; Schoefer, 2008). Additionally, customer emotions triggered by service recovery encounters affect satisfaction (Chebat & Slusarczyk, 2005; del Río-Lanza et al., 2009; Schoefer & Ennew, 2005; Smith & Bolton, 2002). Although emotions are also considered as playing an important role in customers evaluating service failures and perceptions of service recovery experiences (Bagozzi, Gopinath, & Nyer, 1999; Schoefer & Diamantopoulos, 2008; Weiss, Suckow, & Cropanzano, 1999), empirical investigations of emotional responses of customers to

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service recovery encounters are seldom evaluated (del Río-Lanza et al., 2009). Additionally, perceived justice usually represents a cognitive appraisal concept, whereas its effects have been shown to be both emotional and behavioral following service recovery experiences (Chebat & Slusarczyk, 2005; Schoefer & Ennew, 2005). The integration of emotions within the perceived justice of service recovery seems a necessary step to better understand what drives customers' evaluative judgments in a recovery situation. In the e-shopping context, to the best of our knowledge, no empirical study has specifically addressed how customers' cognitive justice perceptions and emotional responses to service recovery encounters combine to influence subsequent customer satisfaction and post-purchase intentions with service recovery. Therefore, this study investigates post-recovery satisfaction and post-purchase intentions with service recovery of online shopping customers from the perspectives on perceived justice and emotional responses to fill this important gap. Based on those results, suggestions are provided to operators and managers of online shopping websites.

The rest of this paper is organized as follows. Section 2 reviews relevant literature on service failures and recoveries of online shopping and constructs of this study, and then develops research hypotheses. Next, Section 3 describes the research methodology and research design. Additionally, Section 4 summarizes the analytical results. Discussion and conclusions are finally drawn in Section 5.

2. Literature review and hypotheses development

This section reviews the theoretical framework for this study, including factors such as online retail service failure and recovery, post-purchase intentions, perceived justice, emotions, and post-recovery satisfaction as well as develops the research hypotheses as follows.

2.1. Online retail service failure and recovery

As a real or perceived service-related calamity, service failures occur during interaction with a customer's experience with a firm (Maxham III, 2001). Service recovery refers to how service providers respond to a service failure (Gronroos, 1988). As for classifying service failures, the typology of Bitner, Booms, and Tetreault (1990) has received the most attention in subsequent research (e.g., Forbes et al., 2005; Hoffman, Kelley, & Rotalsky, 1995; Kelley et al., 1993), including three main groups such as employee response to service delivery system failures, employee response to customer needs and requests, and unprompted and unsolicited employee actions. Service recovery strategies can be classified tangibly into psychological and tangible strategies (Miller, Craighead, & Karwan, 2000). Psychological recovery strategies refer to actions that can directly improve customer psychological dissatisfaction, such as apology and explanation, while tangible recovery strategies provide tangible compensation, such as a free service, refund, gift, discount, and coupon, to reduce customer practical loss.

With the popularity of online shopping, many researchers have engaged in service failure research. For instance, Holloway and Beatty (2003) classified service failures in online shopping into delivery, web site design, customer service, payment, security, as well as miscellaneous and others. They further classified the dimensions of dissatisfiers and satisfiers in an online environment into website design, interaction, fulfillment/reliability, customer service, and security/privacy (Holloway & Beatty, 2008). The dimension implying the greatest dissatisfaction is fulfillment/reliability, while the dimension implying the most satisfaction is website design/interaction. By surveying customers on service failure and recovery in online shopping, Forbes et al.

(2005) classified service failures of online retailers into two groups and ten categories, including (1) response to service delivery system/product failure: slow/unavailable service, system pricing, packaging errors, out of stock, product defect, bad information, and web site system failure; and (2) response to customer needs and requests: special order/request, customer error, and size variation, as well as identification of eleven types of service recovery including discount, correction, correction plus, replacement, apology, refund, store credit, unsatisfactory correction, failure escalation, nothing, and replacement at brick-and-mortar. Kuo et al. (2011) proposed three groups and eighteen categories of service failures as well as ten recovery strategies to be aimed at online auction. Compared with shopping websites (Forbes et al., 2005), online auction revealed a new group of failures, "unprompted and unsolicited seller actions", and four different categories, including "policy failure", "hold disaster", "alterations and repairs" and "gap between expectation and perception". However, "website system failure" in shopping websites is absent in an online auction. Additionally, online auction recoveries are similar to the recoveries used in shopping websites.

2.2. Post-purchase intentions

Post-purchase intentions have been frequently used as a basis for predicting customers' future behaviors (Kuo, Wu, & Deng, 2009). It can be defined as customers' intentions to repurchase products or services from the same retailer and spread their experience of buying and using the product or service to their friends (Wang, Pallister, & Foxall, 2006; Zeithaml, Berry, & Parasuraman, 1996). Post-purchase intentions can be classified into economic behavioral intentions and social behavioral intentions (Smith et al., 1999). Economic behavioral intentions refer to customers' behavioral reactions in the financial aspect, such as repurchase intention (Anderson & Mittal, 2000; Maxham III, 2001; Maxham III & Netemeyer, 2002, 2003). Repurchase intention is an expression of customer loyalty, which is critical if the vendor is to succeed (Kim & Son, 2009; Qureshi et al., 2009; Zhang et al., 2011). While social behavioral intentions refer to cognitive reactions of customers to the delivery of services for service providers, such as complaining behavioral intentions (Tax et al., 1998) and word-of-mouth communication intentions (Maxham III, 2001; Maxham III & Netemeyer, 2002, 2003).

2.3. Perceived justice

Justice theory originates from social exchange (Homans, 1961) and equity theory (Adams, 1965). In an exchange, the cost or price of product or service must be equivalent to the gains. If the cost is higher than the gains, actions can be taken to reduce the level of unfairness. Konovsky (2000) mentioned that perceive justice is indispensable to research on how individuals react to a conflict. Because service failures are typical conflicts, service recovery actions taken to cope with a service failure can be evaluated based on perceived justice.

In practice, recovery strategies of a firm are normally evaluated using the three components of justice, namely distributive justice, procedural justice, and interactional justice (Chebat & Slusarczyk, 2005; Collier & Bienstock, 2006; del Río-Lanza et al., 2009; Maxham III & Netemeyer, 2003; Schoefer, 2008; Schoefer & Ennew, 2005; Wirtz & Mattila, 2004). "Distributive justice" refers to whether the failed customer has received monetary compensation. Most failed customers can perceive distributive justice of a recovery action after they have received a discount, coupons, refund, free giveaways or alternative goods as compensation from the offending service provider (Blodgett et al., 1997; Goodwin & Ross, 1992; Hoffman & Kelley, 2000; Tax et al., 1998). Distributive justice can be

evaluated by customer perception of the fairness, equality, necessity, and value of the compensation (Blodgett et al., 1997; Maxham III & Netemeyer, 2003; Smith et al., 1999; Tax et al., 1998; Wirtz & Mattila, 2004).

Defined as customer perceptions of the recovery process, procedural justice focuses on the flexibility and efficiency of the recovery policies or rules. Failed customers can perceive procedural justice of a recovery action when the offending company admits the failure, attempts to rectify the mistake timely, and adjusts its recovery strategy in line with customer demands. Procedural justice can generally be evaluated as to whether customers can freely express their opinions, recovery efficiency of the offending company, dominance over the outcome, easiness of making complaints, flexibility, instantaneity, transparency of the recovery process, and appropriateness of the recovery action or policy (Blodgett et al., 1997; Chebat & Slusarczyk, 2005; Maxham III & Netemeyer, 2003; Smith et al., 1999; Tax et al., 1998; Wirtz & Mattila, 2004).

Interactional justice refers to the extent of fairness in which service providers communicate with and treat failed customers. Most failed customers perceive interactional justice of a service recovery action when the offending service providers are willing to communicate with them courteously, honestly, and empathetically while attempting to solve a problem and communicate with customers (Goodwin & Ross, 1992; Maxham III & Netemeyer, 2003; Tax et al., 1998; Wirtz & Mattila, 2004). Interactional justice is generally evaluated by reliability, clear explanation of the problem, sincerity, apologetic attitude, communication, politeness, respect, detailed attention to problems, willingness to hear complaints, and resolve to solving the problem (Blodgett et al., 1997; Smith et al., 1999; Wirtz & Mattila, 2004).

Service recovery is essential owing to the inevitability of service failures. Improperly handling service complaints may yield negative word-of-mouth and low repurchase intentions (Tax & Chandrashekar, 1992). Additionally, customers do not easily forget or forgive unfair handling of service failures (Seiders & Berry, 1998). However, a situation in which service providers offer refund or discounts to redress a service failure and handle a failure politely allows them to induce customers' word-of-mouth and increase their repurchase intention (Blodgett et al., 1997). According to research on service failures in online retailing, a higher perceived procedural justice of service recovery implies a higher motivation for positive word-of-mouth, while a higher perceived interactional justice implies a higher repurchase intention (Maxham III & Netemeyer, 2003). Ha and Jang (2009) also suggested that perceived justice positively affects the post-purchase intentions of customers. **Hypothesis 1** is thus proposed as follows:

H1a. Perceived distributive justice positively influences post-purchase intentions in online shopping websites.

H1b. Perceived procedural justice positively influences post-purchase intentions in online shopping websites.

H1c. Perceived interactional justice positively influences post-purchase intentions in online shopping websites.

2.4. Emotions

Emotions refer to affective states of an individual that are specific to certain events or one's own thoughts (Bagozzi et al., 1999). Studies (Cacioppo & Gardner, 1993; Cacioppo, Gardner, & Berntson, 1997; Watson, Clark, & Tellegen, 1988) show that emotions consist of two dominant dimensions including positive and negative. Positive emotion is related to contentment, happiness, love, and pride, whereas negative emotion is related to anger, fear, sadness, and shame (Laros & Steenkamp, 2005). Positive and negative emotions are independent across a range of time frames (Watson

et al., 1988) and have distinct and asymmetrical effects on behavior (Cacioppo & Gardner, 1993; Cacioppo et al., 1997). Customers tend to become intensely emotional during service recovery, emotional responses that will largely determine their future relation with the service provider (Smith & Bolton, 2002). Emotions are increasingly viewed as essential in researching how customers evaluate service failure and recovery (Bagozzi et al., 1999; Schoefer, 2008; Schoefer & Diamantopoulos, 2008; Weiss et al., 1999). Schoefer and Diamantopoulos (2008) mentioned that emotions are seldom addressed in service recovery research, and a valid and reliability measurement scale for emotions is lacking. That study developed experienced emotions during service recovery encounters (ESRE) scale to evaluate emotional responses among customers during and after service recovery.

Customers often experience emotions when perceiving the justice of a service recovery strategy (Schoefer, 2008). Many researchers (e.g., Chebat & Slusarczyk, 2005; del Río-Lanza et al., 2009; Schoefer, 2008; Schoefer & Ennew, 2005; Weiss et al., 1999; William, 1999) studied post-recovery customer emotions under the framework of perceived justice. Their findings suggest that low perceived justice leads to highly negative emotions (anger, fury, and unhappiness) and low positive emotions (happiness, pleasure, and joy) (Schoefer & Ennew, 2005). Customers may display furious emotions if they are displeased with the recovery outcome or perceive injustice of the recovery process (Weiss et al., 1999). Increasing the level of distributive justice raises pleasant emotions, while decreasing that of distributive justice makes customers angry and disappointed (William, 1999). Chebat and Slusarczyk (2005) also found a similar phenomenon in service recovery measures adopted in the banking industry. Increasing distributive justice, procedural justice, and interactional justice can reduce negative emotions in customer, while increasing distributive justice and interactional justice can heighten positive emotions in customers. Additionally, a higher procedural justice that customers perceive implies greater positive emotions (Schoefer, 2008) and lower negative ones (del Río-Lanza et al., 2009). **Hypothesis 2** is thus proposed as follows:

H2a. Perceived distributive justice positively influences positive emotions in online shopping websites.

H2b. Perceived distributive justice negatively influences negative emotions in online shopping websites.

H2c. Perceived procedural justice positively influences positive emotions in online shopping websites.

H2d. Perceived procedural justice negatively influences negative emotions in online shopping websites.

H2e. Perceived interactional justice positively influences positive emotions in online shopping websites.

H2f. Perceived interactional justice negatively influences negative emotions in online shopping websites.

2.5. Post-recovery satisfaction

In this customer-oriented era, all enterprises pursue customer satisfaction as essential to gaining sustainable growth and competitive advantages (Deng, Lu, Wei, & Zhang, 2010; Udo, Bagchi, & Kirs, 2010). Customer satisfaction also plays a crucial role in service recovery and directly affects customers' attitude and intentions (Holloway, Wang, & Parish, 2005). Post-recovery satisfaction refers to customers' overall satisfaction with the secondary service (remedial action) of a service provider after a service failure; it is different from customers' satisfaction with the first service encounter. Therefore, post-recovery satisfaction also refers to as secondary satisfaction (Harris, Grewal, Mohr, & Bernhardt, 2006; McCollough et al., 2000; Smith et al., 1999; Tax et al., 1998).

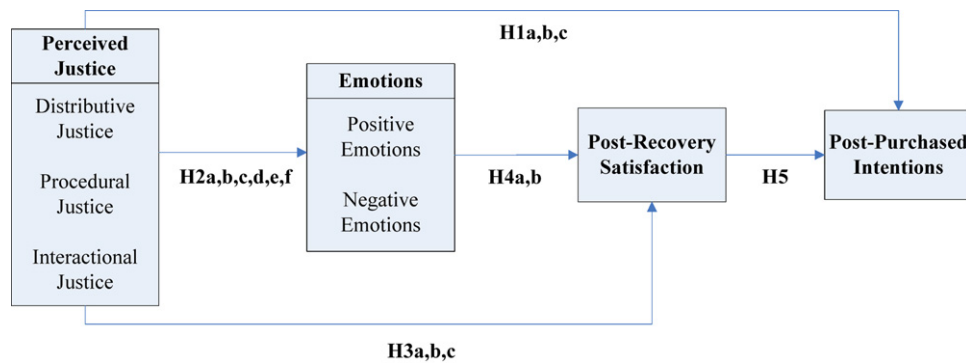


Fig. 1. Research model.

Post-recovery satisfaction has been extensively adopted to evaluate the level of perceived justice (del Río-Lanza et al., 2009; Mattila & Patterson, 2004; Maxham III & Netemeyer, 2002, 2003; Schoefer, 2008). While surveying the service recovery of banks, Maxham III and Netemeyer (2002) found that post-recovery satisfaction of customers increases with a rising of perceived distributive justice and interactional justice. This finding is consistent with the study of Mattila and Patterson (2004) on service recovery measures in different cultures. While examining online shopping of electronic devices, Maxham III and Netemeyer (2003) found that distributive justice and procedural justice increase post-recovery satisfaction. Schoefer (2008) and del Río-Lanza et al. (2009) suggested that distributive justice, procedural justice, and interactional justice increase post-recovery satisfaction. A situation in which service providers view the components of perceived justice from customer perspective allow them to more thoroughly understand customer perceptions of justice and enhance post-recovery satisfaction among customers. Hypothesis 3 is thus proposed as follows:

H3a. Perceived distributive justice positively influences post-recovery satisfaction in online shopping websites.

H3b. Perceived procedural justice positively influences post-recovery satisfaction in online shopping websites.

H3c. Perceived interactional justice positively influences post-recovery satisfaction in online shopping websites.

Various customer emotions may arise during consumption (including before, during, and after consumption); such emotions influence their assessment (such as satisfaction) of the service provider (Oliver, 1997). Clarifying emotional responses among customers thus facilitates service providers in improving post-recovery satisfaction of customers (Smith & Bolton, 2002) and recovery from service failures (del Río-Lanza et al., 2009). Schoefer and Ennew (2005) asserted that customer emotions are an antecedent of post-recovery satisfaction. Other studies also suggest that positive emotions facilitate increased post-recovery satisfaction (Schoefer, 2008), while negative emotions only reduce it (del Río-Lanza et al., 2009; Schoefer, 2008; Smith & Bolton, 2002). Hypothesis 4 is thus proposed as follows:

H4a. Positive emotion positively influences post-recovery satisfaction in online shopping websites.

H4b. Negative emotion negatively influences post-recovery satisfaction in online shopping websites.

Post-purchase intentions can be viewed as a result of customer satisfaction (Anderson & Mittal, 2000). While examining the service failures of online retailers, Collier and Bienstock (2006) found that customer dissatisfaction with recovery measures affects their future behavioral intentions, such as switching and negative word-of-mouth. However, customers having experienced

satisfactory recovery from a service failure not only engage in positive word-of-mouth communications (Holloway et al., 2005) but also have persistent and more faith in online shipping (Montoya-Weiss, Glenn, & Grewal, 2003) and higher repurchase intentions (Holloway et al., 2005). Hypothesis 5 is thus proposed as follows:

H5. Post-recovery satisfaction positively influences post-purchase intentions in online shopping websites.

Fig. 1 shows the model relationships and hypotheses.

3. Research methodology

3.1. Experiment and questionnaire design

Simulated service failure and recovery scenarios were used in our survey. Via these virtual scenarios, respondents' reactions in each service failure and recovery context can be understood as if they were realistically involved in it. In contrast with the conventional method of asking respondents to answer questions based on their memory, this method can more effectively avoid biases caused by fading of memory, reasonable tendency, and consistency factors, subsequently yielding a representative sample more efficiently and at a lower cost (Smith et al., 1999). Given the infrequency of service failures, simulating the scenarios allows us to more accurately present common service failures and recovery strategies of online shopping websites.

This study designed the scenarios by considering various service failures and recovery strategies and manipulating variables. According to related literature (Forbes et al., 2005; Holloway & Beatty, 2003, 2008), this study classified common service failures of online shopping websites into delivery failure, system failure, product quality failure, website security failure, and customer support failure. Based on the tangibility of recovery strategies, four recovery strategies were identified, including tangible recovery strategy, psychological recovery strategy, strategy with neither tangible nor psychological recovery, and strategy with both tangible and psychological recovery. Totally, 20 scenarios were designed based on the above five failures and four recovery strategies. Each scenario was designed based on previous literature and practical circumstances. Given that the ratios of female and male online shoppers vary across different categories of goods (Chan, 2008), this study attempted to reduce the interference of product information differences by selecting a good from the top five popular wears products among both female and male shoppers (Chan, 2008). Finally, a shoes brand priced at NT\$999 was selected as the product for testing in our scenarios.

An attempt was also made to verify the adequacy of experimental design and the amount of tangible compensation by inviting twenty experts and long-term online shoppers to evaluate not only the highest possible amount of compensation that online shopping

Table 1
Constructs and items included in the questionnaire.

Construct	Item	Measurement	References		
Perceived Justice (PJ)	Perceived Distributive Justice (PDJ)	PDJ1	Considering the trouble caused and the time lost, the compensation I received from this shopping website was acceptable.	del Río-Lanza et al. (2009)	
		PDJ2	This shopping website took good compensation measures to solve the problem.		
		PDJ3	This shopping website's efforts were sufficient to offer a satisfactory compensation.		
		PDJ4	I think this shopping website was quite fair when compensating me for the problem that occurred.		
	Perceived Procedural Justice (PPJ)	PDJ5 ^a	In general, this shopping website was able to compensate me adequately to solve the problems it had in the delivery of the service.		
		PPJ1	I think my problem was resolved in the right way.		
		PPJ2 ^a	I think this shopping website has good policies and practices for dealing with problems.		
		PPJ3	Despite the trouble caused by the problem, this shopping website was able to respond adequately.		
		PPJ4	This shopping website proved flexible in solving the problem.		
		PPJ5 ^a	This shopping website tried to solve the problem as quickly as possible.		
		Perceived Interactional Justice (PIJ)	PIJ1		The employees in this shopping website showed interest in my problem.
			PIJ2		The employees in this shopping website did everything possible to solve my problem.
			PIJ3 ^a		The employees in this shopping website were honest when dealing with my problem.
			PIJ4		The employees in this shopping website proved able and to have enough authority to solve the problem.
			PIJ5 ^a		The employees in this shopping website dealt with me courteously when solving the problem.
PIJ6	The employees in this shopping website showed interest in being fair when solving the problem.				
PIJ7 ^a	The treatment and communication with employees of this shopping website to solve the problem were acceptable.				
Emotions (EM)	Positive Emotion (PEM)	PEM1	I feel happy after service recovery encounters of this shopping website.	Schoefer and Ennew (2005); Schoefer and Diamantopoulos (2008)	
		PEM2	I have a warm feeling after service recovery encounters of this shopping website.		
	Negative Emotion (NEM)	PEM3	I am being valued after service recovery encounters of this shopping website.		
		NEM1	I feel angry after service recovery encounters of this shopping website.		
		NEM2	I am in a bad mood after service recovery encounters of this shopping website.		
		NEM3	I feel upset after service recovery encounters of this shopping website.		
Post-Recovery Satisfaction (PRS)	PRS1	Overall, I felt that this service recovery encounters would have been good.	Goodwin and Ross (1992)		
	PRS2	Overall, I was satisfied with the way this complaint was resolved.			
	PRS3	Overall, I was pleased with the service recovery encounters I experienced.			
Post Purchase Intentions (PPI)	PPI1	I intend to purchase from this shopping website next time.	Kuo et al. (2009)		
	PPI2	I will recommend this shopping website to my friends or relatives.			
	PPI3	I intend to continue to purchase from this shopping website in the future.			

^a Items have been dropped after EFA.

websites would offer for the designed scenarios, but also the possibility that online shopping websites would also adopt the same measure as described in each of our scenarios by using a scale ranging from 1 to 5 (1: highly impossible; 5: highly possible). According to their evaluation results, the average possibility of the 20 scenarios was 3.825, implying the high possibility that online shopping websites adopt the same measure as described in each of our scenarios (all with a possibility value significantly greater than 3, $p < 0.001$). That is, these experts and online shoppers conferred not only that the simulated scenarios would very likely occur in practice, but also that our manipulation of service failures and recovery strategies in each scenario was appropriate. In terms of determining the compensation amount, most of the participants agreed that online retailers were more likely to offer NT\$100 as a compensation for their failure in selling or delivering a product priced below NT\$999. Besides, they also performed a subjective classification of service failures and recovery strategies. According to those results, our attribution of the five service failures reached an accuracy of 90%, while that of the four recovery strategies reached 95%. Above findings suggest that our experimental design conformed to our definition of manipulation.

The draft questionnaire consisted of valid and reliable questions extracted from previous literature. To ensure the adequacy

and clarity of each question and identify potential problems of the questionnaire, this work invited three experts to review the questionnaire, helping us to finalize the questionnaire. The final questionnaire consisted of three parts. The first part surveyed the basic data of the respondents individually using nominal scales. The second part evaluated the perceived realism of the scenarios using two multi-item scales ranging from 1 (highly impossible) to 5 (highly possible). First, respondents were asked how strongly that these incidents could happen in real life described in the scenarios. Second, respondents were asked how possible that online shopping websites would adopt the same measure as described in each of our scenarios. Last part evaluated the subject's perception of each construct in the model. A five-point Likert scale ranging from 1 (very disagreed) to 5 (very agreed) was adapted for the above instrument. Table 1 lists the research constructs and items included in the questionnaire. Appendix A contains complete scenarios of this study.

3.2. Research subjects and sampling method

According to Market Intelligence & Consulting Institute (MIC) of Institute for Information Industry (2008), most online shoppers in Taiwan range between 20 and 29 years old (52.8%), and

Table 2
EFA results of perceived justice and emotions.

Construct	Item	Factor Loading	Item-to-total correlation	Eigenvalue	Variance explained (%)	Cronbach's α
PDJ	PDJ1	0.800	0.704	2.846	25.872	0.862
	PDJ2	0.795	0.766			
	PDJ3	0.769	0.756			
	PDJ4	0.698	0.622			
PPJ	PPJ3	0.784	0.583	2.121	19.282	0.770
	PPJ4	0.730	0.648			
	PPJ1	0.657	0.587			
PIJ	PIJ1	0.785	0.662	2.624	23.851	0.818
	PIJ2	0.715	0.712			
	PIJ6	0.708	0.661			
	PIJ4	0.695	0.540	Cumulative variance explained: 69.01%		
PEM	PEM3	0.861	0.677	2.392	39.859	0.845
	PEM2	0.838	0.744			
	PEM1	0.747	0.717			
EM	NEM6	0.885	0.684	2.326	38.771	0.861
	NEM5	0.842	0.803			
	NEM4	0.723	0.734			
Cumulative variance explained: 78.63%						

are university or graduate school students. Hence, in this study, university and graduate school students were selected as our subjects; responses from volunteers were also obtained to increase the sample reliability. The upcoming survey details were posted on the electronic BBS and announced in classes of two universities. Interested participants filled out the questionnaire at designated locations. Additionally, our sample size was increased by holding a lucky draw of gift certificates. A total of 289 students participated in the study and were randomly assigned to one of the 20 scenarios. Due to missing important data and outliers, 252 responses were valid. The age of the participants ranges between 18 and 26, with a heavy concentration (54.8%) between 20 and 21, and 48.5% were males and 51.5% females.

4. Results

4.1. Manipulation check

A mean possibility of the incidents occurrence (4.139) showed statistically significant great than 4 ($p < 0.010$), implying that the respondents perceived the scenarios to be highly realistic. A mean possibility of the recoveries (3.516) showed statistically significant great than 3 ($p < 0.001$), implying the high possibility that online shopping websites adopt the same measure as described in each of our scenarios. That is, these participants conferred not only that the simulated scenarios would very likely occur in practice, but also that our manipulation of service failures and recovery strategies in each scenario was appropriate.

4.2. Verification of the proposed model and hypotheses

This study employed structural equation modeling (SEM) to verify the proposed model and hypotheses. Notably, multivariate normally is required for most SEM approaches. According to those results, most variables used deviated significantly from normality, thus limiting the validity of maximum likelihood estimation approaches. Given these distributional characteristics, this study adopted a partial least squares (PLS) estimation approach since it makes no distributional assumptions. Hence, both the measurement model and the structural model were estimated using PLS (Hulland, 1999; Walczuch, Lemmink, & Streukens, 2007). The software SmartPLS version 2.0 (Ringle et al., 2005) was adopted for the analysis. The bootstrapping procedure was implemented to provide additional confidence that the results are not sample-specific

by using repeated random samples drawn from the data. In this instance, the bootstrapping procedure was repeated until it reached 500 bootstrap samples (Chin, 1998). The analytical results of testing the measurement model and structural model are summarized as follows.

1. Measurement model analysis

Past studies (Agarwal & Prasad, 1998; Farrell, 2010) suggested using both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) for assessing construct validity. An EFA was first conducted to purify the scale and assess the dimensionality of the constructs (perceived justice and emotional responses) used, as shown in Table 2. Before EFA, two measures were used to test the appropriateness of factor analysis. The Kaiser–Meyer–Olkin (KMO) overall measure of sampling adequacy (MSA) was 0.919 and 0.856 for perceived justice and emotional responses, respectively, and thus fell within the acceptable level. Additionally, significance levels of 0.000 were obtained for both constructs using Bartlett's sphericity test, showing a significant correlation among the variables (Hair, Anderson, Tatham, & Black, 1998). For EFA, Principal Component Analysis, with varimax rotation and eigenvalue greater than 1 and factor loadings exceeding 0.4 was used (Kaiser, 1958). Additionally, any items which were cross-loaded on two factors with a factor loading greater than 0.4 were removed. For item analysis, corrected item to total correlation coefficient of less than 0.40 was used as the criterion for item deletion, and whether the removal of the item could significantly enhance the reliability of the questionnaire was considered. This process was iterated until an optimal result was obtained. Six cross-loading items (PDJ5, PPJ2, PPJ5, PIJ3, PIJ5, and PIJ7) were dropped from the items pool. The Cronbach's α coefficients ranged from 0.770 to 0.862, and the cumulative variance explained was 69.01% and 78.63% for perceived justice and emotional responses, respectively.

Reliability, convergent validity, and discriminant validity of the scale were examined using CFA. According to Tables 3 and 4, the composite reliability (CR) values of all constructs exceeded the recommended level of 0.8, demonstrating the reliability of all measures (Bagozzi & Yi, 1988; Hair et al., 1998). Moreover, the completely standardized factor loadings all reached the level of significance; all constructs had a CR exceeding 0.8, and the average variance extracted (AVE) values for all constructs exceeded the suggested threshold value of 0.50, thus demonstrating the convergent validity of the scale (Anderson & Gerbing, 1988;

Table 3
Standardized factor loadings, SMC and CR of the measurement model.

Construct	Item	Factor loading	t-Value	CR
PDJ	PDJ1	0.836	38.765***	0.906
	PDJ2	0.878	52.890***	
	PDJ3	0.874	59.714***	
	PDJ4	0.774	27.924***	
PJ	PPJ1	0.857	57.325***	0.866
	PPJ3	0.772	18.147***	
	PPJ4	0.848	41.092***	
	PIJ1	0.807	31.294***	
	PIJ2	0.859	48.070***	
	PIJ4	0.738	20.668***	
PEM	PEM1	0.874	42.856***	0.906
	PEM2	0.897	72.649***	
	PEM3	0.851	34.447***	
NEM	NEM1	0.894	53.488***	0.915
	NEM2	0.922	84.494***	
	NEM3	0.835	31.203***	
PRS	PRS1	0.909	73.818***	0.931
	PRS2	0.924	88.469***	
	PRS3	0.879	47.560***	
PPI	PPI1	0.925	70.030***	0.948
	PPI2	0.922	102.677***	
	PPI3	0.933	82.816***	

Note: CR = $\frac{(\sum \lambda^2)}{[(\sum \lambda^2) + \sum (\theta)]}$; λ = factor loading; θ = measurement error of each measured variable.

*** $p < 0.001$.

Fornell & Larcker, 1981). AVE of each latent variable was larger than the squared correlation between each pair of latent variables. Hence, the discrimination validity was adequate (Fornell & Larcker, 1981). Overall, the evidence of good reliability, convergent validity, and discriminant validity indicates the adequacy of the measurement model in testing the structural model at a subsequent stage.

2. Structural model analysis

The estimated path coefficients of the structural model were examined to evaluate the hypotheses. Fig. 2 shows the standardized path coefficients, t values and coefficients of determination (R^2) of the latent variables. Those results (Table 5) are as follows.

(1) Effect of perceived justice on post-purchase intentions

Among the three components of perceived justice, only distributive justice ($\gamma = 0.226$, $t = 3.184$) increases positively influences post-purchase intentions significantly, while procedural justice ($\gamma = 0.107$, $t = 1.259$) and interactional justice ($\gamma = 0.054$, $t = 0.723$) affect post-purchase intentions insignificantly. Thus, only H1a is supported.

(2) Effect of perceived justice on emotions

Our findings on how perceived justice and emotions are related suggest that distributive justice has significantly positive effects on positive emotions ($\gamma = 0.557$, $t = 9.400$) and significantly negative effects on negative ones ($\gamma = -0.286$,

Table 5
Summary of hypothesis test results.

Hypothesis	Relationship	Coefficient	t-Value	Conclusion
H2a	PDJ → PEM(+)	0.557***	9.400	Support
H2b	PDJ → NEM(-)	-0.286***	-4.119	Support
H2c	PPJ → PEM(+)	0.250***	3.947	Support
H2d	PPJ → NEM(-)	-0.276***	-3.892	Support
H2e	PIJ → PEM(+)	0.006	0.088	No support
H2f	PIJ → NEM(-)	-0.089	-1.245	No support
H3a	PDJ → PRS(+)	0.329***	5.672	Support
H3b	PPJ → PRS(+)	0.186**	3.155	Support
H3c	PIJ → PRS(+)	0.112*	2.058	Support
H4a	PEM → PRS(+)	0.188**	3.397	Support
H4b	NEM → PRS(-)	-0.222***	-4.587	Support
H1a	PDJ → PPI(+)	0.226**	3.184	Support
H1b	PPJ → PPI(+)	0.107	1.259	No support
H1c	PIJ → PPI(+)	0.054	0.723	No support
H5	PRS → PPI(+)	0.394***	4.990	Support

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

$t = -4.119$). Hence, H2a and H2b are supported. That is, a higher perceived distributive justice implies more positive emotions and less negative emotions. Procedural justice also positively affects positive emotions ($\gamma = 0.250$, $t = 3.947$) and negatively affects negative ones significantly ($\gamma = -0.276$, $t = -3.892$). Therefore, H2c and H2d are supported; suggesting that a higher perceived procedural justice can increase positive emotions and less negative ones. Interactional justice significantly affects neither positive emotions ($\gamma = 0.006$, $t = 0.088$) nor negative emotions ($\gamma = -0.089$, $t = -1.245$). Thus, H2e and H2f are not supported. Among the three components of justice, distributive justice influences positive emotions and negative emotions the most.

(3) Effect of perceived justice on post-recovery satisfaction

As for how perceived justice and post-recovery satisfaction are related, our findings suggest that distributive justice ($\gamma = 0.329$, $t = 5.672$), procedural justice ($\gamma = 0.186$, $t = 3.155$) and interactional justice ($\gamma = 0.112$, $t = 2.058$) all positively affect post-recovery satisfaction significantly. H3a–H3c are thus supported. We can infer that a higher perceived justice implies a higher post-recovery satisfaction.

(4) Effect of emotions on post-recovery satisfaction

As for how emotions and post-recovery satisfaction are related, our results suggest that post-recovery satisfaction will be positively affected by positive emotions ($\beta = 0.188$, $t = 3.397$) and negatively affected by negative emotions ($\beta = -0.222$, $t = -4.587$) significantly. H4a and H4b are thus supported. That is, customers show a higher post-recovery satisfaction if the recovery process or outcome evokes positive emotions and a lower post-recovery satisfaction if the recovery process or outcome evokes negative emotions.

(5) Effect of post-recovery satisfaction on post-purchase intentions

Table 4
The mean, standard deviation, and inter-variable correlations.

	Mean	S.D.	AVE	PDJ	PPJ	PIJ	PEM	NEM	PRS	PPI
PDJ	3.184	0.758	0.708	0.841^a						
PPJ	3.442	0.717	0.683	0.634	0.826					
PIJ	3.440	0.750	0.651	0.621	0.656	0.807				
PEM	3.082	0.870	0.764	0.719	0.607	0.516	0.874			
NEM	2.978	0.864	0.782	-0.516	-0.516	-0.448	-0.666	0.884		
PRS	3.241	0.828	0.817	0.766	0.696	0.635	0.743	0.663	0.904	
PPI	2.960	0.911	0.859	0.629	0.560	0.514	0.616	-0.514	0.676	0.927

Note: AVE = $\frac{(\sum \lambda^2)}{[(\sum \lambda^2) + \sum (\theta)]}$; λ = factor loading; θ = measurement error of each measured variable.

^a Diagonal elements show the square root of average variance extracted (AVE).

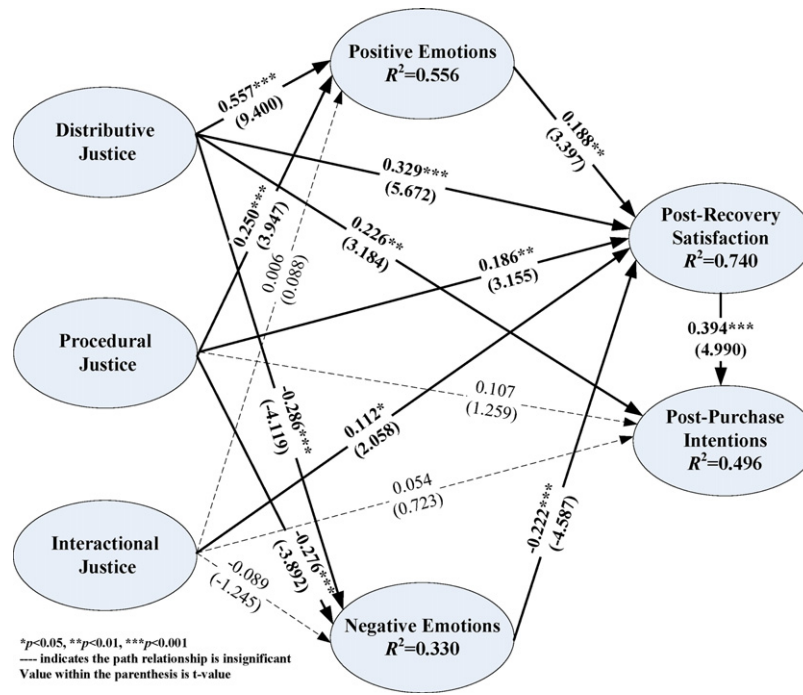


Fig. 2. Results of the model.

As for how post-recovery satisfaction and post-purchase intentions are related, our results support H5, which states that post-recovery satisfaction positively affect post-purchase intentions significantly ($\beta = 0.394, t = 4.490$).

Additionally, according to R^2 results, 55.6% variance of positive emotion can be explained by perceived distributive justice, perceived procedural justice, and perceived interactional justice; 33.0% variance of negative emotion can be explained by perceived distributive justice, perceived procedural justice, and perceived interactional justice; 74.0% variance of post-recovery satisfaction can be jointly explained by perceived distributive justice, perceived procedural justice, perceived interactional justice, positive emotion, and negative emotion; 49.6% variance of post-purchase intentions can be jointly explained by perceived distributive justice, perceived procedural justice, perceived interactional justice, and post-recovery satisfaction.

Above results demonstrate that the proposed model exhibited a high level of reliability and validity in both the test of measurement model and the test of a structural model. All proposed causal paths were in a reasonable direction, and most of the proposed hypotheses were supported. Overall, the proposed model has an acceptable level of explaining how perceived justice, positive/negative emotions, post-recovery satisfaction, and post-purchase intentions are related, and can provide a valuable reference for online retailers.

manner with offending service providers, therefore, the offender's dedication in this aspect does not significantly induce positive or negative emotions from customers. All three perceived justices as well as both positive and negative emotions significantly affect post-recovery satisfaction. Additionally, distributive justice influences post-recovery satisfaction the most, which corresponds to the findings of Mattila (2001) and Maxham III and Netemeyer (2002).

Among the three components of justice, only distributive justice significantly affects post-purchase intentions. Procedural justice and interactional justice have no significant effect on post-purchase intentions. It could be explained in the following ways. First, it is possibly owing to that customers shop online to procure desired products. Moreover, discounts or coupons offered by offending service providers can effectively reduce the cost of the products they purchase in the future. However, a timely reaction of offenders or friendly attitude towards service failure does not reduce the cost of the products they purchase next time and, thus, cannot effectively induce repurchase intentions of customers. Furthermore, for customers, evaluating recovery outcomes is easier than evaluating recovery strategies or the interaction process with the offender, explaining why distributive justice influences post-purchase intentions than procedural justice and interactional justice do. Our finding further demonstrates that post-recovery satisfaction enhances post-purchase intentions, which reflects the finding of Montoya-Weiss et al. (2003) and Holloway et al. (2005).

5. Discussion and implications

5.1. Discussion

Our results further demonstrate that online shoppers will raise positive emotions and decrease negative ones if they perceive distributive justice and procedural justice in a service recovery action. But perceived interactional justice has no significant effect on emotions. This may be due to the design and environment of online shopping websites, consumers are not easy to feel the interactional

5.2. Theoretical implications

To the best of our knowledge, no empirical study has specifically explored how customers' perceived justice and emotions aroused by service recovery combine to affect subsequent customer satisfaction and post-purchase intentions with service recovery in the e-shopping context. The proposed model in this study shows an acceptable level of explaining how perceived justice, emotions, post-recovery satisfaction, and post-purchase intentions are related of online shopping to fill this important gap.

Prior researches typically find that perceived justice plays as a direct antecedent to post-recovery satisfaction of customers (Mattila & Patterson, 2004; Maxham III & Netemeyer, 2002, 2003). Recent studies indicate that perceived justice elicits emotions during service recovery encounters (e.g. Chebat & Slusarczyk, 2005; Schoefer & Ennew, 2005). This study provides evidence that perceived justice influences customer post-recovery satisfaction both directly and indirectly (through emotions) as well as emotions have effects on post-recovery satisfaction directly. The present findings emphasize the importance of emotions in service recovery encounters. It also shows that the integration of emotions within the perceived justice of service recovery is a necessary way to better understand what drives customers' evaluative judgments in a recovery situation.

5.3. Managerial implications

The findings of this study reveal that only distributive justice among the three components of justice significantly affects post-purchase intentions. Additionally, distributive justice influences positive emotions and negative ones as well as post-recovery satisfaction the most. Therefore, distributive justice can be viewed as the most important component of perceived justice for online shoppers. The ability of service providers to more heavily emphasize distributive justice in service recovery, e.g., by offering discounts, refunds or change for alternative products at a higher grade, to avoid increase of costs born by customers, would allow them not only to evoke the positive emotions of customers but also enhance their satisfaction, positive post-purchase intentions, and loyalty.

Our finding also confirms that post-recovery satisfaction and post-purchase intentions are positively related. Additionally, all perceived justices increase post-recovery satisfaction. Therefore, service providers should provide customers with sufficient information on the tangible compensation for service failures and service recovery procedure, inform customers of the latest progress of service recovery, and properly react to their questions to increase their satisfaction with the recovery effort and outcome, ultimately affecting their post-purchase intentions.

Additionally, both positive and negative emotions significantly affect post-recovery satisfaction, indicating that positive emotions increase post-recovery satisfaction and negative emotions lower post-recovery satisfaction. That is, customer satisfaction may be reduced if their negative emotions are evoked during service recovery. Service providers should thus observe customers' emotional responses, e.g., tones or phrasing, and adopt necessary corrective measures to appease their anger in the handling of a service failure. Inducing more positive emotions and mitigating negative emotions in offended customers would allow them to enhance customer satisfaction and positive post-purchase intentions.

6. Conclusion

This study provides empirical support for a new approach to understanding the antecedents of post-recovery satisfaction and post-purchase intentions with service recovery of online shopping by incorporating perceived justice and emotions perspectives. Contrary to previous findings, procedural justice and interactional justice were found to have no significant relationships with post-purchase intentions. This highlights the potential importance of taking perceived distributive justice for online shoppers to predict post-purchase intentions with service recovery. Additionally, both positive and negative emotions significantly affect post-recovery satisfaction. That is, understanding customers' emotions is helpful for service providers in increasing post-recovery satisfaction of customers and recovery from service failures.

Despite its contributions, this study has certain limitations. Even though the study succeeds in validating the measurement scale of perceived justice of service recovery in the context of online shopping, but the results obtained in the EFA developed to test the measurement model of perceived justice indicating some weaknesses in the elaboration of the measurement scales for distributive, procedural, and interactional justices. Particularly, the need to remove six items from the scales originally proposed for this construct may raise doubts about content validity of the scales. This could be due to various reasons. One of the reasons is that the measurement scale of perceived justice in online shopping context is designed according to the related literatures in the context of brick-and-mortar retail stores, but the attributes of e-tailing are still a little different from the brick-and-mortar retail stores. This situation indicated that when rashly applying the perceived justice scale in the context of brick-and-mortar retail stores to measure perceived justice in e-shopping is inappropriate. The validated scale, the eleven items across three dimensions, in this study can serve a useful instrument to measure the perceived justice in the context of e-shopping. Consequently, we can use a second-order factor model to test the stability of the scale of perceived justice in the context of e-shopping. In addition, other large samples should be gathered to confirm and refine, the factor structure of the perceived justice scale in the context of e-shopping, and to assess its reliability and validity in the future.

From the coefficients of determination in our model, we can infer that other factors not consider here also affect emotions and post-purchase intentions. Therefore, future studies should consider other variables of emotions and post-purchase intentions, including degree of involvement or service quality, or role of the attribution theory in elucidating the factors affecting customer emotions and post-purchase intentions. Besides, our research sample was obtained from only undergraduate and graduate school students, thus limiting the generalizability of the research results to all groups of online shoppers. Future studies should expand the scope of research subjects to other customer groups or accumulate longitudinal data to re-examine our model and compare the results obtained from different customer groups. As for the design of scenarios, this study limited service failures to only those stemming from mistakes of online retailers and defined recovery strategies as those offered by online retailers. Because service failures may also be attributed to partners of online retailers (e.g. late delivery of goods may be caused by problems with the online order system or the delivery system of the express delivery company) or customers themselves (e.g. customers provide a wrong address), future studies should also thoroughly investigate the causes of different service failures to obtain more comprehensive results.

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Appendix A.

Manipulation of service failures and service recovery strategies in the design of scenarios:

In this paper, we assumed that consumers are planning to purchase some goods from shopping websites as a reward for themselves. The details of the scenarios are as follows:

1. Manipulation of service failures

(1) Delivery failure

Recently, you finally solved a troublesome matter and thus planned to buy something as a reward for yourself.

You browsed products sold on an online shopping website, because this website was holding a special sales event for its anniversary. You were attracted to a pair of shoes priced at NT\$999 after discount. Therefore, you placed an order and completed the online payment. The system also showed on the webpage that your deal has been established. Now, you are expecting for the delivery of the new shoes. However, since you were notified of the shipment, you have not received the shoes up to the present and thus contact the customer service center.

(2) System failure

Recently, you finally solved a troublesome matter and thus planned to buy something as a reward for yourself. You browsed products sold on an online shopping website, because this website was holding a special sales event for its anniversary. You were attracted to a pair of shoes priced at NT\$999 after discount. After you completed the online payment, the webpage was not redirected to a page telling you that the deal has been established as it normally would be, and you did not receive any SMS or email notifying you of the success of the deal. Thus you contact the customer service center.

(3) Product quality failure

Recently, you finally solved a troublesome matter and thus planned to buy something as a reward for yourself. You browsed products sold on an online shopping website, because this website was holding a special sales event for its anniversary. You were attracted to a pair of shoes priced at NT\$999 after discount. Therefore, you placed an order and completed the online payment. The system also showed on the webpage that your deal has been established. Now, you are expecting for the delivery of the new shoes. After you received the shoes, you found the package not damaged but the rubber pads on the bottom of the shoes detached. Thus you contact the customer service center.

(4) Website security failure

Recently, you finally solved a troublesome matter and thus planned to buy something as a reward for yourself. You browsed products sold on an online shopping website, because this website was holding a special sales event for its anniversary. You were attracted to a pair of shoes priced at NT\$999 after discount. Therefore, you placed an order and completed the online payment. The system also showed on the webpage that your deal has been established. Now, you are expecting for the delivery of the new shoes. Several weeks after you received the shoes, one guy claiming to be a service representative of the website called, telling you that some problems occurred during the payment process and asking you to follow the steps as indicated to solve the problems. You suspected he was a fraud and called back to the customer service center to verify. At last, you confirmed that it was really a fraud call.

(5) Customer support failure

Recently, you finally solved a troublesome matter and thus planned to buy something as a reward for yourself. You browsed products sold on an online shopping website, because this website was holding a special sales event for its anniversary. You were attracted to a pair of shoes priced at NT\$999 after discount. Because the shoes were sold for NT\$999 after discount and were thus not covered by the policy of free-shipping for purchases over NT\$1,000, you called the customer service center to ask if the free-shipping policy applied to the shoes you wanted to purchase. The service representative did not have a friendly attitude in answering your question and only stressed that this policy was set up by the company. You immediately called the customer com-

plaint center to file your complaint about the bad attitude of this service representative.

2. Manipulation of recovery strategies

(1) Tangible recovery strategy

A. For delivery failure, system failure, and product quality failure

After listening to your complaint, the service representative did not offer an apology but promised that they would investigate the problem. Through investigation, the website admitted responsibility for the failure and deposited an NT\$100 electronic coupon in your account as a compensation for its failure as well as informed you that they would ship the shoes to you immediately.

B. For website security failure

After listening to your complaint, the service representative did not offer an apology but promised that they would investigate the problem. Through investigation, the website admitted responsibility for the failure and deposited an NT\$100 electronic coupon in your account as a compensation for its failure as well as informed you that they would enhance the security management.

C. For customer support failure

After listening to your complaint, the staff responsible for customer complaint did not apologize to you but promised that they would investigate the issue. Later, in order to redress their failure, the staff deposited an NT\$100 electronic coupon for the next purchase in your account and assured you that they would reinforce their employee training.

(2) Psychological recovery strategy

A. For delivery failure, system failure, and product quality failure

After listening to your complaint, the service representative apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely informed you that they would ship the shoes immediately and apologized to you again for their failure. Although you did not receive any coupon as compensation, you could feel their sincerity in the service recovery process.

B. For website security failure

After listening to your complaint, the service representative apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely apologized to you again for their failure and informed you that they would enhance the security management. Although you did not receive any coupon as compensation, you could feel their sincerity in the service recovery process.

C. For customer support failure

After listening to your complaint, the staff responsible for customer complaint apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely informed you that they would reinforce their employee training and apologized to you again for their failure. Although you did not receive any coupon as compensation, you could feel their sincerity in the service recovery process.

(3) Strategy with neither tangible nor psychological recovery

A. For delivery failure, system failure, and product quality failure

After listening to your complaint, the service representative did not express any oral apology but only promised that they would investigate the issue. Later, the service

representative informed you that they would ship the shoes but did not give you any coupon as compensation.

B. For website security failure

After listening to your complaint, the service representative did not express any oral apology but only promised that they would investigate the issue. Later, the service representative informed you that they would enhance the security management but did not give you any coupon as compensation.

C. For customer support failure

After listening to your complaint, the staff responsible for customer complaint did not express any oral apology but only promised that they would investigate the issue. Later, the service representative informed you that they would reinforce their employee training but did not give you any coupon as compensation.

(4) Strategy with both tangible and psychological recovery

A. For delivery failure, system failure, and product quality failure

After listening to your complaint, the service representative apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely informed you that they have deposited an NT\$100 electronic coupon in your account to redress their failure and will ship the shoes immediately. The service representative also apologized to you again for their failure. You could feel their sincerity in the service recovery process.

B. For website security failure

After listening to your complaint, the service representative apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely informed you that they have deposited an NT\$100 electronic coupon in your account to redress their failure and will enhance the security management. The service representative also apologized to you again for their failure. You could feel their sincerity in the service recovery process.

C. For customer support failure

After listening to your complaint, the staff responsible for customer complaint apologized to you for any inconvenience incurred and promised that they would investigate the issue. Later, the service representative politely informed you that they have deposited an NT\$100 electronic coupon in your account to redress their failure. The staff responsible for customer complaint also apologized to you again and promised that they would reinforce their employee training. You could feel their sincerity in the service recovery process.

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