Investigating the role of customer forgiveness following a double deviation

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Abstract
Purpose – Despite double deviation being an acknowledged phenomenon in services marketing, less research has been devoted to the evaluation of the underlying relationships between cognitive appraisals, customer forgiveness and postrecovery actions following a double deviation. Therefore, this study aims to develop and empirically test a conceptual model to determine the role of customer forgiveness and its boundary conditions in double-deviation scenarios based on the stress and coping theory.

Design/methodology/approach – This study aggregated 290 survey data by adopting the retrospective experience sampling method and examined the proposed model using structural equation modeling and bootstrapping analysis.

Findings – The results confirm that customer forgiveness mediates the link between service recovery dissatisfaction and postrecovery customer complaints (i.e. online and third-party complaints). Additionally, attribution-based factors (i.e. stability and controllability attributions) positively moderated the service recovery dissatisfaction–customer forgiveness relationship. Finally, these findings exhibit that relationship-based factors (i.e. relationship duration and affective commitment) had negative moderating effects on the service recovery dissatisfaction–customer forgiveness link.

Originality/value – Without ensuring customer forgiveness, customers who experience failure twice in a row may act more aggressively to damage service firms. Yet, knowledge of customer forgiveness in a double-deviation scenario is still lacking. The results make twofold contributions to the service recovery literature. First, this study emphasizes customer forgiveness as an integral coping response that has a mediating role in the relationship between service recovery dissatisfaction and postrecovery customer complaints. Second, this study shed insights into boundary conditions of customer forgiveness by identifying attribution- and relationship-based factors as moderators.

Keywords Service recovery dissatisfaction, Customer forgiveness, Postrecovery customer complaints, The stress and coping theory

Paper type Research paper

Introduction
Even the best service provider cannot eliminate service errors (Harrison-Walker, 2012; Hess et al., 2003; Mattila, 2001) because characteristics such as variability and heterogeneity are inherent to services (Lovelock and Gummesson, 2004; Mikolon et al., 2015; Zeithaml et al., 1985). A recent survey from Customer Care Measurement and Consulting (2020) states that 66% of customers at least experienced one mistake or noticed a defect with the service they purchased. According to the NewVoiceMedia (2018) report, service failure costs companies more than US$75bn in 2018, which is US$13bn higher compared to 2016. Such unbalanced service firm–customer relationships result in perceived potential harm or losses, producing stress for customers and negative customer evaluations (Grégoire and Fisher, 2008; Grégoire et al., 2010; You et al., 2020). To repair service failure, extant research has examined organizational responses with regard to what is done (e.g. fairness and compensation) and how it is done (e.g. employee–customer interaction) to reattain positive customer evaluation through service recovery (Fernandes et al., 2018; Harrison-Walker, 2019a; Liao, 2007; Michel et al., 2009; Prasongsukarn and Patterson, 2012). Still, a recent report shows that 58% of customers who experienced service recovery felt empty-handed (Customer Care Measurement and Consulting, 2020). Therefore, these outcomes suggest that service recovery management needs to be further explored.

A stressful double-deviation situation emerges if a service firm is unable to provide effective recovery after a service failure (Bitner et al., 1990; Joireman et al., 2013). Unsatisfactory service recovery cannot ease the stress from the initial service failure; meanwhile, it can probably generate more stress due to the harm and loss suffered from double deviation. Subsequently, it might produce grievances among customers, facilitating negative behavioral responses (Grégoire and Fisher, 2008; Grégoire et al., 2010). With the development of the internet, wronged customers can easily register complaints online (Grégoire et al., 2018). Additionally, customers can reach and complain through various channels provided by...
third-party organizations, such as consumer advocacy organizations, newspapers and government-funded consumer protection offices. For instance, evidence from a recent report indicates that 14% of the respondents have posted their complaints at least once on social networking sites (Customer Care Measurement and Consulting, 2020). Furthermore, a third-party organization received over one million customer complaints in 2020 according to US Complaints Statistics from Better Business Bureau (2020). Therefore, the wronged customers may get even with service firms by posting their misadventures online and making aggressive third-party complaints (Baker et al., 2013; Grégoire et al., 2009).

Stressful encounters evoke not only individuals’ behavioral outcomes but also a psychological process of coping whereby customers attempt to ease the stress related to negative experiences (Sengupta et al., 2015; Strelan and Covic, 2006). Moreover, the stress and coping theory specifies that individuals’ behavioral outcomes become noticeable after their psychological coping responses are judged (Lazarus and Folkman, 1984). An efficient way of coping with stress is forgiveness, which is a conscious decision made by customers to free themselves from a negative experience with a service provider (Tsarenko et al., 2019; Zourrig et al., 2009). Scholars and professionals in the service domain are currently giving more attention to customer forgiveness. Past research depicts that customer forgiveness increases repurchase intention and reconciliation with service firms after service failure (Harrison-Walker, 2019a; Tsarenko and Tojib, 2012, 2015). Besides, studies have scrutinized the antecedents of customer forgiveness, such as characteristics of service failure (Riaz and Khan, 2016; Tsarenko and Tojib, 2012) and related service recovery efforts (Harrison-Walker, 2019a; Ma et al., 2020; Yuan et al., 2020; Zourrig et al., 2009). Few studies have concentrated on the imperativeness of customer forgiveness in the context of unsatisfactory service recovery. This gap is critical because of half of service recovery efforts are unsatisfactory (Hart et al., 1990), and such stressful situations encourage customers to complain outside of the service firms (Grégoire et al., 2018; Grégoire et al., 2015). Understanding the role of customer forgiveness in such scenarios is vital for service recovery management because it implies the extent to which customers let go of their lingering grievances and influences the possibility of postrecovery customer complaints.

Coping relies upon cognitive appraisals, such as primary and secondary appraisals (Lazarus and Folkman, 1984). When experiencing stressful conditions, individuals engage in primary appraisal (i.e. service recovery dissatisfaction) wherein an encounter damages their well-being. Meanwhile, secondary appraisal is based on causal attributions and past experience (Karnieli-Miller et al., 2013; Lazarus and Smith, 1988). When engaging in secondary appraisals, customers might consider whether such failures have occurred in the past (i.e. stability) and if the initial failure was under the control of the service provider (i.e. controllability) (Van Vaerenbergh et al., 2014). Secondary appraisals are also influenced by individual differences in past experience (Karnieli-Miller et al., 2013), such as the length and depth of customers’ respective relationships with service firms (i.e. relationship duration and affective commitment). Previous research acknowledges that an individual’s coping response varies under different contingency conditions (Lazarus and Folkman, 1984; Lowe and Bennett, 2003; Tsarenko and Tojib, 2011). However, to our knowledge, there is little empirical research on boundary conditions of customer forgiveness, especially in the context of double deviation. Such an understanding would inform service managers and employees when customers tend to forgive double deviation.

This study aims to address the following research questions. What is the role of customer forgiveness in the aftermath of disappointing service recovery encounters? Specifically, does customer forgiveness act as a mediator between service recovery dissatisfaction and postrecovery customer complaints? Additionally, what boundary conditions would amplify or eliminate the linkage between service recovery dissatisfaction and customer forgiveness? This study adopts a perspective from the stress and coping theory to develop a conceptual framework that inspects the mediating role of customer forgiveness on the relationship between service recovery dissatisfaction and postrecovery customer complaints (i.e. online and third-party complaints). Furthermore, this research examines the moderating roles of attribution-based factors (i.e. stability and controllability attributions) and relationship-based factors (i.e. relationship duration and affective commitment) on the service recovery dissatisfaction–customer forgiveness relationship. By understanding the role of customer forgiveness and boundary conditions, service firms can better plan their recovery management.

### Literature review and hypothesis development

#### The stress and coping theory

This study adopts the stress and coping theory as a theoretical foundation to deepen the understanding of customer forgiveness in double-deviation contexts. This theory suggests that individuals would make two types of appraisals (i.e. primary and secondary appraisals) to ascribe meaning to stressful events, and in turn, influence coping (Lazarus and Folkman, 1984). By engaging in the primary appraisal, individuals assess whether they are at stake in this encounter. A primary appraisal would include the evaluation of an incurred harm or loss, both of which result in individuals’ psychological stress (Lazarus, 1966, 1993, 2012; Lazarus and Folkman, 1984). Research signifies that primary appraisal should be related to coping responses that restore well-being (Folkman, 1984; Folkman et al., 1987b; Vitaliano et al., 1990). Individuals who engage in primary appraisal would process comparison and discrepancies through referents (Ordoñez et al., 2000). Such referents could be other desirable outcomes, equality results or a certain direction of rightness. Accordingly, customers would ask the following questions: “am I satisfied or dissatisfied with service recovery?” and “does service recovery compensate for my loss resulting from service failure?” Customers rely on the extent to which their harm or loss is compensated to evaluate service recovery. Those who have a higher level of service recovery dissatisfaction would feel more stressed than customers with a lower level of service recovery dissatisfaction.

When individuals find themselves in a stressful encounter, their secondary appraisals are initiated concurrently. The secondary appraisals involve the evaluation of situational variables and individual differences (Dewe and Cooper, 2007; Dewe et al., 2010). This study further categorizes two aspects of
secondary appraisals: attribution- and relationship-based factors. The first aspect targets the attributions of service failure from service firms. Attributions would provide direction and coping efforts (Lazarus and Launier, 1978; Lazarus and Smith, 1988; Smith and Lazarus, 1990). Previous studies denote that service failure attribution influences the customers’ attitude toward the offending firm (Iglesias et al., 2015; Van Vaerenbergh et al., 2014; Yen et al., 2004) from the following two dimensions – stability and controllability (Van Vaerenbergh et al., 2014; Weiner, 1985; Zouorig et al., 2009). Stability refers to the degree to which a focal party observes a cause of service failure to persist over time (Folkes, 1984; Weiner, 2000), and controllability is the extent to which an organization could have prevented it (Hess et al., 2003; Weiner, 2000). Park and Folkman (1997) revealed that attributions are involved throughout the coping process, guiding people to change or modify the meaning of a particular situation. If a service failure did not occur at the beginning, customers will not necessarily engage in a service recovery process (Van Vaerenbergh et al., 2019). Hence, we consider both stability and controllability attributions as secondary appraisals that influence the coping responses of a wronged customer. The second aspect of secondary appraisals is relationship-based factors (i.e. relationship duration and affective commitment), highlighting the relationship between customers and the service firm. According to Bonanno et al.’s (2012) statements, individuals draw on their experiences when involved in a secondary appraisal. Hence, a person interprets secondary appraisal based on a “filter” derived from past experiences (Karnieli-Miller et al., 2013). Past experience with an interaction partner would structure social relationships (i.e. customer–firm relationships). Literature on psychology reveals that social relationship is linked with an individual’s coping response (Fehr et al., 2010). When customers engage in the secondary appraisal, requiring themselves to activate their mental activity (Lazarus and Folkman, 1984), customer–firm relationships would affect their interpretation of events (Homburg et al., 2009). Therefore, the length and depth of a relationship with a specific service firm, representing relationship duration and affective commitment, respectively, are included in this study as one aspect of the secondary appraisal.

Prior studies prove that the interrelationship between primary and secondary appraisals collectively form the meaning of a stressful encounter, which in turn influence coping responses (Dewe and Cooper, 2007; Folkman, 1984; Folkman et al., 1987b; Lazarus and Folkman, 1984). Coping is defined as individuals’ efforts to manage (i.e. reduce, minimize, master or tolerate) their internal and external demands concerning a stressful transaction (Folkman et al., 1987a; Folkman et al., 1987b). Customers consciously use coping strategies to restore their well-being when encountering stressful events (Folkman, 1984; Folkman et al., 1987b; Vitaliano et al., 1990). Notably, customer forgiveness is an effective coping strategy to address stressful encounters, reflecting intraindividual and prosocial change toward a transgressor situated within an interpersonal context (McCollough et al., 2000). As forgiveness is initiated voluntarily by the offended party (i.e. customers), it embodies a self-healing power involving a self-directed journey toward improved coping capabilities (Tsarenko et al., 2019).

Ultimately, such a coping strategy leads to various encounter outcomes (Folkman, 1984; Folkman et al., 1987b; Lazarus and Folkman, 1984). When customers embrace the self-healing power of forgiveness to change their cognition, they internally reconcile with the offenders (i.e. service firms) and eliminate the possibility of postrecovery customer complaints. This study uses the stress and coping theory to explore the mediating role of customer forgiveness in the relationship between service recovery dissatisfaction and postrecovery customer complaints. Furthermore, we evaluate the boundary conditions of customer forgiveness, including attribution-based factors (i.e. stability and controllability attributions) and relationship-based factors (i.e. relationship duration and affective commitment), as moderators. Then, several hypotheses are proposed regarding the interrelationship between these constructs. Figure 1 illustrates the conceptual framework of this study.

### Service recovery dissatisfaction and customer forgiveness

Service recovery dissatisfaction denotes the extent of a customer’s psychological response based on their subjective evaluation of a firm’s recovery performance (Bitner and Hubbert, 1994; Bougie et al., 2003; Hess et al., 2003). Customers will evaluate the recovery efforts made by the firm and process their resentment to forgive upon experiencing a service failure (Tsarenko and Tojib, 2011). When customers experience poor service recovery, they feel harmed and at loss, and thus, more stressed (Hogreve et al., 2017). According to the stress and coping theory, a stressful encounter evokes individuals’ primary appraisal and consequently influences their coping response (Lazarus and Folkman, 1984). An improper recovery cannot compensate customers’ harm and loss (Goodwin and Ross, 1992), which makes internal peace difficult to achieve (Tsarenko et al., 2019). Customers are unlikely to acquire inner forgiveness when service recovery is improperly offered. Thus, this study proposes the following hypothesis:

**H1.** Service recovery dissatisfaction is negatively associated with customer forgiveness.

### Mediating role of customer forgiveness

When a double deviation arises, we expect customer forgiveness to have a critical mediating role in the relationship between service recovery dissatisfaction and postrecovery customer complaints. The stress and coping theory suggests that individuals gather relevant information that facilitates a meaningful interpretation of ambiguous events from their external environment (Lazarus and Folkman, 1984). Individuals depend on this interpretation to cope with the catalyzing event and direct their following behavioral outcomes (Dewe et al., 2010). Through the appraisal-coping process, a wronged customer asks “what happened here?” and judges the transgressed service firm’s recovery efforts to determine whether or not to forgive the transgression (Fehr et al., 2010). Unsatisfactory service recovery might lead to an obstacle to customers’ internal peace. Consequently, wronged customers who are unable to forgive the transgressed firm usually act
antisocially by making postrecovery customer complaints (Grégoire et al., 2018; Tsarenko et al., 2019). A vast array of online platforms, such as YouTube, Facebook and the Bulletin Board System, emerged as outlets for voicing customer complaints (Grégoire et al., 2015; Grégoire et al., 2009). The lingering effect of unsatisfactory service recovery may prompt consumers to engage in online complaints. Also, some unforgiving customers may consider expressing their annoyance or disapproval with service recovery via third parties. Hence, this research proposes the following hypothesis:

**H2.** Customer forgiveness mediates (a) the relationship between service recovery dissatisfaction and online complaints and (b) the relationship between service recovery dissatisfaction and third-party complaints.

### The moderating role of attribution-based factors

Attribution is the individuals’ perception or inference regarding a cause (Kelley, 1973). When people are in a negative or stressful situation, they often interpret or attribute such a situation with different causes, and these interpretations determine the subsequent responses (Basso and Pizzutti, 2016). Service failures with stable attributions may prompt consumers to engage in online complaints. Also, some unforgiving customers may consider expressing their annoyance or disapproval with service recovery via third parties. Hence, this research proposes the following hypothesis:

**H2.** Customer forgiveness mediates (a) the relationship between service recovery dissatisfaction and online complaints and (b) the relationship between service recovery dissatisfaction and third-party complaints.

### Controllability attributions

Customers are usually more forgiving in the case of an uncontrollable failure (i.e. a failure that occurs regardless of the effort a service organization devotes) (Hess et al., 2003). Contrariwise, when the cause of failure is controllable, customers expect organizations to prevent the failure from recurring (Yen et al., 2004) and thus harbor more anger toward organizations in reaction to controllable failures (Folkes, 1984; Folkes et al., 1987). However, when customers perceive high controllability attributions, they are likely to believe that the service firms have breached moral codes (Weiner, 2000, 2012) and conclude that the firms deliberately choose to badly treat their customers (Van Vaerenbergh et al., 2014). With this belief in mind, wronged customers might hold on to grievances and inactivate their forgiveness coping process because of the belief that the firms could have done otherwise. Therefore, people with a higher level of controllability attributions would strengthen the negative relationship between service recovery dissatisfaction and customer forgiveness than customers with a lower level of controllability attributions, leading to the following hypothesis:

**H4.** Controllability attributions will moderate the relationship between recovery dissatisfaction and customer forgiveness such that the effects of recovery dissatisfaction on customer forgiveness will be stronger for customers with high controllability attributions.
The moderating role of relationship-based factors

Relationship duration presents the length of a relationship between a customer and a service provider (Dagger et al., 2009; Larivière, 2008). Notably, customers experience high uncertainty at the beginning of a customer–firm relationship (Verhoef et al., 2002). As the relationship progresses over time, customers gain experience and familiarity with service firms and increase psychological attachment (McCull-Kennedy et al., 2015). According to the “love is blind” effect, long-term customers are more inclined to forgive an unsatisfactory service recovery because they are less willing to terminate a valuable relationship (Grégoire and Fisher, 2006; Khamitov et al., 2020). When long-term customers encounter an unsatisfying service recovery, a lengthy relationship buffers the negative effect of service recovery dissatisfaction on their forgiveness toward the service provider. As the relationship duration decreases, customers receiving an unsatisfying service recovery may be more reluctant to forgive the provider. Thus, the following hypothesis is proposed:

**H5.** Relationship duration will moderate the association between recovery dissatisfaction and customer forgiveness such that the effects of recovery dissatisfaction on customer forgiveness will be weaker for customers with long relationship durations.

Affective commitment relays the extent to which customers perceive emotional bonding, sense of belonging and identification toward a firm (Bansal et al., 2004; Morgan and Hunt, 1994). Customers who have experienced unsatisfactory recovery encounters may evoke perceived risk for future interaction with the service provider. Presently, affective commitment is deemed beneficial for minimizing customers’ perceptions of risk (Johnson et al., 2008) and enabling them to become more forgiving of negative events (Tax et al., 1998). Customers with a higher level of affective commitment to a service firm are expected to depend on their experiences rather than current negative events while engaging in the forgiveness coping response (Johnson et al., 2008). Accordingly, customers with higher affective commitment might force themselves to reconcile with the service provider to alleviate the pain of unsatisfactory service recovery. On the contrary, customers with lower affective commitment have less emotional bonding with a specific service provider; thus, they focus on negative perceptions of a double deviation. It is hard for customers to free themselves from stressful encounters. Therefore, this study proposes the following hypothesis:

**H6.** Affective commitment will moderate the relationship between recovery dissatisfaction and customer forgiveness such that the effects of recovery dissatisfaction on customer forgiveness will be weaker for customers with high affective commitment.

### Research methods

#### Sample and data collection

The retrospective experience sampling method (Zeelenberg and Pieters, 1999, 2004) was adopted in this study to elicit responses from participants who have had an unsatisfactory service recovery experience. Data were assimilated through an online survey via the SurveyCake platform (https://www.surveycake.com/) in Taiwan. Initially, respondents were asked to recall and describe their most recent experience with an unsatisfactory service recovery (Fernandes et al., 2018). Each respondent was requested to answer a series of open- and closed-ended questions about their double-deviation experience to vividly recall events and to relieve the situation (Harrison-Walker, 2019a; Huang, 2008). Moreover, the experiences evoked are limited to three months; thus, the bias related to memory is expected to be avoided. As recommended by previous studies, respondents should take 5–10 min to consider and write down the details of their experiences (Dasu and Rao, 1999; Harrison-Walker, 2019a, 2019b). The respondents were then invited to answer a series of questions based on their descriptions. The retrospective experience sampling method overcomes some of the limitations inherent to experimental studies where respondents have to imagine a negative event and are told how service firms react via descriptions. Therefore, this approach is frequently used in service recovery research (Bitner et al., 1990; Bougie et al., 2003; Fernandes et al., 2018; Harrison-Walker, 2019a, 2019b; Huang, 2008; Tax et al., 1998; Weun et al., 2004; Zeelenberg and Pieters, 2004). As unsatisfactory service recovery exists in many service industries, this research did not limit respondents to review their experiences with only one industry but enables them to revisit unsatisfactory recovery experiences with any service industry.

In total, 305 customers who experienced substandard service recovery agreed to complete the questionnaire. Yet, 15 respondents did not write down their recovery experience. To avoid possibly decreasing the retrospective effect, only 290 usable data were used for hypothesis testing. The sample consisted of 54.2% male and 45.8% female respondents whose ages ranged between 18 and 65 years. A majority of respondents were highly educated; 78.6% held a college or graduate education. Concerning the type of service failure respondents experienced (Smith et al., 1999), 46.8% of the respondents were involved in outcome failure (i.e. the service firms fail to satisfy the basic service need), 42.6% were subjected to process failure (i.e. the service firms deliver the core service in a flawed or deficient way) and 10.6% experienced both. Additionally, considering the type of service recovery strategy used by service firms (Bitner et al., 1990; Wei et al., 2020), 20.3% of the respondents received economic recovery (e.g. monetary and other tangible forms of compensation), 45.8% of the respondents experienced emotional recovery (e.g. apology and explanation), 8.2% of the respondents received neither economic nor emotional recovery and 25.7% of the participants obtained both recoveries. Table 1 briefly summarizes the respondents’ demographic information as well as the type of service failure and service recovery strategy they experienced.

#### Measures

Validated measures for all constructs constituted multiple items derived from prior studies and were adjusted to fit the context of this study. Following Brislin’s (1970) back-translation approach, we translated the original English survey instruments into a Chinese version and back-translated them.
into English. Particularly, one bilingual expert translated the English measurements into Chinese, and another translator translated them back to ensure the conceptual equivalence in content and meaning. The process was repeated until there existed no semantic discrepancies between the original and back-translated versions of the instrument (Bhalla and Lin, 1987). Moreover, we administered in-depth interviews with several academics and professional experts belonging to the service domain to assess the completion, content validity and clarity of the measurement items. The final questionnaire was altered to fit the survey context based on feedback from these domain experts. Table 2 displays the details of all measurement items.

Recovery dissatisfaction was gauged through a three-item scale modified from Bougie et al. (2003). Furthermore, four items measuring customer forgiveness were adapted from Aquino et al. (2006). Postrecovery customer complaints comprised online and third-party complaints, which were measured by three items from Grégoire et al. (2010) and three items from Baker et al. (2013), respectively. A four-item scale for stability attributions and a two-item scale for controllability attributions were obtained from Hess et al. (2003). The affective commitment was measured via three items acquired from Bansal et al. (2004). All items above were assessed on a seven-point Likert scale, and the relationship duration was estimated through Dagger et al.’s (2009) single-item measure, “approximately how long have you been coming to or using this service provider?” Answers were coded into years for the subsequent analytical process.

Notably, several control variables were included to ensure that hypothesized effects on customers’ forgiveness, and their behavioral outcomes were not impacted by other influences. Service failure severity was controlled because prior studies have specified its negative effects on customer forgiveness (Riaz and Khan, 2016) and positive influence on customer complaints (Bergel and Brock, 2018). Service failure severity was estimated by adapting the three-item scale from Weun et al. (2004). Besides, age, gender and education were viewed as control variables to decrease any potential confounding effects in customer forgiveness and customer complaints (Cota-McKinley et al., 2001; Ghaemmaghami et al., 2011; Heung and Lam, 2003; Miller et al., 2008; Zourrig et al., 2015).

Tests for common method bias
This research collected data in a single survey instrument, which increases the possibility of the common method bias. Following Podsakoff et al. (2003), several procedural and statistical remedies were used to avoid this bias. Furthermore, this study undertook two procedural remedies:

1. maintaining respondents’ anonymity to eliminate any tendency toward socially desirable responses (Podsakoff et al., 2003); and
2. mixing measurement items of focal constructs with regards to their relationships with predictors and criterion variables (Parkhe, 1993).

Moreover, this study implemented several statistical remedies to verify the threat of the common method bias. First, the “single unmeasured latent method factor” approach was used to observe the degree of susceptibility to common method bias (Podsakoff et al., 2003). Both the measurement model and alternative model (with a single unmeasured latent method factor that includes all measurement items) were analyzed using AMOS 25.0. The standardized regression weights for the measurement model, with and without the unmeasured latent factor, were then compared. The results verified that the differences between the standardized regression weights, with and without the unmeasured latent factor, were then compared. The results verified that the differences between the standardized regression weights, with and without the unmeasured latent factor, ranged from 0 to 0.044. These differences were below the commonly used threshold of 0.2 (Stefanovic et al., 2016; Thompson and Brindley, 2020; Wang et al., 2020), implying that common method bias is not a problem. The second approach uses a variance inflation factor (VIF) to detect common method bias (Kock and Lynn, 2012). The VIF values are generated from a full collinearity test, which captures possible vertical or lateral collinearity problems (Kock, 2015; Kock and Lynn, 2012). When the inner VIF values of the constructs are equal to or less than 3.3, the hypothesized model can be considered uncontaminated by common method bias (Kock, 2015). The results confirmed that all inner VIF values (ranging from 1.150 to 2.122) were below the threshold value, which provides evidence that common method bias is less likely to exist. Finally, we investigated moderating effects, decreasing the threat of common method bias in this context because respondents are unlikely to manipulate their responses associated with moderating effects (Aiken et al., 1991; Tsai and Bagozzi, 2014).

Results
Reliability and validity of measures
The measures in this study were assessed using confirmatory factor analysis (CFA) (Jöreskog and Sörbom, 1996). The findings of CFA convey that $\chi^2(313) = 500.018$, confirmatory fit index (CFI) = 0.96, incremental fit index (IFI) = 0.97, Tucker–Lewis fit index (TLI) = 0.95 and root mean square error of approximation (RMSEA) = 0.045, indicating an adequate model fit. Reliability of the construct indicators (i.e. composite reliabilities) from 0.847 to 0.937; Cronbach’s $\alpha$ from 0.841 to 0.937 exceeds Fornell and Larcker’s (1981) criterion of 0.70.

<table>
<thead>
<tr>
<th>Category</th>
<th>Items (%)</th>
</tr>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
<td>45.8</td>
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<td>Age</td>
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<td>≤20</td>
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<td>21–30</td>
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<td>≥41</td>
<td>15.5</td>
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<tr>
<td>Education</td>
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<td>High school or less</td>
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<tr>
<td>Bachelor’s degree</td>
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<td>Graduate degree</td>
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<tr>
<td>Type of service recovery strategy</td>
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<td>Emotional recovery</td>
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<tr>
<td>Both of them</td>
<td>25.7</td>
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<tr>
<td>Neither of them</td>
<td>8.2</td>
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Role of customer forgiveness

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Table 2 Measures, convergent validity and reliability

<table>
<thead>
<tr>
<th>Construct/item</th>
<th>Factor loadings</th>
<th>Cronbach’s α</th>
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<th>CR</th>
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<td><strong>Service recovery dissatisfaction</strong></td>
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<tr>
<td>SRD1 My overall service recovery experience was dissatisfactory</td>
<td>0.915</td>
<td>0.937</td>
<td>0.833</td>
<td>0.937</td>
<td>0.938</td>
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<tr>
<td>SRD2 My overall service recovery experience was displeasing</td>
<td>0.916</td>
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<tr>
<td>SRD3 My overall service recovery experience was upsetting</td>
<td>0.907</td>
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<td></td>
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<tr>
<td><strong>Customer forgiveness</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.916</td>
<td>0.697</td>
</tr>
<tr>
<td>CF1 I let go of the negative feelings I had against them</td>
<td>0.915</td>
<td></td>
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<td>CF2 I let go of my hate and desire for vengeance</td>
<td>0.923</td>
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<td>CF3 I let go of my hurt and pain</td>
<td>0.783</td>
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<td>CF4 I let go of the resentment I felt toward them</td>
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<td><strong>Online complaints</strong></td>
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<td></td>
<td>0.841</td>
<td>0.654</td>
<td>0.849</td>
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<tr>
<td>OC1 I tend to go online to make public the behaviors and practices of the service firm</td>
<td>0.706</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC2 I tend to go online to relay my experience to other consumers</td>
<td>0.836</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC3 I tend to go online to spread the word about my misadventure</td>
<td>0.873</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third-party complaints</strong></td>
<td></td>
<td></td>
<td>0.919</td>
<td>0.804</td>
<td>0.924</td>
</tr>
<tr>
<td>TC1 I would like to complain to a consumer agency</td>
<td>0.901</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TC2 I tend to write to the local newspaper about my bad experience</td>
<td>0.790</td>
<td></td>
<td></td>
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<tr>
<td>TC3 I tend to report to the consumer agency so that they can warn others</td>
<td>0.988</td>
<td></td>
<td></td>
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<tr>
<td><strong>Stability attributions</strong></td>
<td></td>
<td>0.882</td>
<td>0.659</td>
<td>0.885</td>
<td>0.883</td>
</tr>
<tr>
<td>SA1 The cause of the service failure is likely to be permanent</td>
<td>0.866</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SA2 The cause of the service failure is likely to vary over time (R)</td>
<td>0.835</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SA3 The cause of the service failure is likely to occur infrequently (R)</td>
<td>0.805</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SA4 The cause of the service failure is not likely to change over time</td>
<td>0.736</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Controllability attributions</strong></td>
<td></td>
<td>0.873</td>
<td>0.794</td>
<td>0.884</td>
<td>–</td>
</tr>
<tr>
<td>CA1 The service failure is highly controlled by the service firm</td>
<td>0.986</td>
<td></td>
<td></td>
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<tr>
<td>CA2 The service failure is preventable by the service firm</td>
<td>0.785</td>
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<td></td>
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<tr>
<td><strong>Affective commitment</strong></td>
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<td>0.845</td>
<td>0.650</td>
<td>0.847</td>
<td>0.846</td>
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<tr>
<td>AC1 I feel emotionally attached to the service firm</td>
<td>0.730</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>AC2 I feel like part of the family with the service firm</td>
<td>0.831</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC3 I feel a strong sense of belonging to the service firm</td>
<td>0.852</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Service failure severity</strong></td>
<td></td>
<td>0.856</td>
<td>0.673</td>
<td>0.860</td>
<td>0.857</td>
</tr>
<tr>
<td>FS1 I would consider the service failure to be severe</td>
<td>0.870</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS2 The service failure would make me feel angry</td>
<td>0.841</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS3 The service failure would be unpleasant</td>
<td>0.744</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: AVE: average variance extracted; CR: composite reliability; ω: McDonald’s omega

Recent studies state that McDonald’s omega (ω) is an appropriate index for estimating reliability (Dunn et al., 2014; Hayes and Coutts, 2020; McNeish, 2018). The outcomes verify that the values for ω were sufficient and ranged between 0.845 and 0.938, providing another evidence of construct reliability (Dunn et al., 2014; Hayes and Coutts, 2020; McNeish, 2018). Notably, ω coefficients are estimated by the Hancock-An algorithm (HA) algorithm that relies on the covariances of sets of three items (Hayes and Coutts, 2020). Hence, the ω coefficient for controllability attributions cannot be tested. As suggested by Verhoef (2003), the reliability of controllability attributions was further affirmed by a correlation coefficient test (Pearson correlation coefficient r = 0.774, p < 0.01).

The loadings of all items on their intended constructs are greater than the recommended cutoff value of 0.60. Furthermore, the average variance extracted (AVE) for each construct was greater than 0.50, demonstrating the convergent validity of the measures (Bagozzi and Yi, 1988; Chin, 1998). Subsequently, discriminant validity was confirmed because the square root of the AVE for each construct was higher than its correlations with all other constructs (Chin, 1998). Further evidence of discriminant validity emerged via a heterotrait-monotrait ratio of correlations (HTMT) analysis (Franke and Sarstedt, 2019; Henseler et al., 2015). The findings proved that all HTMT values, which range from 0.018 to 0.650, are below the conservative threshold of 0.85 (Kline, 2015). These results demonstrate adequate reliability, convergent validity and discriminant validity for the used measures (Tables 2 and 3).

Structural model results and mediating effects

The proposed structural model was performed using AMOS 25.0 to check the overall model fit, which was satisfactory [χ²(123) = 247.00, CFI = 0.97, IFI = 0.97, TFI = 0.96, RMSEA = 0.059]. Therefore, a good basis for evaluating the proposed hypotheses is available. The service recovery dissatisfaction construct was negatively significantly related to customer forgiveness, providing support for H1 (β = −0.254, t-value = −4.689, p < 0.01). The results also support a negative
relationship between customer forgiveness and online complaints ($\beta = -0.288$, $t$-value = $-3.893$, $p < 0.01$) and between customer forgiveness and third-party complaints ($\beta = -0.206$, $t$-value = $-2.341$, $p < 0.05$).

Following Arnett et al.'s (2003) mediation procedure, this study compared the proposed model with the rival model, and the hypothesized mediating variable of customer forgiveness is excluded. The rival model proposed that service recovery dissatisfaction is positively associated with online and third-party complaints, and the mediating role of customer forgiveness was eliminated. Altogether, three criteria were used to compare the proposed and rival models, including the overall fit ($\text{AIC} = 419.00$; $\text{ECVI} = 2.03$); the smaller values of $\text{AIC}$ and $\text{ECVI}$ indicate a better model ($\text{AIC} = 587.83$; $\text{ECVI} = 1.45$) had lower $\text{AIC}$ and $\text{ECVI}$ values than the rival model ($\text{AIC} = 587.83$; $\text{ECVI} = 2.03$); the smaller values of $\text{AIC}$ and $\text{ECVI}$ indicate a better model fit. The proposed model has a stronger explained variance ($R^2$) of online and third-party complaints than the rival model ($R^2_{\text{online complaints}} = 0.356$ vs 0.311; $R^2_{\text{third-party complaints}} = 0.234$ vs 0.229). Overall, these results provide evidence that the proposed model fits better than the rival model, proving that customer forgiveness has a mediating role in the model, supporting $H2a$ and $H2b$.

Supplementary analysis

We further used a bias-corrected bootstrapping procedure to test the mediating hypotheses (Model 4; Hayes, 2017; Zhao et al., 2010). We used 5,000 iterations in all bootstrapping analyses and report 95% confidence intervals (CIs) throughout all tests. The CIs for these paths include zero, suggesting insignificant effects. Contrarily, the CIs for these paths exclude zero, signifying significant effects. Service recovery dissatisfaction is the independent variable, customer forgiveness is the mediator and online and third-party complaints act as dependent variables. Service failure severity, age, gender and education are included as control variables. In support of $H2a$ and $H2b$, significant mediating effects are evident ($H2a$: service recovery dissatisfaction $\rightarrow$ customer forgiveness $\rightarrow$ online complaints, indirect effect = $0.012$, CI = [0.045, 0.172]); $H2b$: service recovery dissatisfaction $\rightarrow$ customer forgiveness $\rightarrow$ third-party complaints, indirect effect = $0.067$, CI = [0.012, 0.140]).

Moderating effects

The moderating roles of stability attributions, controllability attributions, relationship duration and affective commitment on the service recovery dissatisfaction–customer forgiveness relationship were tested using PROCESS Model 7 (Hayes, 2017). Table 4 displays the estimated regression coefficients, the CIs and model summary information. A spotlight plot using simple slope analysis and a floodlight plot using the Johnson–Neyman technique (Spiller et al., 2013) were implemented to investigate the nature of the interaction, and the graphic results were presented in Figures 2 and 3.

Consistent with $H3$ (Table 4, Model 1), the effect of the interaction between service recovery dissatisfaction and stability attributions on customer forgiveness is significant ($\beta = -0.098$, CI = [−0.168, −0.028], $p < 0.01$). The moderating effect of service recovery dissatisfaction through stability attributions uniquely accounts for 1.80% of the variance ($F = 7.665$; $p < 0.01$). The outcomes of the simple slope analysis [Figure 2(a)] specify that rising levels of service recovery dissatisfaction are associated with low levels of customer forgiveness among those with high levels of stability attributions ($\beta = -0.373$, CI = [−0.481, −0.265], $p < 0.01$), but to a lesser extent, for customers with low levels of stability attributions ($\beta = -0.173$, CI = [−0.300, −0.045], $p < 0.01$). Figure 3(a) exhibits the results of the Johnson–Neyman technique, suggesting that as stability attributions increase over 2.909, the relationship between service recovery dissatisfaction and customer forgiveness for customers becomes significant.
Role of customer forgiveness
Cheng-Yu Lin and En-Yi Chou

Table 4 Results of moderating effect

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Moderator: stability attributions (W1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X1: service recovery dissatisfaction</td>
<td>0.143</td>
<td>−0.183</td>
<td>0.469</td>
</tr>
<tr>
<td>W1: stability attributions</td>
<td>0.540</td>
<td>0.201</td>
<td>0.878</td>
</tr>
<tr>
<td>X1 × W1</td>
<td>−0.098</td>
<td>−0.168</td>
<td>−0.028</td>
</tr>
<tr>
<td>Service failure severity</td>
<td>−0.347</td>
<td>−0.460</td>
<td>−0.234</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.234</td>
<td>−0.479</td>
<td>0.011</td>
</tr>
<tr>
<td>Age</td>
<td>0.050</td>
<td>−0.082</td>
<td>0.182</td>
</tr>
<tr>
<td>Education</td>
<td>0.024</td>
<td>−0.110</td>
<td>0.158</td>
</tr>
<tr>
<td>R² = 0.341; F = 20.879; p &lt; 0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Moderator: controllability attributions (W2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X1: service recovery dissatisfaction</td>
<td>−0.065</td>
<td>−0.247</td>
<td>0.118</td>
</tr>
<tr>
<td>W2: controllability attributions</td>
<td>0.249</td>
<td>0.024</td>
<td>0.474</td>
</tr>
<tr>
<td>X1 × W2</td>
<td>−0.064</td>
<td>−0.111</td>
<td>−0.016</td>
</tr>
<tr>
<td>Service failure severity</td>
<td>−0.377</td>
<td>−0.488</td>
<td>−0.266</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.218</td>
<td>−0.466</td>
<td>0.029</td>
</tr>
<tr>
<td>Age</td>
<td>0.052</td>
<td>−0.081</td>
<td>0.185</td>
</tr>
<tr>
<td>Education</td>
<td>0.051</td>
<td>−0.082</td>
<td>0.184</td>
</tr>
<tr>
<td>R² = 0.336; F = 20.376; p &lt; 0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Moderator: relationship duration (W3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X1: service recovery dissatisfaction</td>
<td>−1.421</td>
<td>−1.807</td>
<td>−1.036</td>
</tr>
<tr>
<td>W3: relationship duration</td>
<td>−0.590</td>
<td>−0.847</td>
<td>−0.333</td>
</tr>
<tr>
<td>X1 × W3</td>
<td>0.245</td>
<td>0.163</td>
<td>0.328</td>
</tr>
<tr>
<td>Service failure severity</td>
<td>−0.384</td>
<td>−0.490</td>
<td>−0.278</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.177</td>
<td>−0.411</td>
<td>0.057</td>
</tr>
<tr>
<td>Age</td>
<td>0.112</td>
<td>−0.015</td>
<td>0.239</td>
</tr>
<tr>
<td>Education</td>
<td>0.044</td>
<td>−0.084</td>
<td>0.171</td>
</tr>
<tr>
<td>R² = 0.401; F = 26.959; p &lt; 0.01</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(d) Moderator: affective commitment (W4)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>X1: service recovery dissatisfaction</td>
<td>−0.792</td>
<td>−1.025</td>
<td>−0.569</td>
</tr>
<tr>
<td>W4: affective commitment</td>
<td>−0.588</td>
<td>−0.843</td>
<td>−0.332</td>
</tr>
<tr>
<td>X1 × W4</td>
<td>0.130</td>
<td>0.077</td>
<td>0.183</td>
</tr>
<tr>
<td>Service failure severity</td>
<td>−0.341</td>
<td>−0.451</td>
<td>−0.232</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.191</td>
<td>−0.431</td>
<td>0.049</td>
</tr>
<tr>
<td>Age</td>
<td>0.085</td>
<td>−0.045</td>
<td>0.214</td>
</tr>
<tr>
<td>Education</td>
<td>0.067</td>
<td>−0.064</td>
<td>0.197</td>
</tr>
<tr>
<td>R² = 0.370; F = 23.645; p &lt; 0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; **p < 0.01; LLCI: lower-limit confidence interval; ULCI: upper-limit confidence interval

Consistent with our expectations of H4, the negative effect of service recovery dissatisfaction on customer forgiveness is bolstered (Table 4, Model 2) when controllability attributions are high (β = −0.064, CI = [−0.111, −0.016], p < 0.01). Moreover, the interaction accounted for a significant increase in R² by 1.60% (F = 6.984; p < 0.01). The simple slope results [Figure 2(b)] denote that customers with higher levels of controllability attributions (β = −0.372, CI = [−0.490, −0.254], p < 0.01) demonstrated a stronger negative relationship between service recovery dissatisfaction and customer forgiveness than customers with lower levels of controllability attributions (β = −0.179, CI = [−0.296, −0.062], p < 0.01). The findings of the floodlight analysis [Figure 3(b)] outline that the Johnson–Neyman point is 1.151, conveying that the effect between service recovery dissatisfaction and customer forgiveness is significant when controllability attributions are higher than 1.151. Meanwhile, the effect increased with higher levels of controllability attributions. Thus, H4 is supported.

As per H5, the results (Table 4, Model 3) showed a significant interaction between service recovery dissatisfaction and relationship duration on customer forgiveness (β = 0.245, CI = [0.163, 0.328], p < 0.01). An increase in R² of 7.30% (F = 34.429; p < 0.05) is accounted for by the interaction. Simple slope analysis in Figure 2(c) conveys that in the high relationship duration condition, service recovery dissatisfaction has a less negative effect on customer forgiveness (β = −0.034, CI = [−0.161, 0.093], p > 0.05) compared to the effect of service recovery dissatisfaction in the low relationship duration condition (β = −0.573, CI = [−0.700, −0.446], p < 0.01). As shown in Figure 3(c), the conditional effect of service recovery dissatisfaction on customer forgiveness was statistically
significant for customers scoring lower than 5.346 on relationship duration. Therefore, the significant association of service recovery dissatisfaction with customer forgiveness was lost beyond the value regions.

Service recovery dissatisfaction × affective commitment on customer forgiveness is positively significant \( (\beta = 0.130, \text{CI} = [0.077, 0.183], p < 0.01) \) (Table 4, Model 4), and the addition of the interaction term significantly enhanced the model \( (\Delta R^2 = 5.20\%, F = 23.353, p < 0.05) \). An investigation of the interaction from the simple slope analysis [Figure 2(d)] revealed that customers with high affective commitment perceived a weaker relationship between service recovery dissatisfaction and customer forgiveness \( (\beta = -0.091, \text{CI} = [-0.211, 0.029], p > 0.05) \) compared to customers with lower affective commitment \( (\beta = -0.410, \text{CI} = [-0.514, -0.305], p < 0.01) \). The outcomes from the floodlight analysis validate that the Johnson–Neyman point for affective commitment occurs at 5.240 [Figure 3(d)]. As affective commitment rises above the specified value, the relationship between service recovery dissatisfaction and customer forgiveness becomes insignificant; thus, \( H6 \) is supported.

**Discussion**

Although relevant literature has emphasized the importance of customer forgiveness in service recovery management (Harrison-Walker, 2019a; Strelan and Covic, 2006; Tsarenko et al., 2019; Tsarenko and Tojib, 2015; Tsarenko and Tojib, 2011; Xie and Peng, 2009; Yagil and Luria, 2016; Zourrig et al., 2009), empirical investigations concerning the role of customer forgiveness in a double-deviation context is lacking. Additionally, research on boundary conditions of customer forgiveness remains even scarcer. Building on the stress and coping theory, this study aims to determine the role of customer forgiveness and its boundary conditions in double-deviation scenarios. The results demonstrate that unsatisfactory service recovery results in a low level of customer forgiveness, leading customers to make online and third-party complaints. The results corroborate the mediating role of customer forgiveness in the linkage between service recovery dissatisfaction and postrecovery customer complaints. Moreover, the results show that both attribution-based factors (i.e. stability and controllability) and relationship-based factors (i.e. relationship duration and affective commitment) moderate the effect of service recovery dissatisfaction on customer forgiveness. On the one hand, the service recovery dissatisfaction–customer forgiveness relationship becomes stronger when stability and controllability attributions are enhanced. On the other hand, increasing relationship duration and affective commitment are associated with a weaker relationship between service recovery dissatisfaction and customer forgiveness. Our findings have significant theoretical and practical implications.

**Theoretical implications**

This study contributes to service recovery literature in two ways. First, this study represents one of the first studies to examine the mediating role of customer forgiveness on relationships between service recovery dissatisfaction and
postrecovery customer complaints in double-deviation contexts. This study affirms the significance of customer forgiveness for managing customers’ unsatisfactory service recovery experiences. Notably, even in a double-deviation scenario, customer forgiveness is found within the implicit self, determining the willingness to embrace self-healing power and subsequently influence how customers react to the service provider. Our findings support the notion that researchers should consider the role of customer forgiveness when researching service recovery management (Tsarenko et al., 2019; Xie and Peng, 2009; Yagil and Luria, 2016; Zourrig et al., 2009).

The second contribution of this study is its examination of the boundary conditions of customer forgiveness in double-deviation contexts. Researchers have called for investigations into the moderating mechanism of the service recovery evaluation–customer forgiveness link (Harrison-Walker, 2019b; Tsarenko and Tojib, 2011). According to the stress and coping theory (Lazarus and Folkman, 1984), customer forgiveness is affected by the relationship between primary (i.e. service recovery dissatisfaction) and secondary appraisals. This study integrates two aspects of secondary appraisals as moderators (attribution- and relationship-based factors) that have opposite moderating effects on the association between service recovery dissatisfaction and customer forgiveness. Our findings deepen the field’s understanding of the boundary conditions of customer forgiveness and provide possible complementary explanations for the service recovery dissatisfaction–customer forgiveness link.

**Managerial implications**

This study provides several notable managerial implications. Service firms are expected to take action to resolve service failures. Despite this well-established objective, effective service recovery is not devoid of challenges. As shown by this research, service managers are advised to remember that poor service recovery reduces customer forgiveness, whereas customers with lingering grievances would probably register online and third-party complaints that damage service firms. Therefore, managers should devise a system to detect if double-deviation situations exist. For instance, following up contact with customers after the service recovery could be part of this system. The following-up program should be prompt and should not let too much time pass by before the customer resorts to complaining. Besides, service employees should be educated about the impact of poor service recovery and be trained to monitor forgiveness responses. Service employees can observe customer forgiveness via customers’ nonverbal communication, such as facial expressions, body language and eye gaze, in service recovery encounters (Kelley and Waldron, 2005; Sandage and Williamson, 2007). Once customers display cold facial expressions, cross their arms during a conversation, communicate without head nods and lack eye contact, such negative nonverbal communication may present

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**Figure 3** Floodlight plot analyses

![Floodlight plot analyses](image)

**Notes:** SRD = Service recovery dissatisfaction; CF = customer forgiveness
a low level of forgiveness. Correspondingly, service employees can observe customer forgiveness not necessarily in customers’ words but in how they interact (Exline and Baumeister, 2000). By contemplating their (un)forgiving responses to a service recovery, service employees could become more sensitive to customer forgiveness.

The results of a positive moderating effect of stability and controllability attributions on the relationship between service recovery satisfaction and customer forgiveness reveal interesting insights. Managers should know that when customers experience stressful events that evoke a coping response, in tandem with high stability or controllability attributions with regard to a service failure, they may be more reluctant to embrace the self-healing power of forgiveness. When customers seek information to build their beliefs of attributions, service companies should be careful to provide timely and accurate information to customers. Hence, service firms should offer on-the-spot, fast and clear explanations of what caused the failure to prevent incorrect attributions and increase the possibility of customer forgiveness. Service employees should be trained to decipher which type of attribution customers are making. Then, service employees should carefully listen to customers’ statements that signal how customers attribute. Once customers mistakenly attribute the causes as stable and controllable, service employees should also be required to effectively explain service failures. For example, customers might attribute airline delays as a fault of the firm; yet, such delays might originate from uncontrolled circumstances, such as air traffic control or bad weather. In such cases, service employees should carefully provide explanations to avoid customers making wrong attributions.

Finally, this study provides evidence that service managers must consider the duration and depth of a relationship when cultivating customer forgiveness in unsatisfactory service recovery. Our results verify that the longer the relationship duration, the more the negative relationship between service recovery dissatisfaction and customer forgiveness is weakened. Service firms could make decisions upfront to build a “member since” system to record the relationship duration of customers. Managers must consider that short-term customers are less likely to forgive service firms when experiencing unsatisfactory service recovery. Therefore, managers could use this system to segment customers via relationship duration and engage more actively in follow-up communication with short-term customers. Still, the suggestion does not mean service firms can neglect long-term customers in the process of service recovery management. Moreover, results infer that customers’ affective commitment weakens the service recovery dissatisfaction–customer forgiveness relationship. Our findings provide another means whereby the negative effect of service recovery dissatisfaction on customer forgiveness can be mitigated. As even the best service company cannot offer excellent service recovery every time, it is imperative to develop a buffer beforehand for such occurrences. Service firms are advised to invest resources to deepen their connections with customers and establish affective commitment. For instance, service firms can probably increase customers’ affective commitment by consistently connecting with customers through loyalty programs.

Limitations and future research
Like all academic research, this study should be considered in light of its limitations. First, this study conducted a cross-sectional survey that includes a limitation of data collection at a time. Thus, the findings in this study must be explained with caution because the correlational relationships in the proposed model can only be inferred and not proven. Future studies could use additional manipulation in the degree of double-deviation scenarios to explore the causal relationships among primary appraisal, secondary appraisal and coping. Such experimental research would be beneficial for refining the causality findings. Second, despite several procedural and statistical remedies performed, this study cannot claim to completely avoid common method bias with regard to the self-reported data. According to Podsakoff et al. (2003), using multiple source data is a useful method to reduce common method bias. Hence, future research might measure the focal variables (e.g. online complaints) through a text mining approach by collecting data from online platforms frequently used by the respondents, after obtaining their permission. Moreover, this study addresses an individual encounter, evaluating specific service recovery interactions between customers and service firms. Examining the impact of service recovery evaluation on customer forgiveness over time is recommended. Finally, this study investigated the moderating roles of attribution- and relationship-based factors on the service recovery dissatisfaction–customer forgiveness link. Extensions including further variables, such as personal and other customer characteristics, could also provide valuable insights.

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**Role of customer forgiveness**

Cheng-Yu Lin and En-Yi Chou


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