

FINDING THE SWEET SPOTS: OPTIMIZING COMPENSATION IN PROACTIVE SERVICE RECOVERY

Nayyer Naseem, Johnson C. Smith University, USA
Sujoy Dutta, Wayne State University, USA
Attila Yaprak, Wayne State University, USA

ABSTRACT

Extant service recovery research shows that compensation positively affects post-recovery consumer outcomes. However, optimal compensation strategies remain unclear. Our research examined the impact of compensation on the relationship between proactive or reactive vendor initiation and associated consumer outcomes in service-failure-recovery situations, grounded in the justice theory. Using vignettes, we conducted between-subjects studies and found that proactive initiation boosts consumer satisfaction and decreases negative word-of-mouth and anger. These effects were moderated by the level of compensation within specific failure severity boundaries. Our research contributes to the service recovery literature and offers vendors objective guidelines to make cost-effective compensation decisions.

“People will forget what you said, people will forget what you did, but people will never forget how you made them feel.” – Maya Angelou

INTRODUCTION

As the quality, features, and cost gap narrow for similar offerings in the marketplace, intensified competition in each product or service category has elevated customer expectations for performance and after sales service excellence. In this scenario, the ramifications of unexpected product or service failures extend beyond mere frustration, potentially inciting anxiety, anger, or rage among users if service recovery is not done promptly and to the satisfaction of buyers, as ratified by a recent customer rage survey (Goddu, 2023). Thus, effective, and efficient service recovery emerges as a crucial component that can confer a lasting competitive advantage and may act as a unique selling proposition for any vendor. The service dominant logic (Vargo & Lusch, 2004; Lusch, Vargo, & O’Brien, 2007) embedded in market-driven and customer-centric firms, argues that a business achieves higher level of customer satisfaction by delivering excellent service, and recovering rapidly and successfully in case of a service failure. Zeithaml, Berry, & Parasuraman (1993) show that when customers’ expectations about a product or a service performance are compromised, it negatively impacts their satisfaction and loyalty towards the firm, and its offerings. Therefore, retailers and service providers must design and implement failure recovery mechanisms and policies, which can suitably compensate the customers for their unpleasant and often stressful experiences, with ease in a reasonable time, and in a friendly manner (Smith, Bolton, & Wagner, 1999; Maxham & Netemeyer, 2002). With the shift in focus from a transaction based to a customer lifetime value approach (Jain & Singh, 2002; Stewart, 2019), effective service recovery has become an important managerial capability for agile businesses today for their long-term success.

Despite these contributions, questions surrounding how much compensation is optimal and how best it should be offered remain understudied. This knowledge is important for a firm to retain the desired post-service-recovery customer behavioral outcomes, without offending them in the recovery process by compensating less than a reasonable amount, risking the spread of negative word of mouth (Halstead, 2002; Blodgett, Granbois, & Hill, 1993; Lang & Hyde, 2013; Arora, Gupta, & Naylor, 2021), or wasting firm's resources by overcompensating (Edstrom et al., 2022). Managers today need dynamic, data driven, empirical tools and techniques to help them decide on "optimal compensation", in a timely, courteous, and proactive manner, in any service-failure-recovery situation. This information and service recovery strategy has the potential to not only save money for the vendors, but also help them avoid paying less than optimal compensation, while keeping their customers happy. Our investigation was aimed to fill this research gap in the service recovery literature using Justice Theory (Rawls, 1971) as a conceptual anchor, along with other theoretical perspectives to support our propositions. Across two different service failure scenarios (coat defect and flight delay), we examined if the conditional effects of vendor initiation (relational justice – proactive vs. reactive vendor initiation: refer how we operationalized this construct in the "Relational Justice" under Theoretical Perspectives) are moderated by level of monetary compensation (distributive justice – incremental amounts) for our post-recovery focal consumer outcomes of customer satisfaction, repurchase intentions, negative word of mouth intentions, and anger (established scales used to measure these constructs are given in the appendix). We further investigated if these interaction effects can provide important monetary compensation values or markers for excessive, optimal, sub-optimal, or risky ranges of monetary compensation, and the extent of the influence of failure severity on these relationships.

Using vignettes, we collected data from participants in a leading mid-western university, for our three pretests, a pilot study, two main studies, and one post-hoc study using between-subjects study design. We used the IBM SPSS statistical software to analyze our data, and PROCESS Macro (Hayes, 2013) to determine the Johnson-Neyman points. These points served as markers along the incremental monetary compensation where the conditional relationship between proactive and reactive vendor initiation and any focal outcome variable, transitions from being statistically significant to nonsignificant. These indicators helped us develop numerical ranges of optimal compensation or the "sweet spots" for any specific service failure. Further, we used this analytical technique to test for a 3-way interaction between vendor initiation, monetary compensation, and failure severity on our focal outcome variables.

Our findings reveal that in the case of a moderate service failure, attributable to the vendor, proactive (as opposed to reactive) vendor initiation strongly influences consumer outcomes, and these conditional effects are moderated by the offered monetary compensation. Results also show that the interaction effects diminish as the compensation amount increases. Further, it was ratified that providers should avoid giving compensation amounts below their expectations for any specific failure situation. If customers' expectations are compromised, it may instigate their anger and tendencies for negative word of mouth; we term this range of compensation the "insult zone". The conclusions of our research contribute to the service-recovery literature and provide an empirical guideline to frontline managers in making better and informed compensation decisions.

We have organized the rest of this paper as follows: First, we review the relevant literature. Second, we develop our hypotheses using justice theory as our theoretical foundation and propose a causal model. Third, we present the research methodology, procedures, results, and discussion for each of our three pretests, the pilot study (simple effects), two main studies (interaction effects) and

an associated post-hoc study (3-way interaction effects). Finally, we offer conclusions, contributions, and limitations with avenues for future research.

LITERATURE REVIEW, RESEARCH GAP, AND THEORETICAL PERSPECTIVES

Literature Review:

The competitive marketplace today demands that vendors provide a pleasant engagement experience to customers prior, during, and in post purchase settings. The way after-sales-service is implemented can be a source of competitive advantage and a revenue generator for firms (Sheth, Jain, and Ambika, 2020). Resolving product or service failure situations to the satisfaction, or even delight, of customers provides an inimitable benefit to firms in today's customer-centric business environment. Thus, when a service failure occurs for any reason, for example, in the case of a damaged or defective product, missing a feature or part, inadequate product performance, delay in provision, poor quality, or availability of a better price etc., customers expect to be suitably compensated (Halstead, Morash, & Ozment, 1996). However, Grewal, Roggeveen, & Tsiros (2008) suggest that compensation is necessary only when the failure occurs frequently and is attributable to the product or the service provider.

In the extensive landscape of service recovery literature, a myriad of studies has significantly enriched our comprehension of the impact of monetary compensation on customer satisfaction in the context of service recovery. Boulding et al. (1993) conducted a seminal study, unveiling the profound influence of compensation on customer perceptions of service recovery efforts. Their findings underscored the positive correlation between appropriate monetary compensation and customer satisfaction following a service failure. Subsequently, Webster and Sundaram (1998) examined the intricacies of monetary compensation, emphasizing the pivotal role of fair and timely restitution in the restoration of customer satisfaction. Andreassen (2000) contributed by exploring the psychological dimensions of compensation, shedding light on how customers perceive and respond to monetary remedies in the intricate realm of service recovery situations. Palmer, Beggs, and Keown-McMullan. (2000) extended this exploration, examining the nuanced effects of various compensation strategies, such as refunds, discounts, and vouchers, on overall satisfaction within service recovery scenarios.

Advancing the discourse into the digital era, Ma & Zhong (2020) injected a contemporary perspective by investigating the evolving dynamics of monetary compensation. Their study not only delved into traditional channels but also probed the role of online platforms and electronic compensation mechanisms in shaping customer satisfaction during service recovery. Further expanding the research horizon, Blodgett, Hill, and Tax (1997) and Wirtz & Mattila (2004) broadened the scope by investigating not only the independent effects of monetary compensation but also the interdependent effects of critical aspects like the ease and speed of the recovery process, and the quality of vendor interaction. These studies collectively underscored the multifaceted nature of service recovery, emphasizing the necessity of a holistic approach to effectively address customer dissatisfaction. Additionally, scholars have identified several factors influencing or moderating service recovery strategies and subsequent customer behavioral outcomes (Harrison-Walker, 2022). For instance, Paulssen & Catenazzo (2015) demonstrated that, even with a commendable service recovery effort, perceptions of product quality and loyalty to the manufacturer may still diminish. Chan, Wang, & Chou (2023) highlighted the effectiveness of humor in conjunction with monetary compensation but cautioning that humor's efficacy

diminishes beyond a certain level of failure severity, emphasizing the delicate balance required in service recovery interventions.

Research Gap:

Some recent meta-analytical studies (Mir et al., 2023; Nowak et al., 2023) have extensively mapped the service recovery research landscape, exploring systematic bibliometric reviews and the scope of the service-failure-recovery literature. These studies identify research clusters and gaps, and underscore the need for further exploration, especially in the context of emerging online retail, digital marketing, and artificial intelligence. One notable area worthy of research relates to the need for the identification of optimal compensation in case of product or service failures. Our research addresses this need by providing empirical estimates of optimal compensation, delineating markers, and suggesting ranges for vendors to achieve positive post-service-recovery consumer outcomes without incurring negative consequences, identifying the “sweet spots”. The primary objective is to equip frontline managers with dynamic, data-driven tools for timely and proactive decision-making during service-failure-recovery incidents. Anchored in justice theory and employing other theoretical perspectives, we explore the conditional effects of vendor initiation (proactive vs. reactive), moderated by monetary compensation levels, on customer satisfaction, repurchase intentions, negative word of mouth, and anger. Our findings aim to provide actionable insights into proactive monetary compensation values, distinguishing excessive, optimal, sub-optimal, or risky ranges of compensation, all the while accounting for the influence of failure severity on these relationships. We believe our research has the potential to optimize compensation costs for vendors, enhancing customer satisfaction and contributing to better business outcomes.

Service recovery is a process, conceptualized as a customer-vendor encounter and failure-recovery course as a service recovery journey, composed of pre-recovery, recovery, and post-recovery phases (Van Vaerenbergh et al., 2019). Arsenovic et al. (2023), assert that collaboration between the vendor and customer, during the recovery encounter, is necessary if compensation is to mitigate negative emotional responses, with downstream effects on bad-mouthing behavior. Thus, it is important for a vendor and the customer to effectively maneuver and navigate through each phase of this journey.

Theoretical Perspectives:

From being a relationship marketing tool in the early 1990's (Brown, Cowles, & Tuten, 1996), scholars have advanced several theories to explain the service recovery process. For example, Attribution Theory (Kelley, 1973; Swanson & Hsu 2011) explains how people make causal inferences, for any given event that may shape their expectations and the type of attribution made for the compensation affects consumer's perception and evaluations of the offered compensation. Mental Accounting Theory (Thaler, 1999; Chuang et al. 2012) suggests that individuals employ a set of cognitive operations to organize, code, and evaluate economic outcomes; and keep track of these activities. This perspective shows that customer satisfaction is greater when service recovery efforts truly make up for what customers have lost.

Similarly, Disconfirmation of Expectations Theory (Anderson, 1973; McCollough, Berry, & Yadav 2000; Teas & Palan, 2003) proposes that the offered compensation is often compared to the internal reference or baseline compensation and is evaluated for its fairness. Resource Exchange Theory (Foa, 1976; Foa & Foa, 2012; Roschk & Gelbriech, 2017, Stakhovych & Tamaddoni, 2020) suggests service recovery compensation is optimal and effective, if the resource lost due to the failure

matches the resource gained from the recovery. Justice Theory (Rawls, 1971), on the other hand, assumes that consumers evaluate a service recovery based on a perception of justice or fairness. It argues that economic and social interactions inherent within service failures and recovery, result in customer evaluations of procedural, distributive, and interactional/relational dimensions of justice, in a recovery effort. It is the most prevalent theory in service recovery research (Lin, Wang, and Chang, 2011; Harris, Thomas, and Williams, 2013; Davidow, 2014; Migacz, Zoue, and Petrick, 2018), and we use it as our conceptual foundation for this inquiry, along with other relevant theoretical perspectives. We discuss justice theory in some detail below.

JUSTICE THEORY AND DIMENSIONS OF JUSTICE

Justice theory (Rawls, 1971) suggests that customers evaluate complaint incidents in terms of the outcomes they receive (distributive justice), the procedures used to arrive at the outcomes (procedural justice), and the nature of the interpersonal treatment or interaction during the recovery process (relational justice); the three dimensions of perceived fairness or justice. This view was clarified by Austin (1979, p. 24), who observes, "Justice pertains not merely to outcome distributions, but also to how the distribution is arrived at and how it is implemented." We elaborate on each of these three dimensions of justice below.

Distributive Justice

Distributive Justice refers to what is given out, as an outcome of the recovery effort. Described as provider atonement, it is characterized by tangible compensatory rewards in the form of discounts, refunds, returns, replacements, vouchers, coupons, gifts etc. Maxham & Netemeyer (2002, 241) defined distributive justice as the "extent to which customers feel they have been treated fairly with respect to the final recovery outcome." Several studies suggest that customer perceptions of perceived justice of tangible outcomes have a positive and significant effect on recovery evaluations or complaint handling (Blodgett et al., 1997; Tax et al, 1998). But there are also studies that have shown that a greater amount of compensation than expected may not significantly increase consumers' satisfaction (Garett, 1999). We used this dimension of justice as a moderator in our studies.

Procedural Justice

Procedural justice is gauged by the way a firm or firm's representatives bear the responsibility of the service failure, the speed in which complaints are addressed, and the time in which the service problem is resolved. While some studies assert significant impact of the speed, timing, and procedural ease on consumer's behavioral outcomes in a service-failure-recovery situation (Wen & Chi, 2013; Hogreve, Bilstein, & Mandi, 2017; Tang et al.,18; Xu, Liu, & Gursoy, 2019); other studies have provided only anecdotal evidence or potential weak positive impact of procedural justice on customer evaluations of service recovery (Blodgett et al., 1993; Bitner, Booms, & Mohr 1994). For this reason, and the scope and simplicity of our research model, we decided to ignore the impact of this dimension of justice on customer outcomes in our research, at this time. This is certainly a limitation of our research but offers the opportunity for a more comprehensive and wider scope of service failure studies in the future.

Relational Justice

Relational justice, also sometimes called interactional justice, refers to how the customers are treated by the firm's staff in a conflicting situation, and if the recovery is initiated in a proactive or

reactive manner. It reflects the customers' perception of the sincerity and appropriateness of the interaction provided by the firm's staff during the service recovery process. Clemmer (1993) found that customers use six principles in evaluating interactional justice in a service recovery situation: honesty, friendliness, politeness, bias, sensitivity, and interest. Therefore, when the vendor proactively initiates monetary compensation, it signifies a heightened sensitivity and interest in meeting the resolution needs of their customers. This proactive approach aligns with the principles of interactional justice, which has been consistently shown to be positively correlated with satisfaction in complaint handling (Blodgett et al., 1997; Tax et al., 1998). In our main studies, we integrated interactional justice as a categorical independent variable with two distinct conditions: proactive initiation (where the vendor initiates compensation without the customer's explicit request) and reactive initiation (where compensation is initiated by the vendor in response to the customer's request) within the context of a service failure and subsequent recovery.

It is important to note that the dichotomy between proactive and reactive vendor initiation conditions in our investigation is distinct from the three service recovery strategies delineated by Nowak et al. (2023): reactive recovery involving apologies and compensation; adaptive recovery encompassing employee empowerment, customer voice, humor, and timeliness of recovery; and proactive recovery comprising service guarantees, customer service orientation, and artificial intelligence. Our study focuses specifically on the dynamics of vendor initiation in response to service failure, providing subtle exploration of the impact of proactive and reactive approaches on customer outcomes, which are distinct from the broader recovery strategies outlined by Nowak et al. (2023).

RESEARCH STUDIES AND HYPOTHESES

Service Failure Severity and Consumers Service Recovery Outcomes:

In service recovery research, it has been shown that failure severity influences the consumers' compensation expectations, and their behavioral outcomes (Weun et al., 2004; Salagrama, Parashar, and Tata, 2023; McQuilken, 2010; Liu & Li, 2022; de Mesquita et al., 2023). Service failure severity has been conceptualized as a two-dimensional construct, comprised of the extent or magnitude of the failure itself, and the criticality or the magnitude of "the consequences of failure" for the consumer (Tsarenko & Tojib 2012). It was reported by Smith et al. (1999) that as the size of the loss due to a failure gets larger (magnitude), the customer will view the exchange as increasingly inequitable and will become dissatisfied, if the vendor's recovery efforts do not match his or her expectations. Whether the magnitude of loss that the customer experiences is tangible e.g., a monetary loss, or intangible, e.g., frustration, service failure extent will affect customer satisfaction outcomes directly (Oliver & Swan 1989).

In a similar vein, when a purchase occasion is critical to the consumer as determined by the magnitude of the consequences in the event of service failure, the customer will likely view the service failure as more serious (Iacobucci, Ostrom, & Grayson, 1995). When the customer views the loss incurred from a service failure in a situation as highly critical, the marketer will have to offer a substantially higher recovery effort to restore perceived equity (Goodwin & Ross 1992, Wang et al., 2011). For example, the differential impact of service failure criticality with a flight delay for a person returning home, as opposed to someone who has a job interview later that day, or a coat missing buttons on a normal day versus a very frigid day. Thus, when the severity of service failure is perceived to be high, it will raise customers' expectations for compensation in a recovery endeavor by the vendor. In our research we first test the level of severity for the two

focal scenarios coat defect and flight delay (see appendix) used in our main studies, and then test its impact in a three-way interaction.

Simple Effects - Influence of Monetary Compensation:

Gelbrich, Gathke, & Gregoire (2016) and (Gelbrich & Roschk, (2011), assert that partial compensation (less than full purchase price) has a greater incremental effect than overcompensation suggesting a nonlinear, concave curve progression between compensation and satisfaction. They explain this pattern by the law of diminishing returns or marginal utility that states - “the perceived value of consumption decreases with additional units” (Jolink & Van-Daal, 1998). As compensation increases, its incremental influence on satisfaction and other consumer post-recovery behavioral outcomes decreases because it represents remuneration above and beyond the consumer expectations. The above findings were confirmed by Garrett (1999) who showed that greater amounts of compensation did not significantly increase consumers’ post-service-recovery behavioral outcomes. Attribution Theory (Kelley, 1973) suggests that as the compensation increases beyond expectations, consumers start attributing the excess compensation to some other cause such as poor quality, or some hidden vendor motive. Such adverse attributions might dampen perceptions related to retailer credibility and trust, impacting consumer satisfaction.

Though the relationship between level of offered monetary compensation and post-recovery consumer outcomes is non-linear; per the previous discussion, it can be assumed to be linear within certain boundaries within the partial compensation around the baseline compensation (average expected compensation). We ratified this assumption through a “pilot study”, testing for simple effects of monetary compensation on our focal outcome variables of customer satisfaction, repurchase intentions, negative word of mouth, and anger.

Conditional Effects - Moderating Influence of Relational Justice:

In a service recovery situation, customers are likely to become emotional twice; once at the time of failure and the other during the recovery process, based on how the failure is handled (Valentini, Orsinger, and Polyakova, 2020). Relational justice alleviates the negativity towards the vendor and has a positive relationship with the re-patronage intentions (Blodgett et al., 1997; Tax et al., 1998; Smith et al., 1999). The proactive initiation of recovery effort by vendors signals their interest in improving the interaction with the consumers and by extension increases customer satisfaction. It serves as a “halo” which acts as the lens for viewing or perceiving the retailer’s further actions (Chernev & Blair, 2015) and anything extra the retailer might do goes farther in improving consumers’ perceptions and intentions, as compared to when that “halo” is not present, i.e., when the retailer does not initiate the recovery effort. This halo effect is due to heightened forgiveness, which is triggered by the signals of firm repentance and sincerity towards service recovery (Hyodo & Bolton, 2020). Therefore, when distributive justice (offered compensation) is accompanied with proactive relational justice (initiation, courtesy, or/and apology) it will have a greater influence on consumer satisfaction, loyalty, and other positively correlated variables such as purchase intentions and repurchase intentions, than otherwise. This synergic advantage, however, will diminish at the higher levels of compensation as explained by the law of diminishing returns (Jolink & Van-Daal, 1998). On the other hand, if the consumer initiates the recovery process (reactive vendor initiation) by seeking compensation, a larger discount will still lead to more positive perceptions (at least to an extent, within the range of linear relationship between the two), but at any given compensation level there will be no halo for an elevated perception of relational justice. Consequently, the degree of

positive effect of the discount would be smaller at that value than if the retailer were to initiate the recovery.

Despite the “halo effect” in the case of vendor-initiated recovery, the relationship between offered compensation and consumer post-recovery outcomes will be stronger, when the compensation is asked for, or the recovery process is initiated by the customer (reactive approach of vendor). This probably happens because of the possibility that the vendor may or may not honor a customer’s request to be compensated. If honored, it may lead to delight and influence the customer in a positive way by reinforcing customer loyalty. But if the request is denied, it may lead to customer disappointment, embarrassment, lowering of self-esteem, and influencing the customer in a negative way, sometimes leading to outrage (Schnieder & Bowen, 1999). From the social exchange theory perspective, Sierra & McQuitty (2005) assert that honoring a customers’ request for compensation inculcates a sense of shared responsibility in the interaction of the two parties to determine risks and benefits in service settings. Thus, if a customer’s request for compensation is honored by the vendor, it gives the customer a sense of relief from all those negative anticipations about the process and provides a sense of “win”, leading to a higher degree of satisfaction, compared to when the vendor initiates the recovery process. Therefore, per dollar monetary compensation increase might boost satisfaction at a higher rate as opposed to when the vendor initiates it, because there is no sense of relief or winning involved there. Based on this reasoning we propose that the relationship between compensation and customer satisfaction (repurchase intentions) would be stronger with a steeper slope in the absence of relational justice, despite starting at the lower level. These effects should get reversed for outcome variables, such as, negative word of mouth and anger that have a negative relationship with distributive justice. Thus, for outcome variables that share a negative relationship with monetary compensation, the stronger relationship with a steeper slope in the absence of relational justice would start at a higher level for smaller compensation amounts. Hence, we propose an interaction between the two conditions of relational justice with incremental monetary compensation to determine the extent of their influence on consumer outcomes.

It should be pointed out here that the shift in any outcome variable due to relational justice would also depend on the quality of customer engagement of a firm’s staff. Since there is some amount of subjectivity involved in measuring the extent and quality of relational justice, in this study we classify relational justice as a categorical variable limited to vendor’s initiation of the recovery process, either proactively or reactively. From the above discussion we predict that despite a higher starting level, the rate of change in satisfaction and repurchase intentions with increases in offered monetary compensation will be weaker in the presence of proactive (as opposed to reactive) vendor initiation of service recovery. Similarly, despite the lower starting level, the rate of change in negative word of mouth and anger will be lower in the presence of proactive (as opposed to reactive) vendor initiation. The conditional differences in consumer satisfaction (repurchase intentions, negative word of mouth, and anger will become nonsignificant at some higher value of compensation when vendor initiation would not matter and the lines for the two conditions would tend to intersect. Thus, we propose the following hypotheses, assuming boundary conditions of moderate service failure that is attributed to the vendor (Grewal et al., 2008) within the linear range of these relationships, as follows:

H1a, b: *The positive relationship between vendor initiation and customer satisfaction (1a) [repurchase intentions (1b)] will be moderated by the level of offered monetary compensation.*

H2a, b: *The negative relationship between vendor initiation and intentions for negative word of mouth (2a) [anger(2b)] will be moderated by the level of offered monetary compensation.*

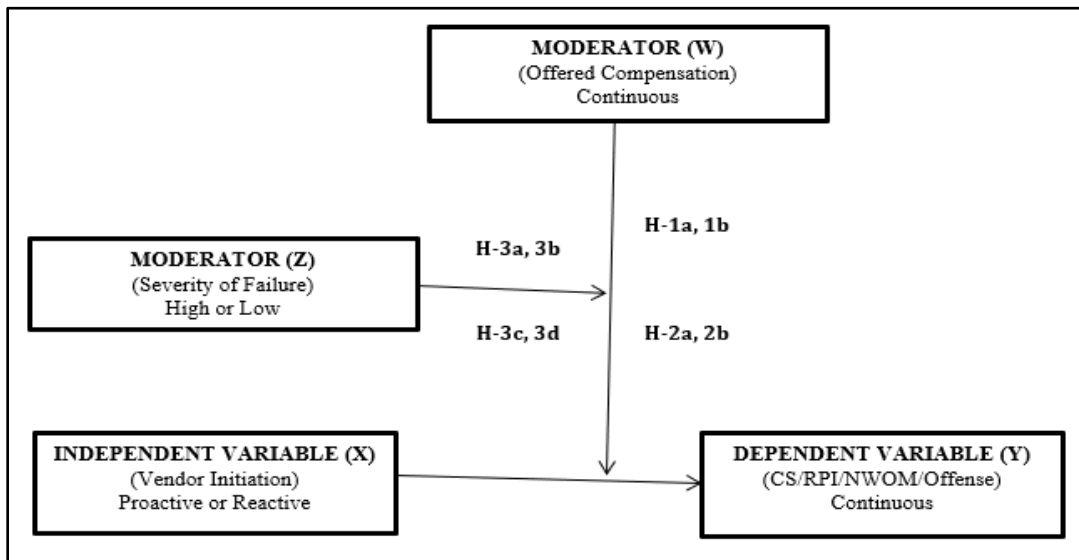
3-Way Interaction Effects - Influence of Failure Severity:

When the severity of failure is high, consumers would expect much greater monetary compensation for their loss of time and resources (Oliver & Swan, 1989; Goodwin & Ross 1992). It may take a much higher level of monetary compensation to achieve the desired level of post-recovery behavioral outcomes, and to see nonsignificant differences between the two initiation conditions (proactive or reactive). This is because customers would seek each extra dollar and would be equally satisfied with it regardless of who initiated the recovery. This might result in either shifting the optimal range to higher amounts of compensation or we may see no moderating effect due to vendor initiation. Thus, we propose the following hypotheses:

H3a, b, c, d: *The moderating effect of monetary compensation in the relationship between vendor initiation and customer satisfaction (3a) [repurchase intentions (3b), negative word of mouth (3c), and anger(3d)] is contingent upon the extent of failure severity.*

We tested the above hypotheses for two different failure scenarios - coat defect and flight delay. Next, we present our conceptual model in Figure-1 below.

Figure-1: Interaction Effects Model (Main Studies):



METHODOLOGY

To test our proposed hypotheses, we used a scenario-based survey approach, which alleviates the difficulties associated with the observation or enactment of service failure and recovery incidents in the field, and reduce biases from memory lapses, rationalization tendencies, and consistency factors (Grewal et al., 2008). Using vignettes, we conducted three pretests, a pilot

study, two main studies, and one associated post-hoc study, to test our hypotheses. The methodological details for each are as follows:

Pretests:

We conducted Pretest-1 to measure the service failure believability, attribution, and severity, for a coat defect and a flight delay scenario, see appendix for the scenario descriptions. We performed Pretest-2 and Pretest-3 to determine the average expected compensation for each of these scenarios, respectively. All the measures we used were from established scales and are listed in the appendix with their reported alpha values.

Pilot Study:

We conducted a pilot study to test the simple effects and to ratify the results of Gelbrich et al., (2016), and Garrett (1999) that compensation beyond a certain level has a weaker or no impact on the consumers' post service recovery outcomes. In addition, we needed to verify that the relationship between distributive justice and the focal consumer outcome variables is linear within the partial compensation range around the average expected compensation, in the case of a service recovery scenario. For the pilot study, we had each respondent read a defective coat scenario (like the one given in the appendix) that offered a certain monetary compensation in the form of a discount on the purchase price around the measured expected average value of compensation for the defective coat scenario, determined in Pretest-2. We treated the offered discount as a continuous variable in the regression analysis following the recommendations of Rhemtulla and Savalei (2012). We measured the focal post-recovery consumer outcome variables at each offered discount value.

The Main Studies:

In our main studies, we tested the conditional effects of vendor initiation (proactive vs. reactive) in each scenario separately, Study-1 for the coat defect and Study-2 for the flight delay. Each respondent in these studies read a service failure scenario (like the one given in the appendix) that offered a certain amount of monetary compensation around the measured average value for each failure situation, estimated in the respective Pretest-2 and Pretest-3 for each scenario. We manipulated the vendor initiation (proactive or reactive) for each compensation amount in the scenario in the description in equal proportion in the surveys. The focal consumer outcome variables measured were - consumer satisfaction, repurchase intentions, negative word of mouth and anger. Participants rated their level of agreement (1 = strongly disagree to 7 = strongly agree) for the items measuring these variables, using established scales with item details and alpha values provided in the appendix. All surveys were between subjects and the collected data were reviewed for any missing values, attention checks, outliers, normality, correlations, collinearity, and common method bias prior to running the detailed statistical analysis.

To estimate the Johnson-Neyman Point, we followed the "floodlight approach" as described by Spiller et al. (2013) using the PROCESS Macro Model-1 (Hayes 2013) to run the moderation analysis and check for conditional effects on each outcome variable. We did so to identify the point along a continuous moderator variable (offered compensation) where the conditional effect of the independent variable (vendor initiation: proactive vs. reactive) transitions from being statistically significant to nonsignificant, for a focal outcome (dependent) variable. These recognized points provide important markers for the objective assessment of compensation

and identify the numerical ranges of its effectiveness. We followed this approach in estimation of excess, optimal, sub-optimal and risky ranges of compensation.

The sample selection approach for each study sought to fulfill a minimum of 30 participants per experimental cell (Van-Voorhis and Morgan, 2007), for a power estimate of 80%, a number which exceeds the standard sample sizes in the existing experimental design literature (Elder & Krishna, 2009; Lee, Keller, & Sternthal, 2009). In addition, power analysis, using the G-Power software was used to determine the appropriate sample size of 316 for our moderation analysis using a small effect size = 0.035, alpha = 0.05, power = 0.80, and number of predictors = 3.

Post Hoc Studies:

We conducted a post-hoc study to test for the influence of “severity” in a 3-way interaction, for the conditional relationship tested in the main studies, by consolidating the data from Study-1 and Study-2.

STUDY PROCEDURES, RESULTS, AND DISCUSSIONS

Pretest-1: Verifying Boundary Condition Assumptions for the Coat and Flight Scenarios.

Procedure: Prior to running Study-1 and Study-2, we conducted Pretest-1 to check for the validity of our boundary condition assumptions, including the scenario’s believability, failure attribution, and severity, between the coat defect and the flight delay scenarios. We had 64 undergraduate students at a leading US mid-western university [(37.5% female, mean age = 22.83 (5.58), respond to a randomly distributed survey, in lieu of course credit. Each survey described one of the two scenarios (coat defect or flight delay), like those detailed in the appendix, followed by some open ended, multiple choice, and some scaled response questions, on a 7- point semantic differential scale ranging from 1(strongly disagree) to 7 (strongly agree) for each a variable measured.

Results: The independent samples t-tests revealed no significant differences on the means for failure attributable to the vendor; mean (coat) = 5.68 (1.16) and mean (flight) = 5.58 (1.03) with $p > 0.05$ at $t_{(62)} = 0.349$. However, significant differences were present between the two scenarios on the means for “believability of failure”, mean (coat) = 6.64 (0.73) and mean (flight) = 5.97 (1.28) with $p < 0.05$ at $t_{(62)} = 2.64$, and “severity of failure”, mean (coat) = 4.13 (1.23) and mean (flight) = 5.16 (0.93) with $p < 0.01$ at $t_{(62)} = -3.66$.

Discussion: From the results of Pretest-1 we see that on a 7-point scale the means for failure attributable to the vendors were more than the mid-point (4) of the scale, and there was no significant difference, between them for the two scenarios (coat defect and flight delay). However, significant differences were noted on the means for believability and severity of failure, between the two scenarios.

Pretest-2: Determining the Baseline Discount (Coat Defect Scenario)

Procedure: We conducted Pretest-2 to estimate the average expected discount for a coat defect attributable to the vendor. A survey describing a coat defect scenario, like the one given in appendix (a \$200 coat missing two buttons), was presented to a group of undergraduate students in lieu of course credit. The respondents (N = 31, 51% female, mean age = 23.13 (3.42)) were asked for a fair discount.

Results: An average of \$26.96 (13.89) ~ \$27 was confirmed as a fair baseline discount.

Discussion: For a winter coat missing three buttons, attributable to the vendor, priced at \$200, the average discount expectation was \$27, approximately 13.48%. It may be noted that the mean value severity of this failure from Pretest-1 was 4.13 (1.23), very close to the mid-point of the 7-point semantic differential scale used to measure the same.

Pretest-3: Determining the Baseline Discount (Flight Delay Scenario)

Procedure: We conducted Pretest-3 to estimate the baseline (average) expected discount for the flight delay scenario attributable to the vendor. A survey describing a flight delay scenario, like the one given in the appendix (a flight purchased for \$200 gets delayed), was presented to a group of undergraduate students in lieu of course credit. The respondents (N = 46, 37% female, mean age = 24.69 (7.13)) were asked for a fair discount.

Results: An average of \$80.65 (65.83) ~ \$81 was confirmed as a fair baseline discount.

Discussion: For a flight delay of three hours, attributed to the vendor and priced at \$200, the average discount expectation was \$81, approximately 40.33%. It may be noted that the mean value severity of this failure from Pretest-1 was 5.16 (0.93), much to the right of the mid-point of the 7-point semantic differential scale used to measure the same. Perhaps the significant difference in the average expected fair discount can be attributed to the significant differences in the severity of failure between the coat and flight scenarios, with the flight delay being more severe than the coat missing buttons. Thus, each discount is commensurate with the perceived severity of the concerned failure.

Pilot Study: Simple Effects (Compensation and Customer Outcomes)

Procedure: We asked student participants [(N = 404, 45% female, mean age = 24.63 (6.07) years] at a leading US mid-western university, to read a customer's coat shopping scenario (like the one given in the appendix) at a winter clothing store, priced at \$200, and respond to a survey in lieu of course credit. We randomly assigned the participants to one of the cells in this 12x1 between subject design, where in the discount (monetary compensation) given was the between-subject-factor. We manipulated the offered discount from \$0 to \$81 in steps of 12 ordinal spaced amounts, some below, some above, and one at the average expected discount of \$27, as confirmed in Pretest-2 for the coat scenario. To estimate a curve and fit, we ran a stepwise multiple regression for the linear, squared, and cubic discount terms as independent variables. The significance of each of these discount terms was determined by the change in the value of the variance explained (R^2).

Results: The results for the simple, squared (quadratic), and cubic discount terms regressed as independent variables, in a stepwise regression, on customer satisfaction (repurchase intentions, negative word of mouth, and anger showed a significant R^2 values for linear terms, and statistically significant increases in the variance explained (R^2) for each dependent variable when adding the quadratic term, but these increases were less than 10%. The addition of the cubic term in the analysis did not make any significant changes in the R^2 value for customer satisfaction and anger; and made only a small but significant change for repurchase intentions and negative word of mouth publicity, per the results listed in Table-1 in the appendix.

Discussion: The results from the stepwise regression analysis showed significant linear and squared terms, which ratify that there is a quadratic (concave) relationship between the monetary discount and focal consumer outcome variables. However, within the partial discount range (less than the purchase price) around the mean expected discount the relationship was linear, as suggested by Gelbrich et al. (2016). This result verifies the diminishing effect on the outcome variables with incremental discounts, and potential change in the direction of the relationship at

higher values of the discount. Since the considerable proportion of variance explained (90%) was due to the linear component, for all the focal outcome variables, we can assume a linear relationship between monetary compensation and outcome variables for discount values around the baseline discount, in the case of a moderate failure that is attributable to the vendor.

Table-1: Pilot Study

Model	Adjusted Variance Explained (R^2) and Significance Values (N = 404)			
	Cust Satisfaction	Repurchase. Intent	Negative WOM	Anger
1(C + Disc)	0.501 (0.000)	0.275 (0.000)	0.175 (0.000)	0.339 (0.000)
2(+ Disc Sq)	0.552 (0.000)	0.328 (0.000)	0.228 (0.000)	0.382 (0.000)
3(+Disc Cu)	0.555 (0.063)	0.350 (0.000)	0.249 (0.000)	0.383 (0.132)

Study 1: Conditional Effects of Relational Justice (Coat Defect Scenario)

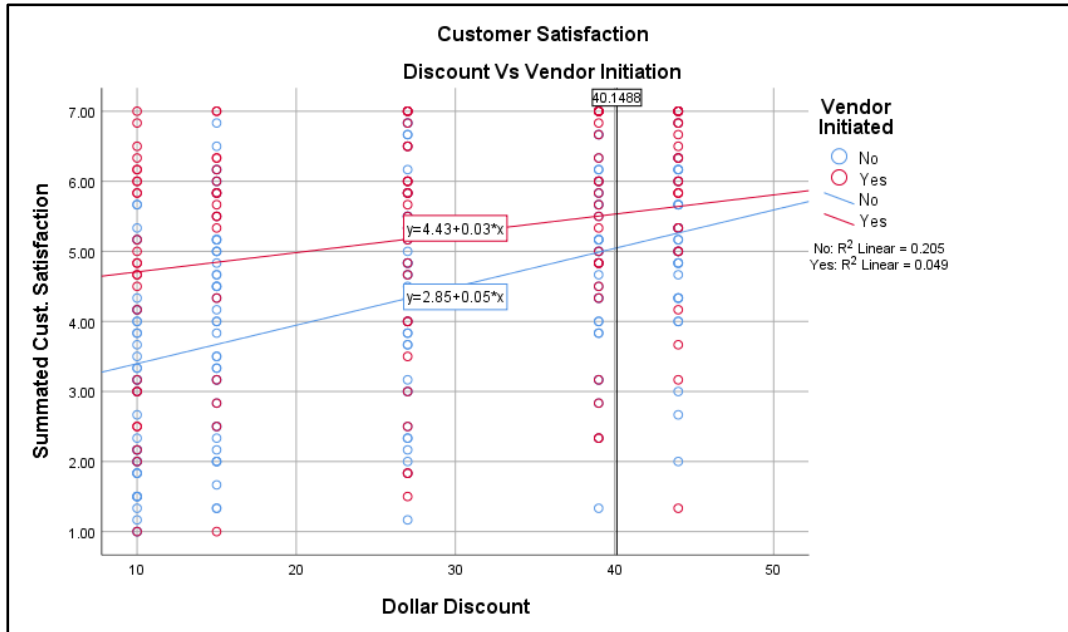
Procedure: Student participants [(N = 314, 45.2% female, mean age = 24.60 (6.25) years] at a leading US mid-western university, read a customer’s coat shopping scenario (like the one given in the appendix) at a winter clothing store, priced at \$200, and respond to a survey in lieu of course credit. We randomly assigned the participants to one of the cells in this 5x2 between-subject design. The discount (monetary compensation) given, and vendor initiation (relational justice) were the between subject factors. We manipulated the offered discount for \$10, \$15, \$27, \$39, and \$44.in steps of five ordinally spaced amounts, two below, two above, and one at the average expected discount of \$26.96 (13.89) ~ \$27, as we had determined in Pretest-2. Half of the scenarios described that the discount was asked for by the customer (reactive), while the other half described that the discount was initiated by the vendor (proactive) without the customer’s asking. We determined the Johnson-Neyman Point by running the moderation analysis (using PROCESS Model-1) and examined the conditional effects of proactive versus reactive vendor initiation for each focal outcome variable. We identified the point(s) along a continuous independent variable (the offered discount) where the moderation effect transitions from being statistically significant to being nonsignificant. These points gave important markers for the objective assessment of compensation and identifying the numerical ranges of its effectiveness. We followed this by estimating ranges for excess, optimal, sub-optimal and risky ranges of compensation.

Results: The results of our moderation analysis for the interaction between the discount given and vendor initiation (proactive vs. reactive), regressed on the focal outcome variables are given as below for Study-1. The Johnson-Neyman Point where the interaction effect becomes nonsignificant is identified for each focal outcome variable, within the range of monetary compensation around its average expected value for the conditional effects.

Customer Satisfaction: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a significant interaction with monetary compensation in customer satisfaction. The interaction coefficient $b = -0.0274$ at $t_{(3, 310)} = -2.0765$ ($p < 0.05$), was significant, supporting Hypothesis 1_a. Customer satisfaction would be higher if compensation was initiated by the vendor. As the discount increased, the interaction effect diminished and became nonsignificant at a discount level of \$40.15, about one standard deviation above the average expected discount ($\$26.96 + 13.89 = 40.85$), giving us the first marker. For any dollar discount beyond this amount proactive vendor initiation would not matter for customer satisfaction. Figure-2 in the appendix depicts the relationship graphically, with the Johnson-Neyman point at \$40.15. There was also a

significant difference on the means of customer satisfaction, between reactive recovery 4.26(1.29) and proactive recovery 5.189(1.636) with $t_{(1, 312)} = -4.977$ ($p < 0.01$).

Figure-2: Customer Satisfaction (Discount Vs Vendor Initiation) / Study-1



Repurchase Intentions: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a significant interaction with increasing monetary compensation for repurchase intentions. The interaction coefficient $b = -0.0236$ at $t_{(3, 310)} = -2.0597$ ($p < 0.05$), was significant (supporting Hypothesis 1_b). Repurchase intentions would be higher if the vendor initiated the compensation. As the discount increased, the interaction effect diminished and became nonsignificant at a discount level of \$33.9554, close to the mean value of discount (\$27.00) providing the second marker. For any dollar discount beyond this amount proactive vendor initiation would not matter for repurchase intentions. Figure-3 in the appendix depicts the relationship graphically, with the Johnson-Neyman point at \$33.99. There was also a significant difference on the means of repurchase intentions, between reactive recovery 5.153(1.322) and proactive recovery 5.682(1.296) with $t_{(1, 312)} = -3.476$ ($p < 0.01$).

Negative WOM Intentions: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a significant interaction with increasing monetary compensation for negative WOM intentions. The interaction coefficient $b = 0.0266$ at $t_{(3, 310)} = 2.0532$ ($p < 0.05$), was significant (supporting Hypothesis 2_a). The negative WOM intentions would be lower if the vendor initiated the discount. The interaction effect diminished and became nonsignificant at a discount level of \$30.0027, close to the mean value of discount (\$27.00) providing the third marker. For any dollar discount beyond this amount vendor initiation would not matter for negative WOM. Figure-4 in the appendix depicts the relationship graphically, with the Johnson-Neyman point at \$30.0027. There was also a

significant difference on the means of negative WOM Intentions between reactive recovery 2.47(1.458) and proactive recovery 2.020(1.511) with $t_{(1, 312)} = 2.624$ ($p < 0.01$).

Figure-3: Repurchase Intentions (Discount Vs Vendor Initiation) / Study-1

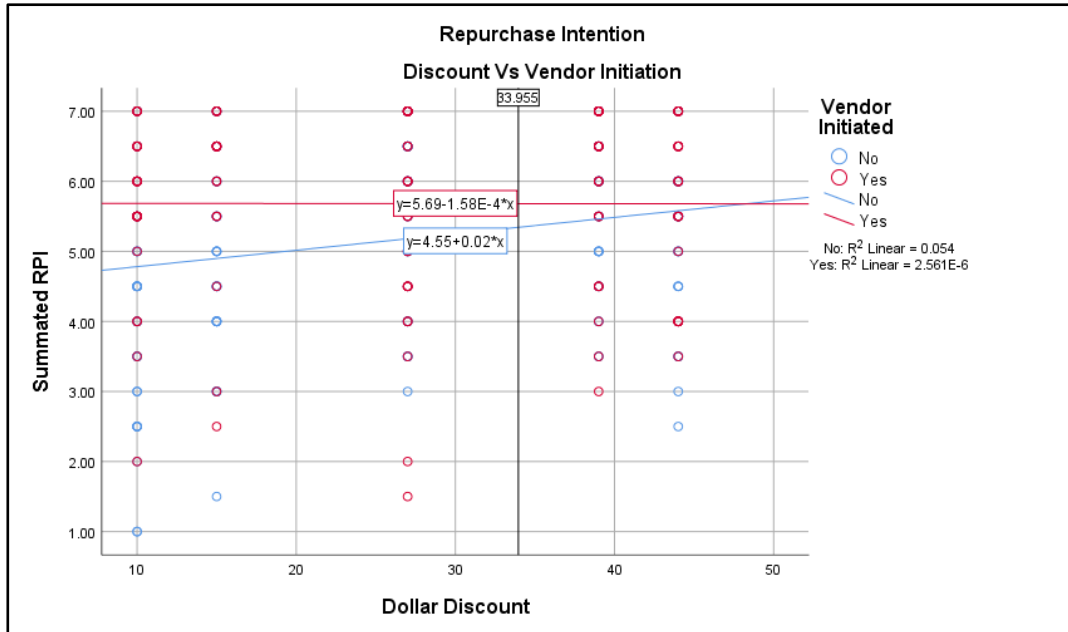
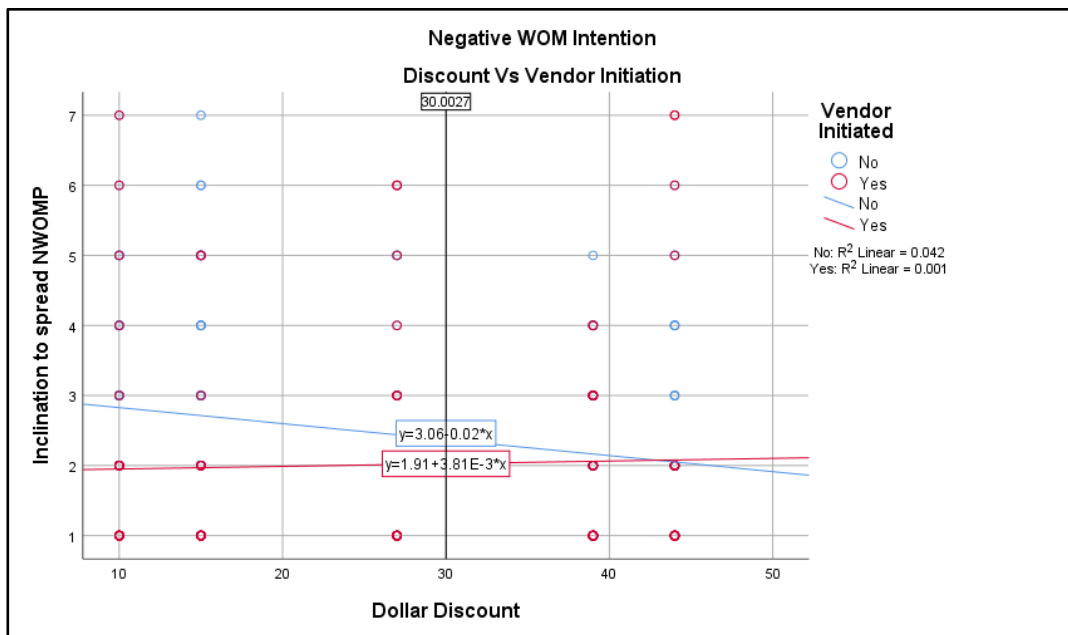


Figure-4: Negative WOM Intentions (Discount Vs Vendor Initiation) / Study-

1



Anger: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a significant interaction with increasing monetary compensation for anger. The interaction coefficient $b = 0.0233$ at $t(3, 310) = 1.7097$ ($p < 0.05$), was significant (supporting Hypothesis 2b). The anger would be lower if the vendor initiated the discount. The interaction effect diminished and became nonsignificant at a discount of level of \$21.0235, about a half standard deviation (-0.05 sigma) below the mean value of discount (\$27.00) providing the fourth marker. For any dollar discount beyond this amount vendor initiation would not matter for anger. Figure-5 in the appendix depicts the relationship graphically, with the Johnson-Neyman point at \$21.0235. But, there were nonsignificant differences on the means of anger, between reactive recovery 2.774(1.612) and proactive recovery 2.460(1.629) with $t(1, 312) = -1.671$ ($p > 0.05$).

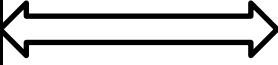
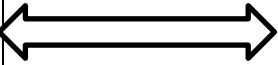
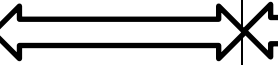
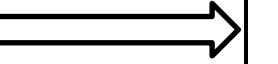
Figure-5: Anger (Discount Vs Vendor Initiation) / Study-1



Discount Ranges: From the above data analysis for the coat defect scenario, we see that if the offered discount is $> \$40.1488$ (1-standard deviation above the average expected discount) relational justice would not matter for customer satisfaction in this “*excess range*”. Customers would be more than happy and indifferent to the vendor’s initiation in this range of compensation. Any amount below this range would necessitate a relational justice for the desired level of customer satisfaction. Also, if the discount is between \$30.0027 (just above average) and \$40.1488 (1 sigma above average) the conditional differences would be significant for customer satisfaction, in this “*optimal range*” as the customers would be more satisfied with relational justice they would be receiving, and the negative WOM would not yet have become significant between the two conditions. Further, if the discount is between \$ 21.0235 (- 0.5 sigma) and \$30.0027 (just above average discount), in this “*sub-optimal range*”, anger would not have become significant yet between the two conditions, but they would be significant for negative WOM intentions. Finally, the discount enters the “*risky range*”, that is the compensation amounts below \$21.0235 (- 0.5 sigma), as conditional differences become significant

for all four focal output variables (customer satisfaction, purchase intentions, repurchase intentions, negative WOM, and anger). Figure-6 represents the discount ranges identified by Study-1 for reference in case of the coat defect scenario. We have termed this range as the “insult zone”, a range of compensation in which the customer will feel offended.

Figure-6: Discount Ranges (Study-1)

DISCOUNT RANGES (STUDY-2). Mean Discount = \$27			
Risky Range ($< \bar{x} - 0.5s$)	Sub-Optimal Range	Optimal Range	Excess Range ($> \bar{x} + 1s$)
			
$< \$21.02$	$> \$21.02 \leq \30.00	$> \$30.00 \leq \40.15	$> \$40.15$

Discussion: These results show that monetary compensation significantly moderates the relationship between vendor initiation (proactive vs. reactive) and customer satisfaction (repurchase intentions, negative WOM, and anger), in the vicinity of average expected compensation of \$27, for a moderate coat defect, attributable to the vendor (see Table-2: Hypotheses Support). These results also show that the optimal range of monetary compensation in the coat defect scenario, starts a little above the average customer expectations (at \$27) and ends at about 1 standard deviation (at \$40.15) above the average value, provided that the service recovery is initiated proactively by the vendor. However, if the recovery is delayed and the compensation is asked for by the customer then the minimum compensation offered by the vendor, reactively, should be at least 1 standard deviation above the average expected compensation value to maintain a level of satisfaction equivalent to proactive recovery, to be optimal.

In contrast, if the offered compensation is less than the average expected compensation, then the frontline staff must proactively initiate the monetary compensation and be courteous with the customers while interacting with them or there is a higher risk of offending them. This risk becomes significant if the offered compensation is below 0.5 standard deviation (at \$ 21.02), that is below the average expected value of the compensation for the given moderate severity of failure, and not accompanied by proactive relational justice, also termed the “insult zone”. This could lead to customer rage, anger, and frustration, all of which would require more efforts, resources, and a proper mitigation strategy (Goddu, 2023). Based on this analysis and depending on the purchase price of the offering, failure severity, and the desired level of post-recovery outcomes, management can develop appropriate monetary compensation range guidelines to be used by frontline staff as a quick reference guide, advising them on how to handle service recovery situations, both proactively and reactively. A computer program can be developed for any specific product or service vendor to estimate the optimal compensation ranges, based on the severity of failure attributable to the provider.

STUDY 2: CONDITION EFFECTS OF RELATIONAL JUSTICE (FLIGHT DELAY SCENARIO)

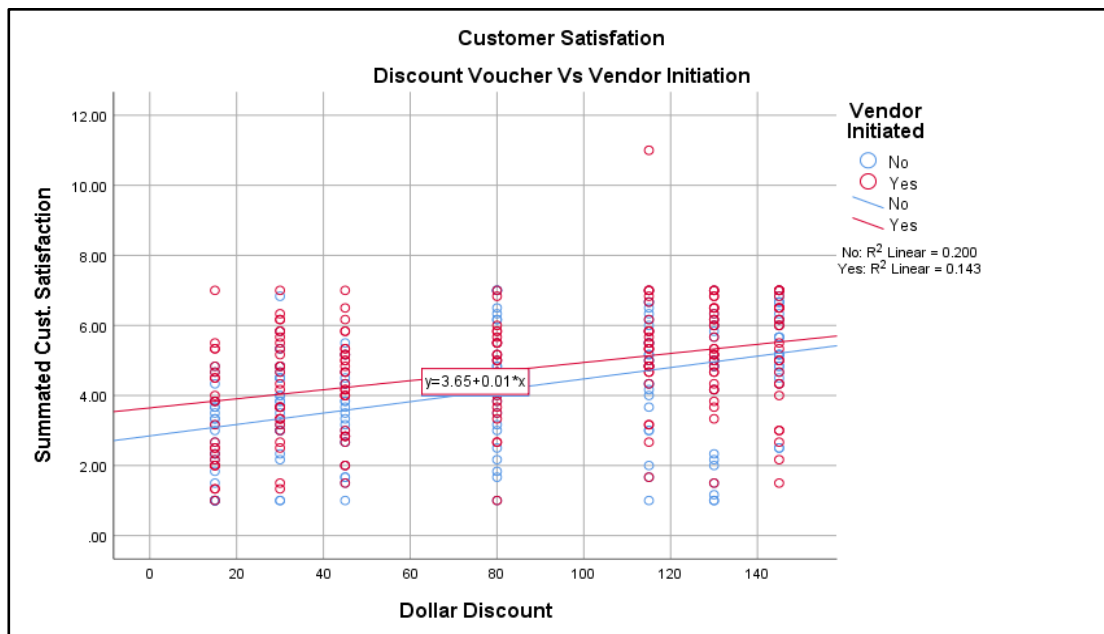
Procedure: Student participants [(N = 369, 41.2% female, mean age = 25.41 (6.53) years] at a leading US mid-western university, read a customer’s flight boarding experience (like the one given in the appendix), with a ticket purchased for \$200, and responded to a survey in lieu of course credit. We randomly assigned the participants to one of the cells in this 7x2 between subject design. The discount (monetary compensation) given, and vendor initiation (relational justice) were the between subject factors. The offered cash voucher was manipulated at \$15, \$30, \$45, \$80, \$115, \$130, and

\$145 in steps of seven ordinaly spaced amounts, three below, three above, and one at the average expected discount of \$80.65 (65.83) ~ \$80, determined in Pretest-3. In half of the scenarios described, the discount was asked for by the customer (reactive) and in the other half the discount was initiated by the vendor (proactive) without even customers' asking. We followed the same analytical procedure to estimate the Johnson-Neyman Point, as we had in Study-1.

Results: The results of moderation analysis for the interaction between monetary compensation given and vendor initiation (proactive vs. reactive), regressed on the focal outcome variables are given below. The Johnson-Neyman Point, if present, where the interaction effect becomes nonsignificant was identified for each focal outcome variable, within the range of monetary compensation around its average expectations value for the conditional effects.

Customer Satisfaction: The main effects of vendor initiation were nonsignificant ($p > 0.05$), while they were significant for the offered monetary compensation ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a nonsignificant interaction with monetary compensation in the case of customer satisfaction. The interaction coefficient $b = -0.0033$ was nonsignificant (Hypothesis 1_a not supported) at $t_{(3, 365)} = -0.9813$ ($p > 0.05$). Customer satisfaction was always higher with vendor initiation of service recovery. The difference between means of reactive recovery 4.141(1.727) and proactive recovery 4.714(1.616) was significant with $t_{(1, 367)} = -3.293$ ($p < 0.01$). This implies that bigger cash vouchers had greater satisfaction, which gets significantly enhanced with proactive vendor initiation. Figure-7 shows this relationship.

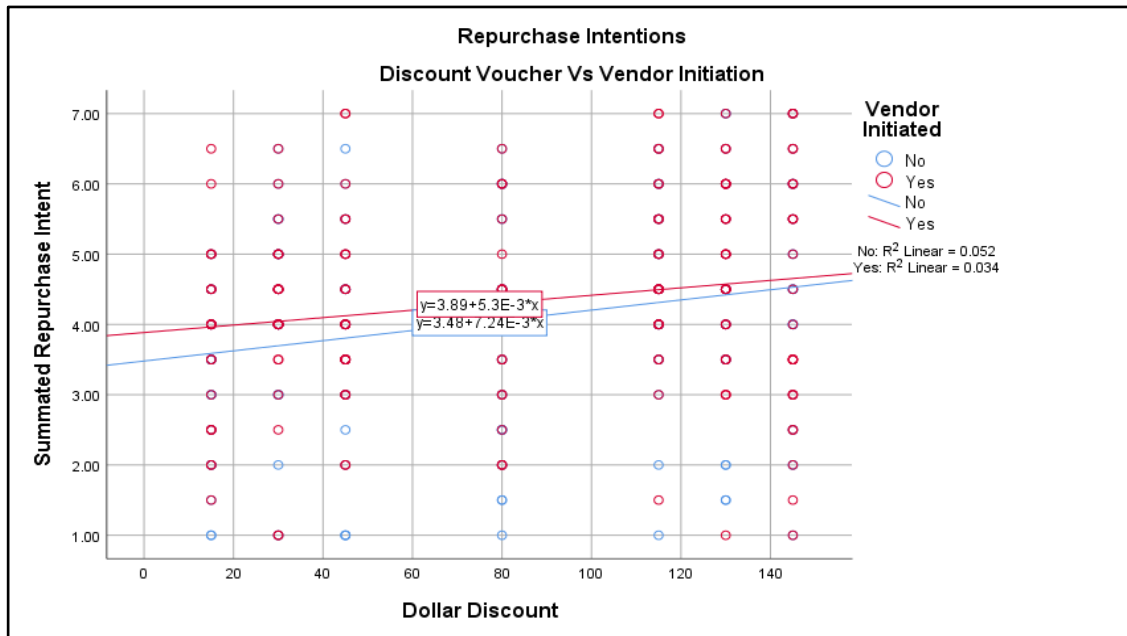
Figure-7: Customer Satisfaction
(Discount Voucher Vs Vendor Initiation) / Study-2



Repurchase Intentions: The main effects of vendor initiation were nonsignificant ($p > 0.05$), while they were significant for the offered monetary compensation ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a nonsignificant interaction with monetary compensation in the case of repurchase intentions. The interaction coefficient $b = -0.0019$ was

nonsignificant (Hypothesis 1_b not supported) at $t_{(3, 365)} = -0.6276$ ($p > 0.05$). Repurchase intentions were always a little but not significantly higher with vendor initiation of service recovery. The mean values between reactive recovery 4.056(1.504) and proactive recovery 4.322(1.358) were not significantly different with $t_{(1, 367)} = -1.784$ ($p > 0.05$). This implies that bigger cash vouchers led to slightly increased repurchase intentions, but this was not statistically significant, with proactive relational justice. Figure-8 shows this relationship.

Figure-8: Repurchase Intentions
(Discount Voucher Vs Vendor Initiation) / Study-2

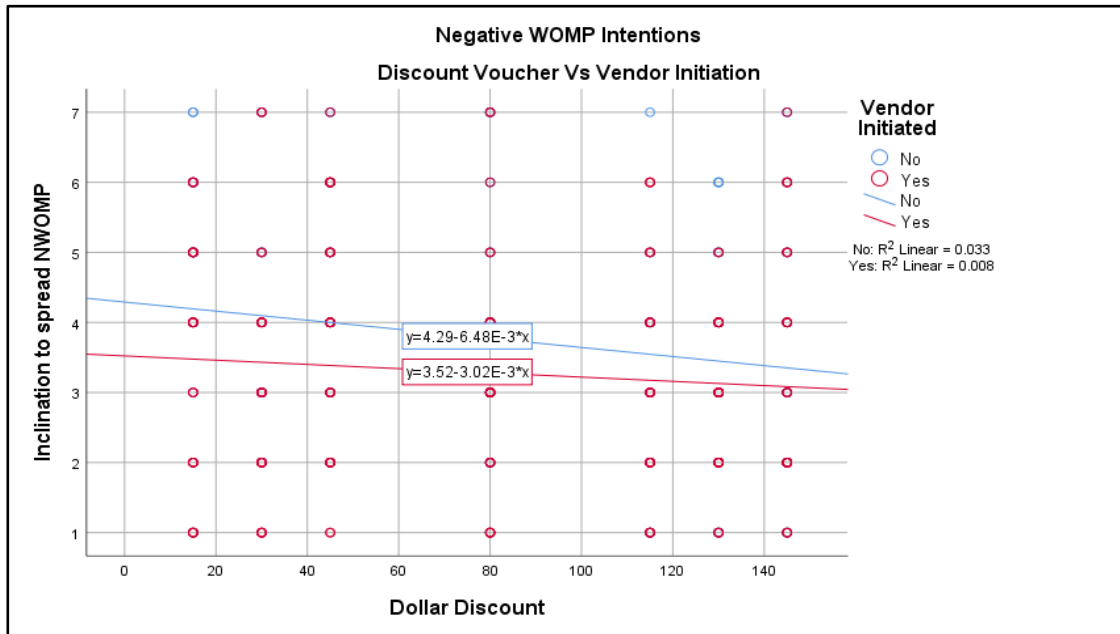


Negative WOM Intentions: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). However, the conditional effects of vendor initiation (proactive vs. reactive) had a nonsignificant interaction with monetary compensation in the case of negative WOM intentions. The interaction coefficient $b = 0.0033$ was nonsignificant (Hypothesis 2_a not supported) at $t_{(3, 365)} = 1.017$ ($p > 0.05$). Negative WOM intentions was always lower with relational justice with significant difference on means between reactive recovery 3.78(1.686) and proactive recovery 3.27(1.602) with $t_{(1, 367)} = 2.939$ ($p < 0.01$), meaning that higher value cash vouchers led to decreased level of negative WOM intentions, which got significantly reduced with proactive vendor initiation. Figure-9 shows this relationship.

Anger: The main effects of vendor initiation and offered monetary compensation were significant ($p < 0.05$). The conditional effects of vendor initiation (proactive vs. reactive) had a significant interaction with monetary compensation for anger. The interaction coefficient was significant (Hypothesis 2_b supported) with [$b = 0.0070$ at $t_{(3, 310)} = 2.1351$ ($p < 0.05$)], with less anger if the discount was initiated by the vendor. The interaction effect diminished and became nonsignificant at a discount level of \$117.186, about half a standard deviation (0.56 sigma) more than the mean value of the discount at \$80.65 providing the only marker. Anger was lower with proactive vendor initiation, a significant difference on the means in reactive recovery 3.124(1.778) and

proactive recovery 2.445(1.473) with $t_{(1, 367)} = 3.977$ ($p < 0.01$), meaning that larger-value cash vouchers led to decreased level of anger, which get significantly reduced with relational justice, but only up to certain point. Any dollar discount beyond this amount would have a dwindling decrease in the anger (refer study 1), but vendor initiation would not matter. Figure-10 depicts this relationship graphically, with the Johnson-Neyman point at \$117.186.

Figure-9: NWOM Intentions
(Discount Voucher Vs Vendor Initiation) / Study-2



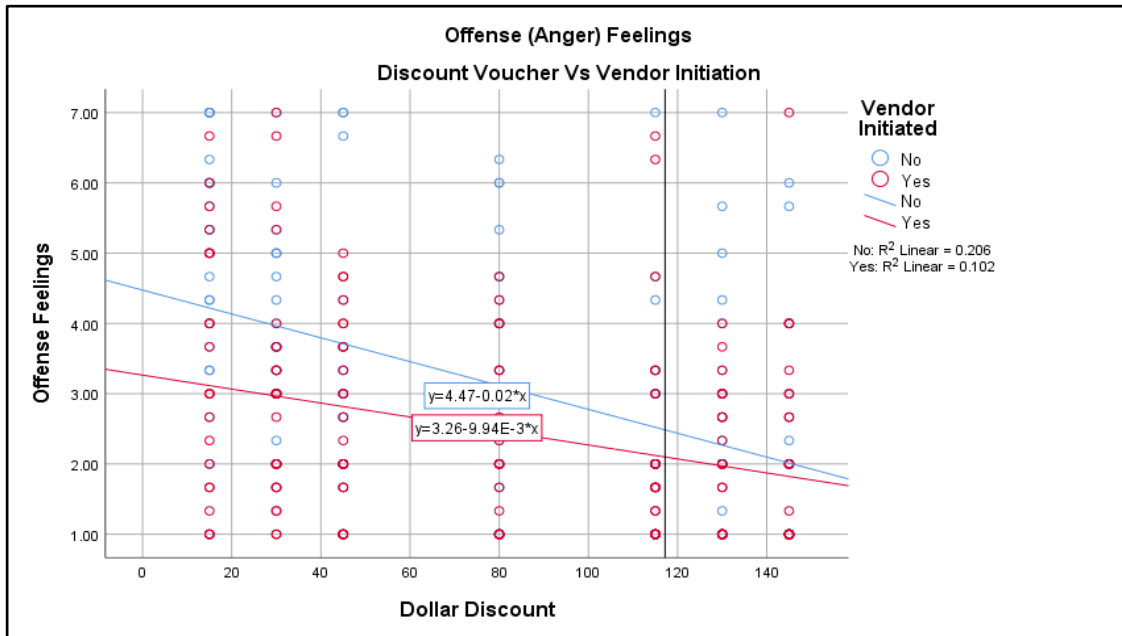
Discussion: The above analysis indicates that there is no interaction between vendor initiation (proactive vs. reactive) and offered discount for customer satisfaction, repurchase intentions, and negative WOM, except for anger within the focal range of compensation, in the flight delay scenario. As summarized in Table-2: Hypothesis Support, the results from Study-2 show that customer satisfaction and repurchase intentions will always be higher and negative WOM will always be lower if the compensation is accompanied by proactive vendor initiation. In case of anger, the proactive vendor initiation would no longer matter if the offered compensation was 0.5 sigma (about \$117.19) above the average expected compensation. This is perhaps because of the high level of severity measured in Pretest-1 for the flight delay scenario. These results confirm our expectations and lead us to an important finding - if the severity of failure is high then proactive relational justice would always lead to better customer outcomes, regardless of the amount of monetary compensation given.

Post-Hoc Study (3-Way Interaction with Study-1 and 2 Consolidated Data)

Design: The results of Study-1 and Study-2 show that all the proposed hypotheses are supported for the coat defect scenario, but not for the flight delay scenario (see Table-2). Even though both the coat defect and the flight delay scenarios are believable, and are attributable to the vendor, with the same purchase price of \$200; there are significant differences between the two scenarios on the measured “failure severity”, having mean (coat) = 4.13 (1.23) and mean (flight) = 5.16 (0.93) with

$p < 0.01$ at $t_{(62)} = -3.664$, as shown by the results of Pre-Test-1 (see appendix). To verify if the moderation effects of vendor initiation by monetary compensation on focal outcome variables, were contingent upon failure severity, we conducted a 3-way interaction analysis using the PROCESS (Model-3) macro on IBM SPSS. Failure severity was manipulated between the coat defect and flight delay scenarios, as low and high, per the findings of Pretest-2 and Pretest-3.

Figure-10: Anger
(Discount Voucher Vs Vendor Initiation) / Study-2



Procedure: The data from Study-1 and Study-2 were combined (N = 683). The discount given (monetary compensation), vendor initiation (relational justice), and severity of failure (extent and criticality) were the between subject factors. Because there were differences in the dollar amounts of average expected compensation, and the offered discounts between the two scenarios, a new categorical variable was created where the discount values were operationalized as “0” below average, “1” at average, and “2” above average, for the two scenarios, respectively. Vendor proactive initiation (0 = no or 1 = yes) and failure severity (0 = low or 1 = high) were the other two categorical variables included in the 3-way interaction.

Results: All the 3-way interactions for the focal outcome variables were nonsignificant as explained. Customer Satisfaction: $F_{(7, 675)} = 0.7403$ at $p > 0.05$, Repurchase Intentions: $F_{(7, 675)} = 1.1345$ at $p > 0.05$, Negative WOM: $F_{(7, 675)} = 0.8476$ at $p > 0.05$, and anger: $F_{(7, 675)} = 0.0284$ at $p > 0.05$.

Discussion: Contrary to our expectations, the results of 3-way interactions were nonsignificant (Hypotheses 3_{a, b, c, d} not supported), despite the significant differences we observed in the perceived failure severity between the coat defect and the flight delay scenarios in Pretest-1. Table-2: Hypotheses Support presents the results of the Post-hoc Study with consolidated data from Study-1 and Study-2. It may however be noted that the reported significant p -values for the F statistic were small, ranging from 0.2 to 0.3 for each of the focal customer outcome variables,

indicating the direction towards significance. It is possible that some other extraneous variables such as scenario differences, product vs. service domain, or other situational factors might be impacting our results.

Table-2: Hypotheses Support
(Study-1, Study-2, and Associated Post-Hoc Study)

S. No	Hypothesis	Study-1	Study-2	Post-Hoc
1	1 _a : The positive relationship between vendor initiation and customer satisfaction will be moderated by offered monetary compensation.	Yes	No	N/A
2	1 _b : The positive relationship between vendor initiation and repurchase intentions will be moderated by offered monetary compensation.	Yes	No	N/A
3	2 _a : The negative relationship between vendor initiation and intentions for negative WOM will be moderated by offered monetary compensation.	Yes	No	N/A
4	2 _b : The negative relationship between vendor initiation and anger will be moderated by offered monetary compensation.	Yes	Yes	N/A
5	3 _{a, b, c, d} : The moderating effect of monetary compensation in the relationship between vendor initiation and customer satisfaction (3 _a) [repurchase intentions (3 _b), negative WOM (3 _c), and anger (3 _d)] is contingent upon the extent of failure severity.	N/A	N/A	No

There appears to be no optimal range of monetary compensation, at least within the focal partial compensation range and in the vicinity of the average expected compensation in the flight scenario (Study 2). The results show that the higher the compensation the better the customer outcomes will be, and they get further accentuated with relational justice; significantly for customer satisfaction, negative WOM, and anger, but non-significantly for repurchase intentions, respectively. The mixed results here suggest that failure severity could be at play in these findings. Hence, in such a situation, how much to compensate becomes a little tricky and subjective depending upon what level of post-recovery consumer outcomes are desired. But compensation accompanied with vendor initiation will always have better recovery outcomes, when the level of severity is high, and it seems that optimal compensation range shifts towards the higher levels of monetary compensation.

The results of the post-Hoc study for our combined data from Study-1 (coat defect) and Study-2 (flight delay) show that though severity does not significantly influence the conditional relationship between vendor initiation (proactive or reactive), moderated by the monetary discount, and focal consumer outcomes; it does show a leaning towards this contingent effect. This could be because the two scenarios are different in many other respects, for example, the ambient environment of the purchase or service encounter, product vs. service offering, time of day, individual vs collective problem solving, differences in compensation expectations, the reputation of the provider, or some other unknown factors. A cleaner picture about the influence of “failure severity” in the referred relationship may emerge if two similar scenarios are compared by

manipulating failure severity only, offsetting, limiting, and controlling the influence of other variables as much as possible.

CONCLUSIONS

Our findings reveal that proactive vendor initiation has a stronger positive influence on customer outcomes in moderately severe failure situations, but the effect of compensation diminishes with higher amounts of failure severity. Compensation below the expected value may trigger negative customer reactions, while excessive compensation is unnecessary. The studies provide practical insights for frontline managers to make informed compensation decisions. Let us examine the results in greater detail.

The results of the Pilot Study ratified the diminishing effect on focal consumer outcome variables with incremental discounts. A considerable proportion of variance explained in the relationship between monetary compensation and customer outcomes was due to the linear component values around the average expected discount, in the case of a moderate service failure.

The findings of Study-1 (coat defect scenario) showed that monetary compensation moderates the relationship between vendor initiation and customer satisfaction (repurchase intentions, negative WOM intentions, anger) in a service recovery situation if the severity of failure is moderate (see Table-2). These results also provide us with an empirical assessment and a range of values for compensation indicating excess, optimal, sub-optimal, and risky ranges in terms of the standard deviation from the average expected compensation, when accompanied by proactive vendor initiation in the service recovery effort.

The results of Study-2 confirmed our hypotheses that when the severity of failure is high, then the interactional effects of relational justice (between proactive and reactive vendor initiation) are not likely to be significant with incremental monetary compensation (see Table-2). We further tested this assumption to confirm the interaction effect of failure severity on the above relationships in our Post-hoc Study (Three-Way Interaction). Though we did not get a significant three-way interaction for severity, the results did indicate severity's influence on the tested relationships in Study-1 and Study-2, and the conditional effects of relational justice with incremental monetary compensation. Further studies can be done to test similar scenarios to isolate the three-way interaction effects of severity and get a cleaner picture.

The results of these studies confirm propositions of Justice Theory (Rawls, 1971) that distributive justice (offered compensation) and relational justice (vendor interaction) have a positive impact on customer outcome variables such as satisfaction and repurchase intentions, and negative impact on variables like negative WOM and anger. From the managerial perspective, a business can save substantial amount of money by having a proactive customer interaction in its service recovery effort, especially if the failure severity is moderate, occurs frequently, and the vendor is responsible for the failure (Grewal et al, 2008). However, if the failure severity is high, there will be no moderating influence of distributive justice, with incremental amounts of monetary compensation, in the conditional relationship between the relational justice and customer outcomes. Relational justice would still matter and make a positive difference, but its intensity will not dissipate for higher values of monetary compensation. Thus, regardless of the level of severity, proactive relational justice is always helpful, but it is more helpful in the case of moderate service failures.

CONTRIBUTIONS

The collective findings from these studies unequivocally underscore the pivotal role of effective service recovery in securing a competitive advantage within the contemporary market landscape. Prioritizing customer satisfaction and expeditiously addressing service failures emerges as a strategic imperative for businesses aiming to cultivate and retain loyal customers. However, the determination of the optimal compensation amount and the most effective method of delivery stands as a noteworthy area ripe for further exploration. Our research makes a distinctive contribution by filling this critical gap, endowing frontline managers with data-driven tools that facilitate swift and informed decisions on the ideal compensation amount. By equipping managers with these tools, our research not only streamlines the decision-making process but also underscores the significance of offering compensation in a courteous manner. This approach not only mitigates the risk of negative word-of-mouth but also safeguards against resource wastage, ensuring a comprehensive and strategic approach to service recovery management. Below are some specific theoretical and managerial contributions of our research.

Theoretical Contributions:

This research contributes to the service recovery literature by examining the conditional relationship between relational justice and post-recovery consumer outcomes, and how it gets moderated by the level of monetary compensation, within certain boundary conditions. These studies illuminate a range of values of monetary compensation, with important and meaningful focal values that we call “markers”. The studies further explore if failure severity has any impact on this relationship and compensation ranges. This investigation helps answer an important research question; “how much and how best the vendors should compensate their customers in a service-failure-recovery situation to achieve desired consumer outcomes. It identifies the optimal compensation range for a given service failure situation that we call the “sweet spots”. This is the range of compensation, such that there is no or minimal impact on customers’ satisfaction and repurchase intentions, while mitigating their negative WOM intentions, and anger towards the brand or the provider, in the post-recovery consumer outcomes.

Managerial Contributions:

The findings from these studies offer practicing managers an objective method to assess optimal compensation approaches and their ranges. Managers can make better compensation decisions in their service recovery effort by considering the cost, attribution, and severity of the failure in any service failure scenario. This can not only help vendors save money from unnecessarily overcompensating their customers in a service-failure-recovery situation, but also help them avoid paying less than the optimal compensation amount, annoying their customers. Based on our findings reference guides or software products can be developed for frontline staff to quickly decide on optimal compensation for any service failure situation in a proactive manner

LIMITATIONS AND AVENUES FOR FUTURE RESEARCH

Our work aims to fill the knowledge gap in optimal compensation in a service-failure-recovery context but has limitations that present opportunities for future research.

First, due to the limitation of time, scope, and budget, we collected data from respondents living within the United States and our results may not necessarily be generalized to other countries due to cultural, socio-economic, and demographic, differences. Future researchers can collect data

in other countries to reinforce or refute our findings. Second, since many confounding variables exist surrounding a purchase situation, such as, the business environment, prevailing culture, competitive situation, type of service or the product, speed, and ease of recovery (procedural justice), etc., these may limit the robustness of our findings. Some contextual factors such as the time of the day we collected data, the mood of customers, weather conditions, and so forth, may also have influenced our findings. Including some of these influences in setting up a research agenda for further studies should provide new insights.

Third, though our research provides an empirical guideline to assess the optimal level of compensation, at times it is difficult to identify the extent of severity, and the amount of fair compensation. This is because of contextual variables involved, since each service failure situation is unique and there is a lot of subjectivity involved in the extent and quality of relational justice, with no established measures. The chemistry between the disgruntled customer and the frontline staff may also primarily affect service recovery. The development of more context specific interactional measures and failure recovery standards to assess the optimal amount of compensation for frontline staff would be helpful. These can be based on historical data and taking customer's post recovery feedback about their engagement experience, for better consumer outcomes in the field and practice. Fourth, our studies used a product (coat) and a service (flight) failure scenario whose findings may not be very comparable. More comparable scenarios where only the failure severity is manipulated would add strength to our findings. For example, moderate vs. high failure severity scenarios within each of these categories or in some other purchase setting may validate our findings further.

Fifth, field experiments or simulated lab experiments, where the respondents are exposed to a real buying situation with some degree of service failure, can also be conducted to establish the robustness of our findings. *Finally*, we did not explore the impact of a full range of compensation, for example the compensation values below the average expected monetary compensation to a point where nothing is offered at all. The indications of an insult zone, where compensation below average expected amount, in case of a service-failure-recovery scenario may trigger anger amongst customers and opens a research avenue for "Service Paradox-2", the idea that a business is better off giving no compensation at all, rather than offering something too little that may be insulting to the customer.

CORRESPONDING AUTHOR:

Nayyer Naseem, Ph.D.

Assistant Professor of Marketing

School of Business and Professional Studies, Johnson C. Smith University

100 Beatties Ford Road, Charlotte, NC 28216 USA

Email: nnaseem@jcsu.edu

Phone: +1-734-419-3632

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APPENDIX: LIST OF MATERIALS

Scenarios

Coat Defect: “Tracy needed a warm coat. One day in late fall she went to a leading winter clothing store and picked up a coat with a price tag of \$200 (not on any kind of sale) that carried a well-known brand label. The coat was not marked for any defects or had any price mark down. She really liked the coat as the brand, style, and size was perfect for her and proceeded to purchase the same. On reaching home while trying on the coat she found that it was missing three front buttons, perhaps because of customer trials. She went back to the store next day to exchange the coat, but despite her best efforts, Tracy could not find a similar coat of the same brand and size in the store available at that time, and neither the store had any alteration services available to put the missing buttons on. Deciding that she needs the coat, Tracy proceeded to the customer service counter of the store in anticipation of getting some break on the price paid and inquired about the same (Tracy was offered a discount on price of the coat, without her even asking), followed by a discount offer.”

Flight Delay: “Lisa was returning home for summer vacation and booked a one-way non-stop flight, with a leading airline three weeks ahead of time to her home city. She paid \$200 for the ticket (not on any discount) for the flight that was scheduled to depart at 11:30 am. On the day of her flight, Lisa arrived at the departure gate by 10:30 am, an hour ahead of the scheduled departure time. Soon after, the airline staff announced that the flight is delayed due to some technical snag. After waiting for couple of hours, beyond the departure time as Lisa was getting a little frustrated with the delay, she asked the airline gate personnel for the delay and if she can get (the airline staff offered her) a cash voucher to compensate for the delay, followed by disbursement of vouchers to passengers that could be redeemed for any cash purchases at the airport or applied to pay for next flight with the airline. Eventually her flight did take off at 2:45 pm, after more than 3 hours of delay.”

Construct Measures:

The Cronbach Alpha values are reported for vendor initiated (proactive) service recovery at expected baseline monetary compensation level scenarios in each study.

Believability: (McCroskey & Richmond, 1989). The generalized belief measure (GBM) was used to measure perceptions of believability. On a 7-point semantic differential measure ranging from strongly disagree to strongly agree:

Attribution of Crisis Responsibility: (McAuley, Duncan, and Russel, 1992). Two items of the above referenced scale were used to measure service failure attribution on a 7-point semantic differential scale ranging from strongly disagree to strongly agree:

(Cronbach Alpha: Pretest-1 = 0.41, Pretest-1 = 0.45)

- *Service failure attributable to a reason other than the vendor.*
- *Service failure attributable to the vendor.*

Service Failure Severity: (Tsarenko and Tojib, 2012). Items to measure the severity of failure used semantic differential scale measure, ranging from strongly disagree to strongly agree. The items of the scale included: **(Cronbach Alpha: Pretest-1 Coat = 0.77, Pretest-1 Flight = 0.71)**

- *The service failure very minor or major.*

- *The extent of failure was very low or very high.*
- *The service failure was not at all critical or very critical.*
- *The service failure was not at all painful(inconvenient) or very painful.*

Customer Satisfaction: (Oliver and Swan, 1989)

Six-item semantic differential measure, ranging from strongly disagree to strongly agree on a 7-point scale. The items of the scale included. **(Cronbach Alpha: Study-1 = 0.96, Study-2 = 0.88)**

- *I am satisfied with the vendor's response.*
- *The vendor's response greatly exceeded my expectations.*
- *The vendor's customer service was very good.*
- *The vendor's response left me with a pleasant feeling.*
- *I am happy with the vendor's response.*
- *I am disgruntled with the vendor's response (reverse coded).*

Repurchase Intentions: (Grewal et al., 2008). Two-item semantic differential measure, ranging from strongly disagree to strongly agree on a 7-point scale. The items of the scale included: **(Cronbach Alpha: Study-1 = 0.73, Study-2 = 0.567)**

- *The likelihood for me to make future purchases from this vendor is.*
- *I would recommend my friends to avoid going to this vendor (reverse coded).*

Negative Word of Mouth (NWOM) Intentions: (Blodgett et al. 1993). Single-item semantic differential measure, ranging from strongly disagree to strongly agree on a 7-point scale. The items of the scale included:

- *I would be inclined to spread negative word-of-mouth about this vendor.*

Anger: (Spielberger et al, 1999). Three-items of "State Anger Expression Factor" of the 44-item STAXI Anger Inventory, semantic differential measure, ranging from strongly disagree to strongly agree on a 7-point scale. The items of the scale included: **(Cronbach Alpha: Study-1 = 0.94, Study-2 = 0.96)**

- *I felt insulted by the discount offered.*
- *I felt offended by the discount offered.*
- *The discount offered made me angry.*