DOCTORAL (PHD) DISSERTATION

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Debrecen
2024

UNIVERSITY OF DEBRECEN

FACULTY OF ECONOMICS AND BUSINESS

KÁROLY IHRIG DOCTORAL SCHOOOL OF MANAGAEMENT AND BUSINESS

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CUSTOMER EVALUATIONS OF RESTAURANT SERVICE FAILURE AND RECOVERY ON ONLINE REVIEW SITES

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The aim of this dissertation is to obtain a doctoral (PhD) degree in the scientific field of "Management and Business"

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DECLARATION

I undersigned (name: Inda Premordia, date of birth: 15 June 1983) declare under penalty of perjury and certify with my signature that the dissertation I submitted in order to obtain doctoral (PhD) degree is entirely my own work.

Furthermore, I declare the following:

- I examined the Code of the Károly Ihrig Doctoral School of Management and Business Administration and I acknowledge the points laid down in the code as mandatory;
- I handled the technical literature sources used in my dissertation fairly and I conformed to the provisions and stipulations related to the dissertation;
- I indicated the original source of other authors' unpublished thoughts and data in the references section in a complete and correct way in consideration of the prevailing copyright protection rules;
- No dissertation which is fully or partly identical to the present dissertation was submitted to any other university or doctoral school for the purpose of obtaining a PhD degree.

Debrecen, 8 January 2024

Inda Premordia

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INTRODUCTION

Reputation is a valuable yet fragile intangible asset of a firm. A one-off event may cause a damage to a previously highly reputable firm. Such damage can also affect firms' profits and financial performance. The advent of Web 2.0 has significantly transformed market dynamics—from information dissemination and utilization, firm-customer and among peers interactions, to consumption and purchase decisions—which in turn induce a highly competitive environment. Firms in these attractive markets seek to perform ahead of the competition for the creation and retention of satisfied customers, as a means to achieve far-reaching benefits and superior profitability. However, these firms are faced with many challenges to meet the ever-changing customer demands, while also overcoming the inevitability of failure. Owing to its unique characteristics of heterogeneity and inseparability, the hospitality and service industry have become the most vulnerable to failures (DIMITRIOU, 2017; KOC, 2019; LEE, 2018). Despite considerable efforts to produce an unprecedented service, attaining zero error-delivery remains an elusive goal. In that capacity, to maintain a good reputation, it is imperative that service firms understand both the consequences of failure and how to adopt an effective recovery strategy. As Alan Greenspan, former Chairperson of the US Federal Reserve has noted "service providers usually can offer only their reputations".

To this end, researchers have indicated the role of satisfaction in studying the interaction between service failure and service recovery. Service failure occurs when customer expectations are not fulfilled, or service fails to deliver to customer satisfaction (BALAJI et al., 2018; LI et al., 2016; SU-TENG, 2018; YOU et al., 2020); whereas service recovery can be defined as the ability of firms to resolve service failures and turn customers to a state of satisfaction (HAZÉE et al., 2017; VAN VAERENBERGH et al., 2019;). Theoretical framework in customer satisfaction/dissatisfaction (CS/D) explains that satisfaction has a positive effect on behavioral intentions (JEONG-LEE, 2017) and subsequently, drives customer

loyalty (CHENG et al., 2019). Stems from this notion, thus, satisfied customers will be intensely committed to the brands or firms and will constantly re-purchase or re-patronize a product or service in the future (OLIVER, 1999), as well as give recommendations to others. Conversely, dissatisfied customers will likely to decrease purchase frequency, switch to competitors or completely exit the market and engage in negative word-of-mouth behavior.

Academic and business spheres are particularly interested in the area of service failure-recovery dyadic interactions down to the fact that both failure and poor recovery can lead to a significant loss of profits. When poor recovery is adopted, lost revenues will increase by 63%. On the other hand, when good recovery is applied, it will raise sales revenue by 30% (TEMKIN GROUP, 2017). However, CUSTOMER RAGE SURVEY (2020) reports that in general, number of Complainants who received no response increased from 51% in 2017 to 58% in 2020. On social media, about 55% of Complainants expect a response from the firm following a complaint, but 49% never receive a response. Among those who actually receive a response, only 38% are satisfied with the complaint-handling. Furthermore, according to HARRISON-WALKER (2019), 52% of dissatisfied customers post-service failure never re-patronage and engage in negative word-of-mouth. The disparity between the firm-adopted recovery strategy and customer subsequent attitudes and behavior, hence, demonstrates that recovery strategies are yet to be effectively implemented. Furthermore, prior studies have primarily focused on the failure-recovery interaction and its impacts on customer responses in offline contexts; few studies have examined the customer evaluation of such interactions in online contexts, such as social media or third-party sites.

1. INTRODUCTION OF THE TOPICS AND OBJECTIVE

1.1. Statement of Problems

Service failure is one line of research that has turned into a major concern for researchers (PREKO-KWAMI, 2015), with a particular interest on the occurrences of recovery following a complaint (CHO et al., 2017). Although there has been extensive research into the service failure-service recovery interaction along with customers' subsequent attitudinal and behavioral changes, there are still a lot of things to learn. While research on failure-recovery in the offline context operates in a matured-paradigm and thus becomes the subject of systematic inquiry, the discipline in the context of digital transformation is still on its early phase. However, researchers who direct their focus on digital phenomena emphasize that failure-recovery is no longer exclusive to the offline context (GRUBER et al., 2015). Further, study by SENGUPTA et al. (2018) stresses that recovery efforts that are occurred and examined in offline settings are not generalizable to online settings.

Over the past decade, there has been a steady increase in the adoption of social network globally. Social networking sites have facilitated the creation of information and enabled the accessibility of information in a more varied format, such as user-generated content which is equally important to impact firm value. The flourishing of user-generated *reviews and recommendations* platforms have only called forth more investigations toward customer behaviors in the online setting during the past ten years (KAPOOR et al., 2018). In particular, studies under online failure-recovery theme have only begun to surface as early as in 2011, making it an emerging topic with equivocal insights and less-developed areas. As such, firms are yet (or still on the early-stage) to deploy the knowledge of and insights into online failure-recovery for strategic purposes.

Building on the above background, the following is a fourfold-key factor that provokes this study. First, customer relationship management involves maintaining continued

customer relations that concerns the expand of firms' customer bases through both customer retention and creation strategies. That being said, establish a balance between retaining existing customers and acquiring new ones are equally vital. However, in an online setting, there is an involvement of other customers who observe focal customers' service encounters (WU et al., 2015). These other customers can be defined as the observing customers who may witness the unfavorable complaints by focal customers, which can potentially affect their future buying behavior (PAN et al., 2018; WEITZL-HUTZINGER, 2017). The majority of the existing literature on service failure and complaint behavior has focused on the focal customers (Complainants) alone. Less attention has been directed to the important role of other customers (Observants) who also virtually present in the social media landscape (HOGREVE et al., 2019). The services marketing literature provided zero-existence of scientific evidence investigated the effects of firm-initiated recovery efforts on the observants until 2017. More specifically, to date, there exists no research identifies such causal relationship and compares its effects on both Complainants and Observants.

According to the findings of the annually Customer Rage Study, even though only 14% of dissatisfied customers use social media to *push* information from first-hand experiences, as high as 48% of Observants visit social media to gauge information from their peers (CUSTOMER RAGE SURVEY, 2020). In other words, for every one complaint case posted publicly online, it can potentially influence purchase decisions of three other new customers. Moreover, it is also important to note that while good reviews/ratings are important for 54% of Observants in the pre-purchase evaluation, 65% of Observants report that effective recovery efforts are more desirable to increase customer confidence toward firms (PREMORDIA-GÁL, 2021). As such, negative reviews followed by recovery efforts have a much powerful impact than positive reviews. That is because, reducing potential losses is more favorable than increasing potential gains for majority of customers (CHANG-CHENG, 2021),

specifically those who are risk averse. This then necessitates a rigor examination to better understand the effectiveness of different recovery strategies on both Complainants and Observants.

Second, drawing on the idea that each service failure is not identical to one another and it differs dependent upon customer evaluations (FOUROUDI et al., 2020), the type of service failure should be accounted for when determining the most suitable recovery strategy. However, despite its acknowledgment for the appropriateness of the use in many studies, little is known about the effect of service failure type on the failure-recovery evaluation, specifically in the online setting. Scholars have identified diverse service failure typologies, among which is the outcome-process classification that provides more compelling evidence (HUANG et al., 2020). One stream of research in service marketing literature posits that a service failure can occur along these outcome-process failure types (SMITH et al., 1999). The outcome dimension of a service encounter concerns *what* customers tangibly receive from the core service delivery, for instance no reserved table found at a fine dining restaurant due to a poor reservation system. The other dimension of a service encounter (i.e., process dimension) mainly looks after the way service is delivered (e.g., a waiter treats the customer in a rude manner during service encounter). Hence, understanding the perception of failures varying on types is critical.

Third, the manner in which the firm responds to a complaint affects customer subsequent attitudes and behavior (HUTZINGER-WEITZL, 2021). A common approach to classify varying types of responses in both offline and online settings is through monetary-psychological recovery strategies (BITNER et al., 1990). Monetary recovery deals with financial and other forms of tangible compensation, whereas psychological recovery provides the offended party with an apology or an explanation. These types of recovery strategies constitute an accommodative response due to its implication of responsibility ownership. Prior research reveals that accommodative responses mitigate negative reactions and positively affect

customer loyalty and brand/firm-customer relationship on Complainants (CHANG et al., 2015) and to some degree, on the observants (HUTZINGER-WEITZL, 2021; WEITZL-HUTZINGER, 2017). However, accommodative responses can also trigger some attitudes and behaviors unfavorable to the firm, for instance, when a promise to not repeat the offense or to provide financial compensation is not fulfilled.

Alternatively, there exists one strategy that is considered as a defensive response, but can potentially be accepted by customers to some extent—despite previous empirical research has produced mixed findings—such as counter-arguing a complaint or denying responsibility for an offense with an appropriate statement. Results of some earlier studies show that denial of responsibility is a more effective approach to resolve an integrity-based violation (e.g., FERRIN et al., 2007; HUTZINGER-WEITZL, 2021; KIM et al., 2004). On the other hand, COOMBS (1999) argues that this approach can only be accepted by customers in a situation where the origination of the problem is difficult to identify. VAN NOORT-WILLEMSEN (2012) further adds that the counter-arguing response serves Complainants with the low-level benefits, given the message it conveys is inclusive of neither financial or emotional/social benefits and tend to neglect the core problem. The findings of LEWICKI et al. (2016) study stress the importance of responsibility acknowledgement by the violator, triggering questions about the pervasiveness of this approach, thus, further investigation is necessary as to under which conditions counter-arguing approach can be effective.

Finally, the relationship between failure-recovery interactions and customers' subsequent attitudes and behavior are hardly determined by its components in isolation, leaves a lot to be desired in explicating the relationship as a whole (HU, 2019; SHIN et al, 2017). To gain a more nuanced understanding of the interactions between the model variables, some contextual factors which presumed to be particularly influential are crucial to anticipate. Extant research suggests that subsequent attitudes and behavior toward failure and recovery vary

substantially given a function of individual characteristics. Depending on their individual differences such as personality traits and values, customers are likely to react in various ways and as a result, can strongly affect their "information processing during brand attitude formation" (KIM et al., 2015). Accordingly, to explain the association between the model variables in failure-recovery evaluations, this study adopts some relevant frameworks, namely self-construal (MARKUS-KITAYAMA, 1991) and tolerance to failure to be treated as key moderating variables.

In addition, within this narrative, the ways in which individuals evaluate failure-recovery interactions engender a number of emotion-contained responses (DEL RIO-LANZA et al., 2009) and these responses can either strengthen or mitigate customers' subsequent perceptions of relationship quality concerning failure and recovery. On that account, the inclusion of emotion as a mediating variable serves to clarify the underlying mechanism driving the observed relationship, yet past research has mostly overlooked the pivotal role of emotion (SCHOEFER-DIAMANTOPOULOS, 2009). In other words, emotion is the key element that if neglected may explain less of the variance in the outcome variables, therefore it is vital to be included in the conceptual model as a mediating variable between the predictor and outcome variables. Existing online failure-recovery interaction literature review within the last ten years (from 2010 to 2021) is summarized in (Table 1).

Table 1: Selected relevant research on online failure-recovery interaction

Authors (Year)	Research Objective	Method	C/O	T/M	C/A/D	I	E	Main Findings
BALAJI-SARKAR (2013)	Examines the role of failure magnitude and recovery efforts to influence recovery disconfirmation, satisfaction, loyalty, negative word-of-mouth (WOM)	Scenario-based experimental. Online convenience sampling: students	C	M	C, A	×	×	The findings indicate significant failure-recovery interaction effects on satisfaction, loyalty and negative WOM
EINWILLER-STEILEN (2015)	Investigates how large companies respond to online complaints (e.g., on social media) and the effects of these responses on customer satisfaction	Content analysis	C	×	C, A, D	×	×	The more favorable resolution strategies (i.e., compensation, apology) are used less often, despite the most frequently applied strategy does not effectively influence customer satisfaction (i.e., issue probing)
SCHAEFERS-SCHAMARI (2016)	Investigates the influence of Observants' involvement during recovery process on Complainants' satisfaction and purchase intentions	Scenario-based experimental. Study 1: Convenience sampling: online platforms; Study 2: Online population-based-survey	C	×	A	×	×	To some extent, Observants' involvement during recovery process will benefit the firm if service recovery is successful
ABNEY et al. (2017)	Explores the impact of different types of adaptive service recovery strategies on social media	Scenario-based experimental. Online convenience sampling: Amazon Mechanical Turk (MTurk)	C	×	C	×	×	Highly adaptive recovery has a positive impact on recovery satisfaction, leading to greater behavioral intentions
HOGREVE et al. (2017)	Examines the relationship between recovery time and compensation expectations	Scenario-based experimental. Online population-based-survey	C	M	C	×	√	Recovery delay does not harm the firm as compensation expectations decrease in the long run
JUNG-SEOCK (2017)	Examines the impact of different service recovery types on customer perceived justice, satisfaction, and WOM intentions	Scenario-based experimental. Online population-based-survey	C	×	C, A	×	×	Customers' responses vary depending on service recovery types. Among these types, apology is mainly favoured
VÁZQUEZ-CASIELLES et al. (2017)	Explores the role of customer co-creation during service recovery process on satisfaction, repurchase intentions and WOM	Scenario-based experimental. Online population-based-survey	C	T	A	×	×	Customer co-creation improves positive evaluations post a recovery strategy

WEITZL-HUTZINGER (2017)	Investigates the effect of different types of responses to complaints on Observants' brand-related outcomes	Scenario-based experimental. Online non-probability snowball sampling	O	×	C, A, D	×	×	Combined multiple accommodative signals (redress, apology, explanation) significantly increases positive outcomes. Counter-arguing effort is effective in mitigating negative WOM intentions
BACILE et al. (2018)	Examines incivility among customers on social media as a result of customer-initiated recovery efforts following complaints and its impact on behavioral outcomes	Netnography and Scenario-based experimental. Online convenience sampling: Amazon Mechanical Turk (MTurk)	C, O	×	C, A	×	×	Uncivil interactions among customers negatively impact service recovery evaluations by both Complainants and Observants. When firms respond to the incivility, it mitigates the negative outcomes
CHEN et al. (2018)	Examines the effects of recovery magnitude on recovery satisfaction and behavioral intentions through moral judgment perspective	Scenario-based laboratory experimental. Study 1: Probability sampling; Study 2: Convenience sampling (students)	C	×	C	√	×	Customers react to firm recovery depending on the magnitude of recovery and their moral judgment of service failure
SENGUPTA et al. (2018)	Explores the nature of apology in public vs. private settings across online and offline channels and its impact on satisfaction	Scenario-based experimental. Online convenience sampling: Crowdflower crowdsourcing platform	C	×	A	√	×	In an online setting, apology is more effective if offered publicly on social media than provided online privately
WEITZL et al. (2018)	Examines the effects of different recovery types on Complainants' unfavorable failure attributions and how these attributions relate to satisfaction and negative WOM intentions	Scenario-based experimental. Online population-based-survey	C	×	C, A, D	√	×	The effects highly depend on Complainants' prior failure experiences with the same brand as well as on other customers' online comments
AZEMI et al. (2019)	Examines how firm-customer interactions impact on service recovery strategies	In-Depth Interviews and Focus Group Discussions	C	T	C, A	√	√	A list of online banking failure types and its origin, customer typology as well as failure-recovery strategy model are developed
HOGREVE et al. (2019)	Examines the effects of service recovery transparency on social media on Observants' WOM and purchase intentions	Scenario-based experimental. Online population-based-survey	O	×	C	×	×	Service recovery transparency plays an important role as a quality signal, leading to trust, positive WOM and purchase intentions

LIU et al. (2019)	Examines the effectiveness of financial compensation and response timeliness under different levels of service failure on recovery satisfaction, eWOM and attitudes toward firms	Scenario-based experimental. Online population-based-survey	C	M	C	×	×	Compensation is effective for less severe failures, while prompt response is effective for more severe failures
HUANG-HA (2020)	Examines Observants' perceptions and reactions toward two types of firms' responses: warmth and competence	Scenario-based experimental. Online population-based-survey	O	T	A	×	×	Warmth service recovery is more likely to influence Observants' recovery satisfaction and positive WOM intentions
OLSON-RO (2020)	Investigates the effects of procedural justice, interactional justice and social presence on Observants' trust and purchase intentions	Scenario-based experimental. Online population-based-survey: natural fall-out basis quota	O	×	A	×	×	Social presence has a strong positive effect on trust when perceived recovery is low, but the effect is reduced when recovery is perceived high
SHARIFI-SPASSOVA (2020)	Investigates the effect of self-construal on service satisfaction following recovery	Scenario-based experimental. Online population-based-survey: quota was set based age and gender	O	×	C	√	×	Favorable outcome of interdependent Observants changes after service failure vs. after recovery
CHANG-CHENG (2021)	Elucidates the relationships between recovery types, individual differences, corporate reputation, service guarantees and behavioral intentions	Scenario-based experimental. Online convenience sampling: intercepting real customers	O	×	C, A	√	×	Customers with individual characteristics have different priorities when evaluating recovery strategies, resulting in asymmetric effects on satisfaction levels
HUTZINGER-WEITZL (2021)	Examines the effects of recovery source and types on Observants' purchase intentions	Scenario-based experimental. Online population-based-survey: quota was set based age and gender	O	M	D	√	×	Source of recovery has a positive effect on Observants' purchase intentions (i.e., from satisfied customers) specifically brand favorable defensive comments based on personal experiences

Notes: C/O: Complainants/Observants; T/M: Failure Types/Magnitude; C/A/D: Compensation/Apology/Denial; I: Individual Characteristics; E: Emotion

This study thereby addresses the gaps identified above and aims to answer "what constitute an effective recovery strategy to resolve a service failure?" through the following research questions:

RQ1 What are the drivers and underlying processes that explain the failure-recovery interactions in influencing customers' subsequent attitudes and behavior?

RQ2 Which recovery strategy is most effective to rectify from a particular type of failure?

RQ3 How do Complainants and Observants differ in evaluating failure-recovery interactions?

RQ4 How do customers' subsequent attitudes and behavior change at post-service failure level versus post-recovery level (value gain versus value loss)?

1.2. Significance of the Study

Service recovery strategies have traditionally been registered as a key element of successful organizations in maintaining good relationships with customers. Extant literature demonstrates various contributions to this particular topic, comprising both theoretical and practical insights. Previously, failure-recovery interactions have been mainly understood in the offline context and study in the online scene has yet been largely explored. By adopting an extensive quantitative analysis sophistication, the work reported here contributes to the existing literature in several ways. First, this study generates an overarching theoretical understanding and provides practical implications of online service failure-recovery by examining an integrative framework for three resolution styles (i.e., Comping, Apologizing, Counter-arguing) in response to two different failure types (i.e., physical loss, psychological loss) and how effective each resolution is to influence multiple behavioral outcome variables, that includes customers' overall satisfaction, trust/confidence and patronage/re-patronage intentions.

Second, this study advances work on online failure-recovery interactions in a service setting and extends previous research by incorporating a novel angle from both focal customers (Complainants) and observing customers (Observants) standpoints inclusive of the underlying factors that may potentially determine the interactions and thereby may moderate and mediate the relationship between failure-recovery and behavioral outcomes. Against this backdrop, two sets of moderators (i.e., pluralistic segmentation of customers based on their individual characteristics: self-construal and tolerance to failure) along with one mediator (i.e., three negative emotions: contempt, anger, disgust) are specified, lends itself to a comprehensive research design. Third, considering the existing inconsistent findings is futile in attempting to develop and implement effective recovery efforts for strategic purposes, this study intends to shed light on the boundary conditions to overcome some contentious issues for instance under which circumstances that counter-arguing strategy can be effective.

1.3. Objectives and Scope of the Study

Focuses on online customer reviews (OCRs) toward restaurant-dining experiences, the main objective of this study is to develop a model consisting of antecedents and consequences of service failure-recovery interactions to understand the drivers as well as underlying mechanisms that explain failure-recovery evaluations throughout the entire customer journey, and to determine the effectiveness of varying recovery strategies adopted by the service provider in response to different failure types in influencing different types of customers' subsequent attitudes and behavior. The specific aims of the study are to:

1. Examine the relative interaction effects of failure disconfirmation and perceived loss of both physical and psychological failure types; and perceived recovery justice and corporate credibility of three different recovery strategies on customers' subsequent attitudes and behavior.
2. Assess the moderating effect of desired service quality on failure disconfirmation and perceived loss in influencing customers' subsequent attitudes and behavior.
3. Assess the moderating effects of individual characteristics (self-construal, tolerance to failure) in forming customers' subsequent attitudes and behavior.
4. Test the mediating effects of negative emotions between failure disconfirmation, perceived loss, perceived justice, corporate credibility and customers' subsequent attitudes and behavior.
5. Identify the most effective recovery strategy (Comping, Apologizing, Counter-arguing) to recover from different service failure types (Physical, Psychological)
6. Understand how Complainants and Observants evaluate the service failure-recovery interactions.
7. Observe customers' subsequent attitudinal and behavioral changes at post-service failure level versus post-recovery level (value gain versus value loss).

2. LITERATURE REVIEW

An extant literature review has been conducted to elaborate on the existing understanding of the relationship between service failure, service recovery and the subsequent impact upon customers' attitudinal and behavioral outcomes. In what follows, a review of the failure-recovery interaction literature is undertaken and how it converges with the concept of customer retention and creation in an online context.

2.1. Customer Journey and the Overall Service Experience

Customer journey and the overall service experience involve three stages of process: pre-core service encounter, core service encounter and post-core service encounter (Figure 1). The holistic view of customer journey and experience proposes that the firm-customer relationship can be established through multiple touchpoints. Customer journey and service experience starts with the pre-core service encounter when customers begin to build their initial expectations toward a firm. However, despite its importance in the customer journey that affects customer loyalty, pre-core service encounter is often neglected by service researchers (LEMON-VERHOEF, 2016; VOORHEES et al., 2017). At the next stage of the journey, the core service is delivered and the primary interactions between the firm and the customer take place. During this period, customers predominantly use all service quality dimensions to evaluate the service performance. If the core service fails to deliver to customer expectations at the pre-core service encounter, a service failure occurs. At the last stage, in case of service failure, the firm may attempt to make up for the customer's loss in the form of a recovery effort. The present research supports the concept that customers' outcomes, both attitudinal and behavioral, are influenced by the integration of the three stages of customer journey, pre-core, core and post-core service encounters; therefore, pre-core service encounter will be integrated in the theoretical model. 'Desired service quality' construct will measure

customers' initial expectations during pre-core service encounters and will be included as a moderator variable.

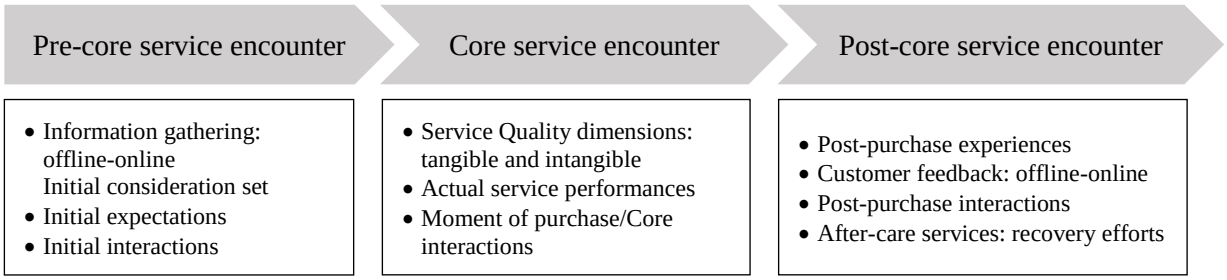


Figure 1: Conceptual model of customer journey and service experience

2.2. The Expectancy-Disconfirmation Model

The Expectancy-Disconfirmation Model (EDM) posits a conceptual framework that comprises of three core elements: customers' initial expectations, service performance, and customers' subsequent attitudes after service performance (OLIVER, 1997). If perceived service performance exceeds the initial expectations, a positive disconfirmation occurs, resulting in satisfaction. On the contrary, if service performance is lower than the initial expectations, a negative disconfirmation occurs, which in turn leads to possible dissatisfaction. Prior research has adopted the expectancy-disconfirmation model in the evaluation of failure-recovery interactions. HESS et al., (2003) applied an expectancy-disconfirmation paradigm to model satisfaction with the service performance as a function of recovery expectations and the quality of recovery effort. In their study, recovery disconfirmation is included as a control variable to simplify the model, replicating similar approach in the study by SMITH et al., (1999) which integrates expectancy-disconfirmation to examine the determinants of an effective recovery. CHIH et al., (2012) investigated the interaction between initial disconfirmation (the gap between expected service failure and perceived service performance), recovery disconfirmation (the gap between recovery expectation and recovery performance) and how it impacts switching intentions. In a recent review article, BAGHERZADEH et al., (2020)

developed a model which deeply-embedded in expectancy-disconfirmation theory. Their model proposes that customer evaluations of service quality particularly depend on different levels of expectations. Further, they explained that negative recovery disconfirmation leads to customer co-creation in service recovery and influences the relationship between recovery expectations and satisfaction which strengthens negative word-of-mouth intentions. Accordingly, based on previous literature review on expectancy-disconfirmation theory, in present research, failure disconfirmation will be included as a predictor variable.

2.3. Customer Evaluation of Service Failure

The notion of social exchange and equity theories asserts that the exchange in a firm-customer relationship has to be aligned (ADAMS, 1965). Customers' sense of unfairness generally stems from a perceived loss when a performance fails to meet expectations or requirements (OLIVER, 1997). In a service failure context, SMITH et al., (1999) proposed that a service failure encounter can be considered as an exchange whereupon a loss is experienced which results from the failure. According to BITNER et al. (1990), a service failure occurs when service is not fulfilled or fails to deliver to customer satisfaction. Any mishaps in perceptions, expectations, or requirements between firm-customer during a service encounter may result in a service failure. Service failure encounters may be regarded as mixed exchanges with two dimensions involved: utilitarian and symbolic. Utilitarian exchange concerns economic-related resources, such as money or tangible and intangible goods, while symbolic exchange concerns psychological or social-related resources, such as status or self-esteem. Consequently, service failures may result in customers' economic/monetary loss or psychological/social loss. Therefore, customer evaluations of service failure encounters are dependent upon the type and number of resources lost or gained during the exchange. The

nature of these resources will be determined by both the type and magnitude of service failure (SMITH et al., 1999).

2.3.1. Failure Type

One of the service failure typologies that has been widely studied and recognized is the outcome and process failure (e.g., SMITH et al., 1999; SMITH-BOLTON, 2002; ROSCHK-GELBRICH, 2013; ZHU et al., 2004). In and of itself, outcome failure indicates customer dissatisfaction toward an outcome from a service performance, for instance what a customer actually receives from the core service (QIU et al., 2018; FU et al., 2015). In an outcome failure, customers usually experience an economic loss (i.e., an overcooked steak at a restaurant). Therefore, extant research suggests that—as an outcome failure "typically involves a utilitarian exchange", the most effective recovery approach is the monetary compensation (i.e., a discount/voucher, money). In a process failure, the delivery of the core service is scant or defected in some way. A process failure does not involve a monetary loss, but rather symbolic exchanges or in other words, "poses a threat to customers' self-esteem and social needs" (HUANG et al., 2020). Thus, the most suitable recovery approach is an apology. DAVIDOW (2003) examined that when an outcome failure occurs, customers expect higher compensation than those exposed with a process failure. In contrast, monetary recovery approach is of lesser importance, subject to certain conditions of process failures (SMITH et al., 1999).

2.3.2. Failure Magnitude

Service failure magnitude concerns the severity or intensity of service failure. Existing literature posits that failure magnitude has been regarded an important determining factor in forming post-failure attitudes and behavior (BALAJI-SARKAR, 2013). Added to the failure type, the perceived loss experienced by the customer also depends on the magnitude of service failure. In case of severe failures, customers may perceive much greater loss which

influences their subsequent emotions, attitudes and behavior. It is supported by SWANSON-HSU (2009) who pointed that the magnitude of failure affects customers' subsequent emotions. SPARKS-FREDLINE (2007) argued that as the magnitude of failure increases, customer satisfaction toward the overall service decreases. WEUN et al., (2004) reported that failure magnitude has a causal relationship with customer trust, whereas WANG et al., (2010) indicated that failure magnitude affects customer behavioral intentions.

2.4. Customer Satisfaction/Dissatisfaction

Theoretical model on customer satisfaction/dissatisfaction (CS/D) has been developed since the early 1970s (MYERS, 1992). CS/D is defined as the level of fulfilment that brings customers to an affective emotional state (OLIVER, 1980) based on subjective evaluations of the initial expectations in comparison to the overall service performance (PATTERSON et al., 1997). The interaction effects between expectations, performance and confirmation/disconfirmation have been identified as the antecedents of CS/D (HESS et al. 2003), whereas behavioral outcomes such as purchase intentions and word-of-mouth (WOM) have been confirmed as the consequences of CS/D (SPRENG et al. 1995) and are influential to predict customer loyalty (BALAJI-SARKAR, 2013).

In the evaluation of service recovery, OLIVER-SWAN (1989a, b) were the pioneers to test a service recovery-customer satisfaction relationship model through the joint influence of disconfirmation paradigm and one dimension of justice theory. The model was later refined by SMITH et al. (1999) who built a more comprehensive recovery-satisfaction model on three dimensions of perceived justice: distributive, procedural, interactional across two service contexts, restaurant and hotel. The results suggest that the relationship between failure-recovery and CS/D can be better understood by assessing both expectations disconfirmation and perceptions of justice along with the type and the magnitude of failure. HESS et al. (2003) examined customers' overall satisfaction with service performance and how

it is affected by the quality of firm-customer's prior relationship. Number of past encounters as well as the quality of past encounters with the firm influence customer expectations of a continued relationship and service recovery when a service failure occurs resulting in customer satisfaction with overall service performance. Drawing on insights from the existing failure-recovery literature, CS/D has been considered a determinant of a successful recovery effort to redeem from a service failure (e.g., BALAJI-SARKAR, 2013; BALAJI et al., 2018; BAGHERZADEH et al., 2020; CHEN et al., 2018; JUNG-SEOCK, 2017; MATTILA, 1999; ROSCHK-GELBRICH, 2013; SHARIFI-SPASSOVA, 2020; WEITZL et al., 2018; WEUN et al., 2004).

2.5. Customer Trust/Confidence

Trust has been recognized as a building block of successful firm-customer relationships (PEPPERS-ROGERS, 2004). MORGAN-HUNT (1994) conceptualized trust as an adequate level of confidence that an individual has in an exchange partner. In a business relationship, a firm must consistently meet customer expectations of competent performance in order to build and sustain trust (SIRDESHMUKH et al., 2002). More recently, SCHOEFER-DIAMANTOPOULOS (2009) also emphasize that trust is correlated with satisfaction considering that trust can be strengthened by satisfaction. In other words, the firm needs to deliver a service performance that either meets or exceeds customer expectations to obtain satisfaction and subsequently, leads to trust. The greater the level of satisfaction that the customer feels toward the firm, the higher possibility to gain customers' sense of trust.

From a failure-recovery standpoint, KIM et al. (2009) claimed that trust is an antecedent of a continued firm-customer relationship post-service failures that can be maintained through a successful recovery. In the same vein, trust can also be considered as an outcome measure. HENNIG-THURAU et al. (2002) combined trust and confidence into a single construct because of their close ties and therefore, should be considered in parallel as

they are being complementary to each other. Further, the authors found that the combined construct had a strong causal relationship with satisfaction. That said, effective recovery strategies are important elements for generating satisfaction and maintaining firm-customer relationships (HART et al., 1990). However, prior research has yet to give the role of trust/confidence in online customer creation and retention an adequate attention, specifically in the field of service failure and recovery. Thus, in this research, trust/confidence will be included as an outcome variable. In the present study, trust/confidence is restricted only to cases in which the firm and the customer have limited prior encounter and/or without a long history.

2.6. Post-Failure/Recovery Behavior: Re-patronage Intentions

Customers' subsequent attitudes and behavior have been the central constructs in the field of research on consumer behavior (WEUN, 1997) and these constructs are correlated with one another. Prior works suggest a positive causal relationship between satisfaction and behavioral intention (DE MATOS et al., 2012), whereas other existing research shows that trust is a predictor of an individual's behavioral intention (MORGAN-HUNT, 1994). The higher the satisfaction with service performance, the stronger the sense of trust and confidence, and therefore, the higher the re-patronage tendency will be. Moreover, patronage intention is a good predictor of actual purchase behavior. ZEITHAML et al. (1996) explained patronage intention as a cue whether the customers will continue to maintain a business relationship with the firm or will switch to competitors. In a failure-recovery context, patronage intention has been considered a downstream variable in measuring recovery performance (CHEN et al., 2018).

Effective service recovery efforts may return an unfavorable service experience into a satisfied one and consequently, enhancing re-patronage intention (SPRENG et al., 1995).

2.7. Customer Evaluations of Service Recovery

Prior studies in service failure-recovery suggested that customer evaluations of service recovery generally in reliance on a three-dimensional view of justice: distributional justice (the perceived justice of tangible outcomes), procedural justice (the perceived justice of the procedures in delivering the outcomes) and interactional justice (the perceived justice of interpersonal manner when delivering the outcomes) (COLLIER-BIENSTOCK, 2006; JUNG-SEOCK, 2017). The three-dimensional view of justice has evolved from the equity theory in which the notion of justice is based largely on the balance between customers' own inputs as compared to the outputs (BLODGETT et al., 1993; CLEMMER-SCHNEIDER, 1996; OLIVER, 1997; SMITH et al., 1999; TAX et al., 1998). It implies that the equity between customers' own inputs and the outputs leads to perceived justice. Then the customer forms their subsequent judgments based on the level of perceived justice. Furthermore, regardless of the inputs, customers' judgments should be more positive as the perceived corporate credibility improves. That is to say, this study predicts that proper recovery efforts will depend on both perceived recovery justice as well as perceived corporate credibility.

2.7.1. Perceived Recovery Justice

According to HOMBURG-FÜRST (2005), perceived recovery justice refers to how a customer evaluates the fairness of a firm's recovery effort following a service failure. When a service failure occurs, the customers perceive the situation as an inequity and generally will attempt to balance it with post-purchase behavior (LAPIDUS-PINKERTON, 1995). Adequate recovery efforts are likely to mitigate negative emotions, attitudes (i.e., dissatisfaction) and post-purchase behavior (i.e., avoidance, negative word-of-mouth,

intentions to harm the firm) (BAMBAUER SACHSE-RABESON, 2015; LEE, 2018). Extant literature posits that customers' perception of justice positively influences their post-purchase attitudes and behavior, such as satisfaction (CHANG-CHANG, 2010, GELBRICH-ROSCHK, 2011; JUNG-SEOCK, 2017; SMITH et al., 1999), purchase intentions (HA-JANG, 2009) and word-of-mouth intentions (MAXHAM-NETEMEYER, 2003). As perceived recovery justice increases, customers' subsequent attitudes toward the firm will also improve and consequently, leads to positive behavioral outcomes.

2.7.2. Perceived Corporate Credibility

BITNER et al. (1990) argued that a poor recovery effort following a service failure yields further evidence of the firm's incompetence performance or lack of effort. Such judgments often lead to switching behavior or revenge intentions (KEAVENEY, 1995). KIM et al. (2004); XIE-PENG (2009) explained the roles of the three factors of competence, benevolence and integrity in repairing customer trust after negative publicity. Competence refers to the ability of firms to deliver on promises with adequate knowledge, skills, expertise; benevolence is defined as a genuine compassion and act in customers' best interest; and integrity is the commitment to a set of substantial principles that the customers find acceptable.

However, there have been inconsistent findings on the effects of different recovery efforts on perceived recovery justice (DAVIDOW, 2003; HUI-AU, 2001; VARELA-NEIRA et al., 2010) Empirical evidences show that in some studies, monetary compensation is most effective, while in another studies, apology; explanation; or even denial of responsibility has a stronger positive effect on customers' subsequent attitudes and behavior. Moreover, there exists no empirical research on failure-recovery that is built on competence-based, benevolence-based and integrity-based in an online setting. Present study proposes corporate credibility as a composite construct by which firms' competence, benevolence and integrity will be measured.

2.8. Monetary-Psychological Theory

There have been exist two main categories of service recovery strategies: monetary recovery (e.g., money and other tangible forms of compensation) (CHEN et al., 2018; KIM et al., 2009) and psychological recovery (e.g., apology and empathy) (BITNER et al., 1990; HESS et al., 2003; LEWICKI et al., 2016; SMITH et al., 1999). Specifically, monetary recovery provides the customers with physical compensation for their loss, while an apology is regarded as a valuable form of reparation that could restore esteem and lead to forgiveness (FEHR-GELFAND, 2010). Previous failure-recovery studies have also acknowledged that a recovery effort is most effective when its contents represent a resource that matches the type and magnitude of failure it intends to resolve (BALAJI-SARKAR, 2013; HESS et al., 2003; ROSCHK-GELBRICH, 2014; SMITH et al., 1999), that is, monetary compensation for a monetary or physical failure, and a psychological recovery effort for an esteem repair or a psychological failure. Furthermore, it is also important to note that resources for service recovery efforts can be limited. Despite that many customers prefer tangible compensation that provides a monetary or physical value (BOSHOFF, 1997; CLARK et al., 1992; SMITH et al., 1999), the relative importance of service recovery dimensions can be advantageous. The firm may need to develop more cost-efficient recovery strategies that may save their investment in maintaining customer retention and creation. Therefore, this study anticipates the relative effects of different recovery efforts to retrieve from different types of failure.

2.9. Denial of Responsibility

Denial of responsibility may seem counter-intuitive to signal redemption in relationships, but results from previous studies on trust violations have indicated otherwise (e.g., KIM et al., 2004; RIORDAN et al., 1983; SIGAL et al., 1988). The notion that denial of responsibility may represent an effective effort to a trust violation suggests that expression of

responsibility acknowledges guilt, and in so doing, may harm the accused party's competence and integrity. Therefore, an accused party may better respond to a trust violation with a refusal to take the blame for the fault as denial will limit perceived guilt and may also lead both mistrusted parties and other individuals to give the accused party the benefit of the doubt (KIM et al., 2004). Results in KIM et al. (2004) study found that denial repair trust more effectively for integrity-based trust violations as opposed to competence-based trust violations. Furthermore, when there is evidence of innocence of the accused party, denial of responsibility is more favorable.

In an online setting, the firm may often face more difficult challenges in choosing the appropriate recovery strategy as they may need to (a) rectify a failure with individuals whom it does not directly harm, (b) offer a recovery effort for a failure that they do not commit. Previous studies on online service failure-recovery have examined the effectiveness of denial of responsibility in attempting to recover from a service failure and the impact on the observing customers (e.g., COLLIANDER-WIEN, 2013; HUTZINGER-WEITZL, 2021; WEITZL-HUTZINGER, 2017). A specific defensive response, such as 'vouching' or countering negative reviews with favorable statements appears to be an effective strategy to mitigate unfavorable outcomes for Observants. That is because, an accommodative recovery effort (e.g., compensation or apology) could be interpreted as a confession of guilt by the observing customers who are not directly harmed. According to COLLIANDER-WIEN (2013), vouching refers to positive statements to defend a firm or brand in response to negative comments that are based on favorable first-hand experiences or past interactions with such firm or brand. HUTZINGER-WEITZL (2021); WEITZL-HUTZINGER (2017) further suggested that vouching can also be delivered by the firm, with a success story of the focal customer.

As such, the present study predicts that when trust is violated but does not concern the third party directly, the relative effects of Counter-arguing accusations with

favorable statements on Observants as opposed to Complainants should yield more positive results.

2.10. Customer Retention and Creation in Online Settings

Maintaining a customer base is a primary goal of the firm that heavily relies on customer relationship management (COVIELLO et al., 2002; GRÖNROOS, 1991) as it can sustain long-term business growth. While which aspect of marketing should a company focus on can vary from industry to industry, there appears to be a general consensus that employing either customer retention or creation strategy, or a combination of both strategies can yield economic benefits (BUTTLE, 2004). Many firms or industries focus the majority of their resources on customer creation in order to expand their customer base, whereas some others focus on retaining the existing customer base as the cost to retain the existing customer can be ten times lower than acquiring a new one (LINDGREEN et al., 2000).

However, the growing adoption of social media and user-generated content sites has created both opportunities and challenges for marketers as not only the existing customers who are virtually present, but also the potential customers. In an online setting, customer reviews are accessible to both firms and a wide range of potential customers instantaneously through which the potential customer's buying behavior can be affected. That is because, individuals are able to develop emotional responses and behavioral patterns by observing emotions and behavior of others, without having to directly experience them (HOGREVE et al., 2019). As the nature of the online environment provides a substantial amount of user-generated content, it may help the potential customers to observe and learn about their peers' behaviors (LIBAI et al., 2010).

Understanding how the existing and potential customers evaluate service failures and recovery efforts as well as customers' attitudinal and behavioral outcomes

specifically in an online context, therefore, is an essential aspect of firms' strategies to ensure both customer retention and creation.

2.11. Online Customer Reviews (OCRs)

From a business perspective, the widespread utilization of social media represents both opportunity and risk. The emergence of web 2.0 has given rise to the adoption of social media globally which in turn leads to the greatest challenge for marketers, aligning rapid advancement of technology with ever-changing customers' demands and expectations. Marketers can optimize their interactions with the customers through multiple touchpoints, allowing an increased opportunity to create brand awareness among a wider range of potential customers. However, it also leaves businesses vulnerable to loss of customers.

Electronic word-of-mouth (eWOM) can take many forms and reach large number of customers across the globe as compared with the traditional word-of-mouth. Consequently, it has a far-reaching effect on customer buying behavior (DE PELSMACKER et al., 2018; TATA et al., 2019). One of the most important eWOM includes online customer reviews (OCRs) on third party websites. The content of OCR sites is user-generated, based on laypeople's judgments and first-hand experiences as opposed to expert judgments or firm-generated information, such as product or brand reviews, blog post comments and forum entries. OCRs appear to be particularly of importance for the hospitality and service industry of which the quality and performance cannot be observe before purchase or consumption (CASALO et al., 2015; PARASURAMAN et al.,1985; ZEITHAML, 1981).

In such conditions, the opinion of customers who are more experienced with a product or service becomes a credible, trustworthy and favorable source than a professional or marketer-based information (BEUSCART et al., 2016; ELWALDA-LU, 2016; KIM et al., 2017; RUIZ-MAFE et al., 2018). Result in a study by CONE COMMUNICATION (2011) revealed that four out of five potential customers switch their initial buying decisions based on

negative OCRs in a dining-out context, yet when the restaurant responds to those negative OCRs, behavioral intention increases.

2.12. Two Types of Customers on OCRs: Complainants and Observants

On OCR sites, there are two types of customers who are present: the focal customer and the observing customer. The focal customer refers to a customer who is the target of all marketing activities and service quality dimensions, hence, directly affected by the performance of these factors, while the observing customer refers to a customer who observes the focal customers' experiences as well as the interaction between the focal customers and the firms (SCHAEFERS-SCHAMARI, 2016). In other words, the observing customers are not directly affected by the service performance.

Customers in general utilize OCR sites to gain information about a brand, product or service; interact with the firm and other peers; write feedback/reviews; or voice complaints. When a service failure occurs, some focal customers tend to voice complaints publicly online. Such openly voiced complaints do not affect firms in isolation, but are also read and observed by the observing customers. Firm's recovery effort at the same time, is delivered in online settings and in the presence of the observing customers through which their subsequent attitudes and buying behavior can be affected. According to EINWILLER-STEILEN (2015); WEITZL-HUTZINGER (2017), firms often refrain from responding to negative OCRs because of the profound effects on the observing customers.

2.12.1. Focal Customers/Complainants

When a service failure occurs, the focal customers are directly harmed. Exit-voice theory by HIRSCHMAN (1970) explains the focal customer's behavioral outcomes post-service failure encounters. Based on this theory, dissatisfied customers have two options following a service failure: 'to exit' or 'to voice'. 'To exit' refers to a situation in which a focal

customer discontinues to engage in business activities with a particular service provider, whereas 'to voice' indicates a situation in which a focal customer participates in negative word-of-mouth to seek a resolution or damage the reputation of the firm (CAUSON 2015; SCHAEFERS-SCHAMARI 2016). While the impact of customer exit on firm's reputation and business profit in online and traditional contexts do not seem to be different, the impact of customer voice in an online setting is more profound than in an offline setting and the focal customers are more empowered. As barriers to articulate subsequent emotions and attitudes on OCR sites are low, the focal customers have become more dependent on it as a complaint tool. OCRs may not only enable Complainants to avoid direct confrontations with firms when a complaint is raised (HONG-LEE, 2005), but may also enable Complainants to conform to the experience and influence of their peers.

2.12.2. Observing Customers/Observants

For the observing customers, the valence of positive and negative OCRs is important as both favorable and unfavorable OCRs are valuable information sources that may influence their future buying behavior. However, prior research has clearly noted the crucial role of negative OCRs in affecting Observants' brand perceptions, choice and loyalty (FLOH et al., 2013; KIM et al., 2017). Considering that the intensity of negative OCRs may hinder purchase decisions, firms have been advised to address these negative OCRs in order to mitigate unfavorable outcomes of online Observants. While prior works have examined the effect of accommodative (compensation and apology) versus non-accommodative (defensive and no response) on online Observants, the relative effectiveness of different recovery efforts that provide accommodative signals has not yet been explored. The study predicts that all credible

recovery efforts, both accommodative and non-accommodative will not affect online Observants differently.

2.13. The Moderating Role of Individual Characteristics

Individual differences in failure-recovery evaluations have been found to be the underlying mechanism in influencing customers' perception and loyalty toward the firm (BOLTON, 1998; SHARIFI-SPASSOVA, 2020). Extant research suggests that reactions to service failure and recovery vary substantially dependent on individual differences, such as culture (MATTILA-PATTERSON, 2004), value orientation (PATTERSON et al., 2006) and relationship expectations (HESS et al., 2003). When a customer has a negative service encounter in which perceived value loss is increasing, their level of leniency toward a service failure as a function of their individual characteristics may regulate their emotional, attitudinal and behavioral outcomes. Similarly, individual's self-construal may regulate their perception of value gain following a recovery effort. Different self-construal types may result in customer's level of likeliness to accept less-than-desired recovery efforts.

2.13.1. Tolerance to failure

According to ABNEY et al. (2017), tolerance to failure is defined as a customer's high degree of forbearance toward the firm in future service encounters, as an outcome of a positive prior encounter. In their construct, likeliness to forgive, likeliness to overlook a mistake, willingness to tolerate an error and level of patience were used as indicators. Their model predicted that when a customer has a positive service recovery encounter, the customer is more likely to be tolerant of undesirable service performances from that service provider in future interactions. Tolerance to failure was included as an outcome variable that was highly influenced by a recovery effort namely adaptive company response. This study will adopt their tolerance to failure construct in a slightly modified form, which proposes that tolerance to

failure is an individual system that is closely related to customer's perceived value loss following a service failure, rather than the benefits gained from a service recovery. When a service failure occurs, customers' value loss may increase and the extent to which a failure can contribute to their emotional, attitudinal and behavioral reactions will depend on how well they can anticipate exceptional conditions and build the system to cope with such conditions.

2.13.2. Self-construal

Self-construal is a self-related concept that directly influences how an individual relates and responds to others, society and social relationships as well as how the 'self' is connected and defined by the relationship with others (MARKUS-KITAYAMA, 1991). People with an independent self-construal perceive the 'self' as self-reliant, assertive and separate from others. The basis of self-esteem is one's uniqueness that sets one apart from others, whereas those with an interdependent self-construal define the 'self' in relation to others, therefore, more embedded within their group identity and value social harmony in those groups. One's ability to fit in to the social context is a substantial basis of one's self-esteem (CROSS et al., 2011; KAWAMURA, 2012). Furthermore, people with different types of self-construal would experience the same emotional reactions in different intensity level. Interdependent individuals are expected to express anger less often and less intense than independent individuals. Simultaneously, those with interdependent self-construal are also likely to experience empathy for others. In their study, CROSS et al. (2011) stressed that independent individuals are ego-focused, less sensitive to context and more willing to confront, while interdependent individuals are other-focused, highly sensitive to context, more cooperative and avoiding confrontation. According to SHARIFI-SPASSOVA (2020), interdependent Observants will be more sensitive to the type of recovery received by the focal customer, whereas independent Observants' subsequent attitudes will not change when exposed with different recovery efforts received by the focal customer.

2.14. The Mediating Role of Emotion

According to NAMKUNG-JANG (2010); TOMBS et al. (2014), the way in which the customers evaluate the service failure and recovery generates a range of emotional responses. Post-stressful encounters, the customers may attempt to articulate negative emotional responses consistent with the feelings they experience by engaging in unfavorable behavioral outcomes such as negative word-of-mouth and switching intentions (CHEBAT-SLUSARCZYK, 2005; TSARENKO-STRIZHAKOVA, 2013). In an online context, Observants may also experience emotional, attitudinal and behavioral responses when they observe their peers being treated unfairly (CREMER-HIEL, 2006). To that end, emotions play an important role in customer evaluations of service failure-recovery interactions.

The extant literature on service failure-recovery has widely used the emotion-based mechanism to link perceived unfairness and behavioral outcomes. In their service failure study, FOLKES et al. (1987) measured only a single negative emotion of anger. While anger is commonly experienced by many customers following a service failure, other negative emotional responses are also possible to occur. For example, DEL RIO-LANZA et al. (2009), identified three negative emotional responses to service failure: anger, offense and disappointment, whereas WETZER et al. (2007) examined six negative emotions: anger, frustration, irritation, disappointment, regret, uncertainty. In Consumer Emotions Study in Australia involving 4,000 customers across the nation, the majority of customers reported experiencing negative emotions such as disappointment, anger, frustration, feeling neglected and disgusted.

STEPHENS-GWINNER (1998) conceptualized coping strategy in a complaint context to decrease the stressful encounter: problem-focused (direct complaint), emotion-focused (self-blame) and avoidance (leave the situation). In service failure-recovery studies, researchers direct more attention toward the problem-focused coping strategy as it concerns

both the customers and the firms. However, problem-focused coping strategy may or may not involve emotional responses. In a restaurant setting, if frontline employees consistently monitor customers' satisfaction after each phase of the meal, the customers can easily express dissatisfaction without having to dwell on intense, destructive emotions. In other instances, stressful encounters can generate negative emotions, which may then lead to problem-focused coping. Common reported negative emotions are anger, contempt, and disgust. These emotions will occur as a result of "externally attributed blame" which in other words, the other party should take responsibility (SMITH-ELLSWORTH, 1985). Adopting the concept of problem-focused coping strategy, this study will measure emotional reactions as a composite of three negative emotions of contempt, anger and disgust.

2.15. Cumulative Values: Value Gain – Value Loss

From the perspective of social exchange and equity theories, service failure-recovery is conceptualized as value exchanges in which for the customers, service failure may lead to a value loss and service recovery may contribute to a value gain (KAHNEMAN-TVERSKY, 1979). In this study's theoretical model, the extent to which a value loss is perceived depends on the type and magnitude of service failure, while a value gain is affected by the firm's adopted-recovery efforts (ZHU et al., 2004). That is to say, *value loss* explains the decrease in customers' subsequent attitudes and behavior at post-failure level, while *value gain* describes the increase in customers' attitudinal and behavioral outcomes at post-recovery level. The gap between post-recovery outcomes and post-failure outcomes is called as cumulative value. The cumulative value will be largest when both exchange resources complement one another: the failure type interacts with the matching recovery effort.

3. MATERIALS AND METHODS

3.1. Hypotheses

To achieve the intended outcomes of this study, the following hypotheses were formulated:

H1a-b. Desired service quality will have a (negative) direct effect on (a_i) failure disconfirmation and (b_i) perceived loss after failure. Desired service quality also moderates the relative interaction effects between failure and the outcome variables, i.e., high desired service quality will have a greater (negative) effect on service satisfaction, trust/confidence, patronage intentions when (a_{ii}) failure disconfirmation and (b_{ii}) perceived loss are high than low.

H1c. Desired service quality will have a (negative) direct effect on (c_i) service satisfaction after failure; (c_{ii}) desired service quality also moderates the relationship between service satisfaction post-failure, post-recovery and patronage intentions, such that the effect on patronage intentions is stronger with increasing value of service satisfaction after failure.

H2a. Failure disconfirmation will have a (positive) direct effect on emotion.

H2b. Failure disconfirmation will have a (negative) indirect effects on service satisfaction, trust/confidence and patronage intentions.

H2c. Perceived loss will have a (negative) direct effect on emotion.

H2d. Perceived loss will have (positive) indirect effects on service satisfaction, trust/confidence and patronage intentions.

H3a. Service satisfaction post-failure will have a (positive) direct effect on service satisfaction post-recovery.

H3b. Service satisfaction post-failure will have a (positive) indirect effect on patronage intentions.

H3c. Service satisfaction post-recovery will have a (positive) direct effect on patronage intentions.

H4. Trust/confidence will have a (positive) direct effect on patronage intentions.

H5a. In the presence of a recovery effort (Comping, Apologizing or Counter-arguing), perceived justice will have a (negative) direct effect on emotion, such that when perceived justice is high, emotion is low than high.

H5b. In the presence of a recovery effort (Comping, Apologizing or Counter-arguing), perceived justice will have (positive) indirect effects on service satisfaction, trust/confidence and patronage intentions.

H5c. In the presence of a recovery effort (Comping, Apologizing or Counter-arguing), corporate credibility will have a (negative) direct effect on emotion, such that when perceived justice is high, emotion is low than high.

H5d. In the presence of a recovery effort (Comping, Apologizing or Counter-arguing), corporate credibility will have (positive) indirect effects on service satisfaction, trust/confidence and patronage intentions.

H6a. When a physical failure occurs, Comping will better enhance service satisfaction, trust/confidence and patronage intentions post recovery vs. post-failure.

H6b. When a psychological failure occurs, Apologizing will better enhance service satisfaction, trust/confidence and patronage intentions post recovery vs. post-failure.

H6c. Depending on the customer type, Counter-arguing will vary in enhancing customers' attitude and behavioral intentions post recovery vs. post-failure, such that for Complainants, Counter-arguing will better increase service satisfaction, trust/confidence and patronage intentions than Observants.

H7a. For Complainants, different failure types will vary in enhancing value loss. In the same vein, different recovery efforts will vary in enhancing value gain to influence

cumulative effects of emotion, service satisfaction, trust/confidence and patronage intentions.

H7b. Observants are less sensitive to recovery types; therefore, the effect of each recovery effort will not differ to one another on cumulative effects of emotion, service satisfaction, trust/confidence and patronage intentions.

H8a. Following service failure, individual tolerance to failure will have a significant direct effect on failure disconfirmation.

H8b. Following service failure, individual tolerance to failure will have a significant direct effect on perceived loss.

H8c. Individual tolerance to failure moderates the relationship between failure disconfirmation and perceived loss as well as service satisfaction, trust/confidence and patronage intentions.

H8d. Following recovery, individual self-construal (independent or interdependent) will have a significant direct effect on failure disconfirmation.

H8e. Following recovery, individual self-construal (independent or interdependent) will have a significant direct effect on perceived loss.

H8f. Self-construal (independent or interdependent) moderates the relationship between failure disconfirmation and perceived loss as well as service satisfaction, trust/confidence and patronage intentions.

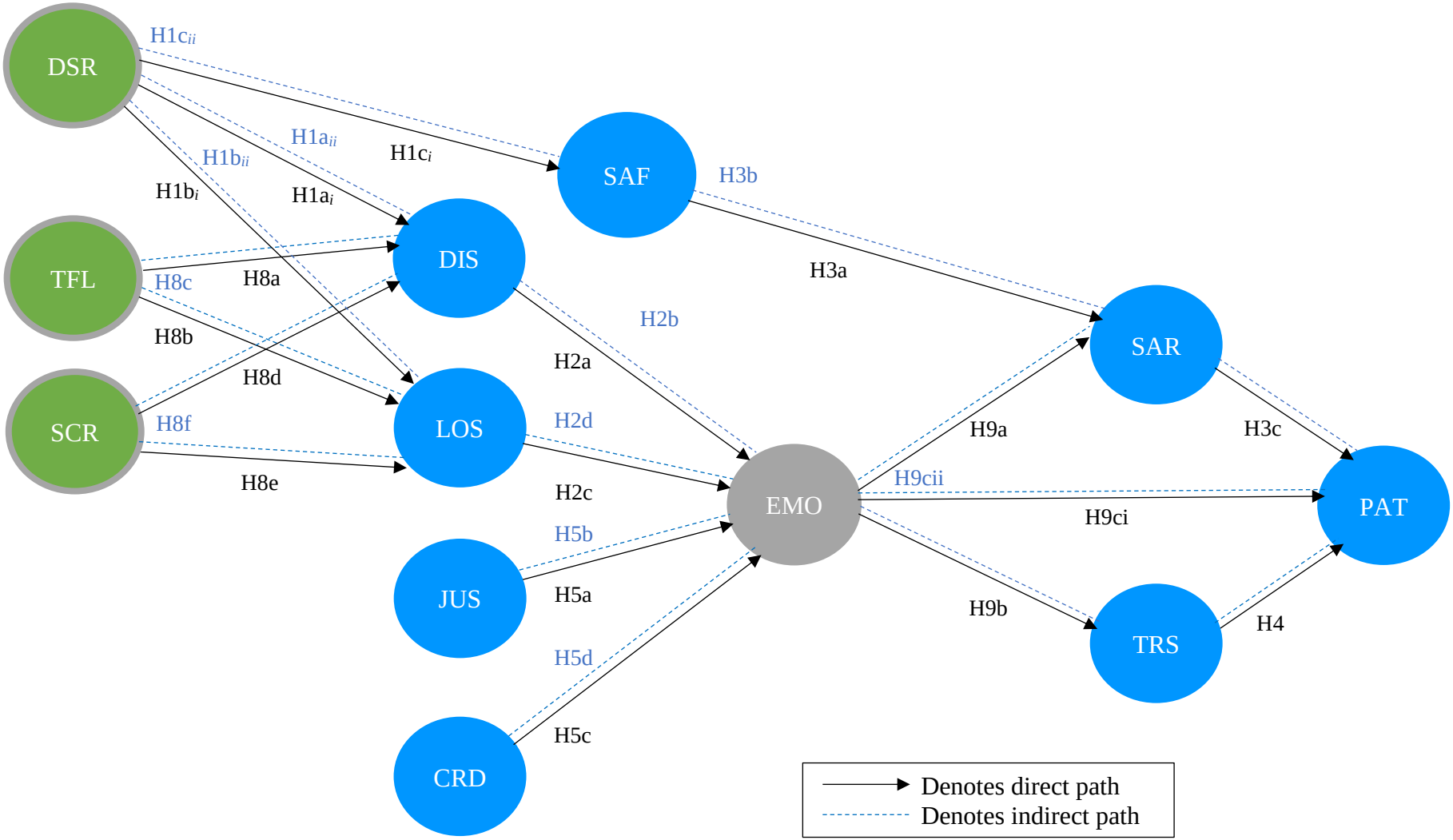
H9. Negative emotions of contempt, anger, disgust will have significant (negative) effects on (a) service satisfaction, (b) trust/confidence and (c) patronage intentions when failure disconfirmation and perceived loss are high than low, but perceived justice and corporate credibility are low than high.

H10. The cumulative value is strongest when failure type interacts with the matching recovery effort, such that when perceived justice and corporate credibility are high

and failure disconfirmation and perceived loss are low, cumulative value of emotion post-recovery decreases and cumulative values of service satisfaction, trust/confidence and patronage intention increase.

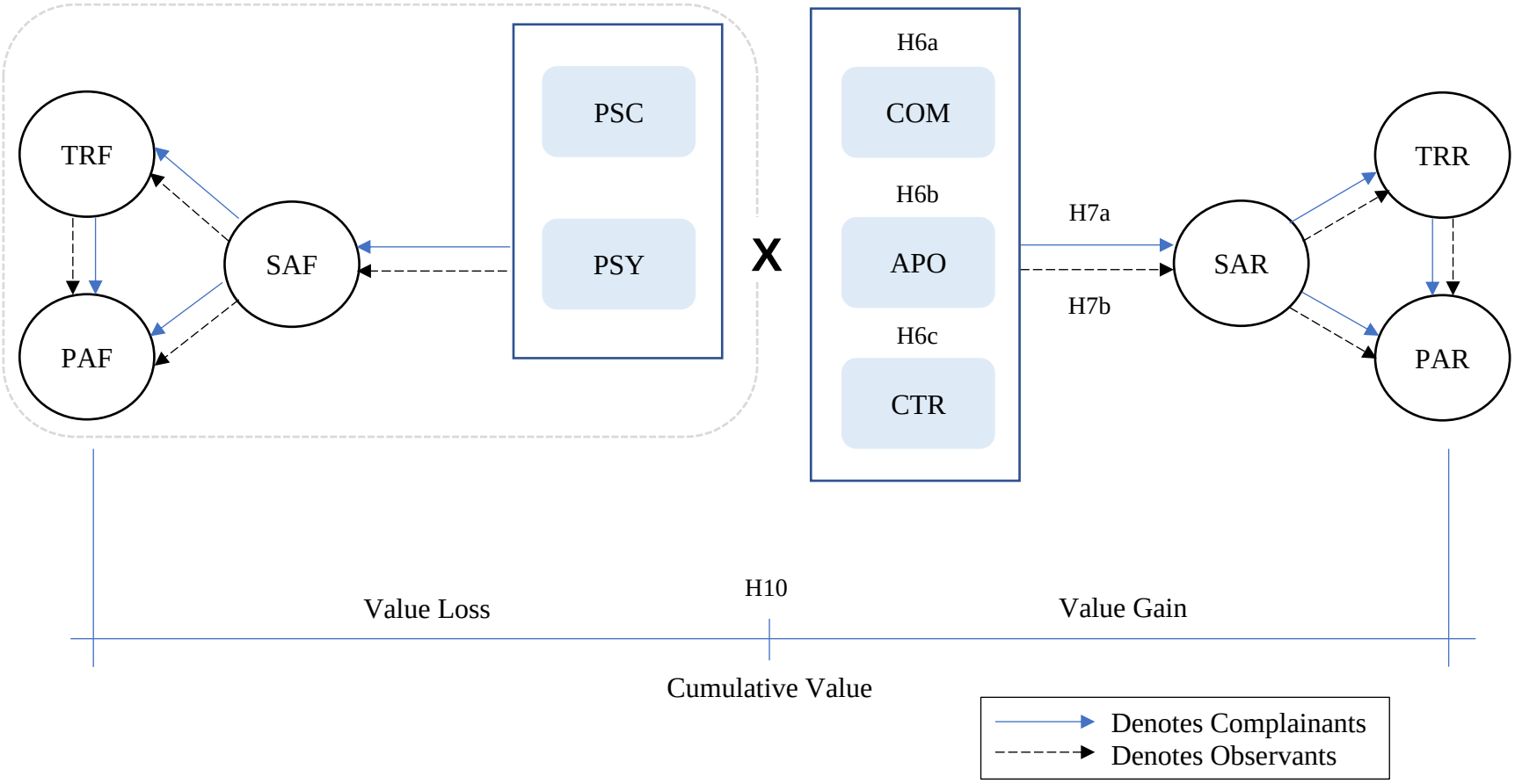
3.2. Proposed Models

Figure 2 and 3 illustrate the focus of the study. Figure 2 focuses on the Structural Equation Model to test hypothesis 1-5 and 8-9 that establishes both direct and indirect paths between exogenous and endogenous variables, while Figure 3 focuses on the Multivariate Regression Model to answer hypothesis 6-7 and 10 where the cumulative values between post-recovery and post-failure outcomes are examined to determine the level of effectiveness between different types of failures, recoveries, and customers.



DSR=Desired Service Quality; TFL=Tolerance to Failure; SCR=Self-construal; DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intentions

Figure 2: A structural equation model of service failure-recovery



PSC=Physical Loss; PSY=Psychological Loss; COM=Comping; APO=Apologizing; CTR=Counter-arguing; SAR=Service Satisfaction-Recovery; TRR=Trust/Confidence-Recovery; PAR=Patronage Intentions-Recovery; SAF=Service Satisfaction-Failure; TRF=Trust/Confidence-Failure; PAF=Patronage Intentions-Failure

Figure 3: A multivariate regression model of service failure-recovery

3.3. Research Methodology

To test the research model and the hypothesized relationships, this research employs an experimental design using a self-administered online questionnaire. Study participants were randomly assigned to one of the treatment groups and exposed to different conditions in the form of failure-recovery scenarios before completing a series of questions that corresponds to each construct in the questionnaire. The experimental method with the application of written scenarios has been extensively used to generate innovative research on management and to develop rigorous yet usable theories (RAMIREZ et al., 2015) as performing laboratory or field experiments have some limitations associated with controlling for extraneous effects that may not reflect the real world (SMITH et al., 1999). The main advantage of using roleplaying scenarios includes reducing data collection difficulties, such as the expense and duration due to low incidence rates and ethical considerations among other things. In services marketing—specifically service failure-recovery studies, there are three methods that are commonly used, namely a self-report memory-based approach, the Critical Incident Technique (CIT) and an experimental procedure (MICHEL, 2001). However, the self-report memory-based approach and the CIT may increase response biases from memory lapses and consistency factors. Considering the nature of service, the degree of the problem and the external factors can be easily controlled and manipulated to establish causality among variables, the scenario-based experimental approach provides a suitable methodology in service failure recovery studies (BITNER, 1990; BLODGETT et al., 1997; CHELMINSKI-COULTER, 2011; MATILLA, 1999).

3.4. Experimental Design

The study features a 2 (service failure types: Physical vs. Psychological) x 2 (customer types: Complainants vs. Observants) x 3 (recovery efforts: Comping vs. Apologizing

vs. Counter-arguing) with an interaction between a three-level between-subjects factorial design (Table 2-3). In a "between-subject" designed study, each study participant is exposed to only one treatment, as opposed to a "within-subject" designed study where each study participant is exposed to multiple treatments (CHARNESS et al., 2011).

Table 2: Factorial design

Factorial Design (2 x 2 x 3)			
	Factor / Manipulated Variable		
	Service Failure Type – 2	Customer Type – 2	Recovery Effort – 3
Level	(1) Physical	(3) Complainants	(5) Comping
	(2) Psychological	(4) Observants	(6) Apologizing
			(7) Counter-arguing

Table 3: Treatment groups

	(1) Physical		(2) Psychological	
	(3) Complainants	(4) Observants	(3) Complainants	(4) Observants
(5) Comping	Treatment group 1 R X_{135} O	Treatment group 4 R X_{145} O	Treatment group 7 R X_{235} O	Treatment group 10 R X_{245} O
(6) Apologizing	Treatment group 2 R X_{136} O	Treatment group 5 R X_{146} O	Treatment group 8 R X_{236} O	Treatment group 11 R X_{246} O
(7) Counter-arguing	Treatment group 3 R X_{137} O	Treatment group 6 R X_{147} O	Treatment group 9 R X_{237} O	Treatment group 12 R X_{247} O

Notes: R denotes random assignment of study participants to treatment groups
X denotes the treatment groups and the level of each factor
O denotes observations of the outcome variables

For a better methodological implementation, the experimental study allocated each study participant to take part in only one treatment group (between-subject design). The main advantages of a between-subject design include: (1) spurious effects can be avoided, (2) able to maintain respondent fatigue due to a lengthy questionnaire, and (3) in an environment where individuals are likely to encounter a single decision, a between-subject design might produce higher external validity (CHARNESS et al., 2011).

3.5. Experimental Procedure

Study participants were invited to take part in the experimental study and randomly assigned to one of the twelve treatment groups. In each treatment group, a structured questionnaire consisting of three main sections: pre-core service encounter (manipulated), core service encounter (manipulated) and post-core service encounter (manipulated) were presented. After evaluating each scenario, study participants completed a set of questions related to the perceived disconfirmation and loss, the perceived justice and quality, the subsequent attitudes and behavior, tolerance to failure and self-construal constructs. In addition, study participants also completed items related to the perceived realism of the scenario and demographics (Figure 4).

The first section of the questionnaire asked study participants to imagine the restaurant described in the pre-core service encounter period as they read through the scenarios. During pre-core service encounter period, the customers were intimated with the firm preceding the core service encounter which involved gathering information and reviewing firms' offerings. In this part, study participants evaluated their levels of service expectation.

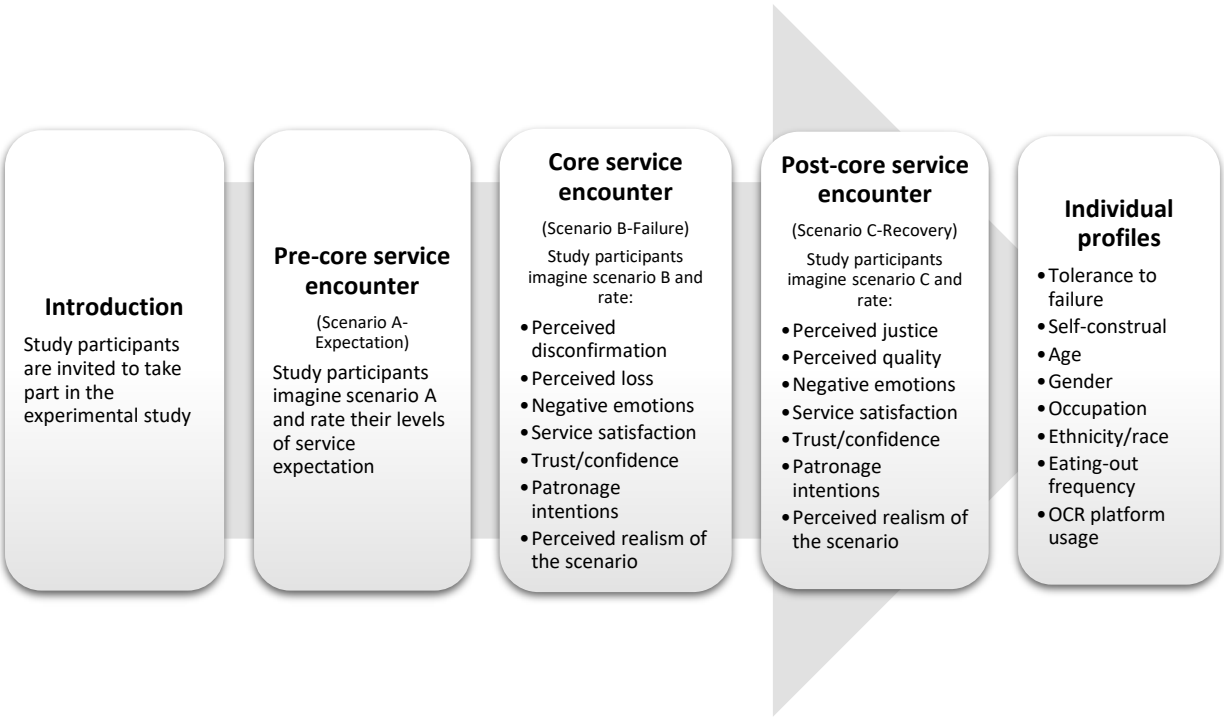


Figure 4: Experimental procedure and questionnaire structure

The second section asked study participants to imagine service failure occurrences during core service encounter period in accordance with the assigned service failure types correspond to their treatment groups, whereas in the third section they were shown recovery effort scenarios and asked to imagine the activities during post-core service encounter period described in the assigned scenarios accordingly. In the last section, all study participants were required to indicate their age, gender, occupation, ethnicity/race, level of tolerance to failure, type of self-construal, frequency of eating-out and online customer review (OCR) platform usage.

3.6. Experimental Manipulation

A total of twelve survey questionnaire versions (the combination of 12 scenarios) that describes pre-core service encounter, core service encounter and post-core service encounter in dining experience during which a service failure and recovery occur were developed. All versions of survey questionnaire were identical except for the three factors or

manipulated variables: service failure type, customer type, recovery effort. Each version started with an identical description about a full-service restaurant and its offering and was followed by one of the two hypothetical service failures and one of the three hypothetical recovery efforts. To avoid the outcome bias, failure magnitude was controlled as *severe* in the treatment conditions (ROSCHK-GELBRICH, 2014). Using clearly articulated scenarios, the physical failure condition suggested that the restaurant causes food poisoning, while the psychological failure condition suggested that one frontline staff behaves in a dismissive way and confrontational manner.

Complainants condition takes a first-person perspective in which study participants were asked to imagine being a focal customer visiting a full-service restaurant and experiencing a service failure described in the scenario, whereas Observants condition takes a third-person perspective in which study participants were asked to imagine being a potential customer visiting TripAdvisor page of a full-service restaurant and observing a negative review about a recent service failure. Furthermore, in the comping effort condition, the focal customer receives a monetary compensation (i.e., a complimentary table in order to reperformance for a failed service). In the apologizing effort condition, the focal customer is offered an apology and empathy, and in the counter-arguing effort condition the focal customer is responded with a disavowal of responsibility with explanation in an appropriate manner (Table 4).

Table 4: Description of experimental manipulation

		Complainants	Observants
Pre-core service encounter	Identical across 12 treatment groups	• Full-service restaurant • First time visit • Star rating 4.6 • Price range $$$ • Local resident (restaurant is located in the city where the customer resides in) • First-person perspective	• Full-service restaurant • First time visit • Star rating 4.6 • Price range $$$ • Local resident (restaurant is located in the city where the customer resides in) • First-person perspective
Note		Describes the phase in which both Complainants and Observants begin their initial review of the restaurant on TripAdvisor	
Core service encounter			
Physical	Based on the level of each factor in the treatment group (X)	• First-person perspective • Visit a restaurant and experience a service failure • Issue: food poisoning	• Third-person perspective • Observe a negative review about a recent service failure • Issue: food poisoning
Psychological		• First-person perspective • Visit a restaurant and experience a service failure • Issue: frontline staff behaves in a dismissive way and confrontational manner	• Third-person perspective • Observe a negative review about a recent service failure on TripAdvisor • Issue: frontline staff behaves in a dismissive way and confrontational manner
Note		Data collection instrument requires slight modifications in wording because of the different perspective between the two customer types	
Post-core service encounter			
Comping	Based on the level of each factor in the treatment group (X)	• First-person perspective • Post a negative review following a service failure and receive a respond on TripAdvisor • Recovery: a complimentary table	• Third-person perspective • Observe a respond following a negative review on TripAdvisor • Recovery: a complimentary table
Apologizing		• First-person perspective • Post a negative review following a service	• Third-person perspective

		failure and receive a respond on TripAdvisor • Recovery: an apology and empathy	• Observe a respond following a negative review on TripAdvisor • Recovery: an apology and empathy
Counter-arguing		• First-person perspective • Post a negative review following a service failure and receive a respond on TripAdvisor • Recovery: a denial of responsibility with explanation	• Third-person perspective • Observe a respond following a negative review on TripAdvisor • Recovery: a denial of responsibility with explanation
	Note	Data collection instrument requires slight modifications in wording because of the different perspective between the two customer types	

3.7. Population and Sample

The study involved quota-based convenience samples of the full-service restaurant customers. There was no specific inclusion or exclusion criterion in defining an eligible study participant to enroll in the experimental study. With regard to the sample size, in social science research, sample size and power are two key elements of study design. Sample size influences two statistical premises: the precision of study estimates and the power of the study to draw conclusions. The power of a study refers to "the statistical power of a significance test as the long-term probability of rejecting the null hypothesis, given the effect size in the population, the chosen significance level, and the number of participants tested" COHEN (1992). To achieve research objectives and test the hypotheses, this study performed two analyses: Partial Least Square-Structural Equation Modelling/PLS-SEM and Multivariate Analysis of Variance/MANOVA (see also under Data Analysis for further discussion). For the

purpose of running a well-powered study (i.e., 80%) in the two analyses, following rule of thumbs must be met:

- Each cell in a factorial design should have a minimum sample size of 20 for medium effect sizes (COHEN, 1988). As there are twelve cells with three level between-subject factors will be evaluated in this study, at least a sample size of 240 is required
- The critical sample size for PLS-SEM is N=200 (HAIR et al., 1998)

During the data collection process, there were several limitations in setting-up the quota for each cell. Data collection was carried out online, and there were no available features to automatically limit the number of responses per cell in the survey tool used to build the questionnaire. As a result, quota control had to be performed manually. To ensure an even distribution of participants across all cells, different survey link was randomly disseminated every day. This process aimed to prevent any individual cell from having a significantly high or low number of participants, therefore maintaining a balanced representation across all cells, with the exception of cell group number 7 which has a slightly high number of participants (Table 5).

Table 5: Sample size

Cell Design (Between Subject)		
Cell Group #	**X**	**N=**
1	X_{137} (Physical – Counter Arguing – Complainants)	40
2	X_{237} (Psychological – Counter Arguing – Complainants)	37
3	X_{247} (Psychological – Counter Arguing – Observants)	41
4	X_{245} (Psychological – Comping – Observants)	40
5	X_{246} (Psychological – Apologizing – Observants)	35
6	X_{135} (Physical – Comping – Complainants)	40
7	X_{136} (Physical – Apologizing – Complainants)	53
8	X_{147} (Physical – Counter Arguing – Observants)	35
9	X_{145} (Physical – Comping – Observants)	35
10	X_{146} (Physical – Apologizing – Observants)	40
11	X_{235} (Psychological – Comping – Complainants)	41
12	X_{236} (Psychological – Apologizing – Complainants)	41
		TOTAL N = 478

Notes: *X denotes the level of each factor in the treatment group*

3.8. Data Collection Method

Data collection was conducted from October 2022 to March 2023. The target population of this study is full-service restaurant customers who are also digital platform users. Given that the main objective of this study is to examine the failure-recovery interaction and its behavioral outcomes in an online setting, it is of importance that study participants are also social media usage. Online questionnaires were created and edited in an online survey builder 'Sogolytics' and disseminated through online public communities on social media sites such as Facebook groups for students, workers, expatriates, among other groups. Social media is attractive as a research recruitment tool because the interconnected nature of social media enables researchers to reach wider segments of the population (GELINAS et al., 2017) and speed up data collection progress (WERTHEIMER, 2013). There are, however, some risks. One of the biggest risks is that social media allows individuals' sensitive information to be exposed that these individuals have a right to keep private. To protect the privacy of potential study participants, no identification numbers or other personal information were required on the questionnaire. Anonymity and confidentiality of study participants were also guaranteed. In addition, data collection was carrying out using quota sampling method, and the sampling frame was set based on gender, age, occupation and location. Study participants were selected based on availability and willingness to take part.

3.9. Manipulations and Scenarios

The experimental manipulations of exogenous variables and the written scenarios utilized in the present study will be explained in the following lists. There are nine different scenarios: (1) Pre-core service encounter scenario; (2) Core Service Encounter – Physical Failure – Complainants; (3) Core Service Encounter – Physical Failure – Observants; (4) Core Service Encounter – Psychological Failure – Complainants; (5) Core Service Encounter – Psychological Failure – Observants; (6) Post-core Service Encounter – Comping

Recovery Effort; (7) Post-core Service Encounter – Apologizing Recovery Effort; (8) Post-core Service Encounter – Counter-arguing Recovery Effort – Physical Failure; (9) Post-core Service Encounter – Counter-arguing Recovery Effort – Psychological Failure, as follows:

1) Pre-core Service Encounter:

An identical scenario was used for all experimental manipulations in the pre-core service encounter, as shown below:

Instruction: "In the following scenario, a dining experience at a restaurant will be described. As you read through the scenario, please imagine the situation described in the text:

It is Friday evening and you want to go out for dinner at a restaurant with your best friends. As you browse through TripAdvisor to look for some information, you and your friends come across a traditional Italian restaurant with 4.6-star rating according to 2,627 reviews and $$$-price range between HUF 1,900 – HUF 7,000. None of you has visited this restaurant before, but based on the photos and the reviews, you think this restaurant could be an option and your friends all agree with you."

2) Core Service Encounter - Physical Failure - Complainants

"*You and a group of friends decided to go to this restaurant. Soon after arriving at the Italian restaurant, a waiter directs you to a table and gives you the menu. As you look around the room, some live music is playing in the background and you think "this restaurant has good atmosphere". A couple of minutes later, a waiter comes to take the order and you order a spaghetti Bolognese for yourself and a large cheese pizza for sharing. After a short period, your meal is served. The waiter has a good attitude. You start eating the spaghetti and as you are just over halfway through the meal, you notice a lingering weird taste in your mouth. You become suspicious that it seems the restaurant does not use fresh ingredients. You stop*

eating the spaghetti immediately and try the pizza instead. You stay for another one hour at the restaurant to enjoy the night with your friends.

When you arrive home, you start feeling an upset stomach. After a few hours, you feel that your condition is becoming worse. You take a rest for the whole day, and when you feel better, you ask your friends if they also have the same symptoms. You think that the service was bad and you would not recommend this place. Then you leave a complaint on TripAdvisor as you feel that other customers need to be informed about your experience."

3) Core Service Encounter - Physical Failure - Observants

"*You continue reading customer reviews for this Italian restaurant on TripAdvisor. As you scroll down the page, you observe a complaint from a customer*."

Josh Swain
★★★★★

Soon after arriving at this restaurant, a waiter directed me to a table and gave me the menu. As I looked around the room, some live music was playing in the background and I thought "this restaurant has good atmosphere". A couple of minutes later, a waiter came to take the order and I ordered a spaghetti Bolognese for myself and a large cheese pizza for sharing. After a short period, our meal was served. The waiter had a good attitude. I started eating the spaghetti and as I was just over halfway through the meal, I noticed a lingering weird taste in my mouth. I became suspicious that it seemed the restaurant did not use fresh ingredients. I stopped eating the spaghetti immediately and tried the pizza instead. I stayed for another one hour at the restaurant to enjoy the night with my friends.

When I arrived home, I started feeling an upset stomach. After a few hours, I felt that my condition was becoming worse that I had to take a rest for the whole day. Bad service! I would not recommend this place!

4) Core Service Encounter - Psychological Failure - Complainants

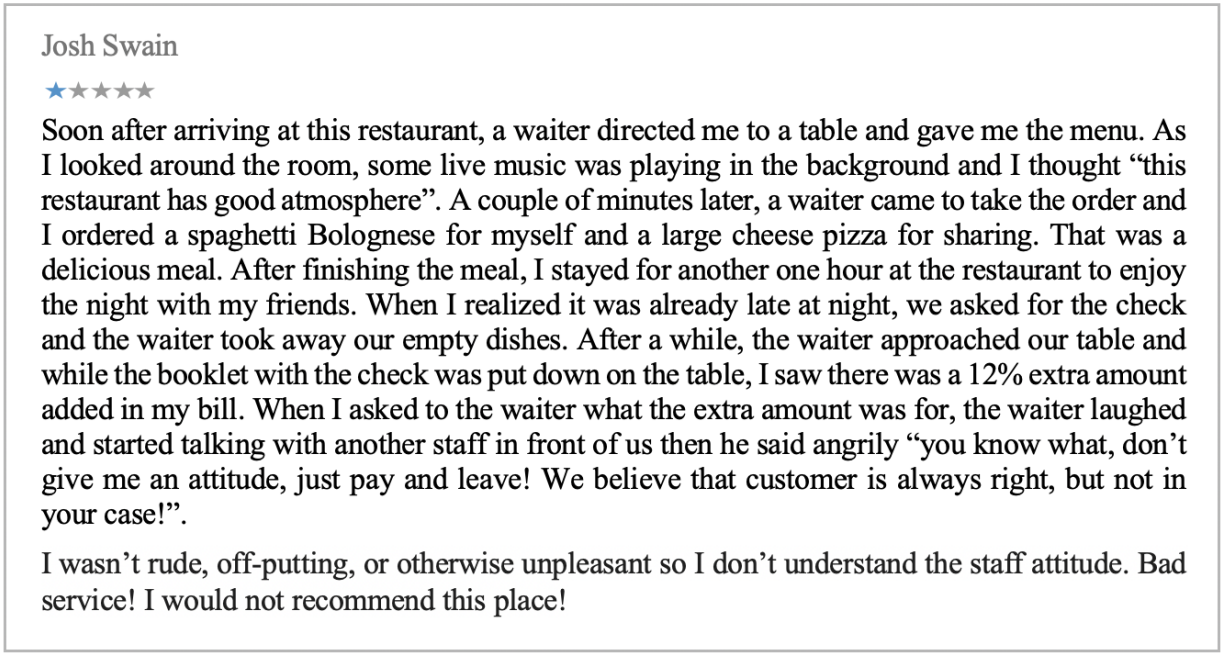
"*You and a group of friends decided to go to this restaurant. Soon after arriving at the Italian restaurant, a waiter directs you to a table and gives you the menu. As you look around the room, some live music is playing in the background and you think "this restaurant has good atmosphere". A couple of minutes later, a waiter comes to take the order and you order a spaghetti Bolognese for yourself and a large cheese pizza for sharing. After finishing*

the meal, you stay for another one hour at the restaurant to enjoy the night with your friends. When you realize it is already late at night, you ask for the check and a waiter take away your empty dishes. After a while, the waiter approaches your table and while the booklet with the check is put down on the table, you see there is a 12% extra amount added in your bill. When you ask to the waiter what the extra amount is for, the waiter laughs and starts talking with another staff in front of you, then he says angrily "you know what, don't give me an attitude, just pay and leave! We believe that the customer is always right, but not in your case!".

You think that the service was bad and you would not recommend this place. When you arrive home, you leave a complaint on TripAdvisor as you feel that other customers need to be informed about your experience."

5) Core Service Encounter - Psychological Failure - Observants

"*You continue reading customer reviews for this Italian restaurant on TripAdvisor. As you scroll down the page, you observe a complaint from a customer.*"



Josh Swain

★★★★★

Soon after arriving at this restaurant, a waiter directed me to a table and gave me the menu. As I looked around the room, some live music was playing in the background and I thought "this restaurant has good atmosphere". A couple of minutes later, a waiter came to take the order and I ordered a spaghetti Bolognese for myself and a large cheese pizza for sharing. That was a delicious meal. After finishing the meal, I stayed for another one hour at the restaurant to enjoy the night with my friends. When I realized it was already late at night, we asked for the check and the waiter took away our empty dishes. After a while, the waiter approached our table and while the booklet with the check was put down on the table, I saw there was a 12% extra amount added in my bill. When I asked to the waiter what the extra amount was for, the waiter laughed and started talking with another staff in front of us then he said angrily "you know what, don't give me an attitude, just pay and leave! We believe that customer is always right, but not in your case!".

I wasn't rude, off-putting, or otherwise unpleasant so I don't understand the staff attitude. Bad service! I would not recommend this place!

6) Post-core Service Encounter – Comping Recovery Effort

- Instruction - Complainants: “Within 24 hours after you posted your complaints on TripAdvisor, you received a public response from the restaurant.”
- Instruction – Observants: “At the bottom of Josh Swain's complaints you just previously read, you notice there is a public response from the restaurant.”

Management response

Dear Josh Swain,

Due to the problem in our service 2 days ago, we can offer you a complimentary table service at any time that suitable for you and one companion. Please contact me at +36 70 222 1991.

Sincerely,
Francesca Totti
Manager

7) Post-core Service Encounter – Apologizing Recovery Effort

- Instruction - Complainants: “Within 24 hours after you posted your complaints on TripAdvisor, you received a public response from the restaurant.”
- Instruction – Observants: “At the bottom of Josh Swain's complaints you just previously read, you notice there is a public response from the restaurant.”

Management response

Dear Josh Swain,

I am sorry to learn that you encountered a problem during our service 2 days ago. I understand how frustrating this must have been for you. We value our customers, and this problem should not have happened. I appreciate you making us aware of your negative experience and I apologize for the inconvenience this has caused.

Sincerely,
Francesca Totti
Manager

8) Post-core Service Encounter – Counter-arguing Recovery Effort – Physical

- Instruction - Complainants: “Within 24 hours after you posted your complaints on TripAdvisor, you received a public response from the restaurant.”
- Instruction – Observants: “At the bottom of Josh Swain's complaints you just previously read, you notice there is a public response from the restaurant.”

Management response

Dear Josh Swain,

I went to the restaurant today to specifically check the ingredients used 2 days ago in our kitchen as well as to investigate whether the dish was prepared completely incorrectly or in a way that was unsafe. I also took some random samples for the appetizer, main course and dessert, and all dishes were perfect. We consistently maintain our kitchen clean and keep kitchen package food in prime condition, we use different boxes for meats, seafood, condiments, herbs and dairy products, hot and cold items are kept in separate bags. Our seasonal fruits and vegetables come from a local supplier and we get fresh delivery every morning. For breads we use an artisan bakery who deliver fresh sourdough bread every day except for Sunday, but sourdough bread keeps fresh for at least 3-4 days. We make our own homemade pasta dough and sauces are made fresh every order.

I can confirm that all dishes on Friday evening were prepared as per food safety standard procedure and I can certainly vouch for the freshness of our food.

Sincerely,
Francesca Totti
Manager

9) Post-core Service Encounter – Counter-arguing Recovery Effort – Psychological

- Instruction - Complainants: “Within 24 hours after you posted your complaints on TripAdvisor, you received a public response from the restaurant.”
- Instruction – Observants: “At the bottom of Josh Swain's complaints you just previously read, you notice there is a public response from the restaurant.”

Management response

Dear Josh Swain,

I have been visiting the restaurant in the past two days to specifically investigate whether the service wasn't delivered as per our service standards. I have identified the waiter who was working on Friday evening and who was serving your table. The waiter serving your table has been working at our restaurant for five years and he has been well-trained to provide the best service possible. I also observed his performance during both of his day and night shifts in these past two days and asked for guest feedback randomly. No service mishaps were seen or reported during that period. We have been in business for almost 20 years, but never had such situation. We also have our recruitment standards as well as employee performance monitoring standards which we always consistently follow. We can assure you of our best service at all times.

Sincerely,
Francesca Totti
Manager

3.10. Measurement of Variables

The following Table 6 lists the descriptions of each measurement of construct for the present study.

Table 6: Descriptions of measurement of constructs for the study

Model Constructs	Measure/Scale	Source
Desired service quality: (1) Score your expectations of what the service quality would be like: I expected that the quality of service in this restaurant would be…	7-point semantic differential scale, anchored by *terrible*, *average*, *excellent*	SPRENG-OLSHAVSKY (1993, p. 172)
Tolerance to failure: (1) I can't stand people/thing who fall short of my standards (**R**) (2)* I am willing to tolerate an error (3)* I am more likely to overlook a mistake	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	ABNEY et al. (2017, p. 287) with a slight modification
Self-construal: *Interdependent* (1) I often have the feeling that my relationships with others are more important than my own accomplishment (2)* I will sacrifice my self-interest for the benefit of the group I am in (3) My happiness depends on the happiness of those around me *Independent*	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	SHARIFI-SPASSOVA (2020, p. 1112)

(1) I prefer to be direct and forthright when dealing with people I've just met (2)* I'd rather say "No" directly, than risk being misunderstood (3)* My personal identity independent of others, is very important to me		
Failure disconfirmation: (1) Thinking about what you hoped or wanted to find in this restaurant, assess the difference between what you wanted and what you received. Your experience in the restaurant was … (2) In relation to your experience, make an average assessment of what restaurants in the same category offer and assess your experience. Your experience in the restaurant was … than the average for the restaurants	7-point Likert scale, anchored at middle and endpoints (*much worse than expected - as expected/good - much better than expected*)	VELÁZQUEZ et al. (2010, p. 327)
Perceived loss: Please indicate your overall experience based on the situation described above: (1) The service had an acceptable standard of quality (2)* My experience in this restaurant was not enjoyable (**R**) (3)* The restaurant did not offer value for money (**R**) (4) Dining-out at this restaurant makes a good impression on other people (5) The experience enhanced my feelings of well-being	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	SWEENEY-SOUTAR (2001)
Emotion: After having experience described above, please indicate how you feel about what just happened: (1) I have harsh thoughts about the person/thing who was at fault (2) I feel angry toward the restaurant who wronged me (3) The wrongful action has made me feel disgusted	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	Emotions of contempt, anger, disgust were adapted from STEPHENS-GWINNER, 1998)
Recovery justice: (1) In resolving the problem, the restaurant gave me what I needed (2) The outcome I received was not right (**R**) (3) The management did not give me the courtesy I was due (**R**) (4) The management put the proper effort into resolving the problem	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	SMITH et al. (1999, p. 363)

(5) The management had the required knowledge to handle the problem		
Corporate credibility: (1) Given the restaurant's response, I see no reason to doubt its competence (2) Judging from the restaurant' response, I can rely on the restaurant to favor in the customer's best interest (3) Judging from the restaurant' response, I believe the restaurant has a good value system	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	XIE-PENG (2009, p. 581)
Service satisfaction: After everything that has happened, all in all, how do you feel about the service you receive from the restaurant? (1) very dissatisfied – very satisfied (2) very unhappy – very happy	7-point semantic differential scale	WEITZL et al. (2018, p. 325)
Trust/confidence: (1) I would find it necessary to be cautious in dealing with this restaurant (**R**) (2) I have confidence that this restaurant can be relied upon to meet my needs	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	SCHOEFER-DIAMANTOPOULOS (2009, p. 305); WEUN et al. (2004) with a slight modification
Patronage intentions: I would consider this restaurant as an option when I want to dine-out in the future	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	BLODGETT et al. (1997)
Manipulation check: *Perceived realism of the scenario* (1) I think the situation described in the scenario is… (2) I think that a similar problem would occur to someone in real life	7-point Likert scale, anchored from *very unrealistic/unlikely* to *very realistic/likely*	GOODWIN-ROSS, (1992); SUNDARAM, et al. (1997)
Confounding Check: *Failure severity (HESS et al., 2003)* For me, the incident was… a mild problem – a severe problem *Failure type*: Please indicate whether the failure in the scenario describes… (1) food poisoning (1 not at all, 7 a lot) (2) frontline staff behaves in a dismissive way and confrontational manner (1 not at all, 7 a lot) *Customer type (SHARIFI-SPASSOVA, 2020)*: While reading the scenario, your thoughts were about: (1) you yourself (1 not at all, 7 a lot) (2) other person (1 not at all, 7 a lot) *Recovery effort*:	7-point semantic differential – Likert scales	(ROSCHK-GELBRICH, 2014)

Please indicate whether recovery effort comes in the form of… (1) a complimentary table (1 not at all, 7 a lot) (2) an apology (1 not at all, 7 a lot) (3) a counter-argument with an explanation (1 not at all, 7 a lot)		
Age: (study participants must be 18 years old or above) How old are you?	Age group: 18-24 (40%); 25-39 (45%); 40-54 (10%); ≥55 (5%)	NA
Gender: Are you?	Male – 50%; Female – 50%	
Occupation: Which of the following best describes your current working status?	Working full time/part-time (includes entrepreneurs) – 60%; Not working (includes students and housewives) – 40%	
Financial well-being: How do you evaluate your financial situation?	Much worse - A little worse – Average - A little better - Much better than average	
Eating-out frequency: How often do you normally eat-out at a restaurant?	Less than once a month; 1-2 times a month; 3-4 times a month; more than 4 times a month	
OCRs usage: (1) I often search restaurant reviews on the internet (2) Other customers' advices are important for my buying decision	7-point Likert scale, anchored from *strongly disagree* to *strongly agree*	HUTZINGER-WEITZL (2021, p. 12)

Note: ***R*** *: reverse coded*
For Observants, relevant questions will be written in the third-person point of view
* *Indicator is deleted as alpha value below the .70 threshold*

3.11. Pretest and Pilot Test

One pretest and one pilot test were carried out to identify the stimuli and to develop scenarios for the experimental study. Pretest was conducted to identify service failure types and magnitude. In designing service failure stimuli, one of the main objectives was to create two strong scenario manipulations of *severe* failure types that were clearly different in indicating whether the failure in the scenario described an outcome vs. process failure while avoiding the irrelevant cases, the very minute errors, or the extreme catastrophic incidents that can be considered as outliers. Following the identification of the service failure stimuli, scenarios were developed based on the actual complaint cases posted publicly online on Google

reviews. Complaint cases were methodologically selected from 150 full-service restaurants across Hungary, stratified by price range ($ to $$$$) and star rating (1.0 to 5.0). To ensure a more robust data, only ten complaint cases were selected per restaurant, which made a total of 1,500 cases.

Each case of the 1,500 selected complaints was then classified based upon which type of failure (i.e., outcome or process) it belonged to. The magnitude of failure was measured in the basis of its significance in influencing negative emotions, negative word-of-mouth (WOM) as well as repurchase intentions. Results revealed that physical failures related to food poisoning (102 cases or 6%) and psychological failures related to frontline staff rudeness (391 cases or 23%) which led to disappointment, frustration/anger and disgust; also, behavioral outcomes such as discouraged fellow customers to try and pledged to never re-patronize were found to occur most frequently. Following this, a physical failure-scenario represents *severe* outcome failure and a psychological failure-scenario represents *severe* process failure were designed for the experimental manipulations. Another pretest objective was to design three different scenarios that represent each recovery strategy: compensating (Comping), offering an apology (Apologizing), denying of responsibility (Counter-arguing).

Pilot test were undertaken to rule out confounding effects which ensure that failure magnitude was approximately similar across two different failure types; to verify manipulations of the three factors; and to assess the reliability and validity of the measurement of the variables. After the pilot test, refinement of the manipulations and questions (e.g., wording, typos, deleting unnecessary indicators) were made accordingly. Each scenario must provide the necessary differences in indicating service failure types, recovery strategies and customer types to determine successful manipulations. Further, each scenario that combines one of service failure types: (1) Physical, (2) Psychological; one of customer types: (3) Complainants, (4) Observants; and one of recovery strategies: (5) Comping, (6) Apologizing,

(7) Counter-arguing was tested on five participants at the minimum; therefore, the pilot study required a total of 60 participants to evaluate all twelve versions of the questionnaire.

3.12. Manipulation-Confounding Checks and Validity-Reliability of Measurements

The development of proper experimental treatments is an essential task in experimental design. To design an adequate and appropriate experimental treatment, researchers should replicate pre-validated experimental treatments if available, conduct treatment manipulation checks as well as pilot tests.

3.12.1. Manipulation and Confounding Checks

Manipulation checks were performed to ensure that study participants perceived the scenarios as realistic. To assess that the study participants considered the failure and recovery descriptions to be realistic, study participants were asked to respond to the following items on a 7-point scale: “I think that a similar problem would occur to someone in real life” (very unlikely to very likely) and “I think the situations given in the scenario are: (very unrealistic to very realistic) (GOODWIN-ROSS, 1992; SUNDARAM et al., 1997). Confounding checks were performed in two-stages (BLODGETT, 1997; SUNDARAM et al., 1997): (1) convergent validity check, to ensure that study participants indicated whether the failure in scenario described a food poisoning or a rude treatment by the frontline staff as intended, for failure type. For recovery effort, study participants indicated whether recovery was offered in the form of a complimentary table, an apology, or a denial of responsibility as intended. Convergent validity for both failure type and recovery effort were measured on a single categorical variable; (2) discriminant validity check, to ensure if the manipulation of a factor was independent of the manipulation of another factor. Discriminant validity were established if the manipulation of a construct did not change in measures of related, but different constructs. In other words, each

manipulation should represent a particular independent variable and at the same level of reduction, could not be interpreted as more than one construct.

3.12.2. Validity and Reliability of Measurements

Internal consistency of the measurements was estimated by performing Cronbach's coefficient alpha. A rule of thumb if values are above the suggested cut-off .07 indicate internal consistency (HAIR et al., 1995; NUNNALLY, 1978). Confirmatory Factor Analysis (CFA) were used to assess if the observed data fit a theoretical grounded model that specifies the hypothesized causal relationships between latent and observed variables. According to ATKINSON et al. (2011), "the use of CFA to investigate the construct validity of hypothesis-based testing instruments adds a level of statistical precision and can assist in the development of abbreviated forms of an instrument or confirmation of its possible sub-domains" (p. 2). Further, several fit indices were selected to test which CFA model best represented the dataset: (1) root-mean-squared error of approximation (RMSEA), which is a measure of the average of the residual variance and covariance. Good models have RMSEA values that are at or lower than .08; (2) comparative fit index (CFI), an index that falls between 0 and 1, with values greater than .90 considered to be indicators of good fitting models; (3) chi-square test, a lower chi-square value indicates a better fit, given an equal number of degrees of freedom; (4) goodness of fit index (GFI), a measure of fit between the hypothesized model and the observed covariance matrix; (5) adjusted goodness of fit index (AGFI) corrects the GFI, which is affected by the number of indicators of each latent variable. The GFI and AGFI range between 0 and 1, with a value of greater than .90 indicate acceptable model fit; (6) standardized root-mean-square residual (SRMR), the square root of the discrepancy between the sample

covariance matrix and the model covariance matrix, ranges from 0 to 1 with a value of .08 or lower indicate an acceptable model.

3.13. Data Analysis

To test the hypotheses, there are two statistical analyses were performed. Study 1 (PLS-SEM) focuses on the effect of service failure type and magnitude as well as its interaction effects with recovery strategies and other underlying factors that may also explain the interactions on attitudinal and behavioral outcomes. PLS-SEM allows researchers to analyze a simultaneous causal model with interaction effects between theoretical constructs that cannot be observed directly and provide less contradictory results in comparison to traditional regression analysis (RAMLI et al., 2018), while Study 2 (MANOVA) focuses on examining how varying recovery efforts and customer types differ in influencing attitudinal and behavioral outcomes from one another as well as to observe how customers' attitudes and behavior change at post-failure level versus at post-recovery level. MANOVA is widely used in social science research to compare the means of multiple treatment groups with the assumption that either predictor variables or outcome variables are highly correlated (HAIR et al., 1998). More specifically, PLS-SEM were performed to test hypotheses H1, H2, H3, H4, H5, H8, H9 while MANOVA tested hypotheses H6, H7, H10 (Figure 5).

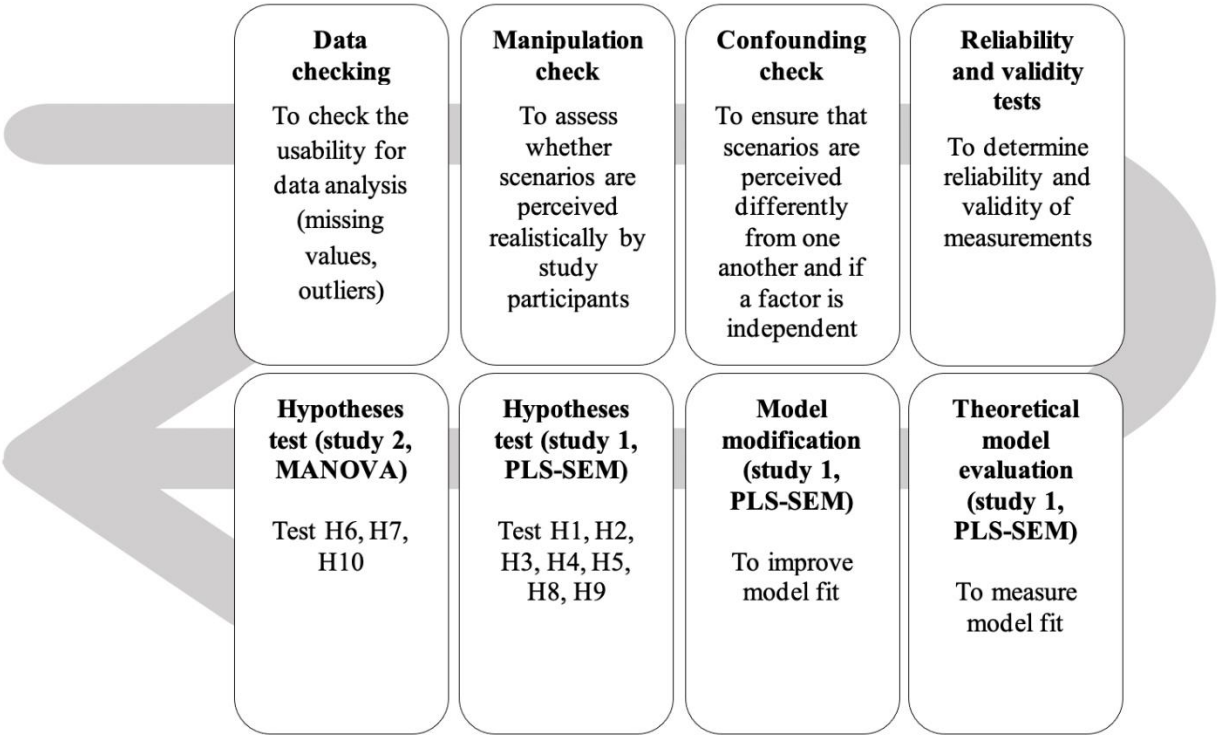


Figure 5: Data analysis flowchart

4. RESEARCH FINDINGS AND THEIR EVALUATIONS

4.1. Pilot Test

A pilot test was conducted using a student sample at University of Debrecen across different stages (bachelor, master and doctorate) and different faculties to test the developed scenarios as well as to rule out confounding effects, respectively. A total of 60 respondents were recruited for the pilot test.

4.2. Manipulation and Confounding Checks

4.2.1. Realism of Scenarios

To test the realism of the service failure and recovery scenarios, student participants were asked to evaluate to the following two items: "I think that a similar problem would occur to someone in real life (very unlikely to very likely)" and "I think the situations given in the scenario are (very unrealistic to very realistic)" (GOODWIN-ROSS, 1992; SUNDARAM et al., 1997). Mean scores of 5.31 for failure scenario ($M_{\text{failure}} = 5.31$, SD = 1.46) and 5.08 for recovery scenarios ($M_{\text{recovery}} = 5.08$, SD = 1.48) on the 7-point LIKERT scale suggest that the respondents perceived the scenario as highly realistic.

4.2.2. Convergent Validity

Different treatment conditions were similarly favored as intended in each factor manipulated in this study (see Table 7). Participants who were exposed to an outcome failure/physical scenario ($M_{\text{typephysical}} = 4.75$, T3B = 57.8%) or a process failure/psychological scenario ($M_{\text{typepsychological}} = 4.99$, T3B = 65.2%) indicated a moderate to strong level of agreement that the incident in the scenario clearly described the type of service failure while circumventing the irrelevant cases that can be considered as outliers. The magnitude of both "Physical" ($M_{\text{magnitudephysical}} = 5.47$, T3B = 73.8%) and "Psychological" ($M_{\text{magnitudepsychological}} =$

5.61, T3B = 74.2%) failures was also perceived as "severe" by the participants in each treatment condition.

Furthermore, the participants in each treatment group were moderately able to recognize the recovery strategy explained in the scenario they were exposed to as intended, which on average, participants leaned slightly towards the positive end of the scale, providing the necessary differences in indicating three different recovery types: "Comping" ($M_{comping}$ = 4.54, T3B = 49.6%); "Apologizing" ($M_{apologizing}$ = 4.39, T3B = 49.2%); "Counter-arguing" ($M_{counterarguing}$ = 4.34, T3B = 48.1%) to determine successful manipulations. Similarly, when evaluating the customer type, they were also able to perceive each customer type favorably as desired: mean scores of 5.35 (T3B = 69.7%) for "Complainants" and 5.00 (T3B = 65.7%) for "Observants".

Table 7: Convergent Validity of Manipulations

Manipulation	M	SD	T3B
Failure Severity			
Physical	5.47	1.52	73.8%
Psychological	5.61	1.45	74,2%
Failure Type			
Physical	4.75	1.50	57.8%
Psychological	4.99	1.45	65.2%
Customer Type			
Complainants	5.35	1.44	69.7%
Observants	5.00	1.45	65.7%
Recovery Type			
Comping	4.54	1.62	49.6%
Apologizing	4.39	1.56	49.2%
Counter-arguing	4.34	1.83	48.1%

Note: *M = Mean Score; SD = Standard Deviation; T3B = Top 3 Boxes "Strongly Agree-Agree-Somewhat Agree"*

4.2.3. Discriminant Validity

According to BLODGETT et al. (1997); PERDUE-SUMMERS (1986), if none of the independent variables' manipulations confound one another, discriminant validity can be

determined, which conveys that the interaction effects of manipulated factors should not significantly affect other independent variables. As evident from Table 8, no interaction effects found between independent variables (*p* values greater than .050). Furthermore, the measure of analysis of variance omega squared (ω^2) values show a near-zero for all manipulated variables, indicating that the dependent variance observed by the independent variables are sufficient.

Table 8: Discriminant Validity of Manipulations

Manipulation	F	*p*	ω^2
DIS x LOS			
Physical - Complainants	.965	.554	.008
Physical - Observants	.407	.274	.076
Psychological - Complainants	.408	.281	.020
Psychological - Observants	.633	.897	.006
JUS x CRD			
Comping - Complainants	.803	.827	.010
Comping - Observants	.795	.644	.001
Apologizing - Complainants	.916	.632	.019
Apologizing - Observants	.365	.781	.017
Counter-arguing - Complainants	.723	.776	.007
Counter-arguing - Observants	.767	.512	.000

Note: *DIS = Failure Disconfirmation; LOS = Perceived Loss; JUS = Perceived Justice; CRD = Corporate Credibility*

4.3. Demographic Characteristics of the Participants

A convenience sample of 478 regular and permanent basis-residents in Hungary, which consists of both Hungarian nationals (50.8%, *n* = 243) and foreigners (49.2%, *n* = 235) across all cities, participated in this study (see Table 9). A slightly higher percentage of the sample was female (54.5%, *n* = 261) and the majority of participants (92.3%, *n* = 441) were cumulatively lied within the age of 18 to 39, a range of age considered representative of people who commonly use online customer review sites and drive full-service restaurant growth, specifically post-pandemic levels (Local Consumer Review Survey, 2022). About 66.3% (*n* = 317) of the participants were unemployed (i.e., students, housewives) as compared to 33.7% (*n* = 161) who were employed. Nearly half of the participants evaluated their financial situation

as ‘average’ (49.2%, n = 235) in comparison to the majority of people they knew, whereas 32.5% (n = 155) were ‘below average’ and 28.3% (n = 135) were ‘above average’.

In terms of dining-out frequency, 70% of the participants (n = 335) indicated that they typically dined in a full-service restaurant once to four times a month. Based on sources of online restaurant reviews and experience with using them, 88.9% (n = 425) reported that they were experienced in utilizing restaurant review sites as their source of online reviews. On the 7-point LIKERT scale, they revealed that they regularly searched restaurant reviews on these websites before going to a restaurant (M_{OCRusage} = 4.64, T3B = 60.8%); and they affirmed that other customers’ advices were important for their buying decision ($M_{\text{buyingadvice}}$ = 5.08, T3B = 71.7%). Figure 6 illustrates a crosstabulation of OCR usage and eating-out frequency.

Table 9: Demographic Profile of the Participants

Variable, Category	N	%	Variable, Category	N	%
Reside in Hungary	478	100%	*Employment status*		
Residence status			Employed	317	66.3%
Hungarian nationals	243	50.8%	Unemployed	161	33.7%
Foreigners	235	49.2%	Total	478	100%
Total	478	100%	*Financial well-being*		
Gender			Below average	155	32.5%
Female	261	54.5%	Average	235	49.2%
Male	217	45.5%	Above average	135	28.3%
Total	478	100%	Total	478	100%
Age group			*Eating-out frequency*		
18-24	190	39.7%	< once a month	143	30.0%
25-39	251	52.5%	1-2 times a month	191	40.0%
40-54	29	6.1%	3-4 times a month	94	19.6%
Older than 55	8	1.7%	> 4 times a month	50	10.4%
Total	478	100%	Total	478	100%
			OCR usage (T3B)		
			Search online reviews	291	60.8%
			Seek advice from others	343	71.7%

Note: T3B = Top 3 Boxes “Strongly Agree-Agree-Somewhat Agree”

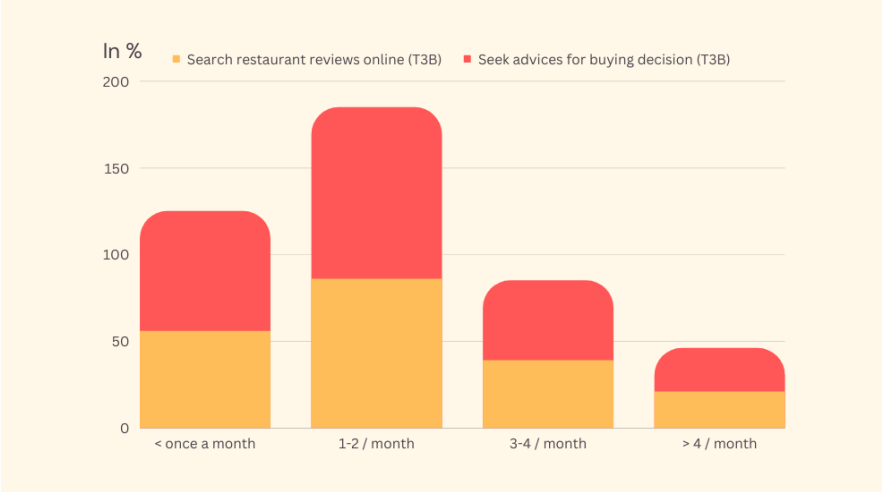


Figure 6: Crosstabulation of OCR usage and eating-out frequency

Based on the cross tabulation (Figure 6), it can be observed that customers who eat out at restaurants less frequently are more likely to use OCR (Online Customer Reviews) (less than once a month: 56%; 1-2 times/month: 86%) and seek other customers' advice (less than once a month: 69%; 1-2 times/month: 99%) compared to those who eat out more frequently. These customers tend to rely more on online restaurant reviews and seek advice from the other customers to help in their selection. They may use OCR platforms to gather information about different restaurants, their quality, service and overall dining experiences before deciding where to dine in. Since they eat out less often, they may consider these reviews as valuable sources of information to make informed choices about dining establishments.

In contrast, the customers who eat out more frequently may have established preferences and favorite restaurants, leading them to rely less on online reviews (3-4 times/month: 39%; more than 4 times a month: 21%) and other customers' advices (3-4 times/month: 46%; more than 4 times a month: 25%). They may have already developed a level of familiarity and trust with specific establishments, making them less inclined to seek opinions from others before making dining decisions.

4.4. Evaluation of the Measurement Model

Measurement model shows how all indicators and the relation between latent variables measure the construct. Confirmatory Factor Analysis (CFA) using SmartPLS 3 (RINGLE et al., 2015) assessed the measurement model to refine the observed variables, measuring the 13 latent variables. SmartPLS is suitable for variance-based Structural Equation Modeling (SEM) using the Partial Least Squares path modelling method.

The study tested indicator reliability of the scale items using PLS algorithm. The result, as demonstrated in Table 10, exhibits each scale item or indicator an acceptable level of reliability. As a rule of thumb, the indicator's outer loadings alpha values should yield over .70 (NUNNALLY-BERNSTEIN, 1994). However, indicators with outer loadings between .40 and .70 can be accepted and satisfy the convergent validity of a latent construct if the Average Variance Extracted (AVE) is .50 or higher, and should be considered for deletion only if it leads to an increase in composite reliability and the AVE values greater than the suggested threshold. Outer loadings represent the strength of the relationship between the observed indicators and the underlying latent construct. Following this rule of thumb, indicator LOS2; LOS3; CRD4; CRD5; SCR2; SCN1; SCN2; TRF1 were removed after first running the PLS algorithms. This is because the indicator loaded weakly below the .70 threshold and deleting these indicators increased the AVE values above .50. Indicators with a factor loading between .60 and .70: JUS5; EMOF1; EMOR2; and TRR1 were retained as the AVE values were over the suggested value of .50.

Table 10: Standardized Factor Loadings

Construct	Indicator	Standardized Factor Loading
Failure disconfirmation	DIS1: Compared to what was expected	.865
	DIS2: Compared to other restaurants	.897
Perceived loss	LOS1: Acceptable standard of quality	.722
	LOS4: Makes a good impression on other people	.781
	LOS5: Enhanced the feelings of well-being	.749
Perceived justice	JUS1: The restaurant gave what was needed	.740
	JUS2: The outcome received was NOT right	.749
	JUS3: Did NOT give the courtesy the customer was due	.712
	JUS4: Put the proper effort into resolving the problem	.771
	JUS5: Had the required knowledge to handle the problem	.687
Corporate credibility	CRD1: Restaurant's competence	.819
	CRD2: Has a good value system	.895
	CRD3: Reliable	.858
Desired service quality	DSR1: Desired service quality	1.000
Tolerance to failure	TFL1: Cannot stand things that fall short to my standards	1.000
Self-construal		
Interdependent	SCR-R1: My relationships with others are more important	.816
	SCR-R3: My happiness depends on others	.849
Independent	SCR-N1: Direct and forthright	1.000
Emotion		
Failure + Recovery	EMFR1: Harsh thoughts	.680*
	EMFR2: Angry	.828
	EMFR3: Disgusted	.781
Satisfaction		
Failure	SAF1: Satisfied towards the service	.926
Recovery	SAF2: Happy towards the service	.938
	SAR1: Satisfied towards the service	.949
	SAR2: Happy towards the service	.956
Trust / Confidence		
Failure + Recovery	TFR1: Cautious in dealing with the restaurant	.647*
	TFR2: The restaurant can be relied upon to meet my needs	.865
Patronage intention		
Failure + Recovery	PFR1: Consider the restaurant as an option	.909

*Note: *Indicator is retained as AVE value is greater than the .50 threshold*

Internal consistency was assessed with Cronbach's alpha (α) using PLS algorithm. To indicate a strong internal reliability among the indicator in the measurement model, composite reliability of indicators should exceed or equal to the cut off value of .70

(HAIR et al., 1995). As shown in Table 11, composite reliability values are over the suggested value, indicating a great portion of variances is explained by the construct (FORNELL-LARCKER, 1981; HAIR et al., 1998). However, the alpha value for self-construal interdependent was found to be below .70 (α = .658), which indicated "a poor but acceptable Cronbach's alpha" (ATHANASIOU-MAVRIKAKI, 2013). Furthermore, Table 11 also shows that the AVE values for all constructs are greater than the threshold of .50, providing evidence of adequate convergent validity (ANDERSON-GERBING, 1988).

Table 11: Construct Reliability and Validity

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Failure disconfirmation	.713	.721	.874	.776
Perceived loss	.782	.789	.795	.564
Perceived justice	.785	.790	.852	.536
Corporate credibility	.785	.790	.852	.536
Desired service quality	1.000	1.000	1.000	1.000
Tolerance to failure	1.000	1.000	1.000	1.000
Self-construal interdependent	.658*	.747	.806	.583
Self-construal independent	1.000	1.000	1.000	1.000
Emotion	.815	.847	.864	.519
Satisfaction-failure	.849	.853	.930	.869
Satisfaction-recovery	.898	.901	.951	.907
Trust / Confidence	.705	.759	.789	.559
Patronage intention	.743	.756	.886	.795

*Note: * denotes α < .70*

Table 12, 13 and 14 show a complete list of results from the discriminant validity analyses. The discriminant validity of the scales was examined by calculating the shared variance between constructs, as recommended by FORNELL-LARCKER (1981), assessing the average correlations of all indicators across constructs in the model using the Heterotrait-Monotrait Ratio (HTMT) criterion as well as measuring the factor loadings and the cross-loadings for each construct. The results of the analysis indicated no shared variance measures

between constructs exceeded the average variance extracted (AVE), confirming evidence of discriminant validity.

Table 12: Fornell-Larcker Criterion

Construct	Fornell-Larcker Criterion	Average Variance Extracted (AVE)
Failure disconfirmation	.881	.776
Perceived loss	.751	.564
Perceived justice	.732	.536
Corporate credibility	.858	.536
Desired service quality	1.000	1.000
Tolerance to failure	1.000	1.000
Self-construal interdependent	.833	.583
Self-construal independent	1.000	1.000
Emotion	.720	.519
Satisfaction-failure	.932	.869
Satisfaction-recovery	.952	.907
Trust / Confidence	.748	.559
Patronage intention	.891	.795

According to GEFEN-STRAUB (2005), “discriminant validity is shown when each measurement item correlates weakly with another construct excepts for the ones to which it is theoretically associated”. As shown in Table 13, the indicators on the same constructs have higher loadings than those of a different construct and no indicators load highly on multiple constructs, indicating good discriminant validity.

Table 13: Factor and Cross Loadings

	CRD	DIS	DSR	EMO	JUS	LOS	PAT	SAF	SAR	SCN-N	SCN-R	TFL	TRS
CRD1	0,819	0,178	-0,037	-0,379	0,565	0,162	0,462	0,278	0,490	-0,076	0,020	0,141	0,501
CRD2	0,895	0,230	0,016	-0,343	0,620	0,295	0,453	0,339	0,553	-0,019	0,070	0,032	0,531
CRD3	0,858	0,214	-0,070	-0,297	0,556	0,294	0,474	0,337	0,547	-0,054	0,120	0,108	0,542
DIS1	0,236	0,865	-0,094	-0,162	0,192	0,413	0,328	0,524	0,358	-0,028	0,127	0,082	0,301
DIS2	0,193	0,897	-0,067	-0,167	0,101	0,339	0,216	0,472	0,272	-0,117	0,115	0,122	0,211
DSR	-0,035	-0,090	1,000	0,026	-0,102	-0,008	-0,041	-0,067	-0,008	0,121	0,044	0,006	-0,060
EMFR1	-0,286	-0,043	0,084	0,604	-0,288	-0,058	-0,159	-0,124	-0,244	0,038	-0,002	-0,078	-0,219
EMFR2	-0,438	-0,106	0,012	0,828	-0,482	-0,201	-0,308	-0,330	-0,492	0,011	0,038	-0,069	-0,381
EMFR3	-0,360	-0,029	-0,001	0,781	-0,413	-0,107	-0,273	-0,186	-0,426	0,004	0,005	-0,037	-0,329
JUS1	0,562	0,234	-0,089	-0,265	0,740	0,287	0,421	0,343	0,474	-0,058	0,097	0,099	0,450
JUS2	0,421	0,072	-0,064	-0,423	0,749	0,130	0,325	0,209	0,440	-0,022	0,046	0,053	0,389
JUS3	0,440	0,025	-0,101	-0,344	0,712	0,129	0,235	0,204	0,433	0,007	0,035	0,052	0,328
JUS4	0,552	0,142	-0,059	-0,278	0,771	0,242	0,366	0,242	0,454	-0,037	0,091	0,036	0,378
JUS5	0,523	0,124	-0,059	-0,261	0,687	0,195	0,352	0,211	0,366	-0,042	0,082	0,028	0,309
LOS1	0,197	0,290	0,006	-0,241	0,203	0,722	0,279	0,415	0,243	-0,063	0,058	-0,003	0,265
LOS4	0,248	0,274	0,058	-0,195	0,242	0,781	0,353	0,379	0,269	-0,083	0,113	0,045	0,348
LOS5	0,212	0,391	-0,082	-0,137	0,155	0,749	0,264	0,361	0,202	-0,156	0,140	0,037	0,269
PAFR1	0,567	0,252	-0,045	-0,336	0,490	0,329	0,909	0,354	0,504	-0,101	0,070	0,140	0,629
SAF1	0,336	0,554	-0,058	-0,360	0,290	0,471	0,386	0,926	0,535	-0,043	0,104	0,116	0,401
SAF2	0,354	0,499	-0,065	-0,395	0,326	0,484	0,384	0,938	0,577	0,002	0,113	0,111	0,397
SAR1	0,566	0,333	-0,009	-0,430	0,551	0,286	0,449	0,542	0,949	-0,006	0,047	0,093	0,502
SAR2	0,611	0,342	-0,006	-0,457	0,581	0,318	0,470	0,594	0,956	0,007	0,082	0,099	0,528
SCR-N3	-0,058	-0,085	0,121	0,061	-0,041	-0,134	-0,133	-0,021	0,000	1,000	-0,031	-0,052	-0,097
SCR-R1	0,064	0,127	0,049	-0,035	0,083	0,091	-0,012	0,124	0,055	-0,044	0,816	0,132	0,047
SCR-R3	0,072	0,102	0,026	0,023	0,075	0,136	0,082	0,073	0,059	-0,009	0,849	0,085	0,032
TFL1	0,109	0,117	0,006	-0,105	0,075	0,035	0,147	0,122	0,100	-0,052	0,129	1,000	0,162
TFR1	0,311	0,166	-0,115	-0,367	0,361	0,168	0,371	0,230	0,349	-0,072	-0,048	0,138	0,647
TFR2	0,635	0,198	-0,028	-0,318	0,509	0,311	0,614	0,343	0,539	-0,038	0,057	0,163	0,865

As indicated in Table 14, the Heterotrait-Monotrait Ratio (HTMT) values in each construct do not exceed the .90 threshold which indicates the presence of discriminant validity, implicating that the various latent variables or constructs are distinct from one another.

Table 14: Heterotrait-Monotrait Ratio (HTMT) criterion

	CRD	DIS	DSR	EMO	JUS	LOS	PAT	SAF	SAR	SCR-N	SCR-R	TFL	TRS
CRD													
DIS	0,318												
DSR	0,053	0,108											
EMO	0,456	0,259	0,056										
JUS	0,850	0,223	0,115	0,503									
LOS	0,412	0,646	0,083	0,353	0,387								
PAT	0,683	0,427	0,047	0,447	0,598	0,593							
SAF	0,444	0,728	0,072	0,479	0,403	0,710	0,522						
SAR	0,720	0,447	0,008	0,516	0,704	0,427	0,583	0,682					
SCR-N	0,064	0,097	0,121	0,072	0,051	0,171	0,157	0,027	0,007				
SCR-R	0,121	0,219	0,060	0,070	0,145	0,233	0,085	0,171	0,096	0,042			
TFL	0,121	0,137	0,006	0,121	0,082	0,048	0,170	0,132	0,106	0,052	0,174		
TRS	0,828	0,455	0,085	0,572	0,707	0,647	0,899	0,601	0,706	0,137	0,143	0,201	

4.5. Structural Model Fit and Hypothesis Testing

The assessment of the structural model was done by measuring: (1) Collinearity issues; (2) Significance and relevance of the structural model relationships; (3) Effect size (f^2); and (4) Goodness of fit (the level of R^2).

4.5.1. Collinearity Issues

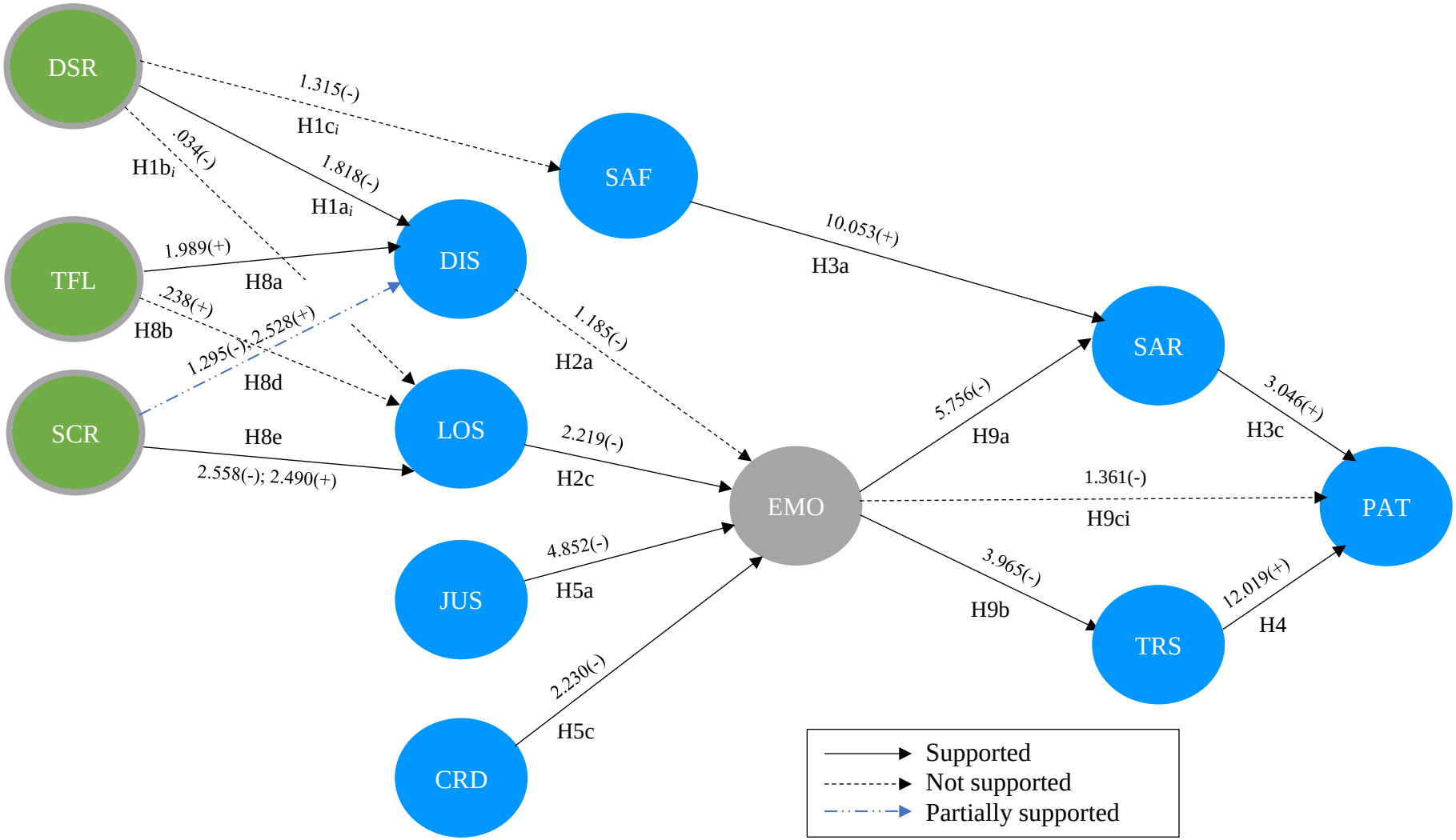
In PLS-SEM, multicollinearity is assessed by analyzing the Variance Inflation Factor (VIF) of inner model for each independent construct. From Table 15, the VIF values are lower than its threshold the value of 5, confirming that there are no issues with collinearity. This is implicating that the latent variables are independent of each other and the change in one does not affect the other variables.

Table 15: Inner VIF Values for Multicollinearity Issues

	CRD	DIS	DSR	EMO	JUS	LOS	PAT	SAF	SAR	SCN	SCR	TFL	TRS
CRD	-	-	-	1,926	-	-	-	-	-	-	-	-	-
DIS	-	-	-	1,244	-	-	-	-	-	-	-	-	-
DSR	-	1,017	-	-	-	1,017	-	1,001	-	-	-	-	-
EMO	-	-	-	-	-	-	1,339	-	1,197	-	-	-	1,263
JUS	-	-	-	1,868	-	-	-	-	-	-	-	-	-
LOS	-	-	-	1,293	-	-	-	-	-	-	-	-	-
PAT	-	-	-	-	-	-	-	-	-	-	-	-	-
SAF	-	-	-	-	-	-	-	-	1,197	-	-	-	-
SAR	-	-	-	-	-	-	1,572	-	-	-	-	-	-
SCN	-	1,019	-	-	-	1,019	-	-	-	-	-	-	-
SCR	-	1,020	-	-	-	1,020	-	-	-	-	-	-	-
TFL	-	1,019	-	-	-	1,019	-	-	-	-	-	-	-
TRS	-	-	-	-	-	-	1,481	-	-	-	-	-	-

4.5.2. Significance Analysis for the Direct Effects

To test the hypothesized relationship for significance, bootstrapping procedure was performed using a two-tailed *t*-distribution and 5,000 subsamples with bias corrected 95% confidence intervals. Bootstrap estimates the spread, shape as well as bias of the sampling distribution of the population from which the sample under study is drawn from. As a 95% confidence interval is assumed, a minimum critical value of 1.65 is ideal for a significance level of 10%. The result of the significance analysis is presented in Figure 7 and Table 16.



DSR=Desired Service Quality; TFL=Tolerance to Failure; SCR=Self-construal; DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intentions

Figure 7: PLS-SEM model for direct effects

Table 16: Significance Analysis of the Direct Effects

H	Path	Std Beta	Std Error	[*t*-value]	Inference	95% Confidence Interval – Lower Limits	95% Confidence Interval – Upper Limits
H1a$_i$	DSR → DIS	-.090	.049	1.818*	Supported	-.184	.004
H1b$_i$	DSR → LOS	.002	.056	.034	Not supported	-.108	.110
H1c$_i$	DSR → SAF	-.057	.043	1.315	Not supported	-.144	.025
H3a	SAF → SAR	.489	.049	10.053***	Supported	.388	.580
H3c	SAR → PAT	.141	.046	3.046***	Supported	.051	.232
H4	TRS → PAT	.582	.048	12.019***	Supported	.486	.674
H2a	DIS → EMO	-.063	.049	1.185	Not supported	-.160	.032
H2c	LOS → EMO	-.126	-.131	2.545**	Supported	-.226	-.033
H5a	JUS → EMO	-.289	.060	4.852***	Supported	-.410	-.171
H5c	CRD → EMO	-.138	.066	2.230**	Supported	-.266	-.008
H8a	TFL → DIS	.098	.049	1.989*	Supported	-.002	.191
H8b	TFL → LOS	.013	.046	.238	Not supported	-.076	.105
H8d	SCR-N → DIS	-.065	.050	1.295	Not supported	-.166	.034
	SCR-R → DIS	.130	.050	2.528**	Supported	.026	.225
H8e	SCR-N → LOS	-.130	.051	2.558**	Supported	-.231	-.028
	SCR-R → LOS	.136	.053	2.490**	Supported	.026	.235
H9a	EMO → SAR	-.270	.047	5.756***	Supported	-.360	-.177
H9b	EMO → TRS	-.177	.044	3.965***	Supported	-.264	-.091
H9c$_i$	EMO → PAT	-.060	.044	1.361	Not supported	-.147	.027

Note: DSR=Desired Service Quality; TFL=Tolerance to Failure; SCN=Self-construal; DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intention

** denotes significance level at 10%; ** denotes significance level at 5%; *** denotes significance level at 1%*

Service satisfaction after failure had a significant positive effect on service satisfaction after recovery (β = .489, *t* = 10.053), and service satisfaction after recovery significantly affect patronage intention (β = .141, *t* = 3.046). Patronage intention was also positively affected by trust/confidence (β = .582, *t* = 12.019). Hypotheses H3 and H4 were all significant, demonstrating strong relationships between the latent variables. Thus, H3a, H3c and H4 were fully supported.

Whereas H1, H5, H8 and H9 were only supported partially, since path H1b$_i$, H1c$_i$, H5a, H8b, H8d$_i$ and H9c$_i$ did not establish substantial evidence of a direct effect. Desired service quality had a significant direct effect on failure disconfirmation (β = -.090, *t* = 1.818), however the effect was negative, which implicates that when desired service quality is high, in

the presence of service failure, failure disconfirmation is low, thus $H1a_i$ was accepted. Further analysis showed that there was no evidence that failure disconfirmation had an influence on emotion (β = -.063, *t* = 1.185), therefore declining that H2a was true. Perceived loss, on the other hand, had a significant negative direct effect on negative emotion after a service failure (β = -.126, *t* = 2.545), providing evidence to support H2c. Negative emotion was also significantly affected by perceived justice (β = -.289, *t* = 4.852) and corporate credibility (β = -.138, *t* = 2.230), thus supporting H5a and H5c. However, the relationships were negative, suggesting that when perceived justice and corporate credibility are low after a service failure and recovery, negative emotion is high.

Furthermore, negative emotion had negative significant direct effects on service satisfaction (β = -.270, *t* = 5.756) and trust/confidence (β = -.177, *t* = 3.965) after a service recovery, yet it did not have a direct effect on patronage intention, establishing suffice evidence in supporting H9a and H9b. Tolerance to failure had only a significant positive effect on failure disconfirmation after a service failure (β = .098, *t* = 1.989), however it did not establish a significant effect on perceived loss, therefore H8a was accepted and H8b was rejected. Self-construal (both independent and interdependent) had significant direct effects on failure disconfirmation (β = .130, *t* = 2.528) and perceived loss (β = -.130, *t* = 2.558; β = .136, *t* = 2.490, respectively), except for independent self-construal and failure disconfirmation which failed to establish a significant relationship, demonstrating evidence to partially support H8d and fully support H8e.

4.5.3. Effect size (f^2)

The effect size f^2 allows to investigate the contribution of the exogenous construct (independent variable) to the R^2 value of the endogenous construct (outcome variable). In other words, effect size assesses the magnitude of relationship between the constructs or latent variables. The measurement of the effect size follows the guidelines from

COHEN (1988) that f^2 values of .02, .15 and .35 indicate small, medium and large effects respectively. From Table 17, the independent constructs such as perceived loss (f^2 = .190), perceived justice (f^2 = .130) and corporate credibility (f^2 = .025) were found to have a large, moderate and small effect on emotion, respectively.

Most of the dependent constructs, namely service satisfaction and trust/confidence, were moderately influenced by emotion (f2 = .196; f2 = .142, in the specified order). However, emotion did not have a significant impact on patronage intention. In addition, service satisfaction after recovery was greatly affected by service satisfaction after failure (f2 = .342), while patronage intention was strongly influenced by trust/confidence (f2 = .439) and only slightly influenced by service satisfaction (f2 = .025). Conversely, tolerance to failure (f2 = .020) and desired service quality (f2 = .180) had small to moderate effects on failure disconfirmation.

Table 17: Effect Size (f^2)

	CRD	DIS	DSR	EMO	JUS	LOS	PAT	SAF	SAR	SCR-N	SCR-R	TFL	TRS
CRD	-	-	-	.025*	-	-	-	-	-	-	-	-	-
DIS	-	-	-	.003	-	-	-	-	-	-	-	-	-
DSR	-	.180**	-	-	-	.000	-	.004	-	-	-	-	-
EMO	-	-	-	-	-	-	.005	-	.196**	-	-	-	.142**
JUS	-	-	-	.130**	-	-	-	-	-	-	-	-	-
LOS	-	-	-	.190***	-	-	-	-	-	-	-	-	-
PAT	-	-	-	-	-	-	-	-	-	-	-	-	-
SAF	-	-	-	-	-	-	-	-	.342***	-	-	-	-
SAR	-	-	-	-	-	-	.025*	-	-	-	-	-	-
SCR-N	-	.004	-	-	-	.017	-	-	-	-	-	-	-
SCR-R	-	.016	-	-	-	.018	-	-	-	-	-	-	-
TFL	-	.020*	-	-	-	.000	-	-	-	-	-	-	-
TRS	-	-	-	-	-	-	.439***	-	-	-	-	-	-

*Note: * denotes small effect; ** denotes moderate effect; *** denotes large effect*

4.5.4. Goodness of fit (the level of R^2)

The assessment of the goodness of fit identifies whether the model is well-fitted or ill-fitted, since R^2 measures the explanatory power of the model and it exhibits the combined

effect of the exogenous (independent) latent variables on the endogenous (outcome) latent variables. PLS-SEM aims at intensifying the R^2 values of the endogenous latent variables in the path model, where R^2 values of .75, .50 or .25 represent substantial, moderate and weak, respectively. From Table 18, the R^2 values of the model are beyond the acceptable threshold of .05 (EMO, R^2 = .666; LOS, R^2 = .536; PAT, R^2 = .785; SAF, R^2 = .568; SAR, R^2 = .617; TRS, R^2 = .716), except for failure disconfirmation.

Table 18: Goodness of fit (R^2)

Outcome Variables	R Square	R Square Adjusted
DIS	.042	.033
EMO	.666**	.619
LOS	.536**	.526
PAT	.785***	.781
SAF	.568**	.564
SAR	.617**	.614
TRS	.716**	.711

Note: DIS=Failure Disconfirmation; LOS=Perceived Loss; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intention

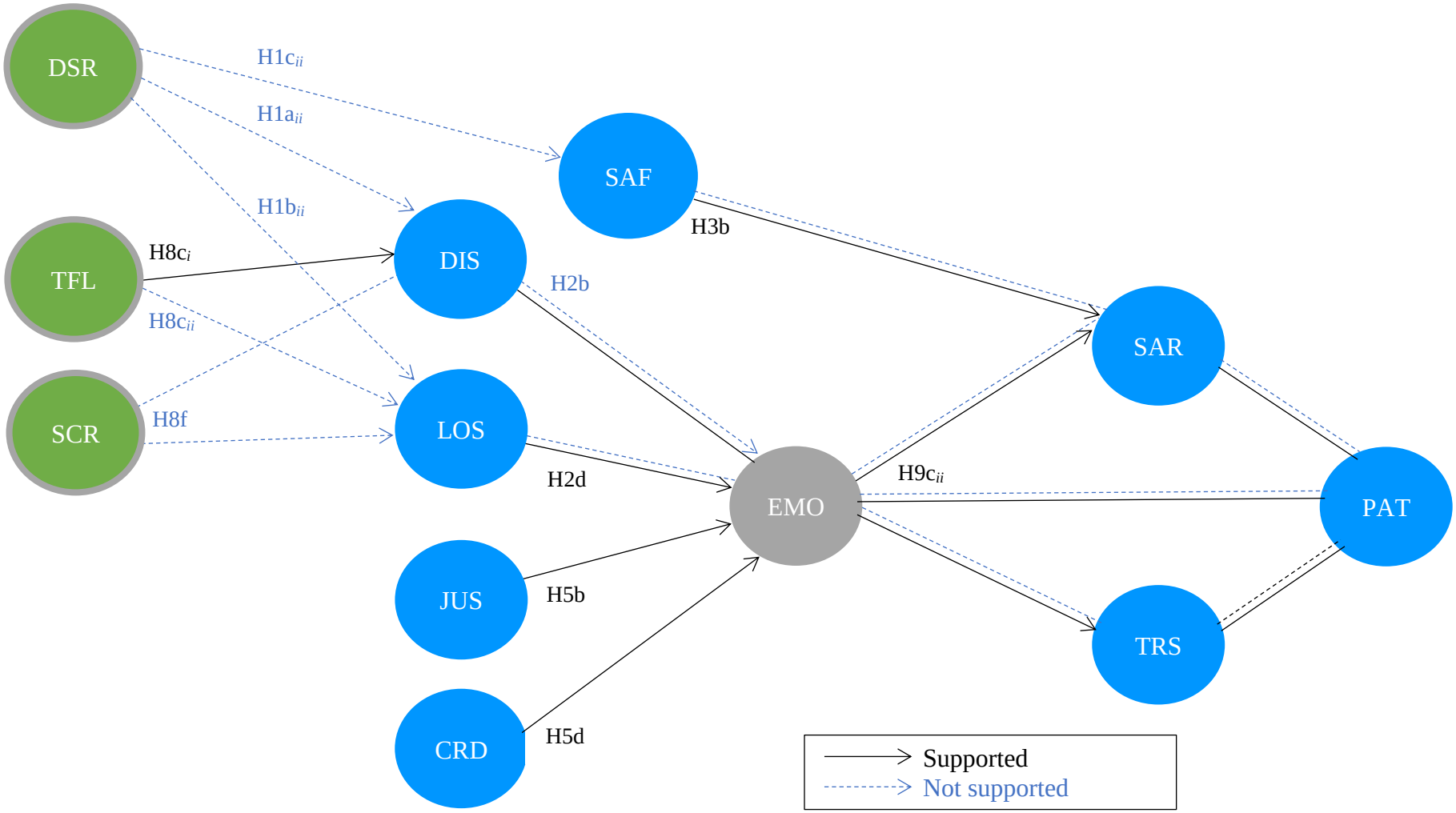
** denotes weak; ** denotes moderate; *** denotes substantial*

4.6. Indirect Effects: Mediating and Moderating Effects

Further analyses on the indirect effects were conducted to examine mediating and moderating effects, which provided a deeper understanding of the underlying causal processes that also drove the failure-recovery interaction in influencing customers' emotional experience, satisfaction with the service, trust and confidence toward the restaurant and their likeliness to patronage or re-patronage. The insights were particularly useful in circumstances where direct paths did not adequately capture the full extent of the causal relationship.

Indirect effect is the sequence of the path in which at least one intervening construct is involved. According to BARON-KENNY (1986); JAMES-BRETT (1984), a mediating effect is assessed when a third construct interferes between two other related

constructs. The path from the four independent variables: failure disconfirmation, perceived loss, perceived justice and corporate credibility to the three dependent variables: service satisfaction, trust/confidence and patronage intention were observed for a clear interpretation of the mediating role of emotion and service satisfaction post-failure as well as the moderating role of desired service quality, tolerance to failure and self-construal in influencing the three outcome variables. Table 19 lists indirect effects between the independent and dependent variables, also illustrated in Figure 8.



DSR=Desired Service Quality; TFL=Tolerance to Failure; SCR=Self-construal; DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intentions

Figure 8: PLS-SEM model for indirect effects

Table 19: Significance Analysis of the Indirect Effects

H	Path	Std Beta	Std Error	[*t*-value]	Inference	95% Confidence Interval – Lower Limits	95% Confidence Interval – Upper Limits
H2b	DIS → EMO → SAR	.030	.023	1.152	Not supported	-.014	.077
	DIS → EMO → TRS	.011	.009	1.074	Not supported	-.005	.032
	DIS → EMO → PAT	.015	.012	1.099	Not supported	-.007	.040
H2d	LOS → EMO → SAR	.053	.024	2.182**	Supported	.006	.100
	LOS → EMO → TRS	.021	.011	1.732*	Supported	.002	.046
	LOS → EMO → PAT	.026	.014	1.851*	Supported	.002	.056
H5b	JUS → EMO → SAR	.136	.032	4.283***	Supported	.076	.200
	JUS → EMO → TRS	.051	.017	3.072***	Supported	.023	.087
	JUS → EMO → PAT	.140	.035	3.982***	Supported	.073	.208
H5d	CRD → EMO → SAR	.065	.032	2.114**	Supported	.003	.130
	CRD → EMO → TRS	.024	.013	1.965*	Supported	.001	.052
	CRD → EMO → PAT	.298	.040	7.452***	Supported	.220	.376
H1aii	DSR → DIS → EMO → SAR → PAT	.000	.000	.685	Not supported	-.001	.000
	DSR → DIS → EMO → TRS → PAT	-.001	.001	.752	Not supported	-.002	.000
H1bii	DSR → LOS → EMO → SAR → PAT	.000	.000	.050	Not supported	-.001	.001
	DSR → LOS → EMO → TRS → PAT	.000	.001	.050	Not supported	-.002	.002
H1cii	DSR → SAF → SAR → PAT	.000	.007	.170	Not supported	-.015	.013
H3b	SAR → SAF → PAT	.070	.025	2.829***	Supported	.023	.122
H8ci	TFL → DIS → EMO → SAR	-.055	.023	2.578***	Supported	-.101	-.009
	TFL → DIS → EMO → TRS	-.021	.011	2.147**	Supported	-.044	-.002
	TFL → DIS → EMO → PAT	-.027	.013	2.272**	Supported	-.055	-.004
H8cii	TFL → LOS → EMO → SAR	.007	.035	.481	Not supported	-.054	.071
	TFL → LOS → EMO → TRS	.003	.014	.465	Not supported	-.021	.030
	TFL → LOS → EMO → PAT	.003	.017	.474	Not supported	-.028	.036
H8f	SCR-N → DIS → EMO → SAR	-.004	.025	.442	Not supported	-.057	.042
	SCR-N → DIS → EMO → TRS	-.002	.010	.419	Not supported	-.024	.016
	SCR-N → DIS → EMO → PAT	-.002	.012	.432	Not supported	-.030	.021
	SCR-R → DIS → EMO → SAR	.023	.035	.951	Not supported	-.054	.079
	SCR-R → DIS → EMO → TRS	.009	.014	.896	Not supported	-.022	.033
	SCR-R → DIS → EMO → PAT	.012	.018	.909	Not supported	-.027	.043
	SCR-N → LOS → EMO → SAR	.029	.030	1.050	Not supported	-.039	.080
	SCR-N → LOS → EMO → TRS	.011	.012	1.005	Not supported	-.015	.033
	SCR-N → LOS → EMO → PAT	.014	.015	1.016	Not supported	-.019	.042
	SCR-R → LOS → EMO → SAR	.021	.032	.386	Not supported	-.058	.070
	SCR-R → LOS → EMO → TRS	.008	.013	.365	Not supported	-.022	.031
	SCR-R → LOS → EMO → PAT	.010	.016	.375	Not supported	-.029	.038
H9cii	EMO → SAR → PAT	-.169	.031	5.371***	Supported	-.232	-.108
	EMO → TRS → PAT	-.198	.030	6.716***	Supported	-.257	-.142

Note: DSR=Desired Service Quality; TFL=Tolerance to Failure; SCN=Self-construal; DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMO=Emotion; SAF=Service Satisfaction-Failure; SAR=Service Satisfaction-Recovery; TRS=Trust/Confidence; PAT=Patronage Intention

** denotes significance level at 10%; ** denotes significance level at 5%; *** denotes significance level at 1%*

Mediating effects of emotion were all significant on service satisfaction, trust/confidence and patronage intention for perceived loss (β = .053, *t* = 2.182; β = .021, *t* = 1.732; β = .026, *t* = 1.851, respectively), perceived justice (β = .136, *t* = 4.283; β = .051, *t* = 3.072; β = .140, *t* = 3.982) and corporate credibility (β = .065, *t* = 2.114; β = .024, *t* = 1.965; β

= .298, t = 7.452), thus H2d, H5b and H5d were confirmed. However, emotion did not demonstrate any significant mediating effects on the three outcome variables for failure disconfirmation, therefore H2b was rejected. Although significant direct effects were not found between emotion and patronage intention, the significant indirect effects highlighted the role of service satisfaction (β = -.169, t = 5.371) and trust/confidence (β = -.198, t = 6.716) towards restaurant services in influencing customers' purchase decision after a service failure and service recovery, validating H9c_{ii} conclusively.

Moderating effects of tolerance to failure had significant indirect effects on the relationship between failure disconfirmation and service satisfaction (β = -.055, t = 2.578), trust/confidence (β = -.021, t = 2.147) as well as patronage intention (β = -.027, t = 2.272), implying that tolerance to failure changed the strength or direction between those variables, but it did not explain why the relationship between those variables occurred. Whereas, tolerance to failure did not change the strength or direction of perceived loss in affecting the three outcome variables, confirming H8c only partially. Furthermore, desired service quality and self-construal (interdependent and independent) were also not found to have any significant moderating effects on the relationship between the independent and outcome variables, thus rejecting H1a_{ii}, H1b_{ii}, H1c_{ii} and H8f. Satisfaction during the failure phase, on the other hand, appeared to indirectly influence patronage intentions by way of the satisfaction derived from the recovery phase, confirming to accept H3b.

4.7. Evaluation of Value Loss vs. Value Gain

To identify which recovery effort is most effective to redeem from a particular type of service failure as well as the person who perceived the failure, evaluation of customer value loss after a service failure vs. customer value gain after a service recovery were carried out. As reported by HOFFMAN-KELLEY (2000), that not one of service recoveries are identically effective in resolving different types of service failures. According to these authors,

the service recovery evaluation can be depended upon a range of different situational factors, such as the service failure types (BITNER et al., 1990; GOODWIN-ROSS, 1992) and the perception of the recovery effort by the customer (BOSHOFF-LEONG, 1998; MATTILA, 1999).

The effectiveness of different types of recovery efforts (Comping vs. Apologizing vs. Counter arguing) on outcome failure (Physical) vs. process failure (Psychological) and Complainants vs. Observants were analyzed using a paired-samples *t*-test. The paired-samples *t*-test is performed when the effects of a matched-pairs design between two treatment conditions are compared to determine if significant differences between the two groups occur. For performing a paired-samples *t*-test, only 35 participants per cell were included to meet the assumption of normality.

Hypotheses H6, H7 and H10 propose that the effect is strongest when the recovery type (Comping, Apologizing, Counter-arguing) and failure type (Physical, Psychological) match in kind which suggests that the recovery effort and failure type interact well on the "recovery effect of compensation" (ROSCHK-GELBRICH, 2014). The recovery effect of compensation is defined as "the difference between post-recovery customer reactions and post-failure customer reactions". It can also be seen as a cumulative effect value indicating the increase in customer responses (emotion, satisfaction, trust, patronage intention) affected by the recovery effort, after taking into consideration the decrease in customer responses affected by the failure. Table 20, 21 and 22 present research findings of hypotheses H6, H7, H10 testing.

According to DONNENWERTH-FOA (1974), customers feel more satisfied when an effort or a resource they give out matches the effort or resource they gain in return. The evaluation of value loss vs. value gain shows that regardless the failure type, apologizing recovery effort (*Physical*: $MD_{saf/r} = -.826$, $p = .000$; $MD_{trsf/r} = -.491$, $p = .016$; $MD_{patf/r} = -.736$,

p = .004; *Psychological*: $MD_{saf/r}$ = -1.250, p = .000; $MD_{trsf/r}$ = -.790, p = .000; $MD_{patf/r}$ = -.705, p = .002) is most desirable for the customer (both Complainants and Observants), followed by comping recovery (*Physical*: $MD_{saf/r}$ = -.613, p = .003; $MD_{trsf/r}$ = -.384, p = .025; $MD_{patf/r}$ = -.395, p = .058; *Psychological*: $MD_{saf/r}$ = -.534, p = .000; $MD_{trsf/r}$ = -.220, p = .098; $MD_{patf/r}$ = -.492, p = .022), hence supported H6b, but rejected H6a. Counter-arguing, however, is acceptable as a way to recuperate only in the presence of physical failure ($MD_{saf/r}$ = -.477, p = .000; $MD_{trsf/r}$ = -.374, p = .002; $MD_{patf/r}$ = -.450, p = .001). It is less desirable for the customer when a process (Psychological) failure occurs.

Furthermore, after a physical failure, the three recovery efforts: Comping; Apologizing; and Counter-arguing exhibited strong significant cumulative values of perceived justice ($M_{comping}$ = 4.13, p_{dis} = .000, p_{los} = .004; $M_{apologizing}$ = 4.17, p_{dis} = .000, p_{los} = .004=3; $M_{counter\text{-}arguing}$ = 4.07, p_{dis} = .000, p_{los} = .023) as well as corporate credibility ($M_{comping}$ = 4.25, p_{dis} = .000, p_{los} = .003; $M_{apologizing}$ = 4.33, p_{dis} = .000, p_{los} = .001; $M_{counter\text{-}arguing}$ = 3.96, p_{dis} = .000, p_{los} = .062) relative to the value of failure disconfirmation and perceived loss, which caused a change in negative emotions ($MD_{comping}$ = .736, p = .000; $MD_{apologizing}$ = .736, p = .000; $MD_{counter\text{-}arguing}$ = 5.35, p = .014), service satisfaction ($MD_{comping}$ = -.613, p = .003; $MD_{apologizing}$ = -.826, p = .000; $MD_{counter\text{-}arguing}$ = -.477, p = .000), trust/confidence ($MD_{comping}$ = -.384, p = .025; $MD_{apologizing}$ = -.491, p = .016; $MD_{counter\text{-}arguing}$ = -.374, p = .002) and patronage intentions ($MD_{comping}$ = -.395, p = .058; $MD_{apologizing}$ = -.736, p = .004; $MD_{counter\text{-}arguing}$ = -.450, p = .001). While after a psychological failure, the value of perceived justice ($M_{comping}$ = 3.90, p_{dis} = .000, p_{los} = .000; $M_{apologizing}$ = 4.20, p_{dis} = .000, p_{los} = .000) and corporate credibility ($M_{comping}$ = 3.58, p_{dis} = .016, p_{los} = .002; $M_{apologizing}$ = 4.31, p_{dis} = .000, p_{los} = .000) were found to be significantly different from the value of failure disconfirmation and perceived loss only when interacted with apologizing and comping recovery efforts, but no significant cumulative value established

when interacted with counter-arguing recovery, consequently, no increase or decrease in customers' attitude and behavioral intentions. The results, thus, supported H10.

In addition, psychological/process-related failure (M_{DIS} = 2.82; M_{LOS} = 3.48) was observed to have more influence on failure disconfirmation and perceived loss than physical/outcome-related failure (M_{DIS} = 3.10; M_{LOS} = 3.76).

Table 20: Value Loss vs. Value Gain

Failure Type	Post-failure		Post-recovery			
				M (*pDIS; pLOS*)		
	IV	M	IV	Comping	Apologizing	Counter-arguing
Physical	DIS	3.10	JUS	4.13 (*.000****; *.004***)	4.17 (*.000****; *.003***)	4.07 (*.000****; *.023***)
	LOS	3.76	CRD	4.25 (*.000****; *.003**)	4.33 (*.000****; *.001***)	3.96 (*.000****; *.062***)
	Post- recovery vs. Post-failure (M (*p*))					
	EMOR - EMOF			.736 (*.000****)	.736 (*.000****)	.535 (*.014***)
	SAR - SAF			-.613 (*.003***)	-.826 (*.000****)	-.477 (*.000****)
	TRSR - TSRF			-.384 (*.025***)	-.491 (*.016***)	-.374 (*.002***)
	PATR - PATF			-.492 (*.058**)	-.736 (*.004***)	-.450 (*.001***)
Psychological	IV	M	IV	Comping	Apologizing	Counter-arguing
	DIS	2.82	JUS	3.90 (*.000****; *.000****)	4.20 (*.000****; *.000****)	3.31 (*.660*; *.814*)
	LOS	3.48	CRD	3.58 (*.016***; *.002***)	4.31 (*.000****; *.000****)	3.52 (*.188*; *.545*)
	Post- recovery vs. Post-failure (M (*p*))					
	EMOR - EMOF			.294 (*.021***)	1.076 (*.000****)	.153 (*.215*)
	SAR - SAF			-.534 (*.000****)	-1.250 (*.000****)	-.008 (*.953*)
	TRSR - TSRF			-.220 (*.098**)	-.790 (*.000****)	-.153 (*.286*)
	PATR - PATF			-.395 (*.022***)	-.705 (*.002***)	-.141 (*.303*)

Note: DIS=Failure Disconfirmation; LOS=Perceived Loss; JUS=Perceived Justice; CRD=Corporate Credibility; EMOF/R=Emotion-failure/recovery; SAF/R=Service Satisfaction-failure/recovery; TRSF/R=Trust/Confidence-failure/recovery; PATF/R=Patronage Intention-failure/recovery

**significance level at 10%; **significance level at 5%; ***significance level at 1%*

IV=Independent Variable; M=Mean Score

For Complainants, as the person who experience a service failure and receive a recovery effort first-hand, the effect of recovery effort was largest when physical failure interacted with apologizing recovery effort ($MD_{emof/r}$ = .925, p = .000; $MD_{saf/r}$ = -.613, p = .016; $MD_{trsf/r}$ = -.935, p = .001; $MD_{patf/r}$ = -1.387, p = .000), indicating that when an outcome (Physical) failure occurs, a recovery effort in the form of apologizing significantly decreases negative emotions post-failure, increases service satisfaction and trust/confidence towards

restaurants, and therefore increases customers' intentions to re-patronage. In addition, there was also a strong significant difference found in the interaction between physical failure and counter-arguing recovery effort ($MD_{emof/r}$ = .779, p = .000; $MD_{saf/r}$ = -.473, p = .000; $MD_{trsf/r}$ = -.408, p = .002; $MD_{patf/r}$ = -.554, p = .000). The interaction between physical failure and comping recovery effort was not significantly different post-failure vs. post-recovery, except for service satisfaction ($MD_{saf/r}$ = -.950, p = .001). It suggests that when a physical failure occurs in which customer and food safety are concerned, comping recovery only increases service satisfaction post-recovery, but it does not decrease negative emotions and does not increase trust/confidence towards restaurants, thus no increase in the intention to re-patronage.

Table 21: Failure Type x Recovery Effort - Complainants

Failure x Recovery	Loss/Gain	Mean difference	Std Deviation	*t*	df	*p*-value
Physical x Comping	EMOF/R	-.017	1.172	-.064	99	.950
	SAF/R	-.950	1.146	-3.707	99	.001**
	TRSF/R	-.375	.972	-1.726	99	.101
	PATF/R	-.400	1.314	-2.042	99	.105
Physical x Apologizing	EMOF/R	.925	1.125	4.579	99	.000***
	SAF/R	-.613	1.340	-2.547	99	.016*
	TRSF/R	-.935	1.407	-3.702	99	.000***
	PATF/R	-1.387	1.647	-4.690	99	.000***
Physical x Counter-arguing	EMOF/R	.779	1.298	5.755	99	.000***
	SAF/R	-.473	1.004	-4.518	99	.000***
	TRSF/R	-.408	1.218	-3.210	99	.002**
	PATF/R	-.554	1.440	-3.692	99	.000***
Psychological x Comping	EMOF/R	-.175	.697	-1.097	99	.287
	SAF/R	.579	1.294	1.950	99	.067*
	TRSF/R	.184	1.003	.801	99	.434
	PATF/R	-.421	2.009	-.914	99	.373
Psychological x Apologizing	EMOF/R	1.444	1.554	5.340	99	.000***
	SAF/R	-1.409	1.176	-6.885	99	.000***
	TRSF/R	-.939	1.657	-3.256	99	.003**
	PATF/R	-1.424	2.166	-3.778	99	.001**
Psychological x Counter-arguing	EMOF/R	.294	.953	2.368	99	.021*
	SAF/R	-.534	.937	-4.376	99	.000***
	TRSF/R	-.220	1.005	-1.683	99	.108
	PATF/R	-.492	1.601	-2.358	99	.202

Note: EMOF/R=Emotion-failure/ recovery; SAF/R=Service Satisfaction-failure/recovery; TRSF/R=Trust/Confidence-failure/recovery; PATF/R=Patronage Intention-failure/recovery

** denotes significance level at 10%; ** denotes significance level at 5%; *** denotes significance level at 1%*

In the interaction between a process (Psychological) failure and different recovery types, a recovery effort in the form of apologizing had the largest significant difference on the decrease of negative emotions ($MD_{emof/r}$ = 1.444, p = .000), hence, on the increase of service satisfaction ($MD_{saf/r}$ = -1.409, p = .000), trust/confidence ($MD_{trsf/r}$ = -.939, p = .003) as well as re-patronage intention ($MD_{patf/r}$ = -1.424, p = .001) in the post-recovery. Whereas, comping recovery had only significant difference in decreasing service satisfaction ($MD_{saf/r}$ = .579, p = .067), but no significant difference found in negative emotion, trust/confidence or re-patronage intention between post-failure vs. post-recovery, which indicates when a psychological failure occurs where employee service behaviors are involved, comping recovery effort does not help dissatisfied customers reinstate their satisfaction and loyalty towards a particular restaurant. Counter-arguing recovery effort, on the other hand, had only significant differences in negative emotion ($MD_{emof/r}$ = .294, p = .021) and service satisfaction ($MD_{saf/r}$ = -.534, p = .000), but the difference was not strong enough to increase trust/confidence and re-patronage intention, providing evidence to partially support H6c. The results further demonstrate that different recovery efforts for different failure types vary in enhancing Complainants' attitude and behavioral intentions, thus, hypothesis H7a was accepted.

Table 22: Failure Type x Recovery Effort - Observants

Failure x Recovery	Loss/Gain	Mean difference	Std Deviation	*t*	df	*p*-value
Physical x Comping	EMOF/R	1.014	1.372	3.545	49	.002**
	SAF/R	-.717	.939	-3.663	49	.001**
	TRSF/R	-.391	1.187	-1.581	49	.128
	PATF/R	-.217	1.347	-.774	49	.447
Physical x Apologizing	EMOF/R	.570	1.207	1.825	49	.082*
	SAF/R	-.614	1.632	-1.763	49	.092*
	TRSF/R	.136	1.246	.513	49	.613
	PATF/R	.182	1.532	.557	49	.584
Physical x Counter-arguing	EMOF/R	.526	1.073	2.137	49	.047**
	SAF/R	-.500	.898	-2.428	49	.026**
	TRSF/R	-.211	1.217	-.754	49	.461
	PATF/R	.053	1.224	.188	49	.853
Psychological x Comping	EMOF/R	.493	1.187	2.078	49	.049**
	SAF/R	-.720	1.308	-2.753	49	.011**
	TRSF/R	-.400	1.199	-1.794	49	.081*
	PATF/R	-.450	1.260	-2.259	49	.030**
Psychological x Apologizing	EMOF/R	1.156	1.364	4.641	49	.000***
	SAF/R	-1.517	1.178	-7.052	49	.000***
	TRSF/R	-.950	1.605	-3.243	49	.003**
	PATF/R	-.500	2.097	-1.306	49	.002**
Psychological x Counter-arguing	EMOF/R	.308	1.000	1.951	49	.058*
	SAF/R	-.288	.884	-2.058	49	.046*
	TRSF/R	-.313	1.102	-1.668	49	.108
	PATF/R	.000	1.384	.000	49	1.000

Note: EMOF/R=Emotion-failure/recovery; SAF/R=Service Satisfaction-failure/recovery; TRSF/R=Trust/Confidence-failure/recovery; PATF/R=Patronage Intention-failure/recovery

** denotes significance level at 10%; ** denotes significance level at 5%; *** denotes significance level at 1%*

For Observants, who only observe the interaction between the service failure and recovery effort and do not receive the experience first-hand in a service encounter, in the presence of physical failure, different recovery efforts did not differ significantly to one another on cumulative effects of trust/confidence and patronage intention after observing a service failure vs. a recovery effort. Comping, Apologizing and Counter-arguing had only significant differences on the decrease in negative emotion ($MD_{emof/r}$ = 1.014, p = .002; $MD_{emof/r}$ = .570, p = .082; $MD_{emof/r}$ = .526, p = .047, respectively) and on the increase in service satisfaction ($MD_{saf/r}$ = -.717, p = .001; $MD_{saf/r}$ = -.614, p = .092; $MD_{saf/r}$ = -.500, p = .026, respectively). Further, the results show that comping recovery was strongest both in decreasing customer

negative emotions and increasing customer service satisfaction, followed by apologizing recovery and at last, counter-arguing recovery.

Whereas, in the presence of psychological failure, the interaction between service failure and different recovery efforts varies in affecting customer responses, therefore, hypothesis H7b was partially supported. Apologizing recovery had the strongest significant difference in lowering negative emotion ($MD_{emof/r}$ = 1.156, p = .000) and enhancing the three outcome variables: service satisfaction ($MD_{saf/r}$ = -1.517, p = .000), trust/confidence ($MD_{trsf/r}$ = -.950, p = .003) and patronage intention ($MD_{patf/r}$ = -.500, p = .002). Similarly, comping recovery had also a strong significant difference in negative emotion, service satisfaction, trust/confidence and patronage intention ($MD_{emof/r}$ = .493, p = .049; $MD_{saf/r}$ = -.720, p = .011; $MD_{trsf/r}$ = -.400, p = .081; $MD_{patf/r}$ = -.450, p = .030). On the contrary, counter-arguing recovery effort is less appealing for the observant customers to compensate for a loss after a psychological failure.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The research aims to explain the role of the service failure-recovery dyadic interaction in affecting customers' subsequent attitudes and behavior in the restaurant industry. Four research questions have guided both the conceptual and empirical studies. The research question focuses on what constitutes an effective recovery strategy to resolve a service failure. In this vein, this research contributes to the service failure-recovery literature by broadening the basic concept of service failure and recovery to incorporate: (1) the drivers and the underlying mechanisms that explain the failure-recovery interaction throughout the customer journey from the pre-core service encounter to the post-core service encounter; (2) different types of failures: Physical vs Psychological, and recoveries: Comping vs Apologizing vs Counter-arguing; (3) the perception of different types of customers: Complainants vs Observants toward the failure-recovery interaction; (4) a comparison between customer value loss post-failure and value gain post-recovery: how well the recovery effort addresses customers' initial loss and restores customers' cumulative value. Two main analyses using PLS-SEM and MANOVA were carried out to provide answers to the four research questions.

5.1.1. PLS-SEM Analysis: the Interconnection between Constructs

This broadening of the service failure-recovery approach was crucial as it made it feasible to look into how a dyadic interaction between different types of service failures and recoveries impacts different types of customers' subsequent attitudes and behavior in the service setting holistically. Results of PLS-SEM analysis indicate that desired service quality, tolerance to failure and self-construal as key moderating variables; failure disconfirmation, perceived loss, perceived justice and corporate credibility as predictors; emotion as a mediator; and service satisfaction, trust/confidence and patronage intention as outcome variables are all interconnected in the context of customer evaluations following a failure and recovery, and are

explained by both direct and indirect paths. The direct path analysis allows us to understand the immediate effect between two constructs without considering the moderating and mediating roles of other variables. Whereas, the indirect path analysis provides a deeper understanding of the underlying causal processes between constructs. The insights were particularly useful in circumstances where direct paths did not adequately capture the full extent of the causal relationship. The following subsections will dive deeper into the relationship between these constructs.

5.1.1.1. The moderating effects of desired service quality

Desired service quality has a negative direct effect on failure disconfirmation, which indicates that customers' disappointment is intensified when their expectations are not met in the presence of a service failure. It provides strong support for the Expectancy-Disconfirmation theory that suggests a connection between initial expectations and failure disconfirmation (OLIVER, 1997). However, the model failed to establish direct effects on perceived loss and service satisfaction as well as indirect paths in influencing customers' attitudinal and behavioral outcomes as initially hypothesized. These compelling findings could be attributed to a strong link between expectations and disconfirmation to affect attitudes and future intentions in failure-recovery evaluations. In other words, customers' attitudes and behavior are not solely driven based on their initial expectations, but by emphasizing an underlying mechanism: the connection between expectations and disconfirmation, to such an extent as whether the core service meets their initial expectations in the pre-core level. If a customer encounters a failure but adapts their expectations during the process, their perceived loss may be influenced by the adjusted reference point rather than the initial expectation.

5.1.1.2. The moderating effects of individual characteristics

Customers' tolerance to failure and self-construal varies across different levels, further contributing to the explanation of failure disconfirmation. The findings are consistent with those reported by MATTILA-PATTERSON (2004) and SHARIFI-SPASSOVA (2020) which argue that individual differences are the underlying mechanism in failure-recovery evaluations. Interdependent individuals value social harmony and when a failure occurs, the social impact can intensify negative disconfirmation, however, interdependent individuals with high tolerance to failure are more likely to empathize with service providers and understand that failures can occur. Instead of assigning blame, these individuals may be inclined to work collaboratively with the service provider to address the failure. Independent individuals, on the contrary, are not found to affect failure disconfirmation as they may have a realistic and flexible approach to setting expectations. If their expectations are aligned with potential setbacks, they may experience less disconfirmation in cases where situations deviate from the anticipated course of events.

Further analysis of the data reveals that while self-construal also plays a crucial role in regulating customers' perception of loss following a service failure, with independent individuals being more susceptible to perceiving a greater loss compared to their interdependent counterparts as independent individuals may value autonomy and control. When a failure occurs, it could be perceived as a loss of control over the situation or hindering their autonomy. However, the experiment did not detect any evidence for significant interactions between tolerance to failure and perceived loss. One possible explanation for this surprising finding may lie in the nature of failure types in different cultures. A particular failure type such as psychological loss which represents the loss of symbolic resources (i.e., emotional well-being, self-esteem, status, pride) may be moderated by the individual's level of tolerance to failure in a culture that values precision and efficiency and focuses more on quality. Conversely, physical

loss (outcome failure) which represents the loss of economic/monetary resources (i.e., competence, skills, quality) may be more tolerated in a culture that values social harmony, relationship-based trust and respect.

Moreover, it is important to note that while these individual differences may have a positive influence on failure disconfirmation after a failure, their responses alone may not fully close the gap in driving customer loyalty and retention as the model did not adequately capture the underlying relationships between tolerance to failure or self-construal and the outcome variables where the effects of these moderators were only tested in the post-failure level.

5.1.1.3. The moderating effects of service satisfaction in the core service encounter

Customer satisfaction post-recovery is influenced by their prior satisfaction during the core service encounter, as customers compare their recovery experience to the initial failure experience. This finding provides evidence of the moderating effects of customer negative experience after a service failure and shows that such experience typically serves as a reference point in adjusting attitudes and behavior when receiving a recovery effort.

5.1.1.4. The drivers of the customer's subsequent attitudinal and behavioral outcomes

The interaction between the four predictors: failure disconfirmation, perceived loss, perceived justice and corporate credibility appears to affect customer satisfaction, trust and intentions in failure-recovery evaluations, such that these predictors have the most impact when the interaction between failure disconfirmation and perceived loss that arises after a failure in the core service level is low, but the interaction between perceived justice and corporate credibility that occurs after a recovery effort in the post-core service level is high. However, one assumption of the model that failure disconfirmation (as with other predictors) contributes indirectly on satisfaction and trust through emotion is not supported. As noted

above, the effects of failure disconfirmation on the outcome variables are explained by several underlying mechanisms. The different mechanisms that may underlie the relative effects of failure disconfirmation in affecting attitudes and intentions are desired service quality and individual differences (i.e., tolerance to failure and self-construal).

5.1.1.5. The mediating role of emotion

Emotion serves as a mediator between the four predictors and the three outcome variables. The findings suggest that these predictors influence customers' attitudes and behaviors through their impact on emotional responses. While emotion on its own does not have direct effects on patronage intention, it can indirectly influence it through its effect on service satisfaction and trust/confidence. Positive emotions enhance customer satisfaction and trust/confidence, while negative emotions can mitigate them, which in turn have a direct effect on patronage intention. These results reflect those of KOLOS-KENESEI (2008) who also found that the presence of emotions favorably influences satisfaction.

5.1.2. MANOVA Analysis: the Compatible Failure-Recovery Types

The results of MANOVA analysis indicate that different recovery efforts are not identical in their ability to resolve a particular type of failure. The effectiveness of the interaction between service failure and recovery, moreover, is also affected by the customer's perception of the interaction. The findings suggest that certain recovery efforts may be more successful than others in addressing the specific type of failure being studied. This implies that service providers should carefully consider the choice of recovery strategy based on the nature of the failure they are dealing with. These findings confirm the hypotheses of the present study as well as results from previous studies (BITNER, 1990; BOSHOFF-LEONG, 1998; GOODWIN-ROSS, 1992; HOFFMAN-KELLEY, 2000; MATTILA, 1999). Results of the cumulative value of value loss and value gain further suggest that each failure-recovery

interaction is not similar in affecting customers' subsequent attitudes and behavior. The cumulative value was largest when both exchange resources between the failure type and the recovery effort complement one another. These findings are following the results obtained from KAHNEMAN-TVERSKY (1979); ROSCHK-GELBRICH (2014); ZHU et al. (2004). The compatible recovery type with the failure type is explained in great detail in the below subsections.

5.1.2.1. Service failure type and magnitude

The customer evaluation of failure-recovery dyadic interaction relies on the type of failure they experience (LEWIS-SPYRAKOPOULOS, 2001). Two different types of failures were tested: physical loss (outcome), which is related to tangible outcomes; and psychological loss (process), which is associated with the customer's emotional experience during a service encounter. These two divisions of service failures were adapted from SMITH et al. (1999) which identified two forms of failures: outcome- and process-related failures. The findings of the study indicate that both types of failures are considered to be serious problems since the magnitude of both physical and psychological failures was controlled as "severe". However, it appears that psychological failure, that threatens customers' self-esteem and social needs, is perceived as more severe in comparison to physical failure, which primarily involves the loss of economic resources, through their effects on failure disconfirmation and perceived loss.

5.1.2.2. Apologizing recovery effort

Offering a sincere apology is desirable for both Complainants and Observants in both cases of physical and psychological-related issues. Apologizing acknowledges the damage that results in either physical harm or emotional distress as well as the service provider's role in the incident, demonstrates empathy, and shows a willingness to make amends. It helps address the emotional needs of the Complainants and can contribute to healing and rebuilding

trust, while at the same time, fostering compassion for the Observants. This outcome challenges the notion that Apologizing will be typically more effective to recover from psychological losses or process failures than outcome failures, as it provides a symbolic meaning rather than a utilitarian exchange (DAVIDOW, 2003; ROSCHK-GELBRICH, 2014; SMITH et al. 1999). A possible explanation for this might be related to the magnitude of failure. In cases where the magnitude of outcome failures is mild or moderate, compensation might be more effective to rectify a physical loss to the same extent as an apology.

5.1.2.3. Comping recovery effort

While Comping can be important and necessary in certain situations, it may not always be the most appealing or desirable solution. Making a recovery effort that goes beyond monetary or material compensation can often be more meaningful and satisfying. While compensation may be necessary in some cases, it should be viewed as part of a comprehensive approach that also includes a sincere apology and a genuine effort to address the underlying issues. This multi-faceted approach is viewed to be more appealing and effective in resolving both physical and psychological failures. This finding is contrary to previous studies which have suggested that economic/monetary compensation entails a utilitarian exchange and tangible values, therefore it is superior to other recovery efforts to repay failures that involve economic/monetary losses (i.e., outcome failures). As outlined above, these results may have been confounded by the magnitude of failure which was controlled as “severe”.

5.1.2.4. Counter-arguing recovery effort

Counter-arguing seems to be adequate as a way to respond to customer online complaints only when a physical failure occurs, specifically for Complainants. Yet, it may not be as effective when dealing with psychological or emotional concerns. Psychological-related complaints often require a more empathetic and understanding response, rather than a purely

logical or argumentative one as psychological failures often evoke strong emotional responses in the customers. Counter-arguing may come across as dismissive or uncaring, intensifying negative emotions rather than providing the desired resolution. These are particularly valuable findings that add to the service failure-recovery literature as counter-arguing recovery effort is considered to represent an effective recovery effort to a trust violation which gives the accused party the benefit of the doubt (KIM et al., 2004), but only a limited number of studies specifically focus on this recovery type. However, this study has been unable to demonstrate that Counter-arguing is more successful for integrity-based trust violations (i.e., show respect, treat customers properly) than competence-based trust violations (i.e., knowledge, skills) as previously reported. This inconsistency may be due to an absence of clear evidence of the innocence of the accused party in the psychological failure scenario (i.e., CCTV, witnesses).

5.1.2.5. Different customer and recovery types

For Complainants who are directly harmed by physical failures, Apologizing and Counter-arguing may suffice to regain their satisfaction, trust and re-patronage intentions. Comping, on the other hand, may solely be useful to reinstate their satisfaction towards the service, but may not be appropriate to earn their trust and loyalty. When Complainants involve in a psychological failure, only Apologizing is found to be suitable to reestablish their self-esteem as well as emotional well-being, and no other recovery efforts serve this purpose.

For Observants, negative reviews from Complainants and types of recovery efforts adopted by service providers may be beneficial to reduce their negative emotions and thus, increase their level of satisfaction with the service, but one interesting finding is that different recovery efforts did not significantly differ in terms of trust and intentions. Observing a failure in the form of an online complaint as Observants can trigger a range of emotional reactions, which in turn shape how they perceive and respond to the situation, yet, observing a recovery effort may not provide the same level of personal experience and engagement as they

possess a less significant emotional investment. Despite differences in recovery efforts, their influences on customers' trust/confidence towards the service provider and future intentions may not vary significantly. These findings may be somewhat limited because each recovery effort was tested individually, without combining different recovery efforts to achieve higher cumulative values for Observants.

5.2. Recommendations for Practice

The above findings imply that service providers should factor in the underlying aspects such as individual characteristics and initial expectations as well as all components in the entire customer lifecycle from the pre-core, core to post-core service encounter to effectively influence customers' subsequent attitudes and behavior. Further, service providers should evaluate the specific failure situation and consider the potential effectiveness of different recovery options. It suggests that there may be recovery strategies that are more successful in resolving certain types of failures compared to others. By identifying and implementing the most appropriate recovery efforts, service providers can enhance their ability to address specific failures and meet customer expectations. Additionally, understanding the varying impact of different recovery efforts can help service providers allocate their resources effectively. They can focus on implementing strategies that have shown to be more effective in resolving specific types of failures, rather than applying a one-size-fits-all approach. This targeted approach to recovery can lead to better outcomes, such as increased customer satisfaction, loyalty, and retention. Thus, several recommendations can be derived based on the above findings:

1. Improve service quality: it involves ensuring that everything is done correctly from the outset, aiming to provide customers with a seamless experience. By emphasizing getting everything right in the first place, service providers can focus more on preventing problems and addressing potential issues. For example, if service providers are consistently getting complaints about recurring issues, it is essential to assess and review

their business performance and core activities and make necessary changes. Service providers can take the opportunity from customer feedback to identify areas for improvement and gauge the overall sentiment towards the business.

2. Clear communication: given that failure disconfirmation is influenced by the gap between customer expectations and the actual service received, service providers should strive to meet or exceed customers' prior expectations consistently to minimize disappointment and dissatisfaction. It is crucial to provide accurate and transparent information regarding products, services, offers, pricing and policies to set proper expectations and avoid misunderstandings. In simple terms, the service provider's promotional activities play a vital role in bridging the image that they want to portray with the experience that the customers encounter. This highlights the importance of ensuring that the actual service encounter embodies the desired qualities and features described in their marketing efforts.
3. Keep complaints internal, not online: to effectively address customer complaints, it is important to offer multiple ways for customers to talk directly to service providers, rather than letting the issues escalate online where other customers are also present, such as via website, social media, email, customer support and comment/feedback card. According to this study's findings, online complaints can also affect Observants' emotional reactions and their level of satisfaction, unfortunately, recovery efforts may not help service providers to regain customers' trust and future intentions. By keeping complaints internal, service providers can protect the company's reputation and mitigate the potential cost of negative public complaints (i.e., losing the potential customers).
4. Include key CRM questions in a feedback survey: the results imply that, in customer relationship management (CRM), service providers should include questions about disconfirmation, perceived loss, justice and firm credibility, especially after service

failures occur. To better understand customer satisfaction, trust and intentions, service providers should gain information about disconfirmation of expectations, perceptions of loss and justice as well as business credibility.

5. Foster customer tolerance: recognize that customer tolerance to failure can vary across individuals. Particularly, interdependent individuals with high tolerance to failure are more likely to empathize with service providers and understand that failures can happen. Encourage a collaborative approach when addressing failures, fostering a sense of teamwork between customers and service providers.
6. Consider self-construal differences: understand that customers' self-construal (independent vs. interdependent) plays a role in their perception of loss following a service failure. Independent individuals may perceive a greater loss compared to their interdependent counterparts. Tailor the recovery strategies and communication approaches to resonate with the respective self-construal tendencies of the target customer segment. The way individuals express their complaints can reveal their self-construal type. For instance, independent individuals tend to use more defensive tones rather than collaborative ones when voicing their concerns. Service providers may also include self-construal-related questions in the feedback survey.
7. Prioritize effective recovery: when trying to recuperate from a service failure, service providers should take both the failure type and magnitude into account. Recognize that customers tend to compare their recovery experience to the initial failure experience. At the same time, to ensure positive service satisfaction during the recovery phase, it is crucial to prioritize effective and efficient recovery efforts. From a practical point of view, service providers may consider creating customer relation documents that integrate potential service failures and their corresponding recovery efforts. For example, consider offering an apology is highly recommended for Complainants,

irrespective of the type of failure. To avoid losing the potential customers, it is advisable to supplement an apology with other necessary actions, such as compensation, corrective measures, or preventive actions.

8. Manage emotions: understand the mediating role of emotions in shaping customers' attitudes and behaviors. Foster positive emotions during the service encounter and recovery process, as they enhance customer satisfaction and trust/confidence. Conversely, actively mitigate negative emotions to prevent their adverse impact on satisfaction and trust/confidence.
9. Strengthen trust and confidence: recognize that trust and confidence in the service provider have a direct effect on customer patronage intention. By ensuring effective recovery, managing emotions, and delivering consistent service quality, service providers can enhance trust and confidence, thereby increasing the likelihood of repeat patronage.

6. MAIN CONCLUSIONS AND NOVEL FINDINGS OF THE DISSERTATION

First, while there are many studies on the service failure-recovery interaction in the restaurant industry, there is an insufficient number of studies have been exploring the customer lifecycle, which describes the various stages a customer goes through before, during and after a purchase or transaction, as well as customer individual characteristics and emotional responses. An enhanced comprehensive framework of service failure-recovery dyadic interaction that broadens the scope of failure-recovery context to include the entire customer journey in the restaurant industry has been provided to address the gap (see Figure 9).

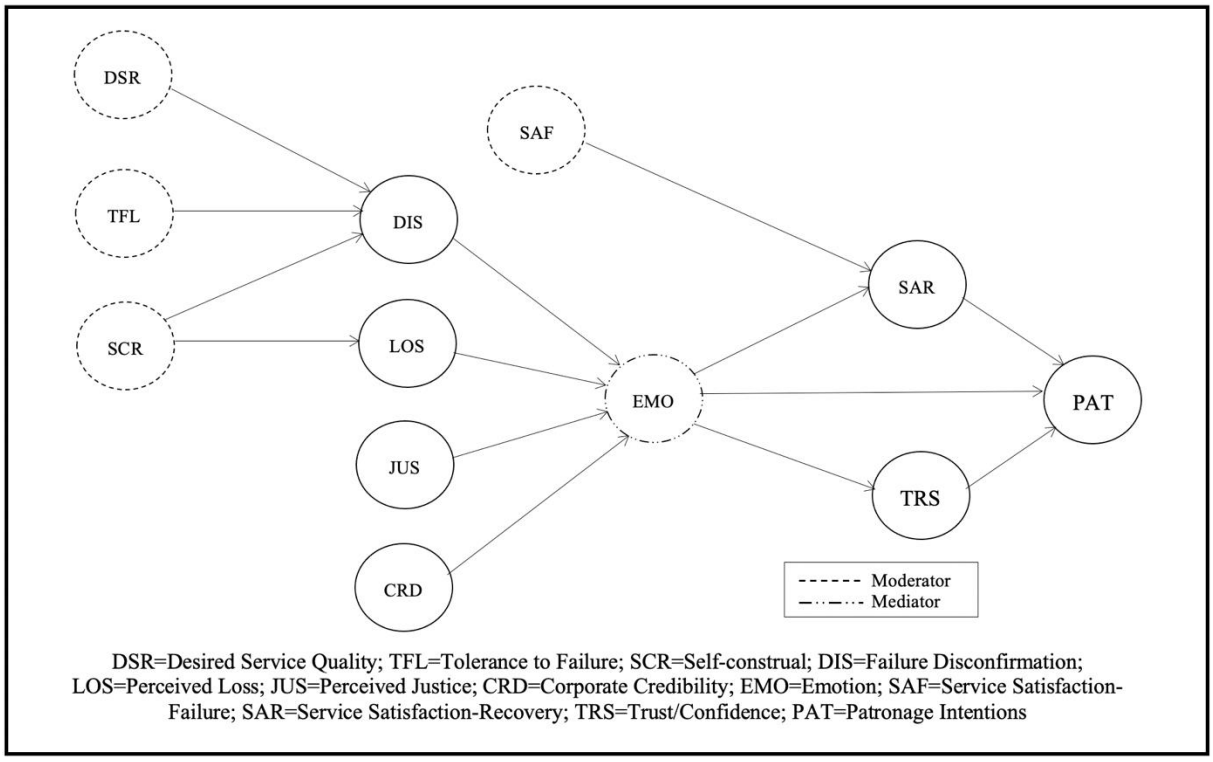


Figure 9: Framework of service failure-recovery throughout the entire customer journey

The framework presents the seven broad dimensions that incorporate: (1) customer individual differences: tolerance to failure and self-construal; (2) pre-core service level: desired service quality; (3) core service level: failure disconfirmation and perceived loss;

(4) post-core service level: perceived justice and corporate credibility; (5) emotional responses; (6) customer subsequent attitudes: service satisfaction and trust/confidence; (7) customer subsequent behavior: patronage intentions.

The framework identifies the interconnection between these dimensions through both direct and indirect paths and acknowledges three major findings:

- The framework depicts four important drivers of customers' subsequent attitudes and behavior in failure-recovery evaluations: failure disconfirmation, perceived loss, perceived justice and corporate credibility, through emotion-contained responses.
- However, several underlying mechanisms appear to explain the paths between the predictors (failure disconfirmation and perceived loss) and the outcome variables at the failure phase, which seem to be affected by several moderators: customer individual characteristics and initial expectations. These individual factors act as influential factors that regulate or moderate the customer's responses during a failure phase and can help determine how customers will react and behave following a service failure.
- The level of satisfaction with the service after a failure plays a crucial role as a basis in adjusting their satisfaction and intentions when receiving a recovery effort.

Second, considerable research has focused on service failure-recovery interaction and its impacts on customers' subsequent attitudes and behavior, but there are only a few studies focused on the cumulative value of failure and recovery. In every failure-recovery interaction, there will invariably exist two different phases –post-failure and post-recovery, that are conceptualized as value exchanges in which during the failure phase, customers' value loss may lead to a decrease in customers' subsequent attitudes and behavior, while in the recovery phase, customers' value gain may contribute to an increase in their subsequent attitudinal and behavioral outcomes. The outcome gap between these two phases is referred to as cumulative value. The highest cumulative value will be achieved when the exchange resources between the

failure type and recovery type complement one another. A redesigned model based on the cumulative value results has been created to bridge the gap in the existing literature (Figure 10).

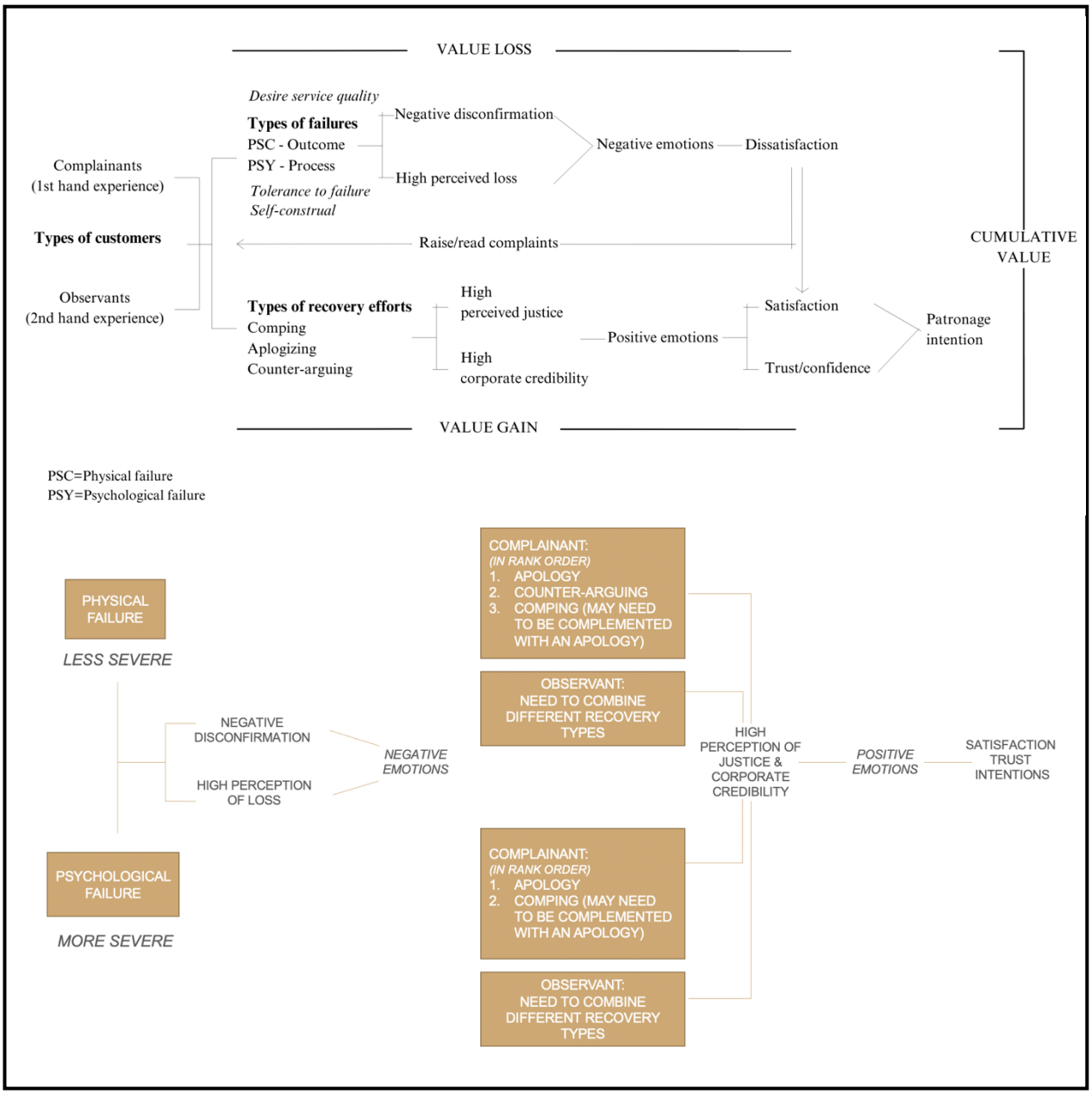


Figure 10: A redesigned cumulative value of the failure and recovery model

The premise for this model is three-fold. First, every negative review or complaint will be different and service providers will need to assess the situation to respond in the best way. Second, various recovery efforts do not possess the same level of effectiveness in resolving different types of service failures. Third, there are two types of customers who utilize

OCR sites, one is to gain information about a brand, product or service and one is to provide that information. In other words, the cumulative value of failure and recovery will be consistently dependent on (1) types of failures, (2) types of recoveries and (3) types of customers in influencing customers' subsequent attitudes and behavior.

1. Different types of failures

   The study categorizes types of failures into two: physical and psychological losses which were developed based on the outcome- and process-related failures theory. However, no prior study has yet to look into which type of failure has more influence on customer failure disconfirmation and perceived loss. The results show that psychological failure has higher effects on failure disconfirmation and perceived loss than physical failure.

2. Different types of recoveries

   In contrast to earlier findings in the service failure-recovery literature, the evaluation of value loss vs. value gain shows that regardless of failure types (outcome or process), apologizing recovery effort is noted to be the most effective. Comping can also be effective for both outcome and process failures, but it may need to be complemented with an apology. Counter-arguing, on the other hand, should not be offered to rectify emotional-related problems. A note of caution is due here since the failure magnitude was controlled as "severe" in the study.

3. Different types of customers

   To retain customers who have raised complaints, service providers should identify the compatible recovery effort with failure type as different recovery efforts may vary significantly in influencing these focal customers' satisfaction, trust and loyalty. For customer creation (that concerns Observants), service providers may not solely utilize a

single recovery effort, but combine several different recovery types to gain potential customers' trust, hence influencing their buying intentions.

SUMMARY

This study set out to develop a model for service failure-recovery evaluations throughout the entire customer lifecycle in the restaurant industry to achieve a holistic understanding of both the drivers and underlying mechanisms of failure-recovery interactions. The second aim of this study was to investigate the relative effectiveness of different recovery efforts with different failure types in affecting different types of customers' subsequent attitudinal and behavioral outcomes. An experimental study that featured a 2 x 2 x 3 factorial design with the application of written scenarios and two analyses PLS-SEM and MANOVA were performed to achieve the intended outcomes.

This study has identified three major findings for the first main objective as well as three major findings for the second main objective. The framework of service failure-recovery dyadic interaction throughout the entire customer journey reveals that (1) four drivers contribute indirectly on customers' subsequent attitudes and behavior through emotion-contained responses: failure disconfirmation, perceived loss, perceived justice, corporate credibility; (2) several mechanisms underlie the interaction between the predictors and the outcome variables during the failure phase, such as customers' initial expectations and individual differences; (3) customer satisfaction/dissatisfaction (CS/D) with the service after a failure serves as a reference point to adjust their attitudes and intentions when receiving a recovery effort.

Whereas the evaluation of cumulative value (value loss vs. value gain) model suggests that (1) psychological losses that involve customers' self-esteem and emotional well-being during the core service encounters are perceived as more severe than physical losses that concern customers' economic/monetary-related issues (2) when dealing with a severe problem, apology is more desirable than compensation or denying of responsibility as a recovery strategy

regardless of the complaints (3) for customer retention, an individual recovery effort may suffice, yet for customer creation, a combined of different recovery efforts may be required.

The findings reported here shed new light on the service marketing literature, specifically the service failure-recovery evaluations in the restaurant industry particularly, and the hospitality industry in general. The scope of this study, however, was limited in terms of the different mechanisms that might also underlie the interaction between the predictors and the outcome variables during the recovery phase were not addressed. In addition, the question raised by this study is whether the relative effectiveness of different recovery types (Comping vs. Apologizing vs. Counter-arguing) would be affected if the magnitude of the failure was not controlled as "severe".

Further, the findings of this study have a number of important implications for future practice. By focusing on improving service quality and communication, handling complaints internally, implementing a feedback survey that includes key CRM questions, fostering customer tolerance, understanding self-construal differences, prioritizing effective recovery, managing emotions and strengthening trust and confidence, service providers can improve customer satisfaction, trust, loyalty, and ultimately drive positive business outcomes.

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List of Publication

1. Premordia, Inda; Gál, Timea
   Food neophilics' choice of an ethnic restaurant: The moderating role of authenticity
   PLOS ONE 18 : 5 Paper: e0281453, 21 p. (2023)
   DOI DEA WoS Scopus Other URL
   Publication: 33855550 Published Core Journal Article (Article) Scientific

2. Premordia, Inda; Gál, Timea
   Dear Customer, Thank You for Your Review: The Service Failure-recovery Dyadic Interactions in the Restaurant Industry
   INTERNATIONAL REVIEW OF MANAGEMENT AND MARKETING 11:3 pp. 49-57., 9 p. (2021)
   DOI
   Publication: 32008248 Published Core Journal Article (Article) Scientific

3. Premordia, Inda; Gál, Tímea
   Negative online customer reviews in restaurant dining experience: what are the determining factors of service failure affecting behavioral intentions?
   NETWORK INTELLIGENCE STUDIES 9:17 pp. 69-83., 15 p. (2021)
   Teljes dokumentum
   Publication: 32008223 Published Core Journal Article (Article) Scientific

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Questionnaire

* Required Information

Dear Sir/Madam,

This research's purpose is to evaluate customer satisfaction/dissatisfaction after experiencing a service failure and a service recovery effort at a full-service restaurant.

The results of the study will help improve restaurant services and how restaurant businesses can effectively handle online customer complaints.

Your help is important for the success of this study. Please take 9 minutes to complete this questionnaire. Your participation is strictly voluntary. All responses will remain confidential and anonymous. No individual responses will be shared, only aggregate responses will be reported. You must be at least 18 years of age to participate.

I truthfully appreciate your contribution to the success of this study.

Sincerely,

Inda Premordia

For additional information, please feel free to contact me at (+36) 308601803 | Doctoral School of Management and Business, University of Debrecen, Hungary.

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* 1. Have you dined at a full-service restaurant before? Full-service restaurant means a restaurant with seated/table service, does NOT include fast-food restaurants and is NOT necessary a fine-dining restaurant. (Select one option)

- ☐ Yes
- ☐ No

* 2. How old are you? (Select one option)

- ☐ 18 - 24
- ☐ 25 -39
- ☐ 40 - 54
- ☐ Older than 55

In the following scenario, a dining experience at a restaurant will be described. As you read through the scenario, please imagine the situation described in the text:

'It is Friday evening and you want to go out for dinner at a restaurant with your best friends. As you browse through TripAdvisor to look for some information, you and your friends come across a traditional Italian restaurant with 4.6-star rating according to 2,627 reviews and $$$-price range between HUF 1,900 – HUF 7,000. None of you has visited this restaurant before, but based on the photos and the reviews, you think this restaurant could be an option and your friends all agree with you.'

Bellissssss'mo
An excellent Italian culinary experience! The traditional Italian cuisine with a fine cuisine touch. Very friendly and dedicated service. Sommelier advising wine for good pairing. Nice terrace and huge inside seating place, with a brasserie atmosphere.

Authentic Italian cuisine
Love the ambiance and the wide selection of Italian dishes. Whatever we chose, it always tasted as it should. Our pizzas, pastas and the squid risotto were divine. I recommend it for any occasion.

Very good Italian restaurant
We enjoyed dinner in this restaurant. Service was perfect, very fast and friendly. My starter was slightly disappointing, had cheese soufflé, was not so fluffy, was rather soggy. However, both main pasta courses were very nice and dessert also. Would be back!

* **3.** Score your expectations of what the service quality at the Italian restaurant described above would be like:

I expected that the quality of service in this restaurant would be... **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Terrible			Average			Excellent

As you read through the following scenario, please imagine the situation described in the text:

'You and a group of friends decided to go to this restaurant. Soon after arriving at the Italian restaurant, a waiter directs you to a table and gives you the menu. As you look around the room, some live music is playing in the background and you think "this restaurant has good atmosphere". A couple of minutes later, a waiter comes to take the order and you order a spaghetti Bolognese for yourself and a large cheese pizza for sharing. After a short period, your meal is served. The waiter has a good attitude. You start eating the spaghetti and as you are just over halfway through the meal, you notice a lingering weird taste in your mouth. You become suspicious that it seems the restaurant does not use fresh ingredients. You stop eating the spaghetti immediately and try the pizza instead. You stay for another one hour at the restaurant to enjoy the night with your friends.

When you arrive home, you start feeling an upset stomach. After a few hours, you feel that your condition is becoming worse. You take a rest for the whole day, and when you feel better, you ask your friends if they also have the same symptoms. You think that the service was bad and you would not recommend this place. Then you leave a complaint on TripAdvisor as you feel that other customers need to be informed about your experience.'

* **4.** For me, the incident described above was...

(Select one option)

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
A mild problem						A severe problem

* **5.** Please indicate whether the incident in the scenario describes 'food poisoning'...

(Select one option)

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Not at all						A lot

* **6.** While reading the scenario, your thoughts were from the first-person perspective **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Not at all						A lot

* **7. Thinking about what you hoped or wanted to find in this restaurant, assess the difference between what you WANTED and what you RECEIVED**

Your experience in the restaurant was... **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Much worse than expected			As expected			Much better than expected

* **8. In relation to your experience, make an average assessment of what restaurants in the same category offer and assess your experience**

Your experience in the restaurant was... than the average for the restaurants **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Much worse			As good			Much better

9. Please indicate your overall experience based on the situation described in the above scenario: (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Somewhat disagree**
- **Somewhat agree**
- **Strongly agree**
- **Disagree**
- **Neither agree nor disagree**
- **Agree**

*(a) The service had an acceptable standard of quality (Select one option from the above list)

_____

*(b) My experience in this restaurant was NOT enjoyable (Select one option from the above list)

_____

*(c) The restaurant did NOT offer value for money (Select one option from the above list)

_____

*(d) I think dining-out at this restaurant makes a good impression on other people (Select one option from the above list)

_____

*(e) The experience enhanced my feelings of well-being (Select one option from the above list)

_____

10. After reading the experience described above, please indicate how you feel about what just happened: (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Somewhat disagree**
- **Somewhat agree**
- **Strongly agree**
- **Disagree**
- **Neither agree nor disagree**
- **Agree**

*(a) I have harsh thoughts about the person/thing who was at fault (Select one option from the above list)

_____

*(b) I feel angry toward the restaurant who wronged the customer (Select one option from the above list)

_____

*(c) The wrongful action has made me feel disgusted (Select one option from the above list)

_____

* **11.** **After everything that has happened, all in all, how do you feel about the service you received from the restaurant? (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very dissatisfied						Very satisfied

* **12.** **After everything that has happened, all in all, how do you feel about the service you received from the restaurant? (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very unhappy						Very happy

13. **After experiencing the situation described above... (From the list of answer option below, select one for each sub- question.)**

- **Strongly disagree**
- **Disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Agree**
- **Strongly agree**

*(a) I would find it necessary to be cautious in dealing with this restaurant (Select one option from the above list)

_____

*(b) I have confidence that this restaurant can be relied upon to meet my needs (Select one option from the above list)

_____

*(c) I would consider this restaurant as an option when I want to dine-out in the future (Select one option from the above list)

_____

As you read through the following scenario, please imagine the situation described in the text:

Within 24 hours after you posted your complaints on TripAdvisor, you received a public response from the restaurant.

Management response
Dear Customer,

I went to the restaurant today to specifically check the ingredients used 2 days ago in our kitchen as well as to investigate whether the dish was prepared completely incorrectly or in a way that was unsafe. I also took some random samples for the appetizer, main course, and dessert, and all dishes were perfect. We consistently maintain our kitchen clean and keep kitchen package food in prime condition, we use different boxes for meats, seafood, condiments, herbs and dairy products, hot and cold items are kept in separate bags. Our seasonal fruits and vegetables come from a local supplier and we get fresh delivery every morning. For breads, we use an artisan bakery who deliver fresh sourdough bread every day except for Sunday, but sourdough bread keeps fresh for at least 3 - 4 days. We make our own homemade pasta dough, and sauces are made fresh every order.

I can confirm that all dishes on Friday evening were prepared as per food safety standard procedure and I can certainly vouch for the freshness of our food.

Sincerely,
Francesca Totti
Manager

* **14.** **Please indicate whether recovery effort from the restaurant comes in the form of a counter-argument with an explanation...**

(Select one option)

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Not at all						A lot

15. After reading the management response on TripAdvisor, please indicate... (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Somewhat disagree**
- **Somewhat agree**
- **Strongly agree**
- **Disagree**
- **Neither agree nor disagree**
- **Agree**

*(a) In resolving the problem, the restaurant gave what I needed (Select one option from the above list)

*(b) The outcome that I received was NOT right (Select one option from the above list)

*(c) The management did NOT give me the courtesy I was due (Select one option from the above list)

*(d) The management put the proper effort into resolving the problem (Select one option from the above list)

*(e) The management had the required knowledge to handle the problem (Select one option from the above list)

16. Judging from the restaurant management's response... (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Somewhat disagree**
- **Somewhat agree**
- **Strongly agree**
- **Disagree**
- **Neither agree nor disagree**
- **Agree**

*(a) I see no reason to doubt the restaurant's competence (Select one option from the above list)

*(b) I believe the restaurant has a good value system (Select one option from the above list)

*(c) I can rely on the restaurant to favor in the customer's best interest (Select one option from the above list)

17. After reading the management response on TripAdvisor, please indicate how you feel about the response... (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Somewhat disagree**
- **Somewhat agree**
- **Strongly agree**
- **Disagree**
- **Neither agree nor disagree**
- **Agree**

(a) I have harsh thoughts about the person/thing who was at fault (Select one option from the above list)

*(b) I feel angry toward the restaurant who wronged the customer (Select one option from the above list)

*(c) The wrongful action has made me feel disgusted (Select one option from the above list)

* **18. After reading the management response, all in all, how do you feel about the overall service you received from the restaurant?**

(Select one option)

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very dissatisfied						Very satisfied

* **19. After reading everything that has happened, all in all, how do you feel about the overall service you received from the restaurant?**

(Select one option)

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very unhappy						Very happy

20. After reading how the management responded to your complaints... (From the list of answer option below, select one for each sub-question.)

- **Strongly disagree**
- **Disagree**
- **Somewhat disagree**
- **Neither agree nor disagree**
- **Somewhat agree**
- **Agree**
- **Strongly agree**

*(a) I would find it necessary to be cautious in dealing with this restaurant (Select one option from the above list)

_____

*(b) I have confidence that this restaurant can be relied upon to meet my needs (Select one option from the above list)

_____

*(c) I would consider this restaurant as an option when I want to dine-out in the future (Select one option from the above list)

_____

* **21. I think the situation described in the scenarios you have read is... (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very unrealistic						Very realistic

* **22. I think that a similar problem would occur to someone in real life (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Very unlikely						Very likely

* **23. I can NOT stand people/thing who fall short of my standards (Select one option)**

7	6	5	4	3	2	1
☐	☐	☐	☐	☐	☐	☐
Strongly agree			Neither agree nor disagree			Strongly disagree

* **24.** I am willing to tolerate an error **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **25.** I am more likely to overlook a mistake **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **26.** I often have the feeling that my relationships with others are more important than my own accomplishment **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **27.** I will sacrifice my self-interest for the benefit of the group I am in **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **28.** My happiness depends on the happiness of those around me **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **29.** I prefer to be direct and forthright when dealing with people I've just met **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **30.** I'd rather say "No" directly, than risk being misunderstood **(Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **31. My personal identity independent of others, is very important to me (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **32. Are you? (Select one option)**

- ☐ Male
- ☐ Female

* **33. Which of the following best describes your current working status? (Select one option)**

- ☐ Working full time/part-time (includes entrepreneurs)
- ☐ Not working (includes students and housewives)

* **34. How do you evaluate your financial situation? (Select one option)**

- ☐ Much worse than the average
- ☐ A little worse than the average
- ☐ Average
- ☐ A little better than the average
- ☐ Much better than the average

* **35. How often do you normally eat-out at a restaurant? (Select one option)**

- ☐ Less than once a month
- ☐ 1-2 times a month
- ☐ 3-4 times a month
- ☐ More than 4 times a month

* **36. I often search restaurant reviews on the internet (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

* **37. Other customers' advices are important for my buying decision (Select one option)**

1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Strongly disagree			Neither agree nor disagree			Strongly agree

Acknowledgment

I would like to express my gratitude to Tempus and the Károly Ihrig Doctoral School of Management and Business University of Debrecen (the Institute of Marketing Commerce in particular) for providing me with a doctoral scholarship and support, without which this doctoral research could have never begun.

I am also grateful to my academic supervisor, Dr. habil. Gál Tímea, for bringing the weight of her experience and knowledge to this work and throughout my journey as a PhD student. To my doctoral research committee: Prof. Dr. Balogh Péter, Prof. Dr. Nábrádi András, Dr. Hajdú Noémi, and Dr. Horváth Dóra, I appreciate the advice you provided to refine the quality of my doctoral dissertation.

I would also like to give my warmest thanks to my parents and family for believing me and letting me choose my own life path. Your continuous prayer for me was what sustained me during this process.

Finally, self-appreciation should also be expressed – choosing gratitude in times of hardships had already made-up half of the work. Obviously, I could not have undertaken this journey without my emotional support: Bazsó Tibor and ATEEZ members “8 MAKES 1 TEAM”, thanks for always keeping me sane, especially when comfort was difficult to find elsewhere.

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Registry number: DEENK/25/2024.PL
Subject: PhD Publication List

Candidate: Inda Premordia
Doctoral School: Károly Ihrig Doctoral School of Management and Business
MTMT ID: 10077855

List of publications related to the dissertation

Articles, studies (3)

1. **Premordia, I.**, Gál, T.: Food neophilics' choice of an ethnic restaurant: The moderating role of authenticity.
   Plos One. 18 (5), 1-21, 2023. ISSN: 1932-6203.
   DOI: http://dx.doi.org/10.1371/journal.pone.0281453
   IF: 3.7 (2022)
2. **Premordia, I.**, Gál, T.: Dear customer, thank you for your review: the service failure-recovery dyadic interactions in the restaurant industry.
   International Review of Management and Marketing. 11 (3), 49-57, 2021. EISSN: 2146-4405.
   DOI: http://dx.doi.org/10.32479/irmm.11257
3. **Premordia, I.**, Gál, T.: Experience: What are the determining factors of service failure affecting behavioral intentions?
   Network Intelligence Studies. 9 (17), 69-83, 2021. EISSN: 2344-1712.

Total IF of journals (all publications): 3,7
Total IF of journals (publications related to the dissertation): 3,7

The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

26 January, 2024

DEBRECENI EGYETEM Egyetemi és Nemzeti Könyvtár