How Does Culture Impact Customer Evaluation in Online Complaining?
Evidence from Germany and India

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ABSTRACT

This article investigates how customers' cultural orientation impacts their service evaluations when complaining online on social media. Two separate scenario-based experimental studies were conducted using non-student samples from two culturally diverse countries (Germany and India). Study 1 using 83 participants from Germany and 83 from India shows that when causal explanations for service failure are given, individualists have higher perceived justice. Study 2 with 81 participants from Germany and 82 from India shows that when cognitive control is given through regular updates during service recovery to high uncertainty avoidance seekers, they show higher perceived justice. The three independent justice dimensions positively influence recovery satisfaction, with informational justice showing the strongest impact, followed by procedural and distributive justice. This research thus contributes to the nascent literature in social media complaining. Managers of online service organizations can benefit from these findings when developing their complaint management strategies.

KEYWORDS

Culture, Customer Evaluation, Justice Theory, Online Complaint Management, Satisfaction, Service Recovery, Social Media Complaining

1. INTRODUCTION

Services due to their intangible and heterogeneous nature are often difficult to deliver without any fault (Hess et al., 2003) leading to inadequate and deficient service which is known as service failure (Lovelock and Quelch, 1983; Maxham, 2001).

The actions that the service organization takes to respond to the service failure so that the problem is resolved is defined as service recovery (Gronroos, 1988; Weun et al., 2004). A well-managed service recovery by the service organization would lead to positive customer evaluations in the form of perceived justice and satisfaction with service recovery (Kuo and Wu, 2012; Tax and Brown, 2000). Satisfaction with service recovery has been widely recognized to be a driver of overall customer satisfaction, loyalty, word-of-mouth intent and profit for service firms (Bambauer-Sachse and Rabeson, 2015; del Rio-Lanza et al., 2009; Maxham, 2001; Smith et al., 1999). In today's fast-growing digital economy, more and more customers all over the world are using online services (Rosenmayer et al., 2018; Shopify, 2018). Business to Consumer (B2C) online sales in 2017 grew 24.8% over 2016 to exceed US$ 2.3 trillion and is projected to reach US$ 4.88 trillion by 2021 (Statista, 2018; Shopify, 2018). China alone accounted for nearly half of total global B2C online sales in 2017 (Research and Markets, 2018). Indonesia recorded the fastest growth in B2C ecommerce market with 78% growth in 2017 as compared to 2016. The other markets that showed high growth rates are Mexico (59%),

Philippines (51%), China (27%) and India (27%) (PPRO Group, 2018). However, online service providers all over the world face challenges in delivering superior customer experiences and create customer loyalty as service issues and customer complaints have risen sharply (Abney et al., 2017; Causon, 2015; Kumar et al., 2013). It is even more challenging for them to respond to complaints of customers from different cultures (Au et al., 2014; Prasongsukarn and Patterson, 2012). This becomes critically important when customers use social media channels to lodge their complaints as it is now becoming a common method of posting complaints worldwide (Bacile et al., 2018; Gunarathne et al., 2017; Ombudsman Services, 2016). About 50% of all US consumers look for solutions to their customer service problems on social media (PR Newswire, 2012). Online complaining is increasingly becoming the norm worldwide; over 70% of Indian internet users have complained via social media (American Express, 2015). The rapid growth in online complaining globally requires both academic researchers and marketing practitioners to have a better understanding of the customer's cultural context especially of the factors influencing customer perceptions of the firm's service recovery efforts (Sengupta et al., 2018).

Complaining on social media generally takes place on a public platform with a large number of people virtually present to witness the service encounter, it essentially evolves from one-to-one communication between customer and online service provider to public form of communication (Schaefers and Schamari, 2016). Consequently, how the online firm responds to the complainant will be observed by many more customers which in turn would affect their evaluations about the firm's brand image and reputation (Gu and Ye, 2014; Rosenmayer et al., 2018). It therefore becomes extremely vital for online service providers to respond to such complaints in a manner that maintains service brand credibility and reduces negative word-of-mouth, while ensuring service recovery satisfaction (Abney et al., 2017; Balaji et al., 2016; Bougoure et al., 2016). While online retailers and new economy firms are at the forefront of resolving customer issues over social media, even some traditional old economy companies like General Motors regularly use social media for customer service (The New York Times, 2014). This is further evidenced by the rapid increase in the number of customer-responsive Facebook business pages to 50 million at the end of 2015, which are equipped with communication tools (Forbes, 2015).

In recent years, recognizing the importance of service recovery on social media, many global firms have their dedicated Twitter handles for customer service like @AmazonHelp, @Seamless_Care, @XboxSupport, @Zappos to name a few. A recent study by Twitter Inc. and Applied Marketing Science that examined the revenue benefit to companies who provide customer service via Twitter found that customers who get service resolution on Twitter were willing to spend up to 20% higher on their next purchases from that company (Twitter, 2016). 82% of customers who had their service resolution on Twitter are likely to recommend the service to others (McKinsey & Company, 2015). Recovery on social media can be a cost-effective solution for firms as it costs just one-sixth of most call-center support services (Forbes, 2015). In the last ten years, research on service failure and recovery in B2C e-commerce has emerged in the extant literature related to Marketing, Information Systems and Service research. However, studies on service recovery via social media still remain scarce (Abney et al., 2017; Gunarathne et al., 2017). The literature has been found to be even more deficient when it comes to investigating the impact of culture on online service failure and recovery (Au et al., 2014; Orsingher et al., 2010; Sengupta et al., 2018).

As service failures are negative and unexpected, customers would like to know the reason or cause for the event as suggested by attribution theory (Weiner, 2000). Existing studies in offline recovery have shown that explanations impact evaluations by modifying attributions (Mattila, 2006; Bradley and Sparks, 2012). Prior research has also shown that service issues and their resolution in online settings is quite different from offline settings (Harris et al., 2006). It follows that customer fairness evaluations of service recovery associated with such offline settings may not be applicable to online settings like social media, especially in a cross-cultural context (Li et al., 2017). Most studies that examined online recovery strategies looked at compensation and apology while explanations as a

recovery strategy has been overlooked. Gohary et al. (2016a) found that in online failure but offline recovery (telephone customer support), firms that involve customers in the recovery and give failure explanations, can increase satisfaction. Their paper did not examine culture and they pointed this out as an important future research opportunity (Gohary et al., 2016. p. 139). The present paper aims to bridge this gap in online recovery and answer the call for research from Gohary et al. (2016). It does so by investigating how causal explanations impact justice and satisfaction during social media recovery in a cross-cultural context.

Prior studies in service recovery in any context have rarely examined the importance of cognitive control as a recovery strategy which is giving information or knowledge to customers about how their recovery is progressing in the form of updates (Patterson et al., 2006). This strategy could be effectively applied to service recovery following a failure as service failures are unexpected and unforeseen events for customers. This unforeseen characteristic continues for the customer throughout the service recovery process until its completed (van Vaerenbergh et al., 2018). Providing information to customers in the form of updates during recovery would give them cognitive control and likely improve their service evaluations. Recently, Joosten et al. (2017) suggested researchers to examine cognitive control strategy and its link to justice dimensions, specifically procedural justice. As this recovery strategy is yet unexplored in online and across cultures, following their suggestion the present paper will try to fill this research gap by investigating in a cross-cultural context how cognitive control impacts justice and satisfaction during social media recovery. Causal explanation and cognitive control are both cost-effective recovery strategies unlike compensation, that can be used by online service providers. Although recent studies have found a link between justice and recovery satisfaction in online, the literature still lacks research examining the effect of informational justice and procedural justice on recovery satisfaction (Gohary et al., 2016a; Singh and Crisafulli, 2016). This paper will specifically examine the impact of these two justice dimensions (informational and procedural) thus bridging the gap.

The research objectives of this paper considering the current research gap is therefore three-fold: first, to investigate how culture impacts social media service recovery; second, to investigate the effect of causal explanations and cognitive control recovery strategies; third, to find out how recovery strategies impact informational and procedural justice and in turn how it leads to recovery satisfaction. The present paper will try to achieve these objectives by comparing perceptions of service recovery using two different samples of participants that belong to two different cultures (German and Indian). It would thus address the literature gap and provide a framework for researchers and practitioners interested in service recovery via social media.

2. LITERATURE REVIEW

2.1. Service Failure and Service Recovery

Services are intangible and heterogeneous in nature involving the service firm and often times the customer, in the process of delivering the service. Therefore, it is quite difficult to always deliver a faultless service (Hess et al., 2003) and could lead to the quality of service delivered being inadequate and deficient that is termed as service failure (Lovelock and Quelch, 1983; Maxham, 2001). A service failure can be defined as a service delivery performance that does not meet the expectations of the customer which in turn gives rise to customer dissatisfaction (Maxham, 2001). Service recovery refers to the actions that the organization or the service provider would take to respond to the service failure such that the problem of the concerned customer is resolved (Gronroos, 1988; Weun et al., 2004). Service recovery can also be viewed as a bundle of resources which a service firm can use in response to the service failure (Kaltcheva et al., 2013; Smith, Bolton and Wagner, 1999). Managing service recovery effectively is very important as it has been shown that customers evaluate service recovery more closely than first time service encounters because of their emotional involvement and therefore this can have higher impact on customer satisfaction ratings leading to them being more

dissatisfied than their original dissatisfaction with the service failure in case of poor recovery (Berry and Parasuraman, 1991). Customers prefer an accessible and responsive redress handling procedure in response to service failures (Ong and Teh, 2016). Poor service recovery often leads to switching behavior for customers of service firms (Keaveney, 1995). Conversely, an effective service recovery can lead to increased levels of service satisfaction (Kuo and Wu, 2012; Tax and Brown, 2000). Service recovery satisfaction has been found to be an antecedent of overall customer satisfaction, loyalty and profit for service firms (del Rio-Lanza et al., 2009; Smith et al., 1999). Thus, a well-executed service recovery program can not only restore dissatisfied customers' confidence in the firm, but also restore their satisfaction with the firm's services, reinforce loyalty and generate positive word-of-mouth (Lopes and da Silva, 2015; Tax and Brown, 2000).

2.2. Online Service Recovery

There has been a quick growth worldwide in usage of online services that has led to a rapid increase in service problems and customer complaints (Causon, 2015; Shopify, 2018). The service issues and its resolution in this online low-contact medium is quite different from offline (Harris et al., 2013; Holloway and Beatty, 2003). The lack of human interaction and the vital role of technology are major differentiating factors as compared to traditional face-to-face offline settings (Orsingher et al., 2010; Holloway et al. 2005). Moreover, the ease of exit and/or switching makes service quality even more important in online complaining. Even customers who are normally reluctant to complain feel free to complain online because of both physical comfort at the click of a button and relaxed social factors like less embarrassment and pressure (Jasper and Waldhart, 2013; Ong and Teh, 2016). Thus, online context shows unique characteristics and warrants better understanding of the antecedents and consequences of recovery satisfaction (Bijmolt et al., 2014; Orsingher et al., 2010).

2.3 Justice Theory

Most extant studies examining service recovery situations have focused on justice theory which is based on social exchange theory and equity theory (Abney et al., 2017; Mazaheri et al., 2011). Existing literature has documented that customers expect that their service firms treat them fairly and justly in case of complaint resolutions (Hoffman and Kelly, 2000; Roggeveen et al., 2012). The justice framework proposed by Tax et al. (1998) states that during the service recovery process, customers examine the fairness of the process from three dimensions namely perceived fairness of outcome, perceived fairness of interactional treatment and perceived fairness of procedures giving rise to distributive, interactional and procedural justice respectively (Orsingher et al., 2010). There is also a fourth dimension of perceived justice called informational justice that has been conceptualized by further separating interactional justice into two dimensions namely interpersonal treatment and informational fairness (Colquitt, 2001). Informational justice is specifically concerned about the adequacy and truthfulness of information that describes the reasons for an unfavorable encounter (Colquitt, 2001; Mattila, 2013).

The actions that the service provider takes during the service recovery process would result in the delivery of these four justice dimensions. Distributive justice can be perceived by the customer when the organization takes efforts to rectify the situation generally by offering a compensation or apology (Smith et al. 1999; Mayser and Wangenheim, 2013). A customer can perceive interactional justice if the service personnel show politeness in their behavior and show courtesy, empathy and respect (van Vaerenbergh et al. 2012). Similarly, the customer can perceive informational justice when an explanation is provided to her for the service failure (Bradley and Sparks, 2012; Gohary et al., 2016a). Finally, if customers are kept informed of what is happening during the service recovery process, it would impact their perceived procedural justice (Choi and Choi, 2014; Patterson et al., 2006).

Several past studies have shown that in case of recoveries from service failures, justice perceptions have been empirically found to be an antecedent of recovery satisfaction such that justice perception completely mediates the relationship between recovery attributes of a service firm and satisfaction with

service recovery (Karande et al. 2007; Gelbrich and Roschk, 2011). Therefore, "a fair perception of organizational responses is an antecedent to and a necessary condition for post-complaint satisfaction" (Gelbrich and Roschk, 2011, pg. 27). Recent research has found that justice theory is relevant for online service recovery as it is for offline (Abney et al., 2017). However, most online recovery studies have neglected to examine informational justice (Gohary et al., 2016). In the absence of direct interpersonal interaction in the online service medium, the informational fairness of the service encounter would likely be more salient and relevant to affect consumer fairness perceptions. A recent study by Gohary et al. (2016a) has highlighted the importance of examining informational justice in online recovery. Singh and Crisafulli (2016) pointed out the deficiency of studies that have examined procedural justice in online service failure and recovery. Following the suggestion of such previous research, this paper uses justice theory dimensions including informational justice and procedural justice to look at customer evaluations of service recovery.

2.4 Culture and Service Recovery

Service recovery process involves social exchanges, so justice perceptions will be impacted by cultural values (Patterson et al., 2006). Extant research in cross-cultural service recovery has almost entirely concentrated on offline services (Orsingher et al., 2010; Sengupta et al., 2018). The rapid growth of global online services in multi-cultural settings require firms to have a clearer understanding of the customer's cultural values (Greenberg et al., 2008; Ostrom et al., 2015). It is especially important to know about the factors influencing customer perceptions of the firm's service recovery efforts as the impact of culture that is applicable in offline need not necessarily be applicable for online medium (Au et al., 2014; Sengupta et al., 2018). Over the past few decades, many researchers have studied culture in various contexts based on the models provided by Hofstede (2001), Schwartz and Bilsky (1987), Trompenaars (1993), or the GLOBE Model (House et al., 2004), among others, out of which the Hofstede Model has been the most widely used (Mooij and Hofstede, 2010). Hofstede (2001, p.9) defines culture as "the collective programming of the mind, which distinguishes the members of one group of people from others." Prior studies in cross-cultural service recovery involving recovery attributes have largely used one or more cultural dimensions from Hofstede (1997; 2001; 2010b) such as collectivism-individualism, uncertainty avoidance, power distance and masculinity–femininity (Orsingher et al., 2010; Soares et al., 2007). Collectivism-individualism dimension of Hofstede (2001) deals with the extent of interdependence a culture would have among their members. An individual with high collectivist orientation would give preference to group goals against their own goals and such people would owe allegiance to 'in groups' to look after them in exchange for their loyalty. Uncertainty avoidance describes the degree to which members of a culture feel threatened by ambiguous or unknown situations (Hofstede, 2001). Individuals with high uncertainty avoidance orientation prefer predictability to ambiguity and they are comfortable with written rules and structure (Kim et al., 2010). Power distance has been defined as "the extent to which the less powerful members of a society expect and accept that power is distributed unequally" (Hofstede et al., 2010b, p. 61). Cultures with low power distance have little inequality; in organizations, superiors are open to inviting juniors in decision making with more decentralization. On the other hand, in cultures with high power distance the less powerful people must depend on the powerful for all decisions. Masculinity-femininity dimension relates to the gender roles in a society and the overlap between them. It is concerned with the degree of prevalence of masculine values like assertiveness and competitiveness in a society (Hofstede, 2001). This paper examines the impact of culture on service recovery by specifically looking into two of the cultural dimensions of Hofstede (2001) namely collectivism-individualism and uncertainty avoidance.

2.5 Service Failure, Online Complaining and Recovery in B2C E-Commerce

Many past studies have examined service recovery satisfaction in offline service settings such as restaurants, hotels, resorts, airlines, etc. Recent studies (particularly in the past ten years) have also

investigated service recovery in B2C e-commerce settings. This emerging and steadily growing stream of literature has examined customer complaints in online retailing and customer services as well as offline retailing and customer services wherein customers complained online by email or social media. Table 1 shows a review of studies on service failure and recovery in B2C e-commerce that were published during the past ten years in Marketing, Information Systems and Service journals. Although most studies in this table employed some specific recovery strategy, some studies with no such specific strategy were also included as they were relevant for this paper in terms of their study objectives and findings. We note from this table that 15 out of 23 studies have used justice theory that further underscores the fact that it is the dominant framework used in service recovery studies. Another important point to note is that only two studies out of these twenty-three examined the impact of culture in their paper. Au et al. (2014) investigated how culture influences the intention to complain online after service failure for Chinese hotels; the paper did not examine service recovery. Sengupta et al. (2018) investigated in an online cross-cultural context about how to apologize and who should provide apology for service failures. This clearly illustrates the deficiency in literature of studies that have investigated culture in online failure and recovery.

In terms of recovery strategies used in prior research, we see from Table 1 that compensation and apology have been used by many studies while a few studies did examine other strategies like explanations, customer involvement and adaptability. Most studies found that by employing one or more recovery strategies led to positive customer evaluations in terms of perceived justice, recovery satisfaction and post-purchase intentions.

2.6 Causal Explanations and Cognitive Control

Service failures are negative and unexpected events for customers. Attribution theory indicates that people would want to know the reason for any negative and/or unexpected event (Weiner, 2000). Applying attribution theory to service failure situations would entail that customers would look for an explanation about the cause for the service failure. Extant literature has classified attribution in three parts namely locus of attribution referring to the cause of the event, stability referring to the persistence of the event, and controllability indicating if it could have been prevented (Bradley and Sparks, 2012; Weiner, 2000). Prior studies in offline service recovery have suggested that explanations can influence customer evaluations by modifying attributions (Mattila, 2006; Bradley and Sparks, 2012). A causal explanation, that is, an explanation describing the cause of the failure would shift the locus of attribution away from the service firm and likely make the failure appear uncontrollable or unpreventable to the customer (Bradley and Sparks, 2012). This could lead to positive customer evaluations like higher perceived justice or recovery satisfaction, with attribution being a mediator in the relationship between explanations and perceived justice (Bradley and Sparks, 2012).

Prior research in online failure and recovery have rarely examined explanations as a recovery strategy with Gohary et al. (2016a) (see in Table 1) being an exception who studied online shopping failure but offline recovery (phone call to customer support). Their paper using an Iranian student sample examined the role of customer involvement and failure explanations during customer co-created offline service recovery. The study found that involving customers during recovery and giving explanations for failure positively affected their evaluations. However, they did not examine the role of culture which they pointed out as an important avenue for future research (Gohary et al., 2016. p. 139). The present paper tries to bridge this research gap by examining in a cross-cultural context how causal explanations impact perceived justice and satisfaction during social media service recovery.

Cognitive control has been described as a type of control that enables an individual or a group to reduce uncertainty and impose meaning on events (Averill, J., 1973; Mattila and Cranage, 2005). It is usually manifested in the form of having knowledge or information about a particular event. As service failures are unexpected events, it is likely that having knowledge or information about how the event would be getting resolved would give cognitive control to customers. During service recovery, cognitive control can be used as a recovery strategy by keeping them informed through updates of

Table 1.

Reference	Study objectives	Theories/models used	Recovery strategies/ attributes	Key findings	Study/sample limitations	Cross-cultural	Journal field[a]
Abney et al. (2017)	examine how adaptive service recovery strategies by companies on Twitter affect recovery satisfaction and behavioral intentions	justice theory	adaptability; empathy	highly adaptive service recovery strategies on social media leads to higher recovery satisfaction and positive consumer behavioral intentions; justice theory is applicable to social media service recovery	pretest done using student samples; only Twitter social media context examined	no	Marketing
Au et al. (2014)	analyze the type of online complaints for Chinese hotels; examine if culture impacts the intention to complain online	face theory	no specific recovery strategy	service quality was often complained about along with specific hotel features like noise level, location and food; Chinese customers complained less than non-Chinese with regard to price and location	content analysis of online Chinese hotel reviews from two travel websites	yes	Marketing
Bacile et al. (2018)	investigate consumer-to-consumer (C2C) incivility taking place during service recovery on social media, and its impact on satisfaction and behavioral intentions	fairness theory; justice theory	no specific recovery strategy	when C2C incivility takes place during social media service recovery on a firm's social media channel, consumers expect the firm to intervene and address the incivility; if firms do not address online incivility, it leads to lower satisfaction and negative behavioral intentions	netnography study done using only one firm	no	Marketing
Balaji et al. (2016)	examine what drives customers to engage in negative word-of-mouth communication on social media after service failure	social support theory; cognitive dissonance theory	no specific recovery strategy	factors that drive customer negative word-of-mouth (NWOM) on social media are contextual, individual and also relate to social networking; specific factors affecting NWOM include firm attribution, firm image, social network use intensity and tie strength of customers	data analyzed with online snowball sampling	no	IS
Balaji et al. (2015)	develop a conceptual framework of social media customer complaining behavior by investigating the influence of firm response, attribution, personal identity, vengefulness on public complaining (to the firm) and private complaining (to other customers)	justice theory; attribution theory	no specific recovery strategy	public complaining on social media is mainly influenced by firm response and personal identity while desire for revenge mainly drives private complaining to other customers	data analysis done with student samples using convenience sampling	no	Service
Crisafulli and Singh (2017)	examine how response time after service failure affects recovery satisfaction and behavioral intentions - also examines the interplay of response time, compensation and service criticality on satisfaction	construal level theory; prospect theory; neuropsychology theory	recovery time; compensation; apology	delayed response along with apology can lead to recovery satisfaction and positive behavioral intentions when the service criticality is low; delays in responding are acceptable by consumers when the failure does not bring out negative emotions	data analyzed using UK sample of online grocery shoppers	no	IS
Einwiller and Steilen (2015)	investigate how to manage social media complaints by examining how organizational responses to complaints on corporate social media sites impact satisfaction	situational crisis communication theory	compensation; apology;	most organizations are not fully responsive to social media complaints; complaining customers are often diverted away from social media sites and/or asked for further information, thus leading to lower recovery satisfaction	content analysis of corporate social media sites at a particular narrow time period	no	Marketing
Ghalandari (2013)	examine how perceived justice affects recovery satisfaction and post purchase intentions in e-commerce, with firm reputation as moderator	justice theory; firm reputation	compensation	justice perceptions influenced complaint satisfaction and post-purchase intentions, with firm reputation moderating this influence.	use of student samples from Iran	no	IS

Reference	Study objectives	Theories/models used	Recovery strategies/ attributes	Key findings	Study/sample limitations	Cross-cultural	Journal field[a]
Gohary et al. (2016a)	examine the mediating role of customer involvement in the relationship between justice dimensions and recovery satisfaction in online shopping	justice theory	customer involvement; explanations	involving customers during service recovery and explaining the reason for failure can lead to higher justice perceptions and recovery satisfaction; informational justice is important for online recovery	data analyzed with student samples from Iran	no	Marketing
Gunarathne et al. (2018)	investigate what makes airline companies prioritize complaints from various customers on social media and offer them differential treatment for resolution	social influence theory; justice theory	no specific recovery strategy	airline companies more likely to respond to tweets from complaining customers that have many followers and offer them quicker resolution; this preferential treatment shows that social media influence works.	data analysis using Twitter accounts of only airline companies	no	IS
Gunarathne et al. (2017)	examine what type of social media complaints and what kind of customers have higher recovery satisfaction	justice theory; social influence theory	no specific recovery strategy	complaints about outcome related problems had higher recovery satisfaction as compared to process related problems; customers who had more influence in social networks (like higher number of Twitter followers) had higher recovery satisfaction	data analyzed using only interactions between customers and one US airline on Twitter	no	IS
Harris et al. (2013)	investigate if and how perceived justice impacts complaint satisfaction differently for online versus offline complaining	justice theory	compensation; apology	both online and offline customers reported justice perceptions leading to higher satisfaction; online customers preferred anonymity during complaining while offline customers preferred transparency and openness of the complaint process.	use of largely student sample	no	Service
Jung and Seock (2017)	examine how different types of recovery attributes (apology, compensation, both) affect justice perceptions, recovery satisfaction and behavioral intentions	justice theory	compensation; apology	recovery attributes impacted distributive and interactional justice, leading to recovery satisfaction and positive behavioral intentions; most consumers preferred apology as a recovery attribute	data analyzed using online apparel shoppers context	no	Marketing
Kuo and Wu (2012)	examine how perceived justice and emotions during service recovery affect complaint satisfaction and post-purchase intentions in e-shopping context	justice theory; consumer emotions (neuropsychology theory)	compensation; apology	offering compensation increased justice perceptions that in turn positively impacted complaint satisfaction and post-purchase intentions; positive emotions increased recovery satisfaction whereas negative emotions reduced recovery satisfaction.	use of student samples from Taiwan	no	IS
Mattila et al. (2013)	examine consumer reactions to email responses by firms to online service failure complaints	consumer emotions (neuropsychology theory)	email recovery - generic auto reply	consumers perceived no replies as well as automatic email replies from firms in response to their complaints as a form of cyberostracism; this negative perception led to negative emotions resulting in lower satisfaction and post-purchase intentions.	use of student samples	no	Marketing
Ong and Teh (2016)	to develop a better understanding of how consumers experience redress procedures when complaining in online shopping	grounded theory	no specific recovery strategy	consumers prefer an accessible and responsive complaint redressal procedure; transparent and uncomplicated complaint systems enhanced consumer confidence in seeking redress	use of non-random samples through self-selection	no	IS

Reference	Study objectives	Theories/models used	Recovery strategies/ attributes	Key findings	Study/sample limitations	Cross-cultural	Journal field[a]
Ozuem et al. (2017)	explore consumer behavioral related issues in online service recovery and why firms often unable to sufficiently provide redress.	equity theory	compensation; apology	generic apologies and lack of personalized communication with consumers during online service recovery lead to lower satisfaction and behavioral intentions	small sample of UK consumers only in the online fashion retailing context	no	Marketing
Pizzutti and Fernandes (2010)	develop a contingency framework to understand the effects of recovery efforts on trust and loyalty for online shoppers	justice theory	no specific recovery strategy	prior positive experience with firm and familiarity with firm and online shopping mitigates the effect of unsatisfactory recovery on consumer trust	data analyzed with sample of only Brazilian residents	no	IS
Rosenmayer et al. (2018)	provide updated typologies of service failure and service recovery in omni-channel retailing	justice theory	no specific recovery strategy	four-dimensional justice framework can be applied for Facebook complaints; most common failures were related to issues with delivery, pricing and product quality	content analysis of corporate Facebook pages at a particular narrow time period	no	Marketing
Sengupta et al. (2018)	investigate in an online cross-cultural context about who should apologize and how to apologize after service failure in e-tailing	justice theory; face theory	apology	for customers from Eastern countries, an apology from a manager given publicly on social media (and not privately) positively impacts perceived justice and recovery satisfaction	data analyzed using a consumer sample from two Western and two Eastern countries	yes	IS
Sharifi and Aghazadeh (2016)	examine the impact of discount as a recovery attribute in online retailing by comparing percentage-off discounts versus dollar-off discounts and their impact on satisfaction	prospect theory	discounts	dollar-off discounts lead to higher recovery satisfaction as compared to percentage-off discounts; however when discounts are offered on the total price instead of single items, both discount frames showed similar satisfaction levels	data analyzed with sample of only US citizens	no	Business (General)
Singh and Crisafulli (2016)	examine the impact of two recovery strategies namely online information tools and technology mediated interactions (virtual chats) on justice perceptions, recovery satisfaction and behavioral intentions	justice theory	online information tools; technology mediated interactions	both the recovery strategies of providing online information and using virtual chats positively affected perceived justice, leading to higher recovery satisfaction and positive behavioral intentions	data analyzed using a convenience sample of UK residents	no	Service
Wang et al. (2011)	investigate the relationship of service failure severity, perceived justice and perceived switching costs with customer loyalty in online retailing context	justice theory	no specific recovery strategy	interactional justice showed positive relationship with loyalty; negative relationship between failure severity and loyalty can be weakened through interactional justice thus underscoring the importance of this justice dimension; loyalty positively related to perceived switching costs	data analyzed using a convenience sample of Taiwanese residents	no	IS

Note: [a]IS refers to Information Systems

what is happening during the recovery (Patterson et al., 2006). Prior literature in service recovery in any context has seldom examined cognitive control as recovery strategy. A notable exception Patterson et al. (2006) found in offline recovery that providing cognitive control resulted in higher perceived procedural justice. A recent paper of Joosten et al. (2017) in offline recovery has further suggested service recovery researchers to use cognitive control as an effective strategy and examine its link to procedural justice. However, in online recovery across cultures, this recovery strategy is yet unexplored.

Singh and Crisafulli (2016) (see in Table 1) using a sample of British consumers for online service recovery found that online information tools (like online help pages) and customized email responses positively impacted justice. Ozuem et al. (2017) (see in Table 1) in their recent study on British fashion e-tailing consumers emphasized that personalized communication with consumers (like non-generic or customized apologies) during service recovery is necessary, otherwise it could lead to lower satisfaction and behavioral intentions. These two recent studies in online recovery suggest that consumers prefer communication during service recovery that directly addresses their problem, which indicates the need for information about the recovery. It would thus be interesting to examine if cognitive control that had been investigated earlier in offline context can be applied to online, and also examine the culture effect. This present study tries to tide over this research gap by investigating in a cross-cultural context how cognitive control impacts justice and satisfaction during social media recovery. Unlike compensation, both causal explanation and cognitive control represent cost-effective recovery strategy that can be employed by B2C e-commerce firms.

2.7. Satisfaction with Service Recovery

Extant literature in offline recovery has found the perceived justice dimensions to be antecedents of recovery satisfaction (del Rio- Lanza et al., 2009; Orsingher et al., 2010; van Vaerenbergh et al., 2018). Many of those studies have conceptualized recovery satisfaction as transaction specific satisfaction (Tax et al. 1998) such that the customer evaluates a particular incident of how the service firm managed his complaint after the service failure. Satisfaction with service recovery has been found to lead to overall satisfaction which in turn leads to positive customer behavior in the form of increased repurchase intention and positive word of mouth (Wirtz and Mattila 2004; Gelbrich and Roschk, 2011; van Vaerenbergh et al., 2018). Some recent studies in online recovery have similarly found the link between justice and recovery satisfaction (Abney et al., 2017; Bacile et al., 2018; Ghalandari, 2013). However, there is a deficiency of studies in online recovery that have examined the effect of informational justice and procedural justice on recovery satisfaction (Gohary et al., 2016a; Singh and Crisafulli, 2016). This paper will examine the impact of these two justice dimensions (informational and procedural) on recovery satisfaction in social media service recovery.

2.8 Gaps in Online Service Failure and Recovery Literature

Based on this literature review, the paper has identified several deficiencies which it will try to address. Past researchers in online service failure and recovery have pointed out the lack of research examining culture and also emphasized the need to investigate explanations and cognitive control as recovery strategies (Au et al., 2014; Gohary et al., 2016a; Sengupta et al., 2018). Some researchers have specifically suggested to study how recovery strategies impact informational and procedural justice and in turn how it leads to recovery satisfaction (Abney et al., 2017; Singh and Crisafulli, 2016). This paper in an online cross-cultural context investigates how explanations and cognitive control impact justice and recovery satisfaction. By doing so, it would address the literature gap and provide a framework for researchers and practitioners interested in cross-cultural online service recovery.

3. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Research on online service failure and recovery in B2C settings has grown in the past ten years as shown in Table 1. However, there is still a lack of studies that have investigated culture as only two out

of twenty-three studies in Table 1 have done so. Also, most studies have concentrated on compensation or apology as recovery strategies while overlooking other strategies like explanations, personalized responses or customer involvement. In service recovery literature (both offline and online) spanning several decades, justice theory has been the most widely used theory to study the impact of recovery strategies on customer evaluations (Orsingher et al., 2010; Gelbrich and Roschk, 2011). Even in online service recovery research in the past ten years, it is the most commonly used theory as evidenced from Table 1 (15 out of 23 studies used justice theory). Some past studies in online context that have examined the impact of service quality along with service recovery on satisfaction and loyalty have employed scales adapted from E-S-QUAL and E-RecS-QUAL of Parasuraman et al. (2005). These two scales derived from SERVQUAL (Parasuraman et al., 1988, 1991) were used to assess website service quality and customer evaluation of service encounters with websites (Parasuraman et al., 2005). Some of the recent papers that have used these scales are Marimon et al. (2012) who examined the influence of e-service quality and service recovery on loyalty for Spanish e-banking customers, and Akinci et al. (2010) who evaluated the e-service quality of different Turkish banks. The present paper examines in online failure and recovery how various recovery strategies influence customer evaluations; it does not specifically examine e-service quality and its impact on evaluations. Therefore, following prior literature on online service failure and recovery that have examined recovery strategies, this paper uses justice theory. As recent prior studies in online recovery have suggested to specifically examine informational and procedural justice because of its relevance in this context coupled with the lack of such studies (Abney et al., 2017; Singh and Crisafulli, 2016), this paper investigates the impact of causal explanation and cognitive control on informational and procedural justice.

Extant literature that have investigated customer complaining across cultures have found that two out of five cultural dimensions from Hofstede (2001), namely individualism-collectivism and uncertainty avoidance, have a significant effect on complaining behavior (Baker et al., 2013; Mattila and Patterson, 2004a). In the context of online complaining, such cross-cultural studies are extremely scarce as suggested by Au et al. (2014). Their recent study examined these two cultural dimensions and found that culture impacts the intention to complain online. Following existing research, this paper examined individualism-collectivism and uncertainty avoidance in the context of service recovery by social media. Moreover, these two cultural dimensions are particularly relevant to the hypotheses of this research as it examines the impact of causal explanations and cognitive control recovery strategies (Mattila and Patterson, 2004a).

This paper looks at culture at the individual level because marketing efforts focused on customer characteristics instead of country characteristics have higher probability of success because culture and country may not necessarily correspond to each other in all instances (Leung et al., 2005). In addition, relationships that hold true at the country level may not hold true when applied as it is at the individual level to explain individual behavior (Yoo et al., 2011; Yoo and Donthu, 2002). Therefore, following previous research, this study examines individual cultural differences as such studies that use individual cultural dimensions instead of nationality are expected to have wider generalization capability that would hold beyond the countries studied in the sample (Yoo et al., 2011).

Online services, specifically B2C e-commerce is regarded to be an information-intensive industry (Balaji et al., 2016). This study deals with complaining on social media. The service failure situation could be for a low-contact service setting like for an e-commerce company (e.g. Amazon) or it could be for an offline service setting like a fashion retailer (e.g. H&M) or hotels (e.g. Marriott). In each case, the complaining takes place on social media where there is no face-to-face interaction between the service firm and the complaining customer. Prior research has emphasized the need to examine informational justice in such situations and has also pointed out that lack of explanation for online failures is one of the major reasons for customer dissatisfaction, thus underscoring the need to investigate explanations as a recovery strategy (Gohary et al., 2016a). Following previous research, this paper examines the impact of causal explanations on informational justice with individualism-collectivism as moderator.

The author expects that when a causal explanation is provided for the service failure, the details within the firm's response, especially the content with respect to its adequacy and truthfulness, becomes important for fairness perceptions resulting in higher informational justice for all customers. More specifically, the author expects that when a causal explanation for the failure is provided to highly individualist customers, there would be a greater increase in perceptions of informational justice as compared to lower individualist customers. Since individualists rely more on information for their decision making than collectivists, the researchers expect them to use the adequacy and truthfulness of the causal explanation provided, thus creating a stronger positive relationship between explanations and perceived informational justice[1] as shown in Figure 1.

Thus, it is hypothesized:

H1: Customers with higher individualist orientation when offered a causal explanation for service failure during an online recovery will have a greater increase in perceptions of informational justice as compared to customers with lower individualist orientation.

Very few prior studies have examined cognitive control as a recovery strategy that can be employed by service firms by giving information about the service recovery through regular updates. In offline context, Joosten et al. (2017) examined its impact on procedural justice while Patterson et al. (2006) found a link between uncertainty avoidance and cognitive control. However, in online recovery across cultures, this recovery strategy has not been investigated. Following previous research in offline context, this paper investigates the impact of cognitive control on procedural justice with uncertainty avoidance as moderator.

Social media complaining, unlike offline context, takes place in the virtual presence of a number of other customers and is thus subjected to the bystander effect (Gunarathne et al., 2018). This can impact the focal customer's desire to have control over the recovery process by means of receiving specific information. It would thus be relevant to find out both from a theoretical and managerial perspective what kind of customers would prefer more or less control, from a cultural standpoint. It is likely that higher uncertainty avoidance customers prefer predictability over ambiguity and are more active and security-seeking than lower uncertainty avoidance customers (Triandis, 1995). In online recovery, as customers perform more of the service themselves than in offline (Chang and

Figure 1. Graphic representation of the research model
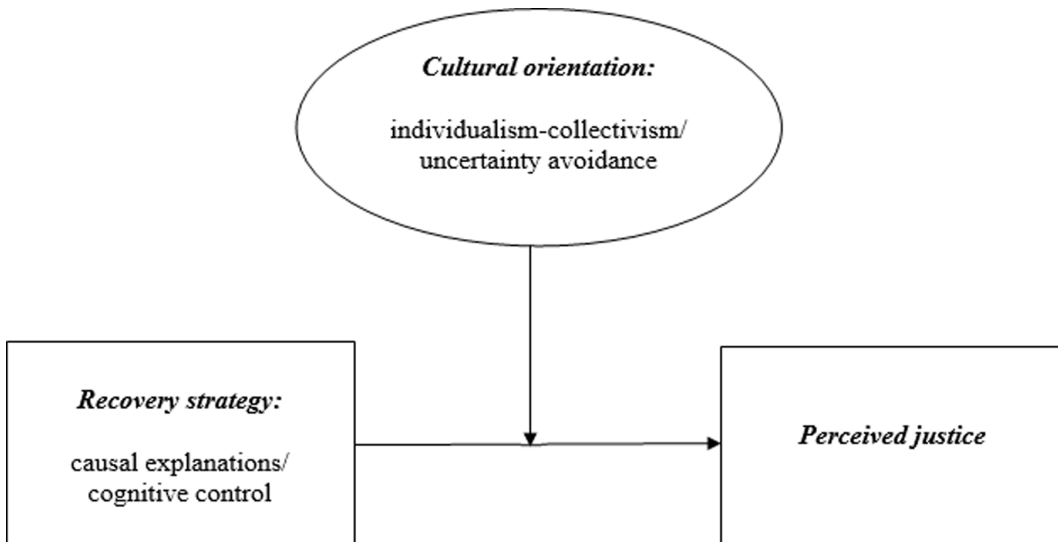
Chin, 2011), higher uncertainty avoidance customers would want more control even during the service recovery process and would prefer regular updates so as to minimize ambiguity and unpredictability. As this is specifically concerned with the service recovery process per se, this paper examines the impact on procedural justice[2] as shown in Figure 1.

Thus, it is hypothesized:

H2: Customers with higher uncertainty avoidance orientation who are provided cognitive control over the service recovery process during an online recovery will have higher perceived procedural justice as compared to customers with lower uncertainty avoidance.

Existing studies in offline and online recovery have found that justice positively impacts satisfaction with service recovery (Abney et al., 2017; del Rio-Lanza et al., 2009). However, in online recovery the effect of informational justice and procedural justice on recovery satisfaction has scarcely been studied (Gohary et al., 2016a; Singh and Crisafulli, 2016). This paper expects that informational justice as well as procedural justice will have a positive influence on recovery satisfaction in online complaining. The author also expects distributive justice[3] to have a positive impact on recovery satisfaction in the online context. Thus, it is hypothesized:

H3a: Perceived informational justice will be positively related to satisfaction with service recovery in an online context.
H3b: Perceived procedural justice will be positively related to satisfaction with service recovery in an online context.
H3c: Perceived distributive justice will be positively related to satisfaction with service recovery in an online context.

4. METHODOLOGY

4.1 Design

This research used experimental design using hypothetical scenarios of service failure and recovery in an online retailing and complaining context as using scenarios lowers chances of biases due to lapses in memory or rationalization tendencies that are common in retrospective self-reports (Smith et al., 1999). In addition, it enables easier operationalization of manipulations by researchers as compared to real service failures (Kaltcheva et al., 2013). The author tested the first two hypotheses by two different studies using two single factor between-subjects experimental design with each design having a separate manipulation. The service failure scenario is the same in both studies and the manipulations are done in the service recovery scenarios. In study-1, the presence or absence of causal explanations is manipulated whereby participants are told that they either receive or do not receive a detailed explanation about the cause of the service failure. In study-2, cognitive control over the recovery process is manipulated whereby participants are told that the firm either kept them informed (higher cognitive control) or did not keep them informed (lower cognitive control) during the recovery process.

4.2 Sample

In order to maximize the variance within each of the two cultural dimensions that are relevant for our research namely individualism-collectivism and uncertainty avoidance, participants were selected from Germany and India as these two countries have contrasting scores in Hofstede's national scores (1991)[4]. Participants from Germany and India were recruited from Figure Eight (formerly Crowdflower), a crowdsourcing platform (www.figure-eight.com) that provides survey participants from more than 100 countries. For each of the studies, participants were paid 0.9 USD and it took them on an average

7 - 8 minutes to complete the main studies. A separate design and sample were used to test H1 and H2 thus giving rise to study-1 and study-2 respectively. The author conducted pre-tests and main tests separately for each of the two studies. The online survey software tool Qualtrics was used to design the questionnaire and administer the survey (www.qualtrics.com). For the pre-test for study-1, data were analyzed from 41 participants in Germany and 39 from India; for pre-test for study-2, data were analyzed from 39 participants in Germany and 39 from India. For the main tests, in study-1 there were 83 participants from Germany and 83 from India (n=166). (German sample: 77% male; M_{age} = 32.2 years, SD = 10.7; Indian sample: 79% male; M_{age} = 29.1 years, SD = 10.2). For study-2, there were 81 participants from Germany and 82 participants from India (n=163). (German sample: 82% male; M_{age} = 31.6 years, SD = 10.5; Indian sample: 85% male; M_{age} = 29.3 years, SD = 10.3). Prior literature in experimental research have pointed out the requirement of having adequate sample size (Bausell and Li, 2002; Cohen, 1988). In order to achieve statistical power for experiments to be analyzed by ANOVA, it is expected that each experimental condition of the study should have at least 20 participants. Consistent with existing literature on service recovery using experimental design (Mattila, 2010; Wan, 2013), it was ensured that the sample sizes from both countries were sufficient. Therefore, in both the main studies of this paper, for the single-factor (2-experimental conditions) study designs there were at least 80 participants from each of the countries (Germany and India), thus fulfilling the adequate sample size requirement. Samples for both studies consisted of respondents from a wide variety of occupations and ages as shown in Table 2 and Table 3 for study-1 and study-2 respectively.

As this research relates to online shopping and complaining on social media for service failures, both studies included only those respondents from Germany and India who had shopped online at least once during the six months prior to the survey, and were active social media users with at least one activity in the past one month on any of the social networking sites. Table 4 shows the respondent characteristics for both studies in terms of their online shopping and social media activity.

4.3 Procedure

For the German participants the surveys were presented in German language (Deutsch) while for Indian participants the surveys were presented in English[5]. In order to ensure item equivalence which is important for multi-lingual studies, the questionnaires for German participants were classically prepared using both forward and backward translation by bilinguals. The English survey was forward translated by a bilingual whose mother tongue was German, and then back translated by another

Table 2. Descriptive statistics for study 1

Descriptive Statistics Study-1:

AGE (years)	GERMANY		INDIA		OCCUPATION	GERMANY		INDIA	
	n	%	n	%		n	%	n	%
< 18	0	0	0	0	employed in private organization	19	23	14	17
18-24	18	22	23	28	employed in public organization	9	11	5	6
25-34	28	34	32	39	self-employed/business	20	24	32	39
35-44	24	29	17	20	student	15	18	18	22
45-54	8	9	7	8	housewife	6	7	4	5
55-64	3	4	4	5	retired	9	11	3	3
> 65	2	2	0	0	unemployed	3	4	5	6
					other	2	2	2	2
Total	83	100	83	100	Total	83	100	83	100

Table 3. Descriptive statistics for study 2

Descriptive Statistics Study-2:

	GERMANY		INDIA			GERMANY		INDIA	
AGE (years)	n	%	n	%	OCCUPATION	n	%	n	%
< 18	0	0	0	0	employed in private organization	18	22	17	21
18-24	21	26	21	26	employed in public organization	8	10	7	8
25-34	30	37	34	41	self-employed/business	21	26	30	37
35-44	16	20	18	22	student	14	17	17	20
45-54	6	7	6	7	housewife	4	5	3	4
55-64	6	7	3	4	retired	10	12	2	3
> 65	2	3	0	0	unemployed	3	4	4	5
					other	3	4	2	2
Total	81	100	82	100	Total	81	100	82	100

Table 4.

Respondent characteristics: online shopping & social media

	Study-1		Study-2	
	GERMANY	INDIA	GERMANY	INDIA
Online activity	%	%	%	%
shopped online at least once in past 15 days	52	40	45	36
active social media user (in past 7 days)	97	91	96	89
complained to service provider on social media (in past 3 months)	48	42	53	39
complained to friends on social media (in past 3 months)	32	61	36	67

bilingual whose mother tongue was English (Brislin et al., 1973; Hambleton, 1993). In addition, group discussions were conducted with native German speakers to ensure meaning equivalence of the concepts and phrases related to our survey. The sampling equivalence was further ensured by the fact that the authors collected data from participants that were equivalent for this research's objectives (Wang and Mattila, 2011). Therefore, samples from both countries were sourced only from Figure Eight platform's Level 3 participants (the highest quality level) to ensure minimum demographic variance between groups.

All participants were first asked to imagine themselves in a service failure situation in online retailing that involved the delivery of a wrong product. This service failure scenario was chosen as recent articles in academic literature and business press have suggested that delivery of wrong product like wrong model or wrong size is quite common and one of the main service problems encountered by online purchasers for which the online retailer is directly responsible (Sengupta et al., 2018; The Guardian, 2014). The participants were asked to imagine that they purchased an electronic product (laptop computer) online but were delivered the wrong model, following which they tweet their complaint to the official Twitter customer service handle of the company. This service failure scenario that is common to all experimental conditions was followed by recovery scenarios in the form of tweet responses from the company thus randomly exposing participants to the study manipulations. In

study-1, participants were either told that they received causal explanation for the wrong delivery of the product and were promised a quick replacement or in the alternate condition given no explanation but promised quick replacement. In study-2, participants were either told that they would receive a replacement order and then the company kept them updated about their order processing status through regular tweets or in the alternate condition they were promised a replacement order but provided no updates. Subsequently, at the end of the scenario in both studies, all participants receive their correct order. Appendix-B details the scenarios of both studies.

4.4 Measures

Appendix -A lists all the scales and the manipulation checks used in the studies. Informational justice is measured using scales adapted from Colquitt (2001), procedural justice using scales adapted from del Rio-Lanza et al. (2009) and distributive justice using scales adapted from Smith et al. (1999). Recovery satisfaction is measured using scales adapted from Smith et al. (1999). 11 items of the CVSCALE were used to measure Individualism-Collectivism and Uncertainty Avoidance (6 items for Individualism-Collectivism and 5 items for Uncertainty Avoidance) cultural orientations at the individual level (Yoo and Donthu, 2002). By doing a median split, these continuous variables of cultural orientations were turned into categorical variables of high and low Individualism-Collectivism, and high and low Uncertainty Avoidance. All the measures demonstrated good scale reliability with strong Cronbach's alpha ranging from .80 to .89 for study-1 and from .88 to .94 for study-2 (as shown in Appendix-A) thus exceeding the accepted standards (Nunnally, 1978). As manipulation check for study-1, participants were asked whether they were given an explanation for the service failure. For study-2, I asked them if they were kept updated about their order status on Twitter and could predict when they would be receiving their order. A realism check was done by asking participants how realistic they found the problem. All scales were 7-point Likert scales.

4.5 Results

1. Pre-test Study-1

This pretest was conducted to test the 'presence or absence of causal explanation' manipulation by randomly assigning participants to one of these two conditions. The random assignment was done using Qualtrics for all the studies. As this research used the online survey software tool Qualtrics to administer the survey, the author used the Randomizer option of the Survey Flow feature to randomly assign participants to one of the two scenarios of the pre-tests and the main tests of study-1 and study-2 (Qualtrics Support, 2019). For Indian participants, one-way ANOVA revealed that they agreed they were provided an explanation in the first condition but not in the second (Explanations-present = 5.05, Explanations-absent = 2.79, F = 16.37, p < .001). For German participants also, one-way ANOVA revealed that they agreed they were provided an explanation in the first but not in second condition (Explanations-present = 5.57, Explanations-absent = 1.95, F = 58.16, p < .001).

2. Pre-test Study-2

This pretest was conducted to test the 'cognitive control - high or low' manipulation by randomly assigning participants to one of the two conditions. For Indian participants, one- way ANOVA revealed that they agreed they were updated about their order status and could predict about their order delivery thus having higher control over the situation in the first but not in the second condition (Cognitive control-high = 6.00, Cognitive control-low = 3.68, F = 34.69, p < .001). For German participants also, one-way ANOVA indicated similar results (Cognitive control-high = 6.33, Cognitive control-low = 2.00, F=106.77, p< .001).

3.   Realism check

Participants in both countries agreed that the scenarios were realistic and reflected real-life experiences with online shopping and complaining (Study-1: Germany: M=5.63, India: M = 5.79; Study-2: Germany: M=5.02, India: M = 5.36).

4.   Main Study-1

This study tested the moderating effect of individualist value orientation on the relationship between explanations and informational justice. ANOVA results show that there was a main effect for explanations ($F(1,162) = 14.2$, $p < .001$) demonstrating that participants felt a higher sense of informational justice when given explanation for the service failure, irrespective of their Individualism-Collectivism orientation. There was also main effect for Individualism- Collectivism orientation ($F(1,162) = 33.13$, $p < .001$).

As expected there was a significant interaction between explanations and Individualism-Collectivism ($F(1,162) = 4.17$, $p = .043$) such that participants high on Individualism (and low on Collectivism) perceived higher informational justice (M=5.18, SD=1.16) when offered explanations than participants low on individualism (and high on collectivism) (M=3.60, SD=1.63, $t(83) = 3.82$, $p < .01$). This finding supports hypothesis H1 that customers with higher individualist orientation when offered an explanation for service failure during online recovery will have a greater increase in perceived informational justice as compared to customers with lower individualist value orientation. For the no-explanation condition (although not hypothesized), both individualists and collectivists had similar levels of perceived informational justice (individualists: M = 3.41; collectivists: M = 3.35; p > .10). Figure 2 illustrates perceived informational justice for both conditions. This study also found significant interaction between explanations and Individualism-Collectivism on procedural justice ($F(1,162) = 3.97$, $p = .047$), and also on distributive justice ($F(1,162) = 3.86$, $p = .051$).

5.   Main Study-2

This study tested the moderating effect of uncertainty avoidance value orientation on the relationship between cognitive control and procedural justice. ANOVA results show that there was main effect for Uncertainty avoidance value orientation ($F (1,159) = 10.69$, $p < .002$). There was no main effect for cognitive control ($F (1,159) = 1.39$, $p = .241$) but as expected there was a significant interaction between cognitive control and uncertainty avoidance value orientation ($F(1,159) = 4.09$, $p = .045$) such that participants high on uncertainty avoidance perceived higher procedural justice ($M = 5.71$, $SD = 1.10$) when given cognitive control than participants low on uncertainty avoidance ($M = 4.74$, $SD = 1.22$, $t(81) = 3.04$, $p < .01$). This finding supports hypothesis H2 that customers with higher uncertainty avoidance value orientation when provided cognitive control over the service recovery process will have higher perceived procedural justice as compared to customers with lower uncertainty avoidance. For the no-cognitive control condition (although not hypothesized), both high uncertainty avoidance and low uncertainty avoidance participants had similar levels of perceived procedural justice (high uncertainty avoidance: M = 3.35; low uncertainty avoidance: M = 3.21; p>.10). Figure 3 illustrates perceived procedural justice for both conditions. The author also found significant interaction between cognitive control and uncertainty avoidance on informational justice ($F(1,159) = 8.605$, $p = .004$), and also on distributive justice ($F(1,159) = 4.143$, $p = .043$).

6.   Impact of justice dimensions on recovery satisfaction

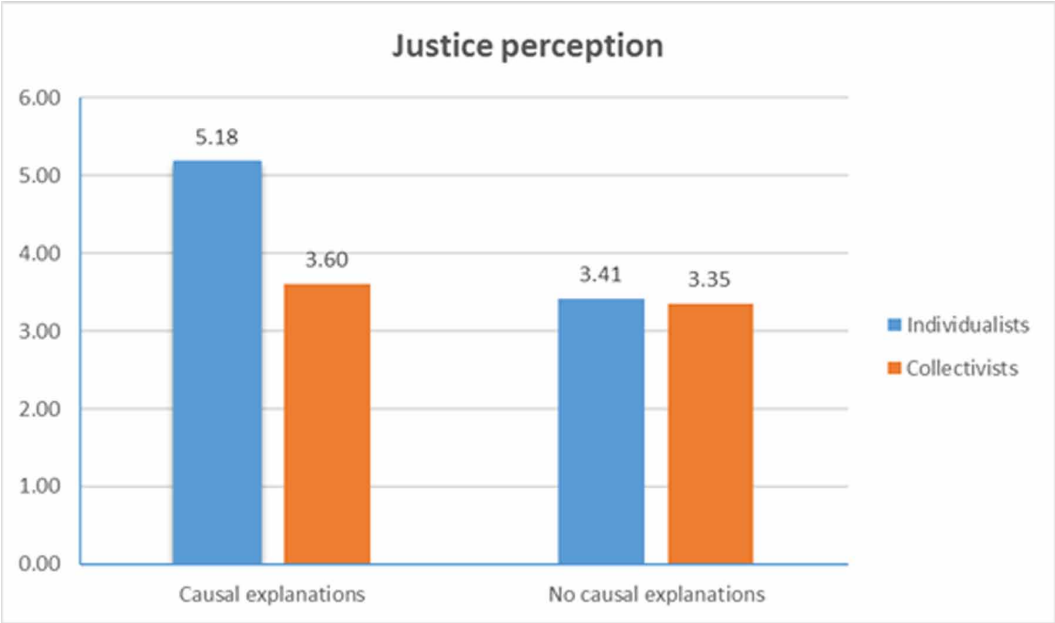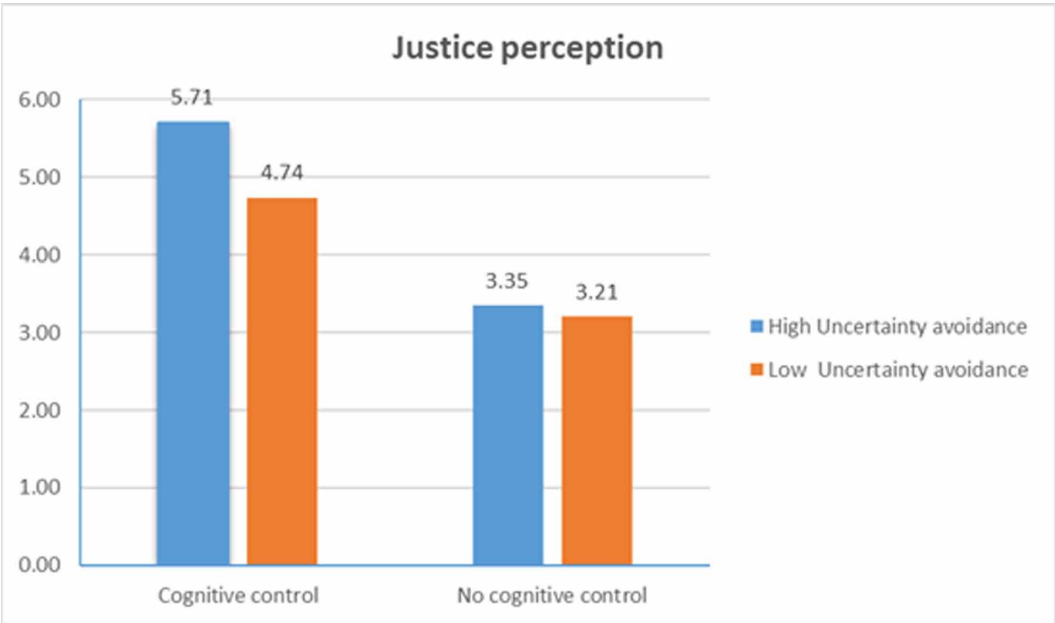**Figure 2. Perceived informational justice as a function of causal explanations and culture**

Figure 3. Perceived procedural justice as a function of cognitive control and culture

For testing H3a, H3b and H3c, the data were pooled (n = 329) with 164 participants from Germany and 165 from India. These data were analyzed by multiple regression analysis. For the pooled data, all the three justice dimensions namely informational, procedural and distributive justice

were found to be significantly positively associated with recovery satisfaction. Informational justice had the largest standardized beta-coefficient (ß = .421, p = .000) followed by procedural justice (ß = .400, p = .000) and distributive justice (ß = .188, p = .000). Thus H3a, H3b and H3c are supported.

5. DISCUSSION AND CONCLUSION

5.1 Theoretical Contribution

The combined results of the two studies contribute to a coherent picture, in which the individual cultural orientation of customers determine their recovery evaluations in social media complaining. The findings from study-1 concluded that customers with higher individualist value orientation when offered an explanation for service failure when complaining online will have greater informational justice perceptions and consequently recovery perceptions as compared to customers with lower individualist value orientation. Study-2 found that higher uncertainty avoidance orientated customers would want more control even during the service recovery process and would prefer regular updates to minimize ambiguity and unpredictability. This would positively impact their procedural justice perceptions and consequently recovery satisfaction.

With these findings, this paper contributes to the literature in several ways. First, this paper adds to the limited research that have investigated culture in online failure and recovery. This dearth of research is an area of concern as there is a growing impact of culture on social network usage and online behavioral intentions, thus underscoring the need for cross-cultural studies of social media service recovery (Gohary et al., 2016; Pookulangara and Koesler, 2011; Sengupta et al., 2018). Second, this paper answers the call from prior researchers to investigate underexplored research strategies in online recovery like explanations and cognitive control (Gohary et al., 2016; Joosten et al., 2017). Third, prior studies in offline and online settings have found differing results when it comes to finding the strongest justice dimension that is positively related to recovery satisfaction (Smith et al., 1999; Rosenmayer et al., 2018). This research answers the call of researchers Patterson et al. (2006, p. 273), Gohary et al. (2016a, p. 137), and Singh and Crisafulli (2016, p.5) to investigate the impact of justice dimensions (specifically informational and procedural justice) on recovery satisfaction for online service recovery contexts. The present study found that informational justice is the strongest predictor of recovery satisfaction in the online context, followed by procedural and distributive justice. This finding on the strong effect of informational justice suggests that in the absence of face-to-face interaction in online social media, customers primarily rely on information which becomes crucial in forming recovery evaluations. This paper thus contributes to the very limited literature addressing cross-cultural online service recovery by showing a cost-effective way of recovery through explanations and updates on social media to a culturally diverse group of customers.

The paper also has two methodological contributions. First, the use of non-student samples in both the studies. Previous research in service recovery has suggested the use of non-student samples to increase the generalizability of the findings by validating it across different customer segments (Wang and Mattila, 2011). As the study samples consisted of respondents from a wide variety of occupations and ages, the findings would have greater generalizability. The second methodological contribution is that of using samples of online complaining customers from Germany and India that have rarely been studied in services marketing literature, and in the process answering the call for studying other cultural groups in service recovery research mentioned by Mattila and Patterson (2004a, p. 343).

5.2 Managerial Implications

The findings of this paper are relevant to managers of global online service providers having multi-cultural customers. Social media is transforming communication between customers and service firms after service failure (Gregoire et al., 2015). When customers worldwide take to social media platforms like Twitter or Facebook to complain, the communication does not remain one-to-one but

becomes public communication that is visible to other users across the world (Gunarathne et al., 2018; Schaefers and Schamari, 2016). Also, as messages can propagate rapidly among users of social media like Twitter, complaints can be seen and shared by users in very short time (Gunarathne et al., 2018; Ma et al., 2015). Therefore, it is essential for global online service firms to respond effectively to such social media complaints as their response would affect the firm's brand image and reputation (Rosenmayer et al., 2018). This is also evidenced by the recent spurt in online reputation management agencies like WebiMax and Igniyte that help firms to monitor online user-generated content (Business News Daily, 2019; Singh and Crisafulli, 2016).

As the findings show, providing causal explanations of failure and keeping customers informed during recovery can increase recovery evaluations for certain customer types. By doing these, firms do not incur any cost implications unlike offering monetary compensation, discounts or coupons. Thus, online service firms need to be aware and accordingly be sensitive to customer's cultural orientation. This can be achieved by having effective Customer Relationship Management (CRM) and Customer Knowledge Management (CKM) systems. While implementing CRM systems effectively by offline retailers has been suggested earlier (Patterson et al., 2006), effective implementation of CRM and CKM systems by online service firms might be even more relevant, and most of them would already have such systems in place (Gohary et al., 2016a). Such firms would then have to take the initiative to include cultural orientation of customers into their existing systems. Most online service firms have customer databases that include their personal information, demographic and psychographic details, their purchase history and prior customer service encounters. Among these, demographic information related to ethnicity can give an indication of cultural orientation. However, for such firms to precisely segment and target their customers based on culture, they need to have data about their individual cultural orientation for a more fine-grained analysis as the present paper has suggested. The firms can employ survey research using CVSCALE to obtain the individual cultural orientation data that can be added to the demographic information in the customer profiles of their existing CRM and CKM systems. To start with, this may be implemented for frequent or high-value shoppers and then depending on the results may be rolled out for a larger customer base.

Providing explanations and updates during recovery to multi-cultural customers over social media could be a cost-effective way to improve evaluations not only from the complaining customers but also improve brand image and reputation for other existing and prospective customers witnessing the recovery (Einwiller and Steilen, 2015). With the growing number of customers sharing their opinions about brands online, word of mouth is often referred as 'word of mouse' (Ozuem et al., 2017, p. 99). Managing social media complaints effectively could generate positive word of mouth (WOM) while reducing negative WOM, thus enabling firms to make this form of complaint management as a part of their WOM marketing strategy (Sugathan et al., 2018).

5.3 Limitations and Future Research

The present research has several limitations that could be an opportunity for future researchers to investigate. This paper used samples of participants from Germany and India who were recruited from the international crowdsourcing platform Figure Eight (formerly Crowdflower). These paid participants corresponded to the highest quality level (level 3) in the platform in terms of responsiveness and engagement. However, the findings from this sample may not be generalizable to the entire community of German and Indian online consumers as both these countries have a large population of online users. Also, using German or Indian platforms for data collection (instead of international) could offer different results, something that future research could look into. Also, this research used samples of respondents who were active online shoppers, active social media users and those who complained to service firms on social media. However, this research did not capture how frequently the respondents complained. Future research could consider this aspect too, as the perceptions of respondents who complained only once could differ from those who had complained many times and have been exposed to varying responses from online firms (e.g. no answer, late answer, insufficient

answer, etc.). Another limitation of this paper is that the study samples had a large percentage of male respondents. Recent articles from Indian business press have pointed out the low internet and social media usage among Indian women with just 24% of female Facebook users and 29% of overall internet users (Statista, 2015; The Times of India, 2016). While this could explain the lower percentage of females in the Indian samples, future research in this area could examine samples with higher proportion of females.

For the experimental studies, this paper used the service failure scenario of wrong product delivery because it is considered among the most common types of failures for which the online retailer is directly responsible (Sengupta et al., 2018; The Guardian, 2014). Future researchers could examine other service failure scenarios like damaged delivery, late delivery or no delivery. While the present paper conducted realism checks to ensure that the scenarios reflected real situations, future researchers could also conduct pre-tests to specifically determine the most common online service failures perceived by participants. The author did not include response time for complaints as a part of realism check, although the checks ensured that the scenarios were realistic and reflected real-life social media complaining experiences. This is because the study scenarios conformed to recent reports in business press which suggested that most complaints on Twitter are replied by online service firms (but may not be resolved) within a few hours (Sprout Social, 2018). Future research can also include this aspect of response time into their realism check for the study analyses.

This paper mentions the mechanism through which causal explanation could impact perceived justice, that is, through the mediation of attribution as suggested by prior literature in offline recovery. However, it did not include attribution as a mediator in the research model. Future researchers in online service recovery could examine the entire model with attribution as mediator. The author used multiple regression analysis to test the effect of the three independent justice dimensions namely informational, procedural and distributive justice on recovery satisfaction and found a significant positive association. Future researchers could examine this from a different perspective and use simultaneous equations modeling tools which may give different results. Following extant literature in online service failure and recovery that examined recovery attributes, the present study used justice theory. Future research can also examine e-service quality and how it impacts customer evaluations by using scales from E-S-QUAL and E-RecS-QUAL of Parasuraman et al. (2005). With the growing importance of artificial intelligence (AI) in ecommerce, future research can also examine how AI-assisted technologies like chatbots can help during service recovery by interacting with customers.

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ENDNOTES

[1]   Although I hypothesize and test for informational justice, I also test for distributive and procedural justice.

[2]   Although I hypothesize and test for procedural justice, I also test for distributive and informational justice.

[3]   Although distributive justice was not hypothesized in the studies, I examine its impact on recovery satisfaction

[4]   Germany and India score 67 and 48 respectively in individualism-collectivism; 65 and 40 respectively in uncertainty avoidance.

[5]   The use of English as the survey language in India is appropriate as English is one of the official languages; 2013 Pearson-BEI Survey country rankings in terms of Business English proficiency ranked India among the top 10 countries in terms of business English proficiency (bei.globalenglish.com).

APPENDIX A

Informational justice (adapted from Colquitt, 2001)
(Study1: Cronbach's α = .88; Study 2: Cronbach's α = .93)
1. The explanations regarding the procedures were reasonable.
2. The Customer Care team explained the procedures thoroughly.
3. The Customer Care team communicated details in a timely manner.
4. The Customer Care team was truthful in their communications with me.

Procedural justice (adapted from del Rio-Lanza et al., 2009)
(Study1: Cronbach's α = .80; Study 2: Cronbach's α = .88)
1.I think this online shopping site has good policies and practices for dealing with problems.
2.This online shopping site showed flexibility in dealing with my problem.

Distributive justice (adapted from Smith et al., 1999)
(Study1: Cronbach's α = .85; Study 2: Cronbach's α = .94)
1.The outcome I received was fair
2.I feel that I got what I deserved.
3.In resolving the problem, this online shopping site gave me what I needed.
4.This online shopping site found the right solution to the problem.

Recovery Satisfaction (adapted from Smith et al. (1999)) **(**Study1: Cronbach's α = .89; Study 2: Cronbach's α = .93)
1. How satisfied would you be with this online shopping site's handling of the problem?
2. I felt the service response I received was good.
3. I am pleased with the service I experienced.
4. Overall, how satisfied would you be with your online shopping experience on this particular occasion?

CULTURAL DIMENSIONS CVSCALE (adapted from Yoo and Donthu (2002))
INDIVIDUALISM-COLLECTIVISM (Study1: Cronbach's α = .81; Study 2: Cronbach's α =.89)

1. Individuals should sacrifice self-interest for the group.
2. Individuals should stick with their group even through difficulties.
3. Group welfare is more important than individual rewards
4. Group success is more important than individual success.
5. Individuals should only pursue their personal goals after considering group goals.
6. Group loyalty should be encouraged even if individual goals suffer.

UNCERTAINTY AVOIDANCE (Study1: Cronbach's α = .85; Study 2: Cronbach's α =.88)

1. It is important to have instructions spelled out in detail.
2. It is important to closely follow instructions and procedures.
3. Rules and regulations are important because they inform me of what is expected.
4. Standardized work procedures are helpful.
5. Instructions for operations are important.
    Manipulation Checks
    (1=strongly disagree and 7 = strongly agree)
    1. The online shopping site informed you why there was a problem with your order.

2. While you were waiting for your correct order to arrive, you were provided regular updates about your order status on Twitter and could predict when you would be receiving your order.

APPENDIX B

Service failure scenario: (common for all conditions for both studies)
Imagine yourself in the following situation: You recently purchased a laptop computer by browsing online and finding a good deal on a latest laptop model in an online shopping site abcshopping.com. You completed the order process and made the online payment. The delivery time promised was 4-5 business days. You receive your order within five business days. However, when you unpack it you find that it is not the latest model that you had ordered but an older and cheaper model that you did not want. You become annoyed and immediately contact their Customer Care on Twitter by sending a tweet.
Service recovery scenarios:
Study 1
Scenario 1
You received a reply to your tweet within a few hours from their customer care who offered you an apology and asked the order details for follow up. You tweeted back your order details. They then tweeted informing you that they will replace the wrong order with the correct order within five business days, free of any charges including delivery. Their tweet also provided a detailed explanation about the cause of the problem, which was due to an error in the order processing software that has since been rectified. You waited the next few days for your correct order to be delivered. On the fourth business day, you received the replacement order of the correct model of the laptop computer that you wanted.
Scenario 2
You received a reply to your tweet within a few hours from their customer care who offered you an apology and asked the order details for follow up. You tweeted back your order details. They then tweeted informing you that they will replace the wrong order with the correct order within five business days, free of any charges including delivery.
There was no mention of any explanation for the wrong order delivery. You waited the next few days for your correct order to be delivered. On the fourth business day, you received the replacement order of the correct model of the laptop computer that you wanted.
Study 2
Scenario 1
You received a reply to your tweet within a few hours from their customer care who offered you an apology and asked the order details for follow up. You tweeted back your order details. They then tweeted informing you that they will replace the wrong order with the correct order within five business days, free of any charges including delivery.
You waited the next few days for your correct order to be delivered. During this time, you were continuously provided Twitter updates of your order processing and delivery status by the customer care team so that you knew what was happening to your order. On the fourth business day, you received the replacement order of the correct model of the laptop computer that you wanted.
Scenario 2
You received a reply to your tweet within a few hours from their customer care who offered you an apology and asked the order details for follow up. You tweeted back your order details. They then tweeted informing you that they will replace the wrong order with the correct order within five business days, free of any charges including delivery.

You waited the next few days for your correct order to be delivered. During this time, you were not provided any updates of your order processing and delivery status and therefore you were not aware of what was happening to your order. On the fourth business day, you received the replacement order of the correct model of the laptop computer that you wanted.

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