

**Managing the product-harm crisis in the digital era: The role of consumer online brand  
community engagement**

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# **Managing the product-harm crisis in the digital era: The role of consumer online brand community engagement**

## **Abstract**

This research examines the influence of consumer online brand community engagement (OBCE) at a time of product-harm crisis on consumers' cognitive responses and behavioral reactions toward the affected brand's super-recovery effort. Data were collected from members of Samsung's online brand community in China during the brand's Galaxy Note 7 battery crisis. The results show that OBCE has a direct as well as indirect effect on repurchase intention through the mediation of consumer forgiveness. In contrast, brand super-recovery effort has a weak direct effect on repurchase intention, and its effect is mainly indirect through consumer forgiveness. The findings suggest that higher levels of consumer brand engagement and forgiveness can offset the negative consequences of brand scandals, highlighting the importance of fostering customer engagement in the brand's online communities. The findings have important implications for both theory and practice.

**Keywords:** Online brand community engagement; Forgiveness; Product-harm crisis; Crisis management; Social media; China.

## 1. Introduction

A product-harm crisis refers to an incident that has attracted wide, negative publicity to a brand when a product fails to comply with a mandatory and/or voluntary standard or contains a defect that could cause substantial harm to consumers (Dawar & Pillutla, 2000). Recent high profile examples of product-harm crises include Volkswagen's Dieseldieselgate scandal, Takata's faulty airbags (Krisher, 2019), and the Samsung Galaxy Note 7 smartphone battery explosion. Product-harm crises often result in detrimental consequences to the brand, such as damage of hard-earned brand equity, decreased sales, reduced marketing effectiveness, and losses of revenue, market share and investors' confidence (Chen, Ganesan, & Liu, 2009; Van Heerde, Helsen, & Dekimpe, 2007). Online brand communities, enhanced by advances in digital technologies, facilitate the building of a network of relationships among consumers, the brand, and marketers (McAlexander, Schouten, & Koenig, 2002). Online brand communities on social media such as Facebook and Twitter have made negative word-of-mouth easy, cheap, and convenient (Javornik, Filieri, & Gumann, 2020). When a company goes through a product-harm scandal, digital platforms can be detrimental to its profits, as many consumers would use community tools (i.e., sharing, liking, commenting) to spread the news about the scandal to all people in their network (Yuan, Lin, & Zhuo, 2016), which can have an influence on peoples' intention to buy from the brand (Borah & Tellis, 2016).

With the growing popularity of consumer digital technologies, firms are increasingly investing in fostering customer engagement in social media-based online communities (Bazi, Filieri, & Gorton, 2020; Hollebeek, Glynn, & Brodie, 2014; Pansari & Kumar, 2017). Recent research has paid much attention to the positive role of online brand community engagement (OBCE) for effective marketing and communications (de Almeida et al., 2018; Gong, 2018; Hollebeek, Juric, & Tang, 2017; Islam, Rahman, & Hollebeek, 2018; Ray, Kim, & Morris,

2014). Studies have investigated the role of OBCE on brand evaluation (So et al., 2016), brand trust (So et al., 2016), brand commitment (Kim et al., 2008; Wirtz et al., 2013), self-brand connection and usage intent (Harrigan et al., 2018), firm performance (Pansari & Kumar, 2017), and brand loyalty (Brodie et al., 2013; McAlexander et al., 2002; So et al., 2016; Zhang et al., 2015; Zheng et al., 2015), while little attention has been paid to the role of OBCE during a product-harm crisis. A fundamental question that remains unanswered is whether OBCE supports a brand's recovery effort at a time of product-harm crisis.

Addressing this question has important practical implications. Accordingly, consumers increasingly use social media brand communities to voice their disappointment or frustration about brands' product or service failure (Einwiller & Steilen, 2015; Javornik et al., 2020; Schaefers & Schamari, 2016) thus producing negative electronic word-of-mouth (eWOM). Due to the negativity bias (Rozin & Royzman, 2001; Wen et al., 2020), this form of negative eWOM can spread more quickly and has a stronger impact on consumer perception of the brand and its products (Filieri, Raguseo, & Vitari, 2019; Herr, Kardes, & Kim, 1991), and consequently product sales, than positive eWOM (Chevalier & Mayzlin, 2006). It is therefore crucial to understand the role of OBCE in mitigating the negative impacts of a product-harm crisis.

To recover from a crisis successfully, managers must strive to gain consumer forgiveness (Harrison-Walker, 2019). Nowadays, product-harm crises are given a large echo on social media, particularly on the brand's social media page, where affected customers voice their complaints and observers closely monitor the brand's reaction to the crisis. Harrison-Walker (2019) finds that apology, compensation and voice positively influence consumer forgiveness in service failure scenarios. Nevertheless, we know little about whether OBCE helps to foster consumer forgiveness during a product-harm crisis.

The main objective of this study is to narrow the research gap by examining the influence of OBCE on consumer responses to a brand's super-recovery strategy, namely forgiveness and repurchase intention. Specifically, we develop and test a conceptual model treating consumer forgiveness as a mediator linking brand super-recovery effort and OBCE to repurchase intention. Super-recovery effort is a possible option when a manufacturer is faced with a potential recall and involves taking some extra actions for consumers despite not being required by law to resolve the issue (Siomkos & Kurzbard, 1994). Consumers who engage with a brand on social media brand communities develop emotional bonds, and have better relationships with the brand, which might foster consumer forgiveness of the product-harm crisis and intention to repurchase from the brand. We selected one of the most emblematic cases of product-harm crisis of the last decade, namely the Samsung Galaxy Note 7 battery crisis, for empirical examination, and we collected data from consumer members of Samsung's online brand community in China immediately after the crisis broke out.

## **2. Theoretical background and hypothesis development**

### ***2.1. Theoretical background***

#### *2.1.1. Online brand community engagement*

Online brand communities can be defined as a 'network of relationships between consumers and the brand, product, fellow consumers, and the marketer' (McAlexander, Schouten, & Koenig, 2002, p. 39). Vivek, Beatty, and Morgan (2012) define customer engagement as "the intensity of an individual's participation and connection with the organization's offerings and activities initiated by either the customer or the organization" (p.4). Customer brand engagement in social media can further be conceptualized to include three dimensions, i.e., enthusiasm, conscious participation, and social interaction (Vivek, 2009). OBCE has also been interpreted from various perspectives. For example, some

scholars refer to it as a psychological state of being engaged, connected, involved and interested in brand communities (Ibrahim, Wang, & Bourne, 2017), while others perceive it as a behavioral term, such as communication and interaction among users, intensity of consumers' participation and connection with a brand (Wu, Fan, & Zhao, 2017).

The core of OBCE lies in interactive experiences and value co-creation through community users' learning, sharing, influencing, advocating, socializing, and co-developing activities (Yuan et al., 2016; Zhang et al., 2017). Interaction among community users helps to create brand affinity and consumer empowerment (Katz & Heere, 2015), which makes online brand communities very powerful and reliable platforms for consumer-to-consumer and consumer-to-brand communications. Pansari and Kumar (2017) even define customer engagement as the "mechanics" of adding value to the firm, either directly through purchase, or indirectly through spreading positive word-of-mouth in social media.

### *2.1.2. Antecedents and consequences of online community brand engagement*

Previous studies have identified a number of antecedents or drivers of OBCE, from brand-related factors to social and functional benefits of being a community member (Bazi et al., 2020; Dessart, Veloutsou, & Morgan-Thomas, 2015; Wirtz et al., 2013). According to Wirtz et al. (2013), brand-related factors include brand identification and the symbolic function of a brand; social factors include the social benefits and social identity of participating in an online brand community; and functional factors include the functional benefits, uncertainty avoidance, information quality, and incentives derived from the online brand community. Dessart et al. (2015) reveal that consumers' brand knowledge, positive relationship with the brand, satisfaction, and trust are likely to trigger consumer engagement in the brand community. The functional benefits of participating in an online brand community that could enhance engagement include: the informational and entertaining value

of contents posted in the communication, the facilitation of communication, and the special discounts or deals exclusively available to community members (Dessart et al., 2015).

Examining consumer engagement with a specific online brand community, a brand's Facebook page, Simon and Tossan (2018) suggest it is "brand-consumer social sharing value" that drives satisfaction and brand gratitude which, in turn, drives consumer engagement with the online brand community. The brand social sharing value includes factors such as brand intimacy, brand individual recognition, brand influence, and brand community belonging.

Scholars have also explored the consequences of OBCE, which can be summarized into three groups. Firstly, OBCE can help the brand to improve financial outcomes, for example, increasing conversion rates, purchase intentions, brand usage intentions, and sales (Hollebeek et al., 2014). Secondly, OBCE enhances brand-related outcomes, for instance, influencing brand evaluation (So et al., 2016), increasing brand satisfaction (Bowden, 2009), building brand trust (So et al., 2016), fostering higher brand commitment (Kim et al., 2008; Wirtz et al., 2013), self-brand connection, brand usage intent (Harrigan et al., 2018), firm performance (Pansari & Kumar, 2017), and enhancing brand loyalty (Brodie et al., 2013; McAlexander et al., 2002). Thirdly, engagement in online brand communities has consumer/customer-related outcomes, for example, facilitating WOM and knowledge contribution (Ray et al., 2014), commitment and intention to continue participation in an online brand community (Wirtz et al., 2013), and motivating brand referrals and advocacy (Algesheimer, Dholakia, & Herrmann, 2005; Ray et al., 2014). Moreover, customers with higher brand community engagement are more likely to generate post-purchase reviews and spread positive WOM which, effectively, improves customer purchase value (Wu et al., 2017). Hollebeek et al. (2014) indicate that OBCE significantly strengthens consumer-brand relationships. Consumers' participation in their favorite brands' online communities enhances relationship quality and brand loyalty.

## ***2.2. Hypothesis development***

### *2.2.1. Super-recovery effort, forgiveness and repurchase intention*

Following a product crisis or service failure, it is crucial to earn consumer forgiveness as it helps to repair or rebuild consumer trust (Chung & Beverland, 2006; Xie & Peng, 2009), minimize consumer negative feelings (Chung & Beverland, 2006), and rehabilitate the relationship (Aaker, Fournier, & Brasel, 2004). When consumers encounter a brand's failure to deliver a product or service, they experience un-forgiveness, which is a stress reaction (Worthington & Scherer, 2004). According to the Emotion Replacement Model (ERM) (Worthington, 2013), an individual encounters a state of emotional dissonance when experiencing both positive and negative emotions simultaneously. To cope with such a state of stress, one may voluntarily choose to replace negative with positive emotions, which facilitates forgiveness (Worthington, 2013).

Forgiveness is defined as “consumers’ willingness to give up retaliation, alienation, and other destructive behaviors, and to respond in constructive ways after an organizational violation of trust and the related recovery efforts” (Xie & Peng, 2009). Forgiveness is a construct originally developed from interpersonal relations studies (McCullough, 2000), and has recently been applied in consumer research to understand service recovery (Casidy & Shin, 2015; Harrison-Walker, 2019; Wolter et al., 2019). Previous studies identify several factors that may lead to forgiveness, such as empathy (McCullough, 2000), offense severity (Zechmeister et al., 2004), responsibility attributions (Fincham, Paleari, & Regalia, 2002), relationship commitment (Karremans et al., 2003), relationship quality (Wolter et al., 2019), giving customer voice and offering compensation (Harrison-Walker, 2019). Furthermore, gender is also found to affect forgiveness; specifically, females are more forgiving than males (Miller, Worthington, & McDaniel, 2008).

In response to a product-harm crisis, the affected brand has four basic options: a) denial, b) involuntary recall, c) voluntary recall, and d) super effort (Shrivastava & Siomkos, 1989).



By taking super effort, the brand attempting to recover its image is honest in its communications related to the crisis. It recalls the products voluntarily and immediately, and makes it very easy for customers to return the products. In addition, it takes great effort to mitigate damages and compensate customers, for example, with free samples, coupons, and discounts (Siomkos & Shrivastava, 1993). Super-recovery effort prioritizes consumers' welfare; therefore, it has the greatest potential among the four options to repair brand reputation and restore customer relationships (Shrivastava & Siomkos, 1989). Studies of service failure recovery have identified that recovery strategies have positive effects on gaining consumer forgiveness (Casidy & Shin, 2015; Harrison-Walker, 2019; Tsarenko & Tojib, 2015). For example, examining the recovery of service failure, Harrison-Walker (2019) found that apologizing and listening to consumers' voice of concerns helped to earn consumer forgiveness. DiFonzo, Alongi, and Wiele (2018) show that the organization's apology and corrective action increase the likelihood of forgiving following a breach of the psychological contract. Drawing on service failure and recovery literature we posit:

**H1:** Brand super-recovery effort has a positive effect on consumer forgiveness.

It is suggested that a super effort response strategy can convince consumers that the firm is socially responsible (Siomkos & Shrivastava, 1993). According to Vassilikopoulou et al. (2009), consumers may forget the crisis after a few months, especially when the company is socially responsible and when a voluntary brand recovery effort is accomplished. Customers would continue to buy products from the company if the recovery of the service is appropriately undertaken and their problems are addressed satisfactorily (Grégoire, Salle, & Tripp, 2015). Repurchase intention is defined as a consumer's judgment about purchasing the products of the same brand again, considering the current and likely circumstances (Hellier et al., 2003). Repurchase intention reflects a desire that the consumer would return to the brand following the brand's corrective actions or remedy (Susskind, 2005). Drawing on this

literature, we expect consumers will be more willing to repurchase from the same brand if the company makes a super-recovery effort during a product-harm crisis. Thus, we formulate the following hypothesis:

**H2:** Brand super-recovery effort has a positive effect on repurchase intention.

### *2.2.2. OBCE, forgiveness and repurchase intention*

According to the theory of customer engagement (Pansari & Kumar, 2017), engaged customers would take active interest in the brand, and will be more concerned with the “well-being” of the brand, because they have already formed a trusted and committed relationship with the brand, they are satisfied, and are emotionally bonded with the brand. OBCE indicates high levels of consumer trust, commitment, satisfaction, and emotional connection with the brand (Pansari & Kumar, 2017). Prior empirical studies confirm that people tend to forgive close relationship partners more readily than distant partners (McCullough, 2000). In marketing research, consumers who are highly engaged with the brand in its online community have a strong relationship with the brand (Bazi et al., 2020; Hollebeek et al., 2014). According to ERM, in such a relationship, the victim party is motivated to inhibit destructive responses to the other party’s transgression and takes constructive responses, i.e., to forgive the offender (Fehr, Gelfand, & Nag, 2010; McCullough, 2000). Earlier research on service failure and recovery suggests that consumers in close relationships with the brand are more willing to forgive the company's transgression (Mattila, 2001). We can therefore expect that highly engaged customers may be more willing to forgive a company’s product failure than others.

**H3:** OBCE has a positive effect on consumer forgiveness.

Engaged consumers in online brand communities interact more with the brand and other consumers, and establish emotional connection with them, which result in higher

loyalty, trust and commitment (Brodie et al., 2013; Islam et al., 2018; McAlexander et al., 2002). OBCE could provide a buffer effect to mitigate the negativity of service failure or product-harm crisis (Tax, Brown, & Chandrashekar, 1998). One of the outcomes of OBCE is repeat purchase (Pansari & Kumar, 2017). Engaged consumers have faith in the brand and the quality of its products, therefore, they may be willing to diminish the negativity of a product-harm crisis. Thus, for the reasons mentioned above we expect that consumers who are engaged with a brand's online community will keep purchasing products from the same brand, regardless of the product-harm crisis.

**H4:** OBCE has a positive effect on repurchase intention.

#### *2.2.3. Consumer forgiveness and repurchase intentions*

Following the ERM, forgiving means to replace negative with positive emotions (McCullough, 2000; Worthington & Scherer, 2004). When consumers forgive a brand that was involved in a product-harm crisis, they are motivated to restore their relationship and commitment with the brand; therefore, it is likely they will continue to purchase the brand. Consumers may replace the negative emotions associated with the product-harm crisis with previous positive experiences with the brand. Consumers are likely to choose the same brand in the future if they forgive the brand's transgression (Tsarenko & Tojib, 2015). Tsarenko and Tojib (2015) and Harrison-Walker (2019) find empirical evidence to support that customer forgiveness is positively related to repurchase intention following a service failure. Similarly Noth, Jaroenwanit, and Brown (2015) show that airline passengers' forgiveness positively affects their repurchase intention during airline service failure. Drawing on these studies, we propose the following:

**H5:** Consumer forgiveness has a positive effect on repurchase intention.

#### *2.2.4. Mediation role of consumer forgiveness*

One of the key findings of the study by Harrison-Walker (2019) is that forgiveness mediates the relationship between service recovery strategies (apology, compensation, and voice) and outcomes (re-patronage, WOM, and reconciliation). Similarly, we suggest that consumer forgiveness mediates the relationship between super-recovery efforts and repurchase intention, i.e., a brand's recovery effort has a positive effect on forgiveness, and forgiveness in turn positively influences repurchase intention. We speculate that it is fundamental that consumers forgive the brand involved in the product-harm crisis following a super-recovery effort in order to motivate them to purchase again from the company. Thus:

**H6:** Consumer forgiveness mediates the relationship between super-recovery efforts and repurchase intention.

In addition, we also suggest that OBCE has a positive effect on forgiveness, and forgiveness in turn positively influences repurchase intention. By definition, this implies that the relationship between OBCE and repurchase intention is mediated through forgiveness. To the best of our knowledge, this mediated relationship has not been empirically examined in prior studies. Thus:

**H7:** Consumer forgiveness mediates the relationship between OBCE and repurchase intention.

Figure 1 below depicts the conceptual model.

[Figure 1 about here]

### **3. Method**

A high profile case of product-harm crisis is Samsung's smartphone battery crisis. In September 2016 soon after the release of the new Samsung Galaxy Note 7, some consumers posted videos documenting incidents where the batteries of Samsung's Galaxy Note 7 overheated and, in some cases, exploded. Samsung attempted to fix this issue by halting the

production of the device and giving affected customers replacement smartphones. During and after the Samsung's battery crisis event, there was a surge in consumer discussion in Samsung's online brand community. Consumers' comments ranged from intention to switch to competing brands to forgiving the harm caused and hard-core loyalty to Samsung.

We choose this case for our study because it is a typical case of product-harm crisis and Samsung is a well-known brand worldwide, so the product recall and recovery strategy have received enormous attention from mass media all over the world. To manage similar crises effectively, it is essential for brand managers to understand the role of OBCE in driving forgiveness and brand repurchase intention during a product-harm crisis.

### *3.1. Sample and data collection*

The target participants of the study are members of the Samsung online user community in China. We selected participants from this country for several reasons. According to the latest official statistics by CNNIC (2018), by the end of 2017, China has 772 million internet users, which accounts for 55.8% of China's total population (approximately 1.4 billion). With a growth of 41 million new internet users in 2017, China has the world's largest number of internet users, exceeding the total population of Europe. Of the total Chinese internet users, 93.3% are also users of mobile social media such as WeChat, 69.1% are registered online shoppers, and 40.9% are registered users of online social networking sites such as Weibo. Hence, understanding how Chinese consumers engage with online platforms, social media, and particularly a brand's online community in the world's largest developing market, is essential for a global brand's success in the digital era (Kozlenkova et al., 2017; Wen et al., 2020).

Participants were recruited through a call for research participation which included a hyperlink to our online survey questionnaire hosted at [sojump.com](http://sojump.com), one of the largest

commercial market research websites in China. The online survey was open for four weeks, and 377 valid responses were received. Most of the responses were completed between 5-8 minutes. The profile of the participants is presented in Table 1. The respondents were predominantly young, ranging from 18-30 (87%); there were more male respondents than female, and they were mostly educated to college level. In terms of the tenure of participation in the Samsung online community, there was a mix of short tenure (less than one year, 40%) and longer tenure (three years and longer, 30%).

[Table 1 about here]

### *3.2. Construct measures*

All the constructs in the survey questionnaire were adapted from existing scales available in the extant literature. The four items used to measure brand super-recovery effort were adapted from Siomkos (1999) and Souiden and Pons (2009). Online community engagement was measured through the three-dimensional sub-constructs of conscious participation, enthusiasm, and social interaction, and their measures were adapted from Vivek (2009) and Zhang et al. (2017). The three items measuring consumer forgiveness were based on Xie and Peng (2009). The measures of repurchase intention were adapted from Johnson, Herrmann, and Huber (2006). All the measurement items were based on a seven-point scale ranging from “1 = strongly disagree” to “7 = strong agree”. The wording of each item is presented in Table 2.

### *3.3. Data analysis*

The data were analyzed using Partial Least Square Structural Equation Modelling (PLS-SEM) and the software used is SmartPLS 3. PLS-SEM has the advantage of less stringent requirements on sample size, measurement scales and residual distribution and is

particularly suitable for testing plausible causality between the constructs (Henseler, Ringle, & Sinkovics, 2009).

#### **4. Results**

The PLS-SEM involves two steps; first, we examined the measurement model, followed by the structural model evaluation (Hair, Ringle, & Sarstedt, 2011). In the structural model, we examined indicator internal consistency, convergent validity and discriminant validity. Table 2 shows the psychometric properties for first-order constructs. The reliability of each construct was examined through the values of item loading, Cronbach's Alpha and Composite Reliability (CR). The results show that all items loaded on their respective constructs over 0.7 Cronbach's Alpha values are higher than 8 and the CR values of all constructs are higher than 0.9, indicating good to excellent internal consistency and reliability (Henseler et al., 2009). To establish a construct's convergent validity, the value of Average Variance Extracted (AVE) should be higher than 0.5 (Bagozzi & Yi, 1988). The results in this study show that all AVEs are higher than this threshold, indicating good convergent validity.

[Table 2 about here]

Table 3 shows the psychometric properties for second-order construct online community engagement. The results show good reliability and validity of the second-order construct.

[Table 3 about here]

To test the discriminant validity of each construct, we compared the square root of the AVE of each construct with its correlation with the remaining constructs. The results shown in Table 4 indicate all the square roots of AVEs are higher than any inter-construct

correlation values, indicating good discriminant validity (Fornell & Larcker, 1981). The means and standard deviations of each of the latent constructs are also presented in Table 4.

[Table 4 about here]

To test non-response bias, we compared the earlier 10 responses with the last 10 responses, the results show no significant differences, indicating that non-response bias is not an issue of concern. To test the possible common method bias of the cross-sectional survey instrument, we conducted a full collinearity assessment of the latent constructs (Kock, 2015). The criterion recommended by Kock (2015) is that the inter-construct VIFs (variance inflation factor) should be smaller than 5. Table 6 presents the results of VIF values, which show that the largest value is 3.724 and the remaining values are lower than 3.3, the lowest threshold. Thus, common method bias is not a major concern in the current study.

[Table 5 about here]

In the PLS structural model, we assessed the explanatory power of the proposed model and the size of path coefficients and the level of significance for each hypothesis. The variance explained ( $R^2$ ) is used for assessing the model's explanatory power. The  $R^2$  for consumer forgiveness is 0.629, while the  $R^2$  for repurchase intention is 0.728. According to Chin (1998), the values of  $R^2$  of 0.19, 0.33 and 0.67 are described as weak, moderate, and substantial respectively, as such the  $R^2$  values of our model can be considered as substantial.

To test the significance of path coefficients, we ran bootstrapping using 377 cases with 1000 subsamples. Table 6 presents the results of testing the main hypotheses with the social-demographics (age, gender, and education) and online community tenure as control variables. Hypothesis 1 assumes that brand super-recovery effort has a positive effect on consumer forgiveness. The size of the path coefficient is 0.545 and significant ( $p < 0.001$ ), indicating that H1 is supported.



[Table 6 about here]

Hypothesis 2 tests the relationship between brand super-recovery effort and repurchase intention, and the results show that its path coefficient is 0.103 and significant ( $p < 0.05$ ), thus H2 is supported, although the effect is rather weak.

Hypothesis 3 assumes that OBCE has a positive effect on consumer forgiveness. This is supported ( $\beta = 0.305$ ,  $p < 0.001$ ). Hypothesis 4 states that OBCE has a positive effect on repurchase intention. The results indicate that this hypothesis is supported ( $\beta = 0.223$ ,  $p < 0.001$ ). Hypothesis 5 states that consumer forgiveness has a positive effect on repurchase intention. The results support this hypothesis ( $\beta = 0.556$ ,  $p < 0.001$ ).

Among the control variables, only one shows a significant effect: there is a significant difference between males and females in terms of repurchase intention ( $\beta = -0.138$ ,  $p < 0.001$ ), where males tend to have higher purchase intention than females.

The results of the mediation test are presented in Table 7, which shows that the indirect effects of both super-recovery effort and OBCE on repurchase intention through consumer forgiveness are significant, and their confidence intervals are higher than zero. Thus, H6 and H7 are supported.

[Table 7 about here]

It is worthwhile to test the possible moderation effects of OBCE on the main effects of super-recovery effort on consumer forgiveness and, subsequently, repurchase intention; in other words, it is possible that the effects of super-recovery effort on consumer forgiveness and repurchase intention are stronger for those who have high rather than low levels of OBCE. We created an interaction term of “super-recovery effort x OBCE” by standardizing indicator values before multiplication, and tested the effects on consumer forgiveness and repurchase intention respectively. However, the results show that the effects of the interaction

term are not significant ( $\beta_s = -0.023$  and  $0.019$  respectively,  $p_s > 0.1$ ). This suggests that the effect of super-recovery effort on consumer forgiveness (or repurchase intention) is not significantly stronger for high compared to low OBCE consumers. It seems that beyond its direct effect on consumer forgiveness and repurchase intention, OBCE neither enhances nor inhibits the impact of brand super-recovery effort on consumer forgiveness or purchase intention.

## **5. Discussion and conclusions**

The news of product scandals can spread very quickly and widely through social media and online brand communities due to negativity bias (Javornik et al., 2020; Schaefer & Schamari, 2016) Wen (Wen et al., 2020). Negative WOM attracts more attention and becomes diagnostic for consumer decision making than neutral and positive information cues (Filiari, Raguseo, et al., 2019). Thus, it is of vital importance not only to monitor but also to promptly address a product-harm crisis in online brand communities. The major aim of this study was to examine the role of OBCE at a time of product-harm crisis, which has been neglected in the extant marketing literature. This study focuses on Samsung's global crisis following news about Samsung Note 7 smartphone's battery explosion. The results reveal that OBCE has a direct effect on consumer forgiveness and repurchase intention and, in addition, it also has an indirect effect on repurchase intention through the mediation of consumer forgiveness. In contrast, the brand's super-recovery effort has no significant direct effect on repurchase intention, and it has only an indirect effect through consumer forgiveness. Below, we discuss the theoretical and practical implications of this study.

### *5.1. Theoretical implications*

This study makes three major contributions to the academic literature. First, the study extends the customer engagement theory (Pansari & Kumar, 2017) to examine the

management of product-harm crises. Specifically, it extends the burgeoning research on the role of OBCE (e.g. Brodie et al., 2013; Relling et al., 2016; Wu et al., 2017) in contributing to Samsung's effective recovery from its Galaxy Note 7 product-harm crisis (Claeys & Cauberghe, 2012; Siomkos & Shrivastava, 1993).

The study's results show that OBCE is essential in fostering consumer forgiveness and driving repurchase intention, an important indicator of customers' loyalty, during a product-harm crisis. In other words, customer brand engagement in the digital environment may effectively serve as a buffer to mitigate the negativity of product crisis (Ahluwalia, Unnava, & Burnkrant, 2001; Tax et al., 1998). The results support the findings of research on service failure showing that strong self-neutral relationships facilitate forgiveness and temper customers' reactions to service failure, thereby reducing the disrupting effect of the failure in fictitious service failure settings (Wolter et al., 2019). The influence of OBCE on repurchase intention is even greater than that of the brand's super-recovery effort, which does not show to have a direct effect on repurchase intention. This study highlights the importance of brand management in digital environments as stated in earlier studies (Bazi et al., 2020; Bowden, 2009; Brodie et al., 2013; Gensler et al., 2013; McAlexander et al., 2002; So et al., 2016; Wirtz et al., 2013; Zheng et al., 2015) and stresses that the outcomes of brand efforts in engaging customers in online communities go beyond direct measurable outcomes (i.e., sales, purchase intention, and loyalty) to include consumer forgiveness. It shows that consumers who are engaged in online brand communities are less affected by the negative effect of product-harm crises and will continue buying the products of the company despite the potential risks. The study's findings also link with previous studies that show that brand trust, reputation, loyalty, and familiarity form an important buffer against product-harm crises (Cleeren, Dekimpe, & Helsen, 2008; Siomkos & Kurzbard, 1994; Vassilikopoulou, Lepetsos, & Siomkos, 2018).

Second, we incorporated OBCE into a conceptual model with the construct of brand super-recovery effort to identify their differential influences. The study's findings show that a brand's super-recovery effort response strategy has a positive and significant effect on consumer forgiveness, which supports the findings of previous studies in the context of service failure where recovery strategies (e.g., apology, voice) positively influence consumer forgiveness (Casidy & Shin, 2015; Harrison-Walker, 2019; Tsarenko & Tojib, 2015). However, the findings also reveal that brand super-recovery effort has a very weak direct effect on consumer repurchase intention; its effect on repurchase intention is largely indirect, through consumer forgiveness. This result is in contrast to our earlier understanding of the direct effect of super-recovery effort, that is, if a brand works hard enough to resolve the crisis, consumers will continue patronage of the brand (Grégoire et al., 2015; Vassilikopoulou et al., 2009). This new finding enhances the significance of the current study's contribution, as the large direct effect revealed in earlier studies is possibly due to the fact that OBCE and forgiveness were not included as covariates in their models.

Third, this study reveals the crucial role of consumer forgiveness in connecting OBCE with consumer repurchase intention and uncovers the mechanism of consumer reaction to a brand's recovery strategy during a product-harm crisis, thus extending the central construct of forgiveness recently highlighted in the service recovery literature (Harrison-Walker, 2019). Specifically, consumer forgiveness fully mediates the effect of brand super-recovery effort on repurchase intention. Consistent with ERM (Fehr et al., 2010; McCullough, 2000; Worthington, 2013), our results suggest that brand super-recovery effort triggers the positive change of emotions in consumers to displace their negative reaction towards the brand's product-harm crisis and, consequently, consumers forgive the brand and decide to commit to purchasing the brand in the future. In other words, to achieve the desired results of recovery,

the brand needs to earn consumer forgiveness first. Without forgiveness, a consumer is unlikely to remain loyal to the brand despite the brand's super-recovery effort.

In addition, consumer forgiveness partially mediates the effect of OBCE on repurchase intention. The finding further supports the argument that earning consumer forgiveness is crucial in crisis management (Chung & Beverland, 2006; Xie & Peng, 2009). Consumer forgiveness directly leads to repurchase intention, supporting an earlier study by Noth et al. (2015), and the argument that consumer forgiveness minimizes negative feelings (Chung & Beverland, 2006) and rehabilitates the brand-consumer relationship (Aaker et al., 2004). The result provides evidence to support the idea that consumers may forgive a non-personal entity such as a brand or organization, thanks to its reparative actions (DiFonzo et al., 2018). It lends support to the notion that forgiveness plays a critical role in a brand's recovery following product crisis or service failure (Harrison-Walker, 2019).

Finally, this study does not find evidence to support the moderation effect of OBCE on the effects of super-recovery effort on consumer forgiveness/repurchase intention. In other words, the effects of super-recovery efforts do not depend on the level of OBCE. Previous studies have examined the drivers of OBCE (Dessart et al., 2015; Simon & Tossan, 2018; Wirtz et al., 2013) and its consequences (Bowden, 2009; Brodie et al., 2013; Harrigan et al., 2018; Hollebeek et al., 2014; McAlexander et al., 2002; So et al., 2016; Zhang et al., 2015; Zheng et al., 2015), but rarely tested its moderation effect. However, the moderation effect of similar constructs, such as consumer brand commitment on the acceptance of negative brand publicity, has received empirical support (Ahluwalia, Burnkrant, & Unnava, 2000; Chang & Wu, 2014; Funk & Pritchard, 2006). For example, Ahluwalia et al. (2000) indicate that brand commitment moderates the effects of negative information. Chang and Wu (2014) also show that brand commitment can weaken the impact of message characteristics on the credibility of the negative information.

## *5.2. Practical implications*

The growing importance of developing markets in the world economy suggests that understanding the practice of marketing in emerging markets is critical to firm success (Sridhar & Fang, 2019; Vieira et al., 2019). The findings of this study have important implications for marketing managers, especially for marketing managers operating in emerging markets like China (Balmer et al., 2020; Filieri, Lin, et al., 2019; Yuan et al., 2016). Online brand communities have changed the way consumers complain by providing a space for them to easily and quickly voice their discontent towards the brand's product and service failure. Negative WOM spreads quickly in these environments and can be detrimental to brands' sales. Thus brand managers need to devote more resources to foster consumer engagement with the online brand community as part of their super-recovery efforts, and continue to do so in normal times. This will not only generate positive word-of-mouth, increase loyal customer base and, ultimately, sales growth (e.g. Brodie et al., 2013; Islam et al., 2018), but also serve as a buffer in times of crisis. Moreover, consumers who are highly engaged with the brand's online community will continue to purchase the brand despite the negativity of the product-harm crisis.

Online brand communities give consumers the possibility to voice their disappointment with a brand; they also give brands the possibility to explain the reasons for the crisis in a rational and logical way. This way, online brand communities give companies the possibility to be transparent about scandals, express apologies, and update consumers about the development of a crisis. Consumers appreciate when a company is honest and admits its faults. This is what Samsung did. Moreover, in the Samsung Galaxy Note 7 crisis, consumers could constantly monitor in the online brand community what the company was doing to reduce potential harm to their customers. These actions and the transparency shown by the company may have affected consumers' attitudes towards it. Additionally, Samsung is one of

the most important and credible worldwide players in the electronics market, therefore, the equity of the brand is another important element to consider when analyzing this case study. It is possible that consumers are more willing to forgive a global, well-established brand than a small brand, hence, the negative consequences of a worldwide product crisis like the Samsung Galaxy Note 7, can be reduced.

Furthermore, managers should attempt to win consumer forgiveness, rather than focus on future sales directly, for example, by offering discounts or sales promotions. If consumers forgive the brand, they will continue buying the brand at the normal price, thus sales will recover eventually. Consumer forgiveness can be earned not only by making an exerted effort to recover from crisis but, more importantly, it can be pre-earned by fostering consumer OBCE in daily operations even before there is a crisis. Digital environments require companies to act quickly and transparently. Therefore, we suggest companies should adopt an open and transparent communication strategy during a crisis if they want to quickly restore trust and be forgiven by their customers. Our study has implications for the measurement of what Pansari and Kumar (2017) call the ‘non-transactional behavior contributions’ of online consumer engagement with brands. Thus, the role of OBCE in mitigating the negative effects of a product-harm crisis is a potential new metric to measure the non-visible impact of online brand engagement.

### *5.3. Limitations and further research*

This study focuses on an emblematic case of product-harm crisis and examines members of a Samsung online community during a single product-harm crisis event (i.e., the Samsung Galaxy Note 7 battery defect). Although the data come from a real and popular case, generalizability of the findings is limited. Future research could examine the model in other product contexts. For instance, future research could focus on crises that have produced more

serious consequences for consumers. This study is limited to one crisis response type, brand super-effort; future studies could include a variety of different responses such as denial, excuse and justification, compensation and apology (Lee & Song, 2010). This study reveals the central role of consumer forgiveness in the context of a product crisis, thus, future research could extend constructs in the service recovery literature into models examining a product-harm crisis. Furthermore, the deontic justice theory, which is the dominant theoretical framework applied to service recovery (Tax & Brown, 2000), could be adopted in future studies on product harm crisis. Accordingly, future research could measure whether procedural, interactional, and distributive justice (e.g. Blodgett, Hill, & Tax, 1997) play a role in the relationship between super-recovery effort and repurchase intention. Finally, additional studies are necessary for a greater understanding of the potential interaction of OBCE and brand recovery measures on the positive outcomes of brand recovery strategies, such as consumer forgiveness and repurchase intention.

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## Tables and Figures

Table 1. Sample profile (n=377)

	Frequency	Percentage
<b>Age</b>		
18-24	246	65.3
25-30	81	21.5
31-35	15	4.0
36-40	16	4.2
40 and above	19	5.0
<b>Gender</b>		
Male	218	57.8
Female	159	42.2
<b>Education</b>		
Up to junior high school	13	3.4
Senior high school	66	17.5
College	251	66.6
University first degree	47	12.5
Masters and above	13	3.4
<b>Tenure of Samsung online community</b>		
Less than 1 year	152	40.3
Between 1 and 2 years	53	14.1
Between 2 and 3 years	58	15.4
3 years and more	114	30.2

Table 2. Psychometric properties for first-order constructs

Construct	Item	Loading	$\alpha$	CR	AVE
Super-recovery Effort (Siomkos, 1999; Souiden & Pons, 2009)			0.885	0.921	0.744
SR1	Samsung has acted responsibly and honestly.	0.802			
SR2	Samsung has shown it really cared for its customers.	0.876			
SR3	Samsung has taken some extra actions for consumers despite that they are not required by law.	0.885			
SR4	Samsung has made extraordinary efforts to resolve the issue.	0.885			
OBCE 1: Conscious participation (Vivek, 2009; Zhang et al., 2017)			0.875	0.923	0.800
CP1	Anything related to Samsung Community grabs my attention.	0.872			
CP2	I like to learn more about Samsung Community.	0.923			
CP3	I pay a lot of attention to anything about Samsung Community.	0.888			
OBCE 2: Enthusiasm (Vivek, 2009; Zhang et al., 2017)			0.929	0.949	0.824
EM1	I spend a lot of my discretionary time on Samsung Community.	0.865			
EM2	I am heavily into Samsung Community.	0.924			
EM3	I am passionate about Samsung Community.	0.934			
EM4	My days would not be the same without Samsung Community.	0.908			
OBCE 3: Social interaction (Vivek, 2009; Zhang et al., 2017)			0.872	0.921	0.796
SI1	I love participating in Samsung Community with my friends.	0.849			
SI2	I enjoy taking part in Samsung Community more when I am with others.	0.818			
SI3	Participation in Samsung Community is more fun when other people around me do it too.	0.790			
Consumer Forgiveness (Xie & Peng, 2009)			0.895	0.934	0.826
CF1	Given Samsung's response, I would give it a chance to correct its mistakes.	0.878			
CF2	I would forgive it.	0.936			
CF3	I would think favorably of the brand.	0.911			
Repurchase Intention (Johnson et al., 2006).			0.921	0.950	0.863
RPI1	My next phone will still be Samsung.	0.951			
RPI2	I will buy a Samsung next time I need new mobile phone.	0.946			
RPI3	I will still buy a Samsung when I need a replacement of my current one.	0.889			

Note:  $\alpha$  = Cronbach's Alpha; CR=composite reliability; AVE=Average variance extracted.

Table 3. Second-order construct: OBCE

	Loading	$\alpha$	CR	AVE
		0.953	0.96	0.706
Conscious participation	0.911			
Enthusiasm	0.964			
Social interaction	0.918			

Note:  $\alpha$  = Cronbach's Alpha; CR=composite reliability; AVE=Average variance extracted.



Table 4. Means, standard deviations, correlations and square root of the AVE for first-order constructs.

	Means	SD	CF	CP	EM	PI	SI	SR
Consumer Forgiveness (CF)	4.443	1.611	<b>0.909</b>					
Conscious Participation (CP)	3.790	1.604	0.588	<b>0.894</b>				
Enthusiasm (EM)	3.454	1.734	0.614	0.824	<b>0.908</b>			
Repurchase Intention (RPI)	4.170	1.847	0.810	0.636	0.664	<b>0.929</b>		
Social Interaction (SI)	3.553	1.703	0.605	0.746	0.839	0.620	<b>0.892</b>	
Super-recovery Effort (SR)	3.997	1.642	0.733	0.471	0.525	0.648	0.532	<b>0.863</b>

Note: SD=standard deviation

Table 5. Common method variance test: inter-construct collinearity (VIFs)

	Consumer forgiveness	OBCE	Repurchase intention	Super-recovery effort
Consumer forgiveness	--	3.724	2.651	2.991
OBCE	1.962	--	1.755	1.983
Repurchase intention	2.373	2.983	--	3.330
Super-recovery effort	1.783	2.197	2.199	--

Table 6. Structural model results

	Consumer forgiveness (R <sup>2</sup> = 0.629)			Repurchase intention (R <sup>2</sup> = 0.728)		
		$\beta$	<i>t</i>		$\beta$	<i>t</i>
Super-recovery effort	H1	0.545	13.139***	H2	0.103	1.983*
OBCE	H3	0.305	6.328***	H4	0.223	5.115***
Consumer forgiveness				H5	0.556	9.319***
<i>Controls</i>						
Age		-0.023	0.666		0.017	0.603
Gender		-0.041	1.202		-0.138	4.688***
Education		0.001	0.027		0.002	0.060
Community tenure		0.073	1.784		0.041	1.308

Notes: \*p<0.05; \*\*\*p<0.001

Table 7. Mediation test results

		Indirect effect	<i>t</i>	Bootstrapped Confidence Interval	
				95% LL	95% LL
H6	Super-recovery effort -> Consumer forgiveness -> Repurchase intention	0.303	7.330***	0.225	0.387
H7	OBCE -> Consumer forgiveness -> Repurchase intention	0.169	5.220***	0.110	0.235

Note: \*\*\* $p < 0.001$ .

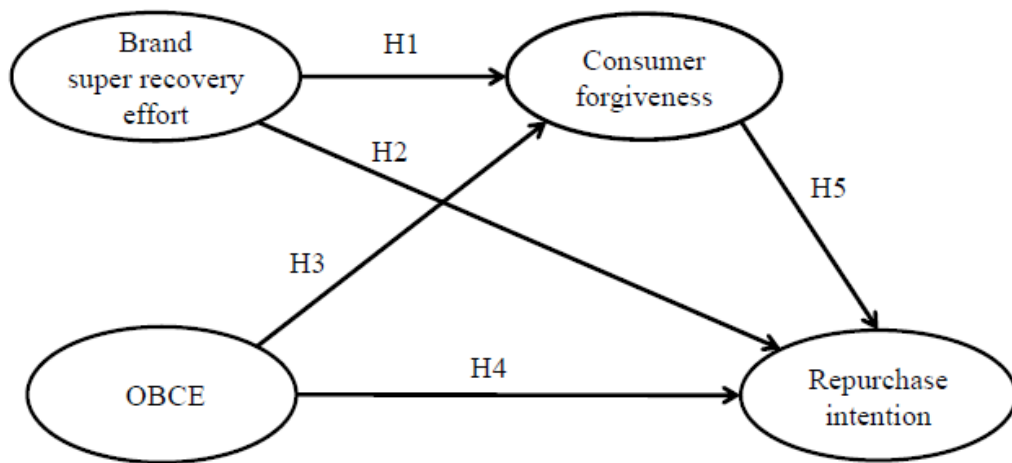


Figure 1. Conceptual model