Determinants of negative word-of-mouth communication using social networking sites

M.S. Balaji [a], Kok Wei Khong [b], Alain Yee Loong Chong [a,*]

[a] Nottingham University Business School China, University of Nottingham, Ningbo Campus, Zhejiang, PR China
[b] Nottingham University Business School Malaysia, University of Nottingham, Selangor, Malaysia

ARTICLE INFO

ABSTRACT

At present, as customers often turn to social media platforms to share their service experience, this study aims to examine the determinants of their negative word-of-mouth communication using social networking sites following a service failure. Although many studies have examined the electronic word-of-mouth communication, studies on negative word-of-mouth communication using social media platforms remain sparse. Building on the cognitive dissonance theory and social support theory, this study proposes and empirically examines the role of contextual, individual and social networking factors in determining the customers' intentions to engage in negative word-of-mouth communication using social networking sites. Self-reported retrospective survey was used to obtain responses from 206 online shoppers. The results of the structural equation modelling showed that feeling of injustice, firm attribution, firm image, face concern, reappraisal, use intensity and tie strength are key antecedents of negative word-of-mouth communication. The findings provide valuable insights for managers in developing effective Webcare interventions for negative word-of-mouth communication on social networking sites.

1. Introduction

The advent of social media has dramatically changed the way customers transmit word-of-mouth (WOM) information. Previously, customers shared experiences in person with a limited number of social contacts; however, at present, social networking sites (SNS) allow them to share their experiences with more people [57]. As such, WOM communication influences the product and service choices of network members [36]. In particular, negative word-of-mouth (NWOM) communication can adversely affect the attitudes and purchasing intentions of customers and a firm's brand image. It can lead to undesirable long-term outcomes, such as brand dilution, volatility in stock returns and the overall erosion of firm value [10,82]. Moreover, competitors might exploit NWOM communication to damage a firm's reputation. Furthermore, when customer complaints go viral (i.e. shared on a massive scale on SNS), they can cause a public relations crisis for a firm [36,27]. As most customers share positive experiences on SNS [95], any NWOM transmitted on SNS can play a decisive role in customers' choice. As expected, practitioners and academicians have sought to understand what drives NWOM on SNS [36,24].

SNS have become a cultural phenomenon and predominant mode of communication among young adults. These platforms facilitate interactions, foster collaboration and promote community formation among users [90]. More than 2 billion people, or approximately 29% of the world's population, use SNS [47]. Of these, Facebook, Google+ and Twitter have 936, 300 and 302 million active users, respectively [1]. More than half of these users have submitted product reviews or rated products on SNS [70]. Compared with the product information provided by marketers, customers consider user reviews to be less biased, more credible and authentic and thus often rely on them when making purchasing decisions [27]. A recent survey has indicated that 77% of online shoppers rely on user reviews to make purchasing decisions [65]. Baldacci [8] reported that >1 million people read product or service reviews every week on an SNS platform such as Twitter, and >80% of these reviews are negative or critical. Considering the risks associated with negative reviews on a firm's sales and reputation, a clear understanding of the factors that motivate NWOM communication on SNS is critical for service managers to develop appropriate responses.

* Corresponding author at: Nottingham University Business School China, University of Nottingham, Ningbo Campus, 199 Taikang East Road, Zhejiang 315100, PR China. Tel.: +86 13957812950.
E-mail address: alain.chong@nottingham.edu.cn (A.Y.L. Chong).

This study aims to examine the determinants of NWOM on SNS. In response to a recent call for research [22,31,66,89], we draw on cognitive dissonance theory [33] and social support theory [25] to understand the determinants of NWOM communication on SNS. The marketing literature emphasizes the role of contextual factors in NWOM communication [73,91]. Other studies suggest that individual factors and social networking factors might have a similarly important role in WOM communication on social media (sWOM) [3,12,19,75]. Thus, we propose and empirically examine an integrated model of NWOM communication using SNS. In particular, we examine the antecedent role of contextual, individual and social networking factors in determining NWOM communication on SNS following a service failure. We draw information from the system and marketing literature to examine the effects of perceived injustice, firm attribution, firm image, face concern, emotion regulation, SNS use intensity and tie strength on consumers' intentions to engage in NWOM communication using SNS.

This study makes two important contributions to the information systems literature. First, the majority of related studies focus on positive WOM [56,63]. This study extends this fact by examining the determinants of NWOM using SNS. As many customers use social media platforms to share their negative service experiences [24], an examination of the determinants of NWOM communication on SNS will aid managers in better understanding the customer's decision-making process. Moreover, this study addresses the recent call for research on sWOM. Second, this study proposes that different factors motivate customers to transmit NWOM information on SNS. Although previous studies have shown the influential role of situational factors in determining NWOM behaviour, we argue that they are limited in their ability to fully explain NWOM behaviour on social media. This is because situational factors can only explain the conditional nature of the relationship and not the static or long-term characteristics that may determine the NWOM behaviour. Consequently, this study considers the influence of contextual, individual and social networking factors on customer intentions to transmit NWOM information on SNS. By considering different factors, this study improves our understanding of NWOM communication.

Section 2 presents the theoretical development process and hypotheses based on the cognitive dissonance theory and social support theory. The subsequent sections discuss the methodology and analyses and then conclude with the implications of the results.

2. Theoretical background

2.1. NWOM communication

An NWOM communication is defined as a customer's effort to share negative or unfavourable feedback or opinions with friends, family and others. The dissemination of NWOM on SNS constitutes a new form of electronic WOM communication (eWOM). Transmitting NWOM messages is a social activity, as customers share their opinions and experiences with other network members through comments and discussions. When a customer transmits NWOM information on SNS, he/she is likely to consider the potential benefits and costs first. Prior research suggests that transmitting NWOM information on SNS can place customers under the scrutiny and judgement of other network members, who form impressions based on the expressed opinions or experiences [31]. Although sWOM is similar to face-to-face WOM and eWOM, it differs significantly in terms of anonymity, social risk, confidentiality and geographical and spatial freedom. In face-to-face WOM communication, people are in close contact with others and draw on social and contextual cues, such as non-verbal communication, voice intonation and posture. [82]. By contrast, sWOM usually involves non-simultaneous conversations with a network of people (see Table 1 for the differences between WOM, eWOM and sWOM communications).

Cheung and Lee [20] suggested that the socially extensive SNS environment provides network members with more opportunities to share their product or service experiences. Moreover, by associating with products or services through their reviews, customers use as a tool for self-expression and enhancing their ability to provide advice and recommendations to network members. These factors help develop sWOM [36]. As SNS have few geographical and temporal constraints, NWOM communication has the potential to reach more people with a shared interest in the product or service. Furthermore, as firms have limited control over customer interactions on social media, NWOM can quickly spread and adversely affect a firm's reputation and future business. Therefore, examination of the determinants of NWOM communication on SNS is essential for marketers to develop an effective Webcare intervention.

Prior studies suggest that NWOM can adversely affect customer and public perceptions of a product and firm [10,82]. Despite the significance of NWOM behaviour on SNS, there has been a limited focus on understanding its determinants. There have been few studies addressing the antecedents of NWOM communication in the context of traditional or online channels [41,21]. In the context of social media platforms, some qualitative studies have addressed the response of firms to NWOM communication [36,24,80]; however, little systematic research exists on the drivers of NWOM communications beyond customer dissatisfaction with service encounters. Table 2 presents an overview of the research on NWOM through online platforms.

As seen in Table 2, most studies have addressed NWOM communications from the receiver's perspective [5,94,92], with only few addressing the generation of NWOM communications. This highlights the need to examine NWOM communication from

Table 1
Comparison between WOM, eWOM and sWOM.

	WOM	eWOM	sWOM
Mode	Usually oral or verbal	Various online forms	Social media platforms
	One-to-one communication	One-to-one and one-to-many communication	One-to-one and one-to-many communication
	Simultaneous communication	Simultaneous and non-simultaneous communication	Mostly non-simultaneous communication
Receivers	Individuals	Individuals, small groups and public	Individuals, social networks and public
Senders	Identifiable and accountable	Identifiable or unidentifiable	Identifiable and accountable
Scope	Geographical and temporal constraints	Limited geographical and temporal constraints	Limited geographical and temporal constraints
Connection between the receivers and senders	Strong ties	Strong or weak ties	Combination of strong and weak ties
Risk associated with WOM	Low social risk	Low social risk	Higher social risk
Speed of diffusion	Slow	Fast	Fast

Table 2
Summary of the select studies on word-of-mouth communication.

Author(s)	Context	Method	Key findings
Ba and Pavlou [5]	Online auction	393 participants Regression analysis	Negative ratings were found to have a higher negative effect on trust in seller than positive ratings.
Bailey [6]	Corporate complaint websites	158 participants Mann–Whitney U tests	Attitude towards complaining was found to have a significant impact on decision to not shop with the company that was the target of negative reviews
Ward and Ostrom [86]	Consumer-constructed complaint websites	40 protest sites Content analysis	Protest sites were created to spread the NWOM against a firm that has mistreated them. Further, they constructed their NWOM using recurrent, specific and rhetorical tactics such as injustice, identity framing and agency framing
Sen and Lerman [72]	Book and presentation programme – Review sites	132 participants Analysis of variance	Consumers attribute the negative reviews about utilitarian product to external motivations and find them more useful than those for hedonic products.
Lee et al. [51]	Online consumer reviews	248 participants Analysis of variance	The proportion and quality of negative online consumer reviews affect product attitude.
Vermeulen and Seegers [83]	Travel – Website review	168 participants Repeated measures ANOVA	Negative reviews were found to yield negative attitude change for a lesser known hotel. However, no relationship was observed between negative reviews and hotel consideration.
Zhang et al. [94]	Software programmes – Amazon.com	27,985 product reviews Binary logit model	Negative online reviews were perceived as more persuasive than positive reviews for products associated with prevention consumption goals.
Bambauer-Sachse and Mangold [10]	Computer notebook and digital camera – Opinion platforms	216 participants Analysis of variance	Negative online reviews have detrimental effect on consumer-based brand equity leading to significant brand dilution. This effect was observed independent of prior product knowledge and person-specific variables.
Pan and Chiou [64]	Discussion board	284 participants Structural equation modelling	For credence products, online NWOM posted by people with strong ties are considered as more trustworthy. On the contrary, for experience products, either online positive or negative, WOM posted by someone with close relationship is considered as trustworthy.
Cheung and Thadani [21]	Online consumer reviews	Conceptual paper	A systematic review of electronic WOM was carried out to identify key factors that affect the influence of electronic negative and positive WOM in consumer behaviour.
Van Noort and Willemsen [80]	Blogs	163 participants Analysis of variance	The results show that customers evaluated a brand more favourably when the firm responds reactively and proactively to online NWOM than when they do not.
Bambauer-Sachse and Mangold [11]	Online product reviews	1280 participants Regression analysis	The effect of negative product reviews on product evaluation was weaker when consumers had knowledge that reviews can be manipulated and when provided less credible source.
Verhagen et al. [82]	Telecom providers Consumer discussion forums	95 participants Structural equation modelling	Results showed that positive and negative effects together explained about 47% of the variance in negative online word-of-mouth. Further, the effect of NWOM on switching and re-patronage was moderated by consumer's desire to help other community members.
Chang and Wu [17]	Coffee store Blog website	504 participants Analysis of variance	Perceived information on credibility positively affects the adoption of negative online word-of-mouth.
Chang et al. [18]	Online shopping	282 participants Analysis of variance and Structural equation modelling	Accommodation and defensive response strategies and failure severity affect customer attribution, and this has a negative impact on firm reputation and positive impact on negative word-of-mouth.
Yoo et al. [92]	Online Shopping	313 participants Partial least squares method	Interactivity of electronic WOM system determined by reciprocity, responsiveness, nonverbal information and speed of response influences the decision support satisfaction and loyalty towards the website.

the sender's perspective to advance our knowledge in this area, and, in particular, to understand the determinants of NWOM communications on SNS. These few studies have largely investigated the role of contextual factors [86]. Thus, there is a clear need to consider other factors when explaining NWOM communications. Furthermore, previous studies have examined the NWOM communications in online opinion platforms and blogs [11,83]. Given the increasing popularity of social media, it would be of interest to examine NWOM communications on SNS. Moreover, as WOM communications can reach a large number of network members on SNS [89], examining the determinants of NWOM communication using SNS may aid managers in developing effective Webcare strategies. By addressing the aforementioned limitations, this study uses cognitive dissonance and social support theories as the theoretical basis for understanding the role of contextual, individual and social networking determinants of NWOM on SNS following a service failure.

2.2. Cognitive dissonance theory

The theory of cognitive dissonance developed by Festinger [33] has been widely used in the literature to justify the decisions made by customers following a negative experience. The basis of this theory is the dissonance or imbalance in the customer's cognitive system caused by a discrepancy between product expectations and performance. Customers reduce this cognitive dissonance through attitude change, self-affirmation, trivializing the importance of cognition and disseminating WOM [63]. While this theory suggests that individuals can experience dissonance after obtaining new information or post decision, this study considers the later form of dissonance, as the central construct is NWOM communications that customers engage in following a service failure encounter. When product or service performance falls short of the expectations, customers experience disconfirmation and dissonance [33]. In such situations, they may engage in NWOM communications to reduce their cognitive dissonance. Moreover, communicating their negative

Fig. 1. Conceptual framework of the study.

customers to obtain timely information, seek advice and obtain problem-solving assistance. They can also seek solace and empathy for the injustice and promote collective action against the service provider. As sharing negative experiences on SNS provides customers with cognitive clarity and projects their self-image, we propose the following hypothesis:

H1. The feeling of injustice has a positive effect on NWOM communications using SNS.

3.1.2. Firm attribution

Firm attribution refers to the extent a customer believes that the firm's effort or behaviour is responsible for the failed service encounter. From the cognitive dissonance perspective, firm attribution increases the expectation that the service failure will be fairly resolved by the firm. Subsequently, they will experience lower cognitive discomfort or dissonance and less inclination towards NWOM communications [91]. Zhu et al. [97] suggest that the assignment of blame on the firm intensifies the belief of customers that it is the firm's responsibility to remedy or rectify the problem, which increases the expectations of a favourable service outcome. In such cases, customers are less likely to experience negative emotions and more likely to engage in complaint behaviour to the firm while eschewing NWOM communication [69]. Kim et al. [49] found that when customers attributed the locus of responsibility for a failed encounter to the firm, they were more likely to perceive a higher value in complaining directly to the firm. Thus, we propose that customers are less likely to engage in NWOM communications using SNS when the firm is perceived as responsible for the negative experience and subsequently more open to providing timely and fair redressal. Thus, the attribution of service failure to the firm results in fewer NWOM communication instances using SNS. Therefore, another hypothesis is proposed as follows:

H2. Firm attribution has a negative effect on NWOM communications using SNS.

3.1.3. Firm image

Perceived firm image (firm reputation) reflects an overall evaluation of the service provider based on both direct and indirect experiences. It is argued that global firm evaluations often dominate customer evaluations of service encounters as they can overcome or suppress the negative emotions of a service failure encounter. For example, Hess [42] showed that an excellent reputation provides a protective layer that shields a firm from the negative consequences of service failure. Similarly, Liao and Cheng [55] demonstrated that high equity brands suffer less from the adverse effects of self-service innovation failures. The authors reported that customers exhibit a larger zone of tolerance for failures in high-equity brands, and this leads to lower dissatisfaction. More recently, Sengupta et al. [73] have shown that firm image provides cues for the customers that the service failure is an aberration and this may result in positive behavioural intentions towards the service provider. Thus, it can be argued that for service providers with favourable global evaluations, customers might experience lower cognitive dissonance or discomfort. This may lead to reduced intentions to engage in NWOM communications using SNS following a negative service experience. Therefore, the following hypothesis is proposed:

H3. Firm image has a negative effect on NWOM communications using SNS.

3.2. Individual determinants

3.2.1. Face concern

Face concern or consciousness refers to the projection of self-image or self-worth to others in a relational context. The concept of face is not new and is widely discussed in the social psychology literature. For instance, Sun [76] found that face consciousness is positively related to perceived risk. It was argued that individuals with strong face concern hold high social needs and pay more attention to the extrinsic cues of a product. Thus, they are likely to pay more and choose a highly reputed brand to prevent loss of face with other people [52]. On the contrary, consumers with strong face concern are likely to use predominant facework strategies such as defending, expressing emotions and aggressive behaviour. These strategies help them present a reliable image to others and communicate their desire to win a conflict. While the role of the face in the information systems literature is limited, recent studies have revealed that face concern relates to online consumption behaviours [40]. From the cognitive dissonance perspective, it can be argued that high face concern individuals experience a higher cognitive dissonance from the threat of loss of face [76], and thus use negative sWOM as a face-maintaining strategy. Therefore, it is proposed that:

H4. Face concern has a positive effect on NWOM communications using SNS.

3.2.2. Emotion regulation

Gross [37], p. 282 defines emotion regulation as the 'processes by which we influence which emotions we have, when we have them and how we experience and express them'. While it is generally agreed that emotions emanate when something important is at risk, recently it is has been appreciated that individuals regulate their emotions so that they can better serve their goals. This process by which individuals control and modify their emotions to attain desired states is referred to as emotion

regulation [37]. At the broadest level, people can regulate their emotions by either changing the appraisal of the external stimulus or altering the internal emotional cues that trigger the behavioural responses [38]. The former refers to reappraisal, and is an antecedent-focused regulation strategy that occurs before responses are generated. The latter is called suppression emotion regulation and occurs after responses are generated [37]. Gross and John [38] indicated that while suppression involves conscious restraint of the emotional expression, reappraisal encompasses re-evaluating the stimulus by changing thoughts or behaviours.

Previous studies show that suppression is related to depression, anxiety and reduced positive affect. It decreases the expression of emotions, but does not influence the subjective feeling of the emotions. By contrast, reappraisal decreases both expression and experience of emotions [30]. Moreover, it is associated with increased life satisfaction, less negative effect, less depression and reduced anxiety [61]. Thus, individuals who use reappraisal emotion regulation are less likely to share their emotional experiences with others as they experience lower negative feelings following the reassessment of the stimuli. In other words, reappraisal reduces the cognitive dissonance by reinterpreting the service failure encounter. However, individuals using suppression emotion regulation may openly share their emotional experiences with others, as they feel apprehensive and stressed about their experience. In this study, we argue that emotion regulation differences affect NWOM communications on SNS. It is posited that when customers experience a service failure, they would evaluate the appropriateness of negative emotions based on the situation. When suppression is used, customers may regulate or suppress their negative emotions to the point that they do not express dissatisfaction to the service provider. However, as the emotions are not totally eliminated, they may express their negative emotions indirectly to others in the form of retaliatory behaviours such as NWOM through SNS. Therefore, it is proposed that:

H5a. Suppression emotion regulation has a positive effect on NWOM communications using SNS.

H5b. Reappraisal emotion regulation has a negative effect on NWOM communications using SNS.

3.3. Social network determinants

3.3.1. SNS use intensity

SNS use intensity refers to the extent to which SNS are integrated into the daily routines of a customer [14]. It seems logical that those who actively use SNS are familiar with and skilled at using it effectively for spreading NWOM communication. According to Zajonc [93], continuous exposure tends to increase an individual's attitude or attraction towards a specific medium. The mere exposure effect resulting from the frequent use may increase the overall use of SNS. For example, Sun and Zhang [77] demonstrated that the use of the Internet is positively related to online opinion leadership and online opinion seeking. The study findings revealed that individuals with high levels of Internet use exhibited an increased desire to share information about products or services with others. Cha [15] found that experience with SNS is positively associated with Internet purchase behaviour. Consequently, SNS use intensity is considered as a potential determinant of NWOM communications on SNS. The social support theory predicts that the size and structure of a social network determines the intention to seek or provide social support within the networked community [78]. Thus, it is plausible that customers who actively use SNS may be more likely to engage in NWOM communications to express their discontent following a service failure. Therefore, the following hypothesis is proposed:

H6. SNS use intensity has a positive effect on NWOM communications using SNS.

3.3.2. Tie strength

In social support theory, tie strength[1] is related to the closeness of an individual's relationship with other members on the SNS. The tie strength among the members on SNS can vary from strong to weak depending upon the nature of exchanges. Strong ties are characterised by common norms, open and frequent communication, trust and emotional closeness, expressive and instrumental exchanges, long-term reciprocity and maintenance of close relationships [22,96]. Extant studies on social networks have shown that tie strength affects information flow. For example, Brown and Reingen [13] demonstrated that information from strong tie sources is more likely to affect the receiver's decision-making process than those from weak tie sources. It was argued that the perceived credibility of the strong tie sources affects the referral behaviour during information seeking and WOM. In addition, individuals with strong ties spend more time talking about their present product or service experiences, as they know each other well. By contrast, weak ties tend to spend time on discussing older experiences to learn more about each other and to find common interests. Thus, strong tie individuals are more likely to engage in WOM communication than weak ties [96].

Pan and Chiou [64] illustrated that negative information is perceived as more trustworthy when posted by net pals with whom the receiver had stronger ties. It was argued that as an information seeker, strong ties act as a signal or cue for the credence of online information. On the basis of this, we propose that when customers experience service failure, customers with strong ties with other network members are more likely to engage in NWOM behaviour using SNS, as other members consider them as more credible. In addition, the positive feelings towards other members in strong tie relationships make customers use SNS for advising and helping others in their decision-making process. Therefore, it is proposed that:

H7. Tie strength has a positive effect on NWOM communications using SNS.

4. Study design and research method

4.1. Procedure

The study participants were actual online shopping customers with a recent negative experience. Two reasons motivated the choice of online shopping as the focus of this study. First, there are an increasing number of complaints by customers about service failures during online shopping [74]. Second, online shopping is characterised by low switching costs, and customers can easily switch online retailers when they experience a service failure [50]. Thus, it provides a suitable setting to examine customer responses to service failure experiences.

Study participants were asked to reflect on their most recent negative experience (in the past 3 months) with online shopping and fill a survey questionnaire. The retrospective self-report

---

[1] It is important to note that tie strength and trust are distinct constructs. While trust is defined narrowly as the expectation that the other party does not engage in an opportunistic behaviour [62], tie strength, on the contrary, is a much broader concept that describes the way, means and expressions of communication and motivations of communication between parties [22]. Tie strength derives from the intimacy, reciprocity and cohesiveness between the parties [35]. Because trust is an essential element of communication, it paves the way for collaborative dialogue between parties, which is likely to result in improved social ties and relational closeness between exchange partners.

approach was consistent with prior studies on service failure in the online context [60]. Moreover, this strategy avoids bias in the data collection process as it ensures that all participants are consistent in their reflection of the negative experience across the defined constructs used in this study.

The chain referral sampling method was used to select participants for this study. An initial set of seed respondents who met the study criteria (e.g. a recent negative experience in online shopping and an active user of SNS) was selected through SNS, and they were asked to recommend other potential participants. The process was repeated iteratively till the target sample size was reached. The chain referral sampling method reached qualified respondents through social connections and interpersonal relations. As multiple referrals can be made, this sampling method can quickly overcome the difficulties in the selection of participants [9]. Furthermore, a more representative sample can be selected through chain referral method.

The self-administered online questionnaire had three sections. The first section was designed to collect demographic information. The second section of the questionnaire focused on the respondents' recent service failure experience in the online shopping context. Open- and close-ended questions were used to obtain information on the recent negative online shopping experience. The final section of the questionnaire comprised 31 statements related to NWOM communication and its antecedents, and the respondents were asked to evaluate them based on their recent negative online shopping experience.

4.2. Measures

Existing scales operationalised on seven-point Likert scales ranging from 'strongly disagree' to 'strongly agree' or semantic differential scales were used. The FI was operationalised with three Likert scale items taken from Weun et al. [88]. Firm attribution was measured using two items adapted from Zhu et al. [97]. Perceived firm image had three indicators adopted from Veloutsou and Moutinho [81] to reflect the overall reputation of the service provider. Face concern was measured with six items reflecting the positive image of the self [84]. In order to measure the emotion regulation, an existing scale by Gross and John [38] was adopted. The suppression and reappraisal dimensions of emotion regulation were measured using six items that reflected the regulation of negative emotions relevant to this study. SNS use intensity was measured using six Likert scale items adopted from Valenzuela et al. [79]. Tie strength[2] was operationalised using four items taken from Wang et al. [85]. NWOM communication using SNS was measured using three semantic differential items modified from Wan [84].

4.3. Content validity

Before administration of the online questionnaire for data collection, the initial instrument was pretested with 30 online shoppers. The pretest participants provided feedback on wording, clarity, content and the structure of the survey instrument, based on which phrasing of some items was modified and minor changes were made to the questionnaire format. This improved the readability of the questions and helped to establish the content validity of the survey instrument. Furthering this aim, reliability and validity tests on the study constructs provided support for the questionnaire.

---

[2] It is important to note that this study collected subjective tie strength perceptions through the survey questionnaire. The respondents rated relationship strengths with network members on a four-item tie strength scale. This study did not collect objective tie strength information from participant profiles and their interaction records.

4.4. Sample

A total of 206 usable responses were obtained for the study. As a sample size of 200 is generally recommended for structural equation modelling (SEM [43]), our sample size was determined to be sufficient. Furthermore, this sample size is comparable to prior studies on WOM communication ([45]: sample size = 201; [59]: sample size = 199). In addition, before data collection, we used G*Power 3.0 [32] to compute the required sample size. The sample size of our hypothesised model with a medium effect size of $1 - \beta = 0.95$ and $\alpha = 0.05$ should be at least 89. Thus, 206 responses were sufficient for detecting a medium-sized effect.

Approximately 57% of the respondents were male and 43% were female. The majority of the respondents (62%) aged between 31 and 40 years. Approximately 83% of the respondents had pursued at least a graduate degree. While all respondents had membership in at least one SNS, the most popular social media platforms were Facebook (98%), Twitter (70%), Hangout (31%) and LinkedIn (18%). A majority of respondents (91%) indicated that they had read negative service-related messages on SNS, and more than half of the respondents (57%) reported posting a negative product or service opinion. A content analysis of the open-ended question performed by two of the authors revealed that delivery issues were the most common service failure experiences in online shopping (53%). Poor customer service (24%), payment problems (9%) and website issues (8%) were some of the other online service failures experienced by the respondents in this study.

4.5. Common method bias

As the data were collected through a self-reported questionnaire, common method bias (CMB) was a concern as it could bias the estimates of the relationships among the study constructs. Both procedural and statistical remedies, as recommended by Podsakoff et al. [67], were used to control CMB. Procedurally, the respondents' were assured of anonymity and that there were no right or wrong answers. Different response formats were used for the measurement of constructs. For instance, NWOM communication was measured using a semantic differential scale format, while others were measured using Likert-scale formats. Well-established measures were used to reduce ambiguity and the items were counterbalanced to control major effects.

The statistical remedies included Harman's single-factor test to assess the presence of CMB [67]. The results of the exploratory factor analysis for all items in this study, using principle component factor analysis, did not reveal a predominant factor. A total of nine factors accounted for 80% of variance, with the first factor contributing to 16% of the variance. The results indicated that 31 indicators manifested on one factor did not represent the majority of the variance. Thus, CMB was not likely to affect the results [67]. We used another approach by Lindell and Whitney [58] to validate these findings. The marker variable approach recommended by Lindell and Whitney [58] was used to compute the common bias method-adjusted correlation matrix. As the pattern of correlations remained the same after adjustment, we concluded that CMB is unlikely to be of concern in this study.

5. Results and findings

Data was analysed by SEM using the analysis of moment structures (AMOS) 20.0 software. The two-step approach proposed by Anderson and Gerbing [4] was used to assess the measurement model before estimating the structural model. While measurement model assessed the validity and reliability of the study constructs, the structural model assessed the causal relationships among the constructs.

Table 3
Reliability and validity of measurement models.

Constructs and indicators	λ	α	ρ	AVE
Feeling of injustice (FI)				
I consider the service failure encounter with the online shopping to be severe	0.89	0.89	0.90	0.75
The service failure encounter with the online shopping made me feel very angry	0.87			
The service failure encounter with the online shopping was unpleasant to me	0.83			
Firm attribution (FA)				
The online retailer is responsible for the failed service encounter	0.68	0.70	0.72	0.55
The service failure was due to the online retailer/or its employees	0.81			
Perceived firm image (FI)				
The online shopping retailer is reputable	0.80	0.90	0.90	0.75
The online shopping retailer is trustworthy	0.93			
The online shopping retailer makes honest claims	0.86			
Face-concern (FC)				
I care about praises and criticisms from others	0.76	0.93	0.94	0.71
I care about others' attitudes towards me	0.77			
I hate being taken lightly	0.85			
I will be very angry if others are impolite to me	0.86			
I will be very happy if I am treated with respect	0.92			
I will be very upset if I am criticised in public	0.89			
Suppression emotion regulation (SER)				
I control my emotions by not expressing them	0.85	0.76	0.78	0.64
When I have negative emotions, I make sure not to express them	0.75			
Reappraisal emotion regulation (RER)				
I control my emotions by changing the way I think about the situation I'm in	0.88	0.77	0.79	0.56
When I want to feel less negative emotion, I change the way I'm thinking about the situation	0.75			
When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm	0.58			
SNS use intensity (SU)				
[SNS] is part of my everyday activity	0.78	0.85	0.86	0.56
I am proud to tell others I am on [SNS]	0.81			
[SNS] has become part of my daily routine	0.78			
I feel out of touch when I haven't logged onto [SNS] for a day	0.74			
I feel I am part of the [SNS] community	0.61			
Tie strength (TS)				
I share personal confidences with my friends in SNS	0.75	0.89	0.90	0.68
I spend some free time socializing with my friends in SNS	0.86			
I would perform a large favour for my friends in SNS	0.85			
My friends in SNS will perform a large favour for me	0.83			
Negative word-of-mouth (NWOM)				
You will tell about the negative service encounter with the online retailer using SNS platform				
Very unlikely/very likely	0.93	0.93	0.93	0.83
Inclined not to/inclined to	0.89			
Definitely will not/definitely will	0.91			
Measurement model fit statistics: χ^2 = 458.20, df = 393, χ^2/df = 1.166, CFI = 0.983, IFI = 0.983, TLI = 0.979, RMSEA = 0.028.				

Note: λ, standardised factor loadings, α, Cronbach's alpha, ρ, composite reliability, AVE, average variance extracted.

5.1. Measurement model

Confirmatory factor analysis (CFA) was conducted and the measurement models derived from the literature were FI, firm attribution, perceived firm image, face concern, suppression, reappraisal, SNS use intensity, tie strength and NWOM. All these measurement models were tested for model fit. The goodness of fit index used to test the absolute model fit were chi-square (χ^2), degrees of freedom (df), *p* value and root mean square error of approximation (RMSEA). The acceptable RMSEA threshold values were ≤0.08 [39]. Incremental fit index (IFI), Tucker–Lewis fit index (TFI) and comparative fit index (CFI) with acceptable threshold values of ≥0.90 were used for testing the incremental model fit indices [39]. Finally, the normed model fit (χ^2/df) test with acceptable threshold values between 1 and 2 was used to examine the parsimony fit of the model [39]. The results of the overall CFA indicated a good model fit to the data with χ^2 = 458.20, df = 393, *p* = 0.013, RMSEA = 0.028, IFI = 0.983, TLI = 0.979, CFI = 0.983 and χ^2/df = 1.166.

5.2. Reliability and validity

The measurement models were tested for convergent and discriminant validity. Table 3 shows the indicators of each measurement model and their corresponding standardised regression weights (λ). All these weights were significant at 0.05 significance level and with values ranging from 0.58 to 0.93. The results in Table 3 show that all measurement models met the necessary thresholds of Cronbach's alpha (α) of ≥0.7, composite reliability (ρ) of ≥0.7 and average variance extracted (AVE) of ≥0.5 [34]. This indicated that the measurement models were internally consistent and the instrument used substantially measured the constructs. In addition, the AVE of each measurement model was >0.5, implying that they have convergent validity [39].

Discriminant validity was then assessed on each measurement model. Using the Fornell and Larcker [34] approach, discriminant validity is achieved when the square root of AVE of the construct is higher than the correlations (ϕ) between the respective constructs. For example, ϕ between FI and NWOM was 0.28, while their square

Table 4
Correlations and discriminant validity of the constructs.

	FI	FA	FI	FC	SER	RER	SU	TS	NWOM
FI	0.87								
FA	−0.14*	0.74							
FI	0.07	−0.10	0.87						
FC	−0.06	0.15*	−0.04	0.84					
SER	0.16*	−0.13	0.17*	−0.08	0.79				
RER	−0.02	−0.18*	0.02	−0.03	0.28**	0.75			
SU	0.10	0.04	−0.09	0.04	−0.03	0.03	0.75		
TS	0.23**	−0.06	−0.20**	−0.02	−0.07	−0.06	0.36**	0.83	
NWOM	0.28**	−0.15*	−0.16*	−0.23**	0.02	0.09	0.26**	0.30**	0.91
Mean	4.71	3.92	4.96	3.84	4.83	4.12	4.00	3.92	4.16
SD	1.53	1.28	1.50	1.26	1.27	1.46	0.90	1.32	1.71

Note: Diagonal values represent square root of average variance-extracted scores of constructs.
* $p < 0.05$.
** $p < 0.01$.

roots of AVE were 0.87 and 0.91, respectively; therefore, as these square roots were higher than the corresponding ϕ value, discriminant validity was supported. All constructs had discriminant validity, as shown in Table 4.

5.3. Structural model

The SEM was conducted using maximum likelihood estimation with the sample size of 206. A bootstrapping approach was used with 5000 resamples. The results show that the exogenous constructs explained 31% of the total variance in NWOM communications using SNS. The hypotheses were then tested and the results are presented in Fig. 2.

Fig. 2 shows that FI was positively related to NWOM using SNS ($\beta = 0.21$, $p < 0.01$), supporting H1. Firm attribution had a negative impact on the intention to engage in NWOM communications using SNS ($\beta = -0.17$, $p < 0.05$). This supported H2. Support for H3 was found as perceived firm image was negatively associated with NWOM intentions on SNS ($\beta = -0.18$, $p < 0.01$). Face concern was positively related to NWOM intentions, such that strong face concern individuals reported higher intentions to engage in NWOM using SNS ($\beta = 0.21$, $p < 0.01$), supporting H4. Regarding emotion regulation, reappraisal ($\beta = -0.17$, $p < 0.05$) was found to be negatively correlated with NWOM communications using SNS, thereby supporting H5b. However, suppression emotion regulation did not affect NWOM communications on SNS as hypothesised ($\beta = 0.05$, $p = 0.53$), and hence H5a was not supported. H6 was supported as the SNS use intensity was positively correlated with NWOM intentions on SNS ($\beta = 0.20$, $p < 0.01$). Similarly, tie strength among the peers on SNS was found to be positively correlated with NWOM intentions ($\beta = 0.16$, $p < 0.05$), supporting H7.

5.4. Post hoc analysis

As the surveyed respondents included both with prior experience in sharing their negative experiences on SNS and without such experiences, this study post hoc tested for a difference in the antecedents of NWOM between the two groups. Of the 206 respondents in our sample, 117 (57%) had prior experience with posting negative experiences on SNS, and the remaining 89 respondents (43%) did not have such an experience. Thus, the hypotheses were tested separately for these two groups (with and without experience). The approach of Fornell and Larcker [34] was used to statistically compare the corresponding path coefficients for the two groups and compute t-values. Table 5 presents the differences in the path coefficients between the two groups.

The results showed a significant difference between the two groups of respondents. Experienced customers paid attention to face concern and tie strength, whereas those in the other group gave more importance to reappraisal emotion regulation in their intentions to engage in NWOM communications on SNS. In this study, tie strength was found to be a significant determinant of NWOM communication for participants with prior WOM communication experience. This finding is consistent with the literature that suggested a strong relationship between tie strength and WOM communication [53]. It can be argued that as individuals are more likely to rely on trusted acquaintances, family members and friends with whom they maintain strong ties for emotional support and advice, experienced customers with strong ties are more likely to engage in NWOM communication using SNS following a service failure.

Similarly, the face concern of experienced customers was found to have a negative impact on NWOM communication. This suggests that experienced customers are less concerned about their image or presentation when sharing NWOM communications
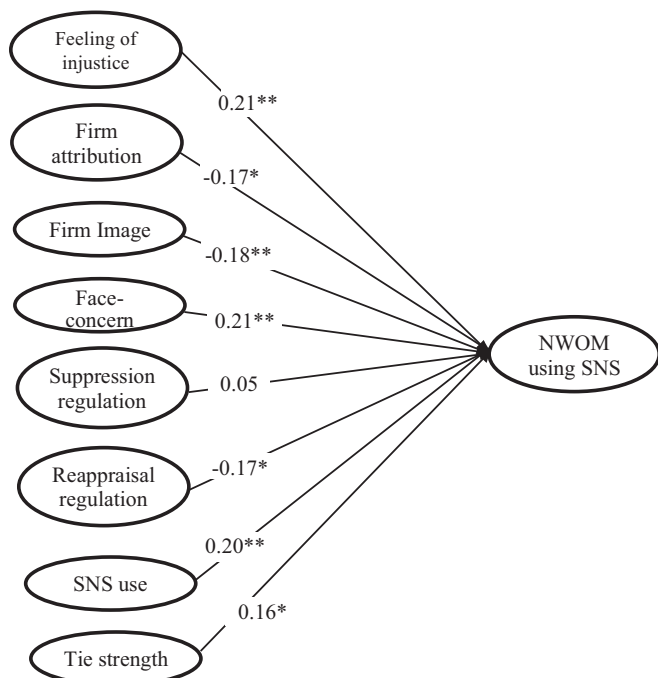
Fig. 2. Structural equation modelling results *$p < 0.05$, **$p < 0.01$.

Feeling of injustice — 0.21**
Firm attribution — -0.17*
Firm Image — -0.18**
Face-concern — 0.21**
Suppression regulation — 0.05
Reappraisal regulation — -0.17*
SNS use — 0.20**
Tie strength — 0.16*
NWOM using SNS

Table 5
Post hoc comparison.

Structural paths	No prior experience		Prior experience		T-tests across groups	p value
	β	SE	B	SE		
FI → NWOM	0.36**	0.17	0.17*	0.10	1.01	0.31
FA → NWOM	−0.33*	0.15	−0.11	0.14	1.07	0.29
FI → NWOM	−0.06	0.15	−0.27**	0.10	1.21	0.23
FC → NWOM	0.01	0.14	−0.33**	0.10	2.04	<0.05
SER → NWOM	0.11	0.19	−0.07	0.15	0.76	0.45
RER → NWOM	−0.35**	0.18	0.03	0.08	2.10	<0.05
SU → NWOM	0.27**	0.18	0.09	0.18	0.70	0.49
TS → NWOM	−0.15	0.18	0.30**	0.14	2.01	<0.05

Note: β, standardised path coefficients, SE, standard errors.
* $p < 0.05$.
** $p < 0.01$.

with their friends, acquaintances and others on SNS. As face derives from social relationships with others [52], it can be argued that experienced customers would have established their self-image through previous social interactions on SNS. Finally, reappraisal emotion regulation was found to significantly reduce the likelihood of NWOM communication on SNS for respondents without any prior experience, more so than for experienced users. Emotion regulation is an important mechanism for achieving goals [37]. The results show that respondents without prior experience were more likely to re-evaluate the negative experience, which may tend to reduce their intentions to engage in NWOM communications using SNS. In summary, the results suggest significant differences in the determinants of NWOM communication for respondents with and without prior experience in transmitting NWOM communications on SNS. A post hoc analysis based on gender indicated no significant differences in the antecedents of NWOM communications on SNS.

6. Discussion

In this study, we have attempted to examine the determinants of NWOM communications on SNS following a service failure in the online shopping context. The results of the empirical study indicated that contextual, individual and social networking factors influence the customers' intentions to transmit NWOM information on SNS. In particular, FI, firm attribution, firm image, face concern, reappraisal emotion regulation, SNS use intensity and tie strength were found to significantly affect the intentions to transmit NWOM information on SNS.

6.1. Theoretical implications

This study contributes to the existing literature in several ways. First, sWOM has only recently received significant attention from managers and academicians. The emergence of social networking platforms has dramatically transformed the nature and content of customer conversations. These platforms allow customers to have direct, instantaneous and expanded interaction with other networked customers. For example, the complaint posted by Mike Brown on his Facebook page sharing his awful experience with Wild Wing Cafe went viral with 4000 Facebook shares and 1000 comments, prompting the service provider to issue an apology for the encounter [68]. The persuasiveness and dynamic nature of SNS creates unique challenges for the service provider to interact, monitor and communicate with the dissatisfied customers. Although social media has attracted considerable attention of researchers in recent years, there has been limited empirical work investigating WOM communication using SNS. For example, Clark [24] noted that there is very little research regarding the role of social media platforms in complaints against service providers. In order to address this gap, this study proposed and empirically

examined an integrated model of determinants of NWOM communication using the emerging channel of SNS.

Previous studies have mostly focused on understanding the process and outcomes of WOM communication. For example, De Bruyn and Lilien [29] presented a hierarchical multistage model of the effect of WOM on the consumers' decision-making process. Similarly, Chan and Ngai [16] conceptualised WOM from an input–process–output (IPO) perspective. Although these studies enhance our understanding of WOM communication, they did not address the reasons for transmission of WOM communications by consumers using SNS. Jahn and Kunz [44] noted that further studies are required to understand the effects of negative sWOM. Similarly, Jin et al. [46] suggested the need for additional research to have a thorough and comprehensive understanding of product or service crises on social media platforms. Thus, this study extends our current understanding by investigating the role of contextual, individual and social networking factors influencing NWOM communications using SNS.

Second, few studies that exist on NWOM have majorly focused on contextual or situational factors. For instance, studies by Richins [69]; Kim et al. [49] and Sengupta et al. [73] have illustrated that service failure magnitude, failure attribution and firm image may affect NWOM communication. However, there have been recent calls for research into understanding the role of the individual and online social networking factors in WOM communication. In particular, Cheema and Kaikati [19] and Cheung and Lee [20] proposed that individual differences may exist in the customers' willingness to engage in WOM communication. Furthermore, Son et al. [75] called for research into the effect of social networking features on consumer acceptance of the technology. In response to these calls, this study considered contextual factors such as FI, firm attribution and firm image; individual factors such as face concern and emotion regulation and social networking factors such as SNS use intensity and tie strength in understanding NWOM communication using SNS following a service failure. This expands our understanding of the role of various factors affecting NWOM communication on SNS.

Third, online shopping is considered as an information-intensive industry [48]. An understanding of the mechanism of technology affecting the accessibility of product and service information is crucial for service managers to understand how it may affect the purchase behaviour of other network members. Thus, an investigation of NWOM communication on SNS would provide insights into the evaluation and decision-making processes of customers. Fourth, the results revealed that various contextual, individual and social networking factors determine the likelihood of NWOM communications on SNS. These findings enable managers to develop successful service recovery and social media Webcare interventions. Finally, studies on NWOM communication are less common than positive WOM communication. As

positive WOM is thrice more likely to be given than NWOM, previous studies have largely focused on positive word-of-mouth [56,63]. However, NWOM communication is considered very diagnostic and a few studies have reported that it has a significant influence on the decision-making process of customers than positive word-of-mouth communication. Consequently, this study expands our understanding of WOM behaviour by investigating the factors determining NWOM communications on SNS following a service failure.

6.2. Managerial implications

With the increasing popularity of social media platforms, at present, customers can more easily communicate their dissatisfaction to a large number of people. The public nature of social media platforms permits customers to read the negative experiences of others, and this affects their opinions towards the service provider. With the service provider's reputation and future business at risk, it is imperative for service managers to monitor and address NWOM communications on SNS. This study offers several practical implications for managing NWOM communication on SNS.

Many researchers and practitioners suggest that service providers may require a new skill set to effectively manage NWOM communication on SNS. As customers do not direct their complaints to the service provider, it is up to the service provider to use monitoring tools to track NWOM communication on SNS and initiate contact with dissatisfied customers. Thus, the service provider should devote significant human and financial resources to monitor and track social media platforms for NWOM communications. They can invest in various monitoring tools, such as social mention, tweet reach, or Hootsuite to track NWOM communications on SNS. A good monitoring system can aid early detection and allow the service provider to quickly communicate its commitment and competency, thereby avoiding potential public embarrassment and other consequences of NWOM communication on SNS. Moreover, dedicated social media teams can be established to respond to NWOM communications and provide customer support via SNS. Effective monitoring enables service providers to respond to NWOM communications on SNS with appropriate interventions.

The results show that various contextual, individual and social networking factors determine the likelihood of NWOM communication on SNS. In case of contextual determinants, we found that injustice perception, firm attribution and firm image are key antecedents of NWOM communication on SNS. The study findings pertaining to perceptions of injustice indicate that customers may engage in NWOM communication on SNS to communicate their dissatisfaction to not only other network members, but also the service provider seeking a response. When responding to NWOM communications on SNS, the service provider can either engage in proactive or reactive Webcare interventions to mitigate the adverse effects. Proactive Webcare refers to service recovery strategies or interventions posted proactively on SNS in response to NWOM communications. Reactive Webcare includes interventions posted following specific requests from customers in their NWOM communication. We contend that a timely response to NWOM communications, either proactively or reactively, will help resolve issues. Because of the constant monitoring by other customers on social media, this is particularly important; hence, a quick and effective response is critical. Briefly, the service provider should focus on responsiveness and fixing the service problem effectively, because a lack or delay of action can adversely affect the image of the service provider and create a major public crisis [69]. Moreover, both proactive and reactive Webcare interventions increase customer satisfaction, loyalty, positive eWOM and customer retention [80].

In their response to the NWOM communication, the service provider should acknowledge the complaint and apologize on SNS, and the communication must be polite. It is argued that acknowledging the service failure may generate more goodwill than refuting or denying responsibility of the failed encounter. Refuting or denying the service failure communicates distrust and lack of empathy on the part of the service provider, and this may discourage other network members from using or recommending the service provider. In response to NWOM communications, the service provider can paraphrase the negative experience as this reflects that they have thoroughly reviewed the problem. For example, the service provider can respond to NWOM communication as follows: 'We regret to hear that your online shopping experience was marred by the delayed delivery of your product'. This prevents the network members from drawing their own, negative inferences from the service failure.

Together with acknowledging the service failure, the service provider can offer public compensation, representing a guarantee and commitment that customers will be fairly treated in the future. This is important, as other network members on SNS may perceive NWOM communications as an indication of a high likelihood of future service failure. Thus, they require a promise from the service provider that the service failure has been successfully resolved, and assurance that they would be compensated if service failure reoccurs. Moreover, offering a public apology and acknowledgement may be effective in restoring customer face [84]. This aids the customer in reappraising the service failure positively, and possibly modifying their emotional response to the negative service encounter. The results indicate that service providers can use the profiles of respondents (i.e. SNS use intensity, number of friends and number of posts) in segmenting SNS users into target groups for understanding their propensity to engage in NWOM communication. In summary, the service provider must have a strong system in place for effectively tracking and managing NWOM communications on SNS. Furthermore, Webcare interventions should include an acknowledgement, apology, compensation and promise that any injustice will be redressed.

6.3. Limitations and future research directions

Although this study widens our knowledge on the determinants of NWOM communication, it is associated with some limitations, and viable prospects for further research should be identified. First, although the various contextual, individual and social networking factors considered in this study explained a reasonable amount of variance in NWOM communication on SNS, future research could examine extended factors. These may include the technical features of social networking platforms, social identity, altruism and affective commitment towards the service provider to account for the remaining unexplored variance in NWOM communication. In addition, as customers can share their negative experiences with both in-group and out-group members [71], future research could examine the differential effects of various factors affecting NWOM on those members. Second, while this study considered the potential antecedents of NWOM communication, future research should examine the consequences of NWOM communication on SNS. Extant literature suggests that dissatisfaction with a service provider leads to customer animosity and exit, which in turn adversely affects firm performance (e.g. sales revenue). Thus, future studies could examine the outcomes of NWOM communication on firm performance.

Third, by only measuring NWOM, this study did not address the difference between positive and negative WOM communications on SNS. Alexandrov et al. [2] demonstrated that the motives for positive and negative WOM communications vary, and an effective extension of this study might examine the differential effect of

factors determining the positive and negative WOM communications on SNS. In addition, this study addressed only online service failures, and as service failures can occur online and offline, future studies could test this study model in both environments. Finally, social media platforms differ in their architecture, culture and norms. Consequently, future research should examine the determinants of negative sWOM.

Despite the limitations of this study, the findings provide important contributions to the information systems literature. We extended the prior studies on eWOM by proposing and empirically examining an integrated model of NWOM communication on SNS. The results show that contextual, individual and social factors, such as FI, firm attribution, perceived firm image, face concern, emotion regulation, SNS use intensity and tie strength, have a significant impact on customer intentions to transmit NWOM communications on SNS. These findings have significant implications for academicians and practitioners in managing customer NWOM communications on SNS.

References

[1] I. Ahmad, Fascinating #SocialMedia Stats 2015: Facebook, Twitter, Pinterest, Google+, 2015 http://www.digitalinformationworld.com/2015/02/fascinating-social-networking-stats-2015.html (accessed 22.07.15).

[2] A. Alexandrov, B. Lilly, E. Babakus, The effects of social- and self-motives on the intentions to share positive and negative word of mouth, J. Acad. Mark. Sci. 41 (5), 2013, pp. 531–546.

[3] A. Alhidari, P. Iyer, A. Paswan, Personal level antecedents of eWOM and purchase intention, on social networking sites, J. Custom. Behav. 14 (2), 2015, pp. 107–125.

[4] J.C. Anderson, D.W. Gerbing, Structural equation modeling in practice: a review and recommended two-step approach, Psychol. Bull. 103 (3), 1988, pp. 411–423.

[5] S. Ba, P.A. Pavlou, Evidence of the effect of trust building technology in electronic markets: price premiums and buyer behavior, MIS Q. 26 (3), 2002, pp. 243–268.

[6] A.A. Bailey, Thiscompanysucks.com: the use of the Internet in negative consumer-to-consumer articulations, J. Mark. Commun. 10 (3), 2004, pp. 169–182.

[7] M.S. Balaji, A. Sarkar, Does successful recovery mitigate failure severity? A study of the behavioral outcomes in Indian context Int. J. Emerg. Mark. 8 (1), 2013, pp. 65–81.

[8] K. Baldacci, 5 Reasons Why the Social Customer is Today's Undeniable Authority, 2013 http://blogs.salesforce.com/company/2013/07/the-social-customer.html (accessed 07.01.15).

[9] F. Baltar, I. Brunet, Social research 2.0: virtual snowball sampling method using Facebook, Internet Res. 22 (1), 2012, pp. 57–74.

[10] S. Bambauer-Sachse, S. Mangold, Brand equity dilution through negative online word-of-mouth communication, J. Retail. Consum. Serv. 18 (1), 2011, pp. 38–45.

[11] S. Bambauer-Sachse, S. Mangold, Do consumers still believe what is said in online product reviews? A persuasion knowledge approach J. Retail. Consum. Serv. 20 (4), 2013, pp. 373–381.

[12] R. Berry, S. Tanford, R. Montgomery, A. Green, How we complain: the effect of personality on consumer complaint channels, J. Hosp. Tour. Res. 2014, (before print).

[13] J.J. Brown, P.H. Reingen, Social ties and word-of-mouth referral behavior, J. Consum. Res. 14 (3), 1987, pp. 350–362.

[14] J. Brown, A.J. Broderick, N. Lee, Word of mouth communication within online communities: conceptualizing the online social network, J. Interact. Mark. 21 (3), 2007, pp. 2–20.

[15] J. Cha, Shopping on social networking Web sites: attitudes toward real versus virtual items, J. Interact. Advert. 10 (1), 2009, pp. 77–93.

[16] Y.Y. Chan, E.W.T. Ngai, Conceptualising electronic word of mouth activity: an input-process-output perspective, Mark. Intell. Plan. 29 (5), 2011, pp. 488–516.

[17] H.H. Chang, L.H. Wu, An examination of negative e-WOM adoption: brand commitment as a moderator, Decis. Support Syst. 59, 2014, pp. 206–218.

[18] H.H. Chang, Y.C. Tsai, K.H. Wong, J.W. Wang, F.J. Cho, The effects of response strategies and severity of failure on consumer attribution with regard to negative word-of-mouth, Decis. Support Syst. 71, 2015, pp. 48–61.

[19] A. Cheema, A.M. Kaikati, The effect of need for uniqueness on word of mouth, J. Mark. Res. 47 (3), 2010, pp. 553–563.

[20] C.M. Cheung, M.K. Lee, What drives consumers to spread electronic word of mouth in online consumer-opinion platforms? Decis. Support Syst. 53 (1), 2012, pp. 218–225.

[21] C.M. Cheung, D.R. Thadani, The impact of electronic word-of-mouth communication: a literature analysis and integrative model, Decis. Support Syst. 54 (1), 2012, pp. 461–470.

[22] S.C. Chu, Y. Kim, Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites, Int. J. Advert. 30 (1), 2011, pp. 47–75.

[23] J.Y. Chung, D. Buhalis, Information needs in online social networks, Inf. Technol. Tour. 10 (4), 2008, pp. 267–281.

[24] J. Clark, Conceptualising social media as complaint channel, Promot. Commun. 1 (1), 2013, pp. 105–124.

[25] S. Cohen, T.A. Wills, Stress, social support, and the buffering hypothesis, Psychol. Bull. 98 (2), 1985, pp. 310–357.

[26] C.E. Cutrona, D.W. Russell, The provisions of social relationships and adaptation to stress, Adv. Pers. Relationsh. 1 (1), 1987, pp. 37–67.

[27] T. Daugherty, E. Hoffman, eWOM and the importance of capturing consumer attention within social media, J. Mark. Commun. 20 (1–2), 2014, pp. 82–102.

[28] R.L. Day, Extending the concept of consumer satisfaction, Adv. Consum. Res. 4 (1), 1977, pp. 149–154.

[29] A. De Bruyn, G.L. Lilien, A multi-stage model of word-of-mouth influence through viral marketing, Int. J. Res. Mark. 25 (3), 2008, pp. 151–163.

[30] T. Ehring, B. Tuschen-Caffier, J. Schnülle, S. Fischer, J.J. Gross, Emotion regulation and vulnerability to depression: spontaneous versus instructed use of emotion suppression and reappraisal, Emotion 10 (4), 2010, pp. 563–572.

[31] A.B. Eisingerich, H.H. Chun, Y. Liu, H.M. Jia, S.J. Bell, Why recommend a brand face-to-face but not on Facebook? How word-of-mouth on online social sites differs from traditional word-of-mouth J. Consum. Psychol. 25, 2015, pp. 120–128.

[32] F. Faul, E. Erdfelder, A.G. Lang, A. Buchner, G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences, Behav. Res. Methods 39 (2), 2007, pp. 175–191.

[33] L.A. Festinger, A Theory of Cognitive Dissonance, Stanford University Press, Stanford, 1957.

[34] C. Fornell, D.F. Larcker, Evaluating structural equation models with unobservable variables and measurement error, J. Mark. Res. 18 (1), 1981, pp. 375–381.

[35] M.S. Granovetter, The strength of weak ties, Am. J. Sociol. 78 (6), 1973, pp. 1360–1380.

[36] Y. Grégoire, A. Salle, T.M. Tripp, Managing social media crises with your customers: the good, the bad, and the ugly, Bus. Horiz. 58 (2), 2014, pp. 173–182.

[37] J.J. Gross, Emotion regulation: affective, cognitive, and social consequences, Psychophysiology 39 (3), 2002, pp. 281–291.

[38] J.J. Gross, O.P. John, Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being, J. Pers. Soc. Psychol. 85 (2), 2003, pp. 348–362.

[39] J.F. Hair, W.C. Black, B.J. Babin, R.E. Anderson, Multivariate Data Analysis, 7th ed., Prentice Hall, 2009.

[40] G.R. Henderson, F. Guzmán, L. Huff, C.M. Motley, The Ian's pizza tribe: reconceptualizing cross-cultural research in the digital age, J. Bus. Res. 66 (3), 2013, pp. 283–287.

[41] T. Hennig-Thurau, K.P. Gwinner, G. Walsh, D.D. Gremler, Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet? J. Interact. Mark. 18 (1), 2004, pp. 38–52.

[42] R.L. Hess, The impact of firm reputation and failure severity on customers' responses to service failures, J. Serv. Mark. 22 (5), 2008, pp. 385–398.

[43] J.W. Hoelter, The analysis of covariance structures goodness-of-fit indices, Sociol. Methods Res. 11 (3), 1983, pp. 325–344.

[44] B. Jahn, W. Kunz, How to transform consumers into fans of your brand, J. Serv. Manag. 23 (3), 2012, pp. 344–361.

[45] E. Jeong, S.S. Jang, Restaurant experiences triggering positive electronic word-of-mouth (eWOM) motivations, IJHM 30 (2), 2011, pp. 356–366.

[46] Y. Jin, B.F. Liu, L.L. Austin, Examining the role of social media in effective crisis management: the effects of crisis origin, information form, and source on publics' crisis responses, Commun. Res. 41 (1), 2011, pp. 74–94.

[47] S. Kemp, Digital, Social & Mobile Worldwide in 2015, 2015 http://wearesocial.net/blog/2015/01/digital-social-mobile-worldwide-2015/ (accessed 22.07.15).

[48] M.Y. Kiang, Q. Ye, Y. Hao, M. Chen, Y. Li, A service-oriented analysis of online product classification methods, Decis. Support Syst. 52 (1), 2011, pp. 28–39.

[49] C. Kim, S. Kim, S. Im, C. Shin, The effect of attitude and perception on consumer complaint intentions, J. Consum. Mark. 20 (4), 2003, pp. 352–371.

[50] Y.F. Kuo, S.T. Yen, L.H. Chen, Online auction service failures in Taiwan: typologies and recovery strategies, Electron. Commer. Res. Appl. 10 (2), 2011, pp. 183–193.

[51] J. Lee, D.H. Park, I. Han, The effect of negative online consumer reviews on product attitude: an information processing view, Electron. Commer. Res. Appl. 7 (3), 2008, pp. 341–352.

[52] Y.L. Lee, B. Sparks, K. Butcher, Service encounters and face loss: issues of failures, fairness, and context, IJHM 34, 2013, pp. 384–393.

[53] F. Li, T.C. Du, Who is talking? An ontology-based opinion leader identification framework for word-of-mouth marketing in online social blogs Decis. Support Syst. 51 (1), 2011, pp. 190–197.

[54] T.P. Liang, Y.T. Ho, Y.W. Li, E. Turban, What drives social commerce: the role of social support and relationship quality? Int. J. Electron. Commer. 16 (2), 2011, pp. 69–90.

[55] S. Liao, C.C. Cheng, Consumer evaluation of self-service innovation failure: the effect of brand equity and attribution, Serv. Ind. J. 33 (5), 2013, pp. 467–485.

[56] C.H. Lien, Y. Cao, Examining WeChat users' motivations, trust, attitudes, and positive word-of-mouth: evidence from China, CHB 41, 2014, pp. 104–111.

[57] H. Lin, W. Fan, P.Y. Chau, Determinants of users' continuance of SNS: a self-regulation perspective, Inf. Manag. 51 (5), 2014, pp. 595–603.

[58] M.K. Lindell, D.J. Whitney, Accounting for common method variance in cross-sectional research designs, J. Appl. Psychol. 86 (1), 2001, pp. 114–121.

[59] C. Luo, X.R. Luo, L. Schatzberg, C.L. Sia, Impact of informational factors on online recommendation credibility: the moderating role of source credibility, Decis. Support Syst. 56, 2013, pp. 92–102.

[60] A.S. Mattila, W. Cho, The role of self-service technologies in restoring justice, J. Bus. Res. 64 (4), 2011, pp. 348–355.

[61] S.A. Moore, L.A. Zoellner, N. Mollenholt, Are expressive suppression and cognitive reappraisal associated with stress-related symptoms? Behav. Res. Ther. 46 (9), 2008, pp. 993–1000.

[62] C. Moorman, R. Deshpande, G. Zaltman, Factors affecting trust in market research relationships, J. Mark. 57 (1), 1993, pp. 81–101.

[63] S. Ng, M.E. David, T.S. Dagger, Generating positive word-of-mouth in the service experience, Manag. Serv. Qual. Int. J. 21 (2), 2011, pp. 133–151.

[64] L.Y. Pan, J.S. Chiou, How much can you trust online information? Cues for perceived trustworthiness of consumer-generated online information J. Interact. Mark. 25 (2), 2011, pp. 67–74.

[65] R. Petersen, 38 Surprising Facts About Trust in Social Media, 2013 http://barnraisersllc.com/2013/09/surprising-facts-trust-social-media/ (accessed 26.07.15).

[66] J. Pfeffer, T. Zorbach, K.M. Carley, Understanding online firestorms: negative word-of-mouth dynamics in social media networks, J. Mark. Commun. 20 (1–2), 2014, pp. 117–128.

[67] P.M. Podsakoff, S.B. MacKenzie, J.Y. Lee, N.P. Podsakoff, Common method biases in behavioral research: a critical review of the literature and recommended remedies, J. Appl. Psychol. 88 (5), 2003, p. 879.

[68] D.X. Ramsey, Wild Wings Café Apologizes After Patron Posts Discrimination Complaint to Facebook, 2013 http://thegrio.com/2013/09/03/wild-wings-cafe-apologizes-after-patron-posts-discrimination-complaint-to-facebook/ (accessed 08.01.15).

[69] M.L. Richins, Negative word-of-mouth by dissatisfied consumers: a pilot study, J. Mark. 47 (1), 1983, pp. 68–78.

[70] A. Roggio, 3 Ways Social Media Affects Brands, 2011 http://www.practicalecommerce.com/articles/3202-3-Ways-Social-Media-Affects-Brands (accessed 25.07.15).

[71] G.A. Schellekens, P.W. Verlegh, A. Smidts, Language abstraction in word of mouth, J. Consum. Res. 37 (2), 2010, pp. 207–223.

[72] S. Sen, D. Lerman, Why are you telling me this? An examination into negative consumer reviews on the web J. Interact. Mark. 21 (4), 2007, pp. 76–94.

[73] A.S. Sengupta, M.S. Balaji, B.C. Krishnan, How customers cope with service failure? A study of brand reputation and customer satisfaction J. Bus. Res. 68 (3), 2015, pp. 665–674.

[74] S. Smyth, How Online Shopping Has Turned Us Into a Nation of Moaners: Number of Complaints About Internet Purchases Doubles to More Than 66 Million in a Year, 2015 http://www.dailymail.co.uk/news/article-2945399/How-online-shopping-turned-nation-moaners-Number-complaints-internet-purchases-doubled-66million-2014.html (accessed 27.07.15).

[75] J. Son, A. Sadachar, S. Manchiraju, A.M. Fiore, L.S. Niehm, Consumer adoption of online collaborative customer co-design, J. Res. Interact. Mark. 6 (3), 2012, pp. 180–197.

[76] J. Sun, How risky are services? An empirical investigation on the antecedents and consequences of perceived risk for hotel service IJHM 37, 2014, pp. 171–179.

[77] H. Sun, P. Zhang, The role of moderating factors in user technology acceptance, Int. J. Hum. Comput. Stud. 64 (2), 2006, pp. 53–78.

[78] Z. Tufekci, C. Wilson, Social media and the decision to participate in political protest: observations from Tahrir Square, J. Commun. 62 (2), 2012, pp. 363–379.

[79] S. Valenzuela, N. Park, K.F. Kee, Is there social capital in a social network site? Facebook use and college students' life satisfaction, trust, and participation J. Comput. Mediat. Commun. 14 (4), 2009, pp. 875–901.

[80] G. Van Noort, L.M. Willemsen, Online damage control: the effects of proactive versus reactive Webcare interventions in consumer-generated and brand-generated platforms, J. Interact. Mark. 26 (3), 2012, pp. 131–140.

[81] C. Veloutsou, L. Moutinho, Brand relationships through brand reputation and brand tribalism, J. Bus. Res. 62 (3), 2009, pp. 314–322.

[82] T. Verhagen, A. Nauta, F. Feldberg, Negative online word-of-mouth: behavioral indicator or emotional release? CHB 29 (4), 2013, pp. 1430–1440.

[83] I.E. Vermeulen, D. Seegers, Tried and tested: the impact of online hotel reviews on consumer consideration, Tour. Manag. 30 (1), 2009, pp. 123–127.

[84] L.C. Wan, Culture's impact on consumer complaining responses to embarrassing service failure, J. Bus. Res. 66 (3), 2013, pp. 298–305.

[85] X. Wang, C. Yu, Y. Wei, Social media peer communication and impacts on purchase intentions: a consumer socialization framework, J. Interact. Mark. 26 (4), 2012, pp. 198–208.

[86] J.C. Ward, A.L. Ostrom, Complaining to the masses: the role of protest framing in customer-created complaint web sites, J. Consum. Res. 33 (2), 2006, pp. 220–230.

[87] B. Weiner, An attributional theory of achievement motivation and motion, Psychol. Rev. 92 (4), 1985, pp. 548–573.

[88] S. Weun, S.E. Beatty, M.A. Jones, The impact of service failure severity on service recovery evaluations and post-recovery relationships, J. Serv. Mark. 18 (2), 2004, pp. 133–146.

[89] J. Wolny, C. Mueller, Analysis of fashion consumers' motives to engage in electronic word-of-mouth communication through social media platforms, J. Mark. Manag. 29 (5–6), 2013, pp. 562–583.

[90] C. Xu, S. Ryan, V. Prybutok, C. Wen, It is not for fun: an examination of social network site usage, Inf. Manag. 49 (5), 2012, pp. 210–217.

[91] H.R. Yen, K.P. Gwinner, W. Su, The impact of customer participation and service expectation on locus attributions following service failure, Int. J. Serv. Ind. Manag. 15 (1), 2004, pp. 7–26.

[92] C.W. Yoo, Y.J. Kim, G.L. Sanders, The impact of interactivity of electronic word of mouth systems and E-Quality on decision support in the context of the e-marketplace, Inf. Manag. 52 (4), 2015, pp. 496–505.

[93] R.B. Zajonc, Feeling and thinking: preferences need no inferences, Am. Psychol. 35 (2), 1980, p. 151.

[94] J.Q. Zhang, G. Craciun, D. Shin, When does electronic word-of-mouth matter? A study of consumer product reviews J. Bus. Res. 63 (12), 2010, pp. 1336–1341.

[95] Y. Zhang, L. Feick, V. Mittal, How males and females differ in their likelihood of transmitting negative word of mouth, J. Consum. Res. 40 (6), 2014, pp. 1097–1108.

[96] J. Zhao, J. Wu, X. Feng, H. Xiong, K. Xu, Information propagation in online social networks: a tie-strength perspective, Knowl. Inf. Syst. 32 (3), 2012, pp. 589–608.

[97] Z. Zhu, C. Nakata, K. Sivakumar, D. Grewal, Fix it or leave it? Customer recovery from self-service technology failures J. Retail. 89 (1), 2013, pp. 15–29.

M.S. Balaji, PhD., is a an assistant professor in marketing at Nottingham University Business School China, University of Nottingham Ningbo China. He received his doctoral degree in business administration with a major in marketing from the ICFAI University, Dehradun, India. His research works have been published in many academic journals, including the Journal of Business Research, the International Journal of Hospitality Management, the Journal of Strategic Marketing, Service Business, the International Journal of Bank Marketing and Asia Pacific Journal of Marketing and Logistics. His current research work focuses on social media, service failure, vicarious experiences and customer experience.

Khong Kok Wei is a professor of marketing at Nottingham University Business School, University of Nottingham, Malaysia. He pursued his PhD in Multimedia University (Malaysia) after completing his MBA in Leicester University (UK) and BA (Hons) in the University of Malaya (Malaysia). His research focus involved areas such as services marketing, behavioural science and latent construct analysis. Khong has published numerous journals and held several grants related to the use of procedural covariance analysis linear structures to estimate structural models. At present, his research involves the stochastic modelling of consumer behavioural patterns.

Dr Alain Yee-Loong Chong is an associate professor in information systems and director of research at Nottingham University Business School China, University of Nottingham, China. Previously, he was a postdoctoral research fellow at Hong Kong Polytechnic University. Dr. Chong is also a visiting fellow at the University of Greenwich, UK, and Hong Kong Polytechnic University. His papers have been published in Decision Support Systems, the International Journal of Production Research, the International Journal of Production Economics, Production Planning and Control, Expert Systems with Applications and the Journal of Computer Information Systems. Dr Chong is the co-editor in chief of Industrial Management & Data Systems.