When WhatsApp changed its privacy policy: explaining WhatsApp discontinuation using an enablers-inhibitors' perspective

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Abstract

Purpose – The purpose of this paper is to understand the factors that enable and inhibit WhatsApp users' discontinuance intention (DI) following the change in WhatsApp's privacy policy.

Design/methodology/approach – Using the enabler-inhibitor model as a framework, a research model consisting of discontinuation enabler distrust (DT) and the DT's antecedents [(negative electronic word of mouth (NEWOM), negative offline word of mouth (NOWOM) and privacy invasion (PI)], discontinuation inhibitor inertia (INR) and INR's antecedents (affective commitment, switching cost and use habit) and moderator structural assurance was proposed and tested with data from 624 WhatsApp users using partial least square structure equational modeling (PLS-SEM).

Findings – The results show that DT created due to NEWOM and a sense of PI significantly impact DI. However, INR has no significant impact on DI. Structural assurance significantly moderates the relationship between DT and DI.

Originality/value – The paper collected data when many WhatsApp users switched to other platforms due to the change in WhatsApp's terms of service. The timing of data collection allowed for collecting the real impact of the sense of PI compared to other studies where the effect is hypothetically induced. Further, the authors acknowledge social media providers' efforts to address privacy criticism and regain users' trust, an area that has received little attention in prior literature.

Keywords Enabler-inhibitor model, WhatsApp, Negative electronic word of mouth, Privacy, Distrust

Paper type Research paper

Introduction

Social media has seen extraordinary growth in the past two decades (Li *et al.*, 2019; Nawaz *et al.*, 2018). According to Statista, social media such as Facebook, YouTube and WhatsApp have more than 2,000 million monthly active users (Statista, 2021). Such a vast user base allows organizations to market their products and create knowledge-sharing communities and collaborative learning environments (Ngai *et al.*, 2015). This marketing, collaboration and information dissemination are facilitated by the powerful tools provided by social media service providers (Zhang *et al.*, 2015).

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Active user participation is the bloodline for social media platforms. However, recent reports (Research, 2018; Sonnemaker, 2020) indicate that the social media giants such as Facebook and Twitter experienced a decline in the monthly number of active users. This decline suggests that the current strategies to encourage continued use are not working (Wang *et al.*, 2020). Prior studies on social media discontinuance (SMD) found that users' discontinuance intention (DI) is attributed to negative emotional experiences (Dhir *et al.*, 2018), system complexity (Lee *et al.*, 2016) and excessive use (Luqman *et al.*, 2017). Some studies considered individual information-processing capability and the role of information overload in SMD (Dhir *et al.*, 2018; Gao *et al.*, 2018; Xie and Tsai, 2021). A recent review study (Farooq *et al.*, 2023) divides social media discontinuation drivers into individual, relational and platform-specific factors. However, research in this area is in its infancy and more work is required to build a comprehensive understanding of factors affecting DI (Xie and Tsai, 2021). Prior literature examined the antecedents of continued and discontinued use separately. Cenfetelli (2004) suggested a balanced approach focusing on both positive and negative influences. The positive factors are the enablers that push users toward discontinuation, while the negative factors are the inhibitors that stop users from discontinuing a particular service.

In January 2021, WhatsApp, a messaging application that offers text and voice messages, voice and video calls and content-sharing services, announced a change in its terms of service. Users received a notification highlighting that WhatsApp will share data such as phone numbers with Facebook's "family of companies", including Facebook, Facebook Messenger and Instagram. Users were asked to accept the new terms of service to continue using the full features of WhatsApp. This action received worldwide criticism, especially outside the EU (Goodin, 2021). Many online forums (e.g. Wired.com, TheVerge.com and Forbes.com) and newspapers (e.g. *The New York Times and India Today*) published articles on this issue, highlighting privacy concerns. WhatsApp users showed displeasure and distrust (DT) towards WhatsApp on online forums such as Reddit and Quora. Simultaneously, WhatsApp competitors, such as Signal and Telegram, witnessed a stark growth in their user base during the same time (Hern, 2021). In response, WhatsApp delayed implementing this change in terms of service and clarified that the information exchange was only for business accounts to improve services and users' privacy would be upheld (ETech, 2021).

This study aims to understand the impact of the change in terms of service and privacy policy on WhatsApp's DI. We focus on DT from negative electronic word of mouth (NEWOM) (online articles, blogs and social media chatter), negative offline word of mouth (NOWOM) (significant others suggesting leaving WhatsApp) and a sense of privacy invasion (PI). Unlike the existing literature on discontinuance, we use a balanced approach to explore the antecedents based on concurrent consideration for positive (enablers) and negative (inhibitors) influencing factors (Cenfetelli, 2004). More importantly, our model acknowledges the service provider response strategy and efforts to regain users' trust and examines the influence of such efforts on the relationship between DT and DI. Capturing this response strategy is a missing element in the current literature. Our findings suggest that DT created due to NEWOM and a sense of PI significantly impacts DI. However, inertia (INR) has no significant impact on DI. Structural assurance significantly moderates the relationship between DT and DI.

The remainder of the paper is organized as follows. We first discuss the literature review and theoretical background of the study. Then, we explain our research method and present our findings. We then discuss our findings and their implications. The paper concludes with the research limitations and avenues for future work.

Literature review

Social media discontinuance

Information system (IS) discontinuance is studied as a post-adoption behavior and refers to individual-level abandoning, or reduction in the use of a given IS (Parthasarathy and

Bhattacherjee, 1998). IS post-adoption was discussed as continuance and discontinuance - two opposite sides of IS use (Turel, 2015). However, recent studies have treated IS discontinuance as a distinct behavior and not just the opposite of continuance (Cao and Sun, 2018; Maier *et al.*, 2015). Earlier literature on SMD identified individual-level technology stressors and their strain as predictors of SMD (Maier *et al.*, 2015). Other studies acknowledged the positive effects of subjective norms and guilt feelings (Turel, 2016) and the negative impact of satisfaction on discontinuance (Turel, 2015). In recent studies, researchers have used stimulus-organism-response and stressors-strain-outcome frameworks to understand different factors affecting SMD. Others turned to social cognitive theory, protection motivation theory and information processing theory to identify factors increasing SMD (please see Table 1 for details).

One common thing in these studies is their focus on factors that increase social media discontinuation. A recent study (Wang *et al.*, 2020) calls for considering factors that push and prevent users' discontinuation. This call is in line with the work of Cenfetelli (2004) (discussed next). We adopt the same balance approach and consider positive and negative influencers on WhatsApp discontinuation.

Source	Antecedents	Dependent variable	Theoretical lens	Social media type
Cao *et al.* (2020)	Cyberbullying, social overload, distress, SNS exhaustion	SNS discontinuous intentions	SCT	Facebook and WeChat
Cao and Sun (2018)	Stimuli: Information overload, communication overload, social overload Organism: Exhaustion, Regret	Discontinuous intention	SOR	No specific social media
Gao *et al.* (2018)	Ubiquitous connectivity, privacy concern, protection motivation, information overload, SNS exhaustion	Discontinuous usage intention	PMT, Information Processing Theory	No specific social media
Liu *et al.* (2021)	Stimuli: Perceived COVID-19 information overload Organism: fatigue, fear of COVID-19 Moderator: FoMO	Social media discontinuance intention	SOR	No specific social media
Luqman *et al.* (2017)	Stimuli: Excessive social use, excessive hedonic use, excessive cognitive use Organism: technostress, SNS exhaustion	Discontinuance usage intention	SOR	Facebook
Nawaz *et al.* (2018)	Stressor: social overload, information overload, SNS exhaustion Strain: Dissatisfaction, Regret	Discontinuance intention	SSO	No specific social media
Zhang *et al.* (2016)	Stressor: system feature overload, information overload, social overload Strain: social network fatigue, dissatisfaction	Discontinuous usage intention	SSO	Qzone (A Chinese social media)

Note(s): SNS = Social networks sites, SCT = Social Cognitive Theory, SOR =Stimuli-organism-response framework, PMT = Protection motivation theory, FoMO = Fear of missing out and SSO = Stressor-strain-outcome framework

Table 1.
Recent studies on social media discontinuation

Enabler-inhibitor model

IS literature emphasizes that the use or disuse of information technology is an interaction between enablers and inhibitors, which are seen as two distinct factors and not the opposite of one another (Cenfetelli and Schwarz, 2011). They represent "one's external beliefs about the system's attributes that influence a user's adoption or rejection decision." (Cenfetelli, 2004, p. 475).

Enablers and inhibitors can coexist. For instance, an application might be perceived as useful but, at the same time, intrusive, hence, involving a simultaneous recognition of the positive and negative attributes (Cenfetelli and Schwarz, 2011). Consequently, discontinuation decisions hinge on the evaluation of enablers and inhibitors. If the technology is associated with negative attributes more than positive ones, users will discontinue using that technology (Cenfetelli and Schwarz, 2011). This coexistence makes it common to have tension between enabling and inhibiting factors and hence between continuous and discontinuous intentions. Examples of recent studies utilizing the enabler/inhibitor model for understanding technology and social media discontinuation are given in Table 2.

Hypotheses development and research model

We adopt the enabler-inhibitor model to explain WhatsApp's DI following the change in its privacy policy. This model is more salient in problematic situations where individuals want to satisfy a certain need but at the same time face counterbalance forces (Turel, 2015). We examine the impact of DT (as an enabler) and INR (as an inhibitor) on users' intentions to discontinue using WhatsApp.

Distrust

Trust is a widely known construct that influences online user behavior toward information technologies (Gefen *et al.*, 2003; Prasad *et al.*, 2017; Venkatesh *et al.*, 2016). Distrust is considered a distinct construct from trust and is recognized for its detrimental impact on technology use (Chau *et al.*, 2013; McKnight *et al.*, 2017). Distrust can arise from prior experiences and observations that reflect an inability to perform the required task and/or dishonesty in communication (Chau *et al.*, 2013). Accordingly, DT changes users' behavior as they become more cautious and watchful (Benamati *et al.*, 2010).

By sharing personal information with third parties, users might perceive that WhatsApp serves its interests in maximizing profits at the expense of users' privacy. Users hence may no

Source	Enablers	Inhibitors	Context
Bian *et al.* (2020)	security threats, system compatibility	System support cost, system reliability	Organizational technology
Cao *et al.* (2021)	Fatigue (information overload, system feature overload, social overload)	Emotional attachment (autonomy, relatedness, competence)	SNS market
Maier *et al.* (2015)	SNS-stress (complexity, uncertainty, invasion, disclosure, pattern, social overload)	Switching stress (Transition costs, sun costs, replacement overload)	Facebook
Turel (2015)	Guilt, self-efficacy to discontinue	Habit of using the site, satisfaction with the site	Facebook
Wang *et al.* (2020)	Invasion of privacy, social overload	Social media habit, sunk costs and affective commitment	WeChat

Note(s): SNS = Social networking sites

Table 2. Example studies using enabler/inhibitor model in discontinuation intention

longer have faith in WhatsApp. In such situations, users tend to protect themselves from the distrusted entity by limiting their interactions and reliance on it (Benamati *et al.*, 2010; Chau *et al.*, 2013). In our context, this would be the discontinuation of WhatsApp use. We thus argue that:

H1. Distrust has a positive impact on WhatsApp's DI

Inertia

Inertia is defined as an attachment to existing behavioral patterns (Polites and Karahanna, 2012). Although INR will manifest better when there are alternatives because the more alternatives there are, the more users are inclined to reserve their current position and resist change; the presence of other options is unnecessary (Samuelson and Zeckhauser, 1988). Accordingly, in this study, INR will influence users' discontinuous decisions regardless of whether more privacy-preserving applications are available or not. Polites and Karahanna (2012) identifies three components of INR: behavioral, cognitive and effective. Behavioral INR suggests that users will continue to use WhatsApp because this is what they have always been doing. Cognitive INR will make users continue using WhatsApp despite knowing it might not be the best application available. In contrast, affective INR may drive users to continue using WhatsApp because they have become emotionally attached to it.

Inertia is significantly related to status quo bias (SQB) perspective (Samuelson and Zeckhauser, 1988). SQB explains individuals' preferences toward maintaining their status quo due to rationality, cognitive misperception and psychological commitment. Rationality drives individuals to consider the switching cost they will incur because of change. In contrast, in cognitive misperception, individuals weigh possible losses from switching as more significant than potential gains. In psychological commitment, individuals value and consider prior commitments when making a particular decision.

Inertia can lead users to undermine the new system's benefits (Polites and Karahanna, 2012). Therefore, INR acts as an inhibitor that prevents changing the status quo (Hsieh and Lin, 2018; Wang *et al.*, 2020). We thus hypothesize

H2. Inertia has a negative impact on WhatsApp's DI

Sources of distrust

Negative electronic word of mouth. Social media platforms empower users to openly share their positive and negative experiences with the expectation of a quick response from companies (Prasad *et al.*, 2017). Negative electronic word of mouth (NEWOM) refers to any negative statement published online on a product or a service. Negative online product reviews are typical examples of NEWOM.

NWOM receives more attention and cognitive thinking (Cenfetelli and Schwarz, 2011). With the high reach of EWOM, NEWOM affects more than negative statements spread through traditional means (e.g. direct conversation with family, friends and peers), becoming a more powerful tool for influencing behavior (King *et al.*, 2014). Moreover, bad experiences and failure to meet expectations drive the rapid spread of NEWOM even when companies try to compensate users (e.g. by giving them coupons) (Zhang *et al.*, 2017).

NEWOM can increase users' uncertainty as negative statements increase users' suspicions about the technology. Accordingly, we suggest that:

H3a. NEWOM has a positive impact on DT in WhatsApp.

Negative offline word of mouth. Negative statements can occur in offline contexts through traditional non-technological means (i.e. in-person conversations) and can be persuasive because it draws from strong ties and personal relationships, further building the message's credibility (King *et al.*, 2014). We refer to them as NOWOM. The impact of offline word of mouth cannot be neglected, as research found that opinions from family and peers can motivate engaging in electronic word of mouth (Zhang *et al.*, 2017). Accordingly, the adverse thoughts one can hear during daily and routine conversations with friends and family on the recent update on WhatsApp privacy policy and the ramifications of such change can create DT. Hence, we suggest:

H3b. NOWOM related to WhatsApp has a positive impact on DT in WhatsApp.

Privacy invasion. Privacy invasion refers to users' perception that their privacy has been compromised because of the collection, sharing and use of their information by a third party. This collection and use of personal information are perceived as harmful because they intrude on one's personal space (Xu *et al.*, 2008). This sense of intrusion is exacerbated when users have no control over what information to share (Zlatolas *et al.*, 2015). In a recent PEW research center report, 79% of USA adults showed concern about how companies use their personal information and a lack of confidence in companies in case of data misuse incidents (Auxier *et al.*, 2019). The use of personal information by service providers is considered a privacy violation that diminishes trust in them (Martin, 2018; Olivero and Lunt, 2004). Accordingly, we suggest:

H3c. Privacy invasion has a positive impact on DT in WhatsApp

Sources of inertia

Affective commitment. Affective commitment refers to an emotional bond and a sense of belonging that compels users to maintain relationships with given applications or services (Sun *et al.*, 2017; Wang *et al.*, 2020). Current WhatsApp users are likely to form associations and a sense of identification with the application which can reflect their unwillingness to abandon the application (Hashim and Tan, 2015). Affective commitment is perceived to positively influence relationship durability (Bateman *et al.*, 2011). We thus hypothesize:

H4a. Affective commitment has a positive impact on INR

Switching cost. The costs, psychological, emotional and financial, users incur upon discontinuing service are another source of INR. Rational decision-making entails evaluating the costs and benefits of discontinuing WhatsApp use and deciding accordingly. Switching cost, which includes the time and effort required to learn the new application and its features, can cause users to resist the change and prefer the status quo instead (keep using WhatsApp) (Polites and Karahanna, 2012; Samuelson and Zeckhauser, 1988). Moreover, users weigh losses more than gains (Kahneman and Tversky, 2013). So, while the decision to discontinue (or continue) using WhatsApp will incur both gains and losses, users will care more about the losses than the possible gains. Consequently, switching costs can make the behavior under consideration not worthwhile (Sun *et al.*, 2017). Switching cost represents a conscious bias toward the status quo. Prior research shows that high switching costs will increase INR (Polites and Karahanna, 2012; Sun *et al.*, 2017; Wang *et al.*, 2020). Thus, we posit:

H4b. Switching cost has a positive impact on INR

Use habit. Habit is a well-recognized source of INR (Limayem *et al.*, 2007; Polites and Karahanna, 2012; Wang *et al.*, 2020). It refers to "learned sequences of acts that have become automatic responses to specific cues and are functional in obtaining certain goals or end-states" (Verplanken and Aarts, 1999). Habit numbs cognitive thinking making users less aware of their behavior and its impact (Turel, 2015). Responses to environmental triggers become automatic and spontaneous (Wang *et al.*, 2020), making habit a subconscious source for resisting change (Polites and Karahanna, 2012). With habit, changing behavior becomes challenging, especially if the current behavior is part of a larger routine system (Polites and Karahanna, 2012). For example, if users use WhatsApp as part of their routine work practices, it would be difficult to abandon it because of the interrelatedness and the embeddedness of WhatsApp use. Users rely on habitual behavior to save their cognitive resources and redirect them toward more novel and complicated matters (Limayem *et al.*, 2007; Verplanken and Aarts, 1999). Prior research shows that habit positively influences INR (Polites and Karahanna, 2012; Wang *et al.*, 2020). Accordingly, we hypothesize:

H4c. Habit has a positive impact on INR

Structural assurance

Following the worldwide outrage over the change in the privacy policy, WhatsApp tried to reassure its users that it still respects their privacy. The reassuring messages claimed that the company did not read chats or heard calls because they are encrypted (Chee and Wong, 2021). Our study caters to WhatsApp responses by including structural reassurance as a moderating variable. Structural assurance refers to "the interventions that a particular company makes to assure consumers that efforts have been devoted to protecting personal information" (Xu *et al.*, 2011, p. 805). Such interventions are necessary for repairing broken trust bonds (Ayaburi and Treku, 2020). Prior research found that reassuring messages increase users' trust in social media platforms (Wang and Herrando, 2019). Structural assurance can be manifested in different forms, such as guarantees, safeguards, practices and legal protection (Farooq *et al.*, 2021; Wang and Herrando, 2019; Xu *et al.*, 2011). These forms can lessen users' judgment of the level of PI and reduce the negative impact of NWOM. Even when friends and peers retaliate against the privacy violations caused by the new WhatsApp policy, WhatsApp reassuring messages may drive users to believe that the company is committed to protecting their privacy. They will, therefore, trust the application and continue using it. Accordingly, we suggest that:

H5a. Structural assurance negatively moderates the relationship between NEWOM and DT.

H5b. Structural assurance negatively moderates the relationship between NOWOM and DT.

H5c. Structural assurance negatively moderates the relationship between PI and DT.

H5d. Structural assurance negatively moderates the relationship between DT and WhatsApp DI

The proposed research model is shown in Figure 1.

Methodology

Measures

Our model consisted of nine reflective and one second-order formative construct adapted from well-established and reliable scales. Additional items were added where required. All items were measured on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5). NEWOM and structural assurance were measured using 5 items adapted from (Prasad *et al.*, 2017) and (Chai *et al.*, 2011), respectively. Distrust was measured with 4 items taken from McKnight *et al.* (2017). Privacy invasion (Ayyagari *et al.*, 2011), NOWOM (Chen *et al.*, 2018), use habit (Limayem *et al.*, 2007), switching cost (Tang and Chen, 2020), affective commitment (Meyer and Allen, 1991) and DI (Tang and Chen, 2020; Yang *et al.*, 2012) were measured with 3 items each, whereas INR as a second-order formative construct was measured using 9 items taken from Polites and Karahanna (2012). The complete set of items is available in Appendix (Table A1).

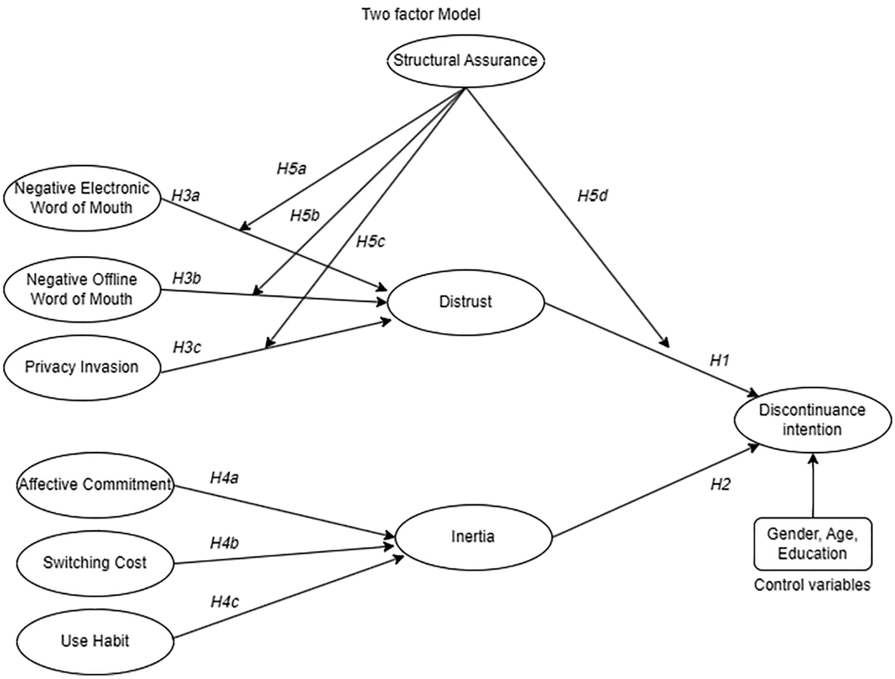


Figure 1.
Proposed research model

Participant recruitment and sample

We recruited our participants from a popular crowdsourcing marketplace, Amazon Mechanical Turk (MTurk) (Paolacci *et al.*, 2010). The participants are compensated for each completed task, known as human intelligence tasks (HIT). To maintain response quality from MTurk, we adopted the qualification criteria suggested by (Kelley, 2010; Paolacci *et al.*, 2010).

The crowdsourcing workers fulfilling the qualification criteria were invited to participate in a screening phase where WhatsApp users were identified. The screening phase was introduced as a social media study without highlighting WhatsApp in the title or introductory paragraph. The respondents were asked to select the three most frequently used social media from a given list. Only those who selected WhatsApp as one of the three most frequently used social media by the participants were considered eligible and were introduced to the actual study.

In the actual study, the eligible participants first answered questions related to WhatsApp use, such as experience in years using WhatsApp, frequency and duration of use. Following WhatsApp use, participants were shown inhibitors of DI, such as affective commitment, use habit, switching cost and items measuring INR. After that, we shared a media news item on WhatsApp change in terms and privacy policy and showed them the screenshot of WhatsApp's official message that used to pop up on users' screens in January/February 2021. Next, we recorded participants' opinions on discontinuation enabler (DT) and its antecedents (NEWOM, NOWOM and PI). After that, participants were shown the screenshot of the message sent by WhatsApp explaining the changes in terms and privacy policy that users' privacy will be upheld. In the end, participants rated their DI. Several attention-check questions were placed throughout the survey to generate higher-quality data (Peer *et al.*, 2014). The average completion time for the HIT was around 10–15 min, and we rewarded each participant with $1.01 upon completing the task.

We received a total of 689 responses. Out of these, 65 were removed from the study for failing the attention-check questions, leaving a final sample size (N) of 624 respondents. Among the respondents, 67% were male, 32% were female and 1% preferred not to tell. The average age of respondents was 34.57 (SD = 9.0). 26% of the respondents had a master degree, 67% had a bachelor degree, while the rest had other qualifications such as an associate degree, some college education and a high school diploma. 90% of the respondents were in an employment relationship, 6% were entrepreneurs and only 2% were students. The remaining (2%) were either retired or unemployed. Most respondents had been using WhatsApp for some years (Less than a year: 2%, 1–2 years: 8%, 2–3 years: 17%, 3–4 years: 20%, 4–5 years: 20%, and more than five years: 33%). In terms of WhatsApp use, more than half (55%) used WhatsApp often, 31% used it sometimes and the rest used it seldom. Regarding time spent on WhatsApp, most respondents (30%) spent 4–6 h, 27% spent 24 h, 16% spent less than 2 h, 15% spent 6–8 h and the remaining 12% spent eight or more hours.

Analysis

The proposed model was tested using PLS-SEM, a second-generation statistical (Hair *et al.*, 2011). This statistical technique is less restrictive regarding data and handles smaller sample sizes and non-normally distribution due to non-parametric bootstrapping (Hair *et al.*, 2011). Further, PLS is recommended for models that have both reflective and formative constructs (for example, INR is measured as a second-order formative construct) (Chin *et al.*, 2003; Hair *et al.*, 2011). In analysis, a two-stage procedure and guidelines provided by Hair *et al.* (2016) were used for reflective constructs, whereas the guidelines by Hair *et al.* (2017) were followed for assessing second-order formative construct INR. This adoption of guidelines is in line with several other studies (Farooq *et al.*, 2019; Huvila and Ahmad, 2018; Wang *et al.*, 2020) using PLS-SEM and 2nd-order formative constructs.

Measurement model testing. We checked the reliability (item loadings and internal consistency) and validity (convergent and discriminant) of the constructs used in the model for the reflective constructs. Items loadings should be higher than 0.6, whereas internal consistency was assessed by examining the composite reliability (CR) coefficient (0.7 or higher) (Hair *et al.*, 2016). Conventionally, Cronbach's alpha has been used for internal consistency, however, CR has been considered a better measure of internal consistency, especially in PLS (Henseler *et al.*, 2009). Therefore, we report only CR in this study. Convergent validity was assessed with average variance extracted (AVE) (0.5 or higher). Discriminant validity was tested using the Fornell–Larker criterion (Fornell and Larcker, 1981), stating that the square root of the AVE of each construct should be higher than its correlation with the other constructs. The results of measurement model testing are given in Appendix (Table A1). All the items of reflective constructs loaded significantly on their respective constructs (with minimum item loading of 0.67). CR for the reflective constructs ranged between 0.80 and 0.92, whereas AVE was between 0.57 and 0.80. Table 3 shows the discriminant validity test results of first-order constructs using the Fornell–Larcker criterion.

As shown, the square root of AVE (bold in diagonal) is greater than the correlations providing evidence of discriminant validity. In addition, we also tested the constructs for multi-collinearity issues using the variance inflation factor (VIF). The item level VIF is given in Appendix (Table A1). VIF for all reflective items was between 1.40 and 2.6, showing no sign of multi-collinearity.

To assess the quality of the second-order formative construct, INR, we conducted a collinearity diagnostic and significance of formative items (Hair *et al.*, 2017), the result of which is shown in Table 4. VIF values are below 3.30, showing a lack of multi-collinearity issue (Diamantopoulos and Siguaw, 2006), whereas significant item loadings (at $p < 0.01$) show that the second-order construct is suitable for further analysis.

Table 3. Discriminant validity test result of first-order constructs using Fornell–Larcker criterion

Constructs	1	2	3	4	5	6	7	8	9	10	11	12
1. Affective Inertia	*0.78*											
2. Affective Commitment	0.70	*0.85*										
3. Behavioral Inertia	0.74	0.66	*0.81*									
4. Cognitive Inertia	0.66	0.58	0.62	*0.83*								
5.Discontinuance Intention	−0.13	−0.09	−0.12	0.03	*0.90*							
6. Distrust	0.00	0.02	0.01	0.05	0.35	*0.81*						
7. Negative Electronic WOM	0.24	0.30	0.22	0.27	0.26	0.58	*0.81*					
8. Privacy Invasion	−0.01	0.00	0.00	0.00	0.28	0.80	0.58	*0.81*				
9. Negative Offline WOM	0.23	0.36	0.22	0.32	0.32	0.50	0.79	0.51	*0.87*			
10. Structural Assurances	0.67	0.65	0.59	0.58	−0.13	−0.09	0.18	−0.09	0.26	*0.77*		
11. Switching Cost	0.63	0.66	0.57	0.57	0.06	0.16	0.39	0.15	0.45	0.53	*0.80*	
12. Use Habit	0.64	0.64	0.62	0.50	−0.18	0.11	0.25	0.11	0.22	0.55	0.57	*0.76*

Note(s): The italic numbers in the diagonal are the square root of AVEs and WOM= Word of mouth

Common method bias. A cross-section study design, such as the one adopted in this study, is prone to common method bias (CMB) (Podsakoff and Organ, 1986). To ensure that our study does not have this issue, we conducted Harman's single factor test (Harman, 1976; Podsakoff and Organ, 1986) and construct-level VIF was examined (Kock, 2015). In Harman's single factor test, using principal axis factoring without any rotation, a single factor solution accounted for 25.52% of the variance. A variance of less than 50% depicts a lack or presence of CMB. Furthermore, construct level VIF was between 1.80 and 3.20, which was less than the threshold of 3.3, further confirming a lack of CMB (Kock, 2015).

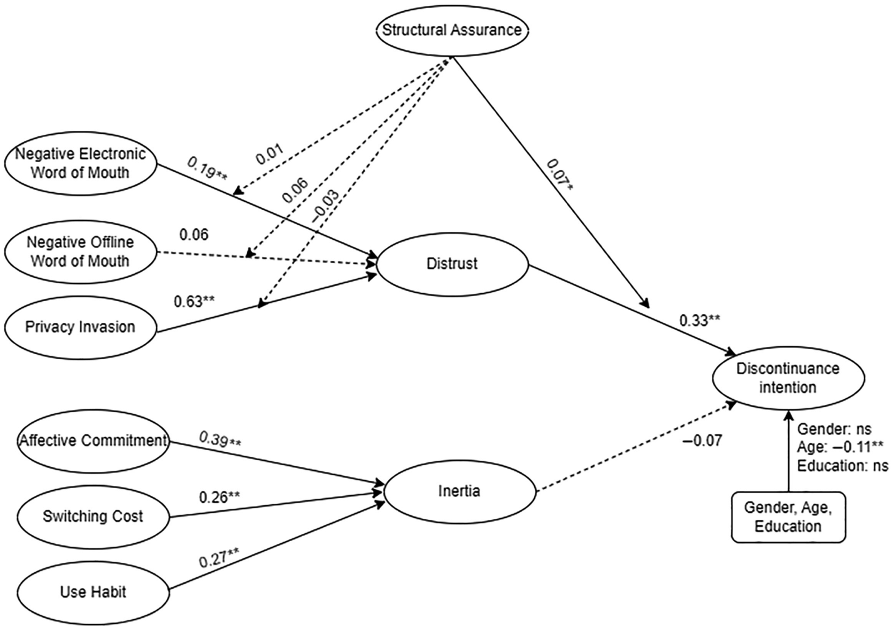
Results

Figure 2 shows the structural model results with path coefficients ($p < 0.05$). Unsupported hypotheses are shown in italic. For completed statistics related to the structural model, such as hypotheses, path coefficients, t statistics and p values, consult Table 5.

As shown in Figure 2 and Table 5, DT has a significant positive impact on WhatsApp's DI (H1: $\beta = 0.33, p < 0.01$), whereas INR does not significantly impact the DI (H2: $\beta = -0.07, p = 0.313$). Among the antecedents of DI, NEWOM (H3a: $\beta = 0.19, p < 0.01$) and PI (H3c: $\beta = 0.63, p < 0.01$) significantly impact the DI. Negative OWOM does not create any

Table 4.
Measurement test for second-order formative construct

2nd-order construct	First-order construct	VIF	Loadings	Weights	t	p
Inertia	Affective inertia	2.60	0.91	0.40	38.482	<0.01
	Behavioral inertia	2.41	0.89	0.38	35.675	<0.01
	Cognitive inertia	1.90	0.84	0.33	31.489	<0.01



Note(s): Dotted lines mean insignificant relationship; $*p < 0.05$, $**p < 0.01$

Figure 2.
Structural model showing path coefficients (β)

Hypotheses	Relationship	β	t	p	Results
H1	DT→DI	0.33	8.54	<0.01	Supported
H2	*INR→DI*	*−0.07*	*1.008*	*0.313*	*Not supported*
H3a	NEWOM→DT	0.19	3.507	<0.01	Supported
H3b	*NOWOM→DT*	*0.06*	*1.16*	*0.246*	*Not supported*
H3c	PI→DT	0.63	16.474	<0.01	Supported
H4a	AC→INR	0.39	7.126	<0.01	Supported
H4b	SW→INR	0.26	5.838	<0.01	Supported
H4c	UH→INR	0.27	4.961	<0.01	Supported
Moderation					
H5a	NEWOM × SA→*DT*	*0.01*	*0.272*	*0.785*	*Not supported*
H5b	*PI × SA→DT*	*−0.03*	*1.408*	*0.16*	*Not supported*
H5c	*NOWOM × SA→DT*	*0.06*	*1.829*	*0.068*	*Not supported*
H5d	DT×SA→DI	−0.07	2.453	0.014	Supported

Note(s): The results in italic are non-significant relationships. Abbreviations: DT = distrust, DI = discontinuance intention, INR = inertia, NEWOM = negative electronic word of mouth, NOWOM = negative offline word of mouth, PI = privacy invasion, AC = affective commitment, SW = switching cost and UH = use habit

Table 5. Structural model test results

significant variance in DT (H3b: $\beta = 0.06, p = 0.24$). On the other hand, affective commitment (H4a: $\beta = 0.39, p < 0.01$), switching cost (H4b: $\beta = 0.26, p < 0.01$) and use habit (H4c: $\beta = 0.27, p < 0.01$) significantly impacted the INR, the proposed inhibitor for WhatsApp DI. Lastly, we examine the moderating effect of structural assurance (SA) on the enabler of the DI. We find that SA does not moderate the relationship of antecedents of DT (H5a, H5b, H5c, $p > 0.05$), whereas the moderation of SA between DT and DI was significant (H5d: $\beta = 0.07, p < 0.05$).

Discussion

Key findings

First, our research shows that DT significantly impacts WhatsApp's DI (H1), though the impact is weak. A plausible explanation is that continuous and discontinuous intentions are two distinct constructs; thus, the determinants of DI are not the opposite of continuous intentions (Turel, 2015). So while prior studies found that trust positively affects continuous intentions (Hashim and Tan, 2015), our research reveals that DT contribution in explaining DI is relatively low. Indeed, continuous intentions due to high levels of trust do not necessarily mean that discontinuous intentions will be associated with high levels of DT (Dimoka, 2010). Another plausible explanation for the weak effect of DT on WhatsApp's DI is that DT activates brain areas linked to fear of loss (Dimoka, 2010). Users might use multiple social media platforms (for example, Facebook, Twitter and Instagram), making them feel that they are not losing much, hence the low effect of DT.

Second, the NEWOM and PI had a positive impact on DT (H3a, H3c), however, NOWOM does not impact DT (H3b). Our finding that NEWOM is associated with DT is in line with previous studies in different contexts, for example, purchase intention (See-To and Ho, 2014), online forums (Liu *et al.*, 2017) and website trust (Nam *et al.*, 2020). We further found that PI is indirectly associated with DI, a result in line with the findings of Gao *et al.* (2018). We also found that NOWOM does not impact DT (H3b). While conventional wisdom suggests that people trust the word of family and friends more than what is said online by the extended network, recent studies show that weak ties have a stronger effect than strong ties, for example (Hu *et al.*, 2019; Liu and Yeo, 2022). Another possible explanation could be that the volume and magnitude of information value more than the social bonding in this interconnected age. Having the outrage and privacy concerns disseminated constantly online weighs more than hearing the opinion of a few people in the offline environment. This requires further investigation though.

Third, in line with previous work (Wang *et al.* (2020), affective conditions, switching cost and use habit elevate INR; however, INR further does not negatively impact users' discontinuance decisions (H2). Although this sounds surprising, prior studies examining INR's impact on DI reported mixed results. For instance, a study (Koghut and AI-Tabbaa, 2021) found that INR had no impact on users' DI of mobile payment technology, whereas Wang *et al.* (2020) found a low contribution of INR in explaining social media DI.

Fourth, our findings demonstrate the effectiveness of SA in reducing DT's effect on DI (H5d). Previous research has shown a positive effect of SA on trust (Farooq *et al.*, 2021; McCole *et al.*, 2019) and moderating role between trust and continued usage intention (McCole *et al.*, 2019). Our study shows counter effects on the opposite of trust (DT) and continuance intention (DI). Our research further shows the lack of significant impact of SAs on moderating the negative relationship between NEWOM, NOWOM, PI and DT. A plausible explanation is that NWOM often emerges from one's social network and important others making it more persuasive and powerful (King *et al.*, 2014) than assurance messages. Moreover, as most users believe that companies will not take responsibility for any data misuse incidents (Auxier *et al.*, 2019), it is unlikely that they will buy their assurance messages concerning protecting data privacy.

Theoretical implications

Our research contributes to SMD literature in several ways. (1) Our study is different from prior work in that we examine a real-life situation representing a real change in the privacy policy and its impact on users' behavior, in comparison to other studies where a hypothetical impact is created through a scenario-based or experimental setup. In our study, users were *actually* experiencing the push (DT and its antecedents) and pull factors (INR along with its antecedents and SA). (2) Our research explains how and why DI is formed by taking different antecedents into account, enriching the understanding of underlying psychological mechanisms. (3) It further acknowledges social media providers' efforts to address privacy criticism and regain users' trust, an area that has received little attention in prior literature. We show that assuring messages alleviate the negative impact of DT on DI, making them a fruitful response strategy. (4) Unlike earlier studies (Wang *et al.*, 2020), we did not find evidence that INR inhibits DI. While the enabler-inhibitor model (Cenfetelli and Schwarz, 2011) has strong theoretical backing, our sample does not support it. It may be likely that in the case of certain enablers, INR does not work. This requires further investigation though.

Practical implications

Our findings provide excellent insights into social media platform providers. First, social media platforms should not take NEWOM lightly, as it can adversely affect their users. EWOM spreads quickly and can significantly influence decision-making in a very short period. Second, we have observed that INR (and its antecedents) does not affect discontinuous intention. Accordingly, social media platform providers should not rely on habitual use of and emotional attachment to their services as a safeguard against privacy-threatening situations. Instead, they should think carefully about any change in their privacy policies and prepare convincing rhetoric about the reasons behind the change. Moreover, social media platforms should effectively communicate their privacy policies to the users by devising various awareness messaging campaigns rather than announcing that an updated privacy policy document is available and mandating an agreement to continue using the application. Confidence in the application will likely increase if users clearly understand the privacy policy changes. This is especially important given that the negative impact of NEWOM and

PI persist even with reassuring messages. Last, SA is not without value; our research revealed that reassuring messages could aid in maintaining users' trust and decrease the likelihood of forming DI. Consequently, following any alarming event (e.g. security breaches and privacy violations), platform owners should act rapidly and send strong and diverse reassuring statements to lessen the outrage and uncertainty related to the event.

Limitations and future work

While our paper provides some important insights, it is not without limitations. First, the study used a cross-sectional design that may result in bias; therefore, a longitudinal study can further support or refute the findings of this study. Second, although we used screening and attention-check questions to improve the data quality, the use of a crowdsourcing platform may have its limitations regarding generalizability. Additionally, culture is a factor that can influence DI, which we did not examine. WhatsApp's new terms of service are universal except for the EU, where the General Data Protection Regulation (GDPR) protects users from having to accept the new terms of service to continue using the platform. Users from the EU may be less concerned about changing terms of use than the countries where a GDPR type regulation does not exist. Therefore, a separate study can be conducted to investigate the role of culture on discontinuation intention. As mentioned earlier, future studies may examine the role of INR in presence of different enablers to explicate its role as an inhibitor. Other inhibitors may also be studied.

Conclusion

The purpose of the study was to understand the DI given the change in terms of service and privacy policy of a messaging application. Using an enabler-inhibitor model to understand why people intend to stop using WhatsApp, we find that NEWOM and PI results in DT that further increases DI. Negative offline word of mouth, INR and its antecedents do not associate with DI. We also found that SA can negatively moderate the effect of DT on DI. Our research adds new insights to theory and can help social media platform providers better manage their relationships with their customers.

References

Auxier, B., Rainie, L., Anderson, M., Perrin, A., Kumar, M. and Turner, E. (2019), "Americans and privacy: concerned, confused and feeling lack of control over their personal information", Pew Research Center: Internet, Science & Tech, available at: https://www.pewresearch.org/internet/2019/11/15/americans-and-privacy-concerned-confused-and-feeling-lack-of-control-over-their-personal-information/

Ayaburi, E.W. and Treku, D.N. (2020), "Effect of penitence on social media trust and privacy concerns: the case of Facebook", *International Journal of Information Management*, Vol. 50, pp. 171-181, doi: 10.1016/j.ijinfomgt.2019.05.014.

Ayyagari, R., Grover, V. and Purvis, R. (2011), "Technostress: technological antecedents and implications", *MIS Quarterly*, Vol. 35 No. 4, pp. 831-858, doi: 10.2307/41409963.

Bateman, P.J., Gray, P.H. and Butler, B.S. (2011), "Research note—the impact of community commitment on participation in online communities", *Information Systems Research*, Vol. 22 No. 4, pp. 841-854, doi: 10.1287/isre.1090.0265.

Benamati, J.S., Serva, M.A. and Fuller, M.A. (2010), "The productive tension of trust and distrust: the coexistence and relative role of trust and distrust in online banking", *Journal of Organizational Computing and Electronic Commerce*, Vol. 20 No. 4, pp. 328-346, doi: 10.1080/10919392.2010.516632.

Bian, Y., Kang, L. and Zhao, J.L. (2020), "Dual decision-making with discontinuance and acceptance of information technology: the case of cloud computing", *Internet Research*, Vol. 30 No. 5, pp. 1521-1546.

Cao, X., Khan, A.N., Ali, A. and Khan, N.A. (2020), "Consequences of cyberbullying and social overload while using SNSs: a study of users' discontinuous usage behavior in SNSs", *Information Systems Frontiers*, Vol. 22, pp. 1343-1356.

Cao, Y., Long, Q., Hu, B., Li, J. and Qin, X. (2021), "Exploring elderly users' MSNS intermittent discontinuance: a dual-mechanism model", *Telematics and Informatics*, Vol. 62, 101629.

Cao, X. and Sun, J. (2018), "Exploring the effect of overload on the discontinuous intention of social media users: an S-O-R perspective", *Computers in Human Behavior*, Vol. 81, pp. 10-18, doi: 10.1016/j.chb.2017.11.035.

Cenfetelli, R. (2004), "Inhibitors and enablers as dual factor concepts in technology usage", *Journal of the Association for Information Systems*, Vol. 5 No. 11, pp. 472-492, doi: 10.17705/1jais.00059.

Cenfetelli, R.T. and Schwarz, A. (2011), "Identifying and testing the inhibitors of technology usage intentions", *Information Systems Research*, Vol. 22 No. 4, pp. 808-823, doi: 10.1287/isre.1100.0295.

Chai, S., Das, S. and Rao, H.R. (2011), "Factors affecting bloggers' knowledge sharing: an investigation across gender", *Journal of Management Information Systems*, Vol. 28 No. 3, pp. 309-342, doi: 10.2753/MIS0742-1222280309.

Chau, P.Y.K., Ho, S.Y., Ho, K.K.W. and Yao, Y. (2013), "Examining the effects of malfunctioning personalized services on online users' distrust and behaviors", *Decision Support Systems*, Vol. 56, pp. 180-191, doi: 10.1016/j.dss.2013.05.023.

Chee, K. and Wong, C. (2021), "WhatsApp fights back over privacy concerns as users jump to Telegram, Signal | The straits times", available at: https://www.straitstimes.com/tech/whatsapp-stresses-privacy-as-users-flock-to-rivals

Chen, T., Ma, K., Bian, X., Zheng, C. and Devlin, J. (2018), "Is high recovery more effective than expected recovery in addressing service failure? — a moral judgment perspective", *Journal of Business Research*, Vol. 82, pp. 1-9, doi: 10.1016/j.jbusres.2017.08.025.

Chin, W.W., Marcolin, B.L. and Newsted, P.R. (2003), "A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study", *Information Systems Research*, Vol. 14 No. 2, pp. 189-217, doi: 10.1287/isre.14.2.189.16018.

Dhir, A., Yossatorn, Y., Kaur, P. and Chen, S. (2018), "Online social media fatigue and psychological wellbeing—a study of compulsive use, fear of missing out, fatigue, anxiety and depression", *International Journal of Information Management*, Vol. 40, pp. 141-152, doi: 10.1016/j.ijinfomgt.2018.01.012.

Diamantopoulos, A. and Siguaw, J.A. (2006), "Formative versus reflective indicators in organizational measure development: a comparison and empirical illustration", *British Journal of Management*, Vol. 17 No. 4, pp. 263-282, doi: 10.1111/j.1467-8551.2006.00500.x.

Dimoka, A. (2010), "What does the brain tell us about trust and distrust? Evidence from a functional neuroimaging study", *MIS Quarterly*, Vol. 34 No. 2, pp. 373-396, doi: 10.2307/20721433.

ETech (2021), "Whatsapp privacy policy: after backlash, WhatsApp clarifies its new privacy policy", The Economic Times, available at: https://economictimes.indiatimes.com/tech/technology/after-facing-backlash-whatsapp-clarifies-its-new-privacy-policy/articleshow/80226028.cms?from=mdr

Farooq, A., Jeske, D. and Isoaho, J. (2019), "Predicting students' security behavior using information-motivation-behavioral skills model", in Dhillon, G., Karlsson, F., Hedström, K. and Zúquete, A. (Eds), *ICT Systems Security and Privacy Protection*, Springer International Publishing, pp. 238-252, doi: 10.1007/978-3-030-22312-0_17.

Farooq, A., Dubinina, A., Virtanen, S. and Isoaho, J. (2021), "Understanding dynamics of initial trust and its antecedents in password managers adoption intention among young adults", *Procedia Computer Science*, Vol. 184, pp. 266-274, doi: 10.1016/j.procs.2021.03.036.

Farooq, A., Dahabiyeh, L. and Maier, C. (2023), "Social media discontinuation: a systematic literature review on drivers and inhibitors", *Telematics and Informatics*, Vol. 77, 101924, doi: 10.1016/j.tele.2022.101924.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50, doi: 10.1177/002224378101800104.

Gao, W., Liu, Z., Guo, Q. and Li, X. (2018), "The dark side of ubiquitous connectivity in smartphone-based SNS: an integrated model from information perspective", *Computers in Human Behavior*, Vol. 84, pp. 185-193, doi: 10.1016/j.chb.2018.02.023.

Gefen, D., Karahanna, E. and Straub, D.W. (2003), "Trust and TAM in online shopping: an integrated model", *MIS Quarterly*, Vol. 27 No. 1, pp. 51-90, doi: 10.2307/30036519.

Goodin, D. (2021), "WhatsApp gives users an ultimatum: share data with Facebook or stop using the app", Ars Technica, available at: https://arstechnica.com/tech-policy/2021/01/whatsapp-users-must-share-their-data-with-facebook-or-stop-using-the-app/

Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011), "PLS-SEM: indeed a silver bullet", *Journal of Marketing Theory and Practice*, Vol. 19 No. 2, pp. 139-152, doi: 10.2753/MTP1069-6679190202.

Hair, J.F., Hult, T., Ringle, C.M. and Sarstedt, M. (2016), "A primer on partial least squares structural equation modeling (PLS-SEM)", Sage Publisher, available at: https://us.sagepub.com/en-us/nam/a-primer-on-partial-least-squares-structural-equation-modeling-pls-sem/book244583

Hair, J.F. Jr, Sarstedt, M., Ringle, C.M. and Gudergan, S.P. (2017), *Advanced Issues in Partial Least Squares Structural Equation Modeling*, SAGE Publications, Thousand Oaks, CA.

Harman, H.H. (1976), *Modern Factor Analysis*, University of Chicago Press, Chicago.

Hashim, K.F. and Tan, F.B. (2015), "The mediating role of trust and commitment on members' continuous knowledge sharing intention: a commitment-trust theory perspective", *International Journal of Information Management*, Vol. 35 No. 2, pp. 145-151, doi: 10.1016/j.ijinfomgt.2014.11.001.

Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", in Sinkovics, R.R. and Ghauri, P.N. (Eds), *New Challenges to International Marketing*, Emerald Group Publishing Limited, Vol. 20, pp. 277-319, doi: 10.1108/S1474-7979(2009)0000020014.

Hern, A. (2021), "WhatsApp to try again to change privacy policy in mid-May", *The Guardian*, available at: https://www.theguardian.com/technology/2021/feb/22/whatsapp-to-try-again-to-change-privacy-policy-in-mid-may

Hsieh, P.-J. and Lin, W.-S. (2018), "Explaining resistance to system usage in the PharmaCloud: a view of the dual-factor model", *Information and Management*, Vol. 55 No. 1, pp. 51-63, doi: 10.1016/j.im.2017.03.008.

Hu, H., Wang, L., Jiang, L. and Yang, W. (2019), "Strong ties versus weak ties in word-of-mouth marketing", *BRQ Business Research Quarterly*, Vol. 22 No. 4, pp. 245-256, doi: 10.1016/j.brq.2018.10.004.

Huvila, I. and Ahmad, F. (2018), "Holistic information behavior and the perceived success of work in organizations", *Library and Information Science Research*, Vol. 40 No. 1, pp. 18-29, doi: 10.1016/j.lisr.2018.03.004.

Kahneman, D. and Tversky, A. (2013), "Choices, values, and frames", *Handbook of the Fundamentals of Financial Decision Making*, World Scientific, Vol. 4, pp. 269-278, doi: 10.1142/9789814417358_0016.

Kelley, P.G. (2010), "Conducting useable privacy & security studies with amazon's mechanical Turk", *Symposium on Usable Privacy and Security (SOUPS)*.

King, R.A., Racherla, P. and Bush, V.D. (2014), "What we know and don't know about online word-of-mouth: a review and synthesis of the literature", *Journal of Interactive Marketing*, Vol. 28 No. 3, pp. 167-183, doi: 10.1016/j.intmar.2014.02.001.

Kock, N. (2015), "Common method bias in PLS-SEM: a full collinearity assessment approach", *International Journal of E-Collaboration (IJeC)*, Vol. 11 No. 4, pp. 1-10, doi: 10.4018/ijec.2015100101.

Koghut, M. and Ai-Tabbaa, O. (2021), "Exploring consumers' discontinuance intention of remote mobile payments during post-adoption usage: an empirical study", *Administrative Sciences*, Vol. 11 No. 1, 1, doi: 10.3390/admsci11010018.

Lee, A.R., Son, S.-M. and Kim, K.K. (2016), "Information and communication technology overload and social networking service fatigue: a stress perspective", *Computers in Human Behavior*, Vol. 55, pp. 51-61, doi: 10.1016/j.chb.2015.08.011.

Li, Y., Yang, S., Zhang, S. and Zhang, W. (2019), "Mobile social media use intention in emergencies among Gen Y in China: an integrative framework of gratifications, task-technology fit, and media dependency", *Telematics and Informatics*, Vol. 42, 101244, doi: 10.1016/j.tele.2019.101244.

Limayem, M., Hirt, S. and Cheung, C. (2007), *How Habit Limits the Predictive Power of Intention: The Case of Information Systems Continuance on JSTOR*, Vol. 31 No. 4, pp. 705-737, doi: 10.2307/25148817.

Liu, P.L. and Yeo, T.E.D. (2022), "Weak ties matter: social network dynamics of mobile media multiplexity and their impact on the social support and psychological well-being experienced by migrant workers—piper Liping Liu, Tien Ee Dominic Yeo, 2022", *Mobile Media and Communication*, Vol. 10 No. 1, pp. 76-96, doi: 10.1177/2050157921100110.

Liu, H., Liu, W., Yoganathan, V. and Osburg, V.S. (2021), "COVID-19 information overload and generation Z's social media discontinuance intention during the pandemic lockdown", *Technological Forecasting and Social Change*, Vol. 166, 120600.

Liu, F., Xiao, B., Lim, E.T.K. and Tan, C.-W. (2017), "Investigating the impact of gender differences on alleviating distrust via electronic word-of-mouth", *Industrial Management and Data Systems*, Vol. 117 No. 3, pp. 620-642, doi: 10.1108/IMDS-04-2016-0150.

Luqman, A., Cao, X., Ali, A., Masood, A. and Yu, L. (2017), "Empirical investigation of Facebook discontinues usage intentions based on SOR paradigm", *Computers in Human Behavior*, Vol. 70, pp. 544-555, doi: 10.1016/j.chb.2017.01.020.

Maier, C., Laumer, S., Weinert, C. and Weitzel, T. (2015), "The effects of technostress and switching stress on discontinued use of social networking services: a study of Facebook use", *Information Systems Journal*, Vol. 25 No. 3, pp. 275-308, doi: 10.1111/isj.12068.

Martin, K. (2018), "The penalty for privacy violations: how privacy violations impact trust online", *Journal of Business Research*, Vol. 82, pp. 103-116, doi: 10.1016/j.jbusres.2017.08.034.

McCole, P., Ramsey, E., Kincaid, A., Fang, Y. and Li, H. (2019), "The role of structural assurance on previous satisfaction, trust and continuance intention: the case of online betting", *Information Technology and People*, Vol. 32 No. 4, pp. 781-801, doi: 10.1108/ITP-08-2017-0274.

McKnight, D.H., Lankton, N.K., Nicolaou, A. and Price, J. (2017), "Distinguishing the effects of B2B information quality, system quality, and service outcome quality on trust and distrust", *The Journal of Strategic Information Systems*, Vol. 26 No. 2, pp. 118-141, doi: 10.1016/j.jsis.2017.01.001.

Meyer, J.P. and Allen, N.J. (1991), "A three-component conceptualization of organizational commitment", *Human Resource Management Review*, Vol. 1 No. 1, pp. 61-89.

Nam, K., Baker, J., Ahmad, N. and Goo, J. (2020), "Dissatisfaction, disconfirmation, and distrust: an empirical examination of value Co-destruction through negative electronic word-of-mouth (eWOM)", *Information Systems Frontiers*, Vol. 22 No. 1, pp. 113-130, doi: 10.1007/s10796-018-9849-4.

Nawaz, M.A., Shah, Z., Nawaz, A., Asmi, F., Hassan, Z. and Raza, J. (2018), "Overload and exhaustion: classifying SNS discontinuance intentions", *Cogent Psychology*, Vol. 5 No. 1, 1515584, doi: 10.1080/23311908.2018.1515584.

Ngai, E.W.T., Tao, S.S.C. and Moon, K.K.L. (2015), "Social media research: theories, constructs, and conceptual frameworks", *International Journal of Information Management*, Vol. 35 No. 1, pp. 33-44, doi: 10.1016/j.ijinfomgt.2014.09.004.

Olivero, N. and Lunt, P. (2004), "Privacy versus willingness to disclose in e-commerce exchanges: the effect of risk awareness on the relative role of trust and control", *Journal of Economic Psychology*, Vol. 25 No. 2, pp. 243-262, doi: 10.1016/S0167-4870(02)00172-1.

Paolacci, G., Chandler, J. and Ipeirotis, P.G. (2010), "Running experiments on Amazon mechanical Turk", *Judgment and Decision Making*, Vol. 5 No. 5, pp. 411-419.

Parthasarathy, M. and Bhattacherjee, A. (1998), "Understanding post-adoption behavior in the context of online services", *Information Systems Research*, Vol. 9 No. 4, pp. 362-379, doi: 10.1287/isre.9.4.362.

Peer, E., Vosgerau, J. and Acquisti, A. (2014), "Reputation as a sufficient condition for data quality on Amazon Mechanical Turk", *Behavior Research Methods*, Vol. 46 No. 4, pp. 1023-1031, doi: 10.3758/s13428-013-0434-y.

Podsakoff, P. and Organ, D. (1986), "Self-reports in organizational research: problems and prospects", *Journal of Management*, Vol. 12 No. 4, pp. 231-544.

Polites, G.L. and Karahanna, E. (2012), "Shackled to the status quo: the inhibiting effects of incumbent system habit, switching costs, and inertia on new system acceptance", *MIS Quarterly*, Vol. 36 No. 1, pp. 21-42, doi: 10.2307/41410404.

Prasad, S., Gupta, I.C. and Totala, N.K. (2017), "Social media usage, electronic word of mouth and purchase-decision involvement", *Asia-Pacific Journal of Business Administration*, Vol. 9 No. 2, pp. 134-145, doi: 10.1108/APJBA-06-2016-0063.

Research, E. (2018), "Facebook declines for the first time in infinite dial history", Edison Research, available at: https://www.edisonresearch.com/facebook-declines-first-time-infinite-dial-history/

Samuelson, W. and Zeckhauser, R. (1988), "Status quo bias in decision making", *Journal of Risk and Uncertainty*, Vol. 1 No. 1, pp. 7-59, doi: 10.1007/BF00055564.

See-To, E.W.K. and Ho, K.K.W. (2014), "Value co-creation and purchase intention in social network sites: the role of electronic Word-of-Mouth and trust – a theoretical analysis", *Computers in Human Behavior*, Vol. 31, pp. 182-189, doi: 10.1016/j.chb.2013.10.013.

Sonnemaker, T. (2020), "Facebook reported a decline of 2 million daily active users in the US and Canada", Business Insider, available at: https://www.businessinsider.com/facebook-decline-2-million-daily-users-us-canada-q3-earnings-2020-10

Statista (2021), "Most used social media 2021", Statista, available at: https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

Sun, Y., Liu, D., Chen, S., Wu, X., Shen, X.-L. and Zhang, X. (2017), "Understanding users' switching behavior of mobile instant messaging applications: an empirical study from the perspective of push-pull-mooring framework", *Computers in Human Behavior*, Vol. 75, pp. 727-738, doi: 10.1016/j.chb.2017.06.014.

Tang, Z. and Chen, L. (2020), "Exploring the drivers of brand fan page follower discontinuance intention: an adaptation of the Furneaux and Wade's framework", *Information Technology and People*, Vol. 33 No. 5, pp. 1381-1401, doi: 10.1108/ITP-02-2019-0096.

Turel, O. (2015), "Quitting the use of a habituated hedonic information system: a theoretical model and empirical examination of Facebook users", *European Journal of Information Systems*, Vol. 24 No. 4, pp. 431-446, doi: 10.1057/ejis.2014.19.

Turel, O. (2016), "Untangling the complex role of guilt in rational decisions to discontinue the use of a hedonic Information System", *European Journal of Information Systems*, Vol. 25 No. 5, pp. 432-447, doi: 10.1057/s41303-016-0002-5.

Venkatesh, V., Thong, J.Y.L. and Xu, X. (2016), "Unified theory of acceptance and use of technology: a synthesis and the road ahead", *Journal of the Association for Information Systems*, Vol. 17 No. 5, pp. 328-376.

Verplanken, B. and Aarts, H. (1999), "Habit, attitude, and planned behaviour: is habit an empty construct or an interesting case of goal-directed automaticity?", *European Review of Social Psychology*, Vol. 10 No. 1, pp. 101-134, doi: 10.1080/14792779943000035.

Wang, Y. and Herrando, C. (2019), "Does privacy assurance on social commerce sites matter to millennials?", *International Journal of Information Management*, Vol. 44, pp. 164-177, doi: 10.1016/j.ijinfomgt.2018.10.016.

Wang, J., Zheng, B., Liu, H. and Yu, L. (2020), "A two-factor theoretical model of social media discontinuance: role of regret, inertia, and their antecedents", *Information Technology and People*, Vol. 34 No. 1, pp. 1-24, doi: 10.1108/ITP-10-2018-0483.

Xie, X.-Z. and Tsai, N.-C. (2021), "The effects of negative information-related incidents on social media discontinuance intention: evidence from SEM and fsQCA", *Telematics and Informatics*, Vol. 56, 101503, doi: 10.1016/j.tele.2020.101503.

Xu, H., Dinev, T., Smith, H. and Hart, P. (2008), "Examining the formation of individual's privacy concerns: toward an integrative view", *ICIS 2008 Proceedings*, available at: https://aisel.aisnet.org/icis2008/6

Xu, H., Dinev, T., Smith, J. and Hart, P. (2011), "Information privacy concerns: linking individual perceptions with institutional privacy assurances", *Journal of the Association for Information Systems*, Vol. 12 No. 12, doi: 10.17705/1jais.00281.

Yang, D., Sivadas, E., Kang, B. and Oh, S. (2012), "Dissolution intention in channel relationships: an examination of contributing factors", *Industrial Marketing Management*, Vol. 41 No. 7, pp. 1106-1113, doi: 10.1016/j.indmarman.2012.04.010.

Zhang, H., Zhang, K.Z.K., Lee, M.K.O. and Feng, F. (2015), "Brand loyalty in enterprise microblogs: influence of community commitment, IT habit, and participation", *Information Technology and People*, Vol. 28 No. 2, pp. 304-326, doi: 10.1108/ITP-03-2014-0047.

Zhang, T.C., Abound Omran, B. and Cobanoglu, C. (2017), "Generation Y's positive and negative eWOM: use of social media and mobile technology", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 2, pp. 732-761, doi: 10.1108/IJCHM-10-2015-0611.

Zhang, S., Zhao, L., Lu, Y. and Yang, J. (2016), "Do you get tired of socializing? An empirical explanation of discontinuous usage behaviour in social network services", *Information and Management*, Vol. 53 No. 7, pp. 904-914.

Zlatolas, L.N., Welzer, T., Heričko, M. and Hölbl, M. (2015), "Privacy antecedents for SNS self-disclosure: the case of Facebook", *Computers in Human Behavior*, Vol. 45, pp. 158-167, doi: 10.1016/j.chb.2014.12.012.

Appendix

Constructs/Items	VIF	Item loadings	CR	AVE
Negative electronic word of mouth[1]				
NE1-Many people are talking bad about the new WhatsApp privacy policy online	2.06	0.81	0.90	0.65
NE2-On social media. there is unrest among WhatsApp users due to changes in their privacy policy	1.80	0.78		
NE3-People are giving negative remarks online regarding WhatsApp new privacy policy	2.13	0.83		
NE4-People online are critical of WhatsApp's new privacy policy	1.92	0.81		
NE5-People are recommending others online not to use WhatsApp due to change in the privacy policy	1.88	0.80		
Privacy invasion				
PI1-I feel uncomfortable that my use of WhatsApp can be easily monitored	1.49	0.82	0.85	0.66
PI2-I feel my privacy can be compromised because of sharing my WhatsApp data with Facebook	1.40	0.76		
PI3-I feel that my communication and other personal information from WhatsApp can be misused by Facebook	1.61	0.84		
Word of mouth/social norms				
SN1-My friends and/or relatives warn me not to use WhatsApp due to the change in their terms and privacy policy	1.89	0.86	0.90	0.75
SN2-My friends and/or relatives complain about the privacy implications of using WhatsApp	1.94	0.86		
SN3-My friends and/or relatives are talking negatively about the new WhatsApp policy	1.94	0.87		
Distrust				
DT1-I am not sure if WhatsApp would act in my best interest after a change in the privacy policy	1.61	0.78	0.88	0.65
DT2-I suspect that WhatsApp is just interested in its own benefit and not in my well-being	1.73	0.80		
DT3-I am worried about whether WhatsApp would be truthful in dealing with my data after the implementation of the new policy	1.80	0.82		
DT4-It is uncertain whether WhatsApp/Facebook would keep its commitment of safeguarding my privacy	1.83	0.82		
Structural assurance[2]				
SA1-WhatsApp provides enough safeguard to make me feel comfortable using it	1.90	0.86	0.88	0.59
SA2-WhatsApp provide a robust and safe environment for communication	1.54	0.67		
SA3-I am sure that legal and technological structures adequately protect me	1.57	0.73		
SA4-WhatsApp's end-to-end encryption will ensure my data privacy after the new policy implemented	1.74	0.75		
SA5-WhatsApp will make sure that my personal data is safe even after the new policy implemented	1.83	0.80		

(*continued*)

Table A1. Measurement model statistics for reflective constructs

Constructs/Items	VIF	Item loadings	CR	AVE
Use habit				
UH1-Using WhatsApp has become automatic to me	1.37	0.80	0.80	0.57
UH2-Using WhatsApp is natural to me	1.19	0.73		
UH3-When I need to interact with others and express emotions, experiences, or thoughts, using WhatsApp is an obvious choice for me	1.24	0.73		
Switching cost				
SC1-There is a lot for me to lose if I switch from WhatsApp to another messaging application	1.52	0.83	0.84	0.64
SC2-It will take me a lot of time and/or effort to switch to another messaging application	1.33	0.78		
SC3-I will lose a lot of relationship capital if I shift to another application other than WhatsApp	1.47	0.79		
Affective commitment				
AC1-I feel "emotionally attached" to WhatsApp	1.83	0.85	0.89	0.72
AC2-I feel a strong connection with WhatsApp	1.67	0.84		
AC3-WhatsApp has a great deal of attraction for me	1.77	0.85		
Discontinuance intention				
DI1-I will discontinue using WhatsApp	2.27	0.89	0.92	0.80
DI2-I would stop using WhatsApp	2.48	0.90		
DI3-I plan to stop using WhatsApp	2.54	0.90		

Note(s): [1] Items NE1, NE3 and NE5 were adapted from Prasad *et al.* (2017) while NE2 and NE4 were self-generated
[2] Items SA1 to SA3 were adapted from Chai *et al.* (2011) and items SA4 and SA5 were self-generated

Table A1.

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