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Customer service or privacy infringement?

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Handling Consumer Messages on Social Networking Sites: Customer Service or Privacy Infringement?

Joris Demmers, Willemijn M. van Dolen, and Jesse W.J. Weltevreden

ABSTRACT: Firms increasingly use social network sites to reach out to customers and proactively intervene with observed consumer messages. Despite intentions to enhance customer satisfaction by extending customer service, sometimes these interventions are received negatively by consumers. We draw on privacy regulation theory to theorize how proactive customer service interventions with consumer messages on social network sites may evoke feelings of privacy infringement. Subsequently we use privacy calculus theory to propose how these perceptions of privacy infringement, together with the perceived usefulness of the intervention, in turn drive customer satisfaction. In two experiments, we find that feelings of privacy infringement associated with proactive interventions may explain why only reactive interventions enhance customer satisfaction. Moreover, we find that customer satisfaction can be modeled through the calculus of the perceived usefulness and feelings of privacy infringement associated with an intervention. These findings contribute to a better understanding of the impact of privacy concerns on consumer behavior in the context of firm-consumer interactions on social network sites, extend the applicability of privacy calculus theory, and contribute to complaint and compliment management literature. To practitioners, our findings demonstrate that feelings of privacy are an element to consider when handling consumer messages on social media, but also that privacy concerns may be overcome if an intervention is perceived as useful enough.

KEY WORDS AND PHRASES: Consumer complaints, consumer messages, customer service, eWOM, online privacy, online service, SNS, social network sites.

> "The link doesn't work for me, can you just make my phone work! @TMobile you are the most annoying phone company!"
>
> —James Yammouni
>
> "@James_Yammouni we would love to have you in our wireless family. What are you waiting for?"
>
> —Verizon Wireless Support

Consumers talk about brands online: they write hotel reviews on travel websites, forward funny advertisements to their peers, and tell their friends about their everyday brand experiences on social network sites (SNSs). Many

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firms use specialized tools to track relevant consumer messages and gauge online sentiments, as it provides them with relevant insights about customer experiences. In recent years, firms are increasingly moving from passive listening to actively intervening with online consumer conversations [48]. Industry reports show that over 60 percent of firms now use popular platforms such as Twitter as customer service channels, with dedicated personnel to reach out and address relevant consumer messages [22]. As the real-life example of a response by Verizon to a message that an unsatisfied T-Mobile consumer posted on Twitter illustrates, the intervention strategies that firms employ on SNSs to improve customer relationships increasingly go beyond answering questions and handling complaints directed at the firm. In our example, the T-Mobile customer did not directly address Verizon. However, by actively monitoring customer messages that mention competitors, Verizon was able to proactively intervene in an attempt to convince the customer to switch phone providers. Proactive customer service—reaching out to consumers when they have indirectly mentioned a firm or used a relevant key term—has been identified as one of the top trends in customer service practice [46]. Although not all firms intervene with messages in which consumers complain about a competitor [35], firms are often encouraged to respond to relevant customer messages even when these messages only mention the firm indirectly [16, 46]. One popular view holds that by engaging in proactive customer service, firms can "amaze" customers by exceeding expectations [48], but there is also evidence that proactive interventions with consumer messages on SNSs are sometimes perceived as intrusive, out of place, and even referred to as "customer stalking" [17, 35, 62].

In recent years, some studies have started to explore the impact of corporate interventions with online consumer messages [45, 48, 63, 74], but why firms' attempts to reach out to customers on SNSs are sometimes appreciated while leading to backlash at other times remains unclear. Compared to traditional customer service channels, SNSs pose a complex environment for firms to manage interactions with customers. Whereas traditional customer service channels are dedicated to facilitate service-related interactions between individual customers and firm representatives, on SNSs users simultaneously talk about an unlimited variety of topics with many other users from different social spheres. Hence, unlike when a customer calls a firm's helpline, fills out a contact form or sends an e-mail, on SNSs it is sometimes less clear who is the intended audience of a post [11, 39]. How do consumers respond when they receive a response from a firm they did not directly address? In our example, will the consumer be positively surprised by Verizon's intervention or feel that the unsolicited response is intrusive? And how does this affect the probability that he will switch to Verizon? Interestingly, the role of privacy concerns—a concept that has attracted much attention from scholars and practitioners in the digital marketing era—has to date remained unexplored in the context of online customer service. We propose that privacy concerns may play a crucial role in explaining the inconsistency in consumer responses to firms' online interventions. Therefore, the research questions of this study are: (1) What is the role of

privacy concerns in consumer responses to firms' interventions with online consumer messages? (2) To what extent does the role of privacy depend on the proactivity of an intervention and the valence of the consumer message? and (3) How do consumers weigh privacy concerns against the benefits derived from an intervention?

We draw on several theories to build our hypotheses about the role of privacy and the impact of privacy concerns on firms' customer service intervention effectiveness. First, we use privacy regulation theory [5, 6] to hypothesize how unsolicited interventions on SNSs may lead to violations of the boundaries that consumers maintain to prevent an excess of social contact. Subsequently, we draw on social exchange theory [36] and privacy calculus literature to theorize how customer satisfaction can be modeled through the joint effects of privacy concerns and perceived usefulness associated with an intervention. Hence, we argue that the net effect of privacy concerns on intervention effectiveness is determined not only by the perceived loss of privacy but also by the benefits a customer derives from an intervention in return (e.g., the mitigation of negative emotions following a service failure).

We first conducted a pilot study to investigate the extent to which firms intervene with different types of consumer messages on a specific SNS. Next, we used an experimental design to test our hypotheses about when firms' interventions with consumer messages on SNSs may lead to feelings of privacy infringement. Subsequently, we scrutinize the underlying mechanism through which these privacy concerns, together with the perceived usefulness of the intervention, affect customer satisfaction using a second experimental study.

With this work we aim to make several contributions. Prior work has yielded mixed results with regard to the extent to which online customer service interventions contribute to positive outcomes for firms [45, 74]. First, by investigating the role of privacy concerns in relation to online customer service interventions that vary in proactivity, we deepen our understanding of the unique aspects of online conversations between firms and customers on SNSs, which can help organizations in designing optimal online customer service strategies and avoiding consumer backlash. Second, this study aims to contribute to a better understanding of the impact of privacy concerns on consumer behavior. Prior work has linked privacy concerns to negative outcomes for firms [8, 10, 31, 44, 72, 75, 90], but also shows that privacy concerns often fail to predict consumer behavior [1, 42]. We show that consumer responses can be modeled through the separate effects of perceived usefulness and feelings of privacy infringement associated with a customer service intervention. Most prior work using such a privacy calculus approach focuses on willingness to disclose personal information as dependent variable as a product of the trade-off between perceived privacy risks and derived benefits [21, 47, 54]. By looking at customer satisfaction with firms' interventions on SNSs and using actual perceived privacy infringement rather than perceived risks as the cost factor, we demonstrate that the applicability of privacy calculus theory is broader than currently assumed. Finally, we aim to contribute to customer service literature. While the vast majority of research on customer service has focused on customer

complaints, a substantial proportion of consumer messages on SNSs is positive [12, 73]. By investigating the impact of customer service interventions on satisfaction for both negative and positive messages, this research is one of the first to address the effectiveness of corporate interventions with positive customer feedback [27, 48, 63].

Theoretical Framework

Social network sites (SNSs) are defined as networked communication platforms in which participants (1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; (2) can publicly articulate connections that can be viewed and traversed by others; and (3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site [26]. Customer service encompasses all activities that are undertaken with the aim of taking care of the customer's needs by providing and delivering professional, helpful, high-quality service and assistance before, during, and after the customer's requirements are met [82]. Firms provide online customer service when they engage in online interactions with consumers by actively searching the web to address consumer feedback [74]. The potential contribution of engaging in online customer service via SNSs to organizational goals is threefold [76]. First and foremost, it helps firms to signal relevant customer issues and address these issues with the goal of enhancing customer satisfaction. Second, providing online customer service can serve as a public relations tool, as firms' interventions with consumer messages can be observed by a broad audience beyond the consumer that posted the initial message. Third, the insights that derive from monitoring online sentiments about a firm can be used as input to improve products and services. However, online customer service practices may not always enhance customer satisfaction. In the following section we outline how firms' proactive customer service interventions on SNSs may lead to feelings of privacy infringement, and we discuss how these feelings of privacy infringement may affect customer satisfaction.

Privacy Regulation on Social Network Sites

Following Peltier, Milne, and Phelps [60], we define consumer privacy as a consumer's control over information disclosure and unwanted intrusions into his/her environment. A large body of research confirms that privacy is an important issue in today's digital marketing landscape. Surveys consistently show that the majority of consumers is moderately to highly concerned about their privacy online [1, 13, 28, 49, 65, 78, 80]. Most research on privacy in SNS contexts focuses on the loss of information privacy or control over personal information being shared with others [42]. However, privacy threats may also come from excessive social contact [39]. Privacy regulation theory [5, 6] posits that people strive to achieve an optimal level of social interaction. When the

desired level of social interactions is greater than the actual level, one will feel lonely or isolated; if the actual level of social interactions exceeds the desired level, a lack of privacy is perceived. People regulate their level of social interaction by using a variety of boundary mechanisms, including personal space, territory, verbal behavior, and nonverbal behavior. Although Altman's [5, 6] initial boundary mechanisms were specific to the physical environment, later work has applied privacy regulation theory to the context of SNSs. Wisniewski, Lipford, and Wilson [79] identified five types of interpersonal boundaries people seek to manage within SNSs: relationship boundaries (who is let into one's social network and what are appropriate interpersonal interactions given the type of relationship), network boundaries (access others have to one's network connections), territorial boundaries (what content is available through interactional spaces), disclosure boundaries (what personal information is disclosed within one's network), and interactional boundaries (enabling or disabling potential interactions with other users).

As most SNSs have a (semi)public infrastructure, regulating interpersonal boundaries on SNSs can be challenging. Privacy issues specifically occur when content that is meant for one social sphere becomes visible to another [11, 39]. On SNSs, users interact with multiple publics on an unlimited variety of topics. A substantial part of the content users share on SNSs is brand-related. On Twitter, for example, more than 20 percent of all posts by consumers mention a brand name [38]. Some of these brand-related posts directly address a firm, but consumers also use SNSs to talk about brands with the objective of engaging with fellow consumers within their network [34, 38]. In the latter case, a customer service intervention is unsolicited. Recent research has shown that on consumer-generated social media platforms, an intervention by a firm is indeed unexpected and leads to feelings of surprise [63]. Although in this study the authors find that consumers are positively surprised when firms respond to positive consumer messages, other studies point in the opposite direction. Previous work suggests that the presence of brands on SNSs is often perceived by consumers as intrusive and out of place [29]. Another study found that a corporate intervention with negative word of mouth had a negative effect on brand evaluations when the word of mouth was posted on a consumer-generated platform and when a response was not explicitly asked for [74].

Privacy regulation theory suggests that unsolicited interventions with consumer messages on SNSs that do not directly address a firm may lead to feelings of privacy infringement in two ways. First, users might initially be unaware of the actual reach of their action [84]—that is, they do not accurately assess the extent to which their message will also be observed by audiences beyond the primary addressee. Prior work shows that many consumers are often not fully aware of the extent to which their online behavior is tracked [1, 29]. An unsolicited intervention may then emphasize firms' capability of monitoring online conversations, and lead to an infringement of disclosure boundaries and perceived loss of control [71]. Second, unsolicited interventions may be perceived as an intrusion into the consumer's virtual territory and a violation of relationship and interaction boundaries [29]. These violations, in turn, may lead to an emotional reaction, a feeling of privacy violation, and a behavioral mechanism to overcome it [39].

In sum, we propose that customer service interventions with consumer messages on SNSs in which the firm is not the main addressee may lead to perceptions of privacy infringement. We refer to these interventions as "proactive", because they require the firm to reach out and intervene with messages in which the firm is not directly addressed and hence no response is directly solicited. We expect no such effect for interventions that are "reactive", that is, are in response to consumer messages in which a consumer directly addresses a firm. Here, the customer service intervention follows the traditional customer service interaction pattern in which the customer initiates the interaction. In this case, the customer service intervention is solicited and hence unlikely to lead to perceptions of privacy infringement.

> ***Hypothesis 1:*** Intervention proactivity moderates the relation between customer service interventions and feelings of privacy violation: the effect of interventions on feelings of privacy violations is stronger when the intervention is proactive.

The Privacy Calculus

The privacy calculus concept holds that a consumer's decision to disclose personal information is based on a cost–benefit analysis in which both the merits and potential negative consequences of disclosure are considered [10, 85]. The notion that expected risks and benefits affect people's behavior originally comes from economic theory and has later been adopted by social sciences [23]. Social exchange theory [38] is based on the assumption that humans seek rewards and avoid punishments. It posits that people's evaluations of interpersonal interactions depend on a comprehensive assessment of the associated costs and benefits. The outcome of this analysis determines the overall worth attributed to a social exchange and drives relationship decisions. As long as the net outcome of the cost–benefit analysis is positive, that is, perceived benefits are larger than perceived costs, people are likely to accept the costs accompanying the benefits. Previous work on the privacy calculus applies this notion of a subjective assessment of costs and benefits as an antecedent of human decision making to a privacy context, such that consumers will disclose personal information if they perceive that the overall benefits of disclosure are greater than the assessed risks associated with disclosure [1, 23, 36]. The large majority of this work has looked at individuals' willingness to disclose personal information [1, 21, 47, 54]. Privacy costs are typically operationalized as either the privacy risks associated with the release of personal information or the privacy concerns about practices related to the collection and use of personal information [21, 47, 54]. However, privacy concerns can affect many forms of consumer behavior beyond self-disclosure in ways that are disadvantageous to firms. For example, privacy concerns have been linked to reluctance to do business with a firm [9, 24, 53, 67], negative attitudes toward personalized offerings [8, 44], rejection of e-mail solicitations [75], and reduced online advertising effectiveness [31, 72]. Privacy concerns are negatively related to brand trust, which reduces consumers' willingness to engage with a firm [9, 24, 58, 68].

Moreover, if firms' practices evoke perceptions of privacy infringement, consumers may respond in reactance and act in ways opposite to the firms' intentions [25]. Based on these findings, we expect that customer service feelings of privacy infringement elicited by customer service interventions are likely to be perceived as a cost and thus have a negative effect on the overall worth of the interaction. Hence, we expect that customer satisfaction will decrease as perceptions of privacy infringement increase.

> ***Hypothesis 2:*** There is a negative relation between perceptions of privacy infringement induced by customer service interventions and customer satisfaction.

In line with the idea of a privacy calculus, privacy concerns do not always lead to withdrawal from social interactions with firms. Consumers often willingly share their personal information in return for the convenience of using web services or discounts [42], even if they report being (very) concerned about their privacy [1, 69]. It is clear that customers can also derive benefits from customer service interventions. Numerous studies have shown that delivering adequate customer service enhances customer relationships and has a positive effect on different aspects of a firm's performance [37, 41, 59, 61, 83]. A large body of research has addressed the effectiveness of customer service interventions by looking at the outcomes customers receive from the customer service encounter with the firm, mostly in the context of complaint handling [57]. In these studies a clear link has been identified between customer outcomes and subsequent satisfaction. These outcomes may be either monetary or affect-based. Research by Tax, Brown, and Chandrashekaran [70] demonstrates that customers evaluate complaint incidents in terms of the material outcomes they receive, but also in terms of the procedures used to arrive at the outcomes and the nature of the interpersonal treatment during the process. Matilla and Wirtz [51] found that an apology is often a more effective way to restore customer satisfaction and subsequent repatronage intentions than compensation following a service failure [50]. We use the concept of perceived usefulness to operationalize the perceived benefits of a customer intervention, that is, the extent to which a customer feels he/she is better off because of the firm's intervention [19]. Perceived usefulness is a vital element of the technology acceptance model, which models how users come to accept and use new technologies [20]. Moreover, perceived usefulness is an important component in the construction of perceived value of a service to the customer. More specifically, the perceived value stems from (or is determined by) the tangible and intangible benefits that a customer derives from a service relative to the associated costs [60]. Perceived usefulness has also been used in previous work on customer service interactions to operationalize the degree to which a contact episode fulfills the customer's perceived needs and desires [30].

In line with previous work and the idea of usefulness of an intervention as a benefit consumers derive from an adequate customer service intervention, we expect that customer satisfaction will increase with the perceived usefulness of the firm's handling of customer voice. Following prior work that has linked customer satisfaction following customer service encounters to willingness to

use a service again [18, 51, 66], we furthermore expect that the increase in customer satisfaction should in turn lead to higher repurchase intentions.

> ***Hypothesis 3:*** There is a positive relation between the perceived usefulness of customer service interventions and customer satisfaction.

> ***Hypothesis 4:*** There is a positive relation between satisfaction and repurchase intentions.

Message Valence

The extent to which a customer has a positive or a negative experience with a firm directly impacts customer satisfaction. Similarly, the valence of customer messages on SNSs is also directly related to the experience with a firm: consumers may post negative messages after unsatisfactory experiences and sometimes post positive messages following a satisfactory experience [7]. Hence, regardless of how the firm handles customer messages on SNSs, message valence is likely to be positively associated with satisfaction. More interestingly, however, customer satisfaction may also be affected by differences in perceived usefulness following an intervention with a positive versus a negative customer message. That is, interventions with negative messages may be perceived as more useful than interventions with positive messages. The probability that a customer voices his/her opinion follows a U-shaped distribution with the probability of voice increasing as satisfaction moves toward either extreme [7]. That is, customers complain when they are very dissatisfied rather than a little dissatisfied and compliment a firm when they are very satisfied rather than somewhat satisfied. This may affect perceptions of usefulness in two ways. First, consumers who already hold a very positive opinion are more likely to move down rather than up the satisfaction scale, whereas consumers who hold a very negative opinion are more likely to move up rather than down, due to a regression to the mean effect [14, 56]. Second, expectation confirmation theory posits that satisfaction is influenced by disconfirmation of original expectations [60]. In the context of customer service interventions on SNSs, this effect may be mediated by perceived usefulness. An appropriate customer service intervention with a complaint positively disconfirms the initial negative experience, and as such mitigates the negative affect associated with the experience preceding the complaint [51]. Prior work has demonstrated that effectively handling service failures may increase satisfaction to levels that even exceed satisfaction when a service failure is absent [50]. Matilla and Wirtz [51] found that an apology can be an effective way of restoring customer satisfaction and subsequent repatronage intentions because it takes away the negative emotions following a service failure. In contrast, an adequate intervention with a customer compliment is congruent with the preceding positive experience. A customer that is already satisfied will likely derive little additional usefulness from the intervention, given that there are no negative emotions that might be mitigated. Thus, we expect that customer service interventions with negative consumer messages on SNSs will lead to higher perceived usefulness

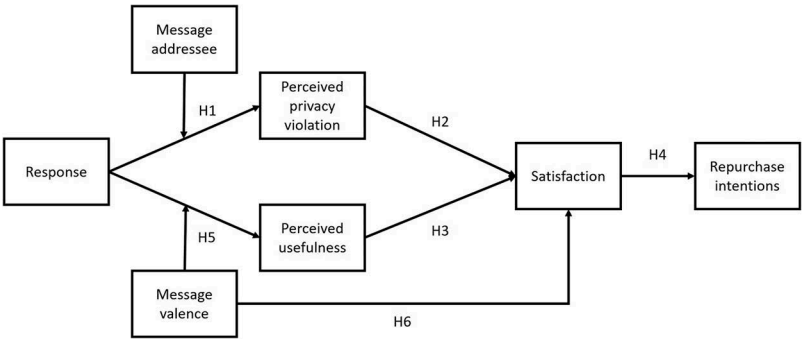

Figure 1. Conceptual Model

than interventions with positive messages. Our conceptual model is presented in Figure 1.

> ***Hypothesis 5:*** Message valence moderates the relation between customer service interventions and perceived usefulness: interventions with negative messages lead to higher perceived usefulness than interventions with positive messages.

> ***Hypothesis 6*** Satisfaction is higher following a positive message than following a negative message.

Pilot Study

In our focal studies we investigate the effect of firm interventions with both positive and negative consumer messages that either do or do not directly address a firm. To assess the external validity of these studies, given the fact that to the best of our knowledge to date no official statistics are available on the incidence of proactive versus reactive interventions on SNSs, we conducted a pilot study to assess the extent to which firms intervene with the different categories of consumer messages on a specific SNS. We collected and analyzed a total of 25,839 brand-related Twitter messages from, to, and about the 15 leading firms in three major business-to-consumer industries in the Netherlands (health insurance, telecommunications, and retailing) using specialized web scraping software [64]. The results confirm the dual function of Twitter as a platform that is used by consumers to engage in conversations both with and about firms. Of all consumer messages, 50.7 percent contained the "@" symbol in combination with the firm name to directly address a firm, whereas 49.3 percent mentioned but did not directly address a firm, that is, did not use the "@" symbol in combination with the firm name. Message valence was assessed by four independent judges. To assess interrater reliability, we asked the judges to code overlapping sets of a total of 173 units and calculated Krippendorf's alpha (α = 0.82). The majority of consumer

messages, 77.2 percent, was neutrally valenced, whereas 15.7 percent was negative and 7.1 percent was positive. Although substantial differences existed across firms and industries, all firms to some degree intervened with all types of posts. Overall, the observed response rates were 63.2 percent for direct negative messages and 21.5 percent for indirect negative messages, versus 57.2 percent for direct positive messages and 19.5 percent for indirect positive messages. These results confirm the use of Twitter as a customer service platform where firms both proactively and reactively intervene with different types of consumer messages.

Study 1

Method

In the first experiment, we test how customer service interventions affect feelings of privacy infringement and how these feelings in turn affect customer satisfaction. We used a 2 (message addressee: firm vs. other user) × 2 (message valence: positive vs. negative) × 2 (intervention: present vs. absent) between-subjects experiment to test H1, H2, H4, and H6. As part of a larger study on online firm-related preferences and behavior, we exposed 1,260 members of a consumer panel (50.8 percent female, M_{age} = 43.8, SD = 13.6, all social media users) to a short description of a service experience with an online retailer and asked them to imagine themselves as being the customer in that situation. We then exposed them to a consumer message on Twitter about that situation and asked them to imagine having posted this message following the described service experience. We used a fictional retailer to prevent prior experiences with the retailer from biasing responses. We manipulated message addressee (firm vs. other) by either including or not including the "@" symbol in adjunction with the firm name in the message, as is common on Twitter. Although all participants were active SNS users, we explicitly mentioned in the instructions that the "@" symbol is used on Twitter to directly address specific other users to ensure that participants understood the meaning of the manipulations. In the positive consumer message conditions the consumer message displayed satisfaction with an unexpectedly fast delivery, whereas in the negative conditions the message displayed dissatisfaction with an unexpectedly late delivery. Finally, we manipulated whether the firm responded to the message. In the intervention conditions, the firm either apologized for the inconvenience caused by the late delivery or thanked the consumer for the compliment about the fast delivery. These specific stimuli were used because most people are likely to have experienced similar service encounters and hence can relate to the scenario.

Note that the content of the intervention itself did not vary between consumer messages addressing the firm and messages not directly addressing the firm. However, whether or not the firm is the primary addressee of the consumer message determines whether the intervention is reactive or proactive. Hence, when we mention a reactive intervention, we are referring

to the specific scenario in which the firm intervenes with a consumer message that directly addresses the firm by using the "@" symbol in adjunction with the firm name. Similarly, a proactive intervention refers to a scenario in which the firm intervenes with a consumer message that does not directly address the firm (not using the "@" symbol). Stimuli for all treatments are displayed in Appendix A.

A pretest among 51 first-year undergraduate business students showed that people perceived the two scenarios as realistic and as oppositely valenced, yet equally deviant from a neutral service experience ($M_{positive}$ = 4.44 on a five-point scale with 3 representing a neutral service experience, SD = 0.47; $M_{negative}$ = 1.56, SD = 0.51; $F(1,49)$ = 425.85, $p < 0.001$). The interventions with the positive and negative consumer messages were perceived as (equally) appropriate (M = 3.56 on a five-point scale with 1 representing a very inappropriate and 5 a very appropriate response, SD = 0.93; p = 0.40). After having exposed participants to the experimental stimuli, we measured service encounter satisfaction (2 seven-point items) [40], perceived privacy violation (10 five-point items) [81], and two manipulation checks. In addition, we asked respondents about their involvement with the task and their general level of trust in others (3 five-point items), which we used as a marker variable to test for the presence of common method variance. We selected self-reported involvement with the task and general trust level as marker variable because they are theoretically unrelated to customer satisfaction or perceptions of privacy infringement.

Results

Because our data collection relied on a single source, we first tested whether common method variance was a relevant concern in our data. As a first step, we conducted an exploratory factor analysis that revealed that a single-factor solution did not account for the majority of the total variance [32]. Next, we conducted a confirmatory factor analysis (CFA) marker technique analysis [76]. Results showed that the model in which the indicators of our substantive variables were modeled to load equally on the marker variable fit the data significantly worse than the model in which the method factor loadings were forced to zero ($\Delta\chi^2$ = 32.23, Δdf = 1, $p < .01$). These results suggest that the likelihood of common method bias in the data is low. Finally, we compared the average variance extracted of both perceived privacy violation and service encounter satisfaction with the bivariate correlation between the two constructs [27]. The results showed that the average variance extracted of both constructs (.69 and .91, respectively) was greater than the variance shared between perceived privacy violation and service encounter satisfaction (r^2 = .18), which provides evidence of sufficient discriminant validity.

We subsequently tested whether our manipulations had been successful. Results revealed that reported message valence for the positive message was indeed significantly higher (M = 6.20, SD = 1.01) than for the negative message (M = 2.43, SD = 1.23) ($F(1,1259)$= 3,525.36, $p < .001$). In addition, the extent to which participants perceived the message to be directed at the

firm was significantly higher for the direct message (M = 4.40, SD = 1.85) than for the indirect message (M = 3.16, SD = 1.91) (F(1,1259) = 138.28, p < .001). These results suggest that our manipulations were successful.

To test our hypotheses, we first conducted a factorial analysis of variance—an extension of one-way analysis of variance that examines the impact of multiple categorical independent variables on a single dependent variable. We modeled message addressee, message valence, intervention, and their interaction terms as independent variables and customer satisfaction as dependent variable. The results revealed a significant main effect of message valence on satisfaction (F(1,1252) = 278.33, p < .001). In line with H6, satisfaction was higher following a positive experience than following a negative experience ($M_{positive}$ = 4.91, SD = 1.49;

$M_{negative}$ = 3.57, SD = 1.48). In addition, there was a main effect of intervention on satisfaction (F(1,1252) = 6.35, p < .05) which was qualified by a significant interaction of message addressee and intervention (F(1,1252) = 3.94, p < .05). A closer examination of the interaction effect showed that the intervention was associated with higher satisfaction than no intervention when the consumer message was directed at the firm (reactive intervention) ($M_{@_response}$ = 4.40,

SD = 1.63; $M_{@_noresponse}$ = 4.00, SD = 1.56; F(1,1259) = 2.85, p < .01), but not when the message did not address the firm directly (proactive intervention) ($M_{no@_response}$ = 4.14, SD = 1.56; $M_{no@_noresponse}$ = 4.34, SD = 1.72; F(1,1259) = 1.52, p = .12). Examination of the other contrast showed that satisfaction following an intervention was significantly higher when it was in response to the consumer message that directly addressed the firm (reactive intervention) as compared to in response to the consumer message in which the firm was not directly addressed (proactive intervention) ($M_{@_response}$ = 4.40, SD = 1.63; $M_{no@_response}$ = 4.14, SD = 1.56;

F(1,1259) = 2.23, p < .05). However, satisfaction following no intervention was significantly lower when the message did directly address the firm

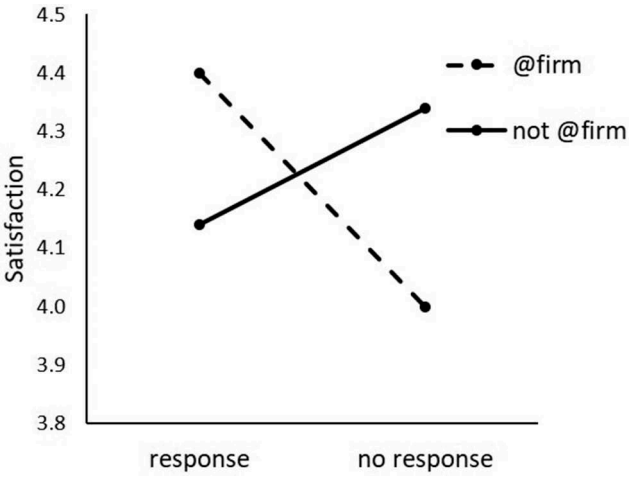

Figure 2. Interaction Message Addressee and Intervention

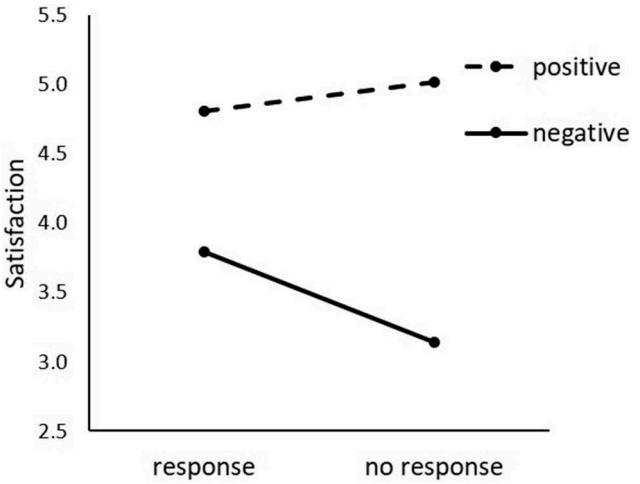

Figure 3. Interaction Message Valence and Intervention

($M_{@_noresponse}$ = 4.00, SD = 1.56; $M_{no@_noresponse}$ = 4.34, SD = 1.72; $F(1,1259)$ = 2.20, $p < .05$) (see Figure 2). Finally, the interaction effect of message valence and intervention was also significant ($F(1,1252) = 26.36$, $p < .05$). An intervention increased satisfaction when the consumer message was negative ($M_{negative_response}$ = 3.79, SD = 1.50; $M_{negative_noresponse}$ = 3.14,

SD = 1.32; $F(1,1259) = 5.22$, $p < .001$), but not when the message was positive ($M_{positive_response}$ = 4.81, SD = 1.53; $M_{positive_noresponse}$ = 5.02, SD = 1.40; $F(1,1259)$ = 1.79, $p = .07$) (see Figure 3). The remaining effects in the model were not significant.

Next, we conducted a mediation analysis using a bootstrap approach [33] to test whether the difference in satisfaction following proactive and reactive customer service interventions is mediated by feelings of privacy violation caused by the intervention, as proposed in our conceptual model. To test whether the mediating effect of privacy on the relation between intervention proactivity and customer satisfaction was different for positive and negative consumer messages, message valence was included as a moderator. The bootstrapping test (n iterations = 10,000) showed that the indirect effect of intervention proactivity on consumer sharing through perceived privacy violation was significant, with a 95 percent confidence interval excluding zero (0.05, 0.54). In line with H1, results showed that the customer service intervention led to significantly higher feelings of privacy infringement when it was proactive as compared to when it was reactive (unstandardized B = 0.91, $p < .05$). Feelings of privacy violation in turn negatively affected customer satisfaction (B = –0.69, $p < .05$), which supports H2. The direct effect of intervention proactivity on satisfaction after the path through privacy violation was accounted for was no longer significant (B = –0.14, NS). The interaction term of intervention proactivity and message valence did not significantly affect feelings of privacy violation, which indicates that the difference

between proactive and reactive interventions in the extent to which they evoke feelings of privacy infringement is the same for positive and negative messages. Because the first analysis did yield a significant interaction effect of message valence and intervention on customer satisfaction, these results suggest that there is an additional (unobserved) factor that drives satisfaction following a customer service intervention (or the lack thereof) on a SNS.

Study 2

Method

In the second study we again used a 2 (message addressee: firm vs. other user) × 2 (message valence: positive vs. negative) × 2 (intervention: present vs. absent) between-subjects experimental design to investigate the role of perceived usefulness of an intervention in addition to the impact of privacy concerns, to gain a deeper understanding of how benefits and costs of an intervention together affect customer satisfaction, and, in turn, repurchase intentions. We exposed 459 different members of the consumer panel (53.8 percent female,

$M_{age} = 42.2$ $SD = 12.6$; all social media users) to the same stimuli as in study 1. We again manipulated message addressee ("@" in combination with firm name present vs. absent), message valence, and whether or not the firm responded to the consumer message, and randomly assigned participants to one of the eight conditions (see Appendix A). This time, in addition to service encounter satisfaction (3 seven-point items) [40], repurchase intentions (3 seven-point items) [40] and perceived privacy violation (3 five-point items) [4], we also measured perceived usefulness of the firm's handling of the message by measuring the extent to which the firm's (lack of) intervention was perceived as useful and having added value, improved the customer's position and situation, increased positive affect and decreased negative affect (6 five-point items). Finally, we asked participants to fill out some demographic questions and a question about their general Internet usage level. We used Internet usage as a marker variable to test for the presence of common method variance, since it is theoretically unrelated to our substantive constructs. We estimated a structural equation model to test the hypotheses presented in the conceptual model. We adopted a structural equation modeling approach because it allows the opportunity to simultaneously analyze the dependencies of all constructs in the conceptual model, and thus to test all six hypotheses outlined in our conceptual model (Figure 1).

Results

The results show that our model fits the data well: RMSEA = 0.055 (90 percent CI: 0.047, 0.063), close fit test not significant ($p = 0.146$), CFI = 0.962, TLI = 0.955, and SRMR = 0.063. Because the error terms of two of our perceived usefulness

items were highly correlated, we lifted the restriction of uncorrelated disturbances for these two specific items [15].

To test for common method variance, we estimated a series of additional models [76]. Results showed that the model in which the indicators of our substantive variables were modeled to load on the marker variable did not fit the data significantly better than the model in which the method factor loadings were forced to zero ($\Delta\chi 2 = 1.69$, $\Delta df = 1$, *NS*). These results suggest that the likelihood of common method bias in the data is low.

To rule out the possibility that our experimental manipulations have effects not accounted for by our hypotheses, we estimated an alternative model including additional paths from message addressee and its interaction with intervention to perceived usefulness and from message valence and its interaction with intervention to perceived privacy violation. Based on the Bayesian information criterion (BIC; low values indicating better fit), the alternative model (+15.86) fitted the data worse than our proposed model.

All indicators in our proposed model had significant factor loadings greater than 0.50 (all $p < .001$). Parameter estimates for the structural part of the model are presented in Figure 4. The results show a significant interaction effect of message addressee and intervention on perceptions of privacy violation. Specifically, in line with H2, the intervention with the consumer message mentioning the firm led to higher feelings of privacy violation than that same response to the message directly addressing the firm (0.74, $p < 0.001$). The nonsignificant path from message addressee to privacy violation shows that, unsurprisingly, when the firm did not respond, feelings of privacy violation did not differ between messages addressing and mentioning the firm. The nonsignificant path from intervention to privacy violation shows that when the consumer message directly addressed the firm, the intervention did not evoke higher feelings of privacy violation as compared to no response. Thus, an intervention only led to higher feelings of privacy violation when the message did not directly address the firm. The

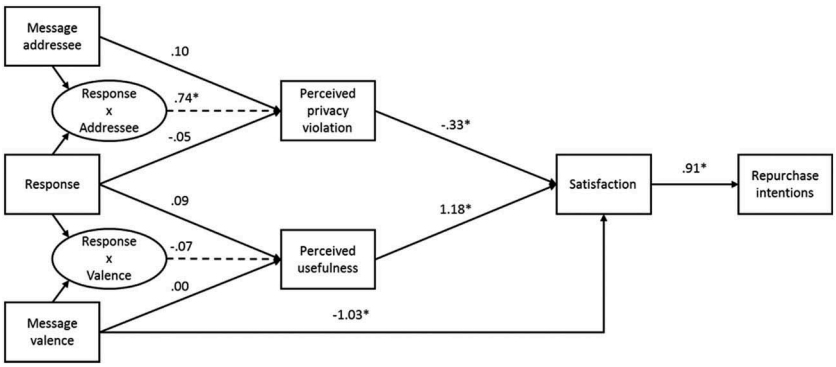

Figure 4. Results Study 2

Unstandardized path coefficients ($N = 459$), $^*p < 0.001$.

paths from intervention, message valence, and the interaction term between these two variables to perceived usefulness of the firm's handling of the consumer message were all nonsignificant. Hence, in contrast with H5, responses to the negative message were not associated with higher perceived usefulness than responses to positive messages. Interestingly, even though the pretest showed that the responses were adequate in the specific service experience used in this study, a response was not perceived as more useful as compared to no response. In line with H3 and H1, higher perceptions of privacy violation led to lower satisfaction (–0.33, $p < 0.001$), whereas higher perceived usefulness led to higher satisfaction (1.18, $p < 0.001$). Perceived privacy violations and perceived usefulness were uncorrelated (–0.04, $p = 0.52$). In line with H6, the valence of the consumer message also had a direct effect on satisfaction (–1.03, $p < 0.001$); satisfaction was higher when the message was positive. The final path in our model, from satisfaction to repurchase intentions, was also significant and positive (0.91, $p < 0.001$), which is in line with H4.

Discussion

Firms increasingly use SNSs as customer service platforms on which they respond to relevant messages posted by consumers. As the results of our pilot study show, these interventions can be either reactive or proactive in nature, depending on whether a consumer directly addresses the firm or not. In general, research has shown that adequate customer service interventions lead to favorable outcomes in terms of customer satisfaction and future patronage intentions. At the same time, firms' attempts to engage with customers online sometimes evoke feelings of privacy infringement that lead to consumer backlash. In this study, we investigated how feelings of privacy violation affect the effectiveness of customer service interventions on SNSs.

In a set of two studies we tested how interventions with consumer messages affect customer satisfaction, and whether this is contingent upon whether the intervention is proactive or reactive. We proposed that whereas reactive interventions with consumer messages that directly address a firm will enhance satisfaction because a response is solicited, proactive interventions may be perceived as unsolicited and as such lead to perceptions of privacy infringement, which in turn may lead to lower customer satisfaction. In line with previous work, results revealed that reactive interventions with consumer messages that directly address a firm can indeed enhance customer satisfaction. However, the results also revealed that when the consumer message did not directly address the firm, the same intervention had a detrimental effect on customer satisfaction. In both studies, this differential effect of proactive versus reactive interventions could be explained by the level of privacy infringement elicited by the intervention. That is, a customer service intervention led to substantial feelings of privacy infringement only when it was proactive, that is, in response to a consumer message in which the firm was mentioned but not directly addressed, which in turn negatively affected customer satisfaction. This finding is in line with prior work that has established a link between privacy

concerns and consumer responses [3, 31, 55, 72]. In the first study, we also found that an intervention only increased satisfaction when the consumer message was negative. In the case of a positive consumer message, customer satisfaction unsurprisingly was higher than following a description of negative experience, but an intervention did not further increase satisfaction. In the second study we tested whether this finding could be explained by a difference in perceived usefulness of an intervention with a positive versus a negative message. We did not find evidence for such a contingency effect. However, the findings of study 2 did show that customer satisfaction is affected by the intervention's perceived usefulness: the greater the benefits a customer derives from a customer service intervention, the greater the satisfaction with the service experience. Hence, in line with the literature on the privacy calculus, customers' responses to privacy violations were a product of both the benefits derived from the customer service intervention and the costs in terms of loss of privacy.

These findings contribute to several areas of research and practice. First and foremost, our findings contribute to a better understanding of the effectiveness of customer service interventions in general and in the context of SNSs specifically. Extant research has demonstrated the effectiveness of customer service interventions in enhancing customer satisfaction and building customer relationships [83]. The current study, however, shows that this positive effect of customer service is not without boundaries. Drawing on previous work on online consumer privacy, we identify that proactive customer service interventions can lead to feelings of privacy violation that in turn have a detrimental effect on customer satisfaction. To the best of our knowledge, the current study is the first to investigate the role of privacy concerns in a customer service context. Therefore, our findings emphasize the unique character of social media as a customer service platform. Our findings demonstrate that for customer service conversations on SNSs that follow the "traditional" pattern in which a customer starts a conversation and a firm responds in the best possible way, customer service interventions are effective in enhancing customer satisfaction. More proactive interventions, however, to some extent seem to be perceived as an infringement of privacy. Although we do not directly test why such interventions are perceived as privacy intrusive, it could be that they demonstrate the consumer's lack of control over who has access to his/her personal information [29]. These findings support previous work that demonstrates the ineffectiveness of unsolicited interventions under specific circumstances [74].

Second, our findings contribute to a better understanding of the impact of privacy concerns on consumer behavior. Previous work has linked privacy concerns to negative outcomes for firms [8, 10, 31, 44, 72, 75, 85]. At the same time, privacy concerns often fail to predict consumer behavior [1, 36]. Our findings find support for a calculus account of this privacy paradox, in which consumer responses can be modeled through the separate effects of perceived usefulness and feelings of privacy infringement associated with a customer service intervention. That is, privacy concerns induced by an intervention may negatively impact customer satisfaction while the benefits of the intervention simultaneously enhance satisfaction. By testing this calculus account in the context of customer service interventions, we extend the

applicability of privacy calculus theory. Most prior work using a privacy calculus approach focuses on willingness to disclose personal information as a product of the trade-off between perceived privacy risks and derived benefits [21, 47, 54]. Our findings demonstrate that privacy calculus theory can also be used to predict customer satisfaction with firms' interventions on SNSs, using actual perceived privacy infringement rather than perceived risks as the cost factor.

Third, our findings contribute to the growing literature on the effectiveness of firms' interventions with positive consumer messages [43, 48, 63]. Although a substantial proportion of consumer messages on social network sites is positive [12, 73], most research on customer service has focused explicitly on customer complaints. Based on the idea that, other than for negative messages, appropriate interventions with positive consumer messages are congruent with current evaluations of the service experience and that the high satisfaction following an unsatisfactory experience allows for little room for upward evaluation adjustments, we proposed that the effectiveness of customer interventions with positive messages would be smaller than interventions with negative messages. We do not find conclusive evidence for this theorizing; however, this study does contribute to a more profound body of empirical work on the impact of corporate interventions with positive customer feedback and positive word of mouth.

Our findings have important practical implications for marketers. Despite the growing popularity of SNSs as customer service channels, empirical results that offer guidance in effectively handling customer complaints and compliments within the complex environment of social media are limited. Encouraged by research demonstrating the positive effects of customer service in building customer relationships, many firms make use of the growing opportunities to automatically track and intervene with relevant consumer messages on SNSs. Our results confirm that for consumer messages that directly address the firm, this intervention strategy can indeed be effective as long as the customer derives some utility from the intervention. However, our results also show that firms may want to exercise some restraint in intervening with consumer messages in which the firm or one of its brands is merely mentioned. As stated by Fournier and Avery [29], proactive interventions with consumer conversations may evoke perceptions of firms as "uninvited crashers of the web 2.0 party" [29, p. 1]. Thus, proactive interventions that are aimed at enhancing customer satisfaction may lead to feelings of privacy infringement and have a detrimental effect on satisfaction and repatronage intentions instead. This does not mean that firms should never proactively reach out to customers and intervene with relevant consumer messages on SNSs. Our findings show that customer satisfaction following an intervention is a product of the feelings of privacy infringement but also of the benefits derived from the intervention. Hence, an intervention that induces privacy concerns may still enhance customer satisfaction if the benefits derived from the intervention outweigh the costs in terms of loss of privacy. Indeed, previous research has shown that factors such as the presence of privacy policy statements, industry and government regulation, and personally relevant benefits can persuade consumers to disclose personal

information by increasing perceived benefits or reducing perceived risks associated with disclosure [1, 77]. Although the current work focuses mostly on the detrimental effects of feelings of privacy infringement on customer satisfaction, investigating how customer service providers and community managers could enhance the perceived usefulness of interventions while simultaneously preventing privacy concerns provides an interesting venue for future research.

Finally, several limitations of our study call for further research. First, our results provide mixed evidence with regard to the effectiveness of interventions with positive versus negative messages. In contrast to our expectations, the observed difference in intervention effectiveness between positive and negative messages in study 1 did not seem to be driven by a difference in perceived usefulness of an intervention with a positive versus a negative message. This finding may be due to the fact that, on average, the interventions used in study 2 did not induce high levels of perceived usefulness, although pretests confirmed that the interventions were seen as appropriate in the context of the presented scenarios. However, on the basis of our findings it cannot be ruled out that the interaction effect of valence and intervention on customer satisfaction operates through an unobserved variable. Moreover, the firm's response was adapted to be an appropriate intervention based on the valence of the consumer message (i.e., an apology in the case of a negative message and an expression of gratitude in the case of a positive message). Although the pretests showed that the interventions were seen as equally appropriate, we cannot rule out that the content of the firm's intervention may have interacted with the valence of the consumer message in the current study. Hence, further research is needed to shed more light on the differential effect of firms' interventions with positive and negative consumer messages on SNSs.

Second, our study employed written scenarios to simulate the experience of customer service interventions on a SNS, and relied on self-reported scales to measure the dependent variables. Moreover, although the stimuli in our studies were selected on the basis of being representative of the main categories of consumer messages and firm interventions observed in the pilot study, the number of stimuli used in our studies are limited and do not adequately reflect the rich variety of consumer messages on SNSs. In addition, our sample consisted of members of a Dutch consumer panel. The use of opt-in panels is common in experimental research, and we used a quota sampling approach to ensure a representative sample in terms of gender, age, education level, and household composition. However, the use of opt-in consumer panels always implies some degree of uncertainty about the generalizability of results. In sum, further research is needed to assess the generalizability of our findings in real-world situations in order to increase external validity.

Third, although the results of the current work provide initial evidence for the detrimental role of perceptions of privacy violation on customer satisfaction in response to proactive customer service interventions by firms, as well as the role of perceived usefulness of the intervention in mitigating this effect of privacy concerns, we cannot rule out alternative or additional explanations that may drive these effects. Prior work, for example, has identified

human conversation voice as a determinant of consumer attitudes toward interventions of firms with online consumer conversations [74]. Future research could aim at determining the extent to which alternative or additional explanations may account for the effects of firms' interventions with online consumer messages on SNSs.

Finally, we focused on the immediate effects of customer service interventions on customer satisfaction and repatronage intentions and the role of perceived privacy infringement and perceived usefulness in explaining these effects. However, customer service interventions may also have delayed effects on customer relationships. For example, a customer service intervention that offers little immediate utility for a specific service encounter may still enhance confidence in the firm's capabilities to adequately handle future service requests and as such enhance customer loyalty. Similarly, an intervention that offers immediate benefits but also induces feelings of privacy infringement may enhance customer satisfaction in the context of the current service encounter but lead to reluctance to engage in further interactions with the firm in the future. Further research could look at the long-term effects of these interventions.

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Appendix A

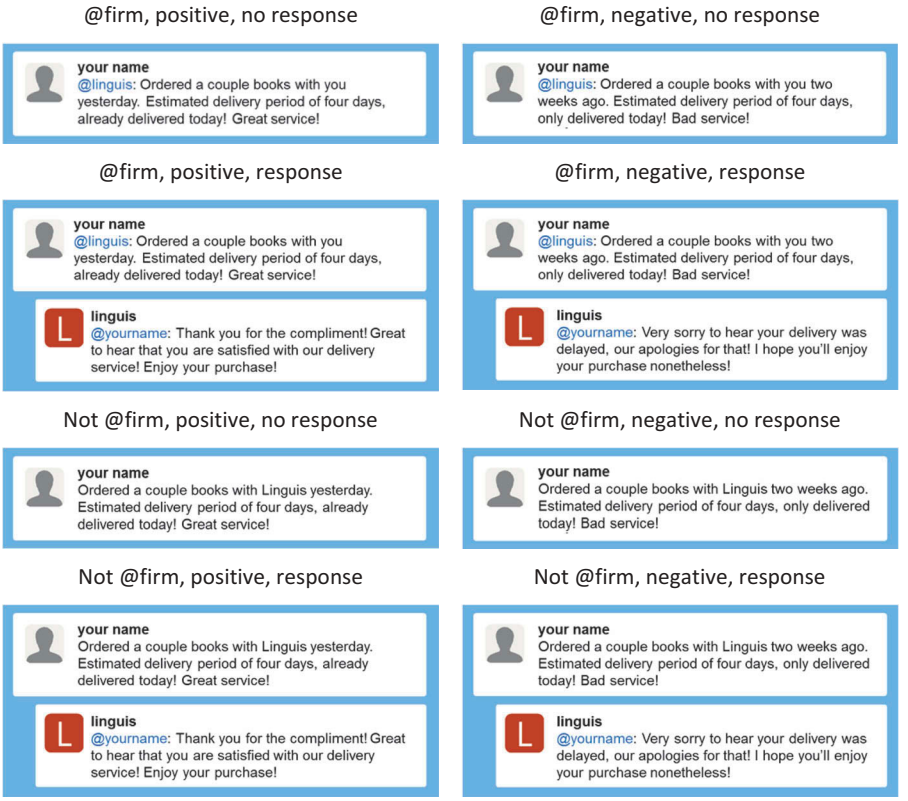

Figure A1. Experimental stimuli.

Appendix B

Table B1. Scales Study 1

Perceived privacy violation (ρ = .96, AVE = .69)
Linguis is intruding on my personal territory.
Linguis is violating my personal right to determine whom I want to interact with.
I feel Linguis is imposing itself upon me.
Linguis knows more about me than I would like them to.
Linguis is collecting too much of my personal information.
Linguis is violating my right to have a private space that others cannot enter without my permission.
Linguis is entering my personal space.
Linguis is unsolicitedly trying to initiate a conversation with me.
I feel the extent to which Linguis is using my personal information is inappropriate.
Linguis is violating my right to determine what happens with my personal information.
Service encounter satisfaction (ρ = .95, AVE = .91)
Please evaluate the described experience with Linguis:
Dissatisfied-Satisfied.
Displeased-Pleased.

Table B2. Measurement Model Study 2

	Standardized factor loading	Error variance
Perceived privacy violation (ρ = .95, AVE = .87)		
Linguis is violating my privacy.	.934	.128
Linguis is imposing itself on me.	.930	.135
Linguis is abusing my personal information.	.939	.118
Service encounter satisfaction (ρ = .96, AVE = .89)		
Please evaluate the described experience with Linguis:		
Dissatisfied-Satisfied.	.932	.131
Displeased-Pleased.	.970	.059
Unfavorable-Favorable.	.921	.152
Perceived usefulness (ρ = .83, AVE = .51)		
Communicating with Linguis was useful.	.586	.657
Communicating with Linguis had added value.	.642	.588
After communicating with Linguis I have more positive feelings.	.553	.694
After communicating with Linguis I have less negative feelings.	.877	.230
Communicating with Linguis has improved my situation.	.838	.297
Repurchase intentions (ρ = .97, AVE = .92)		
If you wanted to order books again, would you again order at Linguis?		
Unlikely-Likely.	.945	.107
Improbable-Probable.	.976	.047
Impossible-Possible.	.961	.076

Table B3. Correlation Matrix Study 2

	Perceived privacy violation	Perceived usefulness	Service encounter satisfaction	Repurchase intentions
Perceived privacy violation	1.00			
Perceived usefulness	0.01	1.00		
Service encounter satisfaction	−0.23*	0.49*	1.00	
Repurchase intentions	−0.19*	0.41*	0.82*	1.00

*$p < .0001$.

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