



Can synchronicity and visual modality enhance social presence in mobile messaging?



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ABSTRACT

As companies move increasingly toward text-based computer-mediated communications (CMC) for providing customer service, they tend to lose out on the social presence of a live agent interacting in person or via the telephone. Given the importance of social presence for maintaining healthy customer relations, how can companies counter the relative lack of social presence in CMC? Increasing the synchronicity of communications is one solution, but it is not always possible to provide instant responses to customers. In such cases, can a richer modality (e.g., picture of the customer-service agent) make up for diminished synchronicity and thereby enhance social presence? We addressed these questions with a 3 [synchronicity: high (no delay in response time) vs. medium (1-h delay) vs. low (6-h delay)] × 3 [modality: text-only vs. text+picture vs. text+emoticon] factorial, between-subjects experiment in which participants ($N = 108$) interacted with a customer service agent in a mobile e-commerce context. Data reveal that participants in high synchronicity and text+emoticon conditions felt higher social presence and perceived the customer service agent more positively than those in other conditions. Social presence and task impression mediated the relationship between each independent variable and their evaluations of the customer service agent.

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1. Introduction

These days, when we want customer service, we have to send a message instead of talking directly with a person. This builds a psychological distance, and can negatively affect user attitudes toward a company. What can we do to bridge this distance? How can we enhance the social presence of customer service agents (CSA) when interacting via chat? One possibility is to increase response time such that the conversation seems almost synchronous. Another solution is to include a picture of the customer service agent when responding to the customer. We tested these two strategies for enhancing social presence *en route* to affecting user attitudes toward the agent.

We report our study in this paper, which is organized as follows: Section 1 presents the theoretical background and introduces the major constructs (i.e., social presence, synchronicity and modality).

Section 2 describes study methods and procedures. Section 3 reports the results of the study, including details of analysis and hypothesis testing. Section 4 interprets and discusses the results of the study, its limitations, and directions for future research.

1.1. Social presence

Social presence is an important design principle and a key concept in computer-mediated communications (Ijsselstein & Riva, 2003). It has been theoretically defined as the feeling of “being with another in a mediated environment” (Biocca, Harms, & Burgoon, 2003), and operationally treated as the “moment-to-moment awareness of copresence of a mediated body and the sense of accessibility of the other being’s psychological, emotional, and intentional states” (p. 14). Social presence is not simply a property of a medium in mediated communication but also involves perceptions, behaviors and attitudes of the participants in a mediated interaction (Gunawardena, 1995). Nowak (2001) and Nowak and Biocca (2003) distinguish social presence from copresence: social presence is related to perception of the medium’s ability and copresence means a psychological bond. Zhao (2003) maintained that copresence is two dimensional – “copresence as mode of being with others, and copresence as sense of being with others”

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(Zhao, 2003, p. 445). The former involves physical colocation in space and time while the latter refers to a person's perceptions and feelings of being with others (Zhao, 2002). In this study, we employed the latter dimension of copresence (sense of being with others) as a primary component of social presence. The other component (discussed later) is the ability to sense the emotion of the interacting partner (labeled "affective understanding").

Social presence theory argues that the design of CMC should be as close as possible to face-to-face communications in order to maintain high social presence (Pavlou, Liang, & Xue, 2007). The frequency of users' interactions with an interface seems to depend on the level of social presence they perceive, thus making it a core design principle for social computing technologies and online communities (Ijsselstein & Riva, 2003). Since social presence is obviously a desirable quality of CMC with well-documented positive effects, it holds the promise of making up for the reduction in non-verbal transactions via CMC. If leveraged carefully, social presence can help online communications successfully replicate offline communications. Considering that "moment-to-moment awareness of copresence" is a key definitional element of social presence, one way to convey this would be to provide immediate, almost synchronous, responses to one's interaction partner.

1.2. Synchronicity

Face-to-face communication offers the greatest synchronicity, which CMC technologies tend to approximate, with instant messaging, for example, being associated with greater synchronicity than e-mail (Murphy & Ciszewska-Carr, 2007). High synchronicity has the benefit of providing individuals with immediate feedback and help develop a cadence of turn-taking in communications (Clark & Wilkes-Gibbs, 1986).

Thanks to the ubiquity of mobile networked media, near synchronous interactions are now commonplace through a variety of communication tools, primary among which is mobile instant messaging. It is gaining popularity in day-to-day business, due to its affordances (i.e., immediacy, flexibility and notification functions). Mobile IM is near-synchronous one-on-one CMC, with a fast network, short transmission times and experiences of immediate interaction (Nardi, Whittaker, & Bradner, 2000). Synchronicity plays a critical role in accomplishing IM's flexible tasks (e.g., quick questions and clarifications, scheduling, spontaneous social gatherings, keeping in touch with friends and family) (Nardi et al., 2000) by imbuing a sense of co-presence. The fact that messages fly back and forth instantaneously in this environment makes one feel like we are present together, even though this co-presence is temporal rather than spatial.

IM interactions tend to have the classic features of informal face-to-face communications, being diplomatic, brief, dyadic and full of context (Kraut, Fish, Root, & Chalfonte, 1990; Whittaker, Frohlich, & Daly-Jones, 1994). The relative synchronicity of IM allows participants to determine one's availability at very short notice and carry out communications with greater potential for immediacy behaviors that are known to engender a higher psychological sense of social presence (e.g., Isotalus & Muukkonen, 2002).

Marketing studies related to customer service have shown that satisfaction with complaint handling (Tax, Brown, & Chandrashekar, 1998) has a close relationship with the promptness of action taken, even if that action is simply an apology (Smith, Bolton, & Wagner, 1999). According to a recent industry study, 71% of online customers expect to receive the CSA's support within 5 min from the time they call the company and 42% of Twitter users expect a response within 1 h (Walters, 2013).

Given the psychological importance of synchronicity in enhancing social presence and perceived quality of customer service, we forward the following hypotheses for study:

H1. Synchronicity will positively affect feelings of social presence (H1a), evaluation of customer service agent (H1b), interaction experience (H1c) and task impression (H1d).

H2. Perceived co-presence will mediate the relationship between synchronicity and outcome variables.

1.3. Modality

Aside from synchronicity, another solution to enhancing social presence may be richer modality. The medium's capacity to transmit multiple cues (e.g., physical presence, voice inflections, graphic symbols) facilitates conveyance of interpretation and meaning, over and above basic information or data (Daft, Lengel, & Trevino, 1987). The addition of picture or other modalities to textual messages has shown positive effects on users' perception of the experience. Newberry (2001) contends that placing pictures in a web page is an easily achieved, economical option for increasing social presence, referring to Russo (2000)'s way of projecting a teacher's presence, by using her picture in an instructional context. In general, attachment of visual modalities, either still or moving images, to text-based messages seem to have a positive effect on communicators' feelings of social presence than text-only messages. The photo sharing feature of a cameraphone enables people to build a sense of "distributed copresence" through the exchange of text messaging (Okabe, 2006). The shared visual information can enhance awareness of friends who are not physically co-present and thereby increase their bonding (Ito & Okabe, 2005). Therefore,

H3. The addition of picture will positively affect feelings of social presence (H3a), evaluation of customer service agent (H3b), interaction experience (H3c) and task impression (H3d).

The use of pictures may not always be feasible, especially in corporate contexts where it is important to maintain the privacy of customer-service agents and other professionals who interact directly with various publics. So, a variation of the visual modality that is halfway between text and pictures, namely the emoticon, provides a viable alternative. This is a new modality of expression invented by CMC users to convey non-verbal and emotional expressions when exchanging text.

In interpersonal communication, people perceive affective social presence by way of nonverbal cues (e.g., facial expression, eye contact, body language, gestures, touch) (Cui, Wang, & Xu, 2010; DePaulo, 1994). Nonverbal cues enable communicators to reciprocate each other's emotion, intention and attitudes (Cui et al., 2010; Lo, 2008). In CMC, the lack of nonverbal cues restricts communicators' ability to convey social information (Rice, 1984), perceive communication context (Rice, 1984; Trevino, Lengel, & Daft, 1987; Walther, 1992) and feel social presence (Daft & Lengel, 1986; Kiesler, Siegel, & McGuire, 1984; Kiesler & Sproull, 1986). As Social Information Processing Theory (Walther, 1992) argues, when there are no available non-verbal cues, communicators resort to different modalities of communication (Walther, 2011), such as emoticons (Derks, Bos, & Grumbkow, 2007; Utz, 2000; Walther & D'Addario, 2001), photos (Tanis & Postmes, 2003) and other multimedia information (Westerman, Van Der Heide, Klein, & Walther, 2008).

Emoticons are commonly known as non-verbal indicators of emotion (Dresner & Herring, 2010) and serve as a proxy for the socio-emotional tone and context provided by such non-verbal gestures as head nodding, facial expressions, posture and eye contact (Kekwaletswe & Ng'ambi, 2006; Riva, 2002). Emoticons enable a recipient to correctly understand the level and direction of emotion,

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