



# Investigating factors affecting social presence and user satisfaction with Mobile Instant Messaging



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## ABSTRACT

The purpose of this study is to examine the factors that influence social presence and user satisfaction with Mobile Instant Messaging (mIM). The proposed research model integrates channel expansion, social influence, social presence and media richness theories, to explain how user experience, social influence, and medium richness influence social presence and user satisfaction with mIM. A total of 239 students from a state university in the US participated in this study. Data was collected via a web-based survey. The results suggest that user experience, social influence, and perceived richness are important drivers for social presence and user satisfaction in mIM. The implications of the study findings are discussed in the paper.

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## 1. Introduction

Mobile Instant Messaging (mIM) is the ability to engage in Instant Messaging (IM) services from a mobile phone. It is a presence enabled messaging service that facilitates social interactions among mobile phone users. It is an example of a highly synchronized one-to-one text based communication (Hung, Duyen, Kong, & Chua, 2006). Mobile IM (mIM) allows users to view the presence and status of their communication partners; set personal status and presence; and send and receive chat messages while managing several conversations at the same time (Cameron & Webster, 2005). Messages are sent and received in real-time via mobile phones. It helps to optimize communication and collaboration among workgroups within the same organization or across the globe with secure real-time one-to-one and multi-party instant messaging.

Most IM applications are freely downloadable applications for mobile phones that enable users to send IM for free to users of the same application, through their mobile data plan or Wi-Fi. However, some third-party mIM providers such Yahoo, MSN, Skype, and Google Talk, will allow mobile phones users to interact independently of their carrier or mobile phone manufacturer. The freely available IM applications are contributing to the rapid growth of mIM.

Mobile IM is a social-media tool that is increasingly being viewed as a tool for increased productivity. Many researchers believe that mIM's growth is an upward trajectory. According to Informa Media & Telecoms Research (2012) global mIM traffic is expected to increase from 1.6 trillion messages in 2011 to 7.7 trillion messages in 2016, thus leading to 34.6% share of global messaging traffic in 2016. On the same vein Juniper Research (2011) estimates that the number of mIM users will exceed 1.3 billion by 2016.

Although low cost may explain this growth, other factors such as presence and richness capabilities of the medium play a role as well. The presence capability is important because it allow users to know the location, activities, surrounding, and nearby resources close to potential partners as well as socialize with their partners in real time (Cameron & Webster, 2005). Presence allows users to know the work group members' status, such as "In a Meeting, Busy, Available," and to choose the best method of communication. Users can instantly update their presence status with work group members. It therefore makes communication among distributed groups more efficient. This is especially important in distributed teams where users in different locations and time zones have to work together on the same projects.

An added value of mIM applications is the low cost/limited operational investments and maintenance. These applications have the potential for greater business returns through efficient communication, better and timely decision making, improved sales, and improved customer support and customer retention.

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**Table 1**  
Summary of literature review.

Construct	Investigation on CMC	Authors
Social presence	Positively related to choice of email, media choice Influences satisfaction Related to social interaction Important in social communities and personal networks and collaboration Increase communication abilities Improves personal relationships in social support groups Moderates CMC in classroom Important in collaboration Important in the design of CMC	Biocca, Kim, and Levy (1995), Short et al. (1976), Straub and Karahanna (1998), Trevino et al. (1987), Gunawardena (1995), Boase (2008), Campbell and Wright (2002), Eichhorn (2008), Knopf (2009), McGrath and Hollingshead (1994)
Richness	A rich medium, like face-to-face, provides a better context for engaging in equivocal communication tasks such as decision making, problem solving, and relational development. A leaner medium, like CMC, that conveys more limited information, cues, feedback, and language is more efficient for unequivocal communication, but less suited for equivocal ones	Daft and Lengel (1986), Trevino, Lengel, Bodensteiner, Gerloff, and Muir (1990), An and Frick (2006) and McGrath and Hollingshead (1994)
Social influence	Related to positive feeling and interpersonal closeness through social presence Influences adoption of technology Influences intention to adopt technology	Fulk, Steinfield, Schmitz, and Power (1987), Yang, Moon, and Rowley (2009), Mazer, Murphy, and Simonds (2007) and Salancik and Pfeffer (1978)
User experience	Positively related to perceived usefulness and ease of use Positively correlated to richness, social interaction, and social presence	Cameron and Webster (2005), Carlson and Zmud (1999), Fulk, Steinfield, Schmitz, and Power (1987), Timmerman and Madhavapeddi (2008), Jenks (2009), Leiner and Quiring (2008) and Utz (2000)

The purpose of this study is to examine the factors that influence social presence and user satisfaction in mIM. Whereas prior research has mostly focused on traditional computer-mediated communication environment (Rice, 1992; Short, Williams, & Christie, 1976; Straub & Karahanna, 1998; Trevino, Lengel, & Daft, 1987), this study focusses on mobile communication technology specifically mIM. Therefore, drawing upon the literature on communication channel expansion, social presence and media richness, we propose an integrated model that depicts the importance of user experience, richness and social influence in user satisfaction and social presence in mIM.

The results of this study support the proposed model. The findings suggests that users who frequently use mIM, develop experience which allows them to interact very richly with communication partners, IM applications, user interface, and features in the mobile phone thereby enhancing social presence and user satisfaction.

The rest of the paper is organized as follows: We begin with literature review. Due to space constraints we have summarized the literature review in Table 1. Next, we explore the relationship among the variables under investigation and tie these to the hypotheses and the proposed research model (Fig. 1). This is followed by methods and data analysis. Last but not least, we discuss the results and the implications of the study findings both in industry and academia.

## 2. Literature review

Prior studies have made significant contribution to the understanding of social presence, media richness, social influence and user experience in computer mediated communication (CMC). Table 1 provides a summary of some of the studies that have investigated computer mediated communication. For example, social interaction and personal relationships in social support group (Biocca, Kim, & Levy, 1995); richer versus leaner communication channels (Daft & Lengel, 1986); feelings of closeness through social presence (Mazer, Murphy, & Simonds, 2007); the relationship between richness and social interaction in CMC (Cameron & Webster, 2005; Carlson & Zmud, 1999). However, all these studies

focused on the traditional computer mediated communication. We question whether the findings of these studies would hold in a mobile IM environment considering the likely impact of other variables such as mobility.

### 2.1. User experience

We define user experience as the extent to which a user gains familiarity with mIM, which allows them to connect with communication partners (Carlson & Zmud, 1994). As users become familiar with the application they acquire experience which allows them to perceive the technology as rich and hence participate in rich information exchange (Carlson & Zmud, 1999). As people gain experience with mIM they learn to articulate social information, engage in social interaction, and achieve a sense of social presence and competence (Jenks, 2009; Leiner & Quiring, 2008). For example, people who are more experienced with email perceive email as richer than those who are less experienced (Fulk, Steinfield, Schmitz, & Power, 1987). This view is also supported by the Communication Channel Expansion (CCE) theory which posits that individual's relevant experiences play an important role in influencing perceptions of communication channel richness (Carlson & Zmud, 1994).

User experience goes beyond mere interaction with the user interface. It includes interaction with the services and features in the mobile devices. Limited interaction with mobile devices may diminish the perception of richness thereby leading to low user satisfaction with these technologies. It is imperative that users familiarize with mIM applications if they have to reap the potential benefits associated with the richness of these technologies. Equally important is that new users should learn how to interact with the technology with minimal difficulty. We argue that the way users interact with mIM shapes their perception of user satisfaction.

### 2.2. Perceived richness

Media richness comes from Media Richness Theory (MRT) - a theory that explains the flow of information in an organization

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