

# IM Support for Informal Synchronous E-Collaboration

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## INTRODUCTION

Instant messaging (IM) is a synchronous communication medium that can be used to maintain a list of “friends.” These friends can be contacted whilst online and running the software, by text messages or initiating a chat, audio or video conferencing session.

Figure 1 shows a screenshot of Microsoft’s MSN Messenger. Three persons are online and can be contacted by right-clicking their name and choosing what kind of interaction (e.g., send message or file) that is to be initiated. It has been argued that IM enables more informal interaction compared with common synchronous media, such as chat and videoconferencing since meetings do not need to be scheduled (e.g., Cameron & Webster, 2005; Contreras-Castillo et al., 2004). Instead, users can spontaneously e-collaborate synchronously with others when they are online.

There has been a “mass adoption” of IM around the world. The popularity of IM may be explained by the fact that it has been adopted in various settings:

- Managers have begun to recognize IM systems’ potential to support informal interaction. This has led to corporations installing IM software on employees’ workstations (Cameron & Webster, 2005). In 2004, 53 million American adults exchanged instant messages and 24% of them used IM more often than e-mail (Shiu & Lenhart, 2004).
- Students at European and American universities commonly use IM (Beuschel et al., 2003). For example, 63% of the students at Jönköping University use an IM system (Andersson & Azadi, 2004). Out of these, 90% use it at least weekly and 52% have been using it for more than three years.
- Adolescents commonly use IM to interact socially with friends (Boneva et al., 2006). As they become older, it is probable that they will bring IM to other settings, such as work and education.

Even though many use IM, few have actually examined it in research, which implies that our knowledge

*Figure 1. Screenshot of MSN Messenger*



of how IM is used in practice is limited (Cameron & Webster, 2005; Quan-Haase, Cothrel, & Wellman, 2005). However, there are some notable exceptions that have been conducted in work and in educational settings, which are reviewed in this article.

The aim of this article is to review how IM may be used to support e-collaboration. This is addressed by reviewing studies on IM in both work and in higher education settings. These two settings “share the problem of creating and sustaining a positive work and learning environment” (Haythornthwaite, 2000, p. 201) and by including research from both areas a deeper understanding may be obtained.

The article is structured as follows. First, definitions of informal interaction and e-collaboration are discussed. Then, studies on IM at work and in higher education are reviewed. Finally, conclusions derived from the reviewed studies are put forth.

## INFORMAL E-COLLABORATION AND INSTANT MESSAGING

*Informal interactions* “take place at the time, with the participants, and about the topics at hand” (Fish, Kraut, & Chalfonte, 1990, p. 2). Nardi, Whittaker, and Bradner (2000) argue that informal interaction generally is “impromptu, brief, context-rich, and dyadic” and “support joint problem solving, coordination, social bonding, and social learning—all of which are essential for complex collaboration” (p. 79). It has been recognized for many years that informal interaction is vitally important in organizations (Kraut, Fish, Root, & Chalfonte, 1990; Mintzberg, 1973). In this article, *informal e-collaboration* is defined as spontaneous, brief collaboration mediated by technology among individuals engaged in a common task.

A characteristic that distinguishes IM from other commonly used communication media, is its potential to enable informal e-collaboration. Fish et al. (1990) developed criteria for appropriate characteristics of technology for *informal interaction*. These were (a) access to a suitable population of others, (b) an environmental mechanism that brings people together, (c) the effort needed to initiate and conduct a conversation should be low, and (d) a visual channel. Interestingly, most available IM systems, both commercial (e.g., MSN

Messenger, ICQ, Yahoo Messenger, AOL Messenger) and those designed for collaborative knowledge work (e.g., Lotus Workplace Messaging, Jabber Extensible Instant Messaging), have these characteristics. Even though some technologies seem more beneficial than others in supporting informal interaction and e-collaboration, it needs to be noted that it is the users, and not the technology per se, that decide if it is to be used for informal interaction.

## INSTANT MESSAGING AT WORK

Recently, IM has received increased attention in research on e-collaboration. Since 2000, exploratory studies have mainly been presented at computer-supported cooperative work and human-computer interaction conferences. Journal publications more focused on organizational consequences of IM use began to appear in 2005 (Cameron & Webster, 2005; Cho, Trier, & Kim, 2005; Quan-Haase et al., 2005). Below, research findings are reviewed and categorized.

*IM enables informal work-related e-collaboration.* IM is generally used for spontaneously asking specific work-related questions (Cho et al., 2005; Handel & Herbsleb, 2000; Quan-Haase et al., 2005) but also to “coordinate and arrange meetings, and inquire about colleagues’ availability for discussion” (Quan-Haase et al., 2005). The messages are characterized by an informal tone (Cameron & Webster, 2005) and usually only two employees are involved in a conversation (Quan-Haase et al., 2005).

IM has also been reported to be used to support in-depth problem solving, where various strategies to find a solution to a problem are discussed (Isaacs, Walendowski, Whittaker, Schiano, & Kamm, 2002; Quan-Haase et al., 2005). Isaacs et al. (2002) compared heavy and light IM users. They argued that heavy users use IM to support collaboration, such as to “discuss a broad range of topics via many fast-paced interactions per day” (p. 11), while light users use IM to support coordination, like scheduling.

*IM not only replaces but also complements other media and face-to-face meetings.* Cameron and Webster (2005) found that many employees felt that IM was used as a replacement of telephone, e-mail and face-to-face meetings. However, in contrast, others perceived IM as an additional method to reach others, which has been

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