Chapter 10
Instant Messaging in Global Software Teams

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ABSTRACT

Instant Messaging (IM) has been strictly forbidden in some companies as an unproductive use of time and exists in others via unsanctioned employee actions without explicit approval or directive from upper management. This paper examines a set of globally distributed software teams in a company that has explicitly installed and integrated IM capabilities with its collaboration management tools. Through a set of semi-structured interviews and the application of adaptive structuration theory, this study finds that because of the unique characteristics of global software development, IM is a highly useful tool for maintaining team cohesiveness and supporting team communication. Although the study finds strong support for the value of IM, it also identifies that the time distributed nature of the work, the informality of the medium as it interacts with different cultures and the productivity loss from IM's interruptive nature are problematic. A set of recommendations is made to address these problems. The paper concludes that IM is a useful tool for global software development and its advantages outweigh its problems.

1. INTRODUCTION

For the past several years, it has been common for companies to offshore IT-based business activities. The development of software has become an increasingly global operation and the use of globally distributed software teams is commonplace. It is reported that more than 70% of U.S. firms have outsourced some kind of business process (Carmel & Agarwal, 2002). However, globally distributed work imposes significant challenges to team communication and collaboration. The increased geographic and temporal distance between team members decreases or even eliminates the number of overlapping work hours. Lack of temporal overlap reduces opportunities for real-time collaboration and inhibits timely information exchange. The knowledge-intensive and complex nature of software design and development requires significant amounts of real-time communication to clear up inconsistencies and resolve uncertainties before expensive commitments are made. In addition, spontaneous informal communication in global software teams is important for preventing communication breakdowns between sites and for developing team cohesiveness (Chang & Ehrlich, 2007). Therefore, real-time informal communication is often a critical need in distributed software teams.

From amount the various computer-based communication tools available, instant messaging (IM) has become one of the commonly used forms in global software teams for facilitating real-time informal spontaneous communication. International corporations such as IBM have invested heavily in this new form of real-time collaboration (Courtney, 2008). However, due to the newness of IM in the workplace, research on IM has a relatively short history, and the majority of the studies depict the application of IM functionalities in isolation from its organizational context (Zhang & Fjermestad, 2008). Furthermore, very few studies have investigated the following two important questions: (1) how IM usage can benefit global software teams and (2) how global software teams might manage IM usage to improve the efficiency and effectiveness of real-time communication in global software development. This work is a preliminary step towards answering these questions. It draws on existing research on IM and communication theory as well as interviews with industry practitioners working in global software teams and observations of team member IM usage. From the analysis of the interviews and observations and the integration of these results with existing theories, the paper derives a set of managerial guidelines for global software project managers for reaping the benefits and overcoming the challenges.

The paper is organized as follows: first it reviews the existing literature on instant messaging and global software teams. Then a case study of global software teams is introduced. Integrating the case study results and the findings of previous communication studies, the authors explain the benefits and challenges stemming from IM usage in these teams. A set of proposed guidelines for managing IM usage in global software teams follows the case study discussion. Finally, the paper concludes with a discussion of the study in terms of its contributions and limitations.

2. LITERATURE REVIEW

2.1 Instant Messaging

The exponential growth and the non-proprietary nature of the Internet have made internet-based communication technologies (ICT) a good communication platform. Among a variety of ICTs, instant messaging (IM) has become one of the leading communication forms. Cameron and Webster (2005) define IM as a communication technology that allows employees to send and receive short text-based messages in real-time and to view the 'online' status, and thus contactability of associates. It is a low-cost communication tool, which is

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