Chapter I

Applying Collaboration Theory for Improving ERP System-User Interaction

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Abstract

Enterprise resource planning (ERP) systems automate business processes and provide access to data from worldwide operations. These systems remain difficult to learn and use, however, despite the vast resources devoted to employee training and the reams of documentation provided by their manufactures. Oftentimes, even well trained employees will appeal to more knowledgeable users for help or will augment their system use with other software, such as spreadsheet or database applications. The need for such practices has a negative impact on employee performance and the ability of companies to reap the full benefits afforded by ERP systems. To enhance their usability, and thereby increase their usefulness to organizations, we propose the application of collaboration theory to ERP system design. Conceptual-
izing the relationship between the user and the system as one in which the system works in partnership with the user provides a development framework targeted at helping users achieve their system-related goals.

Introduction

Anecdotal evidence of the problems encountered by users interacting with enterprise resource planning (ERP) systems abounds, and recent studies confirm the poor usability characteristics of these systems. A study of ERP users in one division of a Fortune 500 company identified the following six categories of usability problems: difficulty in identifying and accessing the correct functionality, lack of transaction execution support, system output limitations, inadequate support in error situations, incompatibility between the users’ and the system’s terminology, and usage-related problems arising from the overall complexity of the system (Topi, Babaian, & Lucas, 2005). Although these users had undergone training on the use of the system and had access to manufacturer-supplied documentation, they relied heavily on extensive sets of informal notes on system usage prepared by fellow employees (Topi, Lucas, & Babaian, 2006), sought out “power users” from within the organization for answers to their questions, and sometimes turned to outside applications, such as Microsoft Excel®, for meeting unfulfilled reporting needs (Topi et al., 2005).

Usability issues can have a detrimental effect on business performance and, in particular, on end-user productivity (Iansiti, 2007). Recent studies from Forrester Research on enterprise usability (Ragsdale, 2004) and business application usability (Herbert, 2006) also note the negative effect of poorly designed user interfaces on the bottom line, with costs arising from increases in new user training time, decreases in productivity, and poor user adoption rates. Hamerman (2007) notes that usability is not a strong suit of ERP applications, with newer versions of the leading packages showing only minor usability improvements over their predecessors, and includes lack of usability as one of five major challenges facing ERP customers. It appears that little progress has been made since an earlier Forrester Research evaluation of eleven ERP products (Chew, Orlov, & Herbert, 2003), which found that poor usability characteristics and the unintuitive user interfaces of these systems contribute to decreased productivity and increased costs for businesses using...
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