Chapter 14
Transactive Memory and Technology in Work Groups and Organizations

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ABSTRACT

Transactive memory is a shared awareness among individuals about who knows what. Many studies show that work groups can develop transactive memory systems, and that groups whose systems are stronger perform better. Although organizations have been studied less often in this regard, the available evidence suggests that they can develop transactive memory systems too, and that stronger systems improve their performance as well. Technology can be a tool for strengthening transactive memory systems in work groups and (especially) organizations. Unfortunately, workers often resist using such technology, which limits its effectiveness. Several explanations for that resistance are considered, but the major problem is that workers simply prefer to locate and share their knowledge using interpersonal rather than technological methods. Instead of attempting to overcome this preference, it might be wiser for organizations to explore ways to strengthen interpersonal methods of sharing knowledge among workers.

INTRODUCTION

Scholars from many disciplines are interested in improving the performance of work groups and organizations. Although there are several possible ways to achieve this goal, there has been a focus in recent years on intellectual capital as an important factor (see Stewart, 1999; 2001). Intellectual capital includes all of the relevant knowledge that

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workers possess – knowledge that can help them do their jobs. No worker can know everything a job requires, especially if the job is complex and dynamic, as many jobs are today. So, knowledge must often be sought by workers. That knowledge might well be available within a worker’s own group or organization. But people are often unaware of exactly where the knowledge that they need resides, so they waste time, energy, and other valuable resources by seeking that knowledge from outsiders, or (re)generating it on their own. As a result, intellectual capital loses some of its value – much knowledge is wasted because its location is unknown.

This problem arises, in large part, from weak transactive memory systems. Wegner (1986; see also Wegner, Giuliano, & Hertel, 1985; Wegner, 1995) was among the first to analyze such systems. Although Wegner focused on dyads (e.g., romantic couples), his analysis is relevant to work groups and organizations as well. Wegner noted that people often try to supplement their own memories, which are limited and can be unreliable, with various external aids. These aids include objects, such as calendars or address books, and other people, such as coworkers or partners. Wegner was intrigued by the use of people as memory aids. According to Wegner, transactive memory systems develop in many social settings to ensure that useful information is remembered. These systems combine the knowledge of individual group members with a shared awareness of who knows what. When group members need information, but cannot remember it on their own or worry that their own memories are inaccurate, they can thus turn to one another for assistance. In this way, transactive memory systems provide group members with access to more and better information than any one of them could remember alone.

The potential benefits of transactive memory for work group performance are clear. When group members know more about each other, they can plan their work together more sensibly, assigning tasks to the people who will perform them best. Coordination ought to improve as well, because workers can anticipate one another’s behavior, rather than simply react to it (see Wittenbaum, Vaughan, & Stasser, 1998). This would help them work together more efficiently, even if their task assignments were vague. Finally, problems should be solved more quickly and easily, because workers can match them with the people who are most likely to solve them (see Moreland & Levine, 1992). Once those people were identified, they could be asked for help, or the problems could just be given to them to solve. Analogous performance benefits might occur in an organization as well. For example, a greater awareness of who knows what could improve how work groups are staffed. Workers with relevant knowledge could be assigned to groups that require such knowledge for their work. Those groups could thus be smaller, because redundant knowledge is minimized, and problems associated with a lack of knowledge should occur less often. What if unexpected problems occurred? A greater awareness of who knows what would allow knowledgeable workers within the organization to be located more readily and then asked or instructed to help. As a result, the problems might be solved more efficiently than if group members attempted to solve them on their own, or if they sought help without knowing exactly where to find it.

All of this suggests that the performance of work groups and organizations could be improved by helping workers to develop stronger transactive memory systems – systems that are more accurate and shared more widely. Technology might aid in this endeavor. Our major goal in this chapter is to consider whether and how technology could be used to support transactive memory systems. We will begin by summarizing prior research on transactive memory systems in work groups and organizations, then review efforts to strengthen transactive memory systems through the use of technology, and finally draw some conclusions about the value of such efforts (and how they might be improved).