ABSTRACT

By their nature, quality improvement projects involve a process of discovery (Choo, Linderman, & Schroeder, 2007a). Therefore, such projects entail both learning and the creation of new knowledge where the goal is to improve project outcomes within an organization and ultimately increase the firm’s bottom-line performance and/or competitiveness (Choo et al., 2007a; Linderman, Schroeder, Zaheer, Liedtke, & Choo, 2004). According to Kogut and Zander (1992 p. 384), “...organizations serve as more than mechanisms by which social knowledge is transferred, but also by which new knowledge, or learning, is created.” Nonaka (1994 p. 15) defines knowledge as “a dynamic human process of justifying personal beliefs as part of an aspiration for the truth” and suggests that organizational knowledge creation “is associated with the extent of social interaction between individuals that share and develop knowledge.” Hence, teams can be formed within an organization to facilitate the interaction necessary to create knowledge, which leads to solving problems and making improvements.

There is, however, an intermediary phase between gathering relevant information and creating new knowledge. According to Vera and Crossan (2003 p. 132), knowledge creation is related to learning in that learning behaviors result in creating knowledge. Edmondson (1999 p. 351) describes learning behaviors as “activities carried out by team members through which a team obtains and processes data that allow it to adapt and improve.” Therefore, learning involves information seeking, discussion, and asking questions and knowledge is characterized as new ideas, an improved understanding, and the capability of a team to complete a project (Choo, Linderman, & Schroeder, 2007b; Edmonson, 1999). Further, Kogut and Zander (1992 p. 385) support the knowledge-based view of the firm by considering knowledge as a competitive
The relationship between learning behaviors and capability because “...investments in new ways of doing things...serve as platforms on future and uncertain market opportunities.” In the work of Choo et al. (2007b), they conceptualized learning as a behavioral process and found that for Six Sigma project teams, learning behaviors directly affected performance as they accelerated feedback which led to early error detection. This finding reinforced what Edmondson (1999) found relative to a wide range of organizational work groups within a single organization. Additionally, Choo et al. (2007b) found support for the conclusion that knowledge mediates the relationship between learning behaviors and performance.

Over time, approaches to quality improvement have shifted from inspection and quality control techniques to methods for process improvement and designing quality into products and processes. Sitkin (1994) argues that in order for firms to compete effectively under conditions of high task uncertainty and within environments subject to constant change, it is necessary to adopt a learning-orientated perspective towards quality improvement initiatives. Comprehensive quality programs, such as Six Sigma, provide a structured method for conducting quality improvement projects (Pande, Neumann, & Cavanagh, 2000). This type of approach allows teams to systematically gather information and translate it into the knowledge necessary to effectively improve a product, process, or service. According to Choo et al. (2007b p. 438), such an approach “...represents a cognition-influencing mechanism that leads to learning behaviors and knowledge created in quality improvement teams.” However, their study proved only that adherence to a structured method, such as Six Sigma, positively influences learning behaviors (Choo et al., 2007b). Yet, organizational learning involves both cognitive and interpersonal factors.

Often, individuals’ tacit beliefs about interpersonal interactions inhibit learning behavior and give rise to ineffectiveness in organizations (Argyris, 1993) because “people tend to act in ways that inhibit learning when they face the potential for threat or embarrassment” (Argyris, 1982). Given that learning behaviors are often associated with a risk of embarrassment, rejection, or punishment for sharing unique perspectives or ideas, then only “safe” working environments naturally facilitate open and meaningful discussions among group members in which learning can occur. Edmondson (1999 p. 354) refers to this psychologically driven cognition-influencing mechanism as “psychological safety” and defines it as “a shared belief that the team is safe for interpersonal risk taking” (Choo et al., 2007b). Edmondson (1999 p. 355) further suggests that psychological safety “...facilitates the team’s taking appropriate actions to accomplish its work.” Since it is through discussion that learning occurs, both Edmondson (1999) and Choo et al. (2007b) hypothesized that psychological safety positively influences learning behaviors. Edmondson (1999) found support for this argument for organizational works groups in general; yet, for Six Sigma project teams, Choo et al. (2007b) did not find a direct effect of psychological safety on learning behaviors. However, Choo et al. (2007b) further argued that psychological safety should positively increase the team’s cognitive ability and allow the team to frame problems as opportunities to be explored, which creates the potential for new knowledge and proved that a positive relationship existed here.
Our research joins the efforts of Pisano (1994), Nonaka and Takeuchi (1995), and Vera and Crossan (2003) to further investigate how organizations create new knowledge. This work follows the direction of a current research stream that examines the role of structured problem solving approaches within the paradigm of learning theory (Choo et al., 2007a,b; Linderman et al., 2004). The preliminary phase of this new research attempts to build on the work of Edmondson (1999) and replicates the study conducted by Choo et al. (2007b). One limitation of previous studies in this area has been the investigation of proposed theories within only a single organization. Hence, this work attempts to draw conclusions from across multiple organizations.

REFERENCES


