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A dynamic system simulation of leader and group effects on context for learning

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Abstract

The dynamic interactions of leaders and followers often result in important strategic resources and competencies that are critical to an organization's success. Yet there is little research that explicitly addresses how the skill levels of leaders and followers are linked as a socially constructed strategic resource is created. This article describes an agent-based dynamic model simulation of the creation of Group Context-for-Learning, which is an intangible strategic resource that supports organizational learning. The simulation describes developmental paths showing the growth in Group Context-for-Learning for various leader–group combinations. While both leader and workgroup skill levels affected the developmental paths shown by different groups, a highly skilled group invariably produced a better developmental path than a low skilled group, regardless of the leader's skill level. © 2005 Elsevier Inc. All rights reserved.

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Leaders and followers both play important roles in the development of strategic organizational resources and competencies (Sanchez & Heene, 1997). The continuous process of leader–follower interaction warrants consideration in the development of socially constructed strategic resources. Leader–follower interactions are complex and are characterized by reciprocal influence, as well as time and context sensitivities that can affect the outcomes of the interactions (Giddens, 1977). Socially constructed strategic resources (such as a favorable Context-for-Learning) may be affected by a leader's skills, follower's skills and/or the combined effects of both, especially when considering the dynamics of the interactions over time.

Because of these issues and the fact that followers learn through remembered experiences, traditional empirical research methods (including rotational designs) may be inadequate to determine which leader style best suits the development of a strategic resource. Some researchers have addressed the problems of reciprocal influence, time, and context sensitivity by examining social networks and demographics of strategic leaders; others have used qualitative research methods (Carpenter & Westphal, 2001; Gronn, 1999; Hunt & Ropo, 1992; Mumford & Van Doom, 2001). While these researchers recognize that social dynamics can generate strategic resources, there has been a lack of focus in strategic leadership research on the specific social dynamics from which strategic resources can emerge (Priem, Lyon, & Dess, 1999).

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In this research, we have applied one of the most popular and powerful quantitative tools of complex system analysis—computational modeling (Carley, 1995). We applied this tool to help understand the dynamics involved in the leader's role in developing strategic competencies. Our model provides insight into the complex processes of workgroups in organizations in generating a strategic resource. Specifically, we modeled the impact of a leader's role behaviors on individual followers in a workgroup context as a socially constructed strategic resource is created. Leader role behaviors are modeled using Quinn's Competing Value Framework (Quinn, Faerman, Thompson, & McGrath, 2003). This framework includes behaviors that others have indicated are management oriented as well as those that have been identified as leadership oriented (Bedeian & Hunt, in press), and is consistent with our view that the two are complementary (Bass, 1985; Kotter, 1990; Quinn, 1988). The socially created strategic resource that we examined is the Context-for-Learning (CFL), which is a strategic competence that both individually and collectively supports organizational learning (Black & Boal, 1997; Black, King, & Oliver, 2005; Ghoshal & Bartlett, 1994).

The CFL is a measure of an individual's perception of his/her ability to learn within his/her organization. The Group Context-for-Learning (GCFL) is the collective perception by a group of the members' ability to learn within an organization. GCFL is important in order for groups to demonstrate a capacity to change and a high level of performance (Black & Boal, 1997). The effects of follower–leader–group dynamics on the development of CFL have been addressed and modeled elsewhere (Black et al., 2005). While certain elements of CFL were found to be related to the leader, specific leader behaviors influencing the context over time were not studied. The research reported here combines Quinn's Competing Values Framework (CVF) and CFL to model the influence of leader's role behavior on individuals and groups over time.

1. Quinn's competing values framework

Quinn and associates analyzed effective management from a competing value perspective (Denison, Hooijberg, & Quinn, 1995; Quinn, 1984, 1988). Their model identifies four general competing values and associated roles (see Fig. 1). Control Value Systems compete with Flexibility Value Systems and Internal Focused Value Systems with External Focused Value Systems. These competing values require a leader to take on different roles with attendant different behaviors—Mentor, Facilitator, Monitor, Coordinator, Innovator, Broker, Producer and Director. The roles and associated behaviors are complementary within a single quadrant and contrast directly with the roles in the opposite quadrant (Fig. 1) (Quinn et al., 2003). Patterns of skill levels in the various roles were identified as archetypical leader profiles (Quinn et al., 2003). Eight such archetypical leader profiles were suggested by Quinn et al. (2003), half of which were identified as effective and half as ineffective.

Competing Values Framework (CVF) questionnaires help diagnose an individual's leadership roles by assessing the level of skill for behaviors associated with the roles and the frequency with which each behavior is used. The CVF questionnaires have demonstrated discriminant, convergent and nomological validity (Denison et al., 1995). Effective leaders are associated with effective individual leader behaviors for the different roles and the perception by followers that the leader is effective (Bullis, 1992; Hart & Quinn, 1993; Hooijberg, 1996). Quinn et al. noted that there was a
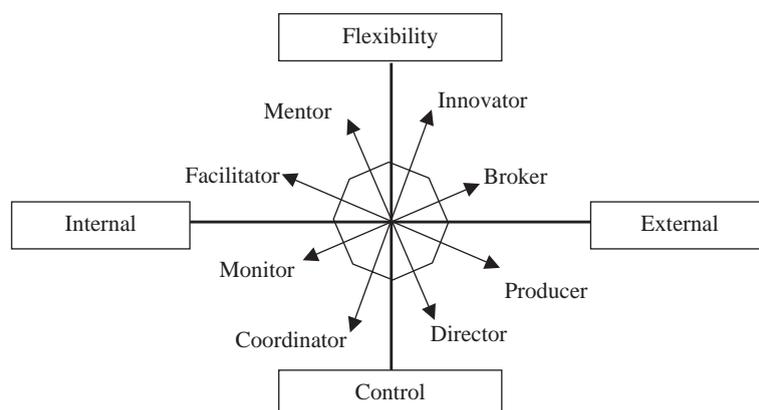

Fig. 1. Quinn's competing values framework roles by quadrant.