Advances in Developing Human Resources 12(1) 137-156 © 2010 SAGE Publications Reprints and permission: http://www. sagepub.com/journalsPermissions.nav DOI: 10.1177/1523422310365669 http://adhr.sagepub.com



Two Strategies for Leveraging Teams Toward Organizational Effectiveness: Scenario Planning and Organizational Ambidexterity

Thomas J. Chermack<sup>1</sup>, Wendy Bodwell<sup>1</sup>, and Maggie Glick<sup>1</sup>

### Abstract

The purpose of this article is to position two key tools (which may already be in use in organizations) as tools for leveraging teams toward organizational effectiveness. These tools are scenario planning, and organizational ambidexterity. Scenario planning has already been positioned as HRD's strategic learning system, and organizational ambidexterity is an emerging framework. These two tools have team building components that could be featured to take advantage of this function. The task of this article is to reposition these strategic tools with an emphasis on how they leverage teams as their primary means for improving organizational effectiveness. The key components of each are described, focusing on how teams can be used as the primary mode for accomplishing the purposes of each tool.

## Keywords

team building, scenario planning, organizational ambidexterity

The purpose of this article is to describe and explain two key tools for leveraging teams toward organizational effectiveness. These tools are (a) scenario planning and (b) organizational ambidexterity. Scenario planning is a relatively well-known,

<sup>1</sup>Colorado State University, Fort Collins

**Corresponding Author:** Thomas J. Chermack, 223 Education, Colorado State University, Fort Collins, CO 80523 Email: chermack@colostate.edu well-documented system, and organizational ambidexterity is an emerging framework (Simsek, Heavey, Veiga, & Souder, 2009). The task of this article is to position these strategic tools as methods for leveraging teams for improving organizational effectiveness. The key processes of each are described, with a focus on how teams are the vehicles for how these tools accomplish their objectives.

The other articles in this issue of *Advances in Developing Human Resources* have described the importance of teams in helping organizations achieve their goals. Some specific approaches to team building have been examined and two articles have explored the extension of teams into communities of practice. The articles in this issue have covered standard, common approaches to team development.

The problem is that because of economic pressures, organizations are running leaner than ever. Instead of using multiple interventions to address internal organizational issues separately, perhaps decision makers could leverage interventions they are already using, maximizing them to address multiple purposes. Most organizations use some form of strategic planning, and if their planning system could be adjusted to feature team development, perhaps the number of discrete organizational interventions could be reduced.

Therefore, our inquiry was based on the following questions:

- What strategic interventions include a team development component?
- How do these strategic tools contribute to team development?

## Preview of the Article

The article begins with a clarification of the term *organizational effectiveness* and outlines an integrative perspective on team performance. Then, scenario planning is described in detail focusing on the importance of the scenario team that is ultimately responsible for outlining, conducting, managing, and synthesizing the scenario project. The article then turns to organizational ambidexterity. As organizational ambidexterity is a phenomenon that has not been documented in HRD, the framework is clarified and defined. A short overview of organizational ambidexterity concepts is presented, again, with a focus on the role of the team developing organizational ambidexterity. Finally, the implications for HRD research, theory, and practice are presented.

In short, both strategic tools presented in this article are lacking in research and theory. Thus, clear suggestions for additional research and theory development are provided. Although both tools are practiced with some frequency in organizations, we suggest ways in which each tool can be subtly shifted to feature the role of the team and enhance its contribution toward organizational effectiveness.

## **Organizational Effectiveness**

Organizational effectiveness can be defined as the condition in which an organization (a) meets its desired goals, (b) raises required capital, (c) functions without stress, (d) maintains satisfied customers, and (e) maintains satisfied employees (Swanson & Holton, 2009, p. 164). Cameron (2005) developed a competing values framework of organizational effectiveness and performance by placing these effectiveness models into four cells using flexibility and stability as the y axis and internal maintenance and external positioning as the x axis. Swanson and Holton (2009) suggested that HRD professionals have the ability to contribute to both effectiveness and performance in all competing cells and challenges HRD professionals to "understand, advocate for, and facilitate performance based on professional judgment" (p. 165). The competing constructs include system resources, human relations, internal processes, goals and multiple constituencies—vying for consideration while the organization strives for effectiveness.

Organizations are effective to the extent that they are able to convert knowledge and/or technologies into products and services that customers want (Wang & von Tunzelmann, 2000). Effectiveness also depends on how well organizations navigate or "muddle through" (Lindblom, 1959, 1979) forces in the external environment (Kast & Rosenzweig, 1972; Katz & Kahn, 1978; Von Bertalanffy, 1972). These forces create what Van de Ven, Polley, Garud, and Venkataraman (2008) call external context events, and include "shifting priorities by external groups, new information about competitors, or other environment events" (p. 71) that disrupt learning processes of teams or organizations. Lorsch (1976) and Van de Ven et al. (2008) have also pointed out that a firm's internal functioning is contingent on an uncertain and complex external environment.

## Team Performance

As organizations shift work and workflows from an individual emphasis to a team emphasis, the effectiveness of team performance is critical in achieving overall organizational effectiveness. A team or group is defined as (a) two or more individuals, (b) who work together or interact, (c) have one or more goals in common, (d) perform tasks on behalf of an organization, and (e) have interdependencies and are held accountable (Daniels, 2004; Kozlowski & Ilgen, 2006). The definition of team effectiveness has evolved from research and theory over the past 40 years and is "based on the logic of an input-process-outputs (I-P-O) heuristic formulated by McGrath" (Cohen & Bailey, 1997; Kozlowski & Ilgen, 2006, p. 79). Research in the past decade has replaced the idea of this static framework with a dynamic view of the team as part of a "multilevel system that has individual, team and organizational-level aspects" (Kozlowski & Ilgen, 2006, p. 80). Current research has also recognized the need to identify the type of team or team task as relevant to the purpose and effectiveness of the team. Examples of the various contexts in which teams exist include (a) top management teams, (b) work groups and quality circles, (c) semiautonomous work groups, and (d) R&D project teams (Devine, Clayton, Philips, Dunford, & Melner, 1999; Pina, Martinez & Martinez, 2007).

Inputs to teamwork are primarily the makeup of the team itself whereas processes are composed of the methods that teams use to combine individual knowledge and expertise to accomplish the tasks assigned to them. Team effectiveness is then defined as performance that is evaluated by organization members both inside and outside the team, team member satisfaction, and the desire team members have to continue as part of the team (Kozlowski & Ilgen, 2006; Ulloa & Adams, 2004). Adams (2002) proposed a framework consisting of seven constructs from which to measure effectiveness; these constructs "were identified as characteristics that need to be present during the team process for it to be effective" (Ulloa & Adams, 2004, p. 146). These constructs were (a) productive conflict resolution, (b) mature communication, (c) accountable interdependence, (d) clearly defined goals, (e) common purpose, (f) role clarity, and (g) psychological safety (Ulloa & Adams, 2004). In addition, Daniels identified three of the seven constructs as critical to leveraging the talent on any team, including common goals, or a purpose for the team, rules of engagement, or productive conflict resolution and communication (Daniels, 2004).

### Productive Conflict Resolution and Mature Communication

Productive conflict resolution is defined as the process that a team will endure whenever there is a disagreement or problem to solve and can be a very positive process when it creates new ideas or alternative solutions and thus enhances decision making. Although conflict is generally viewed as negative from an individual perspective, some amount of conflict in a team has actually proven to be productive in terms of avoiding groupthink and ultimately improving effectiveness (Ulloa & Adams, 2004). When conflict turns its focus to relationships between individual team members, ignoring the importance of the team function, it typically becomes detrimental and has a negative impact on team effectiveness (Kozlowski & Ilgen, 2006).

Mature communication is the process by which team members discuss ideas, provide reasoning, and listen actively. In addition to communication, Kozlowski and Bell (2003) added coordination and cooperation to the list of behavioral processes necessary for effective teamwork. Complimentary ideas about team emotion and affect also influence the impacts of communication, coordination, and cooperation (Kozlowski & Ilgen, 2006).

### Accountable Interdependence

Accountable interdependence is the "mutual dependence that all team members have regarding the quality and quantity of each individual's work within the team" (Ulloa & Adams, 2004, p. 146). Clearly defined goals need to have results that are measurable and all members of the team must understand and be committed to the goals (Kozlowski & Ilgen, 2006; Ulloa & Adams, 2004).

### Common Purpose

Common purpose is defined as understanding why the team exists, and is also referred to as team or group cohesion (Kozlowski & Ilgen, 2006; Ulloa & Adams, 2004). Cohesiveness may be related to either the group task or the social bonds that keep team

members engaged in the processes. In general, the research supports a positive relationship between team cohesion and performance (Kozlowski & Ilgen, 2006).

# Role Clarity

Role clarity involves an understanding by each member of what the expectations are for every member of the team and includes the acknowledgement of the individual authority each member has in completing his or her tasks (Ulloa & Adams, 2004). In addition to an understanding of roles, the individual competencies or knowledge, skills, and abilities (KSAs) are believed to affect effectiveness (Kozlowski & Ilgen, 2006).

# Psychological Safety

Psychological safety is the shared team belief that risk taking is safe within the team, and each team member is confident in his or her ability to safely provide opinions and feedback without fear of retribution (Ulloa & Adams, 2004). In addition to psychological safety, efficacy, or the group's belief that it can actually do what it is supposed to do, also has a positive influence on group effectiveness (Gibson, 1999). Research supports the idea that a common belief in a team's ability to complete specific tasks in a productive manner results in effectiveness for the team and the organization (Kozlowski & Ilgen, 2006).

In addition, Daniels (2004) added leadership as an "essential ingredient" for most teams, while recognizing that the leadership role can also be shared by team members, resulting in the same level of success. Pearce, Manz, and Sims (2009) recommend a team approach to the leadership of teams, ensuring that the person in charge at any given time is the person with the correct set of KSA to meet the challenge at hand.

These constructs provide the framework for teams to engage in the processes that result in the outcomes of the team task, or the primary purpose of the team (see Figure 1). These processes are the culmination of team member effort and when performed in a synchronized manner, can have a substantial impact on team effectiveness (Kozlowski & Ilgen, 2006).

Adding to the effectiveness of team processes, Kozlowski and Ilgen (2006) included the constructs of unit and team climate, or the "performance, member satisfaction and viability facets of individual, team, and unit effectiveness," and credited the team leader with the responsibility for creating and maintaining team climate. They also added team mental models and transactive memory, or "cognitive structures or knowledge representations that enable team members to organize and acquire information necessary to anticipate and execute actions" as constructs with impact on team effectiveness (Kozlowski & Ilgen, 2006, p. 83).

Team learning has also been added to the literature on organizational learning and is described as attainment of "knowledge, skills and performance capabilities" of interdependent team members by engagement and team experiences (Kozlowski & Ilgen, 2006, p. 86). Although both team learning and organizational learning are based

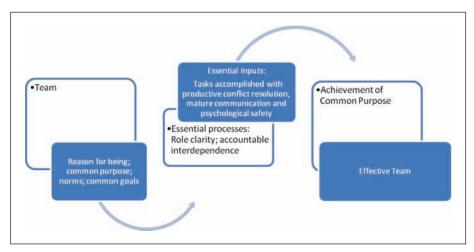


Figure 1. A model of team performance for organizational effectiveness

in the learning of individuals, the idea that this becomes collective and transferred learning is prevalent in the recent literature. Teams with the ability to learn collectively and use this knowledge to promote the tasks of the team will certainly result in outputs that are more effective. The ability of an organization to participate in "whole systems learning" contributes to improved performance of the team and the organization, in addition to the learning of individuals within the team or organizational setting (Swanson & Holton, 2009, p. 140). A common theme in the current research is that system thinking lays the foundation for the evolution of learning organizations, thus cultivating effective teams (Crother-Laurin, 2006).

It is apparent that as organizations increasingly rely on teams to perform, team effectiveness is critical to overall organization effectiveness. Measuring team effectiveness, however, is challenging because many organizations fail to track team performance as a separate measure from organizational performance. Much of the data that is collected may be subjective, because it is based on surveys of team members directly involved in the performance and with a personal interest in the best measurements of effectiveness. There is objective data available, including team member retention and tardiness or absenteeism, but these may be less indicative of team performance and its impact on organizational performance.

# Two Strategic Tools for Leveraging Teams Toward Organizational Effectiveness

This section proposes two strategic tools that include a team component, namely, (a) scenario planning, and (b) organizational ambidexterity. Each tool is described in detail, specifically highlighting how each tool contributes to team development.

### Scenario Planning

Scenario planning is like an organizational radar, allowing decision makers to develop an early warning system for potentially devastating market conditions, competitor developments, and other industry shifts. Much has been written about scenario planning in recent years (Burt & Chermack, 2008; Burt & van der Heijden, 2002, 2003; Burt, Wright, Bradfield, Cairns, & van der Heijden, 2006; Chermack, 2007; Chermack & Swanson, 2008; Keough & Shanahan, 2008; Korte, 2008; Moats, Chermack, & Dooley, 2008; van der Heijden, Bradfield, Burt, Cairns, & Wright, 2002; van der Merwe, 2008). Dissatisfied with outdated planning tools and methods, perhaps organizational leaders have become frustrated to the point that the need for forecasts, concrete answers, and other false assurances has finally subsided.

Scenario planning is an approach that harnesses uncertainty, accepts it, and builds it into the planning process (Wack, 1985a, 1985b, 1985c). Scenario planning involves intuition, creativity, the ability to wonder about the environment and its possibilities, as well as a deep understanding of industry trends, competitor actions, and global forces that drive economic, social, and political systems (Wilson & Ralston, 2006). Most of all, scenario planning can help organizations in balancing deliberate and emergent approaches to strategy (Bodwell & Chermack, in press).

Scenario planning evolved from Herman Kahn's methods to "think the unthinkable" (Kahn & Wiener, 1967) in the 1950s. The scenario approach recognizes the inherent weaknesses in forecasts, and single-outcome methods that essentially aim to predict the future. Instead, scenario planning makes use of multiple scenarios or stories of different futures to underscore the fact that the future is unpredictable, unstable, and inherently filled with uncertainty. Reframed as tools for learning, scenarios are intended to "shift the thinking inside the organization" (Wack, 1985a, p. 34) and help managers and decision makers re-perceive the organizational situation and consider numerous ways in which the future might unfold.

Pierre Wack translated Kahn's ideas into a corporate setting in his years as the head of long-range planning at Royal Dutch/Shell. Wack spent most of the 1970s experimenting with and refining his methods, and he credited Shell's ability to anticipate the oil shocks of the mid 1970s and 1980s to this new technique. Eventually, he published Shell's successes with scenarios in the *Harvard Business Review* (Wack, 1985a, 1985b, 1985c).

#### The Scenario System

Scenario planning is a system within the organizational system (Chermack, 2005). Scenario planning has unique inputs and outputs that are often ignored in literature. Inputs to the scenario planning system include decision-maker tendencies, the information gathered in a rigorous analysis of both internal and external environments, and leadership styles to name a few. This information becomes the key to unlocking perceptions and expanding them, to build a more complete map of the organizational terrain. The first part of any scenario project is an analysis (Schwartz, 1991; Wack, 1985a, 1985b; Wilson & Ralston, 2006). Once the analysis is complete, a series of workshops is designed to articulate the driving forces in the organizational environment. These workshops usually start with a basic brainstorming exercise, aimed at building a comprehensive list of key factors the organization is facing. These factors are then ranked according to their potential impact on the organization's strategic agenda. Then, the factors are ranked on their perceived level of uncertainty. Items that are ranked "high" on impact and "high" on uncertainty are called the critical uncertainties, and become the focus for scenario development (Ogilvy & Schwartz, 2004).

When the ranking exercises are complete, scenarios are constructed by choosing two critical uncertainties and plotting them on a  $2 \times 2$  matrix (Ogilvy & Schwartz, 2004). Four scenarios become obvious—one in each of the four quadrants. The scenario concepts that are obvious in each quadrant are called scenario logics. Each scenario logic is heavily researched and developed to meet three criteria. Each scenario must be plausible, challenging, and relevant in order to be useful to managers.

The scenarios are used to stretch the thinking inside the organization about what is possible in the future (van der Merwe, 2008; Wack, 1985c). The goal is to provide surprising storylines that go beyond simply varying the impact of obvious forces. Scenarios combine variables in interesting ways that provoke deeper thinking and reflection to understand the dynamic forces driving the internal and external environments.

## The Role of Teams in Scenario Planning

Scenario planning begins with a project proposal. One key element of the proposal is the assembling of a scenario planning team (Schwartz, 1991; van der Heijden, 2005; Wilson & Ralston, 2006). The team is responsible for virtually all aspects of the project and can make or break its effectiveness (Wilson & Ralston, 2006). The team takes over the project after the group brainstorming and ranking exercises are complete. Team members are specifically responsible for managing the project, conducting research into each scenario plot, and developing each scenario into a compelling, surprising story. Without the team functioning effectively, willing to agree and disagree, share ideas, challenge ideas, and create a shared understanding of the organization, it is difficult, if not impossible, to develop strategic insights (Georgantzas & Acar, 1995; van der Heijden, 2005).

## Brainstorming and Ranking Workshops

Once the team is formed, the team is responsible for facilitating a series of workshops designed to separate the predictable elements from elements that are truly uncertain. These workshops are also a function of team membership, role clarity, and the means for sharing knowledge and perspectives throughout the scenario planning project (Schoemaker, 1992). Furthermore, using teams in scenario planning creates ownership of the process, and leverages the collective human capital of the organization (Chermack, 2007).

# **Organizational Ambidexterity**

Ambidexterity is lexically derived from the Latin "ambi," meaning both, and dexterity, meaning skillfulness or agility. Robert Duncan (1976) was the first person to refer to ambidexterity in organizations. He asserted that "the organization has to be strategically responsive in making major changes while at the same time it must be concerned with carrying out its activities in the most efficient manner" (p. 172). Organizational ambidexterity (OA)—the ability to concentrate on current responsibilities as well as future opportunities simultaneously—is seen as key to a firm's survival (Andriopoulos & Lewis, 2009; Markman, Gianiodis, & Phan, 2009; Smith & Tushman, 2005).

# Organizational Ambidexterity and Competitive Advantage

Organizations must maintain their effectiveness in the current business environment so they can survive and compete in the future. Today's environment is replete with disruptive events and has been characterized as complex (Wang & von Tunzelmann, 2000), chaotic (Brown & Eisenhardt, 1998; Eisenhardt & Brown, 1998), turbulent (Brown & Eisenhardt, 1997), uncertain (Bourgeois, 1980), high velocity (Bourgeois & Eisenhardt, 1988), hypercompetitive (Champy, 2009), and high pressured (Markman & Baron, 2003). There is wide agreement that firms need to find competitive advantages to survive (Barney, 1991; Burgelman & Grove, 2007; Eisenhardt & Martin, 2000; Mintzberg, Ahlstrand, & Lampel, 1998; Porter, 2008; Teece, Pisano, & Shuen, 1997; Torraco & Swanson, 2009; Wernerfelt, 1984), yet Stubbart and Knight (2006) point out that "sustainable competitive advantage, although an admirable ideal, does not take place in the real-life experiences of a vast majority of firms. Fewer organizations achieve competitive advantage, even for a short time and few organizations survive more than a few years" (p. 96). To avoid failure or death, firms must satisfy their current customers. Ultimate survival, however, is contingent on developing processes, products, and services that customers will demand in the future (Raisch, 2008; Raisch, Birkinshaw, Probst, & Tushman, 2009).

# Organizational Ambidexterity: Exploration & Exploitation

OA is like "flying the plane while rewiring it" (Judge & Blocker, 2008). OA is defined in March's (1991) seminal paper as the ability of companies to simultaneously explore and exploit, and this remains the most common definition today (Simsek et al., 2009). Tushman and O'Reilly (1996) used a juggling metaphor to highlight the need for companies to explore and exploit at the same time, by balancing, or trading off between the two.

Exploitation and exploration can be thought of as change routines (Beck, Bruderl, & Woywode, 2008), learning logics (He & Wong, 2004), innovation types (Katila &

Ahuja, 2002), or knowledge strategies (Bierly & Daly, 2007) that are important to organizational learning (He & Wong, 2004; Holmqvist, 2004; Kang & Snell, 2009; Katila & Ahuja, 2002; Swart & Kinnie, 2007), team functioning (Taylor & Greve, 2006) and strategic direction (Han, 2007). Exploration is defined as knowledge for search, novelty, experimentation, innovation, radical change, and creation of new products, processes, and services whereas exploitation is defined as knowledge for continuous improvement, modification, refinement, and incremental change of current products, processes, and services (Im & Rai, 2008; March, 1991, 1999).

Exploitation and exploration are also seen as dynamic capabilities (Helfat et al., 2007; Jansen, George, Van den Bosch, & Volberda, 2008, 2009; Judge & Blocker, 2008; O'Reilly & Tushman, 2007, 2008) that derive from a resource-based view of the firm (Barney, 1991; Wernerfelt, 1984). Dynamic capabilities are operational and strategic processes and routines internal to firms that "use resources—specifically the processes to integrate, reconfigure, gain and release resources—to match and even create market change" (Eisenhardt & Martin, 2000, p. 1107). Dynamic capabilities enhance congruence between the firm's strategy and the changing business environment by helping firms create innovative strategic value (Judge & Blocker, 2008).

## Role of Teams in Organizational Ambidexterity

Despite the fact that much of the work in today's organizations is carried out by groups or teams (Bolman & Deal, 2008), very little empirical research has been done on team ambidexterity. Bierly and Daly (2007) note that team-based structures allow the synergies of exploration and exploitation to result in ambidextrous organizations. Taylor and Greve (2006) found that "managers do not have to make a trade-off between exploration and exploitation when assembling teams" (p. 737), because highly explorative teams increased their exploitative outcomes. They concluded that "it is not team composition, then, but rather the task and context given to a team that creates a trade-off between exploration and exploitation in product development (Taylor & Greve, 2006, p. 737). Raisch (2008) described companies who had separate teams or units, each devoted to either exploration or exploitation. Rothaermel and Alexandre (2009) remind us that OA is "not simply achieved through organizational structure, but requires a shared vision, a common set of values, and a reward system that enables managers to resolve the paradox of ambidexterity and harness its benefits" (p. 776).

## OA: Implications for Organizational Effectiveness

There have not been a large number of empirical studies that have looked at organizational performance as the dependent or outcome variable in OA studies. In those that have, the results are mixed. Sarkees (2007) studied OA in publicly traded pharmaceutical companies in the United States, and found that pharmaceutical companies scored higher on exploitation than exploration. But Sarkees (2007) also found that ambidextrous firms, those with strong capabilities in both exploitation and exploration, had no better performance than nonambidextrous firms. Similar results were obtained by Bierly and Daly (2007), who studied small manufacturing firms in the United States. They found that firms with high levels of OA did not have better performance than those with low levels of ambidexterity.

Conversely, Cao, Gedajlovic, and Zhang (2009) studied high-technology firms in China. They looked at balanced dimensions of exploration and exploitation (where organizations "traded off" between exploration and exploitation) and combined dimensions of exploration and exploitation (where organizations focused on both exploration and exploitation simultaneously. Cao et al. (2009) found that organizations with combined dimensions of exploration and exploitation performed better than those without. They also found that companies with both the balanced and combined dimensions of exploration and exploitation performed better than those without these dimensions. He and Wong (2004) studied high-technology firms in Malaysia and Singapore. They found that ambidextrous firms-those with high scores on both exploration and exploitation—had higher sales growth than nonambidextrous firms. Gibson and Birkinshaw (2004) found that business units with higher levels of ambidexterity performed better than those with lower levels. Lubatkin, Simsek, Ling, and Veiga (2006) studied small- and medium-sized firms in the United States and found that ambidexterity was positively related to firm performance. Finally, Chandrasekaran's (2009) study of high technology firms in the United States found support for the hypothesis that divisions that are ambidextrous (simultaneously excel on both innovation and improvement) perform better than nonambidextrous divisions.

# Implications for HRD Research, Theory, and Practice

This section describes the implications for research, theory, and practice of both scenario planning and organizational ambidexterity when emphasizing how they can contribute to team development. These implications are discussed, research questions are provided, and suggestions are made for how both processes might be modified to feature their team-building components.

## Implications for HRD Research: Scenario Planning

Viewing scenario planning as a team development activity opens up a range of research questions and studies that could simultaneously generate new knowledge about scenario planning and its use as a tool for promoting team performance. Certainly, t-group strategies, force-field analyses, and other team-based interventions can be used as modules within the overall scenario planning project, but such creative approaches to scenario planning have not been documented or studied. In short, although the role of a team in facilitating the scenario planning project may seem obvious, its measurable contributions are not well understood. Research questions that, if answered, would provide valuable knowledge about scenario planning include the following:

- What are the effects of team coherence on the perceived success of scenario planning projects?
- How do team members perceive their roles in terms of their contributions to scenario planning projects?
- What do case studies reveal about the roles and importance of the team in scenario planning projects?

# Implications for HRD Theory: Scenario Planning

Current theorizing on scenario planning generally does not include a team component (Chermack, 2004, 2005). Although theories do highlight individual, group, and organizational learning, our own experiences of failed scenario planning related to lack of team coherence suggests that the team component may be more important than previously considered. Depending on the outcomes of additional research studies, the role of teams may need to be more explicitly featured in descriptions of what scenario planning is and how it works (Torraco, 1997). Research questions have been suggested to investigate the relationship between teams and scenario planning effectiveness more closely.

# Implications for HRD Practice: Scenario Planning

The practice of scenario planning has not yet leveraged the power of general organization development interventions (Burt et al., 2006; Burt & Chermack, 2008; Burt & van der Heijden, 2002, 2003; Chermack, 2007; Chermack & Swanson, 2008). More specifically, t-groups, teambuilding exercises, and other interventions focused on improving team performance have not explicitly been applied in scenario planning projects—at least, none that have been documented. Practical considerations include adopting appropriate team development exercised and leveraging them to enhance the scenario planning effort. Studying the role of teams more explicitly in scenario planning would serve as a prime example of Lynham's "application" phase of theory building research (2002) informing the refinement of existing theory. In short, the research questions we have posed that explore the relationship between teams and scenario planning effectiveness provide a clear example of practice informing theory.

# Implications for HRD Theory: OA

OA has been a great metaphor with which to study the dichotomies, contradictions, and ambiguities that organizations confront on a daily basis (Morgan, 2006). Yet it feels as if OA researchers have gotten on their horses and ridden off in all directions at once. We hope that recent attempts to unify the literature (Raisch, 2009; Simsek, 2009; Simsek et al., 2009) can make the field of OA more understandable and hence more relevant for practice. But many questions remain to be answered.

Torraco's (1997) classic definition of a theory is that it "explains what a phenomenon is and how it works" (p. 115). The study of OA has been extensive but unfocused, as evidenced by the large amount of definitions and types that currently exist. We know a lot about what researchers think OA is, but we don't understand how it works (Bodwell & Chermack, in press; Raisch, 2008; Raisch et al., 2009). As noted by Simsek (2009) and Simsek et al. (2009), OA has become a well-studied phenomenon that remains conceptually underdeveloped. We therefore encourage continued theorybuilding research on this topic.

## Implications for HRD Research: OA

We suggest the following methods for future researchers in the OA field. These suggestions are appropriate for those using qualitative, quantitative, or mixed methods to study OA, and will help "bring the horses back to the gate." First, describe specifically the type of OA being studied (i.e., structural, temporal, simultaneous, contextual, consecutive, etc.). Second, describe the specific dualities used to explain the type of OA being studied (i.e., exploration and exploitation, adaptation and alignment, etc.). Third, if quantitative methods are used, use one of the more common instruments that have been used to study OA (He & Wong, 2004; Gibson & Birkinshaw, 2004; Jansen et al., 2009) so that studies can be compared and knowledge may accumulate. Fourth, ensure that the dependent variable consists of organizational financial, quality, and HRD effectiveness measures. Financial measures should include sales growth (if appropriate), revenue growth, return on investment, return on assets, and expense reduction (Swanson, 2001). Quality effectiveness measures should include rate of product defects or other industry-specific indicators of quality. HRD effectiveness measures should include employee turnover rate and employee satisfaction scores if they exist. Fifth, researchers should consider focusing their work on OA in teams and individuals, because the majority of the research base is on the organizational level.

Finally, academicians and practitioners need to work together to fill the gap in the literature with respect to the "how it works" part of OA. Although generally a post-positivist or interpretive paradigm has been used to guide OA research, it may now be appropriate to add other paradigmatic frames—such as the social constructivist or critical theory paradigm—to gain insight into what OA really is and how it works. This implies that new research methods be directed toward the study of OA, such as ethnography, critical ethnography, genre analysis (Levina & Orlikowski, 2009), and multilevel modeling (Singer & Willett, 2003) in addition to the more commonly used methods of regression analyses, structural equation modeling, and case studies.

## Implications for HRD Practice: Organizational Ambidexterity

Human Resource Development (HRD) professionals are uniquely situated to advocate for ambidextrous group work processes that help organizations attain their goals (Swanson, 2009). HRD practices that promote team learning, creativity, and innovation

can build exploration and exploitation skills (Bierly & Daly, 2007). HRD supportive systems, processes, and beliefs create a nurturing team work environment, that is, contextual ambidexterity, for teams to work in (Karsten, 2008; Gilley & Maycunich, 2000a; Raisch & Birkinshaw, 2008). HRD initiatives in the employee relations context that aim to increase social support and trust will also build team ambidexterity (Birkinshaw & Gibson, 2004; Gibson & Birkinshaw, 2004), as will HRD efforts to improve communication and increase collaboration (Gilley & Maycunich, 2000b). Finally, as Raisch (2008) pointed out, there are direct and indirect costs of change that affect teams in all organizations. Therefore, if companies change their structures to become ambidextrous, it would be wise to follow best practices in change management (Drazin, Glynn, & Kazanjian, 2004; Lewin, Weigelt, & Emery, 2004; Seo, Putnam, & Bartunek, 2004; Woodman & Dewett, 2004) as they implement their new strategy.

# Summary

In this article, we have proposed two strategies for leveraging teams toward organizational effectiveness. Most organizations use some form of strategic planning, and the method proposed, scenario planning, and organizational ambidexterity are increasing popular approaches to strategy. We have suggested that these strategy tools may be useful tools in enhancing organizational effectiveness through their team-based processes. However, neither of these strategic tools have been explicitly explored in terms of their contributions to team performance. In both cases, the connection to team performance is implied. Our task in this article has been to make the conceptual argument for linking these two strategic tools to organizational effectiveness based on their ability to enhance team performance. We have also suggested strategies for more specifically documenting these relationships through focused research, which may lead to adjustments in current theories of both tools. We have also suggested subtle modifications in the application of these tools that would more explicitly feature the team development components of each of these strategic tools.

### **Declaration of Conflicting Interests**

The author(s) declared no conflicts of interests with respect to the authorship and/or publication of this article.

### Funding

The author(s) received no financial support for the research and/or authorship of this article.

#### References

- Adams, S., Simon, L., & Ruiz, B. (2002). A pilot study of the performance of student teams in engineering education. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Montreal, June, 2002.
- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science*, 20, 696-717.

- Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17, 99-120.
- Beck, N., Bruderl, J., & Woywode, M. (2008). Momentum or deceleration? Theoretical and methodological reflections on the analysis of organizational change. *Academy of Management Journal*, 51, 413-435.
- Bierly, P. E. III., & Daly, P. S. (2007). Alternative knowledge strategies, competitive environment and organizational performance in small manufacturing firms. *Entrepreneurship Theory and Practice*, 31, 493-516.
- Birkinshaw, J., & Gibson, C. (2004). Building ambidexterity into an organization. MIT Sloan Management Review, 45(4), 47-55.
- Bodwell, W., & Chermack, T. J. (in press). Organizational ambidexterity: Integrating deliberate and emergent strategy with scenario planning. *Technological Forecasting and Social Change*, doi:10.1016/j.techfore.2009.07.04
- Bolman, L. G., & Deal, T. E. (2008). Reframing organizations. Artistry, choice, and leadership (4th ed.). San Francisco, CA: Jossey-Bass.
- Bourgeois, L. J. (1980). Strategy and environment: A conceptual integration. Academy of Management Review, 5, 25-39.
- Bourgeois, L. J., & Eisenhardt, K. M. (1988). Strategy decision processes in high velocity environments: Four cases in the microcomputer industry. *Management Science*, 34, 816-835.
- Brown, S., & Eisenhardt, K. M. (1997). The art of continuous change: linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 42, 1-34.
- Brown, S. L., & Eisenhardt, K. M. (1998). Competing on the edge. Strategy as structured chaos. Boston, MA: Harvard Business School Press.
- Burgelman, R. A., & Grove, A. S. (2007). Let chaos reign, then rein in chaos—repeatedly: Managing strategic dynamics for corporate longevity. *Strategic Management Journal*, 28, 965-979.
- Burt, G., & van der Heijden, K. (2002). Reframing industry boundaries for structural advantage— The role of scenario planning. In G. Ringland (Ed.), *Scenarios in business* (pp. 223-232). New York, NY: John Wiley.
- Burt, G., & van der Heijden, K. (2003). First steps: Towards purposeful activities in scenario thinking and future studies. *Futures*, 35, 1011-1026.
- Burt, G., Wright, G., Bradfield, R., Cairns, G., & van der Jeijden, K. (2006). Limitations of PEST and its derivatives to understanding the environment: The role of scenario thinking in identifying environmental discontinuities and managing the future. *International Studies of Management and Organisations*, 36, 78-97.
- Burt, G., & Chermack, T. J. (2008). Learning with scenarios. Advances in Developing Human Resources, 10, 285-295.
- Cameron, K. (2005). Organizational effectiveness: Its demise and re-emergence through positive organizational scholarship. In K. Smith & M. Hitt (Eds.), *Great Minds in Management: The Process of Theory Development* (pp. 301-330). Oxford: Oxford University Press.
- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, 20, 781-796.

- Champy, J. (2009). Outsmart your rivals by seeing what others don't. In F. Hesselbein & M. Goldsmith, (Eds.), *The organization of the future* (pp. 3-12). San Francisco, CA: Jossey-Bass.
- Chandrasekaran, A. (2009). Multiple levels of ambidexterity in managing the innovation– improvement dilemma: Evidence from high technology organizations. Graduate School of the University of Minnesota. Available from ProQuest (UMI Microform No. 3360331)
- Chermack, T. J. (2004). A theoretical model of scenario planning. *Human Resource Develop*ment Review, 3(4), 301-325.
- Chermack, T. J. (2005). Studying scenario planning: Theory, research suggestions, and hypotheses. *Technological Forecasting and Social Change*, 72, 59-73.
- Chermack, T. J. (2007). Disciplined imagination: Building scenarios and building theories. *Futures*, 39, 1-15.
- Chermack, T. J., & Swanson, R. A. (2008). Scenario planning: Human resource development's strategic learning tool. Advances in Developing Human Resources, 10, 129-146.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23, 239-290.
- Crother-Laurin, C. (2006). Effective teams: A symptom of healthy leadership. Journal for Quality and Participation, 29(3), 4-8.
- Daniels, J., (2004). The collaborative experience. Industrial Management, 46(3), 27-30.
- Devine, D. J., Clayton, L. D., Philips, J. L., Dunford, B. B., & Melner, S. B. (1999). Teams in organizations: Prevalence, characteristics, and effectiveness. *Small Group Research*, 30(6), 678-711.
- Drazin, R., Glynn, M. A., & Kazanjian, R. K. (2004). Dynamics of structural change. In M. S. Poole & A. H. Van de Ven (Eds.), *Handbook of organizational change and innovation* (pp. 161-189). New York, NY: Oxford University Press.
- Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Kilmann, L. R. Pondy, & D. P. Slevin (Eds.), *The management of organization design* (pp. 167-188). New York, NY: Elsevier North-Holland.
- Eisenhardt, K. M., & Brown, S. L. (1998). Competing on the edge: Strategy as structured chaos. Long Range Planning, 31, 786-789.
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? Strategic Management Journal, 21, 1105-1121.
- Gerogantzas, N. C., & Acar, W. (1995). Scenario-driven planning: Learning to manage strategic uncertainty. Westport, CT: Quorum.
- Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. Academy of Management Journal, 42, 209-226.
- Gilley, J., & Maycunich, A. (2000a). *Beyond the learning organization. Creating a culture of continuous growth and development through state-of-the-art human resource practices.* Cambridge, MA: Perseus Books.
- Gilley, J., & Maycunich, A. (2000b). Organizational learning performance and change. An introduction to strategic human resource development. Cambridge, MA: Perseus Books.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. Academy of Management Journal, 49, 693-706.
- Han, M. (2007). Achieving superior internationalization through strategic ambidexterity. *Journal of Enterprising Culture*, 15, 43-77.

- He, Z., & Wong, P. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15, 481-494.
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. (2007). *Dynamic capabilities*. Malden, MA: Blackwell.
- Holmqvist, M. (2004). Experiential learning processes of exploitation and exploration within and between organizations: An empirical study of product development. *Organization Science*, 15, 70-81.
- Im, G., & Rai, A. (2008). Knowledge sharing ambidexterity in long-term interorganizational relationships (IORs). *Management Science*, 54, 1281-1296.
- Jansen, J. J. P., George, G., Van den Bosch, F. A. J., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies*, 45, 982-1007.
- Jansen, J. P. J., Tempelaar, M. P., Van den Bosch, F. A. J., & Volverda, H. W. (2009). Structural differentiation and ambidexterity: The mediating role of integration mechanisms. *Organization Science*, 20, 797-811.
- Judge, W. Q., & Blocker, C. P. (2008). Organizational capacity for change and strategic ambidexterity. Flying the plane while rewiring it. *European Journal of Marketing*, 42, 915-926.
- Kahn, H., & Weiner, A. J. (1967). The year 2000: A framework for speculation on the next thirty-three years. New York, NY: Macmillan.
- Kang, S.-C., & Snell, S. A. (2009). Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies*, 46, 65-92.
- Karsten, M. A. (2008). Development and validation of an instrument to measure the concept of occupational intimacy in relation to physician job satisfaction (Unpublished doctoral dissertation, Colorado State University School of Education). Available from ProQuest LLC. (UMI No. 3321286)
- Kast, F. E., & Rosenzweig, J. E. (1972). General systems theory: Applications for organization and management. Academy of Management Journal, 15, 447-465.
- Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal*, 45, 1183-1194.
- Katz, D., & Kahn, R. L. (1978). The social psychology of organizations (2nd ed.). New York, NY: John Wiley.
- Keough, S. M., & Shanahan, K. J. (2008). Scenario planning: Toward a more complete model for practice. Advances in Developing Human Resources, 10, 166-178.
- Korte, R. F. (2008). Applying scenario planning across multiple levels of analysis. Advances in Developing Human Resources, 10, 179-197.
- Kozlowski, S. W. J., & Bell, B. S., 2003. Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 333-367). London, UK: Wiley.
- Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7(3), 77-124.
- Levina, N., & Orlikowski, W. J. (2009). Understanding shifting power relations within and across organizations: A critical genre analysis. *Academy of Management Journal*, 52, 672-703.
- Lewin, A. Y., Weigelt, C. B., & Emery, J. D. (2004). Adaptation and selection in strategy and change: Perspectives on strategic change in organizations. In M. S. Poole & A. H. Van de Ven

(Eds.), *Handbook of organizational change and innovation* (pp. 108-160). New York, NY: Oxford University Press.

- Lindblom, C. E. (1959). The science of muddling through. *Public Administration Review*, 19(2), 79-88.
- Lindblom, C. E. (1979). Still muddling, not yet through. *Public Administration Review*, 39, 517-526.
- Lorsch, J. W. (1976). Contingency theory and organization design: A personal odyssey. In R. H. Kilmann, L. R. Pondy, & D. P. Slevin (Eds.), *The management of organization design* (pp. 141-169). New York, NY: Elsevier North-Holland.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small-to-medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32, 646-672.
- Lynham, S. A. (2002). The general method of theory-building research in applied disciplines. *Advances in Developing Human Resources*, *4*(3), 221-241.
- March, J. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2, 71-87.
- March, J. G. (1999). The pursuit of organizational intelligence. Malden, MA: Blackwell.
- Markman, G. D., & Baron, R. A. (2003). Person-entrepreneurship fit: Why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, 13, 281-301.
- Markman, G. D., Gianiodis, P. T., & Phan, P. H. (2009). Supply-side innovation and technology commercialization. *Journal of Management Studies*, 46, 625-649.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy safari*. Hemel Hempstead, UK: Prentice Hall.
- Moats, J. B., Chermack, T. J., & Dooley, L. M. (2008). Using scenarios to develop crisis managers: Applications of scenario planning and scenario-based training. *Advances in Developing Human Resources*, 10, 397-424.
- Morgan, G. (2006). Images of organization (Updated ed.). Thousand Oaks, CA: SAGE.
- Ogilvy, J., & Schwartz, P. (2004). Plotting your scenarios. In L. Fahey & R. Randall (Eds.), *Learning from the future* (pp. 57-80). Hoboken, NJ: Wiley.
- O'Reilly, C. A. III., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior*, 28, 185-206.
- O'Reilly, C. A., & Tushman, M. L. (2007). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma (Working Paper No. 07-088). Stanford, CA: Stanford University Graduate School of Business.
- Pearce, C. L., Manz, C. C., & Sims, H. P. (2009). Where do we go from here? Is shared leadership the key to team success? Organizational Dynamics, 38, 234-238.
- Pina, M. I. D., Martinez, A. M. R., & Martinez, L. G. (2007). Teams in organizations: A review on team effectiveness. *Team Performance Management*, 14, 7-21.
- Porter, M. E. (2008). On competition: Updated and expanded edition. Boston, MA: Harvard Business School Press.
- Raisch, S. (2008). Balanced structures: Designing organizations for profitable growth. Long Range Planning, 41, 483-508.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34, 375-409.

- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science*, 20(4), 685-695.
- Rothaermel, F. T., & Alexandre, M. T. (2009). Ambidexterity in technology sourcing: The moderating role of absorptive capacity. *Organization Science*, 20, 759-780.
- Sarkees, M. E. (2007). Exploitation versus exploration: Getting the mix right (Unpublished doctoral dissertation, Katz Graduate School of Business, University of Pittsburgh). Available from ProQuest Information and Learning Company (UMI Microform No. 3284620)
- Schoemaker, P. J. H. (1992). How to link strategic vision to core capabilities. Sloan Management Review, 34, 67-81.
- Schwartz, P. (1991). The art of the long view. New York, NY: Doubleday.
- Seo, J.-G., Putnam, L. L., & Bartunek, J. M. (2004). Dualities and tensions of planned organizational change. In M. S. Poole & A. H. Van de Ven (Eds.), *Handbook of organizational change and innovation* (pp. 73-107). New York, NY: Oxford University Press.
- Simsek, Z. (2009). Organizational ambidexterity: Towards a multilevel understanding. Journal of Management Studies, 46, 597-624.
- Simsek, Z., Heavey, C., Veiga, J. F., & Souder, D. (2009). A typology for aligning organizational ambidexterity's conceptualizations, antecedents, and outcomes. *Journal of Management Studies*, 46, 864-894.
- Singer, J. D., & Willett, J. B. (2003). Applied longitudinal data analysis. Modeling change and event occurrence. New York, NY: Oxford University Press.
- Smith, W. K., & Tushman, M. L. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization Science*, 16, 522-536.
- Stubbart, C. I., & Knight, M. B. (2006). The case of the disappearing firms: Empirical evidence and implications. *Journal of Organizational Behavior*, 27, 79-100.
- Swanson, R. A. (2001). Assessing the financial benefits of human resource development. New York, NY: Basic Books.
- Swanson, R. A. (2009). Theory of human resource development. In R. A. Swanson & E. F. Holton III (Eds.), *Foundations of human resource development* (2nd ed., pp. 97-111). San Francisco, CA: Berrett-Koehler.
- Swanson, R. A., & Holton, E. F. (2009). Perspectives on performance in human resource development. In *Foundations of human resource development* (2nd ed., chap. 8). San Francisco, CA: Berrett-Koehler.
- Swart, J., & Kinnie, N. (2007). Simultaneity of learning orientations in a marketing agency. Management Learning, 38, 337-357.
- Taylor, A., & Greve, H. R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovative teams. Academy of Management Journal, 49, 723-740.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*, 509-533.
- Torraco, R. J. (1997). Theory building research methods. In R. A. Swanson & E. F. Holton (Eds.), *Human resource development research handbook* (pp. 114-137). San Francisco, CA: Berrett-Koehler.
- Torraco, R. J., & Swanson, R. A. (2009). Strategy and human resource development. In R. A. Swanson & E. F. Holton III (Eds.), *Foundations of human resource development* (2nd ed., pp. 358-371). San Francisco, CA: Berrett-Koehler.

- Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38(4), 8-30.
- Ulloa, B. C. R., & Adams, S. G. (2004). Attitude toward teamwork and effective teaming. *Team Performance Management*, 10(7/8), 145-151.
- Van de Ven, A. H., Polley, D. E., Garud, R., & Venkataraman, S. (2008). *The innovation journey*. New York, NY: Oxford University Press.
- van der Heijden, K. (2005). Scenarios: The art of strategic conversation. Chichester, UK: Wiley.
- van der Heijden, K., Bradfield, R., Burt, G., Cairns, G., & Wright, G. (2002). *The sixth sense: Accelerating organizational learning with scenarios.* Chichester, UK: Wiley.
- van der Merwe, L. (2008). Scenario-based strategy in practice: A framework. *Advances in Developing Human Resources*, 10, 216-239.
- Von Bertalanffy, L. (1972). The history and status of general systems theory. Academy of Management Journal, 15, 407-426.
- Wack, P. (1985a). Scenarios: Shooting the rapids. Harvard Business Review, 63(6), 139-150.
- Wack, P. (1985b). Scenarios: Uncharted waters ahead. Harvard Business Review, 63(5), 73-89.
- Wack, P. (1985c). Scenarios: The gentle art of re-perceiving. Unpublished manuscript, Harvard Business School, Boston, MA.
- Wang, Q., & von Tunzelmann, N. (2000). Complexity and the functions of the firm: Breadth and depth. *Research Policy*, 29, 805-818.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*, 171-180.
- Wilson, I., & Ralston, J. (2006). The scenario-planning handbook: A practitioner's guide to developing and using scenarios to direct strategy in today's uncertain time. Mason, OH: Thomson Scientific.
- Woodman, R. W., & Dewett, T. (2004). Organizationally relevant journeys in individual change. In M. S. Poole & A. H. Van de Ven (Eds.), *Handbook of organizational change and innovation* (pp. 32-49). New York, NY: Oxford University Press.

#### Bios

**Thomas J. Chermack** is an Assistant Professor in the Organizational Performance and Change program at Colorado State University. He has consulted with organizations such as General Mills, Saudi Aramco, Motorola, and Cargill. Chermack's research has focused on the foundations and outcomes of scenario planning.

**Maggie Glick** is a doctoral student at Colorado State University in Organization Performance and Change. She has a B.A. in Dietetics from the University of Northern Colorado, an M.S. in Financial Accounting from Colorado State University and is a Certified Public Accountant in Colorado. For the past 3 years Maggie served as Vice President and Chief Financial Officer for Five Rivers Ranch Cattle Feeding, the world's largest cattle feeder, headquartered in Loveland Colorado.

Wendy Bodwell is a Doctoral Candidate in the Organizational Performance and Change program at Colorado State University, and holds the title of Chief Nursing Officer for Centura Heath's Senior Services Division in Denver, Colorado. Wendy's work focuses on establishing and developing the theoretical and practical foundations of organizational ambidexterity. Her expertise is with **Preathletine Torganizations**, at COLORADO STATE UNIV LIBRARIES on May 12, 2010