Learning With Scenarios: Summary and Critical Issues

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Abstract. This issue of *Advances in Developing Human Resources* has discussed scenario planning as a contemporary business approach to support the strategic roles of human resource departments in organizations. Scenario planning is usually situated in the domain of strategic and business planning, yet it is increasingly considered a major organizational intervention approach to overcome organizational defensive routines and bring about learning and change in organizations. The articles in this issue bring together academics and practitioners discussing a wide range of issues concerning the theory, research, and practice of scenario planning, illuminating different applications of the method as well as some pitfalls that need to be acknowledged and considered by those wishing to use it in their organizations.

Keywords: scenario planning; research problems; learning and change strategies

The central argument being put forward in this special edition of *Advances in Developing Human Resources* is that human resource development (HRD) professionals have a prime opportunity to drive and support learning and change in organizations and that scenario planning is an approach that can be a powerful tool of leverage toward such an objective. By mastering this strategic tool, HRD professionals can position themselves at the heart of strategic development of their organizations.

The objectives of this capstone article are to discuss the link between uncertainties in the contextual environment and to describe scenario planning as a process to support adaptive organizational learning (van der Heijden, Bradfield, Burt, Cairns, & Wright, 2002). By doing so, it is possible to further emphasize the

position of scenario planning within the domain of HRD professionals (Chermack, 2006). Following these discussions are key relevant problems requiring research from academics and attention from practitioners in the field.

Uncertainty in the Contextual Environment and Scenario Planning

Uncertainty in the contextual environment is a feature long recognized in the strategy literature (Bourgeois, 1980; Burt, Wright, Bradfield, Cairns, & van der Heijden, 2006; Child, 1972; Dill, 1958; Emery & Trist, 1965; Lawrence & Lorsch, 1967; van der Heijden, 1996; Wack, 1985a, 1985b). Uncertainty is considered here as "not knowing what issues, trends, decisions and events will make up tomorrow" (Marsh, 1998, p. 44) and covers a spectrum of factors, including political, economical, societal, technological, legal, ecological, and demographic. Such factors interact with each other, thus increasing the ambiguity and complexity facing managers as they try to steer their organization in an uncertain context.

In developing our understanding of uncertainty, Milliken (1987) identified three types of perceived uncertainty in the contextual environment: (a) state, (b) effect, and (c) response uncertainty. State uncertainty occurs when managers "perceive the organizational environment or a particular component of that environment, to be unpredictable" (p. 136). State uncertainty arises when managers "do not understand how the components of the environment might be changing" (p. 136). Effect uncertainty is defined as "an inability to predict what the nature of the impact of the future state of the environment or environmental change will be on the organization" (p. 137). Response uncertainty is defined as follows.

> A lack of knowledge of the response options and/or an inability to predict the likely consequences of a response choice. Response uncertainty is likely to be salient when there is a perceived need to act because a pending event or change is perceived to pose a threat, or to provide some unique opportunity, to the organization. (p. 137)

Scenario planning is an approach that has at its core people, the exploration of uncertainty in the contextual environment, the insights generated from such exploration, and their link to the strategic development of the organization (Burt, 2003). By accepting the idea of uncertainty it is possible to open up the notion that more than one future is potentially open to an organization. Therefore, scenario planning is an effective approach to bring managers together to discuss their concerns and explore the factors creating state uncertainty through the development of a number of plausible, coherent internally consistent scenarios (van der Heijden, 1996) that reveal the antecedents and of potential outcomes of the factors creating state uncertainty. Thoughtful management recognizes such a situation and takes care of the strategic choices that they make given the consequences of such choices in an uncertain world.

Any scenario consists of three elements. The first element is a description of a future end state in a horizon year. That is, the combinations of uncertainties and their emergent resolution in the final point in time in a particular scenario story. The second element is an interpretation of current events and the propagation of these events into the future. The scenario methodology is designed to help participants make sense of yesterday's events and how they are emerging today. In addition, some of yesterday's events may not yet have been fully manifested as outcomes and their full manifestation may be carried forward in time toward the end point or horizon year of a particular scenario. The third element is an internally consistent account of how a future world unfolds. That is, an explanation based on causal logic of how a particular scenario unfolds from the past to the present and to the future. The story will represent the dynamic interplay of predetermined elements and resolved uncertainties (Burt, 2006), showing how these factors interconnect and impact on each other to reveal their logical consequences. This stage of the scenario methodology requires participants to make explicit their tacit knowledge in developing the causal logic of the story (Burt et al., 2006).

Adaptive Organizational Learning with Scenario Planning

The basic understanding of scenario planning has developed from thinking the unthinkable (Kahn & Weiner, 1967) to individual and organizational learning, which has grown in practice and in the published literature (Argyris, 1970, 1990; Galer & van der Heijden, 1992; Michael, 1973; van der Heijden et al., 2002). van der Heijden et al. (2002) developed a framework to help conceptualize the various ways in which scenario planning can be either understood as helping or could be deployed to help individual and organizational learning. The purpose of scenario planning projects can be considered along two main dimensions: (a) specific aims or with more general process aims and (b) to open up organizational exploration or to aid decision making. Combing these dimensions produces four ways in which scenario planning can be understood: (a) making sense of a puzzling situation, (b) developing strategy, (c) improving organizational anticipation, and (d) adaptive organizational learning (see Figure 1 below).

Adaptive organizational learning links learning (with scenarios) and organizational action. Adaptive organizational learning

> makes the distinction between what we know about the future (the systemic relations and predetermined elements already in the pipeline) and what is fundamentally unknowable. Adaptive organizational learning implies taking action is justified by our existing knowledge, while observing and perceiving events as they unfold. The next step is to use this new understanding to develop new knowledge as quickly as possible, providing the basis for further action. (van der Heijden et al., 2002, pp. 269-270)

Developing an understanding of the role of scenario planning as central to the role of individual and organizational learning brings scenario planning into the

	Once only (Problem solving)	Ongoimg (Surviving/thriving)
Opening up exploration	Making sense of a puzzling situation	Imrpoving organizational anticipation
Closure secisions	Developing strategy	Adaptive organizational learning

FIGURE 1:   Adaptive Organizational Learning
Source: van der Heijden et al., (2002, p. 233).

vision of HRD professionals as the support of strategic HR and organizational development. Huber (1991) stated that "an entity learns if, through its processing of information, the range of its potential behaviors is changed" (p. 89). In this manner, the goal of using scenario planning in organizations is to identify and exploit the range of potential responses to environmental uncertainties, and HRD professionals, armed with an understanding of adult learning principles and strategies, are the most likely candidates to facilitate this kind of learning. Bartlett and Ghoshal (2002) reiterated this point when they stated the following.

> The hardest mindset to alter is the long-standing, deeply embedded belief that capital is the critical strategic resource to be managed . . . Recognizing that the company's scare resource is knowledgeable people means a shift in the whole concept of value management within the corporation. (p. 35)

This value shift also implies that organizational planning must be based on the expertise and knowledge of these individuals and cannot be limited to simple economic forecasts or stock-market predictions.

The articles set out in this issue of *Advances in Developing Human Resources* provide a rich tapestry of issues for HRD professionals to consider in this pursuit, such as the opportunity to reframe or see situations in a new or different light with scenarios; the strengths of scenario planning to support executive decision making; the implications across multiple levels of the organization; the psychological traps and pitfalls that groups can fall into, when applying scenario

planning or other intervention approaches; the link between organizational development and scenario planning, and the role of facilitation in helping it achieve its objectives; the link between strategy, scenario planning, and leadership development, highlighting the interdisciplinary nature of strategy and scenario planning and how leaders can institutionalize learning in their organization with it.

Critical Issues in Scenario Planning

Indeed, this issue has brought several issues in scenario planning to light. We have distilled six key issues or themes that have been expressed in the articles in this issue of *Advances in Developing Human Resources* that require further research and understanding. These are (a) an iterative focus on learning that occurs through the process of scenario building, (b) the lack of a unifying best practice model, (c) lack of clarity in how to integrate the findings from scenarios into the organization, (d) the cognitive barriers and their impact on learning in scenario planning, (e) the issue of believability, and (f) that evaluative methods to determine the effectiveness of scenario planning are essentially missing from the literature entirely. These issues are interrelated and interdependent.

An Iterative Focus on Learning

We have framed this entire issue around strategic learning. Given the past century of human evolution, we have developed a habit of looking for singular, definitive answers to questions and problems we do not understand (Pink, 2006). Although we understand intellectually that this is not a suitable approach in ill-defined situations filled with ambiguity, we have generally not yet shifted to using more appropriate methods. The scenario literature emphasizes the usefulness of learning in such situations, yet one of the most common pitfalls in scenario planning involves eventually coming back to an official future (as pointed out by van der Merwe). This misstep is usually taken by exploring the probabilities of each scenario in a given set or by forceful executives needing an answer. We cannot overstate the fact that scenarios are tools for ordering perceptions (Schwartz, 1991) and that effective scenario projects consistently emphasize the learning aspects throughout the duration of the project.

Research with organizations that are effectively using scenarios with the learning end in mind would contribute to a better understanding of how this focus is maintained and how the predictability trap is avoided. Case studies of successes and failures would provide valuable insight into the tips and techniques that can be used to avoid this common problem in scenario work. Specifically, understanding what is learned, when in the process it is learned, and how that learning is used to take actions that are different than those that would have been taken in the absence of scenario planning would be particularly useful. After all, learning is the only thing that allows people to see anything differently.

Lack of a Best Practice Model

Keough and Shanahan have examined several popular approaches to scenario planning. Although the practitioner literature is extensive concerning how to do scenario planning, a clear opportunity exists to compile the strengths of the various models into a best practice approach. Not enough is understood, however, about what makes one approach more or less effective than another. Indeed, the scenario planning process is also filled with nuances and can be substantially more complex than is generally discussed in the literature. Perhaps it is simply too early in the practice of scenario planning, and over time, a best practice will simply evolve as it did with other models such as the ADDIE model (Allen, 2006).

Even so, inquiry into what makes for an effective scenario project from the participant perspective is entirely absent from the literature. Qualitative methods could be used with scenario planning participants to uncover the particular aspects of the process that are most helpful in promoting strategic learning at the individual and group levels. The "aha" experience—that moment when new insights have been gleaned and a mental model has shifted—has not been explored. Transformational learning theory in particular seems potentially very useful in developing a better understanding of how these moments occur, and perhaps more important, how to help them occur in other scenario projects, and build toward a model of scenario planning that features the most effective pieces of many.

Short on Implementation

This issue of *Advances in Developing Human Resources* has clarified that the scenario literature primarily focuses on scenario development. There are few details available about the various methods for using scenarios once they have been developed, and the question remains "what now?" van der Merwe has given us a short description of windtunneling (van der Heijden, 1996), but surely there are other effective strategies for using scenarios to examine aspects of the organization.

Again, research that highlights how scenarios are used and attempts to understand the outcomes of those uses would lend considerable credibility to this part of the scenario literature in addition to providing much needed guidance for practitioners.

First- and Second-Generation Scenarios

It is clear that scenarios are most effective when they are used as ongoing tools for organization learning, and Pierre Wack differentiated between first- and second-generation scenarios. He found that first-generation scenarios were general and broad—scenarios that captured the landscape but provided little

information on which actions could be based. So Wack used second-generation scenarios (what he termed *decision scenarios*) that were aimed at providing a framework in which managers could exercise their judgment and were impossible to develop without first having taken a broad sweep of the external environment. Decision scenarios were more specific scenarios that captured the concerns and worries of the managers that Wack was trying to affect.

Although interviews with managers are one way to draw out their deepest concerns, Wack had an amazing sense of intuition that no doubt influenced his scenario development activities. Even so, one of his greatest challenges—and one of the greatest challenges for any scenario practitioner—is using scenarios as a vehicle to affect decision makers' views of reality. Precisely how this happens and can be consistently achieved is still a mystery. In short, it is not clear how to make scenarios stick—how to make them more than "water on a stone" (Wack, 1985a, p. 61). Surely, descriptions and anecdotal evidence of scenarios that had a high degree of success in achieving this would be a contribution to the literature. Even simple interviews with participants who perceived such an impact would be a starting point. Can you describe how and why these scenarios had such an impact on your decision making? is a question for participants who experience a shift during the scenario planning effort.

Cognitive Barriers

Bradfield provided an extensive analysis of individual cognitive barriers to learning in the scenario development process. These barriers are well established in the field of psychology; however, they are not widely recognized in either the mainstream strategy or scenario planning literature. Bradfield has developed his ideas from studies with MBA students—there is little empirical research elsewhere of their impact in the practice of scenario planning. Interestingly, there are few reports of failures in scenario projects and it may well be that the complexity of the impact of scenario planning on individual and group psychology offers a fruitful opportunity to explore further how managers learn from the contextual environment.

Believability

Chermack and Swanson outlined a key problem of believability in scenario planning—that it is sometimes difficult to prompt leaders to seriously entertain scenarios and the scenario planning process. In these cases, the lack of willingness to seriously entertain the possibilities and the breakdown between thinking and acting should be studied. How far from the manager's current reality can and should scenario stories extend? When and how feasible is it to ask manager's to think the unthinkable? What is the most effective way to build "buy in" to the scenarios themselves?

Research into instances of scenario planning failures will provide insights into what is lacking in the scenario development and utilization processes and potentially how to overcome the believability issue. A starting point would be simply to interview scenario planning participants in contexts in which we know that the process failed. Asking participants to reflect on why scenarios may not have been taken seriously would inform a more specific research agenda.

Evaluative Methods

All these issues and research problems could stem from the fact that there is currently no way to discern effective from ineffective scenarios and scenario planning processes. To clarify, there is currently no way to assess the quality of any given set of scenarios and no way to estimate the likelihood that managers will find them useful. Although some of our own conversations with executives seem to indicate that scenarios are primarily used as risk management tools, there is no documentation of how leaders assess risk or attribute savings to the scenario effort. In addition, there is no coherent set of criteria on which to evaluate any given scenario planning effort. van der Merwe and Walton have offered some description of the relevant, challenging, and plausible criteria, but these are not an adequate basis on which to evaluate the whole of any scenario effort.

Further work in scenario-based planning will need to develop a clear set of assessment and evaluation measures intended to heighten the general quality of scenarios and the thinking that they will inevitably promote. As varying approaches to evaluating these practices are developed, there will be opportunities for research. For example, this issue has featured organizational learning as a key outcome of scenario planning, and although some efforts at assessing that learning are underway, much research needs to be done to adequately understand how individuals, groups, and organizations can learn and how to most effectively interpret and apply that learning with an ultimate goal of seeing the environment differently.

Conclusion

We have presented a range of issues in this issue of *Advances in Developing Human Resources.* These issues represent the current thinking on scenario planning and its major problems. Practice is ahead of the research in scenario planning, and a true researcher–practitioner partnership is required to advance the discipline of scenario planning and to understand this strategic tool more fully, HRD professionals—academics and practitioners—are in a position to leverage this tool with an understanding of psychology, systems, and economic theories (Chermack, & Swanson, 2008), which can all guide and influence resolution to the major issues and research problems distilled in this issue of *Advances.*

Our goals in this issue have been to create a bridge between those familiar with the scenario literature and those familiar with the HRD literature; to present the major opportunities for development in the research, theory, and practice of scenario planning; and to illustrate that HRD professionals are in a prime position to seize this strategic learning tool and use it to leverage themselves into the strategic conversations of their organizations. This can be accomplished through mastering the practice of scenario planning and through demonstrating the results of scenario planning efforts for organizational decision makers with rigorous research.

Scenario planning is a tool for helping decision maker see things differently. The tools, tips, problems, and issues presented in these pages reflect the complexity of that task, and ultimately, we believe scenario planning has the potential to substantially reshape organizations and how their leaders function under uncertain conditions. This issue of *Advances* is intended as a collection of tips for practitioners, research problems for academics, and a setting of the stage for collaborative partnerships moving forward.

> In a proper sense, scenarios confer a gift of second sight and can achieve something very precious: the ability to re-perceive reality. In times of change there is definitely more to see than we normally perceive— more information potentially relevant to use lying around unnoticed because, being locked into our way of looking, we fail to see its significance. (Wack, 1985a, p. 97)

We sincerely hope that the ideas we have presented have captured your interest and sparked your thinking about how you might see things differently in uncertain times.

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