

Definitions and Outcome Variables of Scenario Planning

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Scenario planning has been receiving increased attention as a tool for considering the future in the midst of a rapidly changing business environment. This article examines available definitions of scenario planning, analyzes the espoused dependent variables of the process, sets forth an integrative definition, and supports the further development of the process as a useful and relevant tool for strategic human resource development.

Although the use of futuring is growing in its popularity, many of the futuring tools available to business leaders are lacking in clarity around precisely what they do and how they achieve their espoused ends (Fahey & Randall, 1998). With increasing uncertainty and an accelerating pace of change, business leaders will rely even more heavily on such tools. Many of the available futuring tools are without coherent descriptions or explicit purposes (Mintzberg, 1994), although descriptions and purposes can be helpful in explaining theories and approaches to given processes (Egan, 2002). Scenario planning is one such process. The examination of available definitions of scenario planning is important to any scholar or practitioner concerned with the development of the process (Fahey & Randall, 1998).

Research Questions

The purpose of this article is to explore the espoused outcome variables of scenario planning and consider its significance as an HRD tool. This is a descriptive study designed to gather the available definitions of scenario planning, examine the espoused outcomes, set forth an integrative definition, and support the further development of scenario planning as an HRD tool. The following research questions serve as the basis of this inquiry:

1. What are the available definitions of scenario planning?
2. What are the outcome variables espoused in the available definitions?

3. What would be an integrative definition that captures the essences of scenario planning and its targeted outcomes?
4. What is the relevance and use of scenario planning for HRD practitioners and scholars?

Method

A literature review, analysis, and synthesis accomplished the purposes of this study. The method used to inform the literature search involved accessing scholarly literature available through electronic databases, including ABI Inform, ERIC, PsychInfo, and electronic journals Interscience/Wiley, Catchword, ScienceDirect, and JSTOR. Each search was conducted using search criteria of “scenario planning” contained in the “keywords” field. These searches, conducted through several large search engines at a major university in the United States, yielded a total of 83 resources. As a result, the predominantly available literature used to inform this study comes from the United States and Europe, which may limit the study. Articles were screened according to relevance for the purposes of this study. Only scholarly articles from refereed journals were considered. For example, book reviews and editorials were not included in the final resource pool of 34 articles. The final selection criterion was whether the article contained an explicit definition of scenario planning. The 18 remaining resources were examined for their definitions and implicit and explicit outcome variables.

History and Background of Scenario Planning

Scenario planning first emerged for application to businesses in a company set up for researching new forms of weapons technology in the RAND Corporation. In 1967, Herman Kahn of RAND Corporation pioneered a technique called “future—now” thinking. The intent of this approach was to combine detailed analyses with imagination and produce reports as though people might write them in the future. Kahn adopted the name “scenario” when Hollywood determined the term outdated and switched to the label “screenplay.” In the mid-1960s, Kahn founded the Hudson Institute, which specialized in writing stories about the future to help people consider the “unthinkable.” He gained most notoriety around the idea that the best way to prevent nuclear war was to examine the possible consequences of nuclear war and widely publish the results (Kahn & Wiener, 1967).

Around the same time, the Stanford Research Institute (SRI) began offering long-range planning for businesses that considered political, economic, and research forces as primary drivers of business development. The work of organizations such as SRI began shifting toward planning for massive societal changes (Ringland, 1998). When military spending increased to support the Vietnam War, an interest began to grow in finding ways to look

into the future and plan for changes in society. These changing views were largely a result of the societal shifts of the time.

The Hudson Institute also began to seek corporate sponsors, which exposed companies such as Shell, Corning, IBM, and General Motors to this line of thinking. Kahn then published "The Year 2000" (Kahn & Weiner, 1967), "which clearly demonstrates how one man's thinking was driving a trend in corporate planning" (Ringland, 1998, p. 13). Ted Newland of Shell, one of the early corporate sponsors of scenario planning, encouraged Shell to start thinking about the future.

The SRI "futures group" was using a variety of methods to create scenarios for the U.S. Education system for the year 2000. Five scenarios were created, and one titled "Status Quo Extended" was selected as the official future. This scenario suggested that issues such as population growth, ecological destruction, and dissent would resolve themselves. The other scenarios were given little attention once the official future was selected. The official future reached the sponsor, the U.S. Office of Education, at a time when Richard Nixon's election as president was in full swing. The offered scenario was quickly deemed impossible because it was in no way compatible with the values that were advocated by the leader of the country (Ringland, 1998). SRI went on to do work for the Environmental Protection Agency with Willis Harmon, Peter Schwartz, Thomas Mandel, and Richard Carlson constructing the scenarios.

Meanwhile, Professor Jay Forrester (1961) of the Massachusetts Institute of Technology was using similar concepts to describe supply and demand chains. The use of scenario concepts in his project were more to develop a model that would help people understand the nature of growth and stir up public debate. The results were published by Meadows, Meadows, and Randers in 1992.

Scenario planning at Shell was well on its way. Ted Newland and Pierre Wack, as the heads of corporate planning for Shell Oil, suggested in 1967 that thinking 6 years ahead was not allowing enough lead time to effectively consider future forces in their industry (Wack, 1985a). Shell began planning for the year 2000. When the Yom Kippur war broke out and oil prices plummeted, Shell was prepared. The ability to act quickly has been credited as the primary reason behind the company's lead in the oil industry (van der Heijden, 1997).

Shell's success with the scenario planning process encouraged numerous other organizations to begin thinking about the future. Because the oil shock was so devastating to views of a stable future, by the late 1970s the majority of the *Fortune* 1000 corporations had adopted scenario planning in one form or another (Ringland, 1998).

The success of scenario use was short lived. Caused by the major recession and corporate staffing reductions of the 1980s, scenario use was on the decline. It is also speculated that planners oversimplified the use of scenar-

ios, confusing the nature of storytelling with forecasting (Godet & Roubelat, 1996; Ringland, 1998). According to Kliener (1996), the time had come for managers to realize that they did not have the answers to the future. Michael Porter (1985) led a "back to the basics" approach suggesting that corporations use external forces as a platform for planning. In this time of evaluating how planning happens, many consulting firms began developing scenario planning methodologies. Huss and Honton (1987) described three approaches of the time: (a) intuitive logics, introduced by Pierre Wack; (b) trend-impact analysis, the favorite of the Futures Group; and (c) cross-impact analysis, implemented by Battelle. Shell continued to have success with scenario planning through two more oil incidents in the 1980s, and slowly, corporations cautiously began to reintegrate the application of scenarios in planning situations. Scenario planning has been adopted at a national level in some cases, and its methods have been successful in bringing diverse groups of people together (Kahane, 1992; van der Merwe, 1994).

Examining the Definitions

The process of scenario planning is relatively young, and many variations have been developed. This variety of approaches can also be found in the available definitions and espoused dependent or outcome variables of scenario planning. A keyword search of scenario planning was conducted using several search engines at a large, Research One university in the United States. The articles and books that hit were examined for their definitions of scenario planning and the espoused dependent or outcome variables of the process that were embedded or implied in the definitions. The results of this search are presented in Table 1. Sources that did not contain a definition of scenario planning have been left out. The 18 definitions shown in Table 1 are a product of this keyword search.

Examining the Dependent Variables

Some of the definitions examined here do not explicitly state the outcome variables of scenario planning. Many of the definitions feature imbedded outcome variables, which may support the notion that some definitions are unclear about their primary intentions. This also suggests that scenario planning professionals are just beginning to consider the importance of defining what they do and explicitly stating what they intend to achieve by doing it.

An examination of Table 1 shows that almost half of the available definitions date from 1997 to the present. Of interest is that the first available definition of scenario planning is offered in 1985, yet the process had been applied in practice since the 1960s. The increase in recent scholarly literature around scenario planning might suggest a scholarly push to establish boundaries and begin the conversation of what it is that scenario planning

TABLE 1: Scenario Planning Definitions and Dependent Variables as Reported in the Available Literature

<i>Author</i>	<i>Year</i>	<i>Definition</i>	<i>Dependent Variable</i>
Porter	1985	“An internally consistent view of what the future might turn out to be—not a forecast, but one possible future outcome” (Porter, 1985, p. 63)	A view of one possible future outcome
Schwartz	1991	“A tool for ordering one’s perceptions about alternative future environments in which one’s decisions might be played out” (Schwartz, 1991, p. 45)	Ordered perceptions about alternative future decision-making environments
Simpson	1992	“The process of constructing alternate futures of a business’ external environment” (Simpson, 1992, p. 10)	Constructed alternate futures
Bloom and Menefee	1994	“A description of a possible or probable future” (Bloom & Menefee, 1994, p. 223)	A described possible or probable future
Collyns	1994	“An imaginative leap into the future” (Collyns, 1994, p. 275)	An imagined future
Thomas	1994	“Scenario planning is inherently a learning process that challenges the comfortable conventional wisdoms of the organization by focusing attention on how the future may be different from the present” (Thomas, 1994, p. 6)	Challenged comfortable conventional wisdoms about the future
Shoemaker	1995	“A disciplined methodology for imagining possible futures in which organizational decisions may be played out” (Shoemaker, 1995, p. 25)	Imagined possible decision-making futures
Van der Heijden	1997	1. External scenarios are “internally consistent and challenging descriptions of possible futures” 2. An internal scenario is “a causal line of argument, linking	Descriptions of possible futures Explicit cognitive maps

De Geus	1997	an action option with a goal” or “one path through a person’s cognitive map” (van der Heijden, 1997, p. 5) “Tools for foresight-discussions and documents whose purpose is not a prediction or a plan, but a change in the mindset of the people who use them” (De Geus, 1997, p. 46)	Changed mind-sets
Ringland	1998	“That part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future” (Ringland, 1998, p. 83)	Managed future uncertainties
Bawden	1998	“Scenario planning is one of a number of foresighting techniques used in the strategic development of organizations, which exploit the remarkable capacity of humans to both imagine and to learn from what is imagined” (Bawden, 1998, p. 7)	Human imagination and learning made explicit
Fahey and Randall	1998	“Scenarios are descriptive narratives of plausible alternative projections of a specific part of the future” (Fahey & Randall, 1998, p. 6)	Plausible alternative projections of a specific part of the future
Alexander and Serfass	1998	“Scenario planning is an effective futuring tool that enables planners to examine what is likely and what is unlikely to happen, knowing well that unlikely elements in an organization are those that can determine its relative success” (Alexander & Serfass, 1998, p. 35)	Examined future likelihoods and unlikelihoods
Tucker	1999	“Creating stories of equally plausible futures and planning as though any one could move forward” (Tucker, 1999, p. 70)	Stories of equally plausible futures that inform planning

TABLE I (continued)

<i>Author</i>	<i>Year</i>	<i>Definition</i>	<i>Dependent Variable</i>
Kahane	1999	"A series of imaginative but plausible and well-focused stories of the future" (Kahane, 1999, p. 511)	Plausible stories of the future
Kloss	1999	"Scenarios are literally stories about the future that are plausible and based on analysis of the interaction of a number of environmental variables" (Kloss, 1999, p. 73)	Informed, plausible stories about the future
Wilson	2000	"Scenarios are a management tool used to improve the quality of executive decision making and help executives make better, more resilient strategic decisions" (Wilson, 2000, p. 24)	Improved executive strategic decision making
Godet	2001	"A scenario is simply a means to represent a future reality in order to shed light on current action in view of possible and desirable futures" (Godet, 2001, p. 63)	A represented future reality

purports to accomplish, which until recently may not have been a concern. This recent increase in scholarly works may also suggest that the process is developing and maturing with the help of professionals concerned that scenario planning does not suffer the same inadequacies and failures that have been seen in strategic planning (Fahey & Randall, 1998; Mintzberg, 1994).

The outcome variables in column 4 of Table 1 were taken directly from the definitions displayed in column 3. The corresponding list of outcome variables in column 3 of Table 1 was then analyzed and collapsed into four major outcome categories of scenario planning, namely,

- changed thinking,
- informed narratives or stories about possible or plausible futures,
- improved decision making about the future, and
- enhanced human and organization learning and imagination.

Table 2 presents these four outcome categories of scenario planning together with a brief explanation of each category.

The above four outcome categories and explanations are supported by a recent literature review (Chermack, Lynham, & Ruona, 2001). This earlier literature review suggests that the following are all core aims of the scenario planning process: to inform decision making, learn through challenging the currently held mental models, enable organizational learning, and enable organizational agility. Of significant note is that none of the available definitions of scenario planning include an outcome or dependent variable of performance improvement.

Due to the depth of expertise and high costs usually associated with the practice of scenario planning, it is surprising that performance improvement has not yet been made an explicit outcome of this strategic process. Perhaps it is assumed that scenario planning will result in performance improvement. However, although such an implicit assumption may be necessary, there is insufficient evidence that the practice of scenario planning actually results in performance improvement. Indeed, this lack of an explicit performance improvement emphasis may point to a larger gap in the body of knowledge that is used to inform the practice and development of scenario planning. It is in the spirit of attending to these multiple outcome variables that the HRD lens may have much to contribute to the development of the scenario planning process and also to future scenario planning research, theory, and practice.

Linking Scenario Planning and Performance

Primarily, the HRD lens, which is informed by the three theoretical foundations of psychology, systems, and economics, might contribute the view and theory of performance improvement (Swanson, 1999). As Swanson

TABLE 2: Categories and Explanation of Scenario Planning Outcomes

<i>Category of Scenario Planning Outcomes</i>	<i>Explanation of Each Outcome</i>
Changed thinking	The development and application systems thinking and practice is integral to scenario planning, enhancing the ability to "see and think" in "interconnected wholes," enabling the explication of mental models in use, developing an awareness of varieties of ways of thinking, and surfacing core assumptions about the ways in which the world is viewed.
Informed narratives or stories about possible or plausible futures	Narratives/stories are the essential tool of the scenario planning process, providing the means through which current and future thinking and action is examined. To be effective, these "stories" must represent a combination of analysis and imagination and be challenging, credible, and convincing to their architects and audience.
Improved decision making about the future	Through the development of anticipatory or "future" memory, imbedded in the experience of developing the alternative scenarios, decision makers are better prepared to make decisions about the organization. This outcome derives from having already considered multiple, plausible futures together with their implications for the business and builds off the notion that visiting the future before it happens (through the experience of the scenarios) makes individuals and the organization better prepared to respond to emergent future variables.
Enhanced human and organization learning and imagination	Scenario planning involves rolling the people of the organization into ongoing strategic conversations, thereby increasing their strategic alertness and readiness, resulting in constantly shared construction of joint mental business models, and developing robustness in double-looped and generative learning, at the organizational, group, and individual levels of the organization.

stated, "Performance is the valued productive output of a system in the form of goods or services" (p. 5). The push for performance-based HRD has led to the development and application of theory-building research methods (Lynham, 2000; Swanson, 1999; Swanson & Holton, 2001; Torraco, 1994, 1997, 1998) that have been helpful in the growth and advancement of the HRD field. The recognition of performance (in terms of economics), in addition to learning, is a perspective that could contribute to the growth, maturity, and accountability of the process of scenario planning.

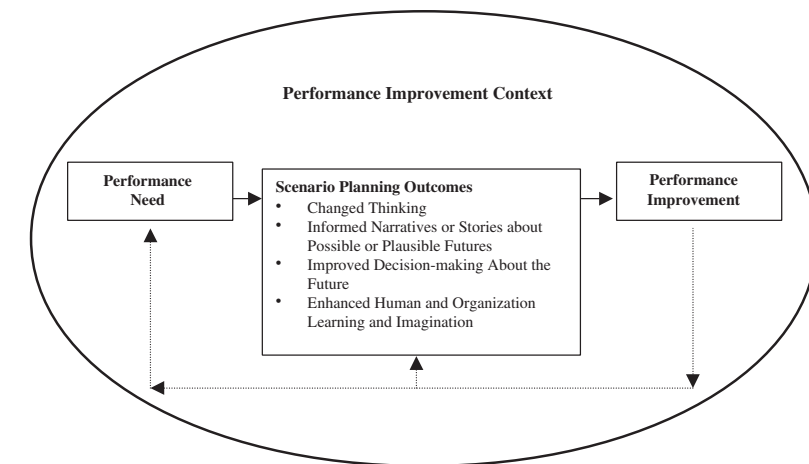


FIGURE 1: Scenario Planning Outcomes: A Strategic Process and Driver of Performance Improvement

HRD can contribute this performance perspective to the practice of scenario planning by suggesting a performance improvement context (Swanson, 1999) in which to understand and engage the scenario planning process. By defining a performance need, the professional identifies a key performance requirement. Seen from this performance improvement context, scenario planning usually begins with a performance need, that is, a perceived critical or focal issue in which the organization is perceived to be failing in some form regarding its ability to interface with the environment (Ringland, 1998; Schwartz, 1991; Shoemaker, 1995). Driven and informed by this performance need, scenario planning becomes a key and strategic process for improving performance (Swanson, Lynham, Ruona, & Provo, 1998). Thus, the authors suggest that the four outcome categories suggested in the scenario planning should be viewed as significant strategic drivers of performance improvement (Holton, 1999; Swanson & Holton, 2001; Torraco & Swanson, 1995), as illustrated in Figure 1.

The performance improvement perspective can be addressed in several ways. As is evidenced by the definitions in Table 1, some definitions of scenario planning purport to change thinking, whereas other espoused outcomes of the scenario planning process include an improvement in decision making, enhanced learning, and the scenario stories themselves. Although each of these outcomes has important implications in its own right, the orientation of this article is that each will contribute to performance improvement. Improved decision making by definition will lead to increased organizational effectiveness characterized by the ability of the organization to

sustain itself and its profitability, although, for example, this outcome may come after long-term, thoughtful decisions have made a positive impact on the local community. HRD professionals are not strangers to the learning-performance debate, and this article advocates that performance is a necessary, although not necessarily sufficient, outcome of the scenario planning process. It can also be argued that learning is required for performance improvement to take place; however, the scenario planning process, by its very nature, requires that both learning and performance are necessary outcomes.

An additional means for addressing the performance context of scenario planning can be that the four major outcome categories provide different measurement strategies for evaluating the effectiveness of the process. For example, changed thinking and learning can be traced and evaluated by tracking changes in behavior. Improved decision making can similarly be evaluated through an assessment of feedback from decisions that are made. Changes in individual behavior and decision making will undoubtedly have an impact on organizational performance. Thus, the overall performance improvement of the organization can also be thought of as resulting from multiple improvements at more specific levels of the organization. Overall, the outcomes revealed in the definitions are outcomes in their own right, and this article suggests they each also contribute to a larger outcome—performance improvement.

In an attempt to construct an integrative definition of scenario planning, it is important to include the outcomes explicated in the examination of the available definitions highlighted in Table 1. By then adding the performance improvement context provided by the HRD perspective, as presented in Figure 1, the authors suggest the following integrative definition of scenario planning: Scenario planning is a process of positing several informed, plausible, and imagined alternative future environments in which decisions about the future may be played out for the purpose of changing current thinking, improving decision making, enhancing human and organization learning, and improving performance (Porter, 1985; Ringland, 1998; Schwartz, 1991; Shoemaker, 1995). This is set forth as an integrative definition because it incorporates the four outcome variable categories constructed from the individual outcome variables contained in each definition reviewed. Thus, this definition incorporates the essences of the available, espoused definitions of scenario planning by including the core themes distilled from the individual outcome variables.

This integrative definitional perspective of scenario planning may, in turn, further facilitate a push to evaluate and validate that the scenario planning process does indeed achieve what it purports to achieve and that its informing theories hold up when examined against rigorous criteria for sound applied theory (Patterson, 1983). The distinguishing factor for sce-

narios is that they are not predictions or forecasts. Scenarios are not concerned with getting the future “right”; rather, they aim at challenging current paradigms of thinking and rolling people into a series of stories in which attention is directed to aspects that would have been otherwise overlooked (Shoemaker, 1995; Wack, 1985).

Supporting Scenario Planning as a Tool for HRD

Swanson (1999) described three branches of the systems theory foundation of HRD, namely, general systems theory, chaos theory, and futures theory. “Futures theory is critical for sustainable performance because it prepares one to recognize and cope with an evolving future state” (Swanson, 1999, p. 17). If scenario planning is founded on theories that are found to validate relationships between elements within a system, it may be a tool that fits in the futures theory branch of the systems theory foundation of HRD (Chermack & Lynham, 2001). No attempts have been made to evaluate theories of scenario planning against rigorous criteria for sound applied theory (Patterson, 1983). From this perspective, scenario planning is potentially a critical tool for the HRD professional because it might help practitioners and scholars recognize and cope with a rapidly changing business environment and the uncertainties in considering the future, although such evaluation would be required before such a benefit may be gleaned from this tool.

Cummings and Worley (2001) described several methods of integrating strategic change. Among such methods are strategic planning, open systems planning, integrated strategic change, and transorganizational development. Scenario planning can be viewed from this perspective as a strategic organization development intervention. Swanson et al. (1998) posited the Strategic Organizational Planning model, which integrates scenario building into the strategic planning process through a recurring divergent-convergent interrelationship: “Scenario building flares out the thinking in its expansiveness and strategic planning reins in the thinking into an action plan” (p. 7).

Ringland (1998) also described a method for using scenario planning to inform the strategy building process. Wilson (2000) outlined four approaches for using scenarios to inform business strategy and strategic decisions, namely, (a) a sensitivity/risk assessment, in which a specific strategic decision is evaluated through several scenario stories; (b) strategy evaluation, in which scenarios act as “test beds” to evaluate the viability of an existing strategy; (c) strategy development (with a planning focus), which selects one scenario as a strategic starting point and uses the others to test the resilience of the strategy; and finally, (d) strategy development (without a planning focus), which assumes a goal of building the most resilient strategy for the largest variety of situations.

In recent years, HRD professionals have seen an increasing emphasis on an active role in the strategy making and implementation process within organizations (Toracco & Swanson, 1995). In light of this aspired strategy-shaping role, scenario planning must be seen as a tool of increasing importance to HRD research and practice in the future. As is evidenced by the examination of dependent variables of scenario planning, it is clear that one of the primary espoused goals of scenario planning is to alter current mental models of organization leaders. HRD professionals have a history and understanding of the theories of adult learning advocated by Piaget (1977) and Vygotsky (1962/1986). Particularly, the constructivist learning perspective, which encompasses theories of Piaget (1977), Vygotsky (1962/1986), and others (Fosnot, 1996), might inform the successful implementation of scenario planning (van der Heijden, 1997) as it attempts to alter mental models about managers' perceptions. Chermack and van der Merwe (2001) made the connections between scenario planning and constructivist learning explicit with the intent of using constructivist learning theory to inform scenario planning practice. HRD professionals are in a unique position, with an understanding of these learning theories, to greatly improve the theory and practice of scenario planning in ways that business leaders and senior executives often overlook or are ill equipped to do because they do not have the understanding of learning philosophies required to do so (van der Heijden, 1997).

Implications for Further Research

The conversation of boundaries and definitions is taking place in the field of HRD and has been for several years (Holton, 1998; McLean, 1999; Ruona, 1998; 2001; Swanson, 1995, 1998, 1999; Torracco, 1998; Watkins & Marsick, 1995). Fahey and Randall (1998) suggested it is time that scenario planning professionals do the same and take a closer look at what they do, what they state that they do, and how they know they can achieve the results that they claim. The emerging questions concerning the outputs and boundaries of scenario planning may be a hint that scenario planning professionals are moving in a similar direction. The further examination of these espoused boundaries, outcomes, and definitions is needed to ensure the future maturity and success of the scenario planning process. The dependent variables examined herein are labeled espoused dependent variables because there has not yet been a push or drive for evaluation in scenario planning. This lack of evaluation has been noted as a concern in the practice of scenario planning (Chermack et al., 2001; Gerogantzas & Acar, 1995; Phelps, Chan, & Kapsalis, 2001). As an example, it is clear from the analysis of outcome variables that scenario planning aims to change managers' mind-sets and improve decision making. However, the evidence that scenario planning

actually changes managers' mind-sets or improves decision making is anecdotal (Wack, 1985a), and there have been few attempts to measure such claims. Although there are increasing efforts to evaluate the process (Phelps et al., 2001), there have been relatively few studies that establish the effectiveness of scenario planning.

Another concern is the theory base that informs the process of scenario planning (Chermack et al., 2001). Dubin (1976) suggested that units, categories, and themes aid in the development of theory. The categories revealed by examining the outcome variables of the scenario planning process suggest that several theoretical domains inform scenario planning. To establish the validity of the theories that underlie and inform the process of scenario planning, these theories must first be identified and then evaluated against some criteria for sound applied theory (Patterson, 1983). Once performance improvement has been recognized as a critical outcome variable of scenario planning, the need to evaluate the process will naturally follow. As Swanson (1999) stated, "Chasing after individual or organizational change without first specifying a valid unit of performance is inane. This is because change can take place while real performance declines" (p. 5). With the addition of the HRD lens, and more specifically, the theoretical component of performance improvement, there would likely be a drive to evaluate not only the outcomes of the scenario planning process but also the theory bases that inform the process. Doing so is likely to encourage and enhance more related research and theory development and, in turn, lead to better informed and improved practice of scenario planning.

Future planned research will include the review of these outcomes by a panel of scenario planning experts. Given the exploratory nature of this definitional examination, the appropriate next step will include the reflections of experienced scenario planning practitioners on the findings and implications of this literature review and synthesis.

Conclusion

This article has presented the available definitions and espoused outcome variables of scenario planning and has continued to support scenario planning as a significant tool for strategic HRD research and practice. Building on previous similar works (Miller, Lynham, Provo, & St. Claire, 1997; Swanson et al., 1998), this article has further highlighted a number of ways in which using the theoretical foundations of HRD (Swanson, 1999) could result in improved scenario planning research, theory, and practice. Specifically, this article has identified four categories that capture the espoused outcome variables of the scenario planning process, suggested the addition of a performance improvement context, and provided an integrative definition of scenario planning.

Scenario planning is an important tool for HRD professionals to use in shaping organizational strategy (Swanson et al., 1998), and as such, it is critical to have sound theory and evaluation methods for responsible application. This study has gathered the available definitions of scenario planning and summarized their outcome variables into four core categories:

- changed thinking,
- informed narratives or stories about plausible or possible future outcomes,
- improved decision making about the future, and
- enhanced human learning and imagination.

The authors have suggested the addition of the performance improvement context to scenario planning and argued that HRD professionals are capable and well suited to provide this perspective. The addition of this performance-based context can provide the need and the push for precise evaluation tools as well as a rigorous examination of theories that inform the scenario planning process. Such a need, if appropriately addressed by responsible researchers and practitioners, will likely lead to more effective and informed scenario planning theory and practice.

References

- Alexander, W., & Serfass, R. (1998). Creating and analyzing your organization's quality future. *Quality Progress*, 31(7), 31-36.
- Bawden, R. (1998, March). *The leadership revolution*. Keynote address to AusTAFE Regional Conference, Ballarat, Victoria, Australia.
- Bloom, M., & Menefee, M. L. (1994). Scenario planning and contingency planning. *Public Productivity & Management Review*, 17(3), 223-230.
- Chermack, T. J., & Lynham, S. A. (2001). Considering OD theories from the theoretical foundations of HRD and performance improvement. In O. Aliaga (Ed.), *Academy of human resource development conference proceedings* (pp. 372-379). Baton Rouge, LA: AHRD.
- Chermack, T. J., Lynham, S. A., & Ruona, W. E. A. (2001). A review of scenario planning literature. *Futures Research Quarterly*, 17(2), 7-31.
- Chermack, T. J., & van der Merwe, L. (in press). Constructing scenario planning: Approaching the process from a constructivist perspective. *Futures*.
- Collins, N. (1994). Creating scenarios. In P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross, & B. J. Smith (Eds.), *The fifth discipline fieldbook: Strategies and tools for building a learning organization* (pp. 274-277). New York: Doubleday.
- Cummings, T. G., & Worley, C. G. (2001). *Organization development and change* (6th ed.). Cincinnati, OH: South-Western College Publishing.
- De Geus, A. (1997). *The living company*. Boston: Harvard University Press.
- Dubin, R. (1976). Theory building in applied areas. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 17-39). Chicago: Rand McNally.
- Egan, T. M. (2002). Organization development: An examination of definitions and dependent variables. *Organization Development Journal*, 20(2), 59-71.
- Fahey, L., & Randall, R. M. (1998). What is scenario learning? In L. Fahey & R. Randall (Eds.), *Learning from the future: Competitive foresight scenarios* (pp. 3-21). New York: John Wiley.
- Forrester, J. W. (1961). *Industrial dynamics*. Cambridge, MA: MIT Press.

- Fosnot, C. T. (1996). Constructivism: A psychological theory of learning. In C. T. Fosnot (Ed.), *Constructivism: Theory, perspectives and practice* (pp. 17-39). New York: Teachers College Press.
- Georgantzias, N. C., & Acar, W. (1995). *Scenario-driven planning: Learning to manage strategic uncertainty*. Westport, CT: Quorum.
- Godet, M. (2001). *Creating futures: Scenario planning as a strategic management tool*. London: Economica.
- Godet, M., & Roubelat, F. (1996). Creating the future: The use and misuse of scenarios. *Long Range Planning*, 29(2), 164-171.
- Holton, E. F. III. (1998). What is performance? Levels of performance revisited. In R. Torraco (Ed.), *The research agenda for improving performance*. Washington, DC: ISPI Press.
- Holton, E. F. III (1999). Performance domains and their boundaries. In R. J. Torraco (Ed.), *Performance improvement theory and practice: Vol. 1. Advances in developing human resources* (pp. 26-46). San Francisco: Berret-Koehler.
- Huss, W. R., & Honton, E. J. (1987). Scenario planning: What style should you use? *Long Range Planning*, 20(4), 21-29.
- Kahane, A. (1992). *The Mont Fleur scenarios: What will South Africa be like in the year 2002?* (Supplement to *Weekly Mail* and *The Guardian Weekly*). Bellville, South Africa: Global Business Network.
- Kahane, A. (1999). Scenarios for changing the world. In P. Senge, A. Kliener, C. Roberts, R. Ross, G. Roth, & B. Smith (Eds.), *The dance of change: The challenges to sustaining momentum in learning organizations* (pp. 238-239). New York: Doubleday.
- Kahn, H., & Wiener, A. J. (1967). The next thirty-three years: A framework for speculation. *Daedalus*, 96(3), 705-732.
- Kliener, A. (1996). *The age of heretics*. New York: Doubleday.
- Kloss, L. (1999). The suitability and application of scenario planning for national professional associations. *Nonprofit Management & Leadership*, 10(1), 71-83.
- Lynham, S. A. (2000). *The development of "a theory of responsible leadership for performance"* (Tech. Rep.). St. Paul: University of Minnesota, Human Resource Development Research Center.
- McLean, G. (1999). Get out the drill, glue and more legs. *Human Resource Development International*, 2(1), 6-7.
- Meadows, D. H., Meadows, D. L., & Randers, J. (1992). *Beyond the limits*. New York: Chelsea Green.
- Miller, R. F., Lynham, S. A., Provo, J., & St. Claire, J. M. (1997). Examination of the use of scenarios as learning and decision-making tools for human resource development. In E. F. Holton III (Ed.), *Academy of human resource development conference proceedings* (pp.80-86). Atlanta, GA: AHRD.
- Mintzberg, H. (1994). *The rise and fall of strategic planning*. London: Prentice Hall.
- Patterson, C. H. (1983). *Theories of counseling and psychotherapy*. Chicago: University of Chicago Free Press.
- Phelps, R., Chan, C., & Kapsalis, S. C. (2001). Does scenario planning affect performance? Two exploratory studies. *Journal of Business Research*, 5(1), 223-232.
- Piaget, J. (1977). *Equilibration of cognitive structures*. New York: Viking.
- Porter, M. E. (1985). *Competitive advantage*. New York: Free Press.
- Ringland, G. (1998). *Scenario planning: Managing for the future*. New York: John Wiley.
- Ruona, W. E. A. (1998). Systems theory as a foundation for HRD. In R. Torraco (Ed.), *Academy of human resource development conference proceedings* (pp. 888-896). Baton Rouge, LA: AHRD.
- Ruona, W. E. A. (2001). Core beliefs in human resource development. In W. Ruona & G. Roth (Eds.), *Philosophical foundation of human resource development: Vol. 7. Advances in developing human resources* (pp. 1-27). San Francisco: Berret-Koehler.
- Schwartz, P. (1991). *The art of the long view*. New York: Doubleday.

- Shoemaker, P. J. H. (1995). Scenario planning: A tool for strategic thinking. *Sloan Management Review*, 37(2), 25-40.
- Simpson, D. G. (1992). Key lessons for adopting scenario planning in diversified companies. *Planning Review*, 20(3), 11-18.
- Swanson, R. A. (1995). Human resource development: Performance is the key. *Human Resource Development Quarterly*, 62(2), 207-213.
- Swanson, R. A. (1998). The discipline of human resource development. In P. Kuchinke (Ed.), *Academy of human resource development conference proceedings* (pp. 75-93). Baton Rouge, LA: AHRD.
- Swanson, R. A. (1999). The foundations of performance improvement and implications for practice. In R. J. Torraco (Ed.), *Performance improvement theory and practice: Vol. 1. Advances in developing human resources* (pp. 1-25). San Francisco: Berrett-Koehler.
- Swanson, R. A., & Holton, E. F. III (2001). *Foundations of human resource development*. San Francisco: Berrett-Koehler.
- Swanson, R. A., Lynham, S. A., Ruona, W. E. A., & Provo, J. M. (1998). Human resource development's role in supporting and shaping strategic organizational planning. In P. Kuchinke (Ed.), *Academy of human resource development conference proceedings* (pp. 589-594). Baton Rouge, LA: AHRD.
- Thomas, C. W. (1994). Learning from imagining the years ahead. *Planning Review*, 22(3), 6-10.
- Torraco, R. J. (1994). *A theory of work analysis*. St. Paul: University of Minnesota, Human Resource Development Research Center.
- Torraco, R. J. (1997). Theory building research methods. In R. A. Swanson & E. F. Holton (Eds.), *Human resource development handbook* (pp. 114-137). San Francisco: Berrett-Koehler.
- Torraco, R. J. (1998). Economics as a foundation for HRD. In R. Torraco (Ed.), *Academy of human resource development conference proceedings* (pp. 123-131). Baton Rouge, LA: AHRD.
- Torraco, R. J., & Swanson, R. A. (1995). The strategic roles of human resource development. *Human Resource Planning*, 18(4), 10-21.
- Tucker, K. (1999). Scenario planning. *Association Management*, 51(4), 70-75.
- van der Heijden, K. (1997). *Scenarios: The art of strategic conversation*. New York: John Wiley.
- van der Heijden, K. (2000). Scenarios and forecasting: Two perspectives. *Technological Forecasting and Social Change*, 65(3), 1-36.
- van der Merwe, L. (1994). Bringing diverse people to common purpose. In P. M. Senge, A. Kleiner, C. Roberts, R. B. Ross, & B. J. Smith, (Eds.), *The fifth discipline fieldbook: Strategies and tools for building a learning organization* (pp. 424-429). New York: Doubleday.
- Vygostky, L. (1986). *Thought and language*. Cambridge, MA: MIT Press. (Original work published 1962)
- 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. (1985). *Scenarios: The gentle art of re-perceiving*. Unpublished manuscript, Harvard Business School, Cambridge, MA.
- Watkins, K. E., & Marsick, V. J. (1995). The case for learning. In E. F. Holton III (Ed.), *Academy of human resource development proceedings* (pp. 1-1). Baton Rouge, LA: AHRD.
- Wilson, I. (2000). From scenario thinking to strategic action. *Technological Forecasting and Social Change*, 65(3), 23-29.

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